ZOTEFOAMS

Rising to the challenge

Zotefoams plc
Annual Report 2022

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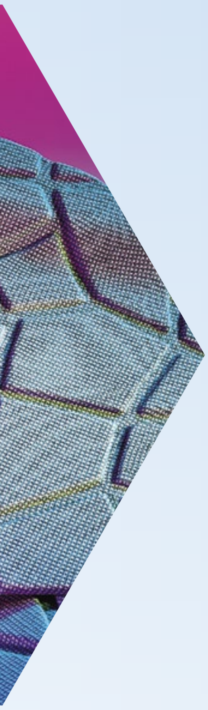


In 2022, Zotefoams grew significantly, delivering record revenue and profit before tax

We continue to invest in our business linked, primarily, to three forecastable macro-trends: demographics, where an increasing population is evermore urban and aging; regulation, often around safety of people; and environment, where optimising the use of scarce resources has become a global necessity. Sustainability, along with health and safety, is embedded in everything we do

David Stirling
Group CEO

Financial KPIs

	Group revenue	Gross margin	Operating profit	Profit before tax
	£127.4m	30.4%	£13.9m	£12.2m
Change	26%	400 bps	71%	74%
2021	£100.8m	26.4%	£8.1m	£7.0m

	Basic earnings per share	Total dividend for the year	Return on capital employed	Net debt	Leverage
	20.61p	6.80p	10.1%	£27.8m	1.2x
Change	129%	5%	400 bps	19%	43%
2021	9.01p	6.50p	6.1%	£34.3m	2.1x

Broader and stronger

Celebrating five years of our strategic partnership with Nike

Five years on from the announcement of our strategic partnership with Nike, the collaboration continues to strengthen, with some notable developments during the year.

Still at the heart of the partnership is the focus on the distance road running category, with Zotefoams material featuring as ZoomX foam in programmes including the acclaimed Vaporfly, Alphafly and Invincible ranges.

In 2022, we built on this success, with Nike's launch of the next generation ZoomX Alphafly NEXT% 2, the company's pinnacle marathon racing and training shoe. ZoomX was also introduced in additional ranges in road running, including the ZoomX Streakfly, Nike's lightest road racing shoe, introduced during the summer.

Also in the summer, ZoomX went off-road for the first time, featuring in the Nike ZoomX Zegama trail running shoe.

We continue to work closely with Nike on waste reduction and recycling projects to support our respective and shared sustainability objectives. Both companies took significant steps during 2022 to reduce waste generated by manufacturing processes and we also introduced waste recycling solutions.

ReZorce® Circular Packaging and MuCell® polymer reduction technology

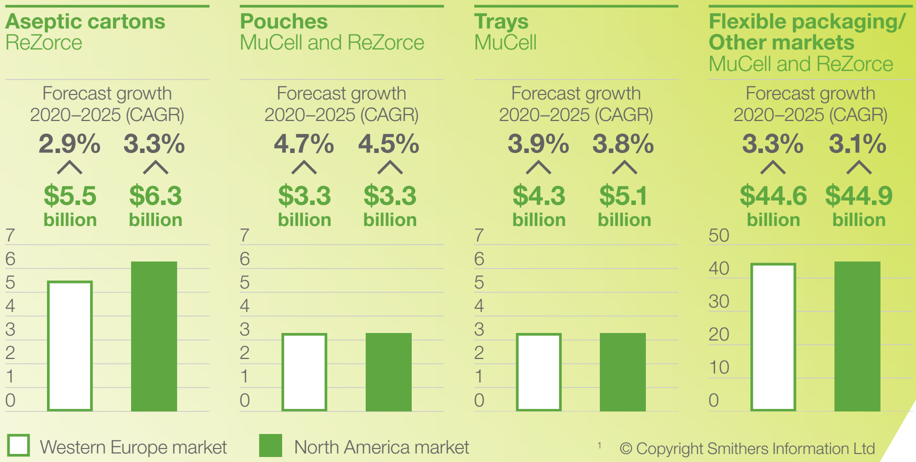
Building sustainability in consumer packaging

2022 saw progress across the board in the development of ReZorce Circular Packaging, our mono-material alternative to difficult-to-recycle barrier material used for some categories of food and beverage packaging.

Legislative developments and the drive towards the circular economy are highlighting the unsustainable nature of composite packaging, creating huge potential for a fully circular alternative with equivalent performance, easy transition and full compatibility with standard recycling infrastructure.

Simultaneously, with polymer prices reaching an all-time high during the year, we experienced an upsurge of interest in the foaming technology offered by MuCell Extrusion LLC, which underpins ReZorce. By injecting atmospheric gases into plastic extrusions during the melt phase, the process creates a product with a foamed core bounded by solid skins that uses considerably less polymer and is consequently lighter to transport.

Market potential[1]



[1] © Copyright Smithers Information Ltd

In 2022, we consolidated our IP position to create a solid basis for negotiation with potential customers and partners.

We further boosted ReZorce's appeal to potential customers who recognise that their current composite packaging is unsustainable. In particular:

An updated life cycle assessment shows that ReZorce uses 53% less energy and 51% less water than an equivalent composite beverage carton and, on the key measure of global warming potential, it boasts a 55% reduction.

A RecyClass assessment – which considers the extent to which a product is designed for recycling – confirmed that ReZorce sheet is compatible with existing European industrial recycling processes and that the recycled plastic generated is suitable for use in high-value applications such as HDPE bottles.

We partnered with R-Cycle to create digital product passports for ReZorce. As well as providing end-to-end polymer supply chain transparency, these passports contribute to the creation of high-quality recyclate and circularity by identifying the polymer from which a product is made, enabling it to be sorted and recycled with the same material.

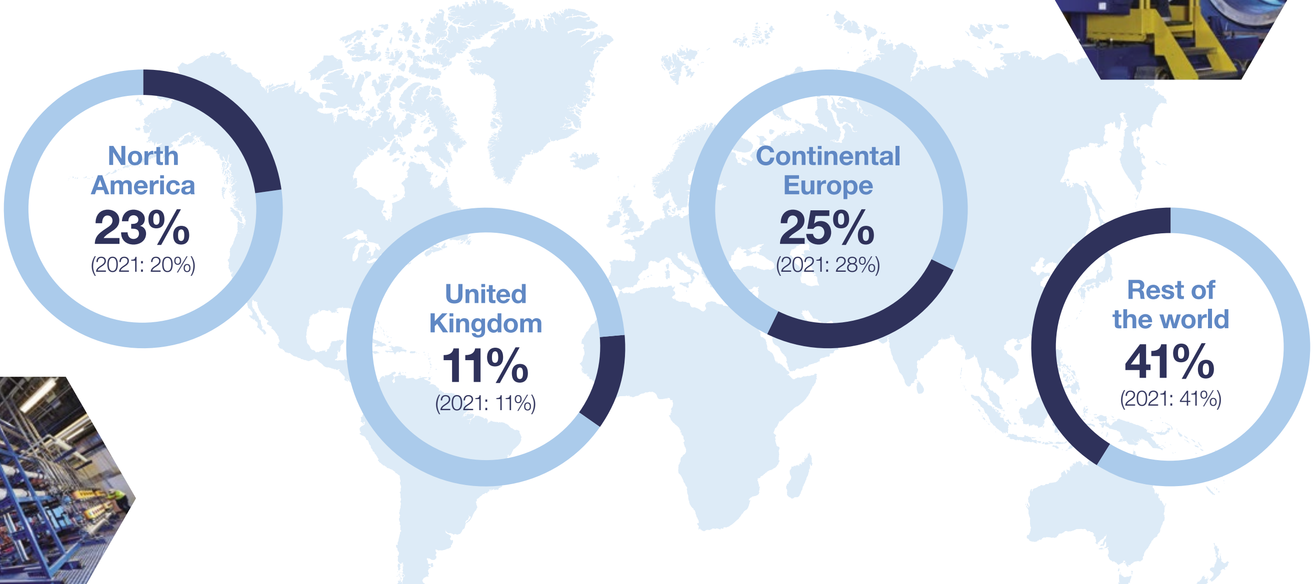
In November, we acquired the assets and intellectual property of Refour ApS, with the intention of accelerating the development of ReZorce across both rigid and flexible packaging formats and penetrating a wide variety of additional applications, including pouches, trays and cups, with MuCell technology. The former Refour facility in Denmark gives us an ideal pilot facility and equipment on which to test and validate a range of pack formats.

The potential opportunity for MuCell and ReZorce techology is significant but requires investment to develop and realise. One option being considered is to involve a strategic partner to leverage and accelerate this potential, including the ability to scale up globally. Following initial evaluation, we are pursuing discussions with suitable parties.

Group at a glance
Four strong, distinctive brands

Zotefoams produces a wide range of innovative products that are critical components in a world of everyday applications.

Group revenue by region (%)



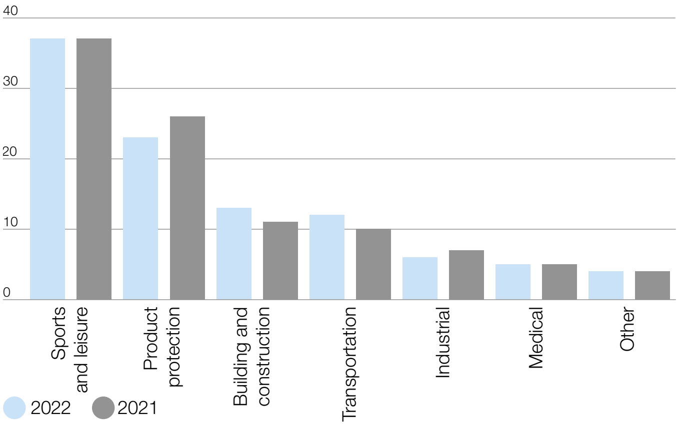
North America
Local manufacturing presence in Kentucky for the Polyolefin Foams business, cutting operation in Oklahoma to service the construction market and headquarters of MuCell Extrusion LLC (MEL), based in Massachusetts, licensing technology globally and behind the development of ReZorce®. Local representation for our High-Performance Products (HPP) business, including T-FIT® technical insulation.

United Kingdom
Group headquarters and main factory, manufacturing polyolefin foams and high-performance products for sale globally.

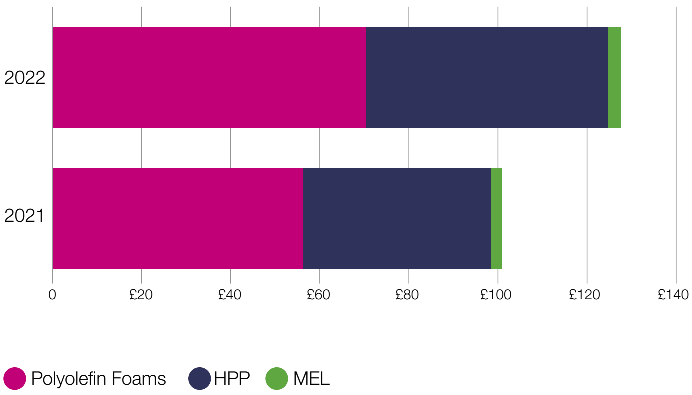
Continental Europe
Significant market for polyolefin foams. Local manufacturing presence in Brzeg, south-west Poland, initially servicing the Polyolefin Foams business. Manufacturing of some T-FIT products began in 2022. Sufficient land has been purchased to allow larger-scale operations in the future. European development facility for ReZorce and MEL products in Zotefoams Denmark since November 2022.

Rest of the world
T-FIT manufacturing in China for sales of insulation products globally. Local representation for our HPP business. Joint venture with INOAC Corporation for AZOTE® polyolefin foams sales in Asia. Commercial operation in India for T-FIT insulation.

Revenue by industry
%



Revenue by business unit
£m



AUTOCLAVE TECHNOLOGY

POLYOLEFIN FOAMS

AZOTE®

Read more page 8

Premium durable foams

Uniformly dense foam sheets with a consistent cell structure. These foam sheets and blocks are manufactured from common polymers using our unique nitrogen-expansion process.

Key markets served

- Automotive
- Aviation
- Building and construction
- Industrial
- Marine
- Medical
- Military
- Product protection
- Sports and leisure

Key market drivers

- Light-weighting
- Durability
- Fire safety
- Reduced toxicity
- Energy saving

HPP

ZOTEK®

Read more page 8

Lightweight technical foams

Foams which offer superior technical properties such as energy management, durability and heat and/or fire resistance. ZOTEK foams are manufactured from engineering polymers using our unique nitrogen-expansion process.

Key markets served

- Athletic footwear
- Automotive
- Aviation
- Construction
- Product protection

Key market drivers

- Light-weighting
- Personal safety
- High-technology insulation
- Durability
- Fire safety
- Sports and leisure

HPP

T-FIT®

Read more page 9

Technical insulation for industry

A range of insulation products manufactured from Zotefoams' own ZOTEK block foam materials. T-FIT insulation products are purpose-designed to perform in demanding environments.

Key markets served

- Food and personal care manufacturing
- High-temperature processing environments
- Pharmaceutical, biotech and semiconductor cleanrooms

Key market drivers

- Ageing population
- Demographic changes
- Reduced toxicity
- Energy saving

EXTRUSION TECHNOLOGY

MEL

MUCELL EXTRUSION
Polymer reduction technology

Read more page 9

Innovative and accessible technology for greener, lower-cost plastic products

This pioneering technology injects gas into plastics during the manufacturing process to create micro-bubbles and is licensed to customers manufacturing plastic parts. The end-product uses 15–20% less material. Recently developed ReZorce recyclable mono-material barrier packaging solutions use this technology.

Key markets served

- Automotive
- Consumer packaging

Key market drivers

- Environmental benefit
- Lower cost

Our brands
Innovating to help our customers meet new challenges

POLYOLEFIN FOAMS
AZOTE®

AZOTE polyolefin foams are manufactured using our unique, high-pressure process. This process differentiates Zotefoams from competitors that manufacture similar foams using low-density polyethylene (LDPE), which is our main raw material.

Zotefoams produces foams that are more consistent and lighter weight and possess higher purity compared with foams manufactured using chemical technology. These superior attributes are valued globally in many uses, with examples as diverse as aerospace, sports equipment and medical packaging. Underlying growth of many of these segments is driven by global trends in regulation, environment and demographics, including resource efficiency.

The main geographical markets for our AZOTE foams are the UK, other European countries and North America as, beyond this, distribution costs limit the market opportunity. We do sell outside these areas, mainly in Japan and China, into more niche, technical applications and further development of these geographies remains a longer-term goal.

HPP
ZOTEK®

ZOTEK products use Zotefoams' unique autoclave technology applied to high-end polymers such as polyvinylidene fluoride (PVDF) fluoropolymer, nylon or thermoplastic elastomers (TPE). Combining the original polymer properties with our foaming process creates truly unique materials.

ZOTEK F fluoropolymer foams are inherently fire- and chemical-resistant and are mainly used in aerospace applications. ZOTEK N nylon foams are designed to operate at very high temperatures and are finding uses in a wide variety of mainly industrial applications. There is a considerable level of interest currently in ZOTEK N as a lightweight thermoplastic composite material for transportation, designed to reduce weight and meet environmental targets for fuel economy. ZOTEK TPE foams, which delivered the largest contribution to HPP growth for the second year in a row, have excellent kinetic energy management properties and are being sold primarily in sports and leisure applications. Historically, sales of ZOTEK foams have grown due to more stringent regulation in the aviation markets, while recent growth is being led by developments in the footwear market.

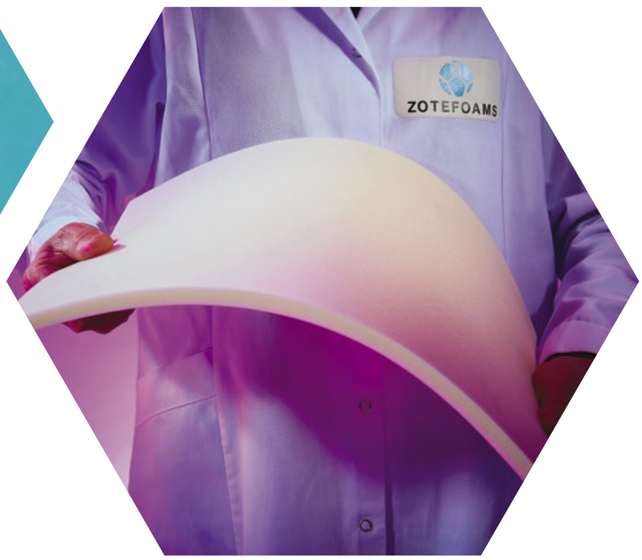
ecoZOTE®
Sustainability+ foams

Throughout its history, Zotefoams has been at the forefront of developments in lightweight materials that save energy by insulating or save fuel costs by reducing weight. Our business is predominantly based on long-term applications, underpinned by the notable durability of our materials, which derives from a unique autoclave manufacturing process.

With sustainability and carbon reduction a priority, Zotefoams has introduced the Ecozote Sustainability+ foams range, which responds to the need for plastic products that improve circularity or reduce reliance on fossil fuel-derived raw materials.

Ecozote builds on the underlying sustainability credentials of all our block foams – light weight, durable and foamed using nitrogen borrowed from the atmosphere – to give customers and end-users additional choices to address market- or application-specific requirements.

Initial products in the range are low-density polyethylene foams with 30% recycled content.



HPP

T-FIT®

The T-FIT insulation story began with end-users looking for a solution to insulate pipes in pharmaceutical and biotechnology cleanrooms. T-FIT Clean was developed as a unique thermal insulation system designed for these demanding, highly controlled production environments.

Based on the unique technology owned by Zotefoams and following the success of T-FIT Clean insulation, Zotefoams is expanding the T-FIT range to address the requirements of the food, dairy, personal care and general process industries. These are products that are inherently pure and free of chemical residues and meet leading fire certification standards. Demonstrably resistant to growth of mould and bacteria, the full range of T-FIT insulation products manufactured by Zotefoams is durable, moisture-resistant and easy to install and clean.

T-FIT Hygiene is designed for large-scale, aseptic, food processing. Production areas are built to exacting standards, where the specification is for a pure, pollutant- and fibre-free thermal insulation with the capability to withstand the steam purging process typical in this sector. T-FIT Hygiene can ensure air conditioning, air filtration and other process equipment continue to operate at optimum levels of performance.

Unique in both its material (Nylon PA6) and its foam insulation class, T-FIT Process is the high temperature addition to the T-FIT range and operates at temperatures of up to 160°C, with spikes, for cleaning in place, up to 205°C. Aimed at the utility and general processing industries around the world, T-FIT Process will assist project and process engineers in their quest for evermore durable and heat-resistant insulation solutions.

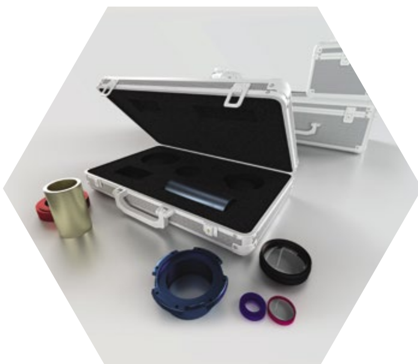
MEL

MUCELL EXTRUSION
Polymer reduction technology

MEL licenses microcellular foam technology and sells related machinery. MEL's business model is to develop and license IP and share in the savings or benefits of the licensee through a royalty and/or licence fee. Recently, a variation of this technology has been used to create ReZorce®, a recyclable, mono-material barrier packaging solution.

MEL technology offers the potential to reduce the plastic content of an article by around 15–20% by injecting inert gas to displace plastic with microcellular bubbles. MEL technology can be used with most common plastics and reduces material consumption with no negative impact on recycling. The primary target market for MEL is consumer packaging, where production volumes are high and developments are scalable across geographic and product markets.

MEL continues to evolve its product offering and intellectual property (IP). As the business begins to achieve commercial scale, our staff become more specialist and our knowledge deepens. MEL staff integrate with the customers in product design, to make the best use of our technological capability, and with this depth of knowledge comes improved customer satisfaction and also more opportunity for further IP.



reZorce®

ReZorce Circular Packaging, a MuCell Extrusion LLC development, is a new range of mono-material barrier packaging. ReZorce offers brand owners and packaging suppliers a much-needed alternative to composite packaging, which is made of different materials laminated together and is therefore incompatible with increasingly stringent mandates on recycled content and recyclability of packaging materials. ReZorce offers performance and aesthetics on a par with existing composite materials but is considered a single raw material which can be recycled back into the same type of packaging, rather than downcycled.

Our brands in action

Plastazote® polyethylene foam

A bright future

for Zotefoams' partnership with the world's largest sporting goods retailer

Decathlon is the world's largest sporting goods retailer with over 2,000 stores across 56 countries and five continents. Headquartered in Lille, France, Decathlon is committed to sustainably making the pleasures and benefits of sport accessible to the many. It prides itself on offering smart, stylish and affordable products that adhere to blue economy principles, following sustainable production methods.

The company has selected low-density (LD) polyethylene foams from the renowned Plastazote range for a variety of swimming aids, including pullbuoys, kickboards, swim belts and armbands, in a variety of bright, appealing colours developed specifically by Zotefoams to meet Decathlon's requirements.

Zotefoams works closely with Decathlon on product selection and development and process optimisation.

Although Decathlon has worked with materials from other suppliers in the past, since 2020 Plastazote has been the company's foam of choice in these applications thanks to its superior characteristics. Aside from the aesthetic appeal of the colours created by Zotefoams, Plastazote offers serious performance benefits that derive from its unique manufacturing process.

LD grades typically offer a better performance to weight ratio than competing foams, meaning in this instance they are ultra-light and use less material than would be required for other foams to achieve the same performance.

The consistent, closed cell nature of the material and the fact that it is expanded only using pure nitrogen give it a high level of resistance to chlorinated or salt water, resulting in products that retain their buoyancy and integrity for an extended period.

Also key is the purity of Plastazote; subjected to independent toxicology tests by Decathlon, it is suitable for extended skin contact without the risk of irritation.

ZOTEK® F high-performance PVDF foam

Performance benefits

of 'aviation' foam help protect society's most vulnerable

ZOTEK F is best-known as the disruptive high-performance material that has enabled airframe manufacturers and airlines to shed significant weight from aircraft interiors and save countless gallons of fuel in the process.

While weight-saving properties have frequently made headlines in the ZOTEK F success story, any materials destined for use in aircraft must also demonstrate exceptional safety credentials. ZOTEK F has these in abundance: PVDF is inherently inert and Zotefoams' manufacturing process does not affect that essential purity. Resistant to UV light (exposure to which is far higher at altitude) and with outstanding fire, smoke and toxicity properties, ZOTEK F has proven to be the ideal material for multiple applications inside the cabin, as well as behind the panels of aircraft.

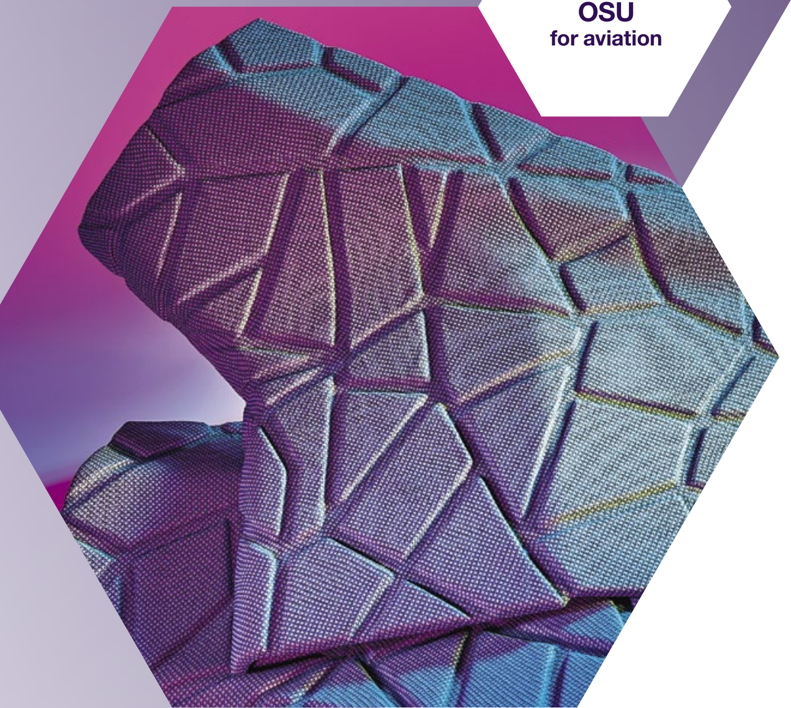
Now these same properties are being harnessed in a new application where safety is also paramount. Breakaway doors are used in medical facilities to protect vulnerable patients from self-harm while affording privacy.

Kennon Products (Wyoming, USA) recently launched its Kennon Door 2.0, its newest ligature-resistant patient safety product, featuring ZOTEK F. The door's soft materials and breakaway magnetic hinge save lives, while its durable design enhances the look of any facility.

A primary objective for Kennon was to develop a door that would achieve the new National Fire Protection Association NFPA-286 certification, which is required for facility operators wishing to meet certain fire prevention guidelines.

Zotefoams worked closely with Kennon to select and test various ZOTEK F materials, while providing support and insight based on previous experience of aviation applications and flame testing. For Zotefoams, this process resulted in the development of a new product.

For Kennon, it was mission accomplished, with the successful launch in 2022 of its Door 2.0, the first anti-ligature door offering NFPA-286 certification.



ZOTEK® F OSU
for aviation

Super-luxe aircraft seat panels are 50% lighter with ZOTEK F OSU XR

The MGRSoftWall® NextGen vertical sheet panel, produced by MGR Foamtex (Thame, UK), is seen here in two executions. While they appear identical, and performance characteristics are indistinguishable, one is made using ZOTEK F OSU Extra-Rigid as its structural element, while the other uses a traditional rigid thermoplastic. The Zotefoams panel weighs in at just 0.24kg compared with 0.56kg for the traditional material – a saving of over 50%.

Weight reduction is essential to the carbon reduction targets of the commercial aviation sector, and also for reducing costs, with fuel representing around 25% of total spend.

T-FIT®
advanced insulation

Long life, low maintenance and reduced waste

T-FIT INSULATION proves a winner for Mackie's

Premium ice cream brand Mackie's of Scotland has a bold ambition – to become Britain's greenest business. It has already made big investments in energy efficiency, from wind turbines to low-carbon refrigeration, which is expected to reduce energy consumption by up to 70%.

In its latest move, Mackie's has replaced short-lived nitrile rubber with T-FIT Process closed cell nylon foam insulation on internal and external pipework at the family farm in Aberdeenshire, Scotland, where over 13 million litres of ice cream are produced annually.

Aside from conserving energy, insulation plays a critical role in controlling condensation, which is generated when processes involve hot and cold cycles, as is the case with ice cream production. Left unchecked, condensation is a known cause of contamination in food production.

Mackie's anticipates many benefits from its investment in high-performance insulation. T-FIT Process has a far longer lifespan than the previous insulation, which hardened and eventually disintegrated due to the repeated cycling between high and low temperatures, meaning that Mackie's had to strip it out and replace it annually, with the waste going to landfill. The failure of the insulation over time also meant that more energy was required to maintain the temperature of the pipes – critical to production quality – resulting in increased cost.

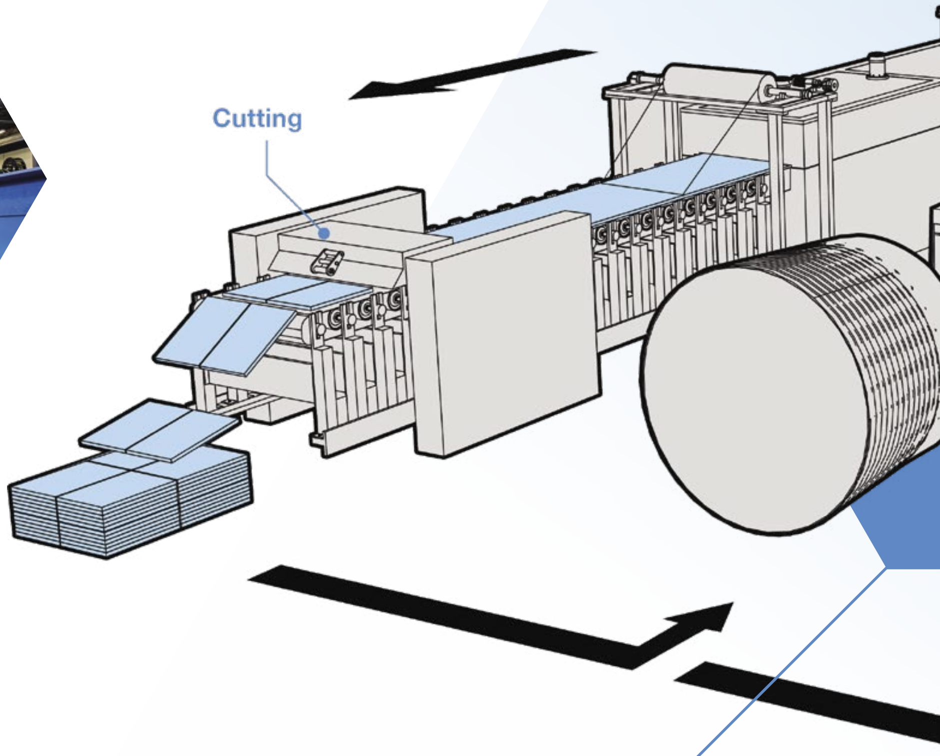
T-FIT Process is rugged, designed to accommodate temperature changes, and has a closed cell structure that does not absorb moisture and is resistant to bacteria and mould growth. It is also fast and easy to install, reducing labour costs and downtime and – most importantly – the Total Cost of Ownership.

A unique manufacturing process
The Zotefoams difference

Zotefoams manufactures a wide range of closed cell, crosslinked, lightweight block foams using variations of our unique nitrogen-expansion manufacturing process. This affords an exclusive combination of beneficial characteristics – uniformity, purity, low toxicity and durability – that differentiates Zotefoams' materials from all other foams. Our core autoclave process is capital-intensive, with a long investment cycle, and represents a considerable barrier to entry for potential competitors

Scan the QR code to see our process in action
zote.info/3NAZPrP

Stage 1
Extrusion and crosslinking

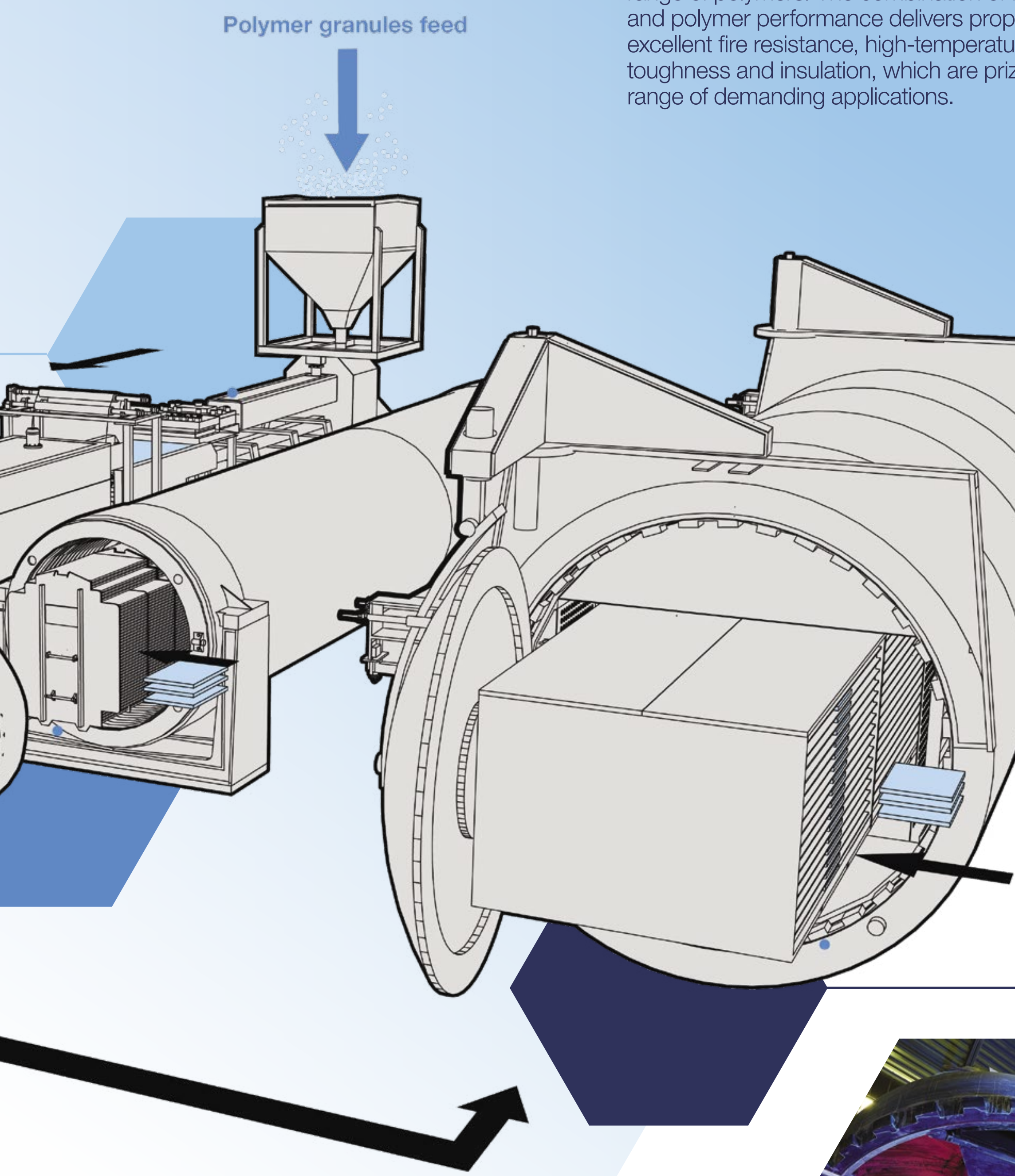


Polymer and any additives (colours, fire retardants, conductive agents) are extruded into a continuous solid plate. The plate passes through an oven which activates the crosslinking process. It then cools and is cut into slabs.

Stage 2
Nitrogen saturation

Slabs are loaded into a high-pressure autoclave. The material is heated above its melting point and pressurised with pure nitrogen gas. Over a long period of time, the nitrogen gas diffuses into the slabs. A rapid depressurisation destabilises the absorbed nitrogen nucleating cells in the slab. The slabs are then cooled under pressure in the autoclave, locking the nitrogen in the unexpanded slabs, prior to them being unloaded.

Operating at temperatures up to 250ºC, this nitrogen-based process is extremely flexible, allowing us to foam a wide range of polymers. The combination of foaming process and polymer performance delivers properties such as excellent fire resistance, high-temperature stability, toughness and insulation, which are prized in a wide range of demanding applications.



Stage 3
Expansion

The nitrogen-charged slabs are loaded into a large lower-pressure autoclave and, under moderate pressure, are heated to above their melting point. When the pressure is reduced, the nitrogen expands, turning the slabs into larger foam sheets. This expansion process is unconstrained, so is uniform in each dimension.

Our business model
Leveraging unique technology with an innovation-led portfolio of advanced products

Starting with a core process

At our block foam manufacturing sites in the UK, the USA and Poland, we operate proprietary technology to produce foams from a variety of different polymers. Our manufacturing process almost always involves three sequential steps:

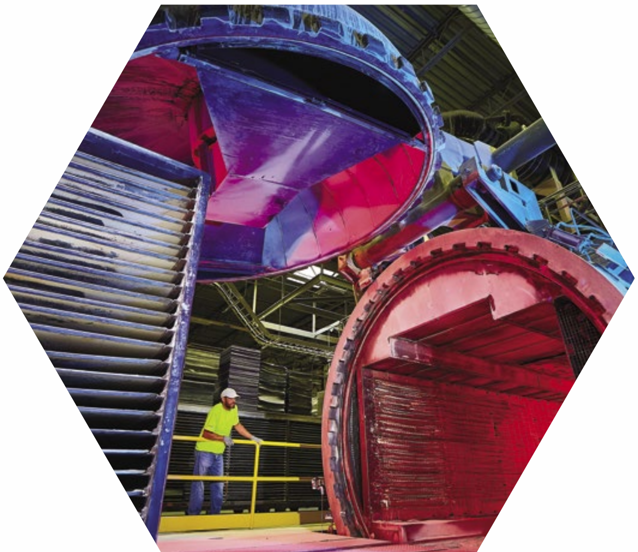
1. Extrusion
2. Nitrogen saturation
3. Expansion

For more information on our process, see **pages 12 and 13**

Zotefoams' differential advantage is the use of autoclaves, developed from a century of experience, using a nitrogen-based process. All of our assets are flexible – we can use each of them to make many product grades.

The high levels of know-how and capital required to use autoclaves is a difficult barrier for new entrants to overcome. Patents on our basic process expired some years ago, although we are able to obtain patents for products manufactured by that process, in particular in our High-Performance Products (HPP) business. This, and the fact that our process allows us to produce materials that cannot be made by any other method, delivers a meaningful and sustainable competitive advantage.

Foam has high distribution costs relative to price, particularly for our polyolefin foam product range. It is more economic and sustainable to expand the foam closer to customers and we have recently invested in regional manufacturing capacity in Poland to be closer to certain markets.



Making the best use of our assets

Our route to increased profitability includes running our unique machinery as near to full capacity as possible – and filling new capacity as quickly as possible – and then mix-enriching our product portfolio. We produce two distinct product portfolios, which combine to make our model work:

Polyolefin foams, (typically branded as AZOTE®) are based on polymers that are also foamed by many of our competitors, compete primarily through the superior foam properties created by our technology, are produced in large volumes and are sold to a wide variety of customers who then incorporate the foam into many different products.

High-performance products, (typically branded as ZOTEK®), meanwhile, are made of more costly and specialised polymers that very few competitors can foam, are currently produced in relatively lower volumes and are sold at a higher price to a smaller number of customers. These customers then use this technologically advanced foam for highly specific applications.

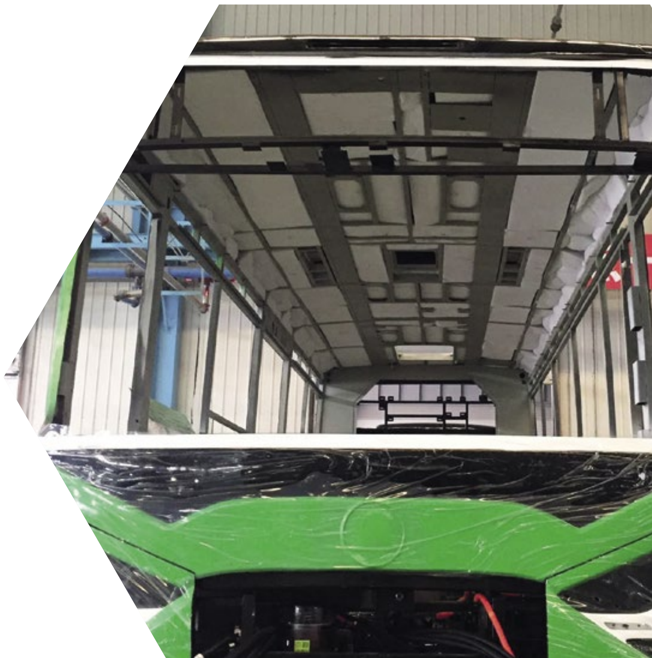
While the superior performance of our foams creates demand globally, most of our polyolefin foam customers are regional – for us that means the UK, mainland Europe and North America – reflected by the geographic locations of our manufacturing plants. This is in part driven by distribution costs and by the importance of good service levels. By contrast, distribution costs make up a far smaller proportion of the value of our HPP portfolio, so do not constrain global reach, and the complexity and higher value make it more effective to produce the HPP range from the more established UK site.

Over time, we expect to increase profitability through mix enrichment. Our core process allows us to produce a range of both polyolefin and HPP foams. With the higher margins achievable from HPP and more technical polyolefin foams, we prioritise these products in our production decision-making. However, the markets for polyolefin foams, with many segments ranging from those higher margin, specified, technical foams to the highly competitive foams with low switching costs, afford us the flexibility to make full use of any significant availability of capacity while still generating good margins and providing highly valued solutions to our customers. Supporting a broad product portfolio therefore remains critical to our long-term success. Currently, the Polyolefin Foams business unit utilises the largest share of our capacity.

Working with our partners and enriching the product mix

We partner with a network of customers around the globe that fabricate our polyolefin foams and promote them in their geographic markets. Some specialise in specific sectors, while others specialise in foam fabrication capabilities for general markets. Our aim is always to be the material of choice for our partners. Our block foams are sold, and often specified, into a broad range of industries, such as automotive, aerospace, product protection, industrial parts, marine, building and construction, and sports and leisure.

The AZOTE portfolio is typically viewed as "best in class" for performance, often measured by weight, purity and durability, and can be efficiently fabricated into complex shapes. We provide our customers with products that offer improved performance per unit of weight over competing solutions. They are lighter and made with less raw material and their durability means they need replacing less often. This makes them a product of choice in thermal insulation and transportation or when protecting goods in transit, where light weight helps reduce fuel and energy consumption. Zotefoams products are predominantly found in permanent solutions. Our Plastazote® and Evazote® polyolefin foam brands are held in high regard in the industry and offer premium performance in the portfolio of a foam fabricator.



Our business model
Continued

Developing our HPP portfolio

A significant portion of technical, sales and marketing expenditure is allocated to the development of our HPP portfolio, sold under the ZOTEK and T-FIT® brand names. Close and direct collaboration with customers, and a focus on the ultimate end-users, is crucial to the success of this business unit. We have a long history of investing in R&D, which enables us to innovate and meet the needs of customers with technically demanding requirements seeking solutions that consume fewer resources, operating in sectors such as footwear and aviation. These businesses are more global in nature and we have strong management alignment to the product range and certain key markets.

Developing products to demanding technical specifications, and promoting these globally, can mean that a new HPP product makes losses at first. However, once a product's specifications have been finalised and orders are secured, the opportunities are longer term and cash generation potential is high. Our HPP business unit margins reflect a portfolio of products and applications at different stages of the life cycle and we see considerable opportunity to grow and to enrich our product mix over the medium term.

Adding more value for customers, and to our business

Our HPP portfolio comprises innovative and versatile raw materials which, like our polyolefin foams, lend themselves to being fabricated into complex parts by our customers. The unique and advanced properties of these foams often allow designers and industry both to meet stringent regulations, for example around safety or environment, and to offer better products, often by substituting non-foam products or replacing multiple products. For example, our foam is now used by the aviation industry for ducting, where it acts as both the structure and the insulation, visual window surrounds, where it also acts as the seal, as well as 'soft touch' materials within the cabin.

This area of the business is more readily defensible because of the unique performance advantages inherent in our advanced technology, the patents we hold and the highly specified markets we serve. These factors also enable us to sell at a higher price with a better margin. Ultimately, expanding our HPP portfolio is critical to our past, present and future growth.

In some cases, however, we are able to move even further up the value chain and ultimately provide finished parts directly to customers. The best example of this is our T-FIT technical insulation business. We take a 'direct to market' approach to sell this clean insulation. While this is a departure from our typical model of contributing to, rather than producing, the finished product, we are able and ready to make similar moves in response to unmet demand when it complements our global network of fabrication partners.

Capacity to meet growing demand

In a 'steady state', our business is strongly cash generative, but we have significant opportunity to grow and have therefore chosen to reinvest to take advantage of profitable opportunities. Since the beginning of 2018, we have increased capacity significantly in anticipation of projected demand. While our mix enrichment strategy favours our HPP portfolio, and investment in the UK has focused on increasing our capacity to deliver on these opportunities, the knock-on impact of HPP growth is a reduction in available UK capacity to service our highly valued and profitable Polyolefin Foams business. The larger part of this capacity expansion has consequently been outside the UK, to allow us to meet our growth expectations in polyolefin foams while increasing our service levels and reducing transport-related emissions through closer proximity to our customers. And as one would expect, our new facilities use state-of-the-art technology with improved energy efficiency. All this allows us to pursue more opportunities than before in terms of new products and solutions, many of which will then help to grow the business further.

Foam manufacturing facility, Brzeg, Poland

Our place in a lower-carbon economy

There are four aspects of our business that will enable us to thrive within a lower-carbon economy. Over time, we plan to build on these advantages so that we can continue to grow, reduce our carbon footprint and help our customers become more sustainable.

For more information about our ESG approach, see pages 52 to 69.

1. Our nitrogen-based process

Our core high-pressure autoclave foaming process uses nitrogen as the foaming agent, borrowed from the atmosphere during the production process, so there is limited further environmental impact beyond the use of energy and raw plastic. At the same time, this process is becoming more efficient as we invest in newer, more efficient autoclaves.

2. Efficient use of raw material

We are proud that our unique technology delivers foam products with better performance per unit of weight, which allows us to offer high-quality solutions made with less material. Furthermore, not only do we use less material to produce our foams, but the integrity and durability of our products also mean they need replacing less often.

3. Our products' role in avoiding emissions

Our products are typically used in a way which, in the round, reduces emissions and conserves scarce resources. For example, our foams are used for thermal insulation, they protect products in transit that have a high carbon footprint and they often replace heavier and more wasteful alternative materials.

4. New product development

As the demand grows for products that actively help us move to a less wasteful, lower-carbon future, we are already responding, with more to come. For example, ReZorce® is a 100% recyclable mono-material barrier packaging solution which has been designed to replace difficult-to-recycle laminated paper, pouches and cartons.

Our sustainable competitive advantages

As described on page 14 in 'Our business model', our sustainable competitive advantages include:

- High-value, unique assets
- Established market position
- Technical know-how
- Valued brands

Foam manufacturing facility, Kentucky, USA

Three further competitive advantages are also important contributors to our success

1. Growing global reach

Beginning from a single site in the UK, we now have major manufacturing sites operating in the USA and Poland, serving regional and international customers. Proximity to major manufacturing centres is a significant advantage in our markets. Having three sites provides the flexibility to serve regional markets, while retaining high capacity utilisation across the Group, and serve markets that are growing at different rates with different products. Our manufacturing base also includes a well-located T-FIT subsidiary in China, a T-FIT sales subsidiary in India and a facility in Oklahoma, USA, cutting AZOTE parts for a valued customer.

2. Diversity of products and customers

We sell to customers in a wide variety of different sectors, so we have a more limited exposure to a downturn in any particular industry. We have also demonstrated the ability to quickly meet a change in demand, as with our work on producing foam for personal protective equipment during the COVID-19 pandemic.

3. Stable finances enabling organic growth

Our stable finances enable us to invest in new opportunities as they appear, giving us a significant competitive edge. We have the resources available to move into new polymers, or to displace competition by superior performance. We have grown organically for many years and we believe that much more is possible.

Critical resources and relationships

In order for us to continue as a viable and successful business, we are aware of the need to secure access to, and/or invest in, our key resources and relationships, which include:

- raw materials
- plant and equipment
- intellectual property, including patents
- well-trained people and their capacity to innovate (read more about our people on page 70)
- relationships with channel partners
- relationships with HPP end-users
- ability to move goods between manufacturing sites and customers
- financial resources.

MUCELL EXTRUSION

Polymer reduction technology

Innovative and accessible technology for greener and lower-cost plastic products. This pioneering technology injects gas into plastics during the manufacturing process to create micro-bubbles and is licensed to customers manufacturing plastic parts. The end-product uses 15–20% less material. Recently developed ReZorce recyclable mono-material barrier packaging solutions use this technology.

For more information on MuCell, see pages 4 and 5 as well as information on the business unit performance on pages 29 and 30

Our external context
Our response to short- and long-term trends

We deliver stakeholder value by using unique technology to create a portfolio of differentiated products. We focus resources primarily on markets where we are, or have the potential to be, a market leader. We intend to develop our business through sustained high levels of organic growth and, where appropriate, through partnerships or acquisitions

We have built a clear long-term strategy for growth based around three long-term global megatrends that are driving demand for our products.

Understanding these market trends informs our strategy and product development, as well as the allocation of our resources. Given the diversity of applications for foam, it is not possible to track every use for our materials, and a new idea or application may come from a foam converter, an end-user or from within Zotefoams. We therefore actively monitor these and maintain flexibility to react to a wide variety of possibilities.

As the world around us changes, we regularly re-test our strategy. We believe our existing strategy continues to serve us well and continues to enable us to grow strongly.

Sometimes, as has happened during the pandemic, short-term factors distort longer-term trends. With clarity of purpose and an understanding of the fundamental drivers of our business environment, we will make adjustments to our short-term approach, such as limiting expenses and capital expenditure, while ensuring that our longer-term goals remain achievable.

Environment

Optimising the use of scarce resources has become a universal driver. Lightweighting is fundamental to reducing fuel usage and controlling emissions for the aviation and automotive industries. High-quality insulation conserves thermal energy.

MuCell® technology uses less material to make everyday items and saves costs. ReZorce® mono-material technology can be used to create barrier packaging for items such as juices, food and dried goods, which can be recycled using common kerbside collections. Much of our AZOTE® foam is used in permanent packaging or packaging that is designed to be reused, while foams used in transportation are normally specified to the lightest weight for the required physical performance. Zotefoams products typically use less plastic than competitive solutions due to the cell structure of foam made in our autoclave process, giving us both a cost and environmental advantage.

With sustainability and carbon reduction a priority, Zotefoams has introduced the Ecozote Sustainability+ foams range, which builds on the underlying sustainability credentials of all our block foams – light weight, durable and foamed using nitrogen borrowed from the atmosphere – to give customers and end-users additional choices to address market- or application-specific requirements. Initial products in the range are low-density polyethylene foams with 30% recycled content.

Regulation

Regulatory pressures, primarily to safeguard consumers, are driving up standards worldwide. These standards in turn create demand for both safer products and protective equipment.

Regulatory requirements mainly cover the performance of end-use products, although there are specific tests for fire performance and toxicity limits in foams for certain industries and jurisdictions. Zotefoams provides specifically tested materials for semiconductor, pharmaceutical and biotech manufacture and automotive, aircraft and rail insulation and provides validated materials for medical transportation and devices, and military storage and personnel protection. Our technical team is closely involved in developing new materials to meet and anticipate standards and we are currently working on projects for automotive batteries, high-tech composites, foams from recycled materials and foams which can be more easily recycled. We sell AZOTE grades for automotive, medical and packaging designed to minimise emissions and/or meet specific purity requirements. Around half of Zotefoams' revenue from foams in 2022 came from products with specific properties tested to customer requirements, although not all of this was demonstrably for regulation compliance.

Plastazote® from our AZOTE polyolefin foams range is the most frequently cited thermoplastic foam in medical literature due to its purity and hypoallergenic characteristics. It meets ISO 10993 standards for evaluating the biocompatibility of medical devices and is the material of choice for skin contact applications.

Demographics

Better healthcare has created a population boom, especially in older age groups, while globally, discretionary spending power is rising rapidly. Demand for healthcare products is accelerating. Wealthier and more discerning consumers are driving growth rates in other industries such as food and drink, sports equipment and transportation.

Transport, medical and sports and leisure applications account for around 55% of sales directly, while our T-FIT® insulation products – demand for which is currently linked to semiconductor, pharmaceutical and biotech manufacturing – account for a further 5% of sales.

Our strategic objectives
We measure progress against six strategic objectives

We have no changes this year to how we report our strategic objectives.

1. Develop an HPP portfolio to deliver enhanced margins

Why?
Products in the HPP portfolio offer higher growth rates and higher margins than AZOTE® foams. High-performance products use the same asset base as the Polyolefin Foams business and leverage our uniqueness by providing customers with solutions based on foams that can only be manufactured using our technology. They offer larger-scale opportunities than our polyolefin foams and higher drop-through operating margins.

This year
In 2022, sales in the HPP segment increased 29% and accounted for 43% (2021: 42%) of Group revenue. The business unit invoices most of its sales in US dollars and therefore benefitted from a strong dollar. With the average exchange rate being approximately 10% favourable, sales were up 16% in constant currency. Footwear is the largest market within the business unit and represented 33% (2021: 34%) of Group revenue. ZOTEK® F fluoropolymer foams, primarily for aviation applications, grew significantly in the period, up 48% (33% in constant currency) as the industry returned to growth after two years of customer-specific and pandemic-related decline, but are still well below their 2019 peak. T-FIT® insulation products also grew by 48% (41% in constant currency), albeit with performance negatively impacted in Asia by the pandemic. The profit margin of the HPP business unit was 28% (2021: 21%), significantly better than the 7% (2021: 1%) achieved in our Polyolefin Foams business unit.

Next year, and beyond
We expect margins in HPP to continue to grow. The rate of margin enhancement will be dependent on the capacity utilisation of the Group and the relative level of investment in early-stage and high-growth opportunities within our HPP portfolios. It will also depend on the speed of recovery of, and further growth in, aviation and on our success in making our T-FIT business a recognised global solution for that industry.

2. Grow sales in our AZOTE Polyolefin Foams business in excess of twice the rate of global GDP growth

Why?
Zotefoams is a capital-intensive business with high operational gearing. The Polyolefin Foams business is the largest user of capacity and its volumes are particularly important for the absorption of fixed costs. AZOTE foams provide unique solutions to a broad spread of customers across many industries, serving as a valuable mitigant against industry and customer risk. Demand for improved resource efficiency, regulation and global demographics underpins our growth potential in this business unit.

This year
In 2022, sales of AZOTE polyolefin foams grew strongly, up 25% on the previous year (22% in constant currency). While headline growth was significant, it was not underpinned by increased volumes, which declined by 1%. 2022 was a year in which some traditionally large polyolefin market segments, automotive in particular, declined, while other areas grew considerably. The automotive decline impacted Europe primarily. Higher sales prices to counter higher input cost inflation and improved mix explain the increase. The Polyolefin Foams business unit margin increased to 7% (2021: 1%) as higher prices recovered some lost margin.

Next year, and beyond
We are confident that growing AZOTE sales at twice the rate of global GDP growth is achievable. The key drivers of this business – use of materials, lightweighting, insulation etc – remain as relevant as ever and we are developing our product range and geographical reach accordingly. Our technical developments and market focus are heavily influenced by supply chain and internal (Scope 1 and 2 emissions) sustainability objectives to reduce and reuse waste, as well as provide materials which optimise our customers' sustainability position around use-phase emissions. All these developments are set to broaden Zotefoams' product range further and offer good opportunities to grow market share by aligning closely with market trends and customer needs.

3. Increase our operating margins

Why?

Zotefoams targets improved operating margins through a continuous focus on the efficient use of its assets and mix enrichment across its product range and by developing applications which most effectively leverage its unique technology. This applies not only to our HPP business but also to our Polyolefin Foams business. Zotefoams adopts a medium- to long-term view, balancing immediate operating margin gain with the investments required in infrastructure and capacity (and their consequent impact on short-term margins), to maximise future growth. Higher operating margins generate higher returns to shareholders.

This year

In 2022, in aggregate, segment margins (before foreign exchange hedging gains and losses and central costs) increased to 14.4% (11.7% in constant currency) from 8.7%. This increase in margins results from the price increases implemented by Polyolefin Foams to counter the high input costs and an underlying favourable foreign currency position due to the strong US dollar, mostly impacting HPP, as well as increased volumes achieved in this higher margin business unit. They were negatively impacted by an increase in investment into the ReZorce® opportunity at MEL. After central costs, which include corporate, finance and IT, mainly relating to the corporate governance of an increasingly complex organisation, as well as net foreign exchange hedging movements, Group operating margin increased to 10.9% (2021: 8.1%), or 9.6% in constant currency. Excluding MEL, Group operating margin was 12.7% (2021: 9.0%), or 11.2% in constant currency.

Next year, and beyond

Pricing actions implemented during 2022 should allow gross margins to continue to grow and the drop-through effect on underlying profit to increase. We have seen low-density polyethylene prices fall from their all-time highs but expect them to remain at levels above the recent historical average. Energy prices remain highly volatile, but we anticipate a reduction in the medium term. We expect in due course to return to our polyolefin foams customers the element of our price increases that relate to a price surcharge, but retain the other price increases that reflect a higher underlying cost base going forward. We also forecast a continuing improvement in the product mix because of ZOTEK F sales recovery and growth beyond previous highs, increased plant efficiency at the newer USA and Poland facilities based on experience and improved utilisation, and growth in higher margin T-FIT technical insulation sales. And finally, across our foams business, we expect the sustainability objectives that improve energy and polymer use efficiency to help improve margins. Beyond our foams business, the opportunity from ReZorce remains significant but uncertain during this development phase, but will become clearer as we progress through 2023.

4. Improve our return on capital (over our investment cycle)

Definition: Zotefoams defines the return on capital employed (ROCE), which is not an IFRS metric, as operating profit before exceptional items divided by the average sum of its equity, net debt and other non-current liabilities. This measure excludes acquired intangible assets and their amortisation costs as well as any significant capacity investments under construction until they enter production.

Why?

Zotefoams uses unique and capital-intensive assets. We understand the importance of generating a good return on these assets to provide our shareholders with strong returns and maintain their support when funding is required to drive longer-term capital projects. As Zotefoams' business grows, we have invested in large capital programmes which have changed the shape of our balance sheet. Our assets generate higher returns when operational gearing (i.e. utilisation) is high. This, combined with our strategy to mix enrich our sales portfolio, is expected to generate the return on capital our shareholders seek.

This year

In 2022, the return on capital increased to 10.1% (2021: 6.1%), mostly as a result of the increase in operating profit. The Group's average capital employed increased only slightly by 2%, with capital expenditure slightly less than depreciation and amortisation and little movement in total working capital. Inventory movement was negligible, while increased receivables offset increased payables, linked to higher selling prices and higher input costs and variable-pay-related compensation accruals respectively. Both were impacted by the stronger US dollar exchange rate.

Next year, and beyond

The Group has delivered a large capacity expansion programme over recent years, which ended in February 2021 with the commissioning of the Poland manufacturing site. The balance sheet, which includes new capacity as well as supporting infrastructure which will not directly generate returns, has increased significantly. We approved these projects, acknowledging and accepting the dilution of return on capital over the short term but recognising the importance of adequately investing in the infrastructure and capacity needed for anticipated future growth and the corresponding improvement in return on capital that should accompany it.

Our strategic objectives
Continued

5. Clarify and improve the Group approach to environmental sustainability and climate change

Why?
Our purpose is to provide optimal material solutions for the benefit of society, reflecting our belief that, used appropriately, plastics are frequently the best solution for the sophisticated, long-term applications typically delivered by our customers. Materials manufactured using Zotefoams' unique technology help customers save energy, for example by improving insulation and reducing the carbon emissions of cars, planes and trains by providing lower-weight solutions that lower fuel consumption.
Our core process uses only temperature, pressure and nitrogen borrowed from the atmosphere for expansion, creating materials that are uniquely pure and durable and which use less polymer thanks to their superior performance-to-weight ratio. ReZorce mono-material barrier packaging technology presents the opportunity to increase recycling rates in consumer packaging, reducing waste and creating the potential for circularity. Zotefoams products frequently form part of the environmental sustainability agenda for our customers, and embedding this more formally into our strategic objectives will support Zotefoams' development over the short, medium and long term.

This year
Good progress has been made against our sustainability targets on pages 57 to 59. The business has widened the scope of its environmental objectives in a number of areas, in particular in reducing waste from excess polymer on arising from the manufacturing process across the entire foam range. Our main USA site switched to fully sustainable electricity, joining the UK and Poland sites which switched in previous years. Using a methodology that identifies products which, during manufacture or use, provide a substantial increase in the efficiency of resources used, we have assessed our product range as producing 85% green revenue. Further details are provided on page 53. We made our first CDP disclosure in 2022 and our report may be accessed on its website: www.cdp.net/en

Next year, and beyond
We have set ambitious longer-term sustainability objectives, aligned to a sustainability-backed loan facility, which focus on three performance indicators: the energy we use to manufacture the products we sell, the efficiency with which we utilise polymer in the manufacture of products and the development of new products which offer our customers use-phase resource efficiency. Their aim is to ensure Zotefoams has a more sustainable product portfolio that minimises both the energy used, and polymer waste produced, in its manufacture. Details of these objectives are presented on page 58.

6. Develop and invest in MuCell technology

Why?
MEL reduces plastics use at source using patented high-pressure gas technology at customers' facilities and operates on a royalty basis over a period in excess of ten years. This underlying technology is the basis for mono-material barrier packaging, which we have branded ReZorce. Using significant recycled plastic content and being readily recyclable, the potential market is large and facing significant pressure to improve sustainability rapidly.

This year
The focus and resource allocation at MEL has again this year been directed to the development of the ReZorce opportunity, with growth in the underlying business being restricted to existing customers. Nevertheless, sales increased 23% in the year to £2.8m. Good strategic progress was made on ReZorce, with advancements in the technology, the acquisition of complementary know-how and assets in a new entity in Denmark and the start of a process to find the right strategic partner to accelerate commercialisation. Investment in this opportunity resulted in an increase in the segment loss at MEL by 175% to £1.9m (2021: £0.7m).

Next year, and beyond
The licensing business of MEL, which is aimed at reducing customers' consumption of plastic volumes, will continue to support existing licensees and current projects.
We intend to invest within the Group's risk appetite to develop and commercialise the MuCell technology, currently focused on ReZorce mono-material barrier packaging. This approach recognises that there is a high "option value" for success and at this time our business model remains flexible to deliver this value in the best way for our stakeholders. Having capitalised £4.7m through to the end of 2022, as well as invested at an operating level that drove much of the 2022 segment loss of £1.9m, we have entered a process to identify the right strategic partner to leverage and accelerate the potential opportunity.
As development proceeds, we will have greater clarity over the business model that will capture the most value for the Group and its shareholders.

An introduction from our Chair

Steve Good
Chair

Strong sales growth and improved margins generate record profits alongside continued strategic delivery

Performance and results

2022 saw the Group record a second year of strong sales growth, up 26% on 2021 following a 22% increase in the previous year. This was driven by effective pricing actions in Polyolefin Foams, a stronger US dollar and significant High-Performance Products (HPP) volume increases across Footwear, ZOTEK® F (primarily aviation) and T-FIT® insulation. A focused programme of price increases was implemented in Polyolefin Foams to recover margin loss from the severe input cost inflation that had materially impacted 2021 margins and that continued in 2022. Group revenue for the year was £127.4m (2021: £100.8m) and operating profit was 71% above the previous year at £13.9m (2021: £8.1m), a record for the Group, with operating margins expanding from 8.1% to 10.9% despite a significant increase in MuCell losses as we continue to invest in the ReZorce® Circular Packaging opportunity. Basic earnings per share was up 129% at 20.61p (2021: 9.01p). The balance sheet remains strong, with leverage significantly reduced during the year and ending at 1.2x (2021: 2.1x), the lowest it has been since 2018 when the Group embarked on its now complete capacity expansion programme.

Strategic progress

Our strategy is focused on delivering strong and sustainable organic growth and improved operational efficiencies. Zotefoams has a portfolio of differentiated products based on unique and environmentally friendly technology and intellectual property. We work with our partners to optimise our materials for their needs and have developed a portfolio of high-performance products that further enrich our product mix, adding more value for customers and to our business. Alongside this, we have established a diversified international manufacturing footprint to ensure there is sufficient capacity to meet growing demand across a range of attractive end markets. We seek to improve operating margins and returns through the investment cycle. We are also pursuing a transformative opportunity at MuCell Extrusion LLC with ReZorce, a mono-material barrier packaging solution which can be used for beverage and food packaging, uses recycled materials and is easy to recycle again (i.e. it is "circular") using existing waste collection and recycling infrastructure.

We have made good strategic progress this year. Our largest business unit, Polyolefin Foams, converted the increased volumes of 2021 into improved margins in 2022. We continue to see structural growth prospects in this important business unit, underpinned by the megatrends of environment, regulation and demographics and facilitated by our new global capacity. In our HPP business, we delivered another year of strong growth in Footwear and worked closely with our partner to develop further long-term opportunities. Additionally, the start of a post pandemic recovery in aviation resulted in demand for ZOTEK F technical foams growing strongly, with T-FIT insulation products also developing well as the brand continues to gain traction. The long-term growth outlook for these HPP markets remains compelling. We also made significant progress at MuCell Extrusion LLC with ReZorce mono-material barrier packaging, investing significantly in its development, running scale-up trials and commencing the search for a strategic investor to allow full realisation of the technology's potential. Whilst acknowledging that we are still at an early stage of commercial development, this remains a high-reward opportunity and we expect to update stakeholders on progress during 2023.

An introduction from our Chair
Continued

Dividend
The Board is proposing a final dividend of 4.62p (2021: 4.40p) which, if approved by shareholders, would make a total dividend for the year of 6.80p (2021: 6.50p), an increase of 5%. This reflects the Board's continued confidence in the Group's future and is in line with its progressive dividend policy, recognising the importance to our shareholders of the dividend as part of their overall return. If approved, the final dividend will be paid on 2 June 2023 to shareholders on the register on 5 May 2023.

Our people
We know that our people are key to the Group's success and 2022 was another year that highlighted their importance. While in most regions the impacts of the pandemic have receded, this was not the case everywhere, with our China staff particularly impacted by a shutdown and significant travel restrictions. Elsewhere, reduced restrictions have enabled the return of direct interactions between teams in different locations after at least two years of forced separation, and we see how important and valuable this is for the individuals themselves and the Group as a whole. The spiralling cost environment has placed challenges on our staff from both a work and a personal perspective and, with regard to the latter, we implemented a number of mitigating initiatives. High levels of business activity and a need to respond quickly require resilient and committed staff, and we have again experienced this in our people, who have been outstanding and have ensured that the needs of customers continue to be met.

Having the right people at Zotefoams, who understand and promote our culture, act at all times with integrity, safety-consciousness and dedication and possess the right knowledge and skills, continues to be critical to our future success. I would like to welcome the new employees who have joined us around the world during the past twelve months. I would also like to thank those who have helped all our new colleagues integrate successfully and thank, once again, all our hard-working employees and their supportive families who have helped the Group continue to make good strategic progress during these very challenging times.

Sustainability
Our purpose is to provide optimal material solutions for the benefit of society, reflecting our belief that, used appropriately, plastics are frequently the best solution for the sophisticated, long-term applications typically delivered by our customers. The Board is focused on the importance of sustainability and the evolving debate around the use of plastics by society. It considers both in relation to the future desired outcomes for all stakeholders. Accordingly, our strategy incorporates the consideration of climate change in terms of financial and operational impacts. Good progress was made in 2022 towards our sustainability targets. See the Group CEO's review on page 27 and the ESG report on page 52.

The Board and Chair succession
There were no changes to the experienced and engaged Board during the year. By the time of the Annual General Meeting (AGM) in May 2023, however, I will have been on the Zotefoams Board for almost nine years and it will be time for me to step down. Doug Robertson, our Senior Independent Director, has led a process to find my successor and in early January 2023 we appointed Dr Lynn Drummond as a Non-Executive Director and Chair Designate. I am delighted to welcome Lynn to the Board. She will take over as Chair after our AGM. On a personal note, it has been a pleasure to serve on the Zotefoams Board and be part of the exciting transformation and significant progress that the business has made since I joined in 2014. I am confident this success will continue.

Governance
The Board leads an ongoing programme to ensure the highest standards of corporate governance and integrity across the Group and has remained abreast of developing governance standards. The Board's interactions and communications with executive management continue to be excellent and, as a result, the Board is well-placed to challenge, guide and support executive management in the delivery of the growth strategy. During the year, we continued to pay particular attention to the provision of a safe working environment for our staff across all global locations and maintained the improved visibility and quality of safety performance data across the business. I thank all employees at Zotefoams for their efforts throughout the year to identify and remove risks and keep each other safe. We continue to support and empower our employees and are meeting our commitment to enhancing the employee voice in the boardroom through the position of J Carling, Independent Non-Executive Director, as Board representative for workforce engagement. The Board also acknowledges the benefits of diversity, including that of gender and ethnicity, and is committed to setting an appropriate tone from the top in all diversity and inclusion matters.

The Board considers that it has fully applied all the principles and provisions of the UK Corporate Governance Code during 2022, with the exception of Provision 38 in respect of the Company's pension contribution for the Group CEO. More information is provided in the corporate governance report on page 80.

Looking to the future
Zotefoams is well positioned with well invested, differentiated assets and a clear strategy for delivering profitable organic growth through the cycle. We have committed, capable and passionate people and a strong pipeline of new opportunities, and while we remain mindful of the uncertain external environment, with high inflation, higher interest rates, the continued war in Eastern Europe and remaining concerns over COVID-19 and its variants, we are confident about our future prospects for growth, margin improvement and cash generation.

S P Good
Chair

4 April 2023

Group CEO's review

David Stirling
Group CEO

Record revenue and profit with investment to capitalise on identified trends and generate sustainable growth

Overview

In 2022, Zotefoams grew significantly, delivering record revenue, profit and earnings. The year was characterised by a continuation of trends seen in 2021: input cost inflation in energy, in particular, polymer and other manufacturing costs as well as labour. Our effective response, to increase prices where appropriate, was the main reason for increased revenue which also benefitted from an improved sales mix and more favourable currency rates, both of which aided profitability.

We continue to invest in our business focused, primarily, on three clear macro-trends: demographics, where an increasing population is evermore urban and aging; regulation, often around the safety of people; and environment, where optimising the use of scarce resources has become a global necessity. Sustainability, along with health and safety, is embedded in everything we do and, in 2022, we directed increased levels of investment to the development of new products and markets for our T-FIT® technical insulation products and to the reduction of waste and Scope 1 and 2 emissions from operations. We also invested significantly in our ReZorce® mono-material barrier packaging technology, which is now transitioning from technical development to pre-market trials.

Group revenue increased 26% to £127.4m (2021: £100.8m), with operating profit of £13.9m (2021: £8.1m) 71% above last year and 20% above our previous best year (2018: £11.6m). Underlying growth in our business was approximately 5% from an improved mix of products, while pricing actions and exchange rate movements, principally a stronger US dollar, contributed approximately a 21% increase in revenue. Overall volumes were at similar levels to 2021, with another year of growth in footwear products and T-FIT insulation, continued recovery in aviation and a good performance in polyolefin foams in North America being offset by a decline in polyolefin products in continental Europe. Profit before tax increased 74% to £12.2m, (2021: £7.0m), with margin improvements in our Polyolefin Foams and High-Performance Products (HPP) business units, while losses in our Mucell Extrusion LLC business unit (MEL) increased as we continue our investment in the ReZorce opportunity. See the Group CFO's review for the impacts of currency on performance and profitability.

2022	United Kingdom	Continental Europe	North America	Rest of the world*	Total
Change %	**27%**	**15%**	**46%**	**25%**	**26%**
Group revenue (£000's)	**13,702**	**32,374**	**29,127**	**52,166**	**127,369**
% of Group revenue	**11%**	**25%**	**23%**	**41%**	**100%**
2021					
Group revenue (£000's)	10,768	28,200	19,959	41,823	100,750
% of Group revenue	11%	28%	20%	41%	100%

* Rest of the world comprises China: £30.0m (2021: £28.4m) and other countries: £22.2m (2021: £13.4m).

Strategic update and progress

Zotefoams' strategy remains unchanged: to invest in flexible assets and technology with the capability to support the organic growth opportunities afforded by our diverse, and often unique, products. The results of this investment, in development and/or capacity, typically take time to be realised fully and this can create a short-term headwind for margins. However, we are confident that our investment decisions are aligned to longer-term growth trends and that our differentiated and diverse products generate good levels of demand with pricing power over the economic cycle.

The investments we have made over the past five years have delivered increased capacity which, following the main economic effects of COVID-19, is now beginning to be used productively and is demonstrated in 2022 by very good profit growth and an ability to deliver strong operating cash flow and reduced leverage.

Our extrusion technology business, MEL, is demonstrating good progress in the development of new, sustainable packaging

Group CEO's review
Continued

technology through the ReZorce mono-material barrier packaging solution and is moving to commercialisation trials. To help accelerate the opportunity, we acquired the net assets of Refour ApS (Skandeborg, Denmark) for £0.3m in October and took on key members of the Refour team. We are now seeking the right strategic investor to work with us on this sustainable packaging opportunity, which is explained in more detail on pages 4 and 5.

Sustainability

Zotefoams products are typically sold into markets where they are used multiple times, often for many years, and can be recycled at the end of life. They often form a positive element of our customer's own sustainability agendas. In our foam manufacturing facilities, we have reduced waste while increasing the proportion of waste recycled, and have developed high-functioning foams with 30% recycled material content. The core markets for our products are where a "best in class" foam delivers our stated purpose: optimal material solutions for the benefit of society. Our products deliver performance and longevity in industrial applications and consumer durables such as footwear, medical devices, insulation for planes, cleanrooms, construction and cars, as well as military and marine uses. In 2022, 85% of our revenue was from products which are considered "green" based on a resource efficiency definition where, during manufacture or use, they provide a substantial increase in the efficiency of resources. This includes all sales from MEL, which provides solutions for increasing the efficiency of resource usage by reducing polymer consumption.

Within MEL, we continue to invest in our ReZorce mono-material barrier packaging opportunity. The premise of our MuCell® technology is the reduction of plastic in society, and the exciting ReZorce solution, using this technology, is a truly circular answer to very challenging targets set by governments and brands in reducing their carbon footprint and increasing the use of recycled materials. See MEL below for more details.

Good progress was made in 2022 towards our sustainability targets. An in-depth analysis of the transitional risks arising from climate change provided useful data relating to the short-, medium- and long-term impacts on the Group, which are currently assessed as low risk. Further details are provided in our TCFD section on page 60. We continue to strive to develop disclosures aligned with our shareholders' and stakeholders' expectations and have been upgraded from an A score to an AA score (the second highest rating achievable) by MSCI. We also made our first report to CDP in 2022. Further details are provided in our ESG section on page 52.

POLYOLEFIN FOAMS

AZOTE®

Segment revenue

£70.1m

Change **25%**

2021 **£56.2m**

Segment profit margin

7.0%

2021 **1.2%**

Segment profit

£4.9m

Change **7x**

2021 **£0.7m**

In 2022, sales in the Polyolefin Foams business grew by 25% to £70.1m (2021: £56.2m). Overall volumes were 1% below the previous year, with low and mid-single-digit percentage growth in the UK and North America respectively, while volumes declined 5% in continental Europe, our largest market, and there were mixed outcomes in other geographies.

Polyolefin foams are widely used in industrial and multiple-use consumer applications due to their robustness and durability. The main market segments are multiple-use packaging and protection, often used in long-term storage solutions, construction, sport and leisure, automotive, aviation, marine, military and healthcare. Customers for some specific applications were negatively impacted by supply chain disruption, such as automotive, where demand declined to the lowest level for many years, while most markets were negatively impacted by high inflation of materials and energy costs as well as labour shortages. Growth in other areas, such as construction and print solutions, came from new applications which have been developed over the past few years and, in the case of those in continental Europe, benefitted from the proximity of certain customers to our facility in Poland.

Average selling prices increased 24%, which was primarily a result of price increases but also a consequence of an improved mix and some net foreign exchange benefit, with a stronger US dollar but weaker euro. In most areas, multiple price increases have been implemented since Q2 2021 following input cost inflation and, in 2022, we benefitted from the full-year impact of price increases implemented in 2021 plus further increases in 2022, some of which were implemented as a surcharge which remained in place throughout the year. In European markets, energy, polymer and nitrogen pricing remain volatile but may have overshot their long-run sustainable level.

The intent of these price increases is to recover the higher costs we are experiencing but not to recover previous percentage margin levels, nor position our pricing based on peak input costs. Finding the balance between price adjustments and potential demand destruction in the current environment remains an ongoing focus.

The main polymers used in our Polyolefin Foams business unit are low-density polyethylene (LDPE) and other similar polyolefins. LDPE pricing has been extremely volatile since reaching a long-time trough in early 2020 that was linked to lower demand through the COVID-related economic slowdown. Since then, it has risen rapidly due to a combination of factors, peaking in Europe in May 2022 and recently trending lower but above its long-term average. Current polymer pricing levels are in part due to high energy costs, which are also indirectly impacting the costs of nitrogen and freight as well as having a direct impact on Zotefoams. Direct costs of energy and nitrogen, which have a much higher impact on Polyolefin Foams than on our HPP business unit, increased by over 50% in the period.

In our UK and Poland facilities, good progress has been made on waste reduction and energy efficiency and in Europe we commercially launched new materials incorporating 30% recycled polymer following market testing during development. In our Kentucky, USA facility, manufacturing yield efficiency improved over the course of the year from the low levels experienced in 2021, with specific actions planned for 2023 to continue this progress.

Segment profit margin has grown to 7% of sales, significantly better than last year but with scope over time for further improvement primarily through improved asset utilisation, operational efficiency and mix enrichment.

HPP

ZOTEK®
T-FIT®

Segment revenue
£54.4m

Change **29%**
2021 **£42.3m**

Segment profit margin
28.1%

2021 **20.6%**

Segment profit
£15.3m

Change **75%**
2021 **£8.7m**

Sales in our HPP business unit grew by 29% to £54.4m (2021: £42.3m). The main product groups are Footwear, ZOTEK® fluoropolymer foams and T-FIT® technical insulation. Overall volumes were 12% ahead of 2021.

In Footwear, where we have an exclusive arrangement with Nike, our materials are primarily used in midsoles for running shoes. In 2022, sales grew by 25% to £42.1m (2021: £33.9m). Since partnering with Nike in 2016, our business has grown significantly through the use of Zotefoams materials on more shoe models as well as through the growth experienced by Nike in the premium running segment. We have continued to develop new and innovative foams and improved our production efficiency, reducing cost, scrap and waste, most of which is now re-incorporated into products within the Footwear supply chain. Pricing to Nike recovers cost inflation, albeit with a lag, through our contractual terms. Footwear products accounted for 77% (2021: 80%) of HPP segment sales.

Other HPP foams are mainly used in aviation applications, where our ZOTEK F materials offer unrivalled performance at very low weight. Outside aviation, our foams, including those made from nylon and elastomers, are used in healthcare, packaging, military and personal protection. Sales volumes of ZOTEK F materials increased by 17% and value increased by 48% to £6.2m (2021: £4.2m) with a beneficial product mix from the improving aviation market and the benefit of a stronger US dollar. Input cost inflation in these materials was less severe than in polyolefin foams and our pricing reflected this. These applications accounted for 11% (2021: 12%) of HPP segment sales.

T-FIT insulation is made using Zotefoams' own HPP products and designed for the most demanding internal environments, such as in pharmaceutical, biotech and food and drink processing. Sales grew by 48% to £5.8m (2021: £3.9m). Our main markets are China and India, where more new factories are being built, although there is also an increase in construction activity in both Europe and North America. Most of our T-FIT conversion from foamed sheets to tubes, which is low capital intensity, takes place in China, but we have recently begun manufacturing in Poland and have an outsourced manufacturing partner to serve the North American market. T-FIT sales represent 11% (2021: 9%) of HPP segment sales.

Segment profit increased to £15.3m (2021: £8.7m), a segment profit margin of 28.1% (2021: 20.6%). The segment margin recovered from a relatively low point in the previous year, seeing the benefit of an improved product mix from higher aviation revenue and a stronger US dollar in which almost all HPP revenue is invoiced. We have expectations of further growth in our HPP business and continue to focus our investment in new product development and sales resources for T-FIT insulation, in line with these expectations.

MEL

MuCell®
ReZorce®

Segment revenue
£2.8m

Change **23%**
2021 **£2.3m**

Segment loss before amortisation of acquired intangibles*
-£1.6m

Change **231%**
2021 **-£0.5m**

Segment loss after amortisation of acquired intangibles*
-£1.9m

Change **175%**
2021 **-£0.7m**

* Amortisation of acquired intangibles: 2022: £258k, 2021: £232k.

MuCell® extrusion technology centres around combining high-pressure gas with polymer, allowing a typical reduction of 15% of the material required. Our business model, until recently, has been to manufacture and sell equipment and license technology, with future income being a royalty stream based on the polymer savings from existing products. Most of our customers are making consumer packaging where our technology delivers a lower cost and lower environmental footprint.

Over the past few years, we have worked further to extend this gas-injection capability to new applications. This has led to the creation of a new platform technology, branded ReZorce®, which is mono-material barrier packaging. Certain products, such as

Group CEO's review
Continued

food and drink, require their packaging to provide a barrier to oxygen and moisture and this is typically delivered through a combination of different materials in the same pack. It is very effective and cost-efficient and therefore widespread, however, often extremely difficult to recycle and almost never circular. We have proven that our ReZorce packaging system can provide the required barrier properties, is easily recycled using common infrastructure available today and can be made using a high proportion of recycled raw materials. Overall, this solution offers a lower carbon footprint for commonly packaged foodstuffs, in some cases a reduction of more than 50%. Our go-to-market plans are moving from technical development into pre-market trials and the main challenge now is to prove the "downstream" solution of turning ReZorce sheet into specific packaging formats, ideally using existing infrastructure.

Revenue from our MEL business unit grew 23% to £2.8m (2021: £2.3m), while the segment loss widened to £1.6m (2021: £0.5m) before amortisation of acquired intangibles, a direct result of the non-capitalised investment to develop ReZorce technology. In addition to this, we capitalised £1.4m (2021: £1.0m) of operating costs and invested £0.8m (2021: £0.9m) in tangible fixed assets. This included the acquisition of a full-scale extrusion line and carton filling and packing line as well as some ancillary equipment in Denmark, which now operates as a development centre within the MEL division, with scope to scale up for initial market launch.

The market opportunity for lower carbon footprint packaging is vast. Cartons and pouches together generate revenues in excess of $40bn p.a. We recognise that launching products into this market, which requires us to overcome significant market and technical hurdles, is best done with a strategic investor to mitigate the risk, ideally through a combination of their own experience and financial investment. Late in 2022, we appointed a USA-based adviser to facilitate the interactions with potential partners, and this engagement is progressing.

Capacity and investment

Zotefoams' manufacturing process comprises three main stages: extrusion of a polymer sheet, high-pressure gassing of this sheet with nitrogen and final expansion in a lower-pressure environment. The infrastructure around these processes is complex and costly and, therefore, ideally supports multiple production vessels.

Most products can be made on multiple production lines, although some of our older assets are not capable of making all products we sell today. Our UK site manufactures all HPP products and sends partly finished polyolefin products for the final expansion process to Poland, which is closer to many customers, reducing overall transport costs and emissions. Our site in Kentucky, USA is well-placed geographically for its customer base and operates largely independently of the other two foam manufacturing locations.

Following the high levels of capital invested prior to 2021, the majority of investment in foams manufacturing over the past two y ears has been to improve efficiency, replace aging equipment and address bottlenecks in production processes. The foams business has sufficient capacity, with minimal incremental investment, to deliver our growth plans for the foreseeable future. Our facilities in the USA and Poland have the flexibility for investment to support longer-term growth.

Zotefoams also invested £2.3m (2021: £1.9m) in developing the ReZorce mono-material barrier packaging technology, which is explained in more detail above.

Measuring strategic progress

The markets in which we operate are driven by global trends – environment, regulation and demographics – which we believe offer the potential for high rates of market growth as well as opportunity for our disruptive technology solutions. We assess progress on six separate metrics:

1. We expect our HPP business unit to offer higher growth rates and better margins than Polyolefin Foams. Sales in our HPP business unit, which offers unique disruptive products and solutions, now account for 43% (2021: 42%) of Group revenues and recorded growth of 29% (16% in constant currency). The unique benefits offered by these products, combined with market recovery in aviation, offer good growth prospects. Margins in the period were 28% (2021: 21%), significantly better than the margins in our Polyolefin Foams business unit
2. Sales of our highly differentiated AZOTE polyolefin foam products increased by 25% (22% in constant currency), against our target rate of twice global GDP growth. While headline growth was significant, it was not underpinned by increased volumes, which declined by 1%. 2022 was a year in which some traditionally large polyolefin market segments, automotive in particular, declined, while other areas grew considerably
3. Group operating margin increased to 10.9% (2021: 8.1%). Price rises were implemented to recover input cost inflation, which was the primary reason for the reduced operating margin in 2021, and foreign exchange rates were favourable in this period and unfavourable in the previous period. The increased operating loss in MEL was a direct result of planned increased investment to deliver the objectives of ReZorce barrier packaging. Excluding MEL, operating margin was 12.7% (2021: 9.0%), or 11.2% in constant currency
4. Group return on capital improved to 10.1% (2021: 6.1%), largely as a result of increased profitability of the Polyolefin Foams and HPP business units, partly offset by the increased losses of MEL as noted above. The Group's average capital employed increased only slightly by 2%, with capital expenditure below depreciation and amortisation and little movement in total working capital. Inventories were level and increased receivables offset increased payables, linked to higher selling prices and higher input costs and variable-pay-related accruals respectively, and both were impacted by the stronger US dollar exchange rate
5. Our approach to environmental sustainability and climate change has been clarified and improved in our business. The business now uses fully sustainable (from renewables) electricity where available. We have made significant progress in waste reduction and 85% of revenues are in applications considered "green", as described in our ESG report, see page 53. In March 2022, we incorporated clearly defined ESG targets, which have a small impact on interest margin, in our bank refinancing arrangements and these are supplemented by internal targets in relation to other ESG metrics
6. MEL has potentially disruptive technology to improve sustainability, primarily in consumer packaging. We intend to invest within the Group's risk appetite to develop and commercialise this technology, which at this time is focused on ReZorce mono-material barrier packaging. This approach recognises that there is a high "option value" for success associated with this higher risk profile. We have made good progress in ReZorce development, acquired complementary know-how and assets in a new entity in Denmark and begun the process to find the right strategic investor to accelerate commercialisation.

People

The top priority for Zotefoams is ensuring the health and safety of employees and site visitors. The Board tolerance for risk is set accordingly, with health and safety an agenda item at every Board and Executive Committee meeting.

The main safety metric in our business is reportable lost time incidents and, regrettably, we had two such incidents during the year (2021: nil) from which both individuals made a full recovery. In line with our policy, a full follow-up and analysis with corrective actions was reviewed by the Board. Other metrics, which record less severe incidents and absences, showed significant improvement over the prior year and are significantly below industry benchmarks, with measured incidents around one third of the rate of comparable companies.

With eight physical locations globally and many more people working, at least some of their time, from home, we work hard to ensure cohesion through a common culture and clear communication of our strategy, objectives, progress and challenges. Employee engagement activities included Group CEO "all-staff briefings", which include a Q&A session, as well as employee surveys. More detail of these is included in the "People" section of our report.

I would like to extend my thanks to my colleagues and to their families for their support over the past year.

During 2022, Zotefoams employed an average of 518 people, 4% more than in 2021. Of these, approximately two-thirds worked in production, with 15% in distribution and marketing and the remainder in administration, including finance, HR and IT, and technical or quality positions.

Forward-looking statements

Forward-looking statements have been made by the Directors in good faith using information available up until the date they approved this Annual Report. These forward-looking statements should be considered in light of the continuing uncertainty surrounding the impacts of the COVID-19 virus and the geopolitical environment, currently most impacted by the events in Eastern Europe, on economic trends and business.

Current trading and outlook

2023 has started well, with demand for our AZOTE polyolefin foam products in line with the previous year but with higher revenue from price increases implemented over the past twelve months. Sales of high-performance products are showing strong growth in the first few months, mainly due to the timing of shipments compared with the prior period. Sales across both businesses continue to benefit from a stronger US dollar.

The environment for input costs is less acute, with both energy and polyolefin polymer prices reduced from the peaks seen last year but remaining well above their long-term averages. Prices for energy and energy-intensive commodities such as nitrogen remain uncertain, with forward-market pricing at a significant risk premium to spot. We are closely monitoring input costs and our pricing in the polyolefin foams business in particular.

Whilst uncertainty persists, we currently expect that, for the year as a whole, polyolefin foams volumes will be at a similar level to last year, with more challenging conditions in the UK and continental Europe offset by growth in North America and other geographies. Our HPP business should see further growth in Footwear and continued strong growth in both our ZOTEK F and T-FIT insulation products. Within our MEL business unit, focus has progressed to commercialisation trials for ReZorce cartons.

Overall, the Board remains confident about the future prospects for our business.

D B Stirling
Group CEO

4 April 2023

Group CFO's review

Gary McGrath
Group CFO

2022 was a strong year for Zotefoams, with high revenue growth generated from HPP volumes and polyolefin price increases leading to significantly improved margins despite continued cost inflation. Strong cash generation, coupled with favourable FX movements, saw leverage fall to its lowest point since 2018

Summary P&L

	2022	2021	Change (%)
Net revenue	**127.4**	100.8	26
Gross profit	**38.7**	26.6	46
Distribution and administrative costs	**(24.8)**	(18.4)	(35)
Operating profit	**13.9**	8.1	71
Finance costs	**(1.8)**	(1.1)	(63)
Profit before tax	**12.2**	7.0	74
Tax	**(2.2)**	(2.6)	16
EPS	**20.61**	9.01	129

Overview

Group revenue for the year increased 26% to £127.4m (2021: £100.8m). High-Performance Products (HPP) sales increased 29%, with good volume growth in Footwear, ZOTEK® fluoropolymers and T-FIT® technical insulation and a foreign currency tailwind, while Polyolefin Foams sales rose 25%, led by price increases, experiencing growth in all geographical markets and major application groupings, with the notable exception of automotive. MuCell Extrusion LLC (MEL) sales grew 23%, despite the ongoing refocus of resources on our ReZorce® mono-material barrier packaging opportunity. In constant currency, Group revenue grew 19% to £119.8m, with an additional favourable currency impact in the year of £7.6m, the result of the US dollar averaging 10% higher against sterling.

Operating profit increased 71% to £13.9m (2021: £8.1m). Raw material costs rose further in H1 2022 before receding slightly from their peak in the second half of the year; however, energy prices began to surge from early in the year, led by concerns related to Russian supply as the impacts of the war in Ukraine unfolded. Other key input costs, such as nitrogen, also increased significantly. Multiple rounds of price increases in Polyolefin Foams, together with smaller increases in HPP, where polymer prices were more stable, were implemented early in the year to recover margins. Gross margin increased 46% to £38.7m (2021: £26.6m), also supported by a favourable US dollar exchange rate, and the gross margin percentage improved by 400 basis points to 30.4% (2021: 26.4%). Distribution and administrative costs increased 35% to £24.8m (2021: £18.4m), with £3.0m of the movement related to hedging differences year-on-year and much of the remaining increase related to higher performance-related bonus and stock option costs reflective of the strong results. Net finance costs were £1.8m (2021: £1.1m), following increases in dollar and euro base rates as well as a £0.3m write-down of refinancing costs from the Group's previous bank facility. Profit before tax increased 74% to £12.2m (2021: £7.0m). After deducting taxation of £2.2m (2021: £2.6m), which reflects a return to a normalised charge after a previous year which included a £1.0m deferred tax accrual related to the increase in the corporation tax rate from 19% to 25% and a £1.0m deferred tax charge related to an earlier year tax credit, basic earnings per share was up 129% at 20.61p (2021: 9.01p). In constant currency, profit before tax was £9.7m, with an additional favourable currency impact of £2.5m.

The Group reports a strong balance sheet at 31 December 2022, with net debt down £6.5m to £27.8m (31 December 2021: £34.3m) and the leverage multiple (net debt to EBITDA, using definitions under the bank facility agreement, see section "Debt facility") falling to 1.2 (31 December 2021: 2.1). This was realised after a £6.9m (43%) increase in EBITDA to £23.0m (2021: £16.1m), strong cash generation with net cash flows generated from operations of £23.0m (2021: £12.8m), capital expenditure of £7.0m (2021: £7.0m) and total dividends of £3.2m (2021: £3.1m).

Revenue performance

Polyolefin Foams business unit sales grew 25% to £70.1m (2021: £56.2m). In constant currency, sales grew 21% to £68.1m. This reflects a consolidation of the volume growth achieved in 2021, mix enrichment and a number of price increases in H1 2022 to help recover margins following the significant cost inflation of 2021 which continued into 2022. The UK and USA regions experienced very strong sales growth, up 30% and 39% respectively, while Europe increased 14% and the Rest of the world increased 23%. All application markets performed well, except for automotive, which continued to suffer from industry-specific challenges and mostly impacted Europe.

HPP sales increased 29% to £54.4m (2021: £42.3m). In constant currency, sales grew 16% to £49.1m. Footwear is the largest application within HPP and revenue in this market grew a further 25% to £42.1m (2021: £33.9m), with Zotefoams products on more shoe platforms, resulting in this business division accounting for 33% of Group sales (2021: 34%). ZOTEK F fluoropolymer foam sales closed the year 48% up at £6.2m (2021: £4.2m), still £4.8m below our 2019 peak of £10.0m, signalling the start of a recovery in the aviation industry after two years impacted by COVID-19. T-FIT advanced insulation sales also grew 48% to £5.8m (2021: £3.9m), with strong growth in China despite continued challenges from the country's strict COVID-19 controls during t he year, which included a five-week shutdown of our local facility in H1 2022.

MEL sales growth remains constrained by the current strategy to focus on existing customers and redirect resources to the ReZorce mono-material barrier packaging initiative. Despite this, sales grew by 23% to £2.8m (2021: £2.3m), with negligible impact in absolute terms from currency.

Revenue by segment (£m)

	2022 Reported	2022 Adjusted[1]	2021 Reported	Net change % Reported	Net change % Adjusted
Polyolefin Foams	**70.1**	**68.1**	56.2	**25**	**21**
UK	**13.2**	**13.2**	10.4	**27**	**27**
Europe	**30.2**	**30.7**	26.1	**16**	**18**
USA	**22.4**	**20.1**	16.1	**39**	**25**
Rest of the world	**4.3**	**4.1**	3.6	**19**	**14**
HPP	**54.4**	**49.1**	42.3	**29**	**16**
Footwear	**42.1**	**37.8**	33.9	**25**	**12**
ZOTEK® F	**6.2**	**5.5**	4.2	**48**	**33**
T-FIT®	**5.8**	**5.5**	3.9	**48**	**41**
Other	**0.3**	**0.3**	0.3	**–**	**–**
MEL	**2.8**	**2.6**	2.3	**23**	**13**
Group	**127.4[2]**	**119.8**	100.8	**26**	**19**

1 Constant currency, adjusting 2022 values to 2021 rates. See exchange rates table.
2 Adjusted for rounding.

Revenue by market (%)

	2022	2021
Sports and leisure	**37**	37
Product protection	**23**	26
Building and construction	**13**	11
Transportation*	**12**	10
Industrial	**6**	7
Medical	**5**	5
Other	**4**	4

* Within the transportation segment, aviation represented 7.6% (2021: 4.5%) and automotive 4.8% (2021: 5.8%) of Group revenue. These two markets remain well below their pre-pandemic levels and in 2019 were 15.0% and 7.0% respectively.

Gross profit

Gross margin increased to 30.4% (2021: 26.4%), representing an increase of £12.1m in absolute terms from £26.6m to £38.7m. Multiple sales price increases were implemented in the Polyolefin Foams business in H1 2022 to help recover lost margins resulting mostly from raw material increases in 2021 and, additionally in 2022, from escalating energy (with fewer hedges due to the high forward pricing quotes), nitrogen and people costs. Energy costs increased from £4.8m in 2021 to £7.3m in 2022. Smaller price increases were implemented in HPP to offset rising material costs of these speciality polymers, while increased volumes in the business unit also drove operational gearing. Freight availability and pricing improved in the year. The reduced strength in sterling, mostly compared with the US dollar and in particular in HPP, where most sales are denominated in US dollars, significantly benefitted gross margin by £4.9m, with some of the impact offset by the Group's hedging strategy, the outcome of which appears below under administrative costs in line with accounting standards.

Group CFO's review
Continued

Distribution and administrative costs breakdown

	2022	2021	Change (%)
Distribution costs	**8.0**	7.3	(10)
Administrative costs excluding hedging movements	**15.0**	12.3	(22)
Hedging movements	**1.8**	(1.2)	–
Administrative costs	**16.8**	11.1	(51)
Distribution and administrative costs	**24.8**	18.4	(35)

Distribution and administrative costs

The Group has a clear expansion strategy, founded on proprietary cellular materials technology linked to longer-term demand growth in our chosen markets. Organic growth with a portfolio of unique and highly differentiated products requires that we invest actively in, and reprioritise where needed, technical, sales-focused and administrative resources to create, execute and manage this growth.

Included within distribution costs in the consolidated income statement are sales, marketing and warehousing expenses. These costs increased by £0.7m, or 10%, to £8.0m (2021: £7.3m) during the year, mostly reflecting increased marketing spend, HPP hirings for planned future growth and increased sales activity, offset by optimisation of the UK site to reduce offsite warehousing costs. Included within administrative expenses are technical development, finance, information systems and administration costs as well as the impact of foreign exchange hedges maturing in the period and non-cash foreign exchange translation expenses. These costs increased in 2022 by £5.7m, or 51%, to £16.8m (2021: £11.1m). However, after stripping out foreign exchange movements, which generated a movement of £3.0m, these administrative costs increased by 22%, or £2.7m, to £15.0m (2021: £12.3m), mostly related to £1.8m of additional bonus and stock option costs reflecting the significant improvement in performance in the year, while also reflecting increased investment in finance and IT in the UK and staff outside the UK. See "Currency review", below for further information and context around foreign exchange movements.

The business unit results do not include central plc costs, which are not considered to be segment specific. Neither do they include hedging movements. In 2022, central plc costs were £2.5m (2021: £1.8m), the growth mostly due to bonus and stock option charges following a strong year.

Operating profit

Operating profit was £13.9m, 71% above 2021 (£8.1m). The operating margin increased from 8.1% to 10.9%.

Finance costs

The total interest charge for the year increased to £1.8m (2021: £1.1m) and includes £0.1m (2021: £0.1m) of interest on the Defined Benefit Pension Scheme obligation. This increase reflects the rise during the year in US dollar and euro base rates, which are the currencies in which the Group's debt obligations are held, as well as £0.3m related to unamortised costs related to the previous banking facility, which was replaced in March 2022.

Profit before tax

Profit before tax increased 74% to £12.2m (2021: £7.0m).

Currency review

Exchange rates

Zotefoams transacts significantly in US dollars and euros. The exchange rates used to translate the key flows and balances were:

	2022		2021	
	Average	**Closing**	Average	Closing
Euro/sterling	**1.173**	**1.129**	1.163	1.192
US dollar/sterling	**1.238**	**1.204**	1.376	1.351

Movements in foreign exchange rates can have a significant impact on results. During the year, the sterling average exchange rate year-on-year against the US dollar weakened by 10% and the sterling average exchange rate against the euro strengthened by 1%. The sterling spot rate against the US dollar from 31 December 2021 to 31 December 2022 weakened by 11%, while the sterling spot rate against the euro from 31 December 2021 to 31 December 2022 weakened by 5%.

Zotefoams is a predominantly UK-based exporter which invoices mostly in local currency. In 2022, approximately 90% of sales (2021: approximately 90%) were denominated in currencies other than sterling, mostly US dollars or euros. Most operating costs are incurred in sterling, other than the main raw materials for polyolefin foams used for production in the UK, which are euro-denominated, US subsidiary production and operating costs, most other subsidiaries' staff and operating costs and some HPP raw materials, which are all US dollar-denominated. Poland operating costs are incurred in zloty. The Group uses forward exchange contracts to hedge two-thirds of its forecast net cash flows over the following twelve months that are subject to US dollar and euro transaction risk. The Group recorded a loss on forward exchange contracts in the year of £2.9m (2021 gain: £1.3m).

Zotefoams also faces translation risk. Zotefoams plc, the parent company, holds the Group's multi-currency borrowings facility and has provided intercompany loans and intercompany trading facilities to the USA and Poland to support the Group's capacity expansion projects. This translation exposure is mitigated, where possible, through an offset with same-currency liabilities, primarily through borrowing in the relevant currency. Every month, these foreign currency-denominated intercompany net positions, despite being cash neutral, require to be translated by Zotefoams plc on a mark to market basis and the movement taken to the Company income statement. The Group also has a fast-growing HPP business, which is mostly invoiced from the UK in US dollars, which adds to its exposure to foreign currency-denominated net assets and is accounted for in the same way as above. While FX exposure is partly mitigated by the forward currency contracts, risk remains based on the amount of forecast exposure not hedged, in line with Group policy, and the fact that there is a timing difference between the recording of accounts receivable and cash received. This timing difference is tackled by further hedging activities, but their effectiveness is subject to the accuracy of forecasting cash receipts. The Group recorded a translation gain in the year of £1.0m (2021 loss: £0.1m).

Currency impact on business segment profitability

Currency had a £7.6m positive impact on the Group's sales performance. See page 33 above.

Segment profit (£m)

	2022 Reported	2022 Adjusted*	2021 Reported	Net change % Reported	Net change % Adjusted
Polyolefin Foams	**4.9**	**4.6**	0.7	**–**	**–**
HPP	**15.3**	**11.0**	8.7	**75**	**26**
MEL	**(1.9)**	**(1.7)**	(0.7)	**–**	**–**
Business units	**18.3**	**14.0**	8.7	**110**	**60**
Central costs	**(2.5)**	**(2.5)**	(1.8)	**44**	**44**
Hedging	**(1.8)**	**–**	1.2	**58**	**–**
Interest	**(1.8)**	**(1.8)**	(1.1)	**59**	**59**
Other	**(6.1)**	**(4.3)**	(1.7)	**–**	**–**
Group	**12.2**	**9.7**	7.0	**74**	**39**

* Constant currency, adjusting 2022 values to 2021 rates. See exchange rates table above.

Currency movements during the year positively impacted Group revenue by £7.6m (2021: £4.1m negative impact). They negatively impacted operating costs by £3.2m (2021: £2.4m positive impact), resulting in a net positive impact of £4.3m (2021: negative impact £1.7m) before hedging. After deducting the net hedging loss of £1.8m (2021: gain of £1.2m), the net currency positive impact for the year was £2.5m (2021: negative impact £0.5m).

We expect growth to be denominated in currency other than sterling and recognise that one of our principal risks is our exposure to foreign currency fluctuations, particularly the US dollar, which we will aim to manage through hedging strategies. Based on 2022 and with respect to transaction risk, it is estimated that for every one percentage point movement in the US dollar/sterling rate, profit moves by £0.4m unhedged and £0.1m hedged. In the year, it is assumed that the transaction risk from euro/sterling movements continues to be substantially naturally hedged, with the risk arising on sales revenues offset by the opportunity on costs, primarily related to raw material purchases and certain further processing costs.

The Group does not currently hedge for the translation of its foreign subsidiaries' assets or liabilities. The foreign currency hedging policy is kept under regular review and is formally approved by the Board on an annual basis.

Taxation charge and earnings per share

The tax charge for the year is £2.2m (2021: £2.6m). The effective tax rate for the year is 18.1% (2021: 37.6%), which is a return to a rate similar to the Group's weighted average corporate tax rate for the year of 19.5% (2021: 19.0%). In the previous year, the higher effective tax rate arose primarily from an increase in the deferred tax charge of £1.0m that followed the substantive enactment of a decision to increase UK corporation tax rates to 25% in 2023, a prudent approach to recognising overseas tax losses as a deferred income tax asset amounting to £0.4m and a lower profit before tax for the year of £7.0m.

Basic earnings per share was 20.61p (2021: 9.01p), an increase of 129%. Diluted earnings per share was 20.20p (2021: 8.87p).

ReZorce

ReZorce® technology being developed by MEL offers brand owners the ability to significantly reduce their carbon footprint and also help meet their pledges on both recycling and the use of recycled content in their packaging, putting sustainability at the heart of our MEL development agenda. During the year, Zotefoams continued its investment in this opportunity. In line with IAS 38 'Intangible assets', labour amounting to £0.4m (2021: £0.4m) was redirected from MEL to ReZorce and capitalised, and a further £1.0m (2021: £0.6m) was invested in additional, directly attributable costs, and capitalised. The Group also invested £0.8m (2021: £0.9m) during the year to purchase and develop equipment, which has been recorded under tangible assets. This amount includes the acquisition of the net assets of Refour ApS (Skandeborg, Denmark) for £0.3m, which, together with key members of the Refour team, is expected to accelerate the development of ReZorce across a wide variety of applications. In total, capitalised investment in ReZorce amounted to £2.2m during 2022 (2021: £1.9m) and is £4.7m cumulatively over the life of the project, which will be amortised in line with Group policies, if successful, or be fully impaired, if not, in line with accounting standards. The Board does not currently consider any of these assets to be impaired, given the progress made in development, the commercial opportunities that exist, the current search for a strategic investor and the Board's continuing commitment to the initiative. MEL also reported a loss before tax of £1.9m (2021: £0.7m), the movement driven by our focus on the ReZorce opportunity.

Dividend

The Board has a progressive dividend policy, recognising the importance to our shareholders of the dividend as part of their overall return. The Directors are proposing a final dividend of 4.62p (2021: 4.40p), which would be payable on 2 June 2023 to shareholders on the Company register at the close of business on 5 May 2023. The ex-dividend date will be 4 May 2023. Taken with the interim dividend of 2.18p (2021: 2.10p), this would bring the total dividend for the year to 6.80p (2021: 6.50p) and would represent a dividend cover of 3.7 times (2021: 1.4 times).

Group CFO's review
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Investments

Given the capital-intensive nature of the Zotefoams business, long lead times for key equipment and the importance of operational gearing, investment decisions require significant planning and are made with a clear assessment of strategic fit, risk, risk appetite, sustainability credentials and expected returns. Confidence in the Group's developing portfolio of HPP opportunities is a significant consideration in determining the timing of certain investments, while the strategic importance of maintaining growth in the profitable Polyolefin Foams business, the Group's largest volume product range, informs the decision to increase total Group capacity versus relying solely on mix enrichment. Outside significant capacity-related investments, the Group also invests to maintain its capital-intensive assets, mindful of opportunities to improve energy efficiency and further reduce health and safety risk, particularly at the older UK facility.

Zotefoams targets improvements in the Group's return on capital over the investment cycle, while recognising the short-term impact on the return of sizeable capital investments during their construction and early operations phases, where they initially run at lower utilisation and mix optimisation levels. When Zotefoams embarks on investment in a major expansion or new location, such as the installation of extrusion and high-pressure capability at our existing Kentucky, USA site, which we commissioned in 2018, or the most recent investment in foam manufacturing at the Poland site, commissioned in 2021, we take into account the importance of scale and dilution of heavy infrastructure cost over a (future) second or third line. As such, the first step is invariably more dilutive to capital return than any subsequent investments.

Zotefoams is also pursuing a transformative mono-material barrier packaging solution through its MEL business unit, branded as ReZorce. In this pre-revenue development phase, overall capital returns are diluted as a result of both the operating profit charge as well as the capital investments made, but the initiative offers significant potential if the technology is adopted.

Definition of ROCE and 2022 outcome

Zotefoams defines the return on capital employed (ROCE), which is a non-IFRS measure, as operating profit before exceptional items divided by the average sum of its equity, net debt and other non-current liabilities. This measure excludes acquired intangible assets and their amortisation costs. We also exclude significant capacity investments under construction until they enter production. We do not attempt to adjust for the first phase inefficiencies as mentioned above.

In 2022, the Group's return on capital employed increased to 10.1% (2021: 6.1%), mostly reflecting improved profitability in the year. The main cause of a reduction in ROCE since 2018, when the Group generated a ROCE of 16.5%, is the increase in the capital base following the completion of our investments in the UK, USA and Poland and the additional operating costs arising from their operation, which is expected during this stage of the investment cycle. Business growth, with this increased capacity matched by improved utilisation and mix enrichment, is expected to improve ROCE beyond that previously achieved.

Investment in growth-generating tangible assets (£m)

	2015	2016	2017	2018[1]	2019[2]	2020[3]	2021	**2022**	**Total**
Growth capital	6.1	6.9	7.8	12.8	19.8	10.3	3.4	**1.6**	**68.7**
Capitalised interest	–	–	–	–	0.9	0.6	–	**–**	**1.5**
Maintenance capital	2.6	5.2	3.6	3.0	3.7	2.1	2.6	**3.8**	**26.6**
Total investment in property, plant and equipment	8.7	12.1	11.4	15.8	24.4	13.0	6.0	**5.4**	**96.8**

1 Commissioning of USA first high-pressure vessel, infrastructure and ancillaries.
2 Commissioning of USA second high-pressure vessel and UK high-temperature low-pressure autoclaves, infrastructure and ancillaries.
3 Commissioning of Poland infrastructure and high-temperature low-pressure autoclave.

Cash flow

The Group is highly cash generative, and this was a particularly strong year, with net cash from operations before investment in working capital and provisions of £24.1m, up 46% on the previous year (2021: £16.5m). Out of this, £0.3m (2021: £2.9m) was then reinvested in working capital. Trade and other receivables increased by £4.8m (2021: increased £1.6m), reflecting greatly increased sales in November and December versus the previous year and certain overdues in the USA which have since been recovered or are being effectively managed. Outside the USA, our overdues continue to remain very low. Inventories decreased just £0.4m (2021: increased £2.8m), with increased footwear raw materials required to match demand offset by a depletion of fluoropolymer inventory for ZOTEK F, which will be replenished in 2023 as demand improves post COVID-19. Trade and other payables increased £4.1m (2021: increased £1.5m), with a £1.4m increase due to higher purchase costs and timing of purchases, a further £1.6m related to the higher 2022 bonus accrual and approximately £0.7m related to utilities and insurance accruals. Zotefoams recognises the importance of its supplier relationships and has improved its performance with respect to honouring agreed payment terms. As a result of all of the above, cash generated from operations was significantly higher than the previous year at £23.0m (2021: £12.8m).

During the year, the Group paid interest on its borrowings of £1.3m (2021: £0.8m), reflecting increases in base rates. Net taxation paid during the year amounted to £0.7m (2021: £1.1m). The Company received a refund of £0.5m in relation to the 2020 tax computation and also recovered £0.3m following a review of its capital allowances on its 2019 building expenditure in Croydon.

Zotefoams' property, plant and equipment capital expenditure remained at a lower level than in recent history, as expected, following several years of capacity expansion, with total expenditure of £5.4m (2021: £6.0m). Expenditure was split broadly across all categories, the most significant being 29% on ESG initiatives, 21% on essential replacement and 16% on product development; geographically, 58% was directed to our Croydon, UK plant and 19% to our Walton, USA plant. Product development included the acquisition of the net assets of Refour ApS (Skandeborg, Denmark), amounting to £0.3m, to support the ReZorce opportunity in MEL.

Summary cash flow

	2022	2021
Profit before tax	**12.2**	7.0
Depreciation and amortisation	**8.2**	7.6
Other	**3.7**	1.9
Net cash from operations before provisions and investment in working capital	**24.1**	16.5
Employee defined benefit contributions	**(0.8)**	(0.8)
Working capital movement	**(0.3)**	(2.9)
Receivables	**(4.8)**	(1.6)
Inventory	**0.4**	(2.8)
Payables	**4.1**	1.5
Cash generated from operations	**23.0**	12.8
Interest paid	**(1.3)**	(0.8)
Taxation paid	**(0.7)**	(1.1)
Investments in intangible assets	**(1.7)**	(1.1)
Investments in tangible assets	**(5.4)**	(6.0)
Dividends	**(3.2)**	(3.1)
Movement in finance obligations	**(7.8)**	(0.8)
Other	**0.4**	(0.3)
Movement in cash and cash equivalents	**2.5**	(0.4)

The Group also invested £1.7m (2021: £1.1m) in intangible assets, almost entirely related to MEL patents and capitalised development costs for ReZorce. The combined investment of £7.0m (2021: £7.0m), after roundings, is slightly below what we expect to invest, on a normal basis, which is at a level in line with the Group's combined depreciation and amortisation charge (2022: £8.2m, 2021: £7.6m).

After dividends paid in the year amounting to £3.2m (2021: £3.1m) and lease payments of £0.5m (2021: £0.5m), closing net debt fell to £27.8m (2021: £34.3m). At the year end, the Group remains comfortably within its bank facility covenants, with a multiple of EBITDA to net finance charges of 13.7 (2021: 16.1), against a covenant minimum of 4 (2021: 4), and net debt to EBITDA (leverage) multiple of 1.2 (2021: 2.1), against a covenant of 3.5 (2021: 3.0). See "Debt facility" for a definition of leverage and information on the Group's renewal of its refinancing arrangements in March 2022.

Debt facility

At 31 December 2022, the Group's gross finance facilities were £50.0m (2021: £47.3m), consisting entirely of a multi-currency term loan. At 31 December 2021, the Group's gross finance facilities consisted of a multi-currency term loan of £20.0m, a multi-currency revolving credit facility of £25.0m and a remaining balance of £2.3m of a further £7.5m sterling annually renewable term loan, repayable in equal quarterly instalments. In March 2022, the Group completed a retender of its debt facility and selected Handelsbanken and NatWest, the incumbents, to continue as its lenders. Under the terms of the new facility, the Group's gross finance facility now comprises a £50.0m multi-currency revolving credit facility with a £25.0m accordion, on a 4+1 tenor, with an interest rate ratchet on slightly improved terms to the previous facility and including a small element related to the achievement of sustainability targets. The finance cost and leverage covenants remain in place, with the former remaining at a multiple of 4.0 and the latter increasing to 3.5 from 3.0. In January 2023, the Group successfully extended the facility by a year in line with the term option, resulting in a revised end term date of March 2027.

At 31 December 2022, headroom, which we define as the combination of amount undrawn on the facility and cash and cash equivalents disclosed on the Statement of Financial Position, amounted to £22.9m (2021: £13.4m).

Zotefoams defines EBITDA as profit for the year before tax, adjusted for depreciation and amortisation, net finance costs, the share of profit/loss from its joint venture and equity-settled share-based payments. Net debt comprises short- and long-term loans less cash and cash equivalents and is adjusted from IFRS by the impacts of IFRS 2 and IFRS 16 under the bank facility definition.

Post-employment benefits

The Company operates a UK-registered trust-based defined benefit pension scheme, ("DB Scheme"), that provides defined benefits. Pension benefits are linked to the members' final pensionable salaries and service at their retirement (or date of leaving if earlier). The DB Scheme was closed to new members in 2001, as was the link to future accrual of salary in 2005. Inconsistencies in the way the DB Scheme's link to future accrual of salary was closed in 2005 were rectified in 2019. There are three categories of pension scheme members:

- deferred members with salary linkage: current employees of the Company who have not consented to the break in their salary linkage;
- deferred members: former and current employees of the Company not yet in receipt of pension; and
- pensioner members: in receipt of pension.

The last full actuarial valuation of the ("DB Scheme") took place as at 5 April 2020, in line with the requirement to have a triennial valuation. On a Statutory Funding Objective basis, a deficit was calculated for the DB Scheme of £7.7m (previous triennial valuation: £4.2m). As a result, the Company agreed with the Trustees to make contributions to the DB Scheme of £643,200 p.a, beginning 1 July 2021, to meet the shortfall by 31 October 2026 (previously 31 October 2026), up from £492,000 p.a. previously. In addition, the Company pays the ongoing DB Scheme expenses of £216,000 per annum (previously £180,000 p.a.) to cover death-in-service insurance premiums, the expenses of administering the DB Scheme and Pension Protection Fund levies.

The net IAS 19 deficit on the DB Scheme decreased by £1.4m to £3.3m as at 31 December 2022 (2021: £4.7m) and represents 3.0% (2021: 4.8%) of consolidated net assets. The main factor leading to the improvement was a change in the discount rate assumption to 4.80% (2021: 1.80%) following an increase in corporate bond yields over the year. The value of the defined benefit obligation at the year end fell from £38.8m in 2021 to £26.1m in 2022, driven by this changed assumption. However, this was partially offset by the actual investment return achieved on the assets being lower than that required to match the expected increase in defined benefit obligations over the year (the market value of assets fell from £34.1m in 2021 to £22.8m in 2022) and higher than expected price inflation. Zotefoams does not consider its pension scheme to be a key risk

Group CFO's review
Continued

Group banking covenants definition
Net debt to EBITDA ratio (Leverage)

£m	2022	2021	£m	2022	2021
Profit after tax	**10.0**	4.4	Net debt per IFRS	**27.8**	34.3
Adjusted for:			IFRS 16 leases	**(1.0)**	(1.1)
Depreciation and amortisation	**8.2**	7.6	Finance leases pre-1 January 2019	**–**	–
Finance costs	**1.8**	1.1			
Finance income	**(0.1)**	–	Net debt per bank	**26.8**	33.2
Share of result from joint venture	**–**	–			
Equity-settled share-based payments	**0.8**	0.4			
Taxation	**2.2**	2.6			
Roundings	**0.1**	–			
EBITDA	**23.0**	16.1	Leverage per bank	**1.2**	2.1

EBITDA to net finance charges ratio

£m	2022	2021	£m	2022	2021
EBITDA, as above	**23.0**	16.1	Finance costs	**1.8**	1.1
			Finance income	**(0.1)**	–
			Share of result from joint venture	**–**	–
EBITDA to net finance charges	**13.7**	16.1	Net finance charges	**1.7**	1.1

to its ability to achieve its strategic objectives due to the immaterial share of net assets that the deficit represents. Mitigation of further risk is expected to come from our growth expectations and the continued focus by the Trustees on a lower-risk strategy to meet the DB Scheme's deficit shortfall.

Going concern
The Group's business activities, together with the factors likely to affect its future development, performance and position, are set out in the Strategic Report on pages 1 to 77 and the section entitled "Risk management and principal risks" on pages 39 to 50. These also describe the financial position of the Group, its cash flows and liquidity position. In addition, note 21 to the financial statements includes the Group's objectives, policies and processes for managing its capital, its financial risk management objectives, details of its financial instruments and hedging activities, borrowing facilities and its exposure to credit risk and liquidity risk.

The Directors believe that the Group is well placed to manage its business risks and, after making enquiries including a review of forecasts and predictions, taking account of reasonably possible changes in trading performance and its available debt facilities, have a reasonable expectation that the Group has adequate resources to continue in operational existence for the next twelve months following the date of approval of the financial statements. The Directors have also continued to draw upon the experiences of 2020 and the Group's success in reacting to the challenges of COVID-19 through its safety protocols and cost and cash management, all of which could be replicated in a similar scenario.

After due consideration of the range and likelihood of potential outcomes, the Directors continue to adopt the going concern basis of accounting in preparing the Annual Report.

Financial risk management
The main financial risks of the Group relate to funding and liquidity, credit, interest rate fluctuations and currency exposures. The management of these risks is documented in note 21.

G C McGrath
Group CFO

4 April 2023

Risk management and principal risks
Managing our risks to achieve our strategic objectives

Zotefoams' risk management process is designed to improve the likelihood of achieving its strategic objectives, keep its employees safe, protect the interests of its shareholders and key stakeholders and enhance the quality of its decision-making. It is designed to identify key risks and provide assurance that these risks are understood and managed in line with the agreed risk appetite. The Group is committed to conducting business in line with all applicable laws and regulations and in a manner consistent with its values.

Risk management governance
The Board, in the context of our set objectives, is responsible for the risk management framework and the Group's key strategic and emerging risks. It delegates to the Audit Committee the review of the effectiveness of risk management, the system of internal control, the monitoring of the quality of Financial Statements and consideration of any findings reported by the External Auditor in relation to the Group's control environment and its financial reporting procedures as part of its annual audit. The Executive Committee supports the Board in its responsibilities, manages the risk framework on a day-to-day basis and considers any emerging risks that may not be covered under the existing framework. Comprising most of the Executive team, the Internal Control Committee meets bi-annually to validate the effective functioning of the framework, assess any need for change and consider the more detailed outputs of the functional steering committees. The functional steering committees, comprising Executive Committee members as well as functional experts, identify and address the specific and emerging risk areas within their area of focus.

The Board confirms that it has completed a robust assessment of the Company's and Group's principal and emerging risks and uncertainties. The procedures, and how these risks and uncertainties are being managed, are laid out below.

Risk appetite
Zotefoams is a business with good opportunities for growth. Reflecting the uniqueness of our technology, its capital intensity and the importance of matching capacity with our demand expectations, we plan for the future over five years and convert these plans into financial forecasts. To achieve more ambitious targets, we understand we must be willing to accept higher levels of risk. We seek an appropriately balanced outcome, where we consider the level of reward commensurate with the likelihood of success. We recognise the importance of taking these risks within clear boundaries as recommended by the Executive team and approved by the Board. We challenge, reassess and reaffirm these boundaries regularly and, for key decisions, on a case-by-case basis. As a manufacturing company, the health and safety of our employees will always be paramount, which translates into an extremely low tolerance for risk in this area.

Developments during the year
- During the year, there was a significant relaxation of measures related to COVID-19 in most countries where Zotefoams operates, with the notable exception of China, where the government continued to pursue a strict policy of confinement and travel restrictions and the fabrication facility shut down for five weeks in H1 2022. Elsewhere, international travel returned, allowing leadership to re-engage face-to-face with their areas of responsibility and teams to recommence important knowledge sharing after two years of forced distancing. In the main operating sites, many of the strict distancing measures were removed and, in the UK, all staff returned to site, but on a new basis determined by a hybrid working policy implemented in September 2022 that the Company anticipates will increase the prospects for talent acquisition and retention
- The cost inflation challenges of 2021 continued into 2022, increasing costs which were countered by a series of price increases in the Polyolefin Foams business unit in the first half of the year, with high levels of customer engagement, as well as smaller increases in the High-Performance Products (HPP) business unit
- The war in Ukraine led to soaring energy prices. In the UK, where the Group's largest exposure lies, this was managed closely by the procurement team and the Executive team leader responsible for UK operations and included accelerated initiatives to reduce energy consumption. With Russia reducing the supply of gas into Europe, the risk of supply continuity was largely a geo-political risk, which we monitored and made contingency plans for
- The Footwear business grew a further 25%, with sales now representing 33% (2021: 34%) of Group sales. The relationship remains strong, with a dedicated Zotefoams team engaged in frequent discussions around current operations and future opportunities. Visibility of future opportunities extends two to three years out. With the removal of travel restrictions, senior leaders were able to visit the Nike headquarters in Q3 2022, for the first time in two years, to fortify the relationship and allow more effective strategic discussions about future opportunities
- The ReZorce® mono-material barrier packaging initiative, which puts circularity at the heart of the MEL business unit development agenda, progressed well, but significant challenges remain and investment in the opportunity was high. We developed the technology further, embarked on a series of trials with potential future partners and engaged towards the end of the year in a process to find a strategic partner to help us maximise the value of the technology. The Board increased its involvement and oversight of the opportunity and held monthly meetings with and without MEL management
- Board-approved sustainability targets introduced in 2021 were monitored throughout the year. These included targets around waste reduction, energy consumption and new product development. Good progress was made and is reported on pages 57 to 59 in the ESG report
- The Group's borrowing facilities were renewed in March 2022, which resulted in us remaining with the incumbent banks after a competitive tender process, securing competitive terms and extending the financing period from March 2023 to March 2027. This arrangement also includes sustainability targets
- The Executive team, most of whom are also members of the Internal Controls Committee, met twice during the year specifically to review and update the Group's principal risks and uncertainties
- Zotefoams prepares an annual strategic plan over a five-year period. The Board and Executive team risk-assessed this plan during the two-day annual strategic review in October, which was this year held in Poland and provided an opportunity to visit the new site and engage with the local management team
- The Board reviewed the Group's key policies, including anti-bribery and corruption, competition, ethics, whistleblowing and share dealing, to make sure they remain relevant and are operating effectively

Risk management framework

Board

- Ensures that risk is managed across the business
- Defines the Group's appetite for risk
- Assesses the Group's principal risks and opportunities

Executive Committee

- Inputs into the Board's process for setting risk appetite
- Implements strategy in line with the Group's risk appetite
- Manages opportunities and the resulting risks
- Maintains a watching eye over emerging risks
- Leads operational management's approach to risk
- Inputs its assessment of risk and opportunities into the Internal Controls Committee
- Ensures satisfactory resolution of actions identified at the Internal Controls Committee
- Is directly responsible for managing certain specific, high-level risks

Audit Committee

- Monitors and reviews the effectiveness of the Group's risk management framework
- Considers reports from the Internal Auditor and the External Auditor in relation to risk and control

Internal Controls Committee

- Reviews and assesses the effective functioning of, and proposed amendments to, the Group's risk management framework
- Reviews the outputs and the effectiveness of all functional steering committees and takes action where outputs do not achieve the desired effect
- Reviews the context within which Zotefoams operates and the effect of risks and opportunities on management systems and strategic direction
- Assesses and ensures mitigation actions identified at functional steering committees are planned, implemented and effective
- Reviews, updates and submits the Group's principal risks and uncertainties to the Board
- Reviews and approves the Zotefoams business continuity plan

Functional Steering Committees

- Chaired by, and including, Executive Committee members
- Provide a regular forum for active monitoring of key emerging and more established business risks as they relate to the achievement of the Group's strategic objectives, the controls and activities in place to mitigate them, the key actions required and their timings
- Report bi-annually to the Internal Controls Committee on adherence to their terms of reference specific to risk and raise any failures in the effectiveness of existing processes

Steering committees are in place for:

With plc responsibility*

Health and Safety (with a sub-committee on Fire Protection)	Capital Planning
Environment	Foreign Exchange
Group Sustainability	HR and Training
IT	T-FIT business unit
Quality	Key Supplier Review
Product Development	Contract Control
Marketing Communications	Credit Management
Planning and Capacity	Maintenance

With local responsibility

- Zotefoams Inc Executive, plus functional sub-committees
- MEL Executive, plus functional sub-committees
- Zotefoams Poland Executive, plus functional sub-committees

* Covers all entities other than those identified under local responsibility

Operational management

- Members of functional steering committees
- Creates an environment where risk management is embraced and the responsibility for risk management is accepted by all employees
- Implements and maintains risk management processes

Employees

- Active in the day-to-day understanding and management of risk

Audit processes

- External financial audit: the Group's external auditor, PKF Littlejohn LLP, performs the annual statutory audit which includes a report to the Audit Committee on significant findings
- Internal financial audit: the Group engages the services of a third-party provider of internal audit services, Grant Thornton UK LLP, and follows a risk-based annual audit plan as approved by the Audit Committee
- Non-financial audit: the Group's main manufacturing sites hold accreditations to various international standards for health and safety, environment and quality. To maintain these accreditations, we engage reputable third parties to verify ongoing compliance. Additionally, internal audits are conducted globally by third-party providers of internal audit services and our own quality professionals.

Risk management and principal risks
Continued

- The Brzeg, Poland plant gained accreditation to the Occupational Health and Safety Management System ISO 45001 during the year, while the Croydon, UK plant retained the accreditation. This reflects significant focus and effort from a dedicated Health and Safety team at both sites, underpinned by high levels of Executive team engagement and a continuous focus by employees on risk identification and mitigation
- The Brzeg, Poland plant gained accreditation to the Environmental Management System ISO 14001 during the year, while the Croydon, UK site retained accreditation
- The Quality Management System accreditation ISO 9001 was recertified across the Croydon, UK, Walton, USA and Brzeg, Poland sites
- The Group continues to use an external adviser to perform its financial internal audit services. During the year, based on the Group's internal risk assessments, our Internal Auditor, Grant Thornton UK LLP, completed an audit on compliance, anti-bribery and corruption across all Zotefoams subsidiaries, with outcomes and improvement plans presented to the Audit Committee. It also commenced a contracts management audit of the UK and USA during the year, completing the work at the beginning of 2023 and presenting the outcomes and improvement plans to the Audit Committee in March 2023. In recognition of the increased size and complexity of the organisation, the Group now follows a three-year rolling audit plan with two internal audits per year.
- Cyber security remained a critical part of our IT strategy. The Cyber Essentials Plus certification, an in-depth and thorough independent assessment of our IT systems, was re-awarded in 2022. Zotefoams also continued with its cyber security awareness testing programme across all directors and staff in the UK, including the Board. This programme includes monthly phishing tests emailed to each staff member and was increased early in the year to the highest difficulty setting. During the period, the failure rate improved and stabilised at a rate which is considered better than industry standards while we continue to train and monitor all staff. There was no instance of a cyber security breach in 2022.

Principal risks and uncertainties

The details of our principal and emerging risks and uncertainties and the key mitigating activities can be found on pages 42 to 50. We are disclosing those risks and uncertainties that we believe have the greatest impact on the achievement of our strategic objectives. The Group is exposed to a wide range of risks in addition to those listed, and these are managed through the risk management framework shown on page 40. This framework enables us to monitor for any increase in likelihood or impact and ensure that we have the appropriate mitigations in place.

Zotefoams' risk profile will evolve as the business grows at its targeted pace, although we expect these principal risks and uncertainties to remain broadly consistent.

We face a number of uncertainties where an emerging risk may potentially impact us in the longer term. In some cases, there may be insufficient information to understand the likelihood or impact of the risk. We also might not be able to fully define a mitigation plan until we have a better understanding of the threat. We continue to identify new emerging risk trends, using the inputs from all components of our risk management framework. These are normally identified and assessed within the functional steering committees and reviewed by the Internal Controls Committee in the course of its normal terms of reference. If they are identified at a higher level, they are pushed down into the functional steering committee for tracking, assessment and consideration of treatment, or retained at a higher level within the risk management framework.

Our principal risks and uncertainties are:

- Operational disruption
- Environmental sustainability and climate change
- Global capacity management
- Technology displacement
- Scaling up international operations
- Customer concentration
- External

Having assessed the outcome of the risk management framework, which the Board considers to have run effectively throughout the year, we have concluded that there are no further changes to our assessment and that emerging risks fall within the risk grouping already identified.

Key to links to the strategy

1 **Develop an HPP portfolio to deliver enhanced margins.**

2 **Grow sales in our AZOTE® Polyolefin Foams business in excess of twice the rate of global GDP growth.**

3 **Increase our operating margins.**

4 **Improve our return on capital (over our investment cycle).**

5 **Clarify and improve the Group approach to sustainability and climate change.**

6 **Develop and invest in MuCell® technology to deliver potentially high-value disruptive, sustainable technology while remaining within the Group risk appetite.**

Read more on pages 22 to 24.

Risk management and principal risks
Continued

Operational disruption

Strategy 1 2 3 4

Risk trend

Description and context

What is the risk?

The performance of our business will be impacted if we are unable to run our equipment and manufacture and distribute products at rates at least equivalent to those currently achieved. The potential impacts of operational disruption are: i) sizeable financial consequences related to missed sales and the high operational gearing nature of the business; ii) the commercial and longer-term consequences of not delivering to strategic customers dependent on our products; and iii) the reputational damage that might impact the business as well as the future chances to acquire new business.

Material influencing factors

- The Croydon, UK site manufactures the majority of Zotefoams' polyolefin foams and, given their complexity, all of its high-performance products. It operates at high utilisation rates. A major incident specific to safety, health and the environment, including a fire, high absenteeism resulting from a pandemic such as COVID-19 or a significant operational disruption from the failure of either critical equipment or the IT systems that drive them, could shut down the plant for a period of time
- We do what others do not, making us unique and providing significant opportunities. However, this uniqueness also means that certain of our engineering components and raw materials are sourced from single suppliers. Disruption to those supplies, either on a temporary or more permanent basis, could affect production and supply to the Group's customers, with the knock-on impact, in certain defined circumstances, of contractual commercial consequences resulting in possible customer claims
- The Group production processes are energy intensive. During 2022, the war in Ukraine led to reduced supplies of energy from Russia which translated into higher market prices being paid by the UK and Poland foam manufacturing facilities, but also created a risk of availability. Failure to resolve a subsequent reduction in supply could impact the ability of these sites to operate. The risk to the USA facility is considered extremely low.

Mitigating actions

Safety, Health and Environment policies

We have extensive Safety, Health and Environment (SHE) policies and procedures in place which are in line with best practice. The reporting of incidents, including 'near misses' and damage to plant or equipment not resulting in personal injury, is mandatory in order to track issues and to prevent recurrences. Regular internal and external audits are performed, with high levels of Executive team engagement, and quarterly reports are submitted to, and discussed by, the Board.

COVID-19 in the workplace

With the exception of China, where stringent local regulations remained in force during the year which culminated in a five-week closure of our fabrication facility in H1 2022, governments in the major countries where Zotefoams operates have significantly reduced requirements previously imposed, and we have adapted how we operate our sites accordingly, running from H2 2022 in a similar way to that before the pandemic. Nevertheless, we remain aware of the risks of new variants, have reviewed and maintained certain on-site health and safety measures we consider necessary, and remain ready to reintroduce measures at short notice should circumstances dictate.

International trade

We have increased our capability around logistics and import/export compliance, through people, skills and focus, as a result of the increased complexity in trading internationally post Brexit, where input and output trade can be blocked at ports and penalties can be imposed for incorrect paperwork. We are accredited to the Authorised Economic Operator status, which is an internationally recognised quality mark that certifies that a business's role in the international supply chain is secure and has customs control procedures that meet Authorised Economic Operator standards and criteria.

Energy

The situation in Ukraine in 2022 has led to soaring energy prices in the UK and Poland as a result of restricted supply from Russia and coordinated government action to reduce dependency. While energy costs have risen significantly, this does not pose a material risk to the continuity of operations at Zotefoams as the Group can consume these costs and has the ability to pass them on to customers. In line with the Group's ESG strategy and documented targets, actions are also ongoing to reduce energy consumption, although we recognise that demand for certain types of energy during the transition to a low-carbon economy may adversely impact costs. Supply shortages in the UK and Poland would have a greater effect on the Group than any increase in cost. The Group assesses this risk of no supply as very low, with the greatest risk now behind us as governments and the EU have sought to build reserves and seek alternative sources of supply. We consider the impact on our USA facility to be very remote.

Insurance

The Group ensures that it has updated and sufficient insurance in place to cover capital restatement and loss of profits in the event of operational disruption caused by unforeseen events. We also work closely with our insurance advisers and their experts to ensure operations maintain the highest level of fire protection measures.

Maintenance strategy

We ensure that our assets are well looked after through a well-resourced maintenance team and proactive maintenance investment, including annual shutdowns. Our pressure equipment is operated under prevailing regulations and is subject to systematic internal and frequent external inspections. Appropriate contingency plans are in place in the event of the failure of certain major pieces of equipment, which include maintenance and support plans with key suppliers and well-resourced functions that manage stores inventory.

Operations outside the UK

Zotefoams has completed a large investment programme in manufacturing capability outside the UK, adding 60% capacity to that with which it started 2018. The Kentucky, USA site commissioned its first full manufacturing line in April 2018 and a second line became available in March 2020. These lines provide polyolefin foam capacity, in the first instance, but are specified to provide capacity for HPP foams if needed. We also started our third foam manufacturing location in Poland, the first line of which was commissioned in February 2021. Here, we are transitioning customers previously serviced from the UK to Poland and are able to manufacture semi-finished products in the UK, which we can ship to and store in Poland, prior to completing the manufacturing process there and distributing the finished product to our European customers. The manufacture of semi-finished products for shipment to Poland can also be performed in the USA. These increased options, together with increased storage capability in Poland, near to our European customers, further reduces dependency on the UK facility.

Seeking dual sources

Wherever possible, supplies and services are sourced from more than one supplier or location. However, this is not always possible due to the special nature of the raw materials, particularly those used to manufacture high-performance products, and the machinery used. We continually monitor suppliers, and search for new ones, and have expanded our procurement department to support this. We have identified new component suppliers in the USA as a result of our investment activities at our Kentucky, USA plant and continue to invest dedicated resources in the search for, and testing and approval of, alternative suppliers of critical materials and services. We also endeavour to have sufficient levels of safety stock to mitigate short-term supply issues, which is now further supported by our Poland plant, close to key European customers.

Investing in IT and IT security

We continue to invest in our IT systems and department. We operate the latest version of the Microsoft Dynamics AX ERP system across all our businesses. We have multiple redundancy points limiting failure of any one hardware or operating system, we are increasingly moving towards a cloud-based system, and we have up-to-date policies and procedures and comprehensive documentation on all our critical assets and core configurations. We are accredited to the Cyber Essentials Plus certification, which is an in-depth and thorough annual independent assessment of our IT systems, which Zotefoams first achieved in 2018 and has maintained since. The Cyber Essentials Scheme is part of the UK government's National Cyber Security Strategy, with the primary aim of making the UK a safer place to conduct business online. It encourages organisations to implement digital protection against common cyber-attacks, while allowing them to demonstrate an increased awareness of cyber security. We also train our employees on a regular basis to spot potential cyber-attacks through communication and online training.

Control Committees

- Board
- Executive Committee
- Planning and Capacity Committee
- Health and Safety Steering Committee
- Environmental Steering Committee
- Key Supplier Review Steering Committee
- Contract Control Steering Committee
- IT Steering Committee
- Maintenance Steering Committee
- Zotefoams Inc Executive Committee
- Zotefoams Poland Executive Committee

Risk management and principal risks
Continued

Environmental sustainability and climate change

Strategy 1 2 3 4 5 6 Risk trend <>

Description and context

What is the risk?

Zotefoams' business model, strategy, investments or operations are assessed by stakeholders as having an unacceptable future impact on the natural environment and on national and international targets to tackle climate change, with consequences ranging from financial penalties and an inability to hire the right staff, up to business viability.

Material influencing factors

- Transitional risks exist relating to developments in political and regulatory requirements that affect the products that Zotefoams manufactures. As businesses progress towards a net zero greenhouse gas target by 2050, there is potential for abrupt government intervention aimed at ensuring certain milestones are met. This intervention may involve legal and regulatory changes, including loss of financial incentives, new taxation, compliance costs relating to plastic products or enhanced reporting expenditure, with a resulting financial impact. A fuller analysis is included in the TCFD section on page 60
- Growing global concerns exist over the waste generated from the over-consumption, misuse and over-packaging of consumer goods and there is a progressive tightening of restrictions on substances that are hazardous to the environment. A lack of understanding that plastic can be the optimal material solution for the benefit of society when used for certain applications could lead to changes in demand patterns for our products.

Mitigating actions

Firm environmental footing

We consider Zotefoams to be well positioned environmentally. Our core materials offer improved product performance using less material than competitors and MuCell® technology reduces polymer content and/or improves recycling. While there is understandable consumer concern at the environmental impact of what we consider ill-considered, single-use plastic, used predominantly in consumer packaging, products using our foams are primarily integral components in larger systems or products or are used in the long-term protection and storage of items. They are very rarely used in consumer disposable items. Our foams save weight and fuel in cars, trains and aircraft, save energy by insulating and provide protection to people and goods. Our products help our customers reduce emissions, lower energy usage, improve fuel efficiency and comply with increasingly stringent safety regulations. In the medium term, we anticipate our technology being used to meet the growing demand for improved sustainability, with foams which include recycled or renewable content polymers. We recognise the importance of reducing energy emissions in our production processes and pursue continuous improvement in our operations, supported by investment in capital additions or replacements which further this aim. This will be supported by effective reporting on our ESG performance, see below.

Environmental sustainability-focused developments

Having established sustainability targets focused on the reduction of our Scope 1 and 2 carbon emissions in 2021, we reported on them in 2022. In parallel with these specific Scope 1 and 2 targets, we have calculated the carbon cost of a representative selection of our foams (referred to as "carbon accounting") and ReZorce® circular barrier packaging technology and are utilising this information internally, and working with selected customers, to assess how this can be used constructively to make objective decisions, steer our own business and guide our customers in choosing the optimal materials for their solutions. We are also developing Life Cycle Assessments for our products in use that will give us visibility of Scope 3 emissions on a case study basis. For further information, refer to "Key targets" in the Environmental, social and governance (ESG) report on pages 57 to 59.

Effective reporting on ESG performance

With an environmentally conscious technology and material solutions focused on applications that are not single-use, Zotefoams is uniquely positioned to help reduce customers' carbon footprints or increase material efficiency. Having recognised the need to provide stakeholders with financially material, decision-useful information relating to our ESG performance, we have adopted the Sustainability Accounting Standards Board (SASB) framework and are reporting against it in 2022. See our disclosures on pages 67 to 69. Zotefoams also provides disclosures in line with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) on pages 60 to 62. Finally, the Group's bank facilities include sustainability targets.

Control Committees

- Board
- Executive Committee
- Group Sustainability Steering Committee
- Environmental Steering Committee
- Key Supplier Review Steering Committee
- Zotefoams Inc Executive Committee
- MEL Executive Committee
- IT Steering Committee

Global capacity management

Strategy 1 2 3 4 5 | Risk trend

Description and context

What is the risk?

As we grow our business at the rate we target, it is critical that we create the required capacity to match the anticipated demand. Failure to execute well and in a timely manner will impact both opportunity creation and the speed of growth. We face material risks due to the uncertainty of medium- to long-term demand, the high capital costs and long construction periods of our unique technology, the successful execution of our investment projects, the risk of loss of an important customer and the ability to finance these investments.

Material influencing factors

- Zotefoams' growth is founded upon its unique offering, its relevance to the global megatrends of environment, regulation and demographics, listed on pages 20 and 21, and its ability to create new markets and new applications. The nature of demand differs between our Polyolefin Foams and HPP business units. Polyolefin foam sales are very diversified and more aligned with GDP, but are boosted by the benefit of the environment, regulation and demographics megatrends. HPP sales are more aligned with specific, often larger, opportunities with the end-user who also has a more direct involvement in the growth trajectory. Together, this can make the timing of growth difficult to predict, but not having the right capacity available at the right time may mean the opportunity cannot be realised. We plan to invest in order to maintain performance and prices for polyolefin foam products as we believe this is the best approach to ensure the future growth prospects of this profitable business unit
- Our unique technology is highly capital intensive with long lead times. The UK site is highly developed, with space limitations restricting further investment, meaning the next growth initiatives have been in other sites and geographies, most recently the USA and Poland. New sites require sizeable infrastructural investment, accurate risk assessment and more time to implement them. Because foam is costly to transport, a geographical mismatch of capacity and customers could impact sales growth and/or margins in the Polyolefin Foams business
- The Group needs to have sufficient cash or be able to draw on loan facilities or access capital markets to finance this capacity expansion. Funds for investment are required up to a number of years before the assets start generating cash, which increases debt levels and leverage ratios.

Mitigating actions

New processes and longer-term planning

Our monthly sales and operations planning process generates high levels of cross-functional engagement to ensure collaboration and consistency in planning sales and production over the upcoming 24 months. We also meet quarterly as a Planning and Capacity Steering Committee, which includes all of the Executive Committee, with a five-year view to reflect the longer time horizons related to capacity planning. Annually, our five-year strategic plan, which includes capacity considerations to meet projected sales growth, is rigorously tested by the Board. The last annual review meeting took place in October 2022.

Recent completion of a multi-year investment programme

We have recently been engaged in a significant programme of capital investment, ending with the commissioning of our Poland foam manufacturing facility in February 2021. The first stage of this programme was completed in the USA in 2018, comprising a high-pressure autoclave, extrusion and ancillary equipment and infrastructure for two further lines. This was followed by the commissioning of a second high-pressure autoclave in March 2020. In the UK, two high-temperature, low-pressure autoclaves, together with ancillary equipment and infrastructure, were completed in December 2019. The Poland facility, a greenfield site sized to offer significant further capacity in the future, currently expands sheets manufactured by the UK and USA in its high-temperature, low-pressure autoclaves.

Building on our experiences in the USA, UK and Poland

The experiences gained through the recent investments in the Kentucky, USA and Brzeg, Poland sites, as well as the work performed around high-temperature, low-pressure vessels in the UK, have provided a significant increase in know-how, spread across more personnel, which reduces uncertainty of future execution. We have identified new suppliers of critical equipment in the USA and mainland Europe, which were previously single sourced in the UK. In-house project management expertise has been developed or enhanced through either new hires or existing staff having been given the opportunity to grow. We have engaged and developed relationships with experienced consultants to lead and/or work alongside us.

Sufficient funding to support investment

In March 2022, we completed a debt refinancing that provides us with the necessary funding to support our five-year plan. This includes a £25m accordion. As we go forward, we will consider further opportunities as they arise and consider options such as this accordion or an equity raise, the latter being an option we successfully drew upon in 2018. However, as the Group expands and generates cash, we expect debt levels to fall and debt capacity to be available for further investments without the need for recourse to equity markets while maintaining a strong balance sheet.

Control Committees

- Board
- Executive Committee
- Planning and Capacity Steering Committee
- Group Sustainability Steering Committee
- Capital Planning Steering Committee
- Zotefoams Inc Executive Committee

Risk management and principal risks
Continued

Technology displacement

Strategy 1 2 3 4 5 6 Risk trend

Description and context

What is the risk?

The loss of our technological advantage could increase competition and affect growth rates and margins. Either our unique foam manufacturing process or our MuCell® technology (including ReZorce®) could be matched or bettered.

Material influencing factors

- Our processes for the manufacture of our products are unique to the Group. We are not aware of anyone using autoclave technology to make similar products in commercial quantities. While the principles behind the processes are not confidential, the precise know-how is. Our autoclave technology is flexible, allowing us to manufacture foams from a range of polymers. For a product with substantial growth opportunities, or a product with a large consolidated market, a competitor could target an alternative, more economic, process
- Our Footwear business now accounts for 33% of Group sales, with further growth anticipated in 2024 and beyond. Our competitive advantage relies on the unique formulation of our materials, which are primarily used in midsoles for running shoes. There is a risk that competing technology will be developed to rival or equal the performance benefits offered by Zotefoams
- Critical to the success of MuCell Extrusion LLC (MEL) is the strength of its intellectual property and, on the back of that, its ability to grant commercial licences. Its intellectual property could become dated or its patents expire or be successfully challenged or circumvented. We are also investing significant resources in developing ReZorce, which is high risk but offers the potential for very high returns, and it is possible that another party launches a solution before we do which is perceived by the market as better, or the market decides that plastic, albeit fully circular, is not a path it wishes to pursue. In this case, we may be required to write off some or all of our investment in this technology
- The size of the ReZorce opportunity and the risk that this investment might not result in an effective solution and require a write-off are why we continue to rate this risk as being on an upward trend. We rate the core Zotefoams technology risk as stable.

Mitigating actions

Reinforcing high barriers to entry

There are high barriers to entry for the manufacturing of our unique foams. Significant capital investment, know-how and time are required to invest in autoclaves and related infrastructure. High-performance products are significantly more complex to manufacture than our polyolefin foams and certain materials require years to be qualified for supply.

We have reduced, and continue to seek to reduce, technology displacement risk by entering new markets with significant barriers and cost of market entry for competitors. For example, the development of high-performance products and ReZorce mono-material barrier packaging technology using MuCell processes, where the product offerings are unique and protected by patents and/or process know-how and capability, opens up new markets for the Group with potentially significant and lasting differential advantages.

Investing in R&D capability and people

We invest in people to broaden our technical capability, research new ways to leverage our technology and accelerate the opportunities that make Zotefoams unique. We invest in people to ensure that know-how related to the design and efficient use of high-pressure autoclave systems and know-how related to polymer processing is retained by the business. We run a Graduate Scheme to attract high-potential individuals in the fields of material science and engineering. We dedicate financial resources to testing materials and solutions to remain at the forefront of cellular materials technology.

Protecting our intellectual property

We actively maintain our intellectual property and patent our technology, wherever we believe it is appropriate to do so, and guard our know-how to sustain protection when technology is not subject to patent or patents are no longer applicable. This know-how spans multiple disciplines across our business, making it difficult to poach. We protect our know-how using confidentiality and contractual agreements with employees, suppliers and customers and by maintaining cyber security. The Group keeps a watching brief on competitor activity and maintains close contact with its customers and end-users of its products to understand market activity.

MEL actively maintains and updates its intellectual property portfolio. This is done by undertaking research and development to add new patents to the portfolio, further developing its know-how and obtaining licences for key third-party patents which are complementary to the existing portfolio. In some cases, our close connection with our customers and dedication to a customised solution has yielded new intellectual property opportunities. Protecting these patents also provides us with valuable insight into any possible competitive threats on the horizon and allows us to take timely action to mitigate possible displacement risk.

MEL licences typically include a bundle of patents and know-how and therefore are n ot completely dependent on any particular patent. All licences are reviewed by senior personnel and the Group CEO to ensure that terms are appropriate. The portfolio is managed by a dedicated intellectual property director reporting into the MEL Executive Committee.

Managing the ReZorce opportunity

There is a clearly differentiated opportunity for the core MuCell technology, which can be applied to many existing products, and ReZorce mono-material barrier packaging, which requires market development of a new technology. Our priority is to deliver ReZorce as a fully developed technology platform while selectively engaging on MuCell opportunities which clearly offer high value within our existing capability and capacity to execute. ReZorce has been staffed with experts in the field and the management team restructured. Zotefoams has capitalised £4.7m as at 31 December 2022 and invested in operating costs that contributed to a £1.9m segment loss for the year in the MEL business unit. The technical and financial risks remain high and the Board has consequently increased its oversight and now reviews progress monthly, with meetings split between time spent with and without MEL management. A strategic partner is being sought to progress the technology to commercialisation.

Control Committees

- Executive Committee
- Product Development Steering Committee
- Zotefoams Inc Executive Committee
- MEL Executive Committee

Scaling up international operations

Strategy 1 2 3 4 Risk trend

Description and context

What is the risk?

Growing the business geographically, being more reliant outside the UK for Group performance, and engaging with legal environments and cultures less familiar to us increases the risk of not delivering on our growth opportunities or suffering a compliance incident. We must ensure that we hire the right people and manage the span of control challenges, finding the right balance between local and group-wide expertise, and drive a culture of knowledge share.

Material influencing factors

- Our business is growing in Asia and our third foam manufacturing facility commenced operations in February 2021 in Poland
- Until recently, most of Zotefoams' revenue was shipped from the UK. Following our investments in the USA, Europe and Asia, the Group now employs more people, holds more assets and generates a higher proportion of revenues outside the UK. We are hiring people globally at a faster rate than previously, with high expectations of material contributions to the Group's growth strategy
- Failure to ensure responsible corporate behaviour in these new areas will undermine our reputation in these new regions, could bring substantial financial penalties and affect our growth path. Failure to provide these distant operations with effective financial and IT systems, educate them effectively on all aspects of Zotefoams' culture and ethics and align them on our strategic objectives could impact business performance
- Critical to any Group's success is its people. The failure to attract, develop or retain the right calibre of staff will impact our ability to deliver. Getting this right from a distance, in cultures less familiar to us, will be challenging
- Our core engineering and technical capability is UK-based and our business model is to use this centre of excellence to support overseas locations. The ability to deliver on this depends on the free movement of people and openness of teams to seek and share knowledge
- COVID-19 has demonstrated to us the impact a pandemic has on the maintenance of effective contact. While in most regions in 2022 the restrictions receded, the challenges faced in 2020 and 2021 demonstrated the importance of ensuring the right people are in the right roles and that behaviours are aligned with those at the corporate centre
- The Board and Executive Committee have continued to review the Group's corporate culture, its communication and the embedding of controls across the organisation.

Mitigating actions

Direct engagement with overseas employees

With the exception of China, where we have limited operational presence, management has resumed travel to overseas locations to help ensure that the right people are in the right roles and that behaviours are aligned with those at the corporate centre. Over the past two years, as a result of the travel restrictions imposed by COVID-19, this has not been possible for most of the Group's locations and this engagement has taken place via the Group's videoconferencing facilities. While a short period of reduced travel and physical presence can be managed, the longer that time passes, the more disruptive these travel restrictions become, and the more overseas staff additions or movements take place, the less familiar the staff may become with aspects of Zotefoams' culture and ethics and less aligned with our strategic objectives. Following China's move at the end of 2022 to reduce restrictions and the reintroduction of international travel in 2023, this risk should further reduce.

Hiring and developing overseas leaders

The Group's USA operations comprise Zotefoams Inc and its subsidiaries Zotefoams MidWest and MuCell Extrusion LLC (MEL). Zotefoams Inc has been part of the Group since 2001 and MEL since 2008, with experienced teams with high tenure, well-embedded reporting and control structures, and a culture of regular and effective communication with senior operational leaders of Zotefoams and the Board. The Zotefoams Inc President is a member of the Executive Committee. During the year, the business presidents changed, with a smooth transition and effective onboarding of the highly experienced successors.

The Group's China subsidiary was formed in 2016, while the India subsidiary was formed in 2019. With the exception of Finance, local management reports directly into the HPP Business Leader, who has created strong communication and reporting structures. The local finance teams report directly into the Group Financial Controller for independence, and greater assurance around governance. The recently established entity Zotefoams Denmark is part of the MEL business unit, reporting into the MEL business president.

Building up our global functions and services

We have invested significantly in human resources over the past few years as we build global functions and hire leaders with the skills and experience to deliver the current and future needs of the Zotefoams business. With three major foam manufacturing sites, we recognise the importance of cross-site capability sharing and relationship building, particularly in functions such as engineering and maintenance and given the uniqueness of our assets, and we are now able to return to face-to-face engagement since the removal of COVID-related travel restrictions.

Poland manufacturing site

This site has now been operational since 2019. The leadership team is well integrated with key functions and leaders in the UK and regular communication and engagement has reduced the risks originally faced at start-up, with what was at the time an unfamiliar country with new personnel. In October 2022, the Board visited the site while it held its annual Group five-year strategy review in the area.

Upgraded IT

We have up-to-date IT systems which standardise information and improve communication and visibility. We use Microsoft Teams for effective videoconferencing and have continued to roll out and educate the upgrades that Microsoft has introduced throughout the period. The systems are implemented into all new subsidiaries as they are set up.

Training

We run a risk and role-based global compliance training programme, which includes tracking mechanisms across all our locations. Key policies are translated into local languages to facilitate understanding.

Control Committees

- Board
- Audit Committee (in relation to Finance)
- Executive Committee
- HR and Training Steering Committee
- IT Steering Committee
- Zotefoams Inc Executive Committee
- MEL Executive Committee
- Zotefoams Poland Executive Committee

Risk management and principal risks
Continued

Customer concentration

Strategy 1 2 3 4

Risk trend

Description and context

What is the risk?

Group performance could be impacted by the loss, insolvency or divergence of interest with a key customer.

Material influencing factors

- Other than in our Footwear business, the Group's largest customers have traditionally been converters of foam, none of whom have represented a material share of the Group's revenue or future opportunities. The Group has successfully grown its Footwear business through an exclusive partnership with Nike, which in 2022 represented 33% of Group sales (2021: 34% of Group sales), and projects in the HPP portfolio have the potential to be much larger than with our typical AZOTE® customers. Divergence of interest with Nike represents a material risk if the business is lost, while our growth opportunities in HPP are also likely to reshape this risk profile
- The Group has invested in significant capacity expansion in the past years, built in some cases to service growth from these customers. In an organisation with high operational gearing, filling capacity is critical to strong financial performance.

Mitigating actions

We have good knowledge of the end-users of our major customers for polyolefin foams and, with some additional short-term work and a stable macroeconomic environment, would expect to bring or identify additional converter capacity, supply routes and channel partners or take a direct approach to service these markets.

We have a very close working relationship with Nike, led by a dedicated Executive team member. Visibility of future sales is good, with a close relationship on development and supply chain. Group resources and regular engagement ensure we maintain close oversight over customer service levels and also understand Nike's future direction and expectations, enabling us to align our resources accordingly and remain a core technology for this important customer into the long term. With travel restrictions lifted, we were also able to visit our partner in H2 2022 for the first time in two years.

We are excited by the size of the opportunities offered by our ZOTEK® product portfolio and have the risk appetite to pursue them. We experienced strong growth in these portfolios in 2022. Where we engage with large HPP customers, we seek to ensure that our interests are protected by balanced commercial contracts and strong relationship management such as with Nike.

The Board is heavily involved in such decisions. These relationships are by their nature longer term, providing a unique technical solution and competitive advantage to the ZOTEK foams customer or end-user. The loss of such a customer is likely to come with a reasonable notice period, allowing us time to take appropriate action. Continued investment in the portfolio could yield further successes that spread the risk of any single loss, while the T-FIT® insulation business provides further balancing with its more broadly spread global customer base.

Existing large HPP customers are blue-chip global organisations, which management considers have the financial strength or strategic importance to withstand a pandemic.

We will continually review our customer spread and balance, particularly as the HPP business segment takes on more importance.

Control Committees

- Board
- Executive Committee

External

Strategy 1 2 3 4 5 6 Risk trend

Description and context

What is the risk?

Business growth prospects are vulnerable to movements in foreign exchange rates and geopolitical and economic developments. These factors are often out of our control and may influence our business in a number of ways, including influencing the other key risks listed.

Material influencing factors

- COVID-19 has realised the previously considered low risk likelihood of a pandemic event severely impacting demand, affecting continuity of operations and the health of our staff, and restricting the ability to manage a business and people in different geographic locations
- Our markets are exposed to general economic and political changes which have an influence on economic stability and market and consumer confidence, which in turn may impact the Group's performance and ability to achieve our strategic objectives. Being at the beginning of the value chain, the Group often sees the impacts of downturns early, accentuated as customers deplete their inventories, but it then benefits from seeing the recovery sooner too. The profit impact on such risk is accentuated by the Group's operational gearing and its demand for skilled employees, given the business's uniqueness, which makes short-term cost cutting often inadvisable
- The war in Ukraine has created significant volatility around the cost and availability of products and utilities. We consider the wider risk of geopolitical actions and seek to understand these to develop contingency plans which may mitigate, but are unlikely to eliminate, the impact on our business
- Input costs can rise faster than the Group's ability to raise prices, which are typically increased only after discussions and impact assessment with our customers, placing short- to mid-term pressure on margins due to the timing of inflation recovery
- Zotefoams is exposed to foreign exchange fluctuations, both at a transactional level and on the translation of foreign currency balances and the consolidation of its foreign subsidiaries. Despite recent investments overseas, our operations remain substantially based in the UK and, therefore, most of our manufacturing assets and costs are sterling-denominated. We normally invoice our customers in their local currencies and 2022 was consistent with previous years in having a large proportion of the Group's revenue in currencies other than sterling, mainly US dollars or euros. We therefore generate surpluses in US dollars and euros, which are converted into sterling
- The level of the Group's debt and base rates of the currencies in which the Group borrows can vary and change rapidly, having a material impact on profitability, particularly when the interest rate terms are variable
- While a trade deal was concluded between the UK and the European Union at the end of 2020 allowing for tariff-free trade, the risk remains that this might be altered, as indicated by ongoing rhetoric around the Northern Ireland protocol, which does not directly affect Zotefoams but could have repercussions, and which could lead to disruption and tariff penalties or, in the longer term, tariff or non-tariff barriers being introduced. There have also been sizeable challenges to managing import and export compliance, with the risk of HMRC imposing penalties and products being held at borders. Additionally, the risk remains of increased difficulty in attracting EU talent into our global headquarters in the UK as a result of the end of the free movement of people.

Mitigating actions

COVID-19 response

We have demonstrated through actions and performance our ability to negotiate the challenges raised by the pandemic. We have removed many of the measures introduced during the pandemic but remain wary of the occurrence of new variants and are prepared to reintroduce measures quickly should the situation require.

Diversifying our markets

Some of our markets can be cyclical. However, this risk is spread geographically and across a number of segments that are expected to diversify further with the growth of HPP and MEL. The Group is operationally geared, but our experience is that, during challenging times, certain operational labour costs can be reduced, polymer prices generally fall with reduced economic demand, giving a cost benefit, and cash can be generated from both reducing working capital and slowing capital expenditure projects to help offset the effects of a downturn. This was our experience during 2020. Decisions in this regard are, however, taken with respect to our assessment of the underpinning reasons for a downturn, our belief in the likely recovery and an assessment of the impact of short-term cost control on medium-term growth potential.

Managing input cost pressure

2022 saw a continuation of the rapid inflation that began a year earlier, with increases in input costs, including raw materials, services, utilities and staff costs. Zotefoams' policy is to adjust prices when the changes are considered structural but keep price changes infrequent to minimise disruption to customers and allow adjustments further along the supply chain where practical. This results in Zotefoams sharing the benefits and disadvantages of price movements through the cycle without fluctuations being linked to any particular input cost or index. Following the margin erosion of 2021, the Group took measures early in H1 2022 to improve profitability with a series of price increases in Polyolefin Foams, as well as some increases in HPP.

Managing exposure to the US dollar and euro

We reduce our net foreign exposure to transactional items by making purchases either in US dollars or euros. For example, there are US dollar costs associated with the Group's operations in Kentucky, USA and with MEL. In addition, the majority of the Group's raw materials are purchased in euros or US dollars. With our significant capital investment in Kentucky, USA complete, we have reduced exposure to transactional items to the US dollar by increasing the operating cost base in the USA. Raw materials are now purchased locally and a larger workforce supports full process production. While on a smaller scale, at least to begin with, the same will apply for the euro as our Poland manufacturing facility ramps up production. Our footwear agreement includes arrangements to recover movements in foreign currency, although these come with a time lag which can have a positive or negative benefit in the short term but balance out in the medium term.

Currency hedging

The Group has a hedging policy which is approved by the Board. The Group hedges a proportion of its net exposure to transactional risk by using forward exchange contracts. We do not hedge for the translation of our foreign subsidiaries' assets or liabilities in the consolidation of the Group's financial statements. We do, however, hedge our statement of financial position through matching, where possible, our foreign currency denominated assets with foreign currency denominated liabilities, such as by foreign currency debt financing.

Risk management and principal risks
Continued

External

Strategy 1 2 3 4 5 6 Risk trend

Managing our debt facilities

We maintain close relationships with our supporting banks, meeting with them regularly and updating them on performance and outlook. In March 2022, we completed a new refinancing round and selected our incumbent banks following a strong competitive process.

Our debt facilities are based on variable interest rates which we could hedge if we deemed appropriate. We have reviewed this during 2022 as base rates have soared but have selected not to do so.

Based on our most recent five-year strategic plan, we expect our net debt levels to fall quickly. Our budgets and forecasts going forward include investments in growth opportunities, some of which can be slowed if necessary. We stress-test our possible outcomes and engage with our banks to ensure their continued support under all circumstances.

Control Committees

- Executive Committee
- Foreign Exchange Steering Committee
- Zotefoams Inc Executive Committee
- MEL Executive Committee

Viability statement

The viability period

In accordance with provision 30 of the 2018 UK Corporate Governance Code, the Directors have assessed the prospects of the Group over a longer period than the twelve months required by the going concern provision.

The Directors consider the timeline of five years to be appropriate, being the period upon which the Group actively focuses, has reasonable visibility over its opportunity portfolio and, given the nature of capital investment needed to support the Group's anticipated rate of growth, covers investment that in some cases requires long lead times as a result of the unique nature and capital intensity of its technology. A longer period of assessment introduces greater uncertainty since the variability of potential outcomes increases as the period considered extends. A shorter period of assessment impacts the Group's ability to put the right capacity in the right place on time.

Assessing viability

The Group is considered to be viable if it maintains interest cover and net borrowings to EBITDA ratios, as prescribed by its existing financial covenants and presented in the CFO Review under "Debt facility" on page 37, and if there is available debt headroom to fund operations.

The Directors' assessment of viability has been made with reference to Zotefoams' current position and prospects, our alignment with global trends, our strategy, the Board's risk appetite and Zotefoams' principal risks and how these are managed, as detailed on pages 1 to 50.

The Board reviews our internal controls and risk management policies as well as our governance structure. It also appraises and approves major financing and investment decisions as well as the Group's performance and prospects as a whole. The Board reviews Zotefoams' strategy and makes significant capital investment decisions over a longer-term time horizon, based on the Group's strategic growth objectives, individual project investment returns, the continuing performance of the business, the quality of its portfolio of opportunities, its financing arrangements and opportunities and a multi-year assessment of return on capital.

The bottom-up five-year plan is reviewed at least twice annually by the Directors. In assessing the future prospects of the Group and achievability of this plan, the Group has considered the potential effect of risks that could have a significant financial impact under severe but plausible scenarios. The risks considered were identified from the Group's principal risks and uncertainties assessment. While testing against each individual scenario, the Board has also considered the impact of a combination of the scenarios over the assessment period. This was in order to stress-test an aggregation of severe but plausible risks occurring that should represent the greatest potential financial impact both in the short-term and longer-term viability period.

The Directors considered mitigating factors that could be employed when reviewing these scenarios and the effectiveness of actions at their disposal. These include experiences and successes related to cost and capital expenditure management during 2020 in the face of the COVID-19 pandemic, adequate insurance coverage, the unwinding of working capital in a downturn and ceasing some activities.

We are satisfied that we have robust mitigating actions in place. We recognise, however, that the long-term viability of the Group could also be impacted by other, as yet unforeseen, risks or that the mitigating actions we have put in place could turn out to be less effective than intended.

Scenarios tested

Base case

The Group's five-year plan is prepared annually and presented, challenged and approved by the Board in October. The base case uses the five-year period out to 2027. It is based on organic growth and pursuit of the strategic objectives.

The following downside scenarios have been evaluated:

Scenario 1:

Pandemic disruption. We applied our experiences of the 2020 pandemic and the cost and cash saving activities we successfully implemented to stress-test for Group revenue levels that breach banking covenants.

Read more. Principal risk: External pages 49 and 50.

Scenario 2:

Significant cost inflation over a long period with no ability to adjust prices. This also included a stress case scenario to assess the lowest margins that can be tolerated.

Read more. Principal risk: Operational disruption page 42; External pages 49 and 50.

Scenario 3:

Business performance risks. These include both Polyolefin Foams and HPP growth at rates significantly below those included within the five-year plan.

Read more. Principal risk: Technology displacement page 46; External pages 49 and 50.

Scenario 4:

Loss of a key customer in HPP. This scenario reflects losing the Footwear business.

Read more. Principal risk: Operational disruption page 42; Global capacity management page 45; Customer concentration 48.

Scenario 5:

Sterling returning to 20-year highs of two US dollars to one pound sterling. This scenario evaluates the cash impact on the Group as a result of forecast growth coming increasingly from US-denominated sales. The euro impact is not considered material given the natural hedge of euro sales against raw materials and the operating costs of the Poland plant.

Read more. Principal risk: External pages 49 and 50.

Confirmation of longer-term viability

Based on the assessment explained above, the Directors confirm that they have a reasonable expectation that the Group will continue to operate and meet its liabilities, as they fall due, over the next five years.

Environmental, social and governance (ESG) report

Our purpose is to provide optimal material solutions for the benefit of society, reflecting our belief that, used appropriately, plastics are frequently the best solution for the sophisticated, long-term applications typically delivered by our customers

Steve Good
Non-Executive Chair

We believe that being more sustainable over the long term will yield rewards equal or superior to the investment required. Sustainability is a key element within our strategy and our products frequently form part of the sustainability agenda for our direct customers and end-users

David Stirling
Group CEO

When designing optimal material solutions for the benefit of society we consider a range of stakeholders and the value chain as a whole. We are tackling today's priorities of reducing environmental impact while anticipating the long-term benefits that our materials provide in the use-phase

Karl Hewson
Director of Technology and Development

Our approach to sustainability

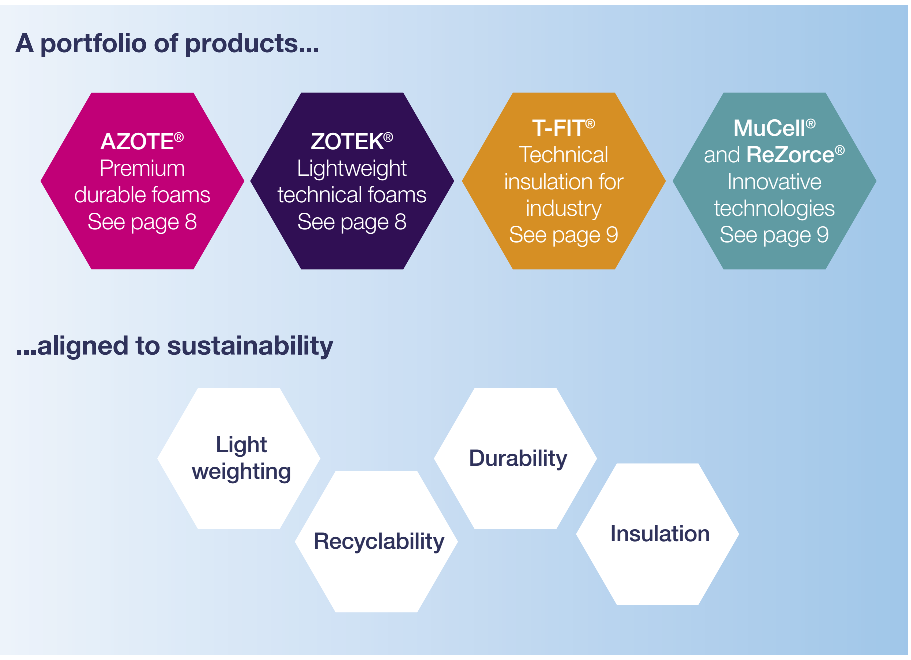
Zotefoams considers that managing ESG impacts contributes to long-term value creation, supports resilience, enhances the Group's reputation and helps safeguard the business's future in an evolving business environment. The sustainability approach adopted by Zotefoams is centred on the twin principles of i) minimising the use of natural resources through a series of internal measures and ii) preferentially operating in markets where Zotefoams' products offer unique sustainability advantages which benefit society. Sustainability is embedded through our strategic planning and decision-making. An analysis of sustainability risks and opportunities in 2021 led to the setting of clear targets for improvement. On page 58 we show the progress that we have made towards achieving our long-term aims.

Sustainability opportunities

Over the past century, materials manufactured using Zotefoams' unique three-stage process have been designed into products which have saved energy by virtue of their insulating properties, have reduced the carbon emissions of cars, planes and trains by reducing weight which in turn lowers fuel consumption, have lasted longer than other comparable solutions and have been used to protect both people and products. These opportunities still exist today and the choice of Zotefoams materials is increasingly based on sustainability considerations.

Our core manufacturing process uses only temperature, pressure and nitrogen borrowed from the atmosphere to create foams that are uniquely pure and durable and which use less polymer thanks to their superior performance-to-weight ratio.

Zotefoams' opportunity to improve sustainability arises principally in two distinct areas. Firstly, in reducing the carbon footprint of our operations. Secondly, in manufacturing products valued by our customers for their use-phase resource efficiency (a concept defined by the Sustainability Accounting Standards Board (SASB) as a product that, through its use, can be shown to improve energy efficiency, eliminate or lower greenhouse gas (GHG) emissions, reduce raw materials consumption, increase product longevity or reduce water consumption). Thermal insulation is a typical example of this, although it is difficult to measure this impact directly as Zotefoams products are used in many different applications and are often combined with other materials. In setting targets, we therefore focus on both the carbon footprint of the manufacturing process and on prioritising the development and sale of products that are use-phase resource-efficient. Further details of our metrics are on pages 65 to 67.



Zotefoams Green Revenue Index

Product	Green Revenue Definition	Revenue £m	Green Revenue £m
Polyolefin Foams	Applies to: ▶ products typically manufactured using 30–50% less raw material than comparably performing foams ▶ products used for thermal insulation in construction, aviation and road vehicles to replace heavier materials, enabling benefits in fuel economy (aviation, railway, road vehicles) ▶ products providing durable protection designed for multiple reuse	70.1	51.7
High-Performance Products (HPP)	Applies to: ▶ foams that allow for considerable increases in the efficiency of resource usage ▶ products used for thermal insulation (predominantly building and construction but also aviation) and to replace much heavier materials enabling benefits in fuel economy (aviation systems where foam replaces heavier materials) ▶ footwear components designed with the intent to use less material	54.5	53.8
MEL	Applies to: ▶ microcellular foam technology licences and related machinery designed to allow considerable increases in the efficiency of resource usage by reducing the raw material used in components by 15–20%.	2.8	2.8
Total revenues		**127.4**	**108.3**
Percentage green revenues			**85%**

How we manage sustainability objectives, opportunities and risks

For sustainability to be successfully embedded within a business, it needs to involve every relevant stakeholder. We have embedded ESG considerations within our risk management process described on page 39 through alignment with the SASB requirements and the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). The risk management process aims to support the achievement of our strategic objectives through the identification and management of risks which may impact the long-term prospects of the Group.

Group Sustainability Steering Committee's responsibilities

- Includes Executive representatives from all business units and locations
- Provides governance and sets the direction for matters relating to the long-term sustainability for the Group, including climate change considerations and the context of the business, ensuring the suitability of the sustainability framework used
- Establishes sustainability objectives and ensures their continued suitability, adequacy and alignment with the direction of the Group
- Monitors that the risks relating to sustainability are identified and appropriately mitigated by the relevant steering committees and report any exception to the Internal Controls Committee.

Green Revenue

Our criteria for green revenues are products which, during manufacture or use, provide a substantial increase in the efficiency of resources used. The applications we serve are varied and diverse; so, in calculating green revenues, we have assumed that all applications within a market achieve the same benefits in resource efficiency. For transportation markets, the benefits are reduced weight products which not only use less material but also allow improved fuel efficiency. For both Product Protection and Sports and Leisure markets, the products are designed to be lighter, so they use less material for the same or superior performance. For Building and Construction markets, our products are designed to save energy by sealing or insulating buildings and pipework. We have excluded revenue from sales to Industrial and Medical markets as, while some applications will undoubtedly offer resource efficiency benefits, many will use our products for other performance attributes such as purity.

Environmental, social and governance (ESG) report
Continued

Environment

We use the governance provided by our internal controls structure to evolve our products to offer greater environmental benefits to society while managing the reduction of our carbon footprint and waste. All investments and resources are managed using technological, financial and sustainability criteria

Carbon footprint

The most significant proportion of our carbon emissions arises from our operations. As part of our commitment, we use electricity from renewable sources wherever feasible; for example, a Renewable Energy Guarantees of Origin (REGO) accredited supplier has been in place in the UK since 2021. Our foam manufacturing plants in Brzeg, Poland and Walton, USA also use 100% renewable electricity. Focused targets are in place to manage our Scope 1 and 2 emissions through the reduction of energy consumption, material used in manufacturing processes and waste; see pages 57 to 59. In order to align our commercial approach with customers use-phase efficiency (Scope 3 emissions), we have created a Life Cycle Assessment (LCA) template which we use to assess typical products and applications. Our Scope 1 and 2 emissions data, along with these example LCAs, are being made available to our customers to enable them to make informed Scope 3 decisions. We continue to monitor the Scope 3 emissions under our control, or alternatively over which we have influence, and use this to guide our decision-making. For example, we have designed foams manufactured from renewable resources and which therefore have a lower carbon footprint.

Business model and strategy

Our business model prioritises solutions with superior sustainability characteristics and which are focused on permanent applications; see page 18. Further details of how we incorporate climate change considerations in our strategic planning are provided under the TCFD section on page 60.

Accreditations

Our main sites are accredited or working toward accreditation to ISO 45001:2018 (occupational health and safety), ISO 14001:2015 (environmental management) and ISO 9001:2015 (quality management). We follow ISO 14021:2016 when making environmental claims and have taken steps to gain independent accreditation for these.

Foam manufacturing facility, Kentucky, USA

Social

We have a strong safety culture grounded in continuous improvement that enables our workforce to operate in a safe environment, at home or at Zotefoams' premises, and are guided by strong ethical principles that inform our activities

Health and safety

- We set internal targets for improvement in occupational health. Our performance and commentary are shown on page 65 and we benchmark externally against rubber and plastics manufacturing industry statistics; visit www.bls.gov/web/osh/summ1_00.htm
- Over the past two years, we have developed a holistic approach to employee wellbeing by fostering a culture of health which recognises and supports both physical and mental health. Further details are provided in our health and safety section on page 65 and in 'our people' on page 70.

Working practices

- A blended working policy, supported by mental health initiatives and recognising new ways of working, was introduced in the UK in 2021.
- Subject to legal requirements in the geographies in which we operate, the Group has in place policies relating to maternity, paternity, adoption and parental leave, as well as time off for bereavement and dependants' sickness.
- A performance management system is in place, designed to encourage high employee engagement with line managers through thorough, thoughtful and regular discussions. The system aims are: a) to provide employee-centric development plans, b) to monitor and develop performance in order to address skills gaps and c) to support effective succession planning.
- Zotefoams has in place ethics and dignity at work policies prohibiting child and forced labour, the use of worker paid fees by Zotefoams or parties acting on its behalf, the confiscation of workers' original identification documents, discrimination, harassment and abuse and supporting collective bargaining arrangements where it is legal to do so.

Further details may be found in 'our people' on page 70.

Remuneration

- The Company compensates its staff in line with market rates and taking account of regulatory guidance, which includes paying employees at or above the rates published by the Living Wage Foundation in the UK. In other geographies, the rate of pay for Zotefoams employees is above the minimum wage applicable locally. Recognising the impact of the energy crisis in the UK and corresponding inflation, an early salary increase was granted to lower paid staff in October 2022 ahead of the annual review in April 2023. Similar measures were implemented in the USA and Poland during 2022 to ensure that salaries remained aligned with the market. The impact of consumer inflation was assessed locally across the Group and, where relevant, adjustments were made in addition to our normal annual inflationary salary adjustments.

Ethics

- Policies and internal controls are in place, and are monitored by the Board, on health and safety, modern slavery, ethics, anti-corruption and bribery, anti-fraud, whistleblowing and equal opportunities; visit https://zote.info/3x0de78
- Biennial compliance training programmes are delivered globally to relevant staff on modern slavery, anti-bribery and corruption, anti-fraud, anti-money laundering, insider trading and data protection. All staff are required to acknowledge that they have read and understand policies applicable to them, which are translated as necessary for staff who do not speak English.
- Our Ethics Policy was also updated in 2022 to incorporate community engagement considerations. As a responsible employer and neighbour, we aim to have a beneficial impact in the local communities we operate in and understand that positive relations are key to maintaining our social licence. Our objective is to build trust and engagement over time through mutually beneficial interaction. The Group has in place a contact mechanism for stakeholders to reach out to the business on issues of concern.

Suppliers

- A consistent, material improvement pattern has been noted in our payment practices, with the average settlement period in the UK being reduced from 50 days in 2019 to 30 days in 2022; visit https://check-payment-practices.service.gov.uk/report/65430
- Compliance requirements are in place to ensure key suppliers are aligned with Zotefoams' standards on ethics, modern slavery, anti-fraud and anti-bribery and corruption requirements. Zotefoams has voluntarily added its details to the Modern Slavery Statement Registry to share the positive steps it has taken to tackle and prevent modern slavery. The registry enhances transparency and accessibility and allows users such as consumers, investors and civil society to scrutinise the actions Zotefoams is taking to identify and address modern slavery risks in its operations.

Governance

We manage Zotefoams by embedding robust corporate governance systems and principles within our business. We are led by an independent Board with diverse skills and operate under an effective and principled management team

Risk management

A comprehensive risk management framework is in place. See page 40.

Diversity and inclusion

The Board adopted its diversity policy in 2021.

An Equal Opportunities Policy is in place and can be viewed on our website; visit https://zote.info/36Dv3ya

More information on diversity and inclusion at Zotefoams may be found in 'our people' on pages 70 to 74 and in our Nomination Committee report on page 86.

Stakeholders

Considering all stakeholders when making key business decisions is fundamental to our ability to create value over the longer term. See our s172(1) disclosures on page 75. In particular, Zotefoams will continue to work with customers and suppliers on improving the sustainability characteristics of our products.

UK Corporate Governance Code 2018

The Company overall complies with the requirements of the UK Corporate Governance Code and has due regard to best practice in governance matters. Further details are provided in our corporate governance section on pages 80 to 82.

In particular:

- 71% of the Board is independent, with 29% executive representation, supporting effective stewardship of the Company's assets. All Board committees are fully independent
- Board and committee members in post at year end attended 100% of all meetings in 2022 (2021: 100%)
- progression towards greater gender diversity is noted in senior roles:
  - 28% of senior managers are female compared with 20% in 2021
  - 29% of the Board is female, with female Board Committees representation amounting to 45%
  - following the appointment of L Drummond as Chair Designate on 17 January 2023, the Board's female membership increased to 37% and will further increase to 43% once she takes over as Chair from S Good at the 2023 Annual General Meeting, subject to election by the shareholders
- an extended questionnaire for assessing the External Auditor's effectiveness and independence in accordance with FRC guidance was completed in 2022. This evidenced that there is candid and complete dialogue between the External Auditor and the Audit Committee
- the Board's working arrangements were kept under review in 2022 to ensure that an optimal mix of in-person and virtual meetings was in place
- the articles of association were last amended in 2020 to allow hybrid general meeting arrangements and comply with current best practice. The Board intends to continue to extend digital inclusion by regularly broadcasting business presentations on the Investor Meet Company platform.

Thoughtful employee engagement supports effective governance. The Board strived to enhance the employee voice in the boardroom during the year through both scheduled engagement during site visits and Board representation on the Joint Consultative Committee, which last adopted new terms of reference in 2021.

Executive remuneration

The Remuneration Committee sets executive remuneration in light of prevailing conditions and takes into account wider workforce pay and conditions. Executive remuneration is linked to ESG metrics. See our Directors' Remuneration report on pages 88 to 109.

Scan the QR code to see the Board Diversity Policy
zote.info/3FKeYVI

Key targets

Our sustainability targets focus on the reduction of Scope 1, 2 and 3 carbon emissions.

In parallel with these specific Scope 1 and 2 targets, we have calculated the carbon cost of a representative selection of our foams (referred to as "carbon accounting") and ReZorce® Circular Packaging technology.

We are utilising this information internally and working with selected customers to assess how this can be used constructively to make objective decisions to steer our own business and guide our customers in choosing the optimal material solutions for their applications. We are also developing Life Cycle Assessments for our products in use, giving us visibility of Scope 3 emissions on a case study basis.

● Target met for 2022

Targets		Status at end of 2022	RAG
1. Improve purchase-to-product (mass balance) of foam products. We purchase more polymer than we sell as foam, with losses in the current manufacturing process. This is waste material and waste energy which, with some investment, can be reduced. By the end of 2026, we plan to have halved the polymer purchased that is not in the end-product (internal waste and oversized materials). To support this, in 2022 we will financially and operationally plan the investments required in future years to achieve our 2026 target. Additionally, we aim to implement improvements to reduce the polymer waste rate during manufacture and are targeting a 2.5% waste reduction for 2022.	Measure the baseline excess polymer by end of Q1 2022. Save 2.5% total waste for 2022. Propose a reduction plan including any capex for 2023 by the end of Q3 2022 and for 2024–26 by the end of 2022.	Since publishing our 2021 Annual Report, we have broadened our target to include all foams produced, with significant focus and achievement in reducing excess polymer purchased for Footwear products. For the first quarter of 2022, we measured the baseline of excess polymer purchased. We worked on numerous efficiency initiatives throughout the year and calculated the excess polymer purchased for the full year to be 4.7%. For our AZOTE polyolefin foams, our biggest product range, we achieved a 4.1% reduction in the excess polymer purchased during 2022. We have allocated capital in our five-year plan to improve manufacturing equipment so we can achieve our 2026 target.	●
2. Re-purpose unpreventable polymer waste from our UK manufacturing process. Inherent to achieving longevity and lightweight in our foams is a manufacturing step known as crosslinking, which modifies the polymer. Crosslinking is not practically reversable and therefore utilising this modified polymer to manufacture foams requires different techniques than when dealing with unmodified polymer. As we develop these techniques, we are able to re-incorporate this modified polymer in the manufacture of certain products.	By the end of 2022: i. develop AZOTE products that allow us to re-incorporate into our foams 50% of solid polymer waste produced at our UK site ii. have found applications that reuse 90% of all AZOTE foam waste produced at the UK site.	i. We have developed products and a manufacturing process capable of re-incorporating more than 50% of the solid polymer waste produced at our UK site (68% was re-incorporated during the month of November). We continue to build demand for these products. ii. We work with two companies, Schmitz Foam Recycling B.V. and Apetek S.r.L, which utilise our product primarily as underlay in artificial turf. 94% of our foam scrap was re-purposed during 2022.	●

Environmental, social and governance (ESG) report
Continued

● Target met for 2022

Targets		Status at end of 2022	RAG
3. Zotefoams products have historically been designed to use less material and last longer. We will further develop our product portfolio by designing and developing new products which offer our customers more sustainable solutions. By the end of 2026, 5% of our revenue will be generated from new products designed and developed after 2022 for use-phase resource efficiency.	An interim target of 0.5% of revenue was set for 2022.	We have worked to create a strong pipeline of products offering sustainable benefits to our customers. During 2022, we developed many new products that contributed over £1.5m, or 1.2%, of revenue. The major developments are for a district heating project, many T-FIT insulation items and a new product for lightweighting of aircraft interiors. Additionally, during 2022: ▶ 70% of the projects in our development portfolio offered sustainability benefits ▶ we developed a foam containing polymer recovered from post-consumer waste which will be launched during 2023 ▶ we developed a high-performance foam based on a polymer with high renewable content which is now being evaluated by customers.	●
4. We continually strive to reduce the energy consumed in the manufacture of our products. As we produce greater quantities of products across multiple manufacturing sites, the energy we consume increases. Additionally, certain products we develop which offer use-phase resource efficiencies can require greater energy per unit volume to manufacture. Setting a target which accommodates growth and the changing product mix is difficult, but we have committed that by 2026 we will reduce the energy consumed per unit revenue by 10%.	An interim target of 0.73 kWh/£ was set for December 2022.	Having started 2022 with a baseline of 0.74 kWh/£, by December 2022 we had achieved 0.66 kWh/£, which far exceeded our interim target. This was primarily due to high-capacity utilisation and recent price increases. The energy consumed will vary through economic and investment cycles but, after correcting for price inflation, we still exceeded our 2022 target and thus see the long-term outlook as positive.	●

We have set longer-term sustainability objectives, aligned to a sustainability backed loan facility, which will be published in future years

Long-term objectives

Objective	KPI	Target		Achievement	RAG
Achieve a 10% reduction in the energy used to manufacture our products by 2026	From a baseline of 0.74kWh/£ in December 2021, reduce the energy used per unit revenue generated (kWh/£)	2022	0.73 kWh/£	0.66 kWh/£	●
		2023	0.72 kWh/£		
		2024	0.70 kWh/£		
		2025	0.68 kWh/£		
		2026	0.66 kWh/£		
Further develop our product portfolio by designing and developing new products which offer our customers more sustainable solutions such that, by 2026, they will account for 5% of revenue	Share of sales from products designed for use-phase efficiency (% of revenue)	2022	0.5%	1.2%	●
		2023	2%		
		2024	3%		
		2025	4%		
		2026	5%		
By the end of 2026, halve the polymer purchased that is not in the end-product (internal waste and oversized materials)	Reduction in the mass of excess polymer purchased to that sold (% reduction)	2022	2.5%	4.7%	●
		2023	7.5%		
		2024	15%		
		2025	30%		
		2026	40%		

Improve circularity and waste reduction:

mass of excess polymer purchased compared with that sold as foam

Zotefoams manufactures a wide range of foam products in sheet form. These typically have minimum dimensions and include a process skin as part of the product sold to our customers. The process skins are often removed by our customers who use the consistent homogeneous core of the sheet. While relatively thin, these skins are not typically required by customers, who then have to re-purpose them. Oversized sheets and skins are the two main causes of processing a larger quantity of polymer than the customer uses. A key attribute, valued by our customers, is that the physical properties of our products are the same in all directions, giving performance benefits that allow them to replace competitive foams with significantly higher density. The unconstrained expansion required to achieve this is a contributor to the sheet being oversized and consumes more polymer; but this waste is much less than the extra polymer required by competitive processes to produce higher density foams that match the performance of our products.

The challenge we have set ourselves is to reduce by half this “Excess Mass of Polymer Purchased” over the next five years, with annual targets that reflect the long-term nature of this objective. This target has been endorsed by our lenders following the renewal of our refinancing arrangements in 2022.

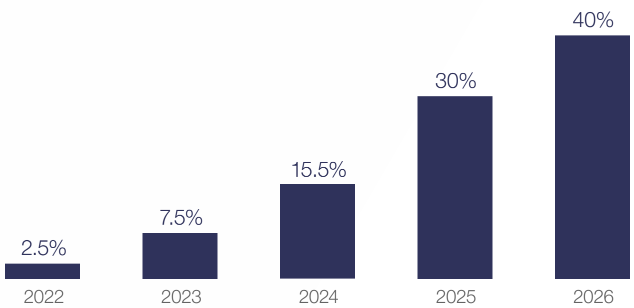
The process skin is an integral part of the product and will always be present. Reduction of the polymer consumed can be achieved by the following activities:

- optimisation of tooling: most foams we manufacture use common equipment which is not always optimal. Waste can be reduced by adapting and, where appropriate, purchasing optimised tooling
- tolerance reduction: we guarantee customers can obtain a minimum size from our foam sheets. To achieve this, we target a larger size foam sheet during manufacture to accommodate the process skin and our manufacturing tolerances. Reducing tolerances at all stages of our process will allow us to reduce the target size and the excess mass of polymer purchased. For some process steps, this will require investment in new equipment
- process improvements: there are small losses at all stages of our manufacturing process. Enhanced monitoring and a focus on reduction of these losses will reduce the waste
- circularity: incorporating polymer waste we produce into products we sell in order to replace the virgin polymer we purchase. For many plastics processors this is standard practice. But AZOTE polyolefin foams are crosslinked, a chemical modification that prevents re-incorporation directly into the same process. We aim to develop a method to sustainably re-incorporate our chemically modified polymer waste into our premium products.

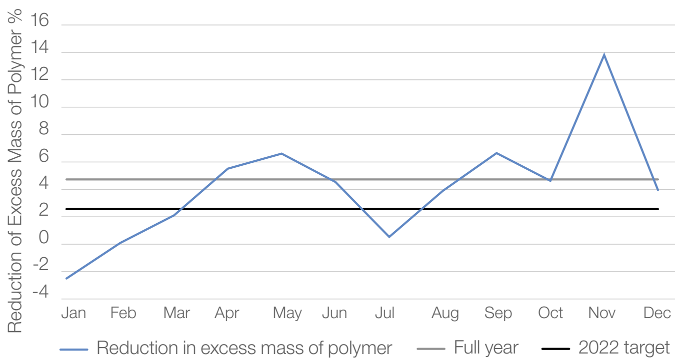
During 2022, we adopted detailed monitors at our Croydon site that measure and report waste at all stages of our process, allowing a consistent method of reporting the excess mass of polymer. In parallel, our engineering team has developed a process that allows products to be manufactured which incorporate our internal polymer waste. Our Ecozote® Sustainability+ LDR foams containing 30% recycled LDPE content were launched in October.

A baseline was generated using data from Q1 2022. Approximately half of this is intentionally included as process skins.

Five-year reduction target of Excess Mass of Polymer relative to baseline



Our target for the full year was to reduce Excess Mass of Polymer by 2.5%. We exceeded this target, achieving a 4.7% reduction over the baseline for the full year.



Environmental, social and governance (ESG) report
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Task Force on Climate-related Financial Disclosures (TCFD) response

The risks associated with climate change are subject to rapidly increasing societal, regulatory and political focus, both in the UK and internationally. In line with the TCFD recommendations and best practice, we have embedded these risks into the Group's risk management framework in order to adapt the Group's operations and business strategy to address the financial risks resulting from both: (i) the physical risk of climate change; and (ii) the transition to a low-carbon economy.

We set out below our climate-related financial disclosures for the financial year ended 31 December 2022 in accordance with the Financial Conduct Authority (FCA) listing rule LR 9.8.6 R(8). The rule requires relevant companies to report on a 'comply or explain' basis against the TCFD recommendations. We have considered our 'comply or explain' obligation and have detailed in the table below the 11 TCFD recommendations, all with which we fully comply.

Governance

a. Describe the Board's oversight of climate-related risks and opportunities
b. Describe management's role in assessing and managing climate-related risks and opportunities

The Board sets the strategic aims of the Group, ensures that the necessary resources are in place to achieve the Group's objectives and reviews management performance. The Board has oversight of climate-related matters (which include risks and opportunities) and is updated on these matters as necessary through:

- the Audit Committee, which is responsible for keeping under review the adequacy and effectiveness of the Group's internal control and risk management systems, which consider climate-related risks by the appropriate Control Committees (see page 44); and
- bi-annual business unit presentations, which consider both the physical and transition risks of climate change and opportunities arising from climate change and are made by the executive function head to the Board. For examples of how we integrate sustainability and climate change considerations into our strategy, see pages 18, 20 and 24.

The sustainability targets linked to climate change that we set in 2021 were incorporated into the 2022 corporate objectives. The Executive team reviewed and discussed progress towards the objectives at its meetings in January, April, September and November 2022.

Strategy

a. Describe the climate-related risks and opportunities the organisation has identified over the short, medium and long term
b. Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy and financial planning
c. Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario

Risks

Our risk exposure to climate change is partly mitigated through operating foam manufacturing facilities in countries with high regulatory standards and through the implementation of well-established environmental management systems in all locations. The risk management framework on page 40 aims to assess the Group's principal risks and ensure these are effectively managed across the entire business. Climate change is considered in our risk section as a principal risk. The financial impact of key climate change scenarios is reviewed below.

RISK	MITIGATION
Physical risk such as adverse weather event disrupting manufacturing or our supply chain	Zotefoams sites are not located in areas under physical threat from climate change over and above an increased number of severe weather incidents. The likelihood of a severe weather impact is increasing, which in turn generates a higher expectation of supply disruption, including transportation. Most key suppliers are dual sourced, thereby mitigating this risk. As we invest in new, and update our existing, infrastructure, new designs accommodate more frequent extreme weather events arising from global warming.
A significant increase in the cost of energy would increase manufacturing, raw material and transportation costs and create inflationary pressures	Energy prices are a significant direct cost to our business and also to our suppliers. We have set objectives to reduce our direct energy consumption across our manufacturing sites and to reduce consumption of raw materials. As well as reducing the consumption of energy and raw materials, we also have recourse to increasing prices to our customers. To ensure we understand the market response to such price increases, which are often implemented with a lag compared with cost inflation and after consultation with our customers, we monitor demand through our Controls Framework and Sales & Operational Planning processes. Over time, we seek to invest closer to markets which are expected to account for most of our sales volume and to improve our mix so that it includes more higher-value products, both of which mitigate the risk of higher transport costs.
A significant increase in taxation to drive behaviour, such as a carbon, plastic or waste tax	Environmental taxes are a relatively low proportion of tax revenues. They have been used to change consumer behaviour (plastic bag tax, Climate Change Levy, landfill tax) and offer opportunity as well as risk. It is likely that taxes will be used to incentivise and force quicker change as emissions reduction targets are accelerated. Passing on increased tax costs through pricing would be more difficult to achieve than for increases in the cost of energy and materials. Our Controls Framework monitors taxation trends related to climate change and plans accordingly, whether through energy efficiency initiatives, investments or product developments to accommodate changing demand patterns.
A significant shift in market demand pattern such as a move away from plastics or only sourcing circular plastic products. An increased demand for thermal insulation and lighter weight products. Increasing energy costs increase transport cost	Our technology produces foams with better performance and a clean foaming agent that can be used in applications which directly and indirectly save energy. This is aligned with a low-carbon economy. We have low exposure to single-use plastic markets. We have proven benefits in markets where weight saving is beneficial and where society values performance. Our product offering, managed through our Controls Framework, is evolving to meet the needs of a circular lower-carbon economy. The main challenge comes from faster transitions which reduce the time to react. In 2021, we added a Group Sustainability Steering Committee with a remit that includes monitoring and reacting to customer and market trends.
Significant increase in water costs, directly or indirectly through taxation or levy	Compared with other manufacturers, Zotefoams is not a big user of water and the relative cost is small. Any change in the cost of water will have a small impact. An environmental management system is in place to monitor water usage and identify improvement opportunities.

Opportunities

Short-term: Our business model is centred around sustainability. The opportunities available to Zotefoams are detailed on pages 14 to 19. Details of our strategic objectives, including those relating to sustainability and climate change, are provided on pages 22 to 24. Progress has been made against the sustainability targets set in 2021. See pages 57 to 59.

Medium and long term: We believe the benefits of plastics will be recognised and scarce resources will be managed to ensure optimal use and a circular economy. The processing of polymers uses less energy compared with many other materials which, with our technology benefit of producing lighter, longer-lasting products using less material and which have inherent thermal insulating performance, represents a significant opportunity as sustainability increases in importance.

Risk management

a. Describe the organisation's processes for identifying and assessing climate-related risks
b. Describe the organisation's processes for managing climate-related risks
c. Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organisation's overall risk management

Refer to our risk management framework on page 40 **and environmental sustainability and climate change risk on** page 44.

Metrics and targets

a. Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process
b. Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks
c. Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets

The SASB framework provides performance metrics for our functional steering committees to implement. See further details on pages 67 to 69.

Our Scope 1 and 2 emissions are disclosed on page 66. Our approach to managing Scope 3 emissions is detailed on page 54. The risks are managed through our risk management framework detailed on page 40.

Progress against our sustainability targets is detailed on pages 57 to 59.

In the table below, we list the principal risks most likely to be materially impacted by climate change. We also set out examples of events that could cause financial losses or impact our strategy.

Methodology

A risk assessment, looking at impact and likelihood, was conducted reviewing three climate change scenarios and five risk events. The assessment was first undertaken by the Executive team and later revised following review with the entire Senior Management team. The following methodology has been used to assess the potential risk impact and the likelihood of the risk event.

Potential risk Impact	Negligible (1)	Minor (2)	Moderate (3)	High (4)	Major (5)
Business disruption / asset damage and other consequential loss	<1% Operating profit (ca.<£0.1m)	1-5% Operating profit (ca.£0.1m–£0.5m)	5-10% Operating profit (ca.£0.5m–£1m)	10-20% Operating profit (ca.£1m–£2m)	>20% Operating profit (ca.>£2m)
Politico-economic impact	Minimal financial impact	Material financial impact	Serious financial impact	Major financial impact	Extreme financial impact
Technology impact	No need to change existing technologies	Insignificant technology update required	Significant technology update required	New technology needs to be implemented in the medium term	New technology needs to be implemented urgently
Social impact	Public awareness may exist but no public concern	Local social issue or public concern	Regional social issue or public concern	National social issue or public concern	International social issue or public concern
Physical impact of climate change	Minimal impact	Material impact	Serious impact	Major impact	Extreme impact

Environmental, social and governance (ESG) report
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Risk Rating		Likelihood				
		Rare	Unlikely	Possible	Likely	Almost certain
Impact	Major	Low	Medium	High	Very high	Very high
	High	Very low	Low	Medium	High	Very high
	Moderate	Very low	Low	Low	Medium	High
	Minor	Very low	Very low	Low	Low	Medium
	Negligible	Very low	Very low	Very low	Very low	Low

Very low Low Medium High Very high

Likelihood of the risk event

Rare (1)	Unlikely (2)	Possible (3)	Likely (4)	Almost Certain (5)
Never occurred or is highly unlikely to occur in the next 20 years	Occurred several times or could happen within the next 20 years	Occurred at some point within the last 10 years and may re-occur within the next 10 years	Occurred infrequently: less than once per year and is likely to re-occur within the next 5 years	Occurred frequently: one or more times per year and is likely to re-occur within the next year

The following risk events arising from climate change or the transition to a low-carbon economy were considered:

- physical risk: adverse weather event disrupts manufacturing or supply chain
- significant increase in energy costs during transition: manufacturing costs, raw material costs, transport costs, inflationary pressures
- significant taxation increase during transition: carbon tax, plastics tax, waste tax
- significant shift in market demand pattern during transition: move from plastics or to circular plastic products only; increased demand for thermal insulation and lighter weight
- significant increase in water costs: directly or indirectly through taxation or levy.

The ongoing transition to a low-carbon economy was considered through the prism of achieving global net zero carbon emissions to limit global warming. Three scenarios were considered: no target, net zero by 2070 and net zero by 2050. The transition at the global and national levels brings about political, legal, economic, technological and other changes which produce transitional risks. Transitional risks primarily affect economic performance, which we have considered in terms of our planning cycles of 1 year, 1-5 years and >5 years.

	Climate change impact	Business as usual	Paris Agreement scenario	Sustainable development scenario	Adaptions
		Unlimited global warming (>>2˚C) No global net zero target	Limited global warming to >2˚C Global net zero by 2070	Limited global warming to >1.5˚C Global net zero by 2050	
Short term (> 1 year)	Physical risk	Very low	Very low	Very low	Mitigate supply chain.
	Energy costs	Very low	Very low	Very low	
	Taxation	Very low	Very low	Very low	
	Demand shift	Very low	Very low	Very low	
	Water costs	Very low	Very low	Very low	
Medium term (1-5 years)	Physical risk	Low	Low	Low	Mitigate supply chain. Develop environmentally sustainable products that are part of the circular economy in markets the products benefit or are less likely to be impacted. Better use of water as we update equipment and processes.
	Energy costs	Very low	Low	Medium	
	Taxation	Very low	Low	Medium	
	Demand shift	Very low	Low	Medium	
	Water costs	Very low	Very low	Very low	
Long term (>5 years)	Physical risk	Medium	Low	Low	Modify existing and new infrastructure to accommodate changing climate. Business interruption insurances. Product range and pricing evolves to address taxes.
	Energy costs	Low	Low	Low	
	Taxation	Very low	Very low	Very low	
	Demand shift	Very low	Low	Low	
	Water costs	Very low	Very low	Very low	

There are significant risks from climate change and the impact increases with faster transition to a low-carbon economy. The impacts of climate change and the transition to a low-carbon economy are no greater than other risks faced by the business such as energy pricing and currency fluctuations. Our core products present opportunities in a low-carbon economy and the mitigations already in place for the current slower transition rate will help if the rate of transition increases.

Third party assessment

We continually strive to improve our sustainability disclosures.

In 2022, we made our first report to CDP, a not-for-profit charity that runs a global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts. Our report may be found on its website: www.cdp.net/en

In early 2023, Zotefoams was also upgraded from an A score to an AA score by MSCI and was awarded a 'green flag' (the lowest risk rating) as it has no ESG controversies. MSCI ESG Research provides MSCI ESG Ratings on global public and a few private companies on a scale of AAA (leader) to CCC (laggard), according to exposure to industry-specific ESG risks and the ability to manage those risks relative to peers. Further details may be found on its website: www.msci.com

Safety, Health & Environment (SHE)

Zotefoams considers the management of SHE matters to form a key element of effective governance and has put in place specific policies relating to SHE. The Company is certified to accredited standard ISO 45001:2018 for Health and Safety, ISO 14001:2015 for Environmental Management Systems and ISO 9001:2015 for Quality Management and is subject to a recertification regime requiring two surveillance audits per annum. The recertification process for 2022 has been completed. The auditor commended Zotefoams' willingness to continually improve and advised that the very small number of minor non-conformities raised in the previous three years was an excellent result.

"Discussions with the Managing Director Europe held during the 2022 recertification audit provided assurance on the top management's commitment and involvement in establishing and encouraging a positive health and safety culture across the business. His dedication supports progress toward the achievements of Zotefoams' environmental sustainability goals."

BSI ISO 45001 & 14001 audit report, September 2022

The Board has ultimate responsibility for SHE policy and performance and receives quarterly reports on Group SHE issues. The Board has set a low risk appetite for health and safety matters. Annual performance objectives are agreed by the Board and performance against these is monitored as part of its quarterly reporting programme. RIDDORs (lost time accidents reportable under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013) are recorded immediately and are subject to a thorough root cause analysis reviewed by the Board, with appropriate follow-up actions agreed with management. Additionally, the Board has a detailed review of SHE performance, targets, metrics and approach through monthly updates.

The Group CEO is directly responsible to the Board for SHE performance. All SHE matters are overseen by steering committees, chaired by the Group CEO (or appropriate responsible person in subsidiary companies). The steering committees meet quarterly and consider overall performance and the impact of current and impending legislation.

On joining the Group, all employees receive induction training on SHE matters, including the Group's SHE policies, and refresher training is provided, as appropriate, to ensure employees remain abreast of and familiar with SHE matters. Employees are made aware that each and every one of them has a part to play in ensuring their own safety at work and that of their colleagues. Employees are encouraged to report to their managers any unsafe, or potentially unsafe, acts or conditions. Senior managers are responsible for ensuring that SHE policies are implemented in their areas, that their teams are informed of the departmental SHE requirements and that employees receive and understand training on environmental issues and safe working practices. Regular audits are conducted to ensure policy and procedure implementation is appropriate.

The Group takes the reporting of all SHE incidents very seriously and requires employees to report all incidents, including any near misses, as well as damage to plant or equipment which has not resulted in personal injury. The Group considers the reporting of near misses to be as important as actual incidents, since it raises situations to management that could cause, or might have caused, harm. It then ensures appropriate corrective action can be taken to eliminate or minimise the risk. The Group also ensures that appropriate safety practices are included in standard operating procedures to reduce the risk of SHE incidents occurring.

Few controlled substances are used in the manufacture of our foams, but where they are, the Group has established procedures, in which the relevant employees are trained, to ensure safe storage and handling of such substances in accordance with regulatory requirements. The manufacturing process involves manual handling and processing of materials. When new or altered equipment or materials are introduced, and at regular periods thereafter, the risks to the processes are assessed and improvements made wherever possible, such as to the design of the equipment, to reduce or eliminate the risks identified.

The most strictly controlled parts of the Group's sites are where high-pressure gas is used. The high-pressure autoclaves are subject to the Pressure Systems Safety Regulations 2000 in the UK, OSHA (Occupational Safety and Health Administration) in the USA and the Journal of Laws of the Republic of Poland, Dz. U. 2022 poz. 68. Tightly defined procedures and operational controls are in place to manage the safety of these pressure systems. Fail-safe mechanisms, known as pressure relief valves and bursting discs (which act like fuses in an electrical system), are included in the design of the pressure systems which, when triggered, allow safe depressurisation of sections of the system and prevent any further risks. Operation of these fail-safe mechanisms releases harmless nitrogen gas into the atmosphere. The air we breathe is composed of 78% nitrogen.

All SHE incidents are investigated by appropriate levels of management to ascertain the root cause of the incident and, wherever possible, working practices and procedures are improved to minimise the risk of recurrence. In 2022, there were no prosecutions, fines or enforcement actions taken as a result of non-compliance with SHE legislation (2021: none).

Health and safety

Fostering a safety culture has a positive impact on risk and performance. Our approach is twofold: strong leadership maintaining safety as the number one priority; and training of employees to develop the tools to continually improve safety in the working environment.

Management focus remains on developing safety leadership, using various engagement methods to increase Group-wide awareness of hazard identification and control. In 2022, the safety engagement programme in the UK expanded into non-manufacturing areas to incorporate contractor management, warehousing and facilities management. This wider coverage resulted in over 5,000 safety engagements in the UK (3,000 in 2021). The safety engagement programme has been adopted throughout the Group, where a further 595 safety engagements were carried out as we look to increase maturity across all sites and continue to focus on identifying hazards and improving awareness and behaviours relating to safety. We refreshed the use of 5S methodology at our Croydon

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manufacturing site to improve our workplace safety through the promotion of a clean working environment. Training has been provided over a broad range of safety topics and there are daily forums at which safety is the first agenda item and where concerns can be raised. Our KPIs indicate our approach is working. Health surveillance programmes Group-wide remain in place to provide at-risk employees with medical monitoring and support to ensure that work-related medical conditions are identified and addressed promptly through the appropriate referral to medical specialists. Wellbeing initiatives continued in 2022 and include mental health first aiders globally and comprehensive employee assistance programmes in our two largest sites in the UK and USA. Further details are provided in ‘our people’ on page 70.

Our Polish site organised a highly interactive day in September 2022 that involved supplier demonstrations of all types of safety-related products, with the aim of improving engagement with and understanding of safety. This was well-received and we plan to replicate this at other sites within the Group. In 2023, we will continue with the same approach as in 2022. The safety engagement programme will continue with an increased number of engagements being carried out by operators, with training to support this, both for specific hazards and non-routine tasks. We will continue to improve iteratively the headline SHE indicators across the Group and enhance the leadership team high visibility programme, including initiating a regular in-person Group-wide SHE leadership forum to share best practice across sites. Our Polish manufacturing site achieved ISO 45001 accreditation in December 2022.

The 5S methodology provides a framework to organise a work space for efficiency and effectiveness by identifying and storing the items used, maintaining the area and items, and sustaining the organisational system

HSE AWARDS

In 2022, our UK site completed over 5,000 safety engagements. In recognition of this achievement, a special awards presentation was hosted by the HSE team. Seven awards were presented to employees who had demonstrated a consistent contribution to the health and safety programme. The awards covered the most engagements completed, best quality, hazard identification, contractor surveillance, team focus, passionate about recycling and best safety representative for actively encouraging participation.

The award and recognition event was fun, well received and it was nice to see such a cross-functional group at an event that captured the spirit of the progress made over the last few years

Nick Donhue
OHSE Manager

Health and safety performance

The primary metric used to monitor the number of reportable injuries for the Group is RIDDOR. In 2022, two RIDDOR incidents occurred across the Group (2021: 0).

Both RIDDORs were subject to a detailed root cause analysis with hazard awareness being the common theme. Hazard identification of both frequent and infrequent tasks is part of our 2023 improvement plans. This will involve increased participation in safety engagement programmes and interactive competency-based training to enhance hazard awareness and routine inspections at all sites in the Group.

The Group also uses metrics devised by the United States Department of Labor to measure staff absences resulting from workplace incidents and accidents. This allows a comparison with a large, relevant peer group and also provides an established methodology with which we can benchmark our performance annually. In 2022, there were significant decreases in Days Away From Work (DAFW) and Days Away Restricted or Transferred (DART). Our strategy and actions to continuously improve the safety culture of the organisation continue to have a positive downwards effect on DAFW and DART, improving our performance relative to the latest benchmark data for Rubber and Plastics Processors. RIDDOR, DAFW and DART are our primary metrics. Other metrics are provided below to meet SASB Chemical Industry requirements.

Year	2022	2021	2020	Industry (latest published figures)
RIDDOR	**2**	0	1	n/a
DAFW	**0.5**	1.2	1.3	1.2
DART	**0.5**	1.7	1.6	2.3
TRIR Direct Employees Contract Employees	 **3.1** **0**			
Process Safety Incidents Count[1]	**4**			
Process Safety Incident Rate[1]	**0.7**			
Process Safety Incident Severity Rate[1]	**1.5**			
Number of transport incidents[1]	**0**			
Fatality Rate Direct Employees Contract Employees	 **0** **0**	 0 0	 0 0	

[1] Tier 1 level incidents.

Environmental performance

A decrease in Group energy usage of 2,990 MWh mainly arose through better energy management at our Croydon site in line with our sustainability target 4 (down by 3,595 MWh). 2022 saw a new programme and renewed focus on energy reduction for the Group. Increased visibility and daily trend analysis were combined with improved energy and waste engagement.

SHE: Key metrics

	2022	2021	2020
Internally recorded environmental incidents			
Level 1	**0**	0	0
Level 2	**1**	0	0
Company metrics (UK only)			
Energy usage (MWh)	**46,483***	50,078*	48,405
Specific Energy Consumption (kWh/kg)	**8.58****	9.22**	9.89**
Group metrics (All sites)			
Energy usage (MWh)	**69,017***	72,007*	62,740
Energy usage (GJ)	**248,463***		
Proportion of energy from grid electricity (%)	**45**		
Proportion of energy from renewable sources (%)	**35**		

* From 2022, the reported energy usage includes electricity, gas and other fuels (LNG, diesel and propane.) In prior years, not all fuels were included as they were not material. The 2021 comparative figure has been recalculated on the same basis as 2022.

** Calculation shown as mix-neutral assessment of energy usage per kg of polymer processed.

There were no significant environmental incidents during the year (2021: none). Previous years have been analysed against an internal categorisation introduced in 2018, guided by the environmental reporting guidelines at.

Scan the QR code to see the environmental reporting guidelines zote.info/36LLN69

Level 1 – Reported to Environment Agency (e.g. polluting incident)

Level 2 – Reported to local authority (e.g. waste concerns)

Level 3 – Internal report only (e.g. small granule spills)

The Company ensures that all environmental reports of incidents are taken seriously and appropriately investigated and that the responses given are appropriate to their level of impact or potential impact. Fifteen internally reported Level 3 incidents (2021: 17) relating to minor machine oil spills, plastic granule spills and thermal oil spills were recorded during the year. The incidents are captured by daily inspections and actioned as required. The decrease is attributed to a high level of safety observations, employee education and ongoing implementation of the 5S method to reduce waste and increase productivity. In 2022, one incident, in our Kentucky, USA site, was reported at Level 2 following the release of 200 gallons of oil caused by a pump failure. It had no significant impact on the environment. Even though the release was contained on site, it was reported to the local authorities via the National Reporting Center (NRC) and has therefore been categorised as a Level 2 incident.

Specific Energy Consumption (SEC) – UK

In October 2009, the Company entered into a Climate Change Levy (CCL) agreement which involves meeting specific voluntary targets to increase energy efficiency and reduce carbon dioxide (CO2) emissions. Provided the Company meets the requirements of the CCL agreement, it receives a rebate on its electricity bills and is also exempt from the Carbon Reduction Commitment Scheme for the plastics sector; the scheme is run by BPF Energy Limited, to which unadjusted SEC figures are reported quarterly. The scheme will run up to 2025.

The Company measures energy efficiency by taking energy consumption and dividing it by the amount of material (in kg) that passes through high-pressure autoclaves. The increase in production of our HPP foams, which generally require more processing energy than polyolefin foams, prompted us to update these metrics to be product-mix neutral in 2018. In 2022, our adjusted energy efficiency measure, Specific Energy Consumption (SEC), has decreased 7% to 8.58 kWh/kg (2021: 9.22 kWh/kg), the lowest recorded since 2015. In 2019, the Company completed its second assessment under the Energy Saving Opportunity Scheme (ESOS) and remained compliant in 2022. The next assessment is planned in 2023.

The SEC value has been reported in the Annual Report as a mix-adjusted value since 2018 to reflect the growth of Footwear and to show the energy efficiency improvements made.

Global carbon emissions

Zotefoams products are used globally to improve people's lives and reduce energy consumption, primarily through insulation and weight reduction. The processes we employ

Environmental, social and governance (ESG) report
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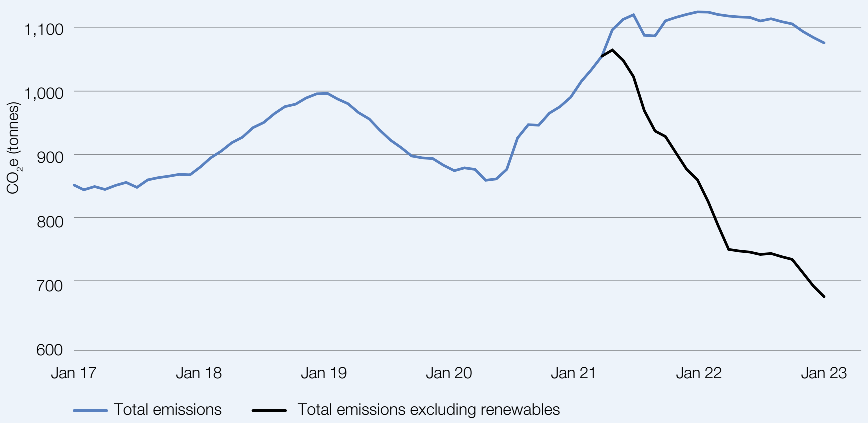
Group: carbon emissions (CO_2 tonnes)	2022	2021	2020	2019	2018
Scope 1 Emissions (direct emissions from our operations which includes fuel)	**6,932**	7,418	7,078	5,626	6,661
Scope 2 Emissions (indirect emissions, primarily electricity)	**6,029**	6,792	7,464	6,787	8,148
Total	**12,961**	14,210	14,542	12,413	14,809
Carbon emissions (kg) per material gassed (kg)	**1.4**	1.5	1.6	1.6	1.7

Group: pollutant emissions (tonnes)	2022
NO_X (excluding N_2O)	**2.5**
SO_X	**0.0**
VOCs	**0.3**
HAPs	**0.0**

NO_X and SO_X calculated from Scope 1 emissions.
VOCs and HAPs measured on a typical production day at factory emission points and scaled for total annual production volumes.

Group Monthly CO_2e Emissions (tonnes)



to create these foams allow us to use less raw material and produce lighter foams than competitive processes, both of which are beneficial for carbon reduction. In making these foams, energy (both gas and electricity) is the main source of carbon emissions from our facilities.

Overall carbon emissions for 2022 were 12,961 metric tonnes (2021: 14,210 metric tonnes), with the main changes being due to energy reduction initiatives such as standby sequencing of extraction systems and temperature optimisation of our thermal oil system.

In 2022, 99.4% (2021: 97.7%) of the Group's carbon emissions arose from our use of electricity and gas, primarily in processing polymer but with some use in facility heating and cooling. Direct carbon emissions from other sources were minimal (0.6% of Group emissions) as we do not operate our own fleet of vehicles.

The methodology we have used is in accordance with the guidance published by the Department for Environment, Food and Rural Affairs in June 2013. We have only included emissions for which we are directly responsible. We have not included emissions for activities over which we have no direct control. For example, we have included business mileage on a Company van and mileage claimed by employees in the UK, but not other forms of business travel, such as travel made by employees elsewhere in the Group or travel using public transport or air travel.

We are committed to using renewable electricity where feasible. 100% of the electricity used in our UK, USA (Walton) and Poland sites comes from renewable sources.

Alternative measures
Many companies consider carbon offsetting. Zotefoams' view is to report as a primary metric the absolute carbon emissions calculated using the UK government carbon cost of energy. We buy electricity from renewable resources, wherever available, and we do not buy carbon credits or subscribe to offset schemes such as tree planting or felling avoidance.

To facilitate a comparison with those who consider renewable electricity to have a zero-carbon footprint, our carbon footprint in 2022 was reduced by 37% in absolute terms.

Water
While none of our sites is located in regions where water is scarce, we recognise that usage of water is a key environmental metric supporting our sustainability proposition. Our water consumption is metered and we have specific programmes to improve efficiency and reduce water usage. Water usage decreased by more than 25% across the Group in 2022, driven by a decrease in usage of almost 30% in the UK, our largest manufacturing site. We attribute this significant reduction to improvements in water usage through daily monitoring, with results reviewed and discussed at the daily production team meeting. This improved visibility has ensured more appropriate levels of control and engagement leading to the generation of new ideas in Croydon. There was a small increase in water consumption at our USA sites. This reflected increased production activity at our Walton site and capacity expansion of water jet machines at our Tulsa site.

Waste
Waste reduction initiatives accelerated in 2022, with two sustainability targets aiming to:

- reduce scrap through the improvement of mass balance of AZOTE polyolefin foam products manufactured globally. Details of this target are outlined in the case study on page 59. During 2022, we targeted a 2.5% reduction in the excess mass of polymer purchased for our AZOTE products. We achieved 4.1%, mainly through activities to optimise tooling and re-incorporate polymer waste into products
- re-purpose unpreventable polymer waste from our UK manufacturing process. We have two main sources of polymer waste: solid polymer from our extrusion process and foamed polymer from our fabrication facility and the destructive quality tests undertaken.
  - o The solid polymer waste primarily comprises trims from our extrusion process. A small quantity of this can be re-incorporated directly into the product, such as the polymers used in our Footwear business. The majority is crosslinked LDPE (chemically modified), so cannot be directly re-incorporated into the product. We have developed a method to re-incorporate this chemically modified polymer sustainably into the foam manufacturing process with only minor changes to the performance. Our Ecozote Sustainability+ LDR foams, containing 30% recycled LDPE content, were launched in October and we are currently incorporating more than 50% of solid polymer waste into products. Demand for these products is growing and we are developing further products which incorporate post-industrial waste from other users
  - o Almost all foam scrap is now re-purposed for use as underlay in artificial turf.

Details are provided on page 57.

Water: Global

Water consumption (000m³)	2022	2021	2020
UK site	**55.9**	79.3	81.5
USA site	**6.6**	5.2	4.7
Other sites	**1.6**	1.9	1.8
Global consumption	**64.1**	86.4	88.0
Percentage in regions with Baseline Water Stress[1]			
High	**88%**		
Extremely High	**0%**		

[1] Our Croydon, UK plant represents 87% of the water used by the Group. Although Croydon is identified as an area of high Baseline Water Stress by the Water Resource Institute, our plant is not at high risk of water scarcity or of impacting local communities' water supply. No water was withdrawn and not consumed.

Waste: Global

Group: waste[1]	2022	2021	2020
Waste recycled (tonnes)	**1,126**	856	787
Total waste (tonnes)	**3,003**	3,124	2,636
Total hazardous waste (tonnes)[2]	**56.0**		
Percentage of hazardous waste recycled[2]	**63.3**		

[1] Excludes India, where waste generated is not material.
[2] 2022 is the first year this metric is being reported.

Sustainability Accounting Standards Board (SASB) disclosures

SASB Standards identify the subset of ESG issues reasonably likely to have a material impact on the financial performance of the typical company in an industry. The following table summarises our response to the sector-specific standards for chemicals companies.

Topic	Accounting metric	Category	Unit of measure	Code	Supporting disclosure
Greenhouse gas emissions	Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations	Quantitative	Metric tonnes (t) CO_2 Percentage (%)	RT-CH-110a.1	See Group carbon emissions table on page 66. 0% of scope 1 emissions were covered under emissions-limiting regulations
	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	Discussion and analysis	n/a	RT-CH-110a.2	See Group carbon emissions section page 66 and targets section pages 57 to 59
Air quality	Air emissions of the following pollutants: (1) NO_X (excluding N_2O), (2) SO_X, (3) volatile organic compounds (VOCs) and (4) hazardous air pollutants (HAPs)	Quantitative	Metric tonnes (t)	RT-CH-120a.1	See Group carbon emissions table page 66
Energy management	(1) Total energy consumed (2) Percentage grid electricity (3) Percentage renewable (4) Total self-generated energy	Quantitative	Gigajoules (GJ), Percentage (%)	RT-CH-130a.1	See SEC table page 65 We do not generate our own energy
Water management	(1) Total water withdrawn (2) Total water consumed, percentage of each in regions with high or extremely high baseline water stress	Quantitative	Thousand cubic meters (m³), Percentage (%)	RT-CH-140a.1	See water data table page 67
	Number of incidents of non-compliance associated with water quality permits, standards and regulation	Quantitative	Number	RT-CH-140a.2	None
	Description of water management risks and discussion of strategies and practices to mitigate those risks	Discussion and analysis	n/a	RT-CH-140a.3	See water data table on page 67 and TCFD disclosures pages 60 to 62

Environmental, social and governance (ESG) report
Continued

Sustainability Accounting Standards Board (SASB) disclosures

Topic	Accounting metric	Category	Unit of measure	Code	Supporting disclosure
Hazardous waste management	Amount of hazardous waste generated and percentage recycled	Quantitative	Metric tonnes (t), Percentage (%)	RT-CH-150a.1	See waste data table page 67
Community relations	Discussion of engagement processes to manage risks and opportunities associated with community interests	Discussion and analysis	n/a	RT-CH-210a.1	See People section pages 70 to 74
Workforce health and safety	(1) Total recordable incident rate (TRIR) (2) Fatality rate for (a) direct employees and (b) contract employee	Quantitative	Rate	RT-CH-320a.1	See SHE key metrics table page 65
	Description of efforts to assess, monitor and reduce exposure of employees and contract workers to long-term (chronic) health risks	Discussion and analysis	n/a	RT-CH-320a.2	See Health and Safety performance section pages 63 to 65
Product design for use-phase efficiency	Revenue from products designed for use-phase resource efficiency	Quantitative	Reporting currency	RT-CH-410a.1	See Key Targets section pages 57 to 59
Safety and environmental stewardship of chemicals	(1) Percentage of products that contain Globally Harmonized System of Classification and Labelling of Chemicals (GHS) and Category 1 and 2 Health and Environmental Hazardous Substances (2) Percentage of such products that have undergone a hazard assessment	Quantitative	Percentage (%) by revenue Percentage (%)	RT-CH-410b.1	Less than 5% of revenue is generated from substances we use that are regulated[1] or are considered to be of international concern[2]. 100% of goods purchased and sold undergo hazard assessments. The hazardous substances, such as flame retardants and low levels of stabilisers, are non-hazardous in the finished products as they are bound into the polymer matrix
	Discussion of strategy to (1) manage chemicals of concern and (2) develop alternatives with reduced human and/or environmental impact	Discussion and analysis	n/a	RT-CH-410b.2	The risks relating to products of concern are reviewed in control committees. Continued use and substitution are discussed and, where possible, such substances are substituted
Genetically modified organisms (GMOs)	Percentage of products by revenue that contain GMOs	Discussion and analysis	Percentage (%)	RT-CH-410c.1	No products contain GMOs
Management of the legal and regulatory environment	Discussion of corporate position related to government regulations and/or policy proposals that address environmental and social factors affecting the industry	Discussion and analysis	n/a	RT-CH-530a.1	Zotefoams follows all local regulations relating to Health, Safety and Environment as well as social factors. We have a low risk appetite towards safety See pages 63 to 65

Sustainability Accounting Standards Board (SASB) disclosures

Topic	Accounting metric	Category	Unit of measure	Code	Supporting disclosure
Operational safety, emergency preparedness & response	Process Safety Incidents Count (PSIC), Process Safety Total Incident Rate (PSTIR) and Process Safety Incident Severity Rate (PSISR)	Quantitative	Number, rate	RT-CH-540a.1	See OHSE table page 65
	Number of transport incidents	Quantitative	Number	RT-CH-540a.2	Zotefoams had no reportable transport incidents
Production by reportable segment	n/a	Quantitative	Cubic meters (m^3) or metric tonnes (t)	RT-CH-000.A	7,911 tonnes of AZOTE® polyolefin foam and 1,635 tonnes of HPP were manufactured. There is a lag between manufacturing and sale

[1] Substances of very high concern under REACH and the EU's Restriction of Hazardous Substances Directive or substances listed under California Prop 65.
[2] Substances controlled by the Montreal Protocol, Stockholm and Rotterdam Conventions, GHS category 1 and category 2 health hazards.

Our people

Macroeconomic challenges to our business intensified in 2022. In most of the world, increased energy prices and rising inflation had a significant impact on household costs. In Asia, the Chinese government's zero tolerance COVID policy resulted in a five-week shutdown of our T-FIT® manufacturing facility.

Everywhere, the labour market remained challenging and evolving employees' expectations have called, and are calling for, new approaches to attract, retain and develop talent. Maintaining resilience in an uncertain world required a response to the challenges faced by our people, challenges we expect to continue in the foreseeable future.

Our focus this year has been to provide support where needed and ensure that the right conditions are in place for our people to continue to thrive and adapt to the needs of our growing business. Thanks to the good work of our staff, we were able to steer successfully through this difficult period and achieve sales growth, profit improvement and a strong development pipeline. This success is a testament to the dedication, talent and versatility of the Zotefoams workforce.

Our people strategy

Our ambition is to be the world leader in cellular materials technology in our chosen markets. Our people are key to delivering on that ambition. As a knowledge-based business, our people strategy, which is reviewed and approved by the Board annually, aims to provide the capability to deliver on that ambition in order to create long-term value for our shareholders and alignment with other stakeholders. The people strategy has been developed to support our purpose and enable the fulfilment of our strategic objectives. We focus our efforts on the attraction, retention and training of the right people, role model leadership and evolution of a corporate culture designed to guide our business in the prevailing environment. Progress is evaluated through the measurement of employee experience, retention rate and performance.

Delivery of our people strategy

Our people strategy is delivered by our management team with the support of Human Resources (HR). The HR team operates from a Group function located in the UK and local leads in the USA, China, and Poland. An online portal is in place to allow staff to easily manage certain HR tasks in our manufacturing sites, allowing the HR team to fully focus on supporting line managers and improving the employee experience. During the year, the HR function focused on improvements around competency levels across the business. A key output of that exercise was to strengthen the measures and controls for the delivery of our people objectives through 2022 and 2023.

People policies

Zotefoams' people policies Group-wide are aligned with business needs and, at a minimum, meet local legal requirements. Policies relating to maternity, paternity, adoption and parental leave, as well as time off for dependants' sickness and bereavement, are in place in all main locations other than in India, where government guidance is currently followed but a plan is in place to align with Group policies, which go beyond this guidance, during 2023.

Culture, diversity and inclusion

Zotefoams aims to create a positive working environment which yields benefits for employees, shareholders and the wider communities in which the Group is active. As a global manufacturing business with a diverse workforce operating cross-functionally in different locations, our strategy is strongly focused on building highly efficient teams attuned to customers' evolving needs. We recognise that the Group's culture and inclusivity can be negatively impacted by the lack of personal interaction between staff working in different modes and at different locations. To address this, we focused during 2022 on embedding our culture in an increasingly virtual world with different challenges to effective collaboration. We also recognised that the labour pool is changing, with millennials anticipated to make up 75% of the workforce in the next five to eight years. This translates into different expectations in terms of reward structures, working conditions and tenure. Recruitment, training and succession strategies were adapted in 2022 to meet the changing employment landscape and ensure that the right talent can be hired and trained with the necessary flexibility.

90%
Group employee retention rate

75%
participation rate in Group employee survey

39
nationalities represented in Group workforce

66
employee Net Promoter Score

0.1%
gender pay gap

Zotefoams' purpose
Optimal material solutions for the benefit of society

Our Culture Pillars

- We live the Brand Values
- We hold ourselves accountable
- We understand how we contribute to Zotefoams' success
- We are a learning organisation
- We constructively challenge ourselves and others
- We value people and recognise our successes

Trustworthy, Responsive, Pioneering and Reliable: what do these Brand Values mean to our people?

Meaningful values are key to maintaining a healthy culture. Informed by the output of performance reviews and employee feedback in 2021, we developed a number of culture-focused initiatives this year centred around our brand values and culture pillars. These included open discussions led by the Executive team members on identifying with the brand values, understanding how the language used in leadership influences culture and using culture pillars to inform the decisions we make. The global staff survey, which had a high response rate, also focused on team perceptions of culture and how it impacted them. An employee Net Promoter Score of 66 was achieved, indicating a high level of employees' loyalty. The employee Net Promoter Score is calculated on the basis of the answer given to the question: "Would you recommend Zotefoams to others as a place of employment?". An employee Net Promoter Score between 50 and 70 is considered excellent.

The Board noted that a transparent process had been followed, involving staff at all levels and at every stage of their career life cycle. The data and insights garnered will foster a greater understanding of the employee's experience and support the Board in its approach to employee engagement.

Our Ethics Policy was updated during the year to be more specific on community engagement considerations. As a responsible employer and neighbour, we aim to have a beneficial impact on the local communities in which we operate and we understand that positive relations are key to maintaining our social licence. Our objective is to build trust and engagement over time through mutually beneficial interaction. The Group has in place a contact mechanism for external stakeholders to reach out to the business on issues of concern. Our environmental and health and safety record is sound, with any issues handled through proactive engagement with the local community.

Employee engagement survey highlights

All people in my team know how to work together and they respect each other

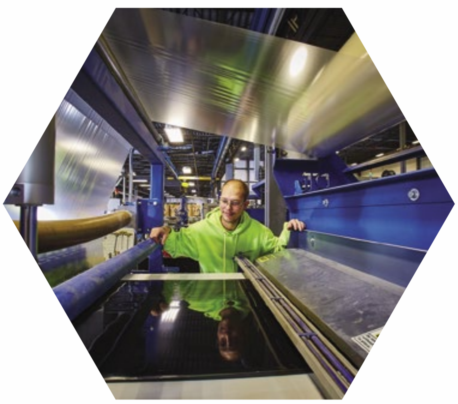
I feel that my opinion matters and my ideas help bring about long-term solutions

No two days are the same. Zotefoams has given me an amazing opportunity to grow and experience new challenges and opportunities

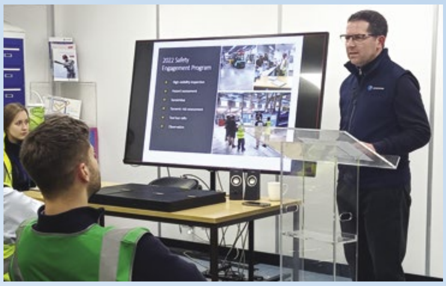
I love making a difference, getting through to people in a way that makes people want to work in a safe manner

The best thing is regularly meeting new clients and sharing knowledge – and also gaining knowledge

Team cooperation, the trust of my colleagues, the achievement of my goals: these are the things I am proud of



Community-focused initiatives in 2022 included graduates attending career days in secondary schools and a donation to Walton Fire Protection District for a Memorial Monument.



Employee engagement

Zotefoams recognises that employee engagement is a key enabler of our purpose. In the UK, our Joint Consultative Committee (JCC), which comprises an employee representative from each department and a Board representative, meets quarterly to consider a wide range of matters affecting employees' current and future interests. A recent topic considered by the JCC's working groups was the impact of the cost-of-living crisis. The feedback from these discussions allowed management to propose a series of measures to support staff in these difficult times. In the USA, employee engagement meetings are held monthly and the feedback is considered by management to action change where necessary. In all Zotefoams locations, feedback is elicited from leavers in areas such as the key influencing factors in their decision to leave, whether sufficient resources were made available to them, the perceived effective use of their skills, remuneration and recognition. New employees are also consulted on their views of the organisation. Employee health and safety issues are embedded widely in Group activities. Further details are available on page 65.

To gain a better appreciation for the Group's performance, employees Group-wide were invited to join the Group CEO and Group CFO in live business presentations on interim and final results delivered through the Investor Meet Company platform. In January 2022, the Group CEO also delivered a number of business updates to all Zotefoams staff, accommodating shift patterns and geographical locations, which also included question and answer sessions. Board interaction with employees involved a visit to the Poland plant in October, that enabled engagement with the local management team, and a programme of lunches for the Board and senior managers that coincided with Board meeting dates throughout the year.

Our people
Continued

In line with employees' desire to become more involved in sustainability matters, a series of toolbox talks in the UK were arranged around waste management and recycling.

The Company compensates its staff in line with market rates and taking account of regulatory guidance, which includes paying employees at or above the rates published by the Living Wage Foundation in the UK. In other geographies, the rate of pay for Zotefoams employees is above the minimum wage applicable locally.

Recognising the impact of the energy crisis and broader inflationary pressures, an early salary increase was granted in the UK in October 2022 to the majority of staff, ahead of the annual review in 2023. Similar measures were implemented in the USA and Poland during 2022 to ensure that salaries remained aligned with the market. Trade unions are consulted in all employee remuneration matters and are supportive of the measures taken in 2022. An employee assistance programme is also in place in the UK and the USA, providing staff with confidential helplines and practical resources to support their emotional, physical and financial wellbeing. Group-wide, a team of mental health first aiders introduced in 2021 is available to offer emotional support to employees experiencing mental distress and to signpost them towards appropriate internal and external resources.

Following a 1% increase in UK employer pension contributions, effective April 2022, for staff members of the defined contribution pension schemes meeting the maximum employee contribution rate, the Board heard proposals from Legal & General, the provider of our Defined Contribution Pension Scheme, for a fund providing more advantageous conditions to staff members of that scheme.

Board visit to the Poland site in October 2022

My decision to join Zotefoams was simple. I was looking for a new challenge that could leverage my background in plastics and plastic processing while satisfying my desire to grow and learn new ways plastics can benefit the world. I quickly recognised that Zotefoams is poised for growth in North America, has a loyal customer base, a premier product with unmatched performance, a strong brand, and simply needed leadership that could help scale the business. It was a perfect match

Dan Lumpkin
Business President of Zotefoams Inc

Opportunities to work with a truly innovative technology from concept to commercialisation are rare; this appointment enables me to do just that with our ReZorce mono-material barrier packaging range. I am also excited by the potential for the technology that underpins ReZorce: reducing the polymer content of extruded materials by 15–20% without compromising performance is an extremely attractive proposition across a wide range of applications. From both ethical and legislative perspectives, many current packaging solutions are no longer sustainable. MuCell Extrusion and ReZorce technologies offer a unique combination of material reduction and circularity at a time of unprecedented challenge in the packaging sector

Neil Court-Johnston
President of MuCell Extrusion LLC

The proposals will be adopted in 2023. Group-wide, salaries, benefits and conditions remain under review to promote a positive employee experience.

2022 also saw the appointment of new business presidents at both AZOTE North America and MuCell Extrusion LLC. Dan Lumpkin, Business President of Zotefoams Inc, brings significant executive leadership to the Group from a career including operations, supply chain and technical experience at companies such as Procter & Gamble and Apple.

Neil Court-Johnston was appointed President of MuCell Extrusion LLC in July 2022, a position that includes responsibility for Zotefoams Denmark and development of the ReZorce® mono-material barrier packaging range. Neil had been Vice-President of Strategy at Zotefoams since 2020 and, prior to that, his experience was primarily in the food packaging industry with companies including Jabil, Nampak and Northern Foods.

Diversity

The Board Diversity Policy adopted in 2021 demonstrates our commitment to fostering an inclusive culture, where every person is encouraged to contribute to the organisation irrespective of their race, ethnicity, gender, sexual orientation, marital status, disability, age or religious beliefs. The organisation has regard, in particular, to female and ethnically diverse representation in its workforce and management and aspires to achieve net annual female joiners into the business of 50% by 31 December 2024.

Some measurable improvements were noted in 2022 in terms of gender diversity. Female applicants increased to 32% of the applicants' pool (2021: 23%). Our graduate management scheme saw an increase in female candidates to 21% (2021: 11%). This resulted in an overall increase in the Group female workforce to 26% (2021: 25%) and an increase in senior female managers to 28% (2021: 20%).

New diversity initiatives in 2022 included the targeting of Science, Technology, Engineering and Mathematics (STEM) students in local schools and colleges. Zotefoams offers work experience, graduate role opportunities and networking with our graduate employees at career days in our two largest sites in the UK and the USA. For more senior roles, Dr Margaret Wegrzyn led an internal project aimed at eliciting staff's views on diversity (see below). It is hoped that blended working policy practices embedded during the year will encourage an increase in female applicants.

Scan the QR code to see the Board Diversity Policy
zote.info/3FKeYVI

Ethnicity distribution of Group workforce

	Director	UK	US	China	Poland	India	Group-wide
Asian	0	53	1	40	–	5	99
Black	0	59	2	–	–	–	61
Hispanic or Latino	0	–	19	–	–	–	19
Mixed	0	9	–	–	–	–	9
White	7	196	86	–	41	–	330
Other	0	5	1	–	–	–	6
Unknown	0	10	–	–	–	–	10
Total	**7**	**332**	**109**	**40**	**41**	**5**	**534**
Non-white ethnicity[1]	**0%**	**36%**	**21%**	**100%**	**0%**	**100%**	**36%**
Estimate of non-white ethnicity in the country	**–**	**18%**	**42%**	**100%**	**6%**	**100%**	**–**

1 Non-white ethnicity calculation excludes unknown and other and includes Directors.

Role by gender[1]

	2022						2021					
	Female	**%**	**Male**	**%**	**Prefer not to say**	**%**	Female	%	Male	%	Prefer not to say	%
Director	2	29	5	71	0	0	2	29	5	71	0	0
Executive team	1	17	5	83	0	0	1	17	5	83	0	0
Direct report to Executive team[2]	15	28	38	72	0	0	8	20	31	80	0	0
Other staff	120	26	348	74	0	0	110	25	337	75	0	0
Total	**138**	**26**	**396**	**74**	**0**	**0**	**121**	**25**	**378**	**75**	**0**	**0**
Number of Senior Positions (CEO, CFO, SID or Chair)	0	–	4	–	0	–	0	–	4	–	0	–

1 In calculating headcount, we take into consideration all self-identified genders, including non-binary and intersex. Staff are also provided with the option of "Prefer not to say" on the equal opportunities form.
2 Following the departure of the HR Director in 2021, the HR function was reorganised with a female Head of HR reporting directly to the Group CEO.

Around 26% of the total workforce is female (2021: 25%). We recognise that, in production environments, the shift patterns and physical nature of the work present a challenge to attracting women and this is something which is likely to change only over the longer term. We also see a gender imbalance across the broader business, with a much higher proportion of male employees at managerial and professional levels. Our talent pool at more junior levels, which is more representative of recent recruitment, is more balanced and we anticipate that over time this will increase the diversity at more senior levels. A blended working policy is in place in the UK to help us attract a greater number of professional women, with more flexible working arrangements increasing the pool of candidates with caring and/or family responsibilities. Our recruitment approach includes the consideration of pre-selection factors that will make Zotefoams more appealing to all minority candidates.

Our UK Gender Pay Gap has fallen significantly since 2017 and stood at 0.1% in April 2022, below a UK average of 8.3%.

Age

Age equality forms part of our commitment to equal opportunity in employment and we have a good spread of age groups across the business.

The average age of our employees is 43 (2021: 43). 30% of our workforce is aged 51 or over (2021: 30%).

We expect our workforce to reflect the world and local communities in which we operate and recognising this forms part of our people strategy. Our principal site, with 63% of Group employees (2021: 64%), is located in South London and 36% of the workforce is from a non-white ethnic group (2021: 36%); this is a close reflection of the local demographic and a much higher non-white ethnicity than the UK as a whole. We see similar locally influenced patterns in other locations, principally in the USA, where our employee demographic reflects local ethnicity in northern Kentucky and the Boston, MA and Tulsa, OK metropolitan areas.

A new equality and diversity monitoring form was used to collate information comprising gender, sexuality, ethnicity, education level and the highest-earning parent's occupation, according to the UK National Statistics Socio-economic Classification (NS-SEC). The data will inform diversity initiatives in 2023.

As at 31 December 2022, the Group employed 534 staff (2021: 499).

Organisation development

As a mature international organisation, Zotefoams has established key cross-functional processes in different locations. This set-up can be complex at times but has been further complicated by the emergence of hybrid working. A focus of 2022 was to analyse the value yielded from both outward and inward facing key processes and streamline them where possible.

To meet the demands of an increasingly complex global supply chain, we delivered an organisational development plan aligned with our corporate objectives aimed at improving new product implementation and strengthening our supply chain, production and procurement teams. We also continued to progress the HR strategy established in 2020 to underpin our talent growth agenda. The skill shortages identified in 2021 in the UK and the USA were tackled through a review of shift patterns, workforce planning and reward.

We actively manage a pipeline of future talent. As a knowledge-based business, we attract professionals at the beginning of their career and recognise how the impact of staff turnover may only be mitigated effectively by the codification of knowledge and processes to support effective succession planning. This year, our talent management strategy focused on implementing processes and practices to support knowledge transfer and cross-skilling in our manufacturing and supply chain areas and making use of the competencies and skill matrices developed in 2021.

Performance management

The new performance management system launched in 2021 for the UK, Poland, China

Our people
Continued

and India encouraged a high level of employee engagement in the development of their performance. Similar established processes in place in the USA also yielded positive results and identified skill gaps and development opportunities. In the UK, staff achieved competency level for all roles assessed in the competency framework launched in 2022, and this will be further developed in 2023.

Scan the QR code to see The Board Diversity Policy
zote.info/3FKeYVI

People development

One of our culture pillars is that we are a learning organisation. Zotefoams has always fostered employee development through a variety of initiatives to equip them with key job-related skills aligned to the fulfilment of the Group's objectives and we maintained this approach in 2022.

UK Graduate Scheme

Our two-year UK Graduate Scheme is aimed at increasing the organisation's capability and enables us to develop young talent with a broad and strong understanding of the business. In 2022, we brought six individuals into the scheme (2021: five). The scheme comprises two or three development roles for each individual and was extended from STEM to consider IT and business graduates in 2022. Graduates undertake a programme of learning and hands-on exposure to all major functions in the business, which helps them build broad business insight and gives them the experience to progress in their chosen career path. It also gives them direct and frequent exposure to senior managers and executive directors that helps with their personal development. We plan to extend the Graduate Scheme to the USA in 2023. Two of the graduates that completed the scheme in 2022 are now a Technical Support Engineer and a Section Production Manager of our Fabrication area.

Training and development

Training opportunities are offered to staff as part of the personal development plan established through the performance management process. In addition, all staff undergo a programme of compliance and health and safety training commensurate with their role. All staff are required to acknowledge that they have read and understand policies applicable to them, which are translated as necessary for employees who are not proficient in English.

The internal "Management Academy" established in 2020 focuses on equipping our people managers with a broad range of skills, including performance management, motivating teams, dealing with disciplinary matters and behavioural safety.

Leadership Academy in the UK

A leadership programme launched in 2022 replaced our previous training approach for this cadre of staff. The leadership programme aims to equip managers and early entry talent with cross-functional skills and provide training on developing, managing and leading individuals and teams to achieve Zotefoams' objectives. Managing change and enhancing stakeholders' relationships are key elements.

Looking forward

To ensure that the business is set for success from a people perspective, we will continue to develop a positive environment where employees can grow both professionally and personally as they support the Group's ongoing progress. Our 2023 focus will be on our reward and benefit strategy to ensure that we remain an attractive and competitive employer.

Scan the QR code to see our Gender Pay Gap report
zote.info/3GbkdOi

I have a degree and PhD in Materials Science & Engineering and it is important to me to work in a field related to materials. I joined Zotefoams in 2017 as an AZOTE® Business Development Manager and relate to the Company's values of reliable, trustworthy, responsive and pioneering. I have had many interesting opportunities since I joined, including being involved in the development and launching of new product ranges, developing key customer relationships, managing an increasingly larger customer portfolio and supporting and mentoring younger team members. It is particularly rewarding to see these colleagues do well.

I was also a part of the team responsible for building the business case for our Poland plant, which was commissioned in 2021. My early work involved capacity planning and optimal start dates for the plant and I continue to support the implementation of strategic decisions, which requires close collaboration with our Polish colleagues.

I am a member of the Institute of Materials, Minerals and Mining (IOM3) and chair its Women in Materials Committee, which focuses on female progression in the industry. The Committee organises events and literature to support, champion and inspire women in various fields of engineering. In parallel, I have been tasked with a project focusing on gender diversity at Zotefoams UK, where I have been interviewing females in all levels of seniority to understand their views and how we can improve opportunities to attract and retain women. I plan to present recommendations to the Human Resources Steering Committee in 2023 for adoption.

Dr Margaret Wegrzyn

s172(1) statement
Our shareholders and stakeholders

Since 1 October 2007, the Board has been required to carry out its statutory duty to act in a way which it considers, in good faith, would be most likely to promote the success of the Company for the benefit of its members as a whole, and in doing so have regard to:

- the likely consequences of any decision in the long term
- its environmental impact
- key stakeholders (including shareholders, employees, customers, suppliers and communities) and
- maintaining a reputation for high standards of business conduct.

The Board has given due consideration to these matters in its decision-making process since the imposition of the duty and made its first report on compliance in the 2019 Annual Report in line with legal requirements.

Decision-making

The Board delegates day-to-day management and decision-making to the Executive team but maintains oversight of the Group's performance and reserves to itself specific matters for approval, including significant new business initiatives. It monitors that management is acting in accordance with, and making progress on, the agreed Group strategy through regular Board meetings supported by information packs received in advance to enable effective preparation and consequent discussion, monthly reporting of business performance, direct engagement with the Executive team and employee groups and attendance by a Board member at the Joint Consultative Committee representing UK workforce views. Processes are in place to ensure that the Board receives all relevant information to enable it to make well-judged decisions in support of the Group's long-term success.

2022 key events

In 2022, Zotefoams continued with its strategy of investing in flexible assets and technology that support the organic growth opportunities afforded by our diverse, and often unique, products. The majority of the Group's investments during the year was directed towards sustainability initiatives, essential replacement of aged assets and product and technology development. In the case of the latter, the largest focus was furtherance of the ReZorce® mono-material barrier packaging opportunity. In pursuing the Company's purpose, "optimal material solutions for the benefit of society", the Board continued to concentrate on the creation of sustainable value for all of Zotefoams' stakeholders and ensure that the Group's culture and the interests of all employees are given due consideration. The Board continues to take a long-term approach to its decision-making to ensure that Zotefoams is able to deliver on its strategy.

Decision	Continued investment in ReZorce® mono-material barrier packaging
Context	Using our MuCell® extrusion technology, we have developed ReZorce, an easily recycled packaging system which can be made using a high proportion of recycled raw materials. In 2020, the Board approved a market assessment that recommended a focus on the aseptic liquid packaging market. In 2022, revenue from our MEL business unit grew 23% to £2.8m (2021: £2.3m) while the segment loss widened to £1.9m (2021: £0.7m), a direct result of the non-capitalised investment to develop ReZorce technology. In line with accounting standards, labour amounting to £0.5m (2021: £0.4m) was redirected from MEL to ReZorce and capitalised as intangible assets, together with a further £1.0m (2021: £0.6m) of directly attributable costs. The Group also invested £0.8m (2021: £0.9m) during the year to purchase and develop equipment, which has been recorded under tangible assets. This amount includes the acquisition of the net assets of Refour ApS (Skandeborg, Denmark) for £0.3m, which, together with key members of the Refour team, is expected to accelerate the development of ReZorce across a wide variety of applications. This site now operates as a development centre within the MEL division, with scope to scale up for initial market launch. We recognise that launching products into the lower carbon packaging market requires us to overcome significant market and technical hurdles and is best done with a strategic partner to mitigate the risk, ideally through a combination of their own experience and financial investment. Late in 2022, we appointed a USA-based adviser to facilitate the interactions with potential partners and this engagement is progressing.
Stakeholder considerations	**Shareholders** Significant potential opportunities exist, offering sustainable, profitable growth over the medium term. This provides further evidence that Zotefoams' ESG planning forms part of its business model. **Employees** Internal promotion of an experienced packaging industry employee to the role of President. The former Refour CEO and a small team have also joined the Zotefoams Group. **Environment** Our ReZorce product line can be made with significant recycled plastic content and, as it is classified as a mono-material, can be readily recycled to support a circular economy. The acquisition of assets in Denmark will support progress towards helping manufacturers meet their obligations and reducing the waste and energy impact of packaging.
Strategic actions supported by the Board	Continued investment in the development of the ReZorce proposition and the acquisition of the assets of Refour ApS in Denmark. The appointment of a USA-based adviser to facilitate interactions with potential strategic partners.
Impact of these actions on the long-term success of the Company	The market opportunity for lower carbon footprint packaging is vast. Cartons and pouches together generate revenues in excess of $40bn p.a. Zotefoams is well-placed to develop a unique proposition that could capture some of this demand.

s172(1) statement
continued

Decision	Supporting our workforce during turbulent times
Context	Rising consumer inflation throughout the year had a significant impact on households' costs in most regions where we operate. Maintaining the Group's momentum in an uncertain world required an understanding of the challenges faced by our workforce. Our focus this year has been to provide support where needed and ensure that the right conditions are in place for our people to continue to thrive and adapt to the needs of our growing business.
Stakeholder considerations	**Employees** Recognising the impact of the energy crisis and broader inflationary pressures, an early salary increase was granted in the UK in October 2022 to the majority of staff, ahead of the annual review in 2023. Similar measures were implemented in the USA and Poland during the year to ensure that salaries remained aligned with the market. An employee assistance programme is also in place in the UK and the USA, providing staff with confidential helplines and practical resources to support their emotional, physical and financial wellbeing. Group-wide, a team of mental health first aiders introduced in 2021 is available to offer emotional support to employees experiencing mental distress and to signpost them towards appropriate internal and external resources. To retain and aid recruitment, we offer flexible working arrangements where practical. Employer contributions to the UK Defined Contribution Pension Scheme were increased in April 2022. Trade unions, which were engaged in discussions on all above remuneration matters, were supportive of the measures taken. **Shareholders** Our people are a key asset. Initiatives supporting retention and succession planning contribute to the value of the business.
Strategic actions supported by the Board	Award of an early 2023 UK pay increase for the majority of the workforce in October 2022, with similar measures being implemented in the USA and Poland throughout the year. Increase in UK employer pension contributions in April 2022.
Impact of these actions on the long-term success of the Company	An experienced and loyal workforce whose interests are aligned with those of the business.

Decision	Maintain margins against a background of raw material and energy cost increases
Context	The significant cost inflation experienced in 2021 continued in 2022. To support margin recovery, a number of sales price increases, mostly within Polyolefin Foams, were implemented in the first half of 2022. Cost and energy reduction measures were also key contributory factors. In all cases, these were made in the context of wider market conditions, including consideration of exchange rates, competitor actions and the impact on customers.
Stakeholder considerations	**Shareholders** Profit before tax increased 74% to £12.2m (2021: £7.0m). **Environment** Energy usage reduced by 8% in the UK and 4% Group-wide.
Strategic actions supported by the Board	Implementation of sales price increases. Energy management measures forming part of the sustainability targets approved by the Board.
Impact of these actions on the long-term success of the Company	Demonstrates pricing power in difficult times. Provides confidence to shareholders on the growth prospects of the business.

Decision	**Capital investment in nitrogen project**
Context	The existing nitrogen booster compressors in Croydon were installed in 1986 and 1997. Replacement with more efficient high output equipment, coupled with changes to improve the process flow, is anticipated to result in energy and maintenance cost savings post implementation.
Stakeholder considerations	**Environment** The new equipment is more efficient and is estimated to save 750,000kWh p.a. in energy usage. **Shareholders** Operating costs are reduced due to fewer maintenance requirements and increased efficiency in output and usage of plant space. Reduced risk of operational disruption resulting from aged critical equipment.
Strategic actions supported by the Board	Investment of £2.5m in Croydon.
Impact of these actions on the long-term success of the Company	Increased operational efficiency, certainty and opportunity for increased capacity to meet current and future demand.

Decision	**New Directors' Remuneration Policy**
Context	The current Remuneration Policy was approved at the 2020 AGM with over 89% support from the Company's shareholders. From 2020 to 2022, the Directors' Remuneration reports were each approved with over 98% of votes in favour, demonstrating strong shareholder endorsement for Zotefoams' responsible approach to Executive pay and remuneration principles. Continuing support from the shareholders for necessary changes to the Remuneration Policy is key to ensuring that the Company's approach to managing talent, strategy and risk is aligned with shareholders' interests.
Stakeholder considerations	**Shareholders** A consultation process was initiated in November 2022 with the top 20 shareholders, who between them hold approximately 78% of Zotefoams' shares. After an initial written communication explaining proposed changes, calls were arranged with shareholders open to further engagement to dive more deeply into the rationale and context and answer questions. **Employees** Most shareholders raised the issue of the wider workforce remuneration context. Zotefoams recognises that its workforce is critical to its success. As a responsible business, the Company offers salaries at the median level for UK manufacturing jobs and is a living wage employer in the UK. Recognising the difficulties faced by many employees in the current financial climate, in addition to the 4% pay award in April 2022, the Company granted an early pay rise for 2023 for staff earning below £50,000 p.a. in October 2022. This cadre constituted 77% of the UK workforce. Further details are provided in 'our people' on pages 70 to 74 and the Directors' Remuneration report on pages 88 to 109.
Strategic actions supported by the Board	Creation of a Remuneration Policy which: ▶ supports the delivery of the Group's long-term strategic ambitions and operational performance ▶ provides competitive salaries aligned with the market, reflecting the size and complexity of the business and the calibre of individuals in each role ▶ apportions a significant part of the total package to variable incentives to align management interests with shareholders' returns.
Impact of these actions on the long-term success of the Company	Attract, reward and retain key executives to support the long-term execution of the Company's strategy.

Board of Directors
Diverse skills to build strength

Douglas Robertson
Senior Independent Director

A N R

Appointed
August 2017

Skills
Extensive multinational experience in both public and private companies, strategic planning, acquisitions and divestments.

Experience
Doug is a Chartered Accountant and was Group Finance Director of SIG plc until his retirement in January 2017. Prior to joining SIG, Doug had been Group Finance Director of Umeco plc and Seton House Group Limited, having spent his early career with Williams plc in a variety of senior financial and business roles.

External appointments
Non-Executive Director, Chair of the Audit Committee, member of the Remuneration and Nomination Committees, HSS Hire Group plc. Non-Executive Director, Chair of the Audit Committee, member of the Remuneration and Nomination Committee, Mpac plc.

Alison Fielding
Non-Executive Director

A N R

Appointed
May 2020

Skills
Experienced entrepreneur and Non-Executive Director, with significant expertise in strategy development and implementation for start-ups, AIM/main market listed and not-for-profit organisations.

Experience
Alison spent 13 years with IP Group plc as Chief Technology Officer, Chief Operating Officer and latterly as Director of Strategy and IP Impact, and brings extensive investment, strategy development and execution experience in fast-growing, science-based businesses. Alison has a PhD in Organic Chemistry from Glasgow University.

External appointments
Non-Executive Director and Chair of the Remuneration Committee of Nanoco plc, Non-Executive Director and Chair of the Remuneration Committee of Maven Income and Growth VCT plc.

David Stirling
Group CEO

Appointed
September 1997 (Finance Director) and May 2000 (Group CEO)

Skills
Global leadership, strategy and commercial experience, with a specific skillset in intellectual property, business development, finance and manufacturing. He has over 25 years' plc board experience.

Experience
David started his career with KPMG in Scotland, where he qualified as a Chartered Accountant. He has worked for Price Waterhouse in the USA and Poland and with BICC plc. David is a graduate of Glasgow University and has an MBA from Warwick University and an MSc in Finance from London Business School. Appointed a Fellow of the Institute of Materials, Minerals and Mining in 2022.

External appointments
None

Lynn Drummond
Non-Executive Director and Chair Designate

Appointed
January 2023

Skills
Experienced Chair and Non-Executive Director, with significant expertise in banking and the healthcare sector.

Experience
Lynn worked in the Cabinet Office in London as Private Secretary to the Chief Scientific Adviser before spending 16 years as a Managing Director within Investment Banking for Rothschild & Co. She has held non-executive directorships at Venture Life Group plc, RPC Group plc, Infirst Healthcare, Shield Holdings AG, Allocate Software plc, Consort Medical plc and Alimentary Health Ireland. She has also been Chairman of Trustees for Breast Cancer Haven and was a member of the University of Cambridge Centre for Science and Policy Development Group. Lynn holds a Bachelor of Science Degree in Chemistry from the University of Glasgow and a PhD in Biochemistry from the University of London. She is a Fellow of the Royal Society of Chemistry and a Fellow of the Royal Society of Edinburgh.

External appointments
Chair and Pro-Chancellor of the University of Hertfordshire and a Board mentor for Criticaleye.

⬢ Chair of Committee
A Member of the Audit Committee
R Member of the Remuneration Committee
N Member of the Nomination Committee

Steve Good
Non-Executive Chair

N R

Appointed
October 2014 (Board) and April 2016 (Chair)

Skills
Strong and relevant international experience in the speciality chemicals and plastics industries, manufacturing and diverse industrial markets, which enables him to give both guidance and challenge to management. He also has significant plc board experience.

Experience
Steve was Chief Executive of Low & Bonar plc between September 2009 and September 2014. Prior to that role, he was Managing Director of its technical textiles division between 2006 and 2009, Director of new business between 2005 and 2006 and Managing Director of its plastics division between 2004 and 2005. Prior to joining Low & Bonar, he spent 10 years with BTP plc (now part of Clariant) in a variety of leadership positions managing international speciality chemicals businesses. He is a Chartered Accountant.

External appointments
Chair of the Remuneration Committee and member of the Nomination Committee, Elementis plc. Chair, Chair of the Nomination Committee and member of the Remuneration Committee, Devro plc.

Gary McGrath
Group CFO

Appointed
December 2015 (Executive Director) and February 2016 (Group CFO)

Skills
Diverse international experience across a range of manufacturing businesses. He has a track record of building world-class finance organisations and delivering commercial finance support and effective control environments to achieve board strategies.

Experience
Gary is a Chartered Accountant, qualifying with Arthur Andersen. He spent 11 years with RMC Group plc before joining Koch Industries Inc, where he spent several years in various positions, including Global Finance Director of INVISTA Apparel and EMEA Vice President of Finance, Planning and Analysis at Georgia Pacific. Before joining Zotefoams, Gary was CFO of GC Aesthetics Limited. He has worked across public, private and private equity environments in the UK, Belgium, Germany, the USA and the Republic of Ireland.

External appointments
None

Catherine Wall
Non-Executive Director

A N R

Appointed
May 2020

Skills
Skilled independent Chair and Non-Executive Director for private equity owned, quoted and family companies. Sectors: industrials, business services, consumer.

Experience
Catherine has 30 years' experience in the private equity industry, primarily with Equistone Partners Europe, where she led numerous management buy-outs and later became UK Portfolio Partner supervising the management of all the business's UK investments. Catherine also has extensive industrial markets and Non-Executive Director experience, working with and helping develop many management teams to deliver ambitious growth plans.

External appointments
Chair of Mortgage and Surveying Services Limited

Jonathan Carling
Non-Executive Director

A N R

Appointed
January 2018

Skills
Extensive engineering, manufacturing, operational and business experience at board level, having led the development and production of a number of luxury cars and aero engines.

Experience
Jonathan was previously the CEO of Tokamak Energy Limited, a technology business developing a faster route to fusion power, COO for Civil Large Engines at Rolls-Royce plc, COO at Aston Martin Lagonda Limited, and Chief Engineer with Jaguar Land Rover Limited. Jonathan has extensive engineering, operational and business experience. He was also a Non-Executive Director of Aga Rangemaster Group plc between 2011 and 2015.

External appointments
None

Corporate governance
Committed to the highest standards of corporate governance

Dear Shareholder

The Board recognises the importance of being a well-managed business in the interests of our shareholders and stakeholders. Sound governance principles must permeate the entire organisation, providing a fundamental underpin to the process of value creation, value protection and value preservation. Governance drives the quality of decision-making that will help Zotefoams achieve its strategic objectives more efficiently and effectively.

In a difficult global context characterised by continuing uncertainty, the Board remained committed throughout the year to the Group's strategy and continued alignment with its purpose of providing 'optimal material solutions for the benefit of society'.

The Board has a detailed programme of activities that ensures that operational and financial performance, risk, governance, strategy, culture and stakeholder matters are discussed frequently, and support Directors' oversight and understanding. This ensures that the Board's discussions and decisions are appropriate for the business, our stakeholders and the markets in which we operate.

Strategic sessions, at which members of the Executive team present on each of our global business areas, as well as participate in broader longer-term considerations impacting the Group, are held annually. This is in addition to business unit reviews which are led by the relevant Executive team member. The aim is to better understand market trends, technology development, our place in the lower-carbon economy and people strategies. The culture, diversity and inclusion supporting the long-term planning and strategic direction of the Group are also explored during these sessions.

Key areas of stakeholder focus for 2022 included:

- a review of the Group's finance facilities and negotiation of more favourable terms aligned with our five-year plan
- the continued development of ReZorce® mono-material barrier packaging technology
- the support of a wide range of progressive environmental, social and governance (ESG) initiatives, which include targets for the reduction of energy and polymer usage, the minimisation of waste and the development of new products that use recycled materials
- the development of community engagement considerations in our Ethics Policy
- measures to support employee engagement, including considering the wellbeing and treatment of our staff in China, a review of the results of the global staff engagement survey, a continued programme of lunches with representatives from different departments and a visit to our Poland plant.

Further details may be found in our s172(1) statement on pages 75 to 77 **and in our people on** pages 70 to 74.

I am pleased to present the report on corporate governance on behalf of the Board.

Statement of compliance with the 2018 UK Corporate Governance Code

Throughout the financial year ended 31 December 2022, the Board has considered the contents and requirements of the Code and confirms that the Group has been compliant with the provisions of the Code, with the exception of Provision 38 and company pension contributions for the incumbent Group CEO. An explanation of how the Company has been brought into line with the Code in that respect with effect from 1 January 2023 is set out on page 89 of the Directors' Remuneration report.

The Code can be downloaded here https://bit.ly/2AKGqTm.

Further details are provided in this report, the Board Committee reports and the Directors' report that follow on pages 83 to 112.

The disclosures required by Disclosure and Transparency Rules DTR 7.2.6R have been provided in the Directors' report.

Roles and responsibilities

The Board's role is to provide entrepreneurial leadership of the Group within a framework of prudent and effective controls that enable risk to be assessed and managed. The Board sets the strategic aims of the Group, ensures that the necessary resources are in place to achieve the Group's objectives and reviews management performance. The Board acts as the representative of the shareholders and other stakeholders and focuses on the governance of the Group. Management is delegated to the Executive Directors and the Executive team.

As part of their role as members of a unitary Board, the Non-Executive Directors constructively challenge and develop proposals on strategy. The Non-Executive Directors scrutinise the performance of management in meeting agreed goals and objectives and monitor the reporting of performance. They satisfy themselves on the integrity of financial information and that financial controls and systems of risk management are robust and defensible. They are responsible for determining appropriate levels of remuneration of Executive Directors and have a prime role in appointing and, where necessary, removing Executive Directors and in succession planning.

Three principal Committees report into the Board, functioning within defined Terms of Reference. These are the Audit, Remuneration and Nomination Committees. The Terms of Reference for these Committees are available on the Group's website, https://www.zotefoams.com/investors/esg/

The Board has put in place a schedule of matters that are reserved for its determination or which need to be reported to the Board. This schedule is reviewed regularly and was last updated in June 2022.

The Chair is responsible for the leadership of the Board, ensuring its effectiveness on all aspects of its role and setting its agenda. The Chair is also responsible for ensuring that the Directors receive accurate, timely and clear information. The Chair facilitates the effective contribution of the Non-Executive Directors and ensures constructive engagement between Executive and Non-Executive Directors.

The Board considers that S Good has sufficient time to devote to his role as Chair of the Group. S Good is currently a Non-Executive Director of Elementis plc and Chair of Devro plc.

The Group CEO is responsible for the running of the Group's business. He is supported by the Group CFO and the Executive team.

Composition and diversity

The Board acknowledges the benefits of diversity, including that of gender and ethnicity, and is committed to setting an appropriate 'tone from the top' in such matters. The Board maintained 29% female membership in 2022, a proportion which will increase to 37% from January 2023 following the appointment of a new female Non-Executive Director, L Drummond. It is intended that she will take over from S Good as Company Chair from the 2023 AGM, raising the female membership to 43%. The Board has reviewed and updated its diversity policy to reflect its aim to meet the following thresholds:

- at least 40% women on the Board
- at least one of the senior Board positions (Chair, Chief Executive, Chief Financial Officer or Senior Independent Director) is a woman
- at least one director from a non-white minority ethnic background.

However, it is acknowledged that, in periods of Board change, there may be times when this balance is not maintained.

The Board Diversity Policy informed the process followed by the Nomination Committee for the appointment of L Drummond. The policy is mirrored in Zotefoams' wider recruitment strategy and is having a positive impact on the talent pipeline in what has historically been a male-dominated industry.

Appointments to the Board are ultimately proposed by the Nomination Committee and approved by the Board. New appointments are made on merit against objective criteria, taking account of the specific skills and experience, independence and knowledge needed to ensure a rounded Board and the benefits each candidate can bring to the overall Board composition. Search consultants selected by Zotefoams are required to cast their search sufficiently broadly to identify the best candidates, regardless of background. Care is taken to ensure that appointees, as well as the existing Directors, have sufficient time to devote to their roles.

More details can be found in 'our people' on pages 70 to 74, and in our Nomination Committee report on page 86.

The Board members have gained their business experience across a broad range of industries, covering industrial, engineering, energy, technology, medical, intellectual property and financial services, which results in significant collective knowledge of business practices and a high degree of international exposure. The Board also benefits from the broad cultural, educational and professional backgrounds of its members.

The structure, diversity and composition of the Board remain under review to ensure that we have the appropriate mix of skills and experience to best serve a dynamic, growing international company.

For the year ended 31 December 2022, the Board comprised two Executive Directors, four independent Non-Executive Directors and the Non-Executive Chair. L Drummond was appointed to the Board on 17 January 2023 as Non-Executive Director and Chair Designate. D Robertson was appointed Senior Independent Director at the AGM held on 16 May 2018. The Board considers D Robertson to be independent.

S Good is also Chair of the Nomination Committee and a member of the Remuneration Committee. Only the respective Committee Chairs and members are entitled to be present at meetings of the Remuneration, Audit and Nomination Committees, but others may attend at the invitation of the Committee Chair. During the year, the Chair met with the Non-Executive Directors regularly without the Executive Directors present and the Non-Executive Directors met without the Chair present to carry out a review of the Chair's performance, in line with the principles of the Code.

Tenure and attendance

Director	Tenure at 31 December 2022[1]
J Carling	5 years and 0 months
A Fielding	2 years and 7 months
S Good	8 years and 3 months
G McGrath	7 years and 1 month
D Robertson	5 years and 4 months
D Stirling	25 years and 4 months
C Wall	2 years and 7 months

1 L Drummond was appointed Non-Executive Director and Chair Designate on 17 January 2023.

Evaluation and development

A formal review of the performance of the Board and its Committees is carried out each year. The review of the Chair's performance is led by the Senior Independent Director, together with the other Non-Executive Directors in consultation with the Executive Directors. The other Non-Executive Directors' performance is evaluated by the Chair in consultation with the Executive Directors. The Executive team's performance is evaluated by the Remuneration Committee in conjunction with the Group CEO (except in the case of the Group CEO, when the Group CEO is not present).

The Board considered the merits of retaining the services of an external facilitator and concluded that, given the Group's size and the Board's needs, this was not appropriate. The matter will be kept under review in 2023.

The 2022 Board evaluation covered all aspects of the Board's structure, composition and operation, Board interactions (external and internal) and business strategy, risks and priorities.

The review confirmed that the Board and its Committees remained effective and continued to fulfil their remit, that the matters reserved for the Board were up to date and that appropriate Committees' terms of reference were in place.

The process involved the following steps:

- completion of a combined qualitative questionnaire for the Board and its Committees
- completion of a skills matrix
- individual interviews and a group discussion
- feedback from the Executive team on their interaction with the Board.

The main observations from the evaluation were:

- Directors were satisfied with the Board's operation and cohesiveness. Good progress had been achieved on engagement due in part to a return to some meetings being held in person.
- Board dynamics were good but would benefit from more informal discussions. Board papers continued to improve but could benefit from being more summarised. The Chair would discuss these matters with the Company Secretary. The financial information provided to the Board was of high quality and supported effective discussions.

The review confirmed that the Board and its Committees remained effective and continued to fulfil their remit, that the matters reserved for the Board were up to date and that appropriate Committees' Terms of Reference were in place. All Directors contribute effectively and provide appropriate commitment to their role.

The Board considers that it is functioning well and that its current composition contains an appropriate balance and diversity of views, qualifications, skills, experience and personal attributes necessary to carry out its duties and responsibilities.

Each month, all Directors receive management reports and briefing papers in relation to Board matters in a timely manner to ensure that they have due time to consider the information and act accordingly. New appointments to the Board receive an induction and, where appropriate, training. The Directors have access to the Company Secretary and independent professional advisers, at the Group's expense, if required for the furtherance of their duties.

The Directors also undertake continuing professional development activities through the year to support development areas identified through the Board evaluation process as well as to keep themselves up to date with evolving rules, regulations and guidance.

Relations with shareholders

Our communication strategy with shareholders is guided by the principle of effective and transparent engagement.

Meetings with institutional shareholders are usually held twice a year following the announcement of the Group's interim and preliminary results, in August and March respectively. Other meetings are held at institutional shareholders' request. In 2022, these meetings continued to be held through a mix of in-person meetings and virtually. To ensure that the Board, particularly the Non-Executive Directors, understands the views of the shareholders, the Group's corporate brokers provide summary feedback from the investor meetings, in particular from the meetings held following the interim and preliminary results announcements. The Chair and the Senior Independent Director, as well as the other Non-Executive Directors, are available to meet institutional shareholders if requested.

The Directors' attendance at meetings of the Board and Committees is as follows:

	Board meetings		Audit Committee meetings		Remuneration Committee meetings		Nomination Committee meetings	
Attendance at meeting	Eligible	Attended	Eligible	Attended	Eligible	Attended	Eligible	Attended
J Carling	12	12	5	5	8	8	2	2
A Fielding	12	12	5	5	8	8	2	2
S Good	12	12	–	–	8	8	2	2
G McGrath	12	12	–	–	–	–	–	–
D Robertson	12	12	5	5	8	8	2	2
D Stirling	12	12	–	–	–	–	–	–
C Wall	12	12	5	5	8	8	2	2

Corporate governance
Continued

The Board also recognises the importance of engaging with individual shareholders, and the Executive Directors continue to hold presentations through the Investor Meet Company digital platform at least twice per year. The platform provides individual investors with the same opportunity for two-way engagement as institutional investors through live, interactive presentations as part of the investor roadshows.

A shareholder consultation on the proposals for the Remuneration Policy to be adopted at the 2023 AGM was held in 2022 and early 2023. This included an outline of the proposals being sent to the top 20 shareholders of the business, who at the time accounted for 78% of the shareholder base, and subsequent engagement by telephone or through online meetings, with feedback being taken into account to ensure the proposals were fully aligned with shareholders' expectations. Further details are provided in the Directors' Remuneration report on pages 88 to 109.

The Annual Report, the AGM, the corporate website www.zotefoams.com and social media channels also support communication with investors. The Chairs of the Board Committees will normally be available at the AGM to answer questions.

Internal control

Internal control framework

In compliance with the 2018 Code, the Board monitors the Group's risk management and internal control systems and, at least annually, reviews their effectiveness. The Board's monitoring covers all controls, including financial, operational and compliance controls. Bi-annually, the effectiveness and the outputs of the risk management framework, as documented on pages 39 to 50 of the Principal Risks and Uncertainties section of this Annual Report, are reviewed. This is based principally on reviewing reports from management and the Internal Controls Committee to consider whether significant and emerging risks are identified, evaluated, managed and controlled and whether any significant weaknesses are promptly remedied. The Board, via the Audit Committee, also sets a rolling three-year, risk-based, internal audit plan and reviews the actions and closure of report findings. Annually, the Board receives a report from management on the key financial policies, processes and controls in place for the purpose of preparing the consolidated financial statements and reviews their effectiveness.

The Audit Committee assists the Board in discharging its review responsibilities.

During the course of its review of the internal control framework and the principal risks facing the Group, the Board did not identify, nor was it advised of, any failings or weaknesses it determined to be significant. Therefore, a confirmation in respect of necessary actions has not been considered appropriate.

Key elements of the Group's internal control framework are listed below.

Control environment

The Group has an appropriate organisational structure for planning, executing, controlling and monitoring business operations in order to achieve Group objectives. Overall business objectives are set by the Board and communicated through the organisation. Lines of responsibility and delegations of authority are clearly documented. The Group's ERP IT system is fit for purpose, well maintained and used whenever possible to automate controls, including the effective application of segregation of duties.

Control procedures

The Group has implemented control procedures designed to ensure complete and accurate accounting for financial transactions and to limit the potential exposure to loss of assets or fraud. Measures taken include physical controls, segregation of duties, financial authority levels and reviews by management, the Internal Auditor and the External Auditor. The effectiveness of these control procedures is tested by the Group's Internal Controls Committee (which is chaired by the Group CEO), the Audit Committee and the Board.

A process of control self-assessment and hierarchical reporting has been established, which provides for a documented and auditable trail of accountability. These procedures are relevant across the Group and provide for successive assurances to be given at increasingly higher levels of management and, finally, to the Board. Planned corrective actions are independently monitored for timely completion.

Risk management

Group management is responsible for the identification and evaluation of key risks applicable to its areas of business. These risks are assessed on a continual basis and may be associated with a variety of internal or external sources.

The Group's risk management framework is detailed on page 40.

Monitoring and corrective action

There are clear and consistent procedures in place for monitoring the system of internal financial and non-financial controls. The Audit Committee normally meets not less than three times a year and, within its remit, reviews the effectiveness of the Group's system of internal financial controls. The Committee receives reports from the External Auditor, Internal Auditor and management.

Non-financial controls are reviewed regularly by executive management, which reports any issues and corrective actions taken.

Information and communication with the Board

The annual budget and quarterly forecast updates are a key part of the planning and performance management process and the Board reviews performance against these. In addition, the Board receives monthly management reports, which highlight financial results, performance against key performance indicators and significant activities and matters of note during the month under review.

Through these mechanisms, the performance of the Group is regularly monitored, risks are identified in a timely manner, their financial implications assessed, control procedures evaluated, and corrective actions agreed and implemented.

Accountability

The Board acknowledges its responsibility to give a fair, balanced and understandable view of the financial position and future prospects of the business. On behalf of the Board, and at the recommendation of the Audit Committee, I confirm we believe that the 2022 Annual Report presents a fair, balanced and understandable assessment of the Group's position, its performance and its prospects, as well as of its business model and strategy.

Annual General Meeting

Our AGM will be held at our UK plant. Attendees will have the opportunity to meet the Board informally and ask questions. Further information is provided in our Notice of the 2023 AGM. In addition, a separate virtual presentation, open to all existing shareholders and other stakeholders, will take place after the AGM on the Investor Meet Company platform: https://www.investormeetcompany.com/register-investor

The Directors and I look forward to welcoming shareholders to the AGM.

S P Good
Chair

4 April 2023

Audit Committee report
Supporting growth in turbulent times

Dear Shareholder

The Audit Committee has reviewed the contents of the 2022 Annual Report and advised the Board that it considers the Report to be fair, balanced and understandable and provides the information necessary for shareholders to assess the Group's position and performance, business model and strategy.

The Committee remains responsible for keeping under review the adequacy and effectiveness of the Group's internal controls and risk management systems.

The Group reported strong growth in 2022 despite a difficult global economic climate. With a background of sharply rising energy and raw material costs, as well as increased geopolitical risk, the Audit Committee was cognisant of how a resilient supply chain can create a structural advantage over the long term. To this end, it focused on measures taken by the business to alleviate procurement risk and, supported by the work of the Internal Auditor, considered the effectiveness of mitigation strategies. The External Auditor was requested to widen the scope of its audit enquiries to cover the full breadth of operations in India and China. The Group's overall risk profile was reassessed by the Committee and remained unchanged. Details of the principal risks and uncertainties and how the Company mitigates them are provided in the risk management section on pages 39 to 50.

The Committee also kept under review risks arising from the development of ReZorce® mono-material barrier packaging. The acquisition of the assets of Refour ApS has helped mitigate certain project execution risks and supported the continued development of a route to market. The Committee also kept under review the degree of rigour and challenge applied to management judgements in relation to the impairment of intangible assets in MuCell Extrusion LLC (MEL) (a key audit matter) and satisfied itself that costs capitalised during the year were in line with accounting guidelines. The Committee concluded that the challenge provided by the External Auditor in respect of management's impairment assessment was robust and its assessment in alignment with that of management in that no impairment was required.

Looking ahead to 2023, the Committee will continue to monitor the macroeconomic and geopolitical conditions which impact the Group's assets. We will also keep under review the government's reform proposals on audit and corporate reporting.

Mitigating geopolitical risks

The Committee has kept under review the effect of the ongoing conflict in Ukraine on raw material and energy costs and assessed the effectiveness of mitigation measures applied by the Group, in particular how potential vulnerabilities are identified, monitored and addressed. The Committee also satisfied itself with the robustness of the contingency planning in place in the event that the viability of Zotefoams' plant in China was to be weakened by global events. Further details are provided under our S172(1) disclosures on page 75.

Environment-related controls

The Committee's terms of reference were updated to reflect its responsibility to ensure that the Annual Report includes disclosures in line with the recommendations of the Task Force on Climate-related Financial Disclosures. The Committee satisfied itself that the SASB (Sustainability Accounting Standards Board) framework, implemented through the risk management framework, ensured that all business risks relating to sustainability, including climate change risks, were identified, assessed and treated at each of the appropriate Control Committees within the Group. Further details about Zotefoams' ESG framework may be found on pages 54 to 56.

Increased focus on internal controls

Each year, the Audit Committee reviews the need for an internal audit function and, given the size of the Group, continues to be of the opinion that the internal audit function is best performed by an external audit firm with a broad range of competencies that complements the services provided by the External Auditor. As the Group continues to grow, the matter will be kept under review. Following a tender process in 2015, Grant Thornton UK LLP has continued to be used to provide internal audit services in 2022. Grant Thornton UK LLP has not undertaken any other work for the Group and, therefore, the Audit Committee considers it to be independent and objective in its judgement. The External Auditor is aware of the internal audit outsourcing arrangements, fully supports them and has full access to their findings.

In recognition of the increased complexity and scope of the Group's operations and developing governance requirements, an experienced financial controls manager has been appointed to strengthen, document and provide frequent testing of the internal financial control framework. The Committee has also approved an increase in internal audit frequency to two per annum under a three-year rolling programme implemented in 2021.

A Group-wide compliance audit, focused on anti-bribery and corruption and completed in 2022, confirmed that the Group had well-established compliance controls that functioned effectively. The compliance framework was found to include well-drafted policies and procedures, which are readily available to staff, effective staff training (including enhanced training for specific roles) and regular monitoring of future legal developments that might impact the Group. Although the Group has a low risk of exposure to money laundering, a risk-based approach is operated that carries out appropriate checks on customers and suppliers in higher risk jurisdictions. The audit identified opportunities to improve the due diligence procedures for T-FIT® distributors and agents which have been addressed through management actions.

An internal audit on the processes and controls in place for the effective governance of contracts, covering the UK and the USA, was initiated towards the end of 2022. The Committee reviewed the findings in Q1 2023 and approved management actions that mostly focus on formalising policy and processes through effective documentation.

The Committee will keep under review and assess the continued independence and effectiveness of internal audit in 2023.

Enhanced disclosures

Following implementation of the ESEF initiative in 2021, the Committee has kept abreast of requirements for publication and filing of machine-readable financial statements and the electronic tagging of basic financial statements and notes to these financial statements. Management and operational time has been devoted to meeting ESEF requirements in the 2022 Annual Report. The Committee supports all measures which enhance the accessibility of Zotefoams' financial data by all its stakeholders in order to facilitate the process of evaluating the Group's performance.

The Committee's responsibilities

The Committee continues to fulfil a key role in the Group's governance framework, providing valuable independent challenge and oversight across the Group's financial reporting and internal control procedures. In a rapidly evolving climate, it seeks to ensure that shareholders' long-term interests are protected and that long-term value is created.

As a result of its work during the year, the Audit Committee has concluded that it has acted in accordance with its Terms of Reference and has assessed satisfactorily the independence and objectivity of the External Auditor. I am available to answer any questions you may have about the work of the Committee. Please contact the Company Secretary in this regard.

D G Robertson
Chair of the Audit Committee

4 April 2023

Audit Committee report
Continued

Summary of the role of the Audit Committee
The main responsibilities of the Audit Committee are:

- to monitor significant financial reporting issues and judgements and the clarity and completeness of disclosures made in connection with the preparation of the Group's and Company's financial statements, assumptions for the going concern and viability statements, interim reports, preliminary announcements and related formal statements, including any matters which the External Auditor may wish to raise. Where the Committee is not satisfied with any aspect of the proposed financial reporting by the Company, it shall report its views to the Board
- to review and challenge, where necessary: the application of significant accounting policies and any changes to them; the methods used to account for significant or unusual transactions where different approaches are possible; whether the Group has adopted appropriate accounting policies and made appropriate estimates and judgements, taking into account the External Auditor's views on the financial statements; and the clarity and completeness of disclosures in the financial statements and the context in which statements are made
- to review on behalf of the Board the integrity of the Group's internal financial controls and assess the scope and effectiveness of the systems established by management to identify, assess, manage and monitor financial and non-financial risks and make recommendations to the Board
- to keep under review the adequacy and effectiveness of the Group's internal financial controls and internal control and risk management systems
- to review the Group's systems and controls for the prevention of bribery and receive reports on non-compliance
- to review the adequacy and security of the Group's arrangements for its employees to raise concerns, in confidence, about possible wrongdoing in financial reporting or other matters
- to review the Group's procedures for detecting fraud
- to consider and approve the remit of the internal audit function and ensure that it has adequate resources and appropriate access to information to enable it to perform its function effectively and in accordance with the relevant professional standards, free from management or other restrictions
- to review and approve the terms of engagement of the External Auditor, including any engagement letter issued at the start of each external audit and the scope of any audit before it begins
- to assess annually the qualification, skills and resources, effectiveness, objectivity and independence of the External Auditor
- to review tri-annually a policy in relation to the provision of non-audit services by the External Auditor and the approval by the Committee of such services, in order to avoid any threat to the External Auditor's objectivity and independence and the impact that such services could have on the audited financial statements, while taking into account any relevant ethical guidance on the matter
- to report to the Board on how it has discharged its responsibilities, including making recommendations, when necessary, on any actions or improvements required.

The Audit Committee's Terms of Reference, which are available on the Group's website, include all matters indicated by the Disclosure and Transparency Rule 7.1 and the UK Corporate Governance Code. The Terms of Reference are reviewed annually by the Audit Committee to ensure that they remain appropriate and reflect current best practice. The Terms of Reference were last reviewed in August 2022.

Composition of the Audit Committee
In line with the Code, the Committee comprises the four independent Non-Executive Directors and excludes the Company Chair.

The members of the Audit Committee during 2022 were D Robertson (Chair), J Carling, A Fielding and C Wall.

⊕ **Their biographies can be found on** pages 78 and 79.

D Robertson is a Fellow of the Institute of Chartered Accountants of England and Wales and was Group Finance Director of SIG plc until January 2017, having previously held that position at both Umeco plc and Seton House Group Limited. In the opinion of the Board, D Robertson has significant, recent and relevant financial experience to fulfil the requirements of the role. All current members of the Audit Committee have held, or currently hold, board-level positions in manufacturing industries with international reach.

The Audit Committee's membership, as a whole, has competence relevant to the sector in which the Group operates and is able to function effectively with the appropriate degree of challenge.

Meetings
The Audit Committee has a planned calendar, linked to events in the Group's financial calendar. The Audit Committee met five times in 2022.

The Company Secretary acts as secretary to the Audit Committee. The Company Chair, Group CEO, Group CFO, Group Financial Controller and senior representatives of the External Auditor and Internal Auditor are invited to attend relevant meetings of the Committee, although the Committee reserves the right to request any of these individuals to withdraw. At each meeting, the External Auditor is given the opportunity to raise matters without management being present. Other senior managers may be invited to present such reports as are required for the Committee to discharge its duties. During the year, on an informal basis, the Audit Committee Chair liaises with senior representatives of both the External Auditor and Internal Auditor to discuss matters outside the formal Committee meetings.

Overview of the actions taken by the Audit Committee to discharge its duties
Since the beginning of 2022, the Audit Committee has:

- reviewed the financial statements in the 2021 Annual Report, including the going concern and viability statements and the stress-testing of the viability statement, and received the External Auditor's report on the 2021 Annual Report
- satisfied itself that the ESEF requirements applicable to consolidated primary financial statements for financial periods beginning 1 January 2021 have been integrated into the Annual Report planning and appropriate testing had been carried out in anticipation of the 2022 Annual Report's publication. The Audit Committee also confirmed with the External Auditor that there was no UK requirement for them to audit the ESEF format
- reviewed the Interim Report issued in August 2022 and received the report from the External Auditor on its review of the Interim Report
- agreed a programme of work for 2022 to be performed by the Internal Auditor and received the Internal Auditor's reports on the work undertaken and management's responses to the recommendations therein
- reviewed and agreed the scope of the audit work to be undertaken by the External Auditor
- agreed the fees to be paid to the External Auditor for its audit and work on the Annual Report and Interim Report
- undertaken an evaluation of the independence, objectivity and effectiveness of the External Auditor, including reviewing the amount of non-audit services provided by the External Auditor
- monitored the engagement of audit firms providing non-audit services to ensure that the requirement for independence would not hinder future External Auditor tenders
- reviewed and approved a three-year rolling internal audit programme
- considered the inventory management and working capital position of the Group
- considered the geopolitical risks impacting the Group, its customers and the wider economic environment, and the Group's preparations to mitigate those risks
- considered the output from the Group-wide process used to identify, evaluate and mitigate high-level business risks
- considered the views of both the External and Internal Auditor on the effectiveness of the Group's internal financial controls
- reviewed and challenged the effectiveness of the Group's internal controls (including, but not limited to, financial controls and measures for detecting fraud) to ensure that they remain appropriate and adequate as the Group grows

- reviewed the Group's policies on ethics, anti-bribery, corruption and fraud, and the arrangements in place for employees to raise concerns, in confidence, about possible wrongdoing in financial reporting or other matters
- satisfied itself that the requirements of the Regulations made under section 3 of the Small Business, Enterprise and Employment Act 2015 relating to payment practices reporting had been met, with a focus on maintaining a high level of compliance with suppliers' payment terms in 2022
- considered the provisions of the 2018 UK Corporate Governance Code and the FRC Guidance on Audit Committees
- confirmed with management that Zotefoams plc and its subsidiaries have paid all applicable tax in the jurisdictions in which they operate
- reviewed its own effectiveness by conducting a confidential evaluation through an online portal, the anonymised outcome of which was discussed by the Board. It was agreed that the Committee remained effective, had fulfilled its remit and had in place appropriate Terms of Reference.

Financial reporting and significant financial issues

The Audit Committee assesses whether suitable accounting policies have been adopted and whether management has made appropriate estimates and judgements. The Committee reviews accounting papers prepared by management which provide details on the main financial reporting judgements. The Committee reviews reports by the External Auditor on the full-year and half-year results, which highlight any issues with respect to the work undertaken on the audit or review.

During the year, no changes to accounting policies were made and all new reporting requirements were implemented. The Committee considers the correct treatment of, and potential impairment of, intangible assets in MEL as well as the pension assumptions applied to the Company's closed defined benefit pension scheme as the most significant financial issues in 2022.

- Impairment of intangible assets in MEL. The Audit Committee received a report from management on the approach and rationale behind the capitalisation of intangible assets as well as the justification for continued full recognition of the capitalised value in the Group's Statement of Financial Position. Having considered the paper, a report from the External Auditor on its audit work in this regard and the Board's monthly reviews of the ReZorce opportunity that were held during 2022, the External Auditor is satisfied that the treatment is appropriate.
- Pension assumptions. As the Company's closed defined benefit pension scheme represented one of the largest liabilities on the consolidated statement of financial position at £3.3m as at 31 December 2022, the Audit Committee assessed the appropriateness of the key assumptions used by management to value the pension liability and is satisfied that these are appropriate.

External audit tender

The Audit Committee is aware of the requirement for FTSE 350 companies to put to tender their external audits at least once every ten years (as set out in the Competition and Markets Authority's Statutory Audit Services for Large Companies Market Investigation (Mandatory Use of Competitive Tender Processes and Audit Committee Responsibilities) Order 2014) and for audit committees to state their plans for when they are likely to consider a tender process if the external audit has not been put to tender in the past five years.

The Group is, by virtue of the FRC Revised Ethical Standard 2019, subject to the requirement to put the audit to tender every ten years. A tender process for the external audit for the Group was undertaken in 2020, following which PKF Littlejohn LLP (PKF) was selected as the External Auditor. The Committee intends to monitor PKF's performance and determine the most appropriate time to carry out a new tender process in due course, which will be, at the latest, in 2030. Given that the rules on independence may preclude an audit firm from participating in a tender if it has previously advised the Group in a non-audit capacity, a register of firms used by the Group for non-audit work is maintained by the Group CFO, whose authorisation is required prior to engaging any new firm. Any future tender will be carried out in line with the prevailing best practice. The 2022 Audit was PKF's third annual audit for the Group and was led by two Audit Partners, M Ling and J Archer. J Archer is the Responsible Individual in charge of the audit and signs the independent auditor's report to the members of Zotefoams plc on behalf of PKF Littlejohn LLP.

The Committee confirms that there were no contractual obligations that acted to restrict the Committee's choice of External Auditor and that the agreement with PKF will not restrict the shareholders' choice of auditor in future general meetings.

Effectiveness of the External Auditor

The Audit Committee assesses the effectiveness of the external audit process in a number of ways. At least annually, the External Auditor presents a report which includes an assessment and confirmation of its independence, as well as the activities that the External Auditor is undertaking to ensure compliance with best practice and regulation. At the conclusion of the annual audit, the Audit Committee undertakes an assessment of the External Auditor in relation to its fulfilment of the agreed audit plan, the robustness and perceptiveness of the External Auditor in handling key accounting and audit judgements and the thoroughness of the External Auditor's review of internal financial controls. As part of this assessment, management's opinions on the External Auditor are also considered. An extended questionnaire aligned with FRC guidance implemented in 2021 was used in 2022 and continued to evidence that there was candid and complete dialogue between the External Auditor and the Committee. The Committee also considered the processes put in place by PKF Littlejohn LLP to monitor its quality and drive improvements consistently. The Committee noted established practices aimed at simplifying and standardising processes, strong supervisory arrangements at all levels of the organisation and a good degree of professional scepticism applied to management judgements.

In November 2020, the Committee updated the policy in relation to the provision of non-audit services provided by the External Auditor. The policy requires that no non-audit services will be provided by the External Auditor without the prior approval of the Audit Committee, which will only be granted in compliance with the FRC Revised Ethical Standard 2019. Other than the review of the Group's Interim Report, the External Auditor did not provide any non-audit services in 2022.

The Audit Committee, having conducted its review of the External Auditor, concluded that the External Auditor has performed in a satisfactory manner and continues to be objective and independent and, therefore, has recommended to the Board that a resolution be put to the shareholders at the 2023 AGM to re-appoint PKF as the External Auditor.

Nomination Committee report
Building resilience through succession planning

Dear Shareholder
I am pleased to present my report on the activities of the Nomination Committee in 2022.

This year, we combined continuing our focus on long-term succession planning for the Executive Directors and the Executive team with the search for a new Company Chair. In preparation for my nine-year tenure coming to an end, a recruitment process led by D Robertson, the Senior Independent Director, and managed by a sub-committee appointed by the Board, was initiated, informed by an assessment of the Board's existing skillsets against those required to deliver the strategy. Following a competitive tender process, independent search consultancy Korn Ferry was selected to assist the sub-committee in refining the role description and identifying key attributes, including substantial Board experience in multinational businesses, proficiency in strategy development and stakeholder management, familiarity with intellectual property management and related issues, a sound understanding of sustainability issues and the ability to credibly represent Zotefoams in its dealings with investors and the City.

A comprehensive search process was undertaken. Given the importance of the appointment, all Board members were consulted on the shortlisting process and interviewed the final shortlisted candidates. Following the interview process and after consideration of the appropriate balance of skills, knowledge, experience, independence and diversity on the Board, and the attributes sought from the new Chair, the Committee recommended the appointment of L Drummond as Chair Designate with effect from 17 January 2023 and for her to be proposed for election as Company Chair at the Annual General Meeting to be held on 24 May 2023.

The principle of diversity is strongly supported by the Board. In recognition of this, the Board approved the early adoption of Listing Rules LR 9.8.6R(9) and LR 14.3.33R(1) from 1 January 2022 and updated the Board Diversity Policy. Further details are provided below.

Effective succession planning for the Board and the Executive Leadership team and a rigorous assessment of the effectiveness of the Board and its Committees remain key to the long-term success of the Group. Key position succession plans are in place for Executive roles and their direct reports. The Group continues to develop a pipeline of employees demonstrating high potential through a talent pool initiative. Further details are provided in 'our people' section on page 70.

The Board's annual evaluation process in 2022 was led by the Company Chair and facilitated by the Company Secretary, who is considered a suitable and independent person to conduct this process. The evaluation has demonstrated that the Board collectively continues to provide an appropriate balance of skills, knowledge and experience to ensure that there is robust and effective challenge and stewardship of the Group's purpose and strategy. The Board also recognises the importance of engaging with the Executive team and an assessment of the level and quality of this interaction was included in the Board evaluation process. Full details are provided in the corporate governance section on pages 80 to 82.

Recognising that a people strategy sits at the core of the future of the Group, the Human Resources (HR) function is managed through quarterly risk steering committee meetings, which focus on the mitigation of HR risks and optimisation of opportunities that might impact the Group's achievement of its business objectives. These matters include the consideration of diversity at Group level, employee engagement and effective succession planning. The Executive Committee is also provided with regular updates and reports are made to the Board at least twice a year on key HR strategic matters.

The Committee is satisfied that the separation of Executive and Non-Executive roles at the head of the Group has been maintained, with the Company Chair being responsible for leading the Board and the Group CEO being responsible for the executive leadership of the business.

Further details are provided in the corporate governance section on pages 80 to 82.

The Committee will continue to focus on succession planning, talent development and augmenting the Company's sustainability expertise in 2023.

S P Good
Chair of the Nomination Committee

4 April 2023

Diversity Listing Rule
Under Listing Rules LR 9.8.6R(9) and LR 14.3.33R(1), Zotefoams plc is required to confirm whether the Company has met the following diversity targets for financial years beginning on or after 1 April 2022 and has chosen to report on compliance with these requirements for the financial year beginning 1 January 2022:

- at least 40% of the Board should be women
- at least one of the senior Board positions (Chair, Chief Executive Officer (CEO), Senior Independent Director (SID) or Chief Financial Officer (CFO)) should be a woman
- at least one member of the Board should be from a minority ethnic background.

The reference date used for the purposes of this disclosure is 31 December 2022. In 2022, our Board comprised five male and two female Directors, giving an overall female membership of 29%. All Board members are from a white ethnicity background.

The recruitment process for the Company Chair position undertaken in 2022 considered 43 candidates, 23% of whom were female and 19% of whom were from a minority ethnic background. The final shortlist comprised two males and one female. The recruitment process was fair and took into consideration the aspirational targets set by the Hampton-Alexander review and the Parker review. A female from a white ethnicity background, L Drummond, was selected. From L Drummond's appointment as Chair Designate on 17 January 2023, the Board's female membership increased to 37% and will further increase to 43% once she takes over as Chair from S Good at the 2023 Annual General Meeting, subject to election by the shareholders.

From the 2023 Annual General Meeting, the Company will therefore comply with a minimum 40% female Board membership and a senior Board position held by a female. The Board aims to improve its ethnic diversity and has amended its Board Diversity Policy to reflect this aim:

Scan the QR code to see the Board Diversity Policy
zote.info/3FKeYVI

Given the tenure profile of the Board, there are no immediate vacancies that would allow for the consideration of ethnically diverse candidates. The Board is considering initiatives which may improve the pipeline of ethnically diverse talent and will report on progress in the 2023 Annual Report. Further details about the Group's approach to diversity are provided in Our people on pages 70 to 74.

Key areas of focus

The Nomination Committee comprises the Chair and the four independent Non-Executive Directors as at 31 December 2022.

The Nomination Committee operates within defined Terms of Reference and is responsible for putting in place succession plans for the Board, reviewing the continuation in office of the Directors and managing the recruitment of new Board members within criteria set by the Board. The Committee met twice in 2022. The Committee is supported by the Company Secretary in planning its activities, monitoring best practice and meeting its Terms of Reference.

The main responsibilities of the Committee are to:

- evaluate and review the structure, size and composition of the Board, including the balance of skills, knowledge, experience and diversity of the Board, taking into account the Group's risk profile and strategy
- identify and nominate suitable candidates for appointment to the Board, including the Chair of the Board and its Committees, against a specification of the role and capabilities required for the position
- lead on the annual performance evaluation of the Board and its Committees
- identify and manage any potential conflicts of Directors' interests
- review the external interests and time commitments of the Directors to ensure that each has sufficient time to effectively discharge his/her duties
- manage succession planning for the Executive team and Non-Executive Directors
- seek engagement with shareholders on significant matters related to the Committee's areas of responsibility when appropriate to do so.

During 2022, the Committee:

- reviewed its Terms of Reference in line with current best practice
- managed the recruitment process for a new Company Chair, whose appointment will take effect from the 2023 AGM subject to election by the shareholders
- arranged for the Board to review diversity considerations in succession planning, having regard to the requirements of the Hampton-Alexander review and the Parker review and agreed compliance with Listing Rules LR 9.8.6R(9) and LR 14.3.33R(1) in relation to the Board diversity
- kept the composition of the Board and its Committees under review
- considered and recommended to the Board the re-election of each Director ahead of their re-election by shareholders at the Company's 2022 AGM
- continued to review succession and development plans for the Executive team and wider senior management team to ensure that a suitable talent pool remained in place and continued to be nurtured to meet the Group's strategic objectives
- ensured that, at least annually, the Non-Executive Directors met without the Executive Directors present.

Directors' Remuneration report

Our Executive team led the delivery of record revenue and profit before tax in 2022, as well as progress on our strategic objectives. Our refreshed Remuneration Policy and implementation of the policy for 2023 is designed to reflect the calibre of our executives and commitment to achieving the Group's strategic priorities

Dear Shareholder

I am pleased to present the Remuneration report for the year ended 31 December 2022.

Introduction

2022 was a record year for Zotefoams for both revenue and profit before tax, with Group revenue increasing 26% to £127.4m (2021: £100.8m) and profit before tax increasing to £12.2m (2021: £7.0m). Our Executive Directors led the Group effectively throughout the year, and continued to deliver on our longer-term strategic objectives, and the Board remains convinced that retaining and motivating them is key to achieving those objectives.

2022 incentive outcomes

Annual bonus

Considering the performance delivered in 2022 and strategic progress made, and reflecting that 75% of the bonus is based on financial key performance indicators (KPIs), the Committee determined that 91.6% and 94.6% of the maximum bonus should be paid to the Group CEO and Group CFO respectively. A detailed description of performance against the targets is set out on pages 102 and 103.

Long-Term Incentive Plan: 2020 outcome

Regarding longer-term performance, the Group achieved earnings per share before exceptional items, of which there were none, of 20.6p in 2022 versus 14.9p in 2019, as well as relative Total Shareholder Return (TSR) performance of below median against the FTSE SmallCap Index (excluding investment trusts) over the three-year performance period and Return on Capital Employed (ROCE) of 10.1% versus a threshold target of 11.0%. The Committee therefore determined that 34.7% of the 2020 Long-Term Incentive Plan award should be paid to the Group CEO and Group CFO.

In assessing whether the outcomes generated by the annual bonus and LTIP scorecards were fair in the context of broader performance, the Committee took into account the underlying financial performance of the Group and the wider stakeholder experience (including, but not limited to, the shareholder experience). While, as set out above, significant progress has been made to set Zotefoams up to deliver long-term success, the Committee felt that the formulaic outcome was an appropriate reflection of performance delivered. It has, therefore, not exercised discretion in relation to incentive outcomes during the year.

Shareholder consultation on Remuneration Policy and base salaries

In line with the three-year cycle, the Committee reviewed the current Policy from both a structural and opportunity perspective, to ensure that it is reflective of the Group's strategic priorities and the calibre of executives in post. The Committee remains mindful of balancing the need to attract, retain and motivate Executive Directors and Executive team to ensure progress against our strategic goals with the interests of all stakeholders, including our shareholders and employees.

We consulted with our top 20 shareholders, who between them hold approximately 78% of Zotefoams' shares. I was delighted to have the opportunity to meet with six shareholders and to engage with another five in writing, who together account for circa 50% of our shares. As a Committee, it is very important for us to understand in detail the views of the Company's shareholders.

The Committee was pleased that, following this consultation, shareholders appreciated the context and rationale for our proposals and that the feedback we received from investors was ultimately very supportive in general. The key themes that arose during the consultation relate to: i) our approach to supporting our workforce with the challenges they are facing as a result of high inflation; ii) the timing and phasing of the proposed salary increase for the Group CEO and Group CFO; iii) the mix of short- and long-term incentives; and iv) the post cessation shareholding requirement.

Wider workforce context

Zotefoams' workforce is critical to its success. As a responsible business, our UK staff are paid at the median level for UK manufacturing jobs, and we are a living wage employer in the UK.

Recognising the difficulties faced by many of our employees in the current financial climate, the Company accelerated its 2023 pay rises for lower paid staff, in addition to the 4% annual pay award in April 2022. With effect from 1 October 2022, all staff in the UK with salaries under £32,000 were awarded a 4% increase and those earning £32,000–£50,000 were awarded a 2% increase. This will count towards the 2023 award, so, for example, a 2023 agreement of 7% would result in the former receiving a further 3% rise and the latter a further 5% rise from 1 April 2023. These arrangements applied to 77% of the UK workforce. Pay inflation is subject to union negotiation and is implemented with effect from the April payroll. Similar measures were implemented in the USA and Poland during 2022 to ensure that salaries remained aligned with the market.

In addition, on 1 April 2022, the employer's direct contribution pension percentage for the Company's two main schemes in the UK was increased by 1% to 6%, for those contributing 5%. This increase adjusts proportionately for those making lower contributions into the plan.

Executive Directors' basic salaries

The following increases to the Group CEO's salary and the Group CFO's salary will take effect from 1 April 2023.

Base salary	Current	Proposed (w.e.f. 1 April 2023)	Positioning
Group CEO	£344,318	£410,000 (19%)	**Between lower quartile and median of the market-competitive range**
Group CFO	£229,190	£260,000 (13%)	

From the feedback we received during the consultation, it was clear that shareholders appreciated that:

- our core principle, receiving very strong shareholder support when it was established in 2018, remains to remove the significant discount to the market on Executive Director base salaries
- despite previous efforts of the Committee to address the historically low Executive Director base salaries, current base salaries remain rooted significantly below the lower end of the market compared with companies of a similar size and complexity, with a consequential impact on the total compensation opportunity
- the current position neither reflects the calibre of the Executive Directors nor the increasing size and complexity of their roles
- our Executive Directors are very well regarded by our investors and critical to the delivery of our operational performance, strategic goals and shareholder returns.

Some investors challenged the timing of the increases and queried whether the Committee would consider phasing them. While we acknowledge that this is a more common approach, and indeed the one we adopted previously in 2018, we remain convinced that it is critical to take decisive action now. Phasing the increases exacerbates and perpetuates the below-market positioning, which undeniably would result in unnecessary execution risk to our strategy.

Several shareholders asked for confirmation that we would not be making further increases to Executive Director pay in excess of the average salary increases for the wider workforce (in percentage terms). The Committee is pleased to provide this reassurance.

Pension

Shareholders were pleased with the proposed and now implemented alignment of the Group CEO's pension from his contractual contribution of 18.75% to that of the wider workforce rate of 6% from 1 January 2023. While the Committee did not conflate the issues of base salary with pension, the proposed base salary plus pension results in a modest overall increase for our Group CEO of 3%. A phased approach, alongside the implemented reduction in pension contribution, would have further heightened retention risk.

Incentive opportunities – balance, headroom, metrics and targets

Under the current Remuneration Policy, the overall combined annual bonus and long-term inventive opportunity is 225% of salary (75% of salary maximum bonus and 150% maximum long-term incentive). For the year ending 31 December 2023, the overall maximum incentive opportunity will continue to be 225% of salary.

We originally proposed to rebalance the mix between the annual and long-term variable pay to an equal weighting (i.e. increasing the annual bonus maximum to 112.5% of salary and reducing the maximum long-term incentive opportunity to 112.5% of salary). Some shareholders expressed a clear preference that we retain a greater weighting on long-term performance. Taking this into account, our revised approach for 2023 is a maximum bonus opportunity of 100% of salary and a maximum long-term incentive opportunity of 125% of salary. The level of bonus deferred, which is converted into shares, will be increased from 25% to 33% to maintain long-term shareholder alignment.

To ensure that there is appropriate flexibility in the new Remuneration Policy, we propose to increase the overall incentive opportunity headroom to 250% of salary, with a limitation that no more than 125% of salary can be earned under the annual bonus. We will proceed with this increase in the new Policy. The Committee has confirmed that the additional headroom will not be used for the current Executive Directors in 2023 and any proposed implementation will be backed by a specific rationale and detailed explanation for shareholders.

Details of the metrics for the 2023 annual bonus are set out on page 100, with 65% of the bonus based on financial metrics of the core business excluding MEL, 10% based on strategic and financial metrics relating to MEL, 15% based on performance against ESG-related metrics (linked to Safety 5%, Carbon Emissions Reduction 5% and Waste Reduction 5%) and 10% based on other strategic metrics. It was noted that the sustainability objectives, in particular, were aligned with the Company's strategy on reducing carbon emissions through the optimisation of resources and waste reduction. The guidance issued by the Task Force on Climate-related Financial Disclosures (TCFD) has been considered in the setting of the objectives.

The metrics and targets for the 2023 LTIP award are set out on page 100. Awards will be based 45% on adjusted earnings per share (EPS) growth, 15% on average ROCE, 30% on relative TSR against the FTSE Small Cap Index excluding investment trusts and 10% on the environmental target of Sustainable Product Development. Performance targets for incentive plans have been set reflecting the importance of appropriately stretching targets to ensure that increased incentive opportunities are commensurate with the performance delivered and the long-term sustainable success of the Group.

Post-employment shareholding requirements

Our current approach is to require the Executive Directors to retain their full "in-service" shareholding requirement (200% of salary) for one year post cessation of employment and 50% of that requirement (i.e. 100% of salary) for two years after leaving. We have enhanced the post-employment shareholding requirement. Under the new Remuneration Policy, our Executive Directors will be required to retain such of their "relevant shares" as are worth 200% of salary for the full two-year period. For the purposes of the new approach, "relevant shares" are those acquired from share plan awards granted after 1 January 2023.

We greatly appreciate the feedback and level of support we have received from our shareholders during the consultation process.

Directors' Remuneration report
Continued

Implementation of Remuneration Policy in 2023
The Committee has reviewed the current Policy to take into account shareholder feedback, the views of the Executive Directors and management (including the key themes from our workforce engagement), the Group strategy and market practice. The Committee also considered how the proposed remuneration framework appropriately addresses the following principles set out in Provision 40 of the 2018 UK Corporate Governance Code. The following table sets out how the Committee has addressed these factors:

Clarity	Incentive arrangements are based on clearly defined financial, non-financial and personal performance objectives which are aligned with the Group's long-term strategy. Incentive payments operate across the Group (with participation in the LTIP based on seniority) to ensure that there is alignment on key priorities throughout the Group.
Simplicity	Remuneration arrangements are simple to understand for both participants and shareholders, comprising the following key elements: ▶ fixed pay: comprises base salary, benefits and pension ▶ annual bonus: incentivises the delivery of financial, non-financial and personal performance objectives ▶ LTIP: incentivises financial performance over a three-year period, promoting long-term sustainable value creation for shareholders. Awards are subject to a two-year holding period post vesting.
Risk	Performance targets for incentive plans are designed to reward outperformance, while at the same time being calibrated to ensure that they do not encourage excessive risk taking by the Executive Directors. Deferral of part of the annual bonus into shares and the holding period applying to LTIP awards ensures that variable remuneration is linked to sustainable performance and discourages short-term behaviours. The Remuneration Committee retains the flexibility to review formulaic outcomes under incentive plans to ensure that they are appropriate in the context of the overall performance of the Group and all annual bonus and LTIP awards to Executive Directors include provisions for malus and clawback.
Predictability	The Remuneration Policy sets out the threshold targets and maximum level of pay that the Executive Directors may earn in any given year (and the potential remuneration that can be earned in several performance scenarios is set out in the illustrative scenario charts). The actual incentive outcomes will vary depending upon the level of performance against pre-determined performance measures.
Proportionality	The Committee is satisfied that the remuneration framework does not reward poor performance. Incentives are directly aligned with the Group's strategic objectives, with performance targets calibrated to reward outperformance both over the short and long term. The Committee also takes account of the pay and conditions for the wider workforce when considering executive remuneration.
Alignment with culture	The Remuneration Policy has been set in the context of the nature, size and complexity of the Group. It has been designed to support the delivery of the Group's key strategic priorities and is in the best interests of the Group and its stakeholders. The Committee is focused on ensuring that the remuneration framework and practices support Zotefoams' culture pillars and ensure that employees across the Group are appropriately recognised and rewarded for efforts and financial results.

Conclusion
The Committee strongly believes that the proposed changes to the Remuneration Policy and base salaries are fair, consistent with our wider remuneration principles and in the best interests of shareholders and other key stakeholders.

The Committee and I would like to thank you for your continued engagement and hope you will be able to support the resolutions in respect of the Remuneration Policy and the Annual Remuneration report at the 2023 AGM.

Dr A M Fielding
Chair of the Remuneration Committee

4 April 2023

Directors' Remuneration report

The Directors' Remuneration report has been prepared in accordance with the relevant provisions of the Listing Rules, section 421 of the Companies Act 2006 and Schedule 8 to the Large and Medium-sized Companies and Groups (Accounts and Reports) (Amendment) Regulations 2013.

Directors' Remuneration

Policy Report – Introduction

Our proposed new Directors' Remuneration Policy, for which approval will be sought at the 2023 Annual General Meeting, is set out below under the heading "Directors' Remuneration Policy". During 2022, the Committee thoroughly reviewed the Remuneration Policy approved at the 2020 Annual General Meeting, from both a structural and opportunity perspective, to ensure that the new Remuneration Policy is reflective of the Group's strategic priorities and the calibre of our Executive Directors. The differences between the Remuneration Policy approved at the 2020 Annual General Meeting and the new Remuneration Policy set out below are summarised in the Committee Chair's statement.

In developing the Remuneration Policy, the Committee was mindful of balancing the need to attract, retain and motivate our Executive Directors and Executive team to ensure progress against our strategic goals with the interests of all stakeholders, including our shareholders and employees. As part of this process, the Committee was guided by three key principles, which are consistent with the principles that guided the Committee previously.

Remuneration principles

Strategic and operational delivery

- The Remuneration Policy should support the delivery of the Group's long-term strategic ambitions and operational performance.

Competitive salaries

- Base salaries should be set to be market-competitive, reflecting the size and complexity of the business and the calibre of individuals in each role.

Focus on long-term performance

A significant element of the total package should be delivered through long-term incentives, increasing the focus on long-term performance and aligning management with growth for the shareholders. Within this:

- short-term incentives should continue to focus management on the delivery of annual results
- long-term incentives should focus management on both the delivery of operational performance and the growth potential of the Group.

In finalising the new Remuneration Policy, the Committee followed a robust process, which included discussions on the content of the Policy at six Remuneration Committee meetings. The Committee considered input from management (although Committee meetings where decisions were made were not attended by management to avoid conflicts of interest) and from our independent advisers, as well as best practice and shareholder guidance from major shareholders and proxy advisory bodies. The Committee consulted with shareholders in relation to the Policy as described on pages 88 and 89.

Directors' Remuneration Policy

The following part sets out the Remuneration Policy for our Executive and Non-Executive Directors.

This Policy will be put to shareholders for approval at the Annual General Meeting to be held on 24 May 2023.

Remuneration Policy for Executive Directors

Purpose and link to strategy	Maximum opportunity	Operation	Performance measures
Base salary To provide a core reward for undertaking the role, positioned at a level needed to recruit and retain Executive Directors of the calibre required to develop and deliver the business strategy.	Base salaries for Executive Directors are set at an appropriate level to be market-competitive, reflecting the size and complexity of the business, and to attract and retain the calibre of individuals required for each role. While there is no maximum opportunity for base salary, any increases for Executive Directors will be considered in the context of the increases awarded to other employees in the Group. In appropriate circumstances, the Committee may award increases above the range of increases awarded to other employees, including but not limited to: ▶ where the Committee has set the base salary for a newly appointed Executive Director at lower than the market level for such a role to allow the individual to progress into the role; or ▶ where, in the Committee's opinion, there has been a significant increase in the size or scope of an Executive Director's role or responsibilities.	The Committee sets base salary while taking into consideration a range of factors, including: ▶ the individual's experience, performance and skills ▶ the scope of the role ▶ pay and conditions elsewhere in the Group ▶ remuneration levels at companies of a comparable size and complexity. Base salary is normally reviewed annually, with increases effective from 1 April. However, the Committee may review base salary at other times where it considers this appropriate. Base salaries are paid in cash.	N/A

Directors' Remuneration report
Continued

Purpose and link to strategy	Maximum opportunity	Operation	Performance measures
Benefits To provide market-competitive benefits for the Executive Directors to assist in carrying out their duties effectively.	There is no maximum or minimum level of benefits, as they are dependent on the individual's circumstances and the cost to the Company. Participation in all-employee share plans that the Company establishes from time to time will be on the same basis as all other UK employees. Relocation/international assignment benefits: the level of such benefits will be set at an appropriate level taking into account the circumstances of the individual and typical market practice.	The Committee's policy is to provide Executive Directors with a market-competitive level of benefits, taking into consideration benefits offered to other senior managers within the Group, the individual's circumstances and prevailing market practice. ▶ Core benefits currently provided to Executive Directors include, but are not limited to, a car allowance, private medical insurance (for the Executive Directors, their spouse/partner and dependent children) and death in service cover. ▶ Participation in all-employee share plans that the Company establishes from time to time is on the same terms as all other UK employees. ▶ Relocation/international assignment benefits, where an Executive Director is required to relocate to take up their position, may be provided including, but not limited to, assistance for housing, school fees, travel assistance, relocation costs, insurance cover and assistance with tax advice.	N/A
Pension To provide Executive Directors with competitive post-retirement benefits and reward sustained contribution.	The maximum level of contribution (either as a contribution to the Company's Defined Contribution Pension Scheme ("the DC Scheme") or as a cash allowance in lieu of such a contribution or as a combination of a DC Scheme contribution and a cash allowance) will be set in line with the rate received by the majority of the workforce in the relevant jurisdiction (currently 6% for each of D Stirling and G McGrath). The Company's Defined Benefit Pension Scheme ("the DB Scheme") is closed to future accruals, but legacy arrangements will continue to be honoured, including for D Stirling.	Executive Directors are eligible to participate in the DC Scheme or receive a cash allowance in lieu of a contribution to the DC Scheme (or receive a combination of a DC Scheme contribution and a cash allowance). D Stirling is also a deferred member of the closed DB Scheme.	N/A

Purpose and link to strategy	Maximum opportunity	Operation	Performance measures
Annual bonus To incentivise Executive Directors to achieve specific financial and strategic goals aligned with the Group's annual business plan. A deferred proportion of annual variable pay provides a retention element and alignment with shareholders' interests.	The maximum opportunity in respect of any financial year is 125% of base salary. The combined annual bonus and LTIP opportunities in respect of any financial year may not exceed 250% of salary. For 2023, the annual bonus will be an opportunity of 100% of salary, and the combined annual bonus and LTIP opportunities will be 225% of salary.	Awards are based on a balanced scorecard combining Group financial and non-financial performance targets. Performance is normally assessed over one financial year. Performance targets are normally set annually by the Remuneration Committee to ensure that they are appropriately stretching. Bonus out-turns are determined by the Committee, taking into consideration actual performance against targets and the underlying performance of the business. The Committee has the discretion to adjust bonus out-turns should the formulaic output not produce a result, which, in the view of the Committee, fairly reflects overall performance. For bonuses earned in respect of 2023 and future years, 33% of the earned bonus is normally deferred under the Deferred Bonus Share Plan (DBSP). Awards under the DBSP will vest after a period set by the Committee, which will normally be three years from the date of award. Deferred awards are normally granted in the form of conditional awards of shares, although awards may take other forms if it is considered appropriate. Deferred awards will accrue dividend equivalents during the deferral period. These will normally be paid in shares on a reinvested basis. Deferred awards are subject to malus and clawback provisions (see page 95). The Committee may adjust and amend awards in accordance with the DBSP Rules.	Performance is measured based on an appropriate mix of financial, strategic and personal performance measures. At least 50% of the bonus opportunity will be based on financial performance targets and no more than 20% of the bonus opportunity will be based on personal performance measures. The split between financial, strategic and personal performance measures will be kept under review and set annually by the Committee. Normally no more than 20% of the bonus is payable at the trigger point, dependent on the stretch in the targets, with a graduated scale operating thereafter through to the maximum bonus being payable for outperforming the Group's targets for the year.

Directors' Remuneration report
Continued

Purpose and link to strategy	Maximum opportunity	Operation	Performance measures
2017 Long-Term Incentive Plan (LTIP) To incentivise the delivery of long-term sustainable operational performance and the growth potential of the Group. To align the interests of Executive Directors and shareholders. To attract and retain executives of the calibre required to drive the Group's long-term strategic ambitions.	The normal maximum award permitted in respect of any financial year is 150% of base salary. The combined LTIP and annual bonus opportunities in respect of any financial year may not exceed 250% of salary. For 2023, the LTIP awards will be 125% of salary, and the combined annual bonus and LTIP opportunities will be 225% of salary.	Awards are subject to a performance period of normally no less than three years, with a subsequent holding period of up to two years. Performance targets are normally set annually by the Remuneration Committee to ensure that they are appropriately stretching. The Committee has the discretion to adjust the final level of vesting of awards if it does not consider that it reflects underlying performance. LTIP awards are normally in the form of conditional awards of shares, although the Remuneration Committee may decide to make awards in other forms, such as nil-cost options, if considered appropriate. Dividend equivalent payments accrue during the performance period and holding period. These will normally be paid in shares on a reinvested basis. LTIP awards are subject to malus and clawback provisions (see page 95). The Committee may adjust and amend awards in accordance with the 2017 LTIP Rules.	Awards vest based on an appropriate balance of financial, shareholder return and strategic measures. Not less than 75% of an award will be based on financial and/or shareholder return measures. Up to 20% of the award vests for performance at the trigger point, increasing to 100% of the maximum for maximum performance. The performance measures selected by the Committee may change from time to time in appropriate circumstances, for example to reflect any change in the Group's strategy. If the Committee were to introduce a new performance measure, it would consult with the Company's largest shareholders in advance, as appropriate. The performance measures will be disclosed in the Directors' Remuneration report for the relevant year.

Shareholding guidelines
To align the interests of the Executive Directors with shareholders, the Company operates a shareholding guideline for Executive Directors of 200% of salary. A newly appointed Executive Director will have five years from the date of his or her appointment to the Board to build up such a holding.

With effect from 1 January 2023, the Committee has adopted a new post-employment shareholding policy. Shares are subject to this policy only if they are acquired from LTIP and DBSP awards granted from 1 January 2023 onwards. Following cessation of employment, an Executive Director must retain for two years such of their shares which are subject to this policy as have a value equal to 200% of salary. If an Executive Director's relevant shares have a value of less than 200% of salary then, in line with the company's previous approach, Executive Directors will be expected to retain their full "in-service" shareholding requirement for one year post cessation of employment and 50% for two years after leaving. The Committee retains discretion to vary the application of the post-employment shareholding policy in compassionate circumstances.

Shares subject to LTIP awards for which the performance period has ended (i.e. which are in a holding period) and shares subject to DBSP awards can be counted towards the required level of shareholding, in each case on a net of assumed tax basis.

Notes to the policy table
The deferred share element of the Annual Bonus Plan and the 2017 Long-Term Incentive Plan shall be operated in accordance with the rules of the respective plan.

The Committee reserves the right to make any remuneration payments and/or payments for loss of office (including exercising any discretion available to it in connection with such payments), notwithstanding that they are not in line with the policy set out above, where the terms of the payment were agreed: (i) before the policy set out above and any previous policy came into effect; or (ii) at a time when a previous policy, approved by shareholders, was in place, provided the payment is in line with the terms of that policy; or (iii) at a time when the relevant individual was not a director of the Company and, in the opinion of the Committee, the payment was not in consideration of the individual becoming a director of the Company. For these purposes, "payments" includes (but is not limited to) the Committee satisfying awards of variable remuneration and, in relation to an award over shares (including legacy awards under the 2008 Approved Share Option Plan (ASOP)), the terms of the payment being "agreed" at the time the award is granted.

Changes to the Policy
The key changes that have been made to this Policy, compared with the last Policy approved by shareholders, are summarised in the Committee Chair's statement.

Committee discretion in relation to future operation of the Remuneration Policy
For share awards, in the event of a variation of the Company's share capital or a demerger, delisting, special dividend, rights issue or any other event that may affect the Company's share price, the number of shares subject to an award and/or any exercise price applicable to the award and/or any performance condition attached to the award may be adjusted.

The Committee may amend any performance conditions applicable to ASOP or LTIP awards if any event occurs which causes the Committee to consider an amended performance condition would be more appropriate and not materially less difficult to satisfy.

The Committee may make minor amendments to the Policy set out above for, for example, regulatory, exchange control, tax or administrative purposes or to take account of a change in legislation, without obtaining shareholder approval for that particular amendment.

Performance measures and approach to target setting

Annual bonus

Performance measures for the short-term incentive arrangements are selected annually by the Committee to align with Zotefoams' annual business plan.

Performance targets for the financial element are set to be appropriately stretching, by reference to the Group's internal business plan, and to align with the delivery of returns to shareholders. Performance targets for the strategic element are determined annually by the Committee and set to incentivise the delivery of key strategic priorities over the course of the year.

Long-Term Incentive Plan

Performance measures for the long-term incentive arrangements are selected annually by the Committee to align with Zotefoams' long-term business strategy and to reflect the Group's growth ambitions and desire to efficiently manage capital employed and returns to shareholders.

The performance targets for the Long-Term Incentive Plan are reviewed annually and set by taking into account market conditions, external market forecasts, internal business forecasts and market practice.

Malus/clawback arrangements for the DBSP and LTIP

The Remuneration Committee may, in its absolute discretion and in circumstances where the Remuneration Committee considers such action is appropriate, determine at any time prior to the fifth anniversary of the date of grant of an award under the DBSP or LTIP to:

a) reduce the number of shares to which an award relates;

b) cancel an award;

c) impose further conditions on an award;

d) require a cash repayment; or

e) require a transfer of shares delivered under incentive plans.

Such circumstances include, but are not limited to:

a) a material misstatement of the Group's (or any subsidiaries') audited financial results;

b) corporate failure (2020 awards onwards);

c) deliberately misleading management, the market and/or shareholders regarding financial performance;

d) overpayments due to material abnormal write-offs;

e) payments based on erroneous or misleading data (2020 awards onwards);

f) reputational damage resulting from misconduct or otherwise; and

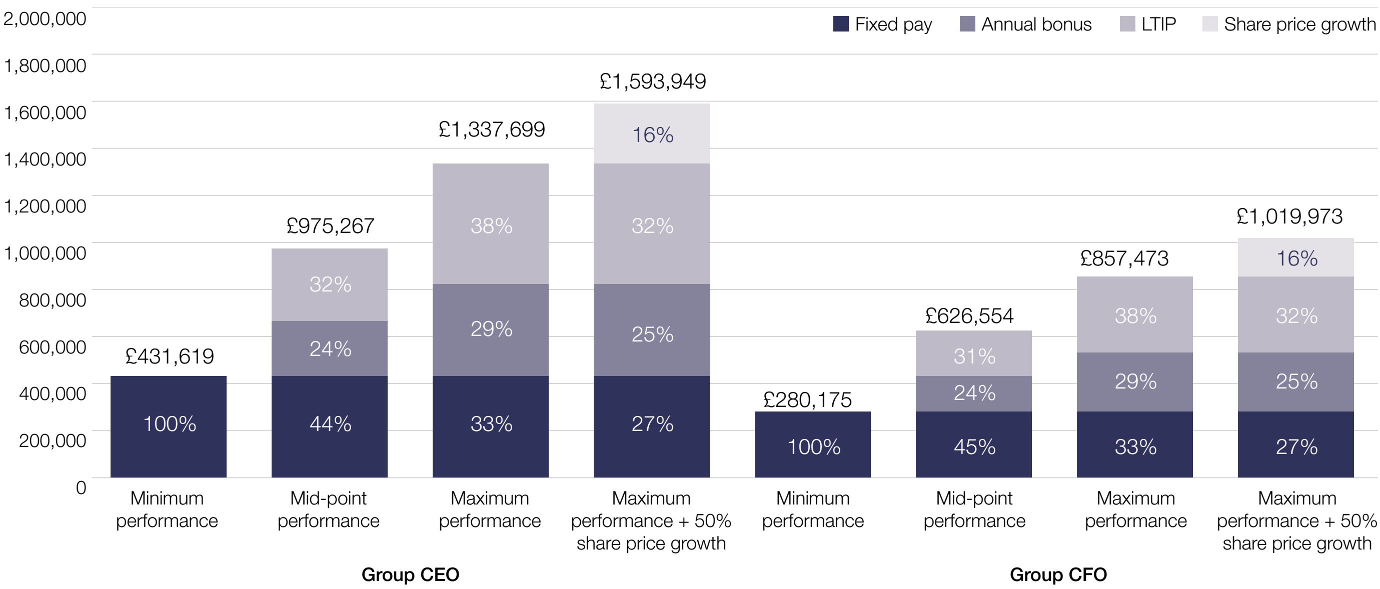
g) serious misconduct or conduct which causes significant financial loss.

Remuneration structure for employees below the Board

The remuneration for senior management immediately below the Board has a similar structure to that used for the Executive Directors. UK-based middle management participates, at the discretion of the Remuneration Committee, in the 2018 Approved Share Option Plan, subject to the Plan's rules. There are also general staff discretionary bonus schemes globally which are based on the performance of the Group or local entity and other factors. Other arrangements are also in place for specific areas of the Group, including a Share Incentive Plan open to all UK employees under which they currently receive a free share for every four shares purchased.

Illustration of application of Remuneration Policy

The chart below shows how the composition of each of the Executive Directors' remuneration packages varies at different levels of performance achievement.



Directors' Remuneration report
Continued

The assumptions used in the chart above are as follows:

	Minimum performance	Mid-point performance	Maximum performance	Maximum performance + 50% share price growth
Fixed pay[1, 2]	✔	✔	✔	✔
Annual bonus	✘	✔ (60% of maximum)	✔ (100% of salary[2])	✔ (100% of salary[2])
Long-term incentive	✘	✔ (60% of maximum)	✔ (125% of salary[3])	✔ (125% of salary[3] plus 50% share price growth[4])

1 Comprises base salary for 2023, benefits (as per the 2022 single figure) and pension contribution/cash in lieu of pension for 2023.
2 Based on salary expected to be earned over the full year taking into account the increase with effect from 1 April 2023.
3 Based on salary applying with effect from 1 April 2023.
4 An additional maximum performance scenario is provided showing the maximum performance with an additional 50% share price growth on the long-term incentive, as required by the UK reporting regulations.

The chart above does not take into account share price appreciation, unless otherwise stated, or dividends.

Remuneration Policy on recruitment

Area	Policy and operation
Principles	The Remuneration Committee takes into consideration all relevant factors, including local market practice in the individual's home country, appropriate market data, internal relativities, the current remuneration arrangements applicable for other Executive Directors on the Board and the Committee's desire to recruit an Executive Director of the required calibre to develop and deliver the business strategy, while at the same time ensuring that remuneration arrangements offered are in the best interests of both Zotefoams and its shareholders. The Committee endeavours to align the remuneration arrangements of new recruits with the Policy outlined on the previous pages. In the event that an internal candidate was promoted to the Board, legacy terms and conditions would normally be honoured. The Committee will make every effort to explain the rationale for the remuneration arrangements for a new recruit in the Remuneration report following the recruitment of a new Director.
Base salary	Set at a level to recruit the candidate with the required calibre, skills and experience to deliver the Group's strategy.
Benefits and pension	To be provided in line with normal policy. In the event that an Executive Director is required to re-locate to undertake the role, the Committee may provide additional benefits to reflect the relevant circumstances (on a one-off or ongoing basis).
Incentive awards	When appointing a new Executive Director, existing incentive arrangements will be used where possible. The Committee has the discretion to include any other remuneration component or award which it feels is appropriate, taking into account the specific commercial circumstances, and subject to the limit on variable remuneration set out below. The key terms and rationale for any such component would be appropriately disclosed. The maximum level of annual variable pay and long-term incentive awards which may be awarded to a new Executive Director in respect of their recruitment, excluding any buy-out awards, is 250% of salary. Such variable remuneration may be made in the form of cash or shares, subject to performance conditions as selected by the Committee, and may vest immediately or at a future point in time.
Buy-outs	To facilitate recruitment, the Remuneration Committee may "buy out" any remuneration arrangements forfeited by the new Executive Director on leaving his or her former employment. In doing so, the Committee will consider all relevant factors, including the form of the awards (i.e. cash or equity), performance conditions attached to the awards, the likelihood of such conditions being met and the timeframe of the awards. Typically, any buy-outs will be made on a like-for-like basis. On recruitment, the Committee retains discretion to grant awards under Listing Rule 9.4.2, which allows for the grant of awards specifically to facilitate, in unusual circumstances, the recruitment of an Executive Director.
Non-Executive Directors	The Remuneration Committee will normally align the remuneration arrangements for new Non-Executive Directors with those outlined in the Policy table on page 99.

Service contracts and termination policy

When determining leaving arrangements for an Executive Director, the Committee takes into account any pre-established contractual agreements including the provisions of any incentive plans, pension entitlements, typical market practice, the performance and conduct of the individual and the commercial justification for any payments.

The following summarises our policy in relation to Executive Director service contracts and payments in the event of loss of office.

Area	Policy and operation
Notice period	▶ D Stirling, Group CEO – twelve months' notice by either party. ▶ G McGrath, Group CFO – twelve months' notice by either party. ▶ For new recruits, the Committee's policy is that Executive Director contracts will normally provide up to twelve months' notice by the Company and up to twelve months' notice by the Executive Director.
Contract commencement date	▶ D Stirling, Group CEO – 1 September 1997 (contract last updated 13 May 2019). ▶ G McGrath, Group CFO – 1 December 2015 (contract updated 15 April 2019).
Expiry date	▶ The contracts for the Executive Directors are rolling service contracts with no expiry date.
Termination payments	▶ If the Company terminates an Executive Director's contract without full notice, then the Executive Director has the right to a termination payment to reflect the unexpired term of the notice. ▶ A payment in lieu of notice can be made of no more than one year's base salary. ▶ Our policy for new appointments is that termination payments in lieu of notice will be based on base salary. ▶ Termination payments may be subject to mitigation and may be paid in instalments. ▶ Rights to an annual bonus, DBSP awards, LTIP awards and ASOP awards are governed by the respective plan rules. ▶ The Committee reserves the right to make any other payments in connection with a Director's cessation of office/employment where the payments are made in good faith in the discharge of an existing legal obligation (or by way of damages for breach of such an obligation) or by way of settlement of any claim arising in connection with the cessation of the Director's office/employment. Any such payments may include, but are not limited to, payments in respect of accrued but untaken holiday, any fees for outplacement assistance and/or the Director's legal and/or professional advice fees in connection with his cessation of office/employment.

Directors' Remuneration report
Continued

<table>
<tr><th>Area</th><th>Policy and operation</th></tr>
<tr><td>Other information</td><td>Annual bonus
▶ Under the Annual Bonus Plan, the Remuneration Committee would normally treat someone as a "good leaver" if they leave employment because of death, disability, ill health, injury, retirement, their employing company or business being sold/transferred out of the Group, redundancy or any other circumstance at the discretion of the Remuneration Committee.
▶ A "bad leaver" is someone who leaves employment for any other reason.
▶ For "good leavers", rights to any outstanding annual bonus in the year of cessation will be determined at the discretion of the Remuneration Committee, normally after the end of the financial year, and taking into account the level of performance achieved during the performance period. Any payments will be made in such proportions of cash and shares as the Committee considers appropriate. Outstanding DBSP awards will normally vest at the end of the normal vesting period, although the Remuneration Committee may, in its discretion, allow the award to vest earlier.
▶ For "bad leavers", rights to an annual bonus and unvested DBSP awards will normally be forfeited.
2017 Long-Term Incentive Plan
Leavers during the performance period
▶ Under the 2017 Long-Term Incentive Plan, a "good leaver" is someone who leaves employment because of death, disability, injury, ill health, redundancy, retirement, their employing company or business being sold/transferred out of the Group, or any other circumstance at the discretion of the Remuneration Committee.
▶ A "bad leaver" is someone who leaves employment for any other reason.
▶ For "good leavers", rights to any awards under this plan will normally, unless the Remuneration Committee determines otherwise, be pro-rated by reference to the proportion of the performance period that has elapsed on cessation and will vest, subject to performance, at the normal time.
▶ The Remuneration Committee retains the discretion to accelerate vesting in certain circumstances, e.g. death.
▶ For "bad leavers", rights to unvested awards under this plan will normally be forfeited.
Leavers during the holding period
▶ Where a participant who is subject to a further holding period in relation to his / her award ceases to be employed by the Group, the award will normally be delivered at the end of the holding period or the expiry of such shorter period as the Committee may determine. In cases where the individual leaves employment, and where the Company is entitled to dismiss the individual without notice, the award will lapse on cessation of employment.
2008 Approved Share Option Plan (ASOP)
▶ Under the 2008 Approved Share Option Plan, a "good leaver" is someone who leaves employment because of death, disability, injury, redundancy, retirement, their employing company or business being sold or transferred out of the Group or any other circumstance at the discretion of the Committee.
▶ A "bad leaver" is someone who leaves employment for any other reason.
▶ For "good leavers", rights to any awards under this plan will normally be pro-rated from the start of the performance period to cessation and will vest based on performance to the date of cessation. The Remuneration Committee has the discretion to adjust the final level of vesting of these awards.
▶ For "bad leavers", rights to unvested awards under this plan will normally be forfeited.
▶ G McGrath currently has 10,344 awards exercisable from 5 April 2019 subject to the above provisions.
All-employee share plans
In the event of a cessation of employment, the treatment of any Executive Director's awards under any all-employee share plans that the Company establishes from time to time will be determined in accordance with the rules of the relevant plan.</td></tr>
<tr><td>Change of control</td><td>▶ The Committee will determine the treatment of any annual bonus award at the time, taking into account such circumstances as it considers appropriate.
▶ In the event the Company is taken over, ASOP, DBSP and LTIP awards vest early. The extent to which LTIP awards granted after the date of the 2017 AGM vest will be determined by the Committee, taking into account the performance conditions and, unless the Committee determines otherwise, the proportion of the performance period that has elapsed.
▶ In the event of a change of control or other relevant event, the treatment of any Executive Director's awards under any all-employee share plans that the Company establishes from time to time will be determined in accordance with the rules of the relevant plan.
▶ If there is a demerger, special dividend, delisting or any other event that may materially affect the Company's share price, the Committee may allow awards to vest on the same basis as for a takeover.
▶ Awards may be exchanged for new awards if the Committee considers this appropriate.</td></tr>
</table>

Copies of the Executive Directors' service contracts and deeds of indemnity in favour of the Directors are available for inspection at the Company's registered office.

External appointments
Executive Directors may be invited to become Non-Executive Directors of other companies. These appointments provide an opportunity to gain broader experience outside Zotefoams and therefore benefit the Group. Providing that appointments are not likely to lead to a conflict of interest and the Board agrees, Executive Directors may accept non-executive appointments and retain the fees received. There are currently no such appointments.

Remuneration Policy for Non-Executive Directors

Approach to fees	Operation	Other items
Fees for the Company Chair and Non-Executive Directors (NEDs) are set at an appropriate level to reflect: ▶ the time commitment required to fulfil the role ▶ the responsibilities and duties of the positions ▶ typical practice in other companies. Fees are reviewed at appropriate intervals by the Board. Base fees are subject to the aggregate limit in the Company's Articles of Association for fees paid to NEDs.	Our NED fee policy is to pay: ▶ a base fee for membership of the Board ▶ an additional fee for being Chair of a Committee and/or Senior Independent Director to reflect the additional responsibilities and time commitments of the role. The Company Chair receives an inclusive fee for the role. Additional fees for membership of a committee, chairing or membership of subsidiary boards for a time commitment significantly greater than anticipated at the start of the year, or other fixed fees, may be introduced if considered appropriate. Fees can be paid in cash and/or shares as appropriate.	The Company Chair and NEDs are not eligible to participate in the bonus or any long-term incentive arrangements. NEDs do not currently receive any taxable benefits. Benefits (such as travel and accommodation allowances to allow the NEDs to fulfil their duties along with any tax liability arising on such allowances) may be provided in the future if the Board considers this appropriate.

Non-Executive Directors and the Company Chair have appointment letters setting out their duties and the time commitment expected. Appointment letters are currently for terms of three years. Appointments may be terminated by either party with six months' written notice.

Considering employment conditions elsewhere in the Group

Budgeted salary increases for the wider employee group are taken into consideration when determining increases for the Executive Directors. The Remuneration Committee does not consult with employees directly when formulating the Remuneration Policy for Executive Directors but takes account of pay levels within the Group and seeks feedback from the Head of Human Resources where appropriate. In addition, J Carling is a member of the Remuneration Committee and also the Board representative to the Group's UK Joint Consultative Committee ("the JCC"), which comprises an employee representative from each department. J Carling attends meetings of the JCC to provide employees with an opportunity to engage with the Board, ensuring that the views of the JCC can also be relayed to the Remuneration Committee.

Considering shareholders' views

The Remuneration Committee is committed to engaging in an open dialogue with the Company's shareholders and will seek views and opinions on significant matters relating to the remuneration of the Executive Directors as appropriate. As part of formulating the Remuneration Policy, a consultation was undertaken with our top 20 shareholders, who between them hold approximately 78% of Zotefoams' shares, and the Committee refined the approach to the Policy to take account of feedback received. The Committee would like to thank shareholders for the time they provided and their input into the consultation.

The Company Chair and the Chair of the Remuneration Committee are available to answer requests, should a shareholder wish to raise a matter on remuneration. Such requests should be made to the Company Secretary.

Directors' Remuneration report
Continued

Directors' Remuneration Policy and implementation in 2023

A resolution to approve the new Remuneration Policy detailed on pages 91 to 99 will be proposed at the 2023 AGM. A summary of the Remuneration Policy and how it will be implemented in 2023 has been set out below.

Element and purpose/ link to strategy	Implementation for 2023
Salary Positioned at a level needed to recruit and retain Executive Directors of the calibre required to develop and deliver the business strategy.	The base salaries for the Executive Directors will be increased on 1 April 2023 to: D Stirling – £410,000 (an increase of 19%) G McGrath – £260,000 (an increase of 13%) In light of the strong progress and performance being delivered, as well as our strategic priorities and ambitions for the future, the Committee believes that now is the right time to address base salaries to ensure that they are reflective of both the size and complexity of the Group and the calibre of individuals in role. This move will bring their base salaries from below lower quartile to between lower quartile and median. Further details and rationale are set out above.
Benefits Provide market-competitive benefits for the Executive Directors to assist in carrying out their duties effectively.	Benefits to be provided in line with approved policy.
Retirement benefits Provide competitive post-retirement benefits and reward sustained contribution.	D Stirling – 6% of salary G McGrath – 6% of salary
Annual bonus Incentivise Executive Directors to achieve specific financial and predetermined strategic goals aligned with the Group's annual business plan. Deferred proportion of annual variable pay provides a retention element and alignment with shareholders.	Maximum opportunity – up to 100% of salary. 33% of the bonus is deferred into shares in the Company for three years under the deferred bonus share plan. For 2023, the bonus will be assessed against the following measures for both Executive Directors:

Measure	Weighting – D Stirling %	Weighting – G McGrath %
Profit before tax	50	50
Free cash flow delivery	15	15
MEL/ReZorce® opportunity	10	10
Strategic financial	10	10
ESG	15	15

The underlying performance targets for these measures have not been disclosed in advance as they are considered to be commercially sensitive. Underlying targets will be provided, where appropriate, in next year's Directors' Remuneration report.

Element and purpose/ link to strategy	Implementation for 2023
Long-Term Incentive Plan To incentivise the delivery of long-term sustainable operational performance and the growth potential of the Group. To align the interests of Executive Directors and shareholders. To attract and retain executives of the calibre required to drive the Group's long-term strategic ambitions.	Maximum opportunity – up to 125% of salary. Awards granted are subject to a three-year performance period and a subsequent two-year holding period such that no shares will normally be released until the end of year five. Awards will be subject to three performance conditions:

Measure	Weighting	Threshold (20% vesting)[1]	Maximum (100% vesting)[1]
Adjusted EPS[2]	45%	5% per annum compound growth	15% per annum compound growth
Average ROCE	15%	11%	15%
Relative TSR[3]	30%	Median	Upper quartile
Sustainable Product Development	10%	4% of revenue	5% of revenue

1 Straight-line vesting occurs between threshold and maximum.
2 In previous years, the reported tax rate has deviated significantly. In line with the approach to the 2021 and 2022 LTIP award, the EPS targets have been set and will be measured based on a constant tax rate of 19%. The Committee retains the discretion to override this where it considers it appropriate.
3 Relative to the FTSE SmallCap Index excluding investment trusts.

Element and purpose/ link to strategy	Implementation for 2023
Non-Executive Director fees	The Non-Executive Directors (excluding the Company Chair) will receive a fee increase to £45,000 p.a. effective 1 April 2023. Chairs of the Audit and Remuneration Committee will also receive a fee increase of £7,500 p.a. in addition to their Non-Executive Director fee. A new Chair Designate proposed to take office at the end of the 2023 AGM will receive a fee of £140,000 p.a.
Shareholding requirement and post cessation shareholding policy Aligns the interests of Executive Directors and shareholders.	Executive Directors are required to hold shares in the Company equivalent to 200% of base salary. Executive Directors are expected to retain their full shareholding requirement for one year post cessation of employment and 50% for two years after leaving, unless the shares were acquired from LTIP and DBSP awards granted from 1 January 2023. If the shares were acquired from LTIP and DBSP awards granted from 1 January 2023, Executive Directors are expected to retain their full shareholding requirement for two years post cessation of employment.

Single total figure of remuneration (audited)

The following tables set out the single figure for total remuneration for Directors for the 2022 and 2021 financial years.

Executive Directors

	Salary (£)	Benefits (£)	Matching Shares (£)	Bonus (£)	LTIP (£)	Pension (£)	Total fixed pay (£)	Total variable pay (£)	Total (£)
D Stirling									
2022	**341,007**	**14,425**	**442[1]**	**236,546**	**92,285**	**51,151**	**407,025**	**328,831**	**735,856**
2021	324,258	14,119	422[2]	54,627	nil	48,365	387,164[3]	54,627	441,791[3]
G McGrath									
2022	**226,986**	**12,740**	**439[1]**	**162,696**	**61,067**	**26,091**	**266,256**	**223,763**	**490,019**
2021	215,406	12,517	426[2]	26,445	nil	23,054	251,403[3]	26,445	277,848[3]

1 The Matching Shares' value has been calculated on the basis of the average share price over the three months to 31 December 2022 of £3.03.
2 The Matching Shares' value has been calculated on the basis of the average share price over the three months to 31 December 2021 of £4.02.
3 The total fixed pay and total pay for 2021 has been restated to include the value of the Matching Shares.

Non-Executive Directors[1,2]

	Fees paid in respect of 2022 (£)	Fees paid in respect of 2021 (£)
J Carling	38,560	37,613
S Good	115,204[3]	85,333
D Robertson	43,712	42,667
A Fielding	43,712	42,667
C Wall	38,560	37,638

1 Non-Executive Directors who also chair a Board Committee receive an additional fee.
2 The Non-Executive Directors (excluding the Company Chair) will receive a fee increase to £45,000 p.a. effective 1 April 2023. Chairs of the Audit and Remuneration Committee will also receive a fee increase of £7,500 p.a. in addition to their Non-Executive Director fee.
3 S Good's annual fee was increased to £125,000 p.a. effective 1 April 2022 to reflect the size and scale of the Group's operations and the calibre of the individual in role. A new Company Chair, L Drummond, has joined the Board as a Non-Executive Director and Chair Designate on 17 January 2023. Subject to approval by the shareholders at the Annual General Meeting to be held on 24 May 2023, she will be appointed Company Chair from that date and receive a fee of £140,000 p.a. Prior to appointment as Company Chair, L Drummond received the basic fee for Non-Executive Directors.

Directors' Remuneration report
Continued

Notes to the table (audited)

Base salary and pension contributions

The Company operates a Defined Contribution Pension Scheme (the "DC Scheme") or a cash contribution equivalent. When participating in the DC Scheme, individuals may elect to enter a salary sacrifice arrangement, whereby their salary is reduced and the Company makes a corresponding contribution into their DC Scheme. G McGrath opted for the salary sacrifice arrangement and the amounts shown for his base salary are after salary sacrifice. Similarly, the amounts shown for pension include the amounts of salary that were sacrificed. As at 31 December 2022, the base salary (before salary sacrifice) for G McGrath was £229,190 p.a. (£220,375 p.a. as at 31 December 2021).

D Stirling receives a cash contribution in lieu of pension contributions in accordance with the rules of the DC Scheme, which apply to all members. As at 31 December 2022, the base salary for D Stirling was £344,318 p.a. (£331,075 p.a. as at 31 December 2021).

Benefits

Benefits include a company car allowance, private medical insurance and the value of the Matching Shares (at dates when awarded) acquired during the year under the Share Incentive Plan (SIP).

Annual bonus 2022

The targets for the annual bonus for 2022 for D Stirling and G McGrath are as set out in the table below.

	Weighting (% max)		Targets			Pay-out	
Measure	**D Stirling**	**G McGrath**	**Trigger point**	**Maximum**	**Performance achieved**	**D Stirling**	**G McGrath**
Profit before tax and any exceptional items[1]	60%	60%	£7.4m	£9.9m	£12.2m	60%	60%
Meet Group operating cash flow budget	15%	15%	£6.0m	£8.1m	£15.3m	15%	15%
Strategic financial – MEL	8%	5%	See below	See below	See below	1.6%	1.6%
Strategic financial – S&OP planning	5%	0%	See below	See below	See below	5%	n/a
Strategic financial – Refinancing	0%	5%	See below	See below	See below	n/a	5%
Organisational development	0%	5%	See below	See below	See below	n/a	5%
Sustainability	7%	5%	See below	See below	See below	7%	5%
Safety	5%	5%	See below	See below	See below	3%	3%
Total	**100%**	**100%**	**n/a**	**n/a**	**n/a**	**91.6%**	**94.6%**

1 The reported PBT was £12.2m. There were no exceptional items.

The table below sets out the targets and performance for the Executive Directors.

Strategic financial metrics – D B Stirling & G C McGrath

	Weighting (% max)			Scoring	
Measure	**D Stirling**	**G McGrath**	**Objective**	**D Stirling**	**G McGrath**
Strategic financial – MEL	8%	5%	Deliver to critical milestones a Board-approved implementation plan for MEL (ReZorce® product line).		
Strategic financial – S&OP planning	5%	0%	Deliver an integrated assessment and proposal to the Board for next stage capacity investment which reflects all stages of the product range. The proposal must be adopted by the Board.		n/a
Strategic financial – Refinancing	0%	5%	Complete, to the Board's satisfaction and approval, refinancing of the Group's debt facility on favourable terms.	n/a	
Organisational development	0%	5%	Analyse Zotefoams plc's overhead spend by cost centre to confirm effective spend or identify cost-saving opportunities. Agree and present plans to the Executive Committee.	n/a	
Safety	5%	5%	Meet commitments of the senior leadership engagement initiative, with an underpin based on RIDDOR/DART performance. Further details are provided in our ESG section on page 65.		
Sustainability	7%	5%	Deliver TARGET 1 per sustainability section of 2021 Annual Report (page 61). Implement improvements to reduce the polymer waste rate by 2.5% in 2022.		
			Deliver TARGET 2 (part 1) per sustainability section of 2021 Annual Report (page 61). Develop AZOTE® products that will allow us to reincorporate 50% of solid polymer waste produced at the UK site.		
			Deliver TARGET 2 (part 2) per sustainability section of 2021 Annual Report (page 61). Find applications that reuse 90% of all AZOTE® foam waste produced at the UK site.		

Achieved in full or predominantly achieved Partially achieved Not achieved

The annual bonus was based on base salary before salary sacrifice. The maximum opportunity for the bonus was 75% of salary. 25% of the bonus is deferred into shares held in trust for three years under the DBSP. Full details of the operation of the DBSP are set out in the Directors' Remuneration Policy.

2022	Cash bonus (£)	Deferred bonus (£)	Total bonus (£)
D Stirling	177,410	59,136	236,546
G McGrath	122,022	40,674	162,696

In assessing whether the outcome generated by the annual bonus was fair in the context of broader performance, the Committee took into account the underlying financial performance of the Group and the wider stakeholder experience (including, but not limited to, the shareholder experience) over the course of the year. As set out above, significant progress has been made over the year to set Zotefoams up to deliver long-term success, the Committee felt that the formulaic outcome was an appropriate reflection of performance delivered. It has, therefore, not exercised discretion in relation to incentive outcomes during the year.

LTIP

The 2020 LTIP award was subject to three performance conditions measured over the three financial years ended 31 December 2022. 30% of the award was subject to relative total shareholder return against the FTSE SmallCap Index (excluding investment trusts). 50% of the award was subject to an EPS growth target. 20% of the award was subject to a ROCE growth target (excluding large asset investments not yet commissioned). Performance is measured over a three-year period and the restricted shares will be released to the participant after two years, to the extent that TSR, EPS and ROCE targets over the period have been met, together with additional shares that represent the dividends that would have been paid during the performance period on the restricted shares that have been released.

The total award vesting is the sum of the awards for TSR, EPS and ROCE. Where performance is below the threshold point for any performance condition, then no part of the award vests in relation to that performance condition. If performance is below the TSR threshold point, then no part of the TSR award vests. If performance is below the ROCE threshold point, then no part of the ROCE award vests. Between the threshold point and the maximum, the award vests on a sliding scale basis.

The table below summarises the performance criteria for the 2020 award, which is due to vest on 21 September 2023.

	Trigger point		Maximum			
	Performance target	**% of award vesting**	**Performance target**	**% of award vesting**	**Achievement**	**Level of vesting (% maximum)**
Relative TSR performance	Median performance against peer group	6	Upper quartile performance against peer group	30	Below median performance against peer group	0%
Annualised EPS growth	5%	10	15%	50	11.0%	34.74%
ROCE	11%	4	12.5%	20	10.1%	0%

Based on the above level of performance, the 2020 LTIP will vest at 34.74%. The Committee considered the formulaic out-turns under the LTIP relative to Group and individual performance and determined that no discretion should be exercised.

Directors' Remuneration report
Continued

Scheme interests granted during 2022 (audited)
The table below sets out details of scheme interests granted to the Executive Directors during 2022:

	Type of award	Date of grant	Number of shares granted	Face value[1] (£)
D Stirling	Deferred bonus[2] (Unconditional shares)	29.04.2022	4,207	13,673
G McGrath			2,036	6,617

	Type of award	Date of grant	Number of shares granted	Face value[1] (£)	Face value (% of salary)	Performance condition	Trigger point for vesting (% of face value)	End of performance period
D Stirling	LTIP[3] (Conditional shares)	29.04.2022	159,111	517,111	150	30% based on relative TSR growth.[4] 50% on adjusted EPS[5] and 20% on average ROCE[6]	0% of the maximum EPS and ROCE elements and 20% of the maximum TSR element for meeting the threshold points specified in notes 4, 5 and 6 below	31.12.2024
G McGrath			105,910	344,207	150			

1 Face value calculated using the average share price for the period 22 April 2022 to 28 April 2022 (£3.25). The share price was £3.32 on 3 May 2022.
2 Awards vest on the third anniversary of grant. There are no performance conditions for these awards.
3 Award is subject to a three-year performance period and, subject to performance, is released after a two-year holding period.
4 Relative TSR growth is measured against the FTSE SmallCap Index (excluding investment trusts). The threshold point for relative TSR performance is median performance against the peer group, where 6% of the award will vest, to upper quartile performance against the peer group, where the maximum of 30% of the award will vest.
5 Adjusted EPS is the EPS for the financial year ending 31 December 2024, adjusted for acquired intangibles. The threshold point is 15p, where 0% of the award will vest, to the maximum of 25p, where 50% of the award will vest. In line with the approach taken in 2021 and 2022, targets have been set and will be evaluated assuming a constant tax rate of 19% and the Committee retains the discretion to override this where it considers it appropriate.
6 ROCE is defined as operating profit before exceptional items for the year, divided by the average sum of its equity, net debt and other non-current liabilities for the beginning and end of the year. This measure excludes acquired intangible assets and their amortisation cost. The threshold point is average ROCE of 9%, where 0% of the award will vest. Maximum vesting occurs for average ROCE of 15%, where 20% of the award will vest.

Total pension entitlements (audited)
The Zotefoams Defined Benefit Pension Scheme (the "DB Scheme") was closed to the future accrual of benefits as from 31 December 2005. At this time, all active members left the DB Scheme and were granted preserved pensions payable from their normal retirement age (or immediately, if the member had reached normal retirement age).

The following Director was a member of the DB Scheme during the year.

	Accrued pension at 31 December 2022 (£ p.a.)	Gross increase in pension (£)	Increase in accrued pension net of CPI inflation (£)	Change in value over the year (£)
D Stirling	23,113	695	0	0

Notes
(1) The pension entitlement shown is that which would be paid annually on retirement at normal retirement age (or immediately upon late retirement where applicable), based on service to 31 December 2005 (the date the DB Scheme was closed to future accrual), pensionable salary increases to 31 March 2018 (the date salary linkage ceased) and including statutory increases to the year end but excluding any future increases under the Rules of the Scheme.
(2) As required by the Large and Medium-sized Companies and Groups (Accounts and Reports) (Amendment) Regulations 2013, the pension input amount has been calculated using the method set out in section 229 of the Finance Act 2004(a) where:
– "pension input period" is the year ended 31 December 2022; and
– in the application of section 234 of the Act, the figure 20 is substituted for the figure 16.
(3) The following is additional information relating to the Director's pension from the DB Scheme:
(a) Normal retirement age is 65.
(b) On death before retirement, a spouse's pension is payable of one half of the member's preserved pension at leaving, revalued from leaving to the date of death. On death in retirement, a spouse's pension is payable of one half of the member's pension at death, without reduction for any part of the member's pension commuted for cash at retirement.
(c) Members' Guaranteed Minimum Pensions increase at statutory rates. Other pensions increase in payment at 5% p.a., or the increase in the Retail Prices Index if lower.
(d) From 1 January 2006, active employee members were able to pay contributions to the Defined Contribution Pension Scheme set up by the Company in order to receive retirement benefits. The Company also contributes to this arrangement. Details of the contributions made into this Scheme have been disclosed in the single figure calculation and are not included in the above disclosure.

Payments made to past Directors (audited)
No payments were made during 2022.

Payments for loss of office (audited)
No payments were made during 2022.

Statement of Directors' shareholding and share interests (audited)
Executive Directors are required to hold shares in the Company equivalent to 200% of base salary, with a five-year period to build up this holding from: (1) appointment to the Board; or (2) the date of the 2017 AGM (17 May 2017) for the current Executive Directors. The Remuneration Policy adopted at the 2020 AGM also requires 100% of the shareholding requirement to be held for one year following cessation of employment with the Group and 50% of the shareholding requirement to be held for two years following cessation of employment with the Group. As set out in the proposed Remuneration Policy, for 2023 we have enhanced the post-employment shareholding requirement and Executive Directors will be required to retain such relevant shares as are worth 200% of salary for the full two year period. Throughout 2022, D Stirling complied with the Policy, holding 460% of base salary at 31 December 2022. G McGrath is making progress towards meeting the requirement and holds 164% of base salary at 31 December 2022.[1]

[1] Includes shares owned outright and interests in share incentive scheme without performance conditions. Calculated on the basis of the average share price over the three months to 31 December 2022 of £3.03.

The tables below set out the Directors' interests (including those of their connected persons) in Zotefoams shares as at 31 December 2022. There were no changes in the Directors' interests between the year end and the date of this report.

Executive Directors

	Shares owned outright[1]	Interest in share incentive schemes without performance conditions[2]	Interest in share incentive schemes with performance conditions[3]
D Stirling	493,029	55,192	274,303
G McGrath	94,747	47,187	182,586

[1] Includes Partnership Shares, Dividend Shares and vested Matching Shares under the SIP.
[2] Comprises: vested CSOP awards; DBSP shares; unvested Matching Shares under the SIP, the unvested portions of the 2018 LTIP awards due to vest 24 May 2023 and 2020 LTIP awards due to vest 21 September 2023 respectively.
[3] Comprises: unvested LTIP shares.

Non-Executive Directors

	Shares owned outright
J Carling	3,323
A Fielding	9,121
S Good	30,047
D Robertson	7,302
C Wall	7,936

Directors' Remuneration report
Continued

Scheme interests (audited)

The table below provides details of the current position of outstanding awards made to the Executive Directors who served in the year under review:

	Scheme	As at 31 Dec 2021	Date of exercise or release	Granted during the year	Exercised or released	Lapsed or cancelled	As at 31 Dec 2022	Market price on exercise date	Exercise price	Date from which exercisable	Expiry date
D Stirling	LTIP (2017)[1]	18,144	07.06.2022	–	(18,144)	–	**–**	£3.07	–	01.06.2021[2]	n/a
	LTIP (2018)	10,478	07.06.2022	–	(5,240)	–	**5,238**	£3.07	–	24.05.2021	n/a
	LTIP (2019)	73,070	14.03.2022	–	–	(73,070)	**–**	–	–	20.05.2022	n/a
	LTIP (2020)	87,674	–	–	–	–	**87,674**	–	–	21.09.2023	n/a
	LTIP (2021)	115,192	–	–	–	–	**115,192**	–	–	26.04.2024	n/a
	LTIP (2022)	–	–	159,111	–	–	**159,111**	–		29.04.2025	n/a
	DBSP (2018)	2,677	07.06.2022	–	(2,677)	–	**–**	£3.07	–	20.05.2022	n/a
	DBSP (2019)[4] 25%	11,835	–	–	–	–	**11,835**	–	–	20.04.2023	n/a
	DBSP (2020)	3,678	–	–	–	–	**3,678**	–	–	08.04.2024	n/a
	DBSP (2021)	–	–	4,207	–	–	**4,207**	–	–	29.04.2025	n/a
	SIP[3]	714	–	146	–	–	**860**	–	–	–	n/a
G McGrath	CSOP	10,344	–	–	–	–	**10,344**	–	£2.90	05.04.2019	05.04.2026
	LTIP (2017)[1]	11,906	07.06.2022	–	(11,906)	–	**–**	£3.07	–	01.06.2021[2]	n/a
	LTIP (2018)	7,061	07.06.2022	–	(3,531)	–	**3,530**	£3.07	–	24.05.2021	n/a
	LTIP (2019)	48,352	14.03.2022	–	–	(48,352)	**–**	–	–	20.05.2022	n/a
	LTIP (2020)	58,015	–	–	–	–	**58,015**	–	–	21.09.2023	n/a
	LTIP (2021)	76,676	–	–	–	–	**76,676**	–	–	26.04.2024	n/a
	LTIP (2022)	–	–	105,910	–	–	**105,910**	–	–	29.04.2025	n/a
	DBSP (2018)	2,497	07.06.2022	–	(2,497)	–	**–**	£3.07	–	20.05.2022	n/a
	DBSP (2019) 25%	7,444	–	–	–	–	**7,444**	–	–	20.04.2023	n/a
	DBSP (2019)[4] 75%	22,335	05.12.2022	–	(22,335)	–	**–**	–	–	See below[4]	n/a
	DBSP (2020)	3,303	–	–	–	–	**3,303**	–	–	08.04.2024	n/a
	DBSP (2021)	–	–	2,036	–	–	**2,036**	–	–	29.04.2025	n/a
	SIP[3]	667	–	145	–	–	**812**	–	–	–	n/a

1 30% based on relative TSR. 70% based on EPS growth. As set out in the 2019 Annual Report and Accounts, this award vested at 46.99% of maximum based on performance in the period ending 31 December 2019.

2 Matching Shares under the SIP. Participants buy Partnership Shares monthly under the SIP. The Company provides one Matching Share for every four Partnership Shares purchased. These Matching Shares are first available for vesting three years after being awarded or on leaving if the person is considered to be a "good leaver".

3 None of the 2019 bonus was paid in cash. At the request of the Executive Directors, the proportion of the bonus that would normally have been paid in cash (75% of the award) was deferred into shares for a period of up to one year. The proportion of the bonus that would normally be deferred into shares (25%) will continue as normal and will be released after three years.

4 Not subject to Good Leaver/Bad Leaver provisions as defined under the DBSP rules. May not be exercised prior to 1 January 2021 and must be exercised by 20 April 2023.

Details of Directors' service contracts and appointment letters (unaudited)

The following table sets out the details of the service contracts and appointment letters for the Directors as at 31 December 2022:

Director	Date of current service contract or appointment letter	Unexpired terms at 31 December 2022
J Carling	10 August 2020	5 months
A Fielding	19 March 2020	5 months
S Good	14 March 2022	5 months
G McGrath	15 April 2019	–
D Robertson	6 August 2020	5 months
D Stirling	13 May 2019	–
C Wall	19 March 2020	5 months

Copies of the Directors' service contracts and appointment letters are available for inspection at the Company's registered office.

External appointments

During 2022, Executive Directors did not receive any fees from external appointments.

Change in remuneration of Group Directors and employees (unaudited)

The table below illustrates the percentage change in salary and benefits for the Group Directors from the prior year compared with the average percentage change for the UK workforce.

The employee subset consists of an average of the UK workforce employees for the period under review.

This group has been selected as this employee representative group is the largest group of employees within the organisation. The Non-Executive Directors receive no taxable benefits or annual bonus.

	% change in base salary (2022 to 2021)	% change in taxable benefit (2022 to 2021)	% change in annual bonus UK employees only (2022 to 2021)	% change in base salary (2021 to 2020)	% change in taxable benefit (2021 to 2020)	% change in annual bonus UK employees only (2021 to 2020)
D Stirling	5.1	2.2	10.4	7.0	-3.5	-14.1
G McGrath	5.4	1.8	10.1	7.4	-1.9	-53.7
J Carling	2.5	n/a	n/a	2.5	n/a	n/a
S Good	35.0	n/a	n/a	1.7	n/a	n/a
D Robertson	2.5	n/a	n/a	1.7	n/a	n/a
A Fielding	2.5	n/a	n/a	61.6[1]	n/a	n/a
C Wall	2.5	n/a	n/a	61.6[1]	n/a	n/a
Average employee	4.66	0	512.1[2]	2.5	0	4.7

1 A Fielding and C Wall were appointed to the Board in May 2020. Their 2021 increases reflect that they were only paid their respective fees for part of the prior year.
2 The mean staff bonus in the UK was 7.24% of base salary in relation to 2022 (2021: 1.07% of base salary).

The UK employees' salary review is negotiated with the unions and a 4.0% increase was agreed in relation to 2022. For 2023, a salary increase of 7.0% has been agreed for UK employees. Those employees with salaries below £50,000 per annum received part of the 2023 increase in October 2022; further details are provided on page 88.

CEO pay ratio

Companies with more than 250 employees are required to publish the CEO-to-employee pay ratio. The ratio compares the total remuneration of the Group CEO against the remuneration of the median employee, and employees in the lower and upper quartiles. These pay ratios form part of the information that is provided to the Committee on broader employee pay policies and practices. The Committee has considered the pay data and concluded that the current ratio is proportionate and allows the business to retain high calibre individuals capable of delivering the growth strategy.

The ratios set out below were calculated using the Option A methodology, which uses the pay and benefits of all UK employees as it provides the most accurate information and representation of the ratios. The employee pay data used was based on the total remuneration of all Zotefoams plc's full-time employees as at 31 December 2022. The Group CEO's total remuneration has been taken from the single total figure of remuneration for 2022, as disclosed on page 101.

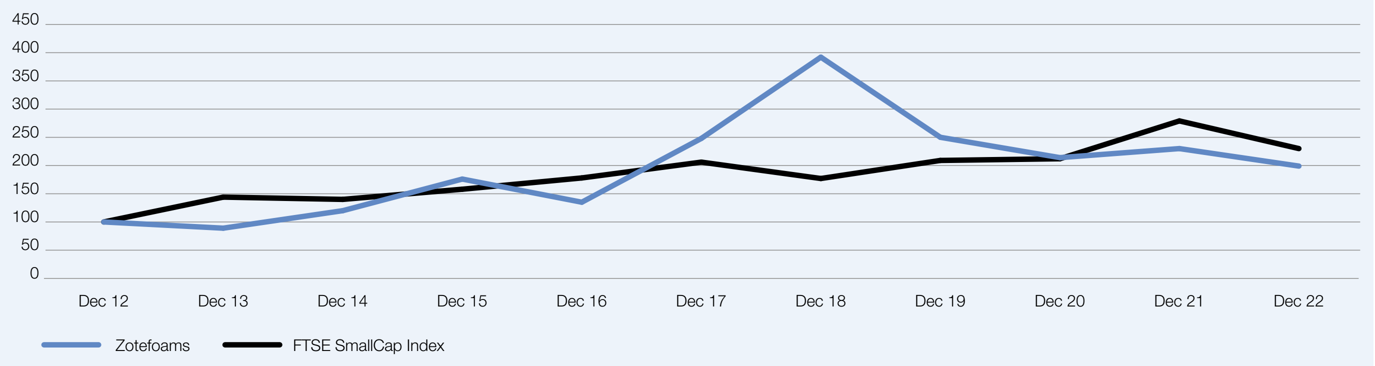
The Committee considers that the median CEO pay ratio is consistent with the relative roles and responsibilities of the Group CEO and the identified employees. Base salaries of all employees, including our Executive Directors, are set with reference to a range of factors, including market practice, location, experience and performance in role. The Group CEO's remuneration package is weighted towards variable pay (including the annual bonus, LTIP and DBSP) due to the nature of the role, which means that the ratio is likely to fluctuate depending on the outcomes of incentive plans in each year. The increase in the total pay ratio at the 25th, 50th and 75th percentiles in comparison with 2021 is due to no LTIP vesting in 2021.

Directors' Remuneration report
Continued

Year	Method	25th percentile pay ratio	50th percentile pay ratio	75th percentile pay ratio
2022 – Base salary	Option A	11:1	10:1	7:1
2022 – Total pay		22:1	19:1	15:1
2021 – Total pay		15:1	12:1	10:1
2020 – Total pay		17:1	14:1	10:1
Pay data (£'000)			**Base salary**	**Total pay**
CEO's remuneration			341,007	735,856
UK employees 25th percentile			31,524	32,795
UK employees 50th percentile			35,700	37,764
UK employees 75th percentile			47,787	50,719

Historical TSR performance and Group CEO remuneration outcomes (unaudited)

The graph below compared the TSR of Zotefoams against the FTSE SmallCap Index (excluding investment trusts), which is considered the most appropriate choice of index by the Remuneration Committee due to the Group's size and membership of this index.



Workforce alignment

While it remains important to set base salaries on a market-competitive basis reflective of the size and complexity of the business, the Committee has considered alignment of executive remuneration with workforce reward structures.

The table below illustrates the Group CEO's single figure for total remuneration, annual bonus pay-out, LTIP vesting as a percentage of maximum opportunity, the EPS and the average share price for the final quarter for the same ten-year period.

	Group CEO's single figure of remuneration (£)	Annual bonus pay-out (% of maximum)	LTIP vesting (% of maximum)	EPS (p)	Average share price for the final quarter (p)
2022	**735,856**	**91.6**	**34.7**	**20.6**	**303.0**
2021	441,369	22.0	0.0	9.0	402.0
2020	491,548	28.0	23.5	14.9	415.5
2019	637,473	37.1	47.0	14.9	375.4
2018	794,905	35.1	100.0	18.7	570.5
2017	676,816	84.4	58.0	16.6[1]	389.2
2016	497,545	55.0	37.7	13.7	252.5
2015	418,568	44.4	50.0	11.1	344.3
2014	439,452	44.0	66.0	10.7	237.8
2013	270,687	–	24.8	8.0	182.4

1 While basic earnings per share before exceptional items for 2017 was 16.04p, the Remuneration Committee decided to eliminate the impact on deferred tax (the net operating losses which are carried forward) of the change in expected future US corporate tax rates, which resulted in an EPS of 16.59p before exceptional items being used for calculating the satisfaction of the EPS target for the vesting of the 2015 LTIP awards.

Relative importance of spend on pay (unaudited)

The table below illustrates the year-on-year change in total Executive Directors' remuneration and Executive Directors' remuneration compared with profit after tax and distributions to shareholders for 2022 and 2021.

	% change 2021/2022	2022 £'000	2021 £'000
Total remuneration[1]	14	25,227	22,040
Executive Directors' remuneration	71	1,226	719
Profit after tax	129	10,006	4,376
Shareholder distributions[2]	4	3,188	3,074

1 Social security costs paid by the Group have been excluded from this figure.
2 Shareholder distributions refer to the dividends paid during the year.

Committee role and advisers (unaudited)

The Group has established a Remuneration Committee, which is constituted in accordance with the recommendations of the UK Corporate Governance Code. A Fielding, S Good, D Robertson, J Carling and C Wall were members of the Committee during 2022 to the date of this report. All the members are independent Non-Executive Directors, with the exception of S Good, who was independent on appointment as Chair of the Company. The Committee was chaired by A Fielding throughout the year. The Committee's Terms of Reference were last updated in August 2022 and may be found on the Group's website.

None of the Committee members have any personal financial interest (other than fees paid as disclosed on page 101 and as shareholders) in the Company, nor do they have any interests that may conflict with those of the Group, such as cross directorships. None of the Committee members are involved in the day-to-day management of the business. The Committee makes recommendations to the Board on remuneration matters. No Director is involved in any decision concerning his or her own remuneration.

The Remuneration Committee met eight times in 2022, with full attendance at each meeting. The Company Secretary acts as secretary to the Committee.

In 2022, the Remuneration Committee carried out the following work:

- completed a review of the remuneration arrangements for the Executive Directors and the wider workforce and consulted with the Group's largest shareholders in relation to the proposed Remuneration Policy put forward for approval at the 2023 AGM
- approved the 2021 Directors' Remuneration report
- considered and approved the annual bonus for the Executive team
- considered and approved the grant of awards under the Long-Term Incentive Plan and the Deferred Bonus Share Plan in 2022 and the vesting of awards made in 2019 under the Long-Term Incentive Plan
- considered the salary reviews of the Executive team and concluded that no increase would be awarded above the salary review applicable to the general workforce
- considered the salary review of the Company Secretary and awarded a pay increase commensurate with market rates of pay
- considered the performance targets for the 2022 Executive Directors' bonus and Long-Term Incentive Plan awards.

Deloitte LLP (Deloitte) was engaged in 2016 to assist and provide advice to the Remuneration Committee in relation to Directors' remuneration. Following a retendering exercise involving three firms, they continued to work with the Committee through 2022 in respect of general remuneration advice. Deloitte is a member of the Remuneration Consultants Group and adheres to its Code on Executive Remuneration Consulting in the UK. The Committee is comfortable that Deloitte does not have connections with Zotefoams plc that may impair its objectivity and independence. Deloitte provided no other services to the Company.

Total fees for advice provided to the Committee amounted to the following:

	2022 (£)	2021 (£)
Deloitte LLP	64,450	24,500
Total	**64,450**	**24,500**

Shareholder voting (unaudited)

The table below sets out the results of the votes received on the 2021 Directors' Remuneration report at the 2022 AGM as well as the previous Directors' Remuneration Policy (approved at the 2020 AGM):

	Directors' Remuneration Policy	%	Report on remuneration	%
Votes in favour	20,542,091	89.76	30,712,010	99.60
Votes against	2,331,595	10.19	123,706	0.40
Discretion	12,699	0.05	12,322	0.04
Total votes	22,886,385	100.00	30,848,038	100.00
Votes withheld	4,520	–	11,631	–

Directors' report

The Directors present their Annual Report and audited consolidated financial statements for the year ended 31 December 2022

Results and dividends

Profit attributable to shareholders for the year amounted to £10.0m (2021: £4.4m). An interim dividend of 2.18p (2021: 2.10p) per share was paid on 7 October 2022. The Directors recommend that a final dividend of 4.62p (2021: 4.40p) per share be paid on 2 June 2023 to shareholders who are on the Company's register at the close of business on 5 May 2023, resulting in a total dividend of 6.80p per share for the year (2021: 6.50p). For further information on the performance of the Company refer to the Strategic Report on pages 1 to 77, which should be read as forming part of the Directors' report.

Directors

The Directors who were in office during the year were:

S Good (Company Chair)
J Carling
A Fielding
G McGrath
D Robertson
D Stirling
C Wall

L Drummond was appointed as a Non-Executive Director and Chair Designate on 17 January 2023.

All Directors were in office up to the date of signing of the financial statements. Their details are set out on pages 78 and 79.

The appointment, replacement and powers of the Directors are governed by the Company's Articles of Association (the "Articles"), the UK Corporate Governance Code, the Companies Act 2006, prevailing legislation and resolutions passed at the Annual General Meeting (AGM) or other general meetings of the Company.

The Articles give the Directors power to appoint and replace Directors. Under the Terms of Reference of the Nomination Committee, any appointment must be recommended by the Nomination Committee for approval by the Board of Directors. The Articles also require Directors to retire and, if they so wish, submit themselves for election at the first AGM following their appointment and normally every three years thereafter. Since 2012, the Board has required Directors to stand for re-election each year.

D Stirling and G McGrath, the Executive Directors, have service contracts which are terminable on twelve months' written notice. All other Directors have letters of appointment which are terminable on six months' written notice.

The Company maintained Directors' and Officers' Liability Insurance cover throughout 2022. The Company has issued Deeds of Indemnity in favour of all Directors. These Deeds were in force throughout the year ended 31 December 2022 and remain in force as at the date of this report. These Deeds, as well as the service contracts and the Company's Articles of Association, are available for inspection during normal business hours at the Company's registered office and will be available at the AGM.

Conflicts of interest

All Directors submit details to the Company Secretary of any new situations, or changes to existing ones, which may give rise to an actual or potential conflict of interest with those of the Company.

Where an actual, or potential, conflict is approved by the Board, the Board will normally authorise the situation on the condition that the Director concerned abstains from participating in any discussion or decision affected by the conflicted matter. Authorisation of a conflict is only given to Directors who are not interested in the matter. No new conflicts of interest were noted during 2022 or between the year end and the date of signing of the financial statements.

Amendment to the Articles of Association

The Company's Articles of Association may only be amended by a special resolution of the shareholders passed in general meeting and were last amended in May 2021.

Corporate governance report

The corporate governance report on pages 80 to 82 **should be read as forming part of the Directors' report.**

Employees

To ensure employee welfare, the Group has documented and well-publicised policies on occupational health and safety, the environment and training. The Group operates an equal opportunities, single-status, employment policy and an open management style.

Zotefoams operates an equal opportunities policy and we believe diversity (ethnicity, age, gender, language, sexual orientation, gender re-orientation, religion and socio-economic status) of the employees promotes a better working environment, which in turn leads to innovation and business success. Applications for employment by disabled persons are always fully considered and, in the event of an employee becoming disabled, every effort is made to ensure that their employment with Zotefoams continues and that appropriate training is provided where necessary. Zotefoams' policy is that the training, career development and promotion of disabled persons should, as far as possible, be identical to that of other employees.

Zotefoams places considerable value on the involvement of its people and holds formal and informal meetings to brief them on matters affecting them as employees and on the various factors (including financial and economic factors) affecting the performance of the Group; it also ensures that their views are taken into account in making decisions which are likely to affect their interests. In the UK, there is a Joint Consultative Committee (JCC), which comprises an employee representative from each department. The JCC meets regularly and considers a wide range of matters affecting the employees' current and future interests. From January 2019, J Carling has attended meetings of the JCC in his capacity as Board representative, to provide employees with an opportunity to engage with the Board and allow the Board to have regard to employees' views in their decision-making.

In order to encourage employees to share in the success of Zotefoams, an all-employee share incentive scheme was established in 2015 in the UK. Under the scheme, employees can purchase shares each month directly from their salary. For every four shares bought, one further share is awarded. The shares vest on the third anniversary of award and are normally exempt from tax after five years.

The Company operates to a number of recognised industry standards, including Quality (ISO 9001), Environmental (ISO 14001) and Occupational Health and Safety (ISO 45001).

Further details of our certifications are provided in our Safety, Health & Environment (SHE) section on page 63.

Relationships with others

The Board has had regard to the fostering of the Group's business relationships with suppliers, customers and others in its decision-making process in order to achieve good-quality outcomes.

Further information on this topic can be found on pages 75 to 77 of the Strategic Report (the s172(1) statement), which is incorporated into this Directors' report by cross-reference.

Human rights

Zotefoams does not, at present, have a specific policy on human rights; however, it believes in recognising and respecting all human rights as defined in international conventions. This belief is embedded within the organisation's values and ethical policies. We conduct every aspect of our business with honesty, integrity and openness, respecting human rights and the interests of our employees, customers and other stakeholders, according to the principles set out in our Ethics Policy, which covers:

- ensuring our employees have the freedom to join a union, associate or bargain collectively without fear of discrimination against the exercising of such freedoms
- not using forced labour or child labour
- prohibiting the use of worker-paid fees and the confiscation of workers' original identification documents and
- respecting the rights of privacy of our employees and protecting access and use of their personal information.

The Company operates an Equal Opportunities Policy and a Dignity at Work Policy, which promote the right of every employee to be treated with dignity and respect and not be harassed or bullied. We work hard to ensure that goods and services are from sources that do not jeopardise human rights, safety or the environment, and expect our suppliers to observe business principles consistent with our own.

Business ethics

Zotefoams is committed to high standards of business conduct and aims to maintain these standards across all of our operations throughout the world. Under our Ethics Policy, we state that we will:

- operate within the law
- not tolerate any discrimination or harassment
- not make any political donations or grant public donation for the purpose of political advocacy of any kind
- not make or receive bribes
- avoid situations that might give rise to conflicts of interest
- not enter into any activity that might be considered anti-competitive
- aim to be a responsible company within our local communities
- support and encourage our employees to report, in confidence, any suspicions of wrongdoing.

Supporting our Ethics Policy, we have policies on anti-bribery and corruption, anti-fraud, anti-competitive behaviour, employee share trading and whistleblowing.

In 2020, we introduced a declaration of adherence to the principles laid out in the Anti-Bribery and Corruption, Anti-Fraud and Ethics policies in the business dealings of all new suppliers. Suppliers' ethical matters were further reviewed in 2022 through the analysis of the top 50 suppliers by turnover as part of the work to compile our modern slavery statement:

Scan the QR code to see our Modern Slavery statement
zote.info/3z1huTC

Suppliers' ethical disclosures will remain under review.

Substantial shareholdings

In accordance with the Disclosure and Transparency Rules DTR 5, the Company, as at 3 April 2023, had received notices of the following material interests of 3% or more in the issued ordinary share capital:

	Ordinary shares of 5.0p	Percentage of issued share capital
Schroders plc	7,007,957	14.41
Canaccord Genuity Group, Inc	5,203,462	10.70
Invesco (Oppenheimer Funds)	4,000,000	8.23
Premier Miton Group plc	2,613,649	5.38
Mr Nicholas Beaumont-Dark	1,938,352	3.99
Highclere International Investors LLP	1,790,601	3.68
BGF Investments LP	1,735,620	3.57
Mr Marc & Mrs Claire Downes	1,547,610	3.18
Charles Stanley & Co Ltd	1,521,114	3.13
Interactive Investor Ltd	1,516,565	3.12

Directors' shareholdings are shown in the Directors' Remuneration report on pages 105 and 106.

Research and development

The amount spent by the Group on R&D in the year was £787k (2021: £806k). In the opinion of the Directors, £767k (2021: £627k) of this expenditure met the requirements for capitalisation under IAS 38, while £20k (2021: £179k) did not and was consequently expensed in the consolidated income statement.

Share capital and reserves

The Company has one class of ordinary shares, which has no right to fixed income. Each share carries the right, on a poll, to one vote at general meetings of the Company. There are no specific restrictions on the size of a holding nor on the transfer of shares, which are both governed by the general provisions of the Articles of Association and prevailing legislation. The Directors are not aware of any agreements between holders of the Company's shares that may result in restrictions on the transfer of securities or on voting rights. No person has any special rights of control over the Company's share capital and all issued shares are fully paid.

At 31 December 2022, the Zotefoams Employees' Benefit Trust (EBT) held 107,130 shares (approximately 0.2% of issued share capital) (2021: 196,888 shares) to satisfy share plans as described in the Directors' Remuneration report. During the year, the EBT released 89,758 shares in respect of these share plans. In accordance with best practice, the voting rights on the shares held in the EBT are not exercised and the right to receive dividends has been waived.

At the AGM held on 25 May 2022, authority was given to the Directors to allot unissued shares in the Company up to a maximum amount equivalent to approximately two-thirds of the issued share capital of the Company. Authority was also given to the Directors to allot equity securities in the Company for cash without regard to the pre-emption provisions of the Companies Act 2006. Both authorities expire at the AGM to be held on 24 May 2023. The Directors seek new authorities for a further year, in line with market practice.

The Company was given authority at the 2022 AGM to purchase up to 4,862,123 of its ordinary shares. This authority will also expire on 24 May 2023 and, at the date of this Report, had not been used. In accordance with normal practice for listed companies, a special resolution will be proposed at this year's AGM to seek a new authority to make market purchases up to a maximum of 10% of the issued share capital of the Company.

Directors' report
Continued

Subsidiaries and branches
Details of the joint ventures, subsidiaries and branches within the Group are given in the financial statements.

Treasury and financial instruments
Information in respect of the Group's policies on financial risk management objectives, including policies for hedging, as well as an indication of exposure to financial risk, is given in note 21 to the financial statements.

Future developments
Information on future developments for the Group has been set out in the Introduction from our Chair and the Group CEO's review on pages 25 to 31.

Greenhouse gas emissions
Information on the Group's greenhouse gas emissions may be found in the ESG report on page 66.

Pension schemes
Refer to the post-employment benefits section of the Group CFO's review on pages 32 to 38 and note 23 to the financial statements for information related to the Company's pension schemes.

In the UK, Zotefoams plc runs a number of defined contribution pension schemes. New joiners are eligible to join the Zotefoams Stakeholder Pension Scheme.

Finance costs capitalised
Refer to note 6 to the financial statements for details of any borrowing costs capitalised by the Group.

Events after the reporting period
Refer to note 27 to the financial statements for details of any events after the reporting period affecting the Group.

Disclosure of information to Auditor
The Directors who held office at the date of approval of this Directors' report confirm that, in so far as they are each aware, there is no relevant audit information of which the Company's External Auditor is unaware, and each Director has taken all the steps that they ought to have taken as a Director in order to make themselves aware of any relevant audit information and to establish that the Company's External Auditor is aware of that information.

Independent Auditor
A resolution to re-appoint PKF Littlejohn LLP as the Company's External Auditor will be proposed at the forthcoming AGM.

On behalf of the Board,

G C McGrath
Director

4 April 2023

Statement of Directors' responsibilities in respect of the financial statements

The Directors consider the Annual Report, taken as a whole, to be fair, balanced and understandable

The Directors are responsible for preparing the Annual Report and the financial statements in accordance with applicable law and regulation.

Company law requires the Directors to prepare financial statements for each financial year. Under that law, the Directors have prepared the Group and Company financial statements in accordance with UK-adopted international accounting standards. Under company law, the Directors must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the Group and Company and of the profit or loss of the Group and Company for that period. In preparing the financial statements, the Directors are required to:

- select suitable accounting policies and then apply them consistently
- state whether applicable UK-adopted international accounting standards have been followed subject to any material departures disclosed and explained in the financial statements
- make judgements and accounting estimates that are reasonable and prudent
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the Group and Company will continue in business.

The Directors are responsible for safeguarding the assets of the Group and Company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

The Directors are responsible for keeping adequate accounting records that are sufficient to show and explain the Group's and Company's transactions and disclose with reasonable accuracy at any time the financial position of the Group and Company and enable them to ensure that the financial statements and the Directors' Remuneration report comply with the Companies Act 2006.

The Directors are also responsible for the maintenance and integrity of the Company's website. Legislation in the United Kingdom governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

Directors' confirmations

The Directors consider that the Annual Report, taken as a whole, is fair, balanced and understandable and provides the information necessary for shareholders to assess the position and performance, business model and strategy of the Group and Company.

Each of the Directors, whose names and functions are listed on pages 78 and 79 of the Annual Report, confirm that, to the best of their knowledge:

- the Consolidated and Company financial statements, which have been prepared in accordance with UK-adopted international accounting standards, give a true and fair view of the assets, liabilities, financial position and profit of the Group and Company
- the Group CEO's review includes a fair review of the development and performance of the business and the position of the Group and Company. A description of the principal risks and uncertainties faced by the Group and the Company is provided on pages 39 to 50.

Independent auditor's report to the members of Zotefoams plc

Opinion

We have audited the financial statements of Zotefoams plc (the "parent company") and its subsidiaries (the 'group') for the year ended 31 December 2022 which comprise the Consolidated income statement, the Consolidated statement of comprehensive income, the Consolidated and Parent Company statements of financial position, the Consolidated and Parent Company statement of cash flows, the Consolidated and Parent Company statement of changes in equity, and notes to the financial statements, including significant accounting policies. The financial reporting framework that has been applied in their preparation is applicable law and UK-adopted international accounting standards and as regards the parent company financial statements, as applied in accordance with the provisions of the Companies Act 2006.

In our opinion:

- the financial statements give a true and fair view of the state of the group's and of the parent company's affairs as at 31 December 2022 and of the group's profit for the year then ended
- the group financial statements have been properly prepared in accordance with UK-adopted international accounting standards
- the parent company financial statements have been properly prepared in accordance with UK-adopted international accounting standards and as applied in accordance with the provisions of the Companies Act 2006
- the financial statements have been prepared in accordance with the requirements of the Companies Act 2006.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) and applicable law. Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the financial statements section of our report. We are independent of the group and parent company in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, including the FRC's Ethical Standard as applied to listed public interest entities, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Conclusions relating to going concern

In auditing the financial statements, we have concluded that the directors' use of the going concern basis of accounting in the preparation of the financial statements is appropriate. Our evaluation of the directors' assessment of the group's and parent company's ability to continue to adopt the going concern basis of accounting included:

- confirming our understanding of the directors' going concern assessment process, including the controls over the review and approval of the budget and five-year plan
- assessing the appropriateness of the duration of the going concern assessment period to 30 June 2024 and considering the existence of any significant events or conditions beyond this period based on our procedures on the group's five-year plan and knowledge arising from other areas of the audit
- evaluating management's historical forecasting accuracy and the consistency of the going concern assessment with information obtained from other areas of the audit, such as our audit procedures on management's impairment assessments
- testing the assessment, including forecast liquidity, for mathematical accuracy
- agreeing the underlying cash flow projections to management-approved forecasts, recalculating the impact on banking covenants and liquidity headroom for the base case scenario
- assessing whether key assumptions made were reasonable and appropriately severe, in light of the group's relevant principal risks and uncertainties and our own independent assessment of those risks
- performing independent sensitivity analysis on management's key assumptions, including applying incremental adverse cash flow sensitivities. The sensitivity analysis included the impact of certain severe but plausible scenarios, evaluated as part of management's work on the group's viability, including pandemic disruption, operational disruption, technology displacement, loss of key customer in HPP, increase in cost of inflation, the war in Ukraine leading to soaring energy prices, and the development of ReZorce
- evaluating the amount and timing of identified mitigating actions available to respond to a severe downside scenario, such as ability to restrict capital expenditure, cash payments associated with dividends, bonus and share options and whether those actions are feasible and within the group's control
- considering the appropriateness of management's downside scenario, to understand how severe conditions would have to be to breach liquidity and whether the reduction in EBITDA required has no more than a remote possibility of occurring.

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the group's or parent company's ability to continue as a going concern for a period of at least twelve months from when the financial statements are authorised for issue.

In relation to the entities reporting on how they have applied the UK Corporate Governance Code, we have nothing material to add or draw attention to in relation to the directors' statement in the financial statements about whether the directors considered it appropriate to adopt the going concern basis of accounting.

Our responsibilities and the responsibilities of the directors with respect to going concern are described in the relevant sections of this report.

Our application of materiality

The scope of our audit was influenced by our application of materiality. We set certain quantitative thresholds for materiality. These, together with qualitative considerations, helped us to determine the scope of our audit and the nature, timing and extent of our audit procedures on the individual financial statement line items and disclosures and in evaluating the effect of misstatements, both individually and in aggregate on the financial statements as a whole.

Based on our professional judgement, we determined materiality for the financial statements as a whole as follows:

	Group financial statements	Company financial statements
Overall materiality	£900,000 (2021: £350,000)	£810,000 (2021: £315,000)
Performance materiality	£630,000 (2021: £245,000)	£567,000 (2021: £220,500)
Basis of materiality	7.5% (2021: 5%) of profit before tax (PBT)	7.5% (2021: 5%) of PBT capped at 90% of group
Rationale	PBT is the primary key performance indicator used by management in assessing the performance of the group. As a profit generating group, we consider the users of the financial statements, such as investors, will also consider PBT to be a key metric.	PBT is the primary key performance indicator used by management in assessing the performance of the parent company. As a profit generating company, we consider the users of the financial statements, such as investors, will also consider PBT to be a key metric.

For each component in the scope of our group audit, we allocated a materiality that is less than our overall group materiality. The range of materiality allocated across components was between £251,000 and £429,000 (2021: £68,000 and £315,000). Certain components were audited to a local statutory audit materiality that was also less than our overall group materiality.

We agreed with the Audit Committee that we would report on the misstatements identified during our audit above £45,000 (group audit) and £40,500 (parent company audit) as well as misstatements below those amounts that, in our view, warranted reporting for qualitative reasons.

Our approach to the audit

As part of designing our audit, we determined materiality and assessed the risk of material misstatement in the financial statements. In particular, we looked at areas involving significant accounting estimates and judgement by the directors and considered future events that are inherently uncertain such as the impairment of intangible assets and assumptions used in calculating the defined benefit pension scheme. We also addressed the risk of management override of internal controls, including among other matters consideration of whether there was evidence of bias that represented a risk of material misstatement due to fraud.

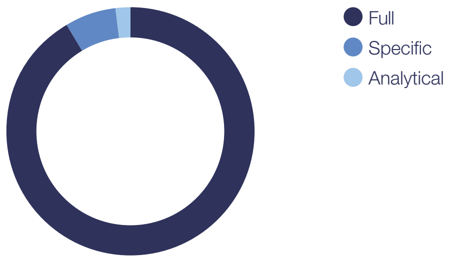
The group has ten trading companies (including joint ventures) within the consolidated financial statements, two based in the UK, two based in Europe, three in Asia and three in the USA. We identified four significant components: the parent company – Zotefoams plc; and the subsidiaries – Zotefoams Inc, MuCell Extrusion LLC and Zotefoams Poland Sp.z.o.o., which were subject to a full scope audit by a team with relevant sector experience undertaken from our office based in London. We engaged the assistance of PKF network firms to assist with inventory count procedures, as we were not able to visit some of the overseas components, and with wages procedures for Poland.

In addition, we identified components which were neither material nor significant to the group and we performed an audit of specific account balances and classes of transactions to ensure that balances which were material to the group were subject to audit procedures, including:

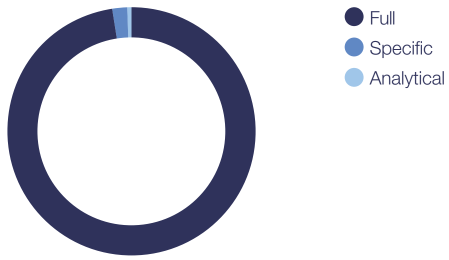
- inventories, revenue, cost of sales and expenses in Zotefoams Midwest LLC
- inventory, revenue, cost of sales, expenses, bank and receivables in Zotefoams T-FIT Material Technology (Kunshan) Limited
- inventories, revenue, cost of sales and bank in T-FIT Insulation Solutions India Private Limited
- revenue, cost of sales and bank in Zotefoams Operations Limited.

The components identified as not significant and not material were subject to review procedures undertaken by the same audit team. The approach gave the audit team the following coverage:

Coverage of PBT



Coverage of gross assets



Independent auditor's report to the members of Zotefoams plc
Continued

Key audit matters
Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the financial statements of the current period and include the most significant assessed risks of material misstatement (whether or not due to fraud) we identified, including those which had the greatest effect on: the overall audit strategy, the allocation of resources in the audit; and directing the efforts of the engagement team. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Key audit matter	How our scope addressed this matter
Impairment of intangible assets in MuCell Extrusion LLC ("MuCell"): The consolidated statement of financial position as at 31 December 2022 includes intangible assets with a carrying value of $7.8m (2021: $6.2m) in respect of the group's cash-generating unit, MuCell. These are comprised of goodwill that arose on the acquisition of MuCell in a previous accounting period and capitalised development costs relating to the new MuCell 2.0 technology, ReZorce. MuCell has historically been loss-making and has continued to incur losses in 2022. Progress is being made in respect of the ReZorce technology, which is seeking to be a new, breakthrough product for an established packaging market. Per IAS 36 *Impairment of Assets*, goodwill is required to be tested for impairment annually. Other intangible assets are required to be tested for impairment when an indication of impairment exists, and the losses being incurred in MuCell are an example of a potential impairment trigger. The impairment reviews undertaken require judgements and estimates to be made by management. We have assessed this to be a key audit matter due to the financial significance of the balance and the level of judgement and estimation required in considering the recoverable amount of the intangible assets. The group's assessment of the value in use (VIU) of MuCell involves estimation about the future performance of the ReZorce technology when fully operational and upon achieving commercial success. In particular, the determination of the ReZorce forecasts was sensitive to projected profit before tax, growth rate, estimated market size, the timeliness of successful trials and discount rate. Auditing the group's annual impairment test was complex and involved significant auditor judgement, given the estimation uncertainty related to the significant assumptions described above used in the VIU models, in addition to the sensitivity of certain VIU models to fluctuations in those assumptions and tracking the progress of technology development. For more details refer to notes 12 and 26.	Our work in this area included: ▶ obtaining an understanding of, evaluating the design and implementation of, and testing the operating effectiveness of controls over the group's impairment review process, including management's controls over the significant assumptions used in the review ▶ reviewing the assumptions used in the model for reasonableness and obtaining supporting evidence, including internally approved budgets and external data, such as economic and industry forecasts for the relevant markets, where available. We also reviewed the assumptions for consistency with evidence obtained from other areas of our audit ▶ performing our own sensitivity analysis on the model to understand the effect that key assumptions used have on the headroom to the model ▶ gaining an understanding of the potential market size for the ReZorce product, management's strategy to break into the market and potential customer appetite for ReZorce ▶ challenging management on the development of ReZorce and obtaining an in-depth understanding of the status of ongoing trials with key customers ▶ obtaining and reviewing the asset purchase agreements relating to the acquisition of the assets of ReFour, a company incorporated in Denmark, which management expects will result in the acceleration of the development activities of MuCell, to ensure appropriate accounting of the transaction ▶ gaining an understanding of management's plan for the utilisation of ReFour assets and how the assets are to be utilised for supporting development activities of MuCell technology ▶ ensuring that there are no indicators of impairment to the technology as per IAS 36 and that the asset is not carried in the financial statements at more than its recoverable amount. **Key observations** During the year, the parent company has engaged with companies specialising in products that can use ReZorce technology. Activities have expanded to new locations with the ReFour acquisition and this is assisting in accelerating development and product testing. Based on management's impairment assessment the carrying value of the intangible asset is reasonable as at 31 December 2022.
Valuation of defined benefit obligation The liabilities relating to the group's closed defined benefit pension scheme totalled £3,290k at 31 December 2022, representing 5% of total liabilities on the consolidated statement of financial position. The valuation of the scheme's liabilities requires management to use their judgement in making several highly sensitive assumptions, being the rate of inflation Consumer Price Index (CPI) and Retail Price Index (RPI), the discount rate and the life expectancy of the scheme members. Given the financial significance and the inherent judgements and estimates within the calculation, this has been assessed as a key audit matter. For more details refer to notes 23 and 26.	Our work in this area included: ▶ an assessment of the independence and competence of management's actuary to calculate the pension scheme liability ▶ involvement of a valuation specialist in our team to assist with the assessment of the assumptions used in the actuarial valuation of pension liabilities ▶ a comparison of key assumptions against benchmarks performed by the PKF Actuarial team ▶ obtaining confirmations and control reports from the investment manager and custodian to confirm the existence and accuracy of the pension scheme assets ▶ testing employee data used by the actuary ▶ tracing contributions and payments/claims paid to the pension fund to bank statements ▶ an assessment of whether adequate disclosures have been included in the annual report, and whether the accounting treatment of the pension scheme liabilities is in line with IAS 19 *Employee Benefits*. **Key observations** We are satisfied that the overall methodology is appropriate, and the assumptions applied in relation to determining the pension valuation are within an acceptable range.

Other information

The other information comprises the information included in the annual report, other than the financial statements and our auditor's report thereon. The directors are responsible for the other information contained within the annual report. Our opinion on the group and parent company financial statements does not cover the other information and, except to the extent otherwise explicitly stated in our report, we do not express any form of assurance conclusion thereon. Our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the course of the audit, or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether this gives rise to a material misstatement in the financial statements themselves. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact.

We have nothing to report in this regard.

Opinions on other matters prescribed by the Companies Act 2006

In our opinion the part of the directors' remuneration report to be audited has been properly prepared in accordance with the Companies Act 2006.

In our opinion, based on the work undertaken in the course of the audit:

- the information given in the strategic report and the directors' report for the financial year for which the financial statements are prepared is consistent with the financial statements
- the strategic report and the directors' report have been prepared in accordance with applicable legal requirements.

Matters on which we are required to report by exception

In the light of the knowledge and understanding of the group and the parent company and their environment obtained in the course of the audit, we have not identified material misstatements in the strategic report or the directors' report.

We have nothing to report in respect of the following matters in relation to which the Companies Act 2006 requires us to report to you if, in our opinion:

- adequate accounting records have not been kept by the parent company, or returns adequate for our audit have not been received from branches not visited by us; or
- the parent company financial statements and the part of the directors' remuneration report to be audited are not in agreement with the accounting records and returns; or
- certain disclosures of directors' remuneration specified by law are not made; or
- we have not received all the information and explanations we require for our audit.

Corporate governance statement

We have reviewed the directors' statement in relation to going concern, longer-term viability and that part of the Corporate Governance statement relating to the group's and parent company's compliance with the provisions of the UK Corporate Governance Code specified for our review by the Listing Rules.

Based on the work undertaken as part of our audit, we have concluded that each of the following elements of the Corporate Governance statement is materially consistent with the financial statements or our knowledge obtained during the audit:

- Directors' statement with regards to the appropriateness of adopting the going concern basis of accounting and any material uncertainties identified set out on page 38 and note 2.1i of this annual report;
- Directors' explanation as to their assessment of the group's prospects, the period this assessment covers and why the period is appropriate set out on page 51 of this annual report;
- Directors' statement on whether they have a reasonable expectation that the group will be able to continue in operation and meet its liabilities set out on page 38, 51 and note 2.1i of this annual report;
- Directors' statement that they consider the annual report and the financial statements, taken as a whole, to be fair, balanced and understandable set out on page 113 of this annual report;
- the Board's confirmation that it has carried out a robust assessment of the emerging and principal risks set out on page 82 of this annual report;
- the section that describes the review of effectiveness of risk management and internal control systems set out on page 82 of this annual report;
- the section describing the work of the audit committee set out on page 83 to 85 of this annual report.

Responsibilities of directors

As explained more fully in the statement of directors' responsibilities, the directors are responsible for the preparation of the group and parent company financial statements and for being satisfied that they give a true and fair view, and for such internal control as the directors determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the group and parent company financial statements, the directors are responsible for assessing the group's and the parent company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the group or the parent company or to cease operations, or have no realistic alternative but to do so.

Independent auditor's report to the members of Zotefoams plc
Continued

Auditor's responsibilities for the audit of the financial statements
Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

Irregularities, including fraud, are instances of non-compliance with laws and regulations. We design procedures in line with our responsibilities, outlined above, to detect material misstatements in respect of irregularities, including fraud. The extent to which our procedures are capable of detecting irregularities, including fraud, is detailed below.

- We obtained an understanding of the group and parent company and the sector in which they operate to identify laws and regulations that could reasonably be expected to have a direct effect on the financial statements. We obtained our understanding in this regard through discussions with management, internal audit, those responsible for legal and compliance procedures, the company secretary and through application of cumulative audit knowledge and experience of the sector. We corroborated our enquiries through our review of board minutes and papers provided to the Audit Committee, correspondence received from regulatory bodies and attendance at all meetings of the Audit Committee, as well as consideration of the results of our audit procedures across the group and parent company.
- We determined the principal laws and regulations relevant to the group and parent company in this regard to be those arising from Listing Rules, Companies Act 2006, Disclosure and Transparency Rules, UK Corporate Governance Code, The Chemicals (Hazard Information and Packaging for Supply) (Amendment) Regulations 2008, The Institution of Chemical Engineers (CA) Order 2004, The Offshore Chemical Regulations 2002, The Export and Import of Dangerous Chemicals Regulations 2005, Industry and Exports (Financial Support) Act 2009, Export Control Act 2002, Import and Export Control Act 1990, The Consumer Protection Act 1987, Anti-money laundering regulations, EU Registration, Evaluation, Authorisation and Restriction of Chemicals regulations, Pressure Systems Safety Regulations 2000 and The UK Chemical Industries Association regulations GDPR.
- Our audit procedures were designed to ensure that the audit team considered whether there were any indications of non-compliance by the group and parent company with those laws and regulations. The group and parent company are subject to laws and regulations that directly affect the financial statements including financial reporting legislation, pensions legislation, distributable profits legislation, and taxation legislation and we assessed the extent of compliance with these laws and regulations as part of our procedures on the related financial statement items.
- In addition, the group and parent company are subject to many other laws and regulations where the consequences of non-compliance could have a material effect on amounts or disclosures in the financial statements, for instance through the imposition of fines or litigation. We identified the following areas as those most likely to have such an effect: health and safety; various regulation around the handling of chemicals and general environmental protection legislation; fraud; bribery and corruption; export control; Consumer Rights Act; and employment law recognising the nature of the group and parent company's activities. Our audit procedures to identify non-compliance with these laws and regulations included enquiry of the directors and other management and inspection of regulatory and legal correspondence, if any.
- We assessed the susceptibility of the group's financial statements to material misstatement, including how fraud might occur by meeting with management and reviewing the risk and uncertainties committee minutes to understand where it considered there was susceptibility to fraud. We also considered performance targets and their propensity to influence on efforts made by management to manage earnings. We considered controls that the group has established to address risks identified, or that otherwise prevent, deter and detect fraud; and how senior management monitors those programmes and controls. Where the risk was considered to be higher, we performed audit procedures to address each identified fraud risk.
- As in all of our audits, we addressed the risk of fraud arising from management override of controls by performing audit procedures which included, but were not limited to: the testing of journals with a focus on manual consolidation journals and journals indicating large or unusual transactions based on our understanding of the business; reviewing accounting estimates for evidence of bias; reviewing minutes of meetings of those charged with governance and internal audit reports; and evaluating the business rationale of any significant transactions that are unusual or outside the normal course of business.
- Because of the inherent limitations of an audit, there is a risk that we will not detect all irregularities, including those leading to a material misstatement in the financial statements or non-compliance with regulation. This risk increases the more that compliance with a law or regulation is removed from the events and transactions reflected in the financial statements, as we will be less likely to become aware of instances of non-compliance. The risk is also greater regarding irregularities occurring due to fraud rather than error, as fraud involves intentional concealment, forgery, collusion, omission or misrepresentation.

Other matters which we are required to address
We were appointed by the Audit Committee on 6 October 2020 to audit the financial statements for the period ending 31 December 2020 and subsequent financial periods. Our total uninterrupted period of engagement is three years, covering the periods ending 31 December 2020 to 31 December 2022.

The non-audit services prohibited by the FRC's Ethical Standard were not provided to the group or the parent company and we remain independent of the group and the parent company in conducting our audit.

Our audit opinion is consistent with the additional report to the audit committee.

Use of our report
This report is made solely to the company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone, other than the company and the company's members as a body, for our audit work, for this report, or for the opinions we have formed.

Joseph Archer (Senior Statutory Auditor)
For and on behalf of PKF Littlejohn LLP
Statutory Auditor
15 Westferry Circus
Canary Wharf
London E14 4HD
4 April 2023

Consolidated income statement
For the year ended 31 December 2022

	Note	2022 £'000	2021 £'000
Revenue	3	**127,369**	100,750
Cost of sales		**(88,639)**	(74,184)
Gross profit		**38,730**	26,566
Distribution costs		**(8,037)**	(7,316)
Administrative expenses		**(16,762)**	(11,117)
Operating profit		**13,931**	8,133
Finance costs	6	**(1,814)**	(1,116)
Finance income	6	**56**	11
Share of profit/(loss) from joint venture	9	**50**	(20)
Profit before income tax		**12,223**	7,008
Income tax expense	7	**(2,217)**	(2,632)
Profit for the year		**10,006**	4,376
Profit attributable to:			
Equity holders of the Company		**10,006**	4,376
		10,006	4,376
Earnings per share:			
Basic (p)	8	**20.61**	9.01
Diluted (p)	8	**20.20**	8.87

All activities of the Group are continuing.

The notes on pages 127 to 165 form an integral part of these financial statements.

The Company has elected to take the exemption under section 408 of the Companies Act 2006 from presenting the Company income statement and other comprehensive income.

Company number: 2714645

Consolidated statement of comprehensive income
For the year ended 31 December 2022

	Note	2022 £'000	2021 £'000
Profit for the year		**10,006**	4,376
Other comprehensive income			
Items that will not be reclassified to profit or loss			
Actuarial gains on defined benefit pension schemes	23	**584**	3,517
Tax relating to items that will not be reclassified		**(146)**	(444)
Total items that will not be reclassified to profit or loss		**438**	3,073
Items that may be reclassified subsequently to profit or loss			
Foreign exchange translation gains/(losses) on investments in foreign subsidiaries		**3,681**	(96)
Change in fair value of hedging instruments		**(3,025)**	(344)
Hedging gains/(losses) reclassified to profit or loss		**2,865**	(1,251)
Tax relating to items that may be reclassified		**185**	376
Total items that may be reclassified subsequently to profit or loss		**3,706**	(1,315)
Other comprehensive income for the year, net of tax		**4,144**	1,758
Total comprehensive income for the year		**14,150**	6,134
Total comprehensive income attributable to:			
Equity holders of the Company		**14,150**	6,134
Total comprehensive income for the year		**14,150**	6,134

The notes on pages 127 to 165 form an integral part of these financial statements.

Consolidated statement of financial position
As at 31 December 2022

	Note	2022 £'000	2021 £'000
Non-current assets			
Property, plant and equipment	10	**94,295**	91,401
Right-of-use assets	11	**939**	1,104
Intangible assets	12	**7,774**	6,224
Investment in joint venture	9	**153**	163
Trade and other receivables	15	**122**	11
Deferred tax assets	19	**410**	492
Total non-current assets		**103,693**	99,395
Current assets			
Inventories	14	**26,139**	25,954
Trade and other receivables	15	**29,447**	24,338
Derivative financial instruments	21	**486**	173
Cash and cash equivalents	16	**10,594**	8,055
Total current assets		**66,666**	58,520
Total assets		**170,359**	157,915
Current liabilities			
Trade and other payables	17	**(13,500)**	(9,242)
Derivative financial instruments	21	**(1,550)**	(600)
Current tax liability		**(226)**	(83)
Lease liabilities	11	**(509)**	(486)
Interest-bearing loans and borrowings	18	**(37,446)**	(26,564)
Total current liabilities		**(53,231)**	(36,975)
Non-current liabilities			
Lease liabilities	11	**(454)**	(643)
Interest-bearing loans and borrowings	18	**–**	(14,710)
Deferred tax liabilities	19	**(3,846)**	(3,155)
Post-employment benefits	23	**(3,290)**	(4,657)
Total non-current liabilities		**(7,590)**	(23,165)
Total liabilities		**(60,821)**	(60,140)
Total net assets		**109,538**	97,775
Equity			
Issued share capital	20	**2,431**	2,431
Share premium	20	**44,178**	44,178
Own shares held		**(5)**	(10)
Capital redemption reserve		**15**	15
Translation reserve		**5,909**	2,228
Hedging reserve		**(285)**	(310)
Retained earnings		**57,295**	49,243
Total equity		**109,538**	97,775

The notes on pages 127 to 165 form an integral part of these financial statements.

The financial statements on pages 119 to 126 were authorised for issue by the Board of Directors on 4 April 2023 and were signed on its behalf by:

G C McGrath
Group CFO

Company number: 2714645

Company statement of financial position
As at 31 December 2022

	Note	2022 £'000	2021 £'000
Non-current assets			
Property, plant and equipment	10	**40,838**	41,401
Right-of-use assets	11	**347**	519
Intangible assets	12	**641**	1,010
Investments in subsidiaries	13	**30,822**	30,822
Trade and other receivables	15	**122**	11
Total non-current assets		**72,770**	73,763
Current assets			
Inventories	14	**18,732**	18,695
Trade and other receivables	15	**57,526**	54,337
Derivative financial instruments	21	**486**	173
Cash and cash equivalents	16	**7,288**	5,034
Total current assets		**84,032**	78,239
Total assets		**156,802**	152,002
Current liabilities			
Trade and other payables	17	**(10,039)**	(6,667)
Derivative financial instruments	21	**(1,550)**	(600)
Current tax liability		**(75)**	–
Lease liabilities	11	**(245)**	(251)
Interest-bearing loans and borrowings	18	**(37,446)**	(26,564)
Total current liabilities		**(49,355)**	(34,082)
Non-current liabilities			
Lease liabilities	11	**(101)**	(274)
Interest-bearing loans and borrowings	18	**–**	(14,710)
Deferred tax liabilities	19	**(3,846)**	(3,155)
Post-employment benefits	23	**(3,290)**	(4,657)
Total non-current liabilities		**(7,237)**	(22,796)
Total liabilities		**(56,592)**	(56,878)
Total net assets		**100,210**	95,124
Equity			
Issued share capital	20	**2,431**	2,431
Share premium	20	**44,178**	44,178
Capital redemption reserve		**15**	15
Hedging reserve		**(285)**	(310)
Retained earnings		**53,871**	48,810
Total equity		**100,210**	95,124

The notes on pages 127 to 165 form an integral part of these financial statements.

The financial statements on pages 119 to 126 were authorised for issue by the Board of Directors on 4 April 2023 and were signed on its behalf by:

G C McGrath
Group CFO

Company number: 2714645

Consolidated statement of cash flows
For the year ended 31 December 2022

	Note	2022 £'000	2021 £'000
Cash flows from operating activities			
Profit for the year		**10,006**	4,376
Adjustments for:			
Depreciation and amortisation	10,11,12	**8,245**	7,624
Disposal of assets	4	**283**	53
Finance costs	6	**1,758**	1,105
Share of (profit)/loss from joint venture	9	**(50)**	20
Net exchange differences		**871**	376
Equity-settled share-based payments	24	**809**	360
Taxation	7	**2,217**	2,632
Operating profit before changes in working capital and provisions		**24,139**	16,546
Increase in trade and other receivables		**(4,818)**	(1,636)
Decrease/(increase) in inventories		**401**	(2,843)
Increase in trade and other payables		**4,119**	1,506
Employee defined benefit contributions	23	**(859)**	(779)
Cash generated from operations		**22,982**	12,794
Interest paid		**(1,255)**	(789)
Income taxes paid, net of refunds		**(659)**	(1,087)
Net cash flows generated from operating activities		**21,068**	10,918
Cash flows from investing activities			
Interest received	6	**56**	11
Interest paid	6	**–**	(32)
Purchases of intangibles	12	**(1,724)**	(1,069)
Proceeds from disposal of property, plant and equipment		**–**	88
Purchases of property, plant and equipment		**(5,368)**	(6,002)
Net cash used in investing activities		**(7,036)**	(7,004)
Cash flows from financing activities			
Proceeds from exercise of share options		**–**	40
Repayment of borrowings		**(50,883)**	(7,739)
Proceeds from borrowings		**43,044**	6,974
Payment of principal portion of lease liabilities	11	**(499)**	(543)
Dividends paid to equity holders of the Company	8	**(3,188)**	(3,074)
Net cash used in financing activities		**(11,526)**	(4,342)
Net increase/(decrease) in cash and cash equivalents		**2,506**	(428)
Cash and cash equivalents at 1 January		**8,055**	8,503
Exchange gains/(losses) on cash and cash equivalents		**33**	(20)
Cash and cash equivalents at 31 December	16	**10,594**	8,055

Cash and cash equivalents comprise cash at bank and short-term highly liquid investments with a maturity date of less than three months, per the breakdown in note 21.

During the year, the Group paid interest of £1,255k, of which it capitalised £nil (2021: paid interest of £821k, of which it capitalised £32k) on qualifying assets under IAS 23 "Capitalisation of Borrowing Costs". The interest paid has been split between operating activities of £1,255k (2021: £789k) and investing activities of £nil (2021: £32k) to reflect the Group's utilisation of the interest paid.

The net exchange differences of £871k within operating activities relate to the foreign exchange movement on borrowings and open forward contracts in the income statement (2021: £376k).

Refer to note 18 for a reconciliation of liabilities arising from financing activities.

The notes on pages 127 to 165 form an integral part of these financial statements.

Company statement of cash flows
For the year ended 31 December 2022

	Note	2022 £'000	2021 £'000
Cash flows from operating activities			
Profit for the year		**7,010**	6,038
Adjustments for:			
Depreciation and amortisation	10,11,12	**4,166**	4,185
Disposal of assets		**212**	105
Finance costs		**1,119**	628
Net exchange differences		**3,880**	(438)
Equity-settled share-based payments	24	**809**	360
Taxation		**1,942**	2,608
Operating profit before changes in working capital and provisions		**19,138**	13,486
Increase in trade and other receivables		**(4,258)**	(2,536)
Increase in inventories		**(37)**	(1,841)
Increase in trade and other payables		**3,505**	572
Employee defined benefit contributions	23	**(859)**	(779)
Cash generated from operations		**17,489**	8,902
Interest paid		**(1,251)**	(783)
Income taxes paid, net of refunds		**(534)**	(981)
Net cash flows generated from operating activities		**15,704**	7,138
Cash flows from investing activities			
Interest paid		**–**	(32)
Loans repaid by/(given to) subsidiaries, net of prepayments		**1,174**	(1,334)
Purchases of intangibles	12	**(149)**	(132)
Purchases of property, plant and equipment		**(3,183)**	(2,831)
Net cash used in investing activities		**(2,158)**	(4,329)
Cash flows from financing activities			
Proceeds from exercise of share options		**–**	40
Repayment of borrowings		**(50,883)**	(7,739)
Proceeds from borrowings		**43,044**	6,974
Payment of principal portion of lease liabilities		**(265)**	(304)
Dividends paid to equity holders of the Company	8	**(3,188)**	(3,074)
Net cash used in financing activities		**(11,292)**	(4,103)
Net increase/(decrease) in cash and cash equivalents		**2,254**	(1,294)
Cash and cash equivalents at 1 January		**5,034**	6,328
Cash and cash equivalents at 31 December	16	**7,288**	5,034

Cash and cash equivalents comprise cash at bank and short-term highly liquid investments with a maturity date of less than three months, per the breakdown in note 21.

During the year, the Company paid interest of £1,251k, of which it capitalised £nil (2021: paid interest of £815k, of which it capitalised £32k) on qualifying assets under IAS 23 "Capitalisation of Borrowing Costs". The interest paid has been split between operating activities of £1,251k (2021: £783k) and investing activities of £nil (2021: £32k) to reflect the Group's utilisation of the interest paid.

The net exchange differences of £3,880k within operating activities relate to the foreign exchange movement on borrowings and open forward contracts in the income statement (2021: £438k).

Refer to note 18 for a reconciliation of liabilities arising from financing activities.

The notes on pages 127 to 165 form an integral part of these financial statements.

Consolidated statement of changes in equity
For the year ended 31 December 2022

	Note	Share capital £'000	Share premium £'000	Own shares held £'000	Capital redemption reserve £'000	Translation reserve £'000	Hedging reserve £'000	Retained earnings £'000	Total equity £'000
Balance as at 1 January 2021		2,431	44,178	(23)	15	2,324	909	44,542	94,376
Profit for the year		–	–	–	–	–	–	4,376	4,376
Other comprehensive income for the year									
Foreign exchange translation losses on investment in subsidiaries		–	–	–	–	(96)	–	–	(96)
Change in fair value of hedging instruments recognised in other comprehensive income		–	–	–	–	–	(344)	–	(344)
Reclassification to income statement – administrative expenses		–	–	–	–	–	(1,251)	–	(1,251)
Tax relating to effective portion of changes in fair value of cash flow hedges, net of recycling		–	–	–	–	–	376	–	376
Actuarial gain on defined benefit pension scheme	23	–	–	–	–	–	–	3,517	3,517
Tax relating to actuarial gain on defined benefit pension scheme		–	–	–	–	–	–	(444)	(444)
Total comprehensive income for the year		–	–	–	–	(96)	(1,219)	7,449	6,134
Transactions with owners of the Parent									
Options exercised		–	–	13	–	–	–	27	40
Equity-settled share-based payments net of tax		–	–	–	–	–	–	299	299
Dividends paid	8	–	–	–	–	–	–	(3,074)	(3,074)
Total transactions with owners of the Parent		–	–	13	–	–	–	(2,748)	(2,735)
Balance as at 31 December 2021		2,431	44,178	(10)	15	2,228	(310)	49,243	97,775
Balance as at 1 January 2022		**2,431**	**44,178**	**(10)**	**15**	**2,228**	**(310)**	**49,243**	**97,775**
Profit for the year		**–**	**–**	**–**	**–**	**–**	**–**	**10,006**	**10,006**
Other comprehensive income for the year									
Foreign exchange translation losses on investment in subsidiaries		**–**	**–**	**–**	**–**	**3,681**	**–**	**–**	**3,681**
Change in fair value of hedging instruments recognised in other comprehensive income		**–**	**–**	**–**	**–**	**–**	**(3,025)**	**–**	**(3,025)**
Reclassification to income statement – administrative expenses		**–**	**–**	**–**	**–**	**–**	**2,865**	**–**	**2,865**
Tax relating to effective portion of changes in fair value of cash flow hedges, net of recycling		**–**	**–**	**–**	**–**	**–**	**185**	**–**	**185**
Actuarial gain on defined benefit pension scheme	23	**–**	**–**	**–**	**–**	**–**	**–**	**584**	**584**
Tax relating to actuarial gain on defined benefit pension scheme		**–**	**–**	**–**	**–**	**–**	**–**	**(146)**	**(146)**
Total comprehensive income for the year		**–**	**–**	**–**	**–**	**3,681**	**25**	**10,444**	**14,150**
Transactions with owners of the Parent									
Options exercised		**–**	**–**	**5**	**–**	**–**	**–**	**(5)**	**–**
Equity-settled share-based payments net of tax		**–**	**–**	**–**	**–**	**–**	**–**	**801**	**801**
Dividends paid	8	**–**	**–**	**–**	**–**	**–**	**–**	**(3,188)**	**(3,188)**
Total transactions with owners of the Parent		**–**	**–**	**5**	**–**	**–**	**–**	**(2,392)**	**(2,387)**
Balance as at 31 December 2022		**2,431**	**44,178**	**(5)**	**15**	**5,909**	**(285)**	**57,295**	**109,538**

The aggregate current and deferred tax relating to items that are credited to equity is £31k (2021: debited £129k).

The notes on pages 127 to 165 form an integral part of these financial statements.

Company statement of changes in equity
For the year ended 31 December 2022

	Note	Share capital £'000	Share premium £'000	Capital redemption reserve £'000	Hedging reserve £'000	Retained earnings £'000	Total equity £'000
Balance as at 1 January 2021		2,431	44,178	15	909	42,434	89,967
Profit for the year		–	–	–	–	6,038	6,038
Other comprehensive income for the year							
Change in fair value of hedging instruments recognised in other comprehensive income		–	–	–	(344)	–	(344)
Reclassification to income statement – administrative expenses		–	–	–	(1,251)	–	(1,251)
Tax relating to effective portion of changes in fair value of cash flow hedges, net of recycling		–	–	–	376	–	376
Actuarial gain on defined benefit pension scheme	23	–	–	–	–	3,517	3,517
Tax relating to actuarial gain on defined benefit pension scheme		–	–	–	–	(444)	(444)
Total comprehensive income for the year		–	–	–	(1,219)	9,111	7,892
Transactions with owners							
Options exercised		–	–	–	–	40	40
Equity-settled share-based payments net of tax		–	–	–	–	299	299
Dividends paid	8	–	–	–	–	(3,074)	(3,074)
Total transactions with owners		–	–	–	–	(2,735)	(2,735)
Balance as at 31 December 2021		2,431	44,178	15	(310)	48,810	95,124
Balance as at 1 January 2022		**2,431**	**44,178**	**15**	**(310)**	**48,810**	**95,124**
Profit for the year		**–**	**–**	**–**	**–**	**7,010**	**7,010**
Other comprehensive income for the year							
Change in fair value of hedging instruments recognised in other comprehensive income		**–**	**–**	**–**	**(3,025)**	**–**	**(3,025)**
Reclassification to income statement – administrative expenses		**–**	**–**	**–**	**2,865**	**–**	**2,865**
Tax relating to effective portion of changes in fair value of cash flow hedges, net of recycling		**–**	**–**	**–**	**185**	**–**	**185**
Actuarial gain on defined benefit pension scheme	23	**–**	**–**	**–**	**–**	**584**	**584**
Tax relating to actuarial gain on defined benefit pension scheme		**–**	**–**	**–**	**–**	**(146)**	**(146)**
Total comprehensive income for the year		**–**	**–**	**–**	**25**	**7,448**	**7,473**
Transactions with owners							
Options exercised		**–**	**–**	**–**	**–**	**–**	**–**
Equity-settled share-based payments net of tax		**–**	**–**	**–**	**–**	**801**	**801**
Dividends paid	8	**–**	**–**	**–**	**–**	**(3,188)**	**(3,188)**
Total transactions with owners		**–**	**–**	**–**	**–**	**(2,387)**	**(2,387)**
Balance as at 31 December 2022		**2,431**	**44,178**	**15**	**(285)**	**53,871**	**100,210**

The aggregate current and deferred tax relating to items that are credited to equity is £31k (2021: debited £129k).

The notes on pages 127 to 165 form an integral part of these financial statements.

Notes

1. General information

Zotefoams plc (the "Company") is a public limited company, which is listed on the London Stock Exchange and incorporated and domiciled in England, UK. The registered office of the Company is 675 Mitcham Road, Croydon, CR9 3AL.

The Company, its subsidiaries and joint venture (together referred to as the "Group") are engaged in the manufacturing and sale of high-performance foams and licensing of related technology for specialist markets worldwide.

2. Significant accounting policies

The principal accounting policies applied in the preparation of these financial statements are set out below. These policies have been consistently applied to all the years presented, unless otherwise stated.

2.1 Basis of preparation

The consolidated financial statements of Zotefoams plc have been prepared in accordance with UK adopted International Accounting Standards ("UK adopted IAS") and as applied in accordance with the provisions of the Companies Act 2006. The consolidated financial statements have been prepared under the historical cost convention except for derivative financial instruments, which are measured at fair value through profit or loss.

The preparation of financial statements in conformity with UK adopted IAS requires the use of certain critical accounting estimates. It also requires management to exercise its judgement in the process of applying the Group's accounting policies. The areas involving a higher degree of judgement or complexity, or areas where assumptions and estimates are significant to the financial statements, are disclosed in note 26.

i) Going concern

The Group's business activities, together with the factors likely to affect its future development, performance and position, are set out in the Strategic Report on pages 1 to 77 and the section entitled "Risk management and principal risks" on pages 39 to 50. These also describe the financial position of the Group, its cash flows and liquidity position. In addition, note 21 to the financial statements includes the Group's objectives, policies and processes for managing its capital, its financial risk management objectives, details of its financial instruments and hedging activities, borrowing facilities, and its exposure to credit risk and liquidity risk.

At 31 December 2022, the Group's gross finance facilities were £50.0m (2021: £47.3m), consisting entirely of a multi-currency term loan. At 31 December 2021, the Group's gross finance facilities consisted of a multi-currency term loan of £20.0m, a multi-currency revolving credit facility of £25.0m and a remaining balance of £2.3m of a further £7.5m sterling annually renewable term loan, repayable in equal quarterly instalments.

In March 2022, the Group completed a retender of its debt facility and selected Handelsbanken and NatWest, the incumbents, to continue as its lenders. Under the terms of the new facility, the Group's gross finance facility now comprises a £50m multi-currency revolving credit facility with a £25m accordion, on a 4+1 tenor, with an interest rate ratchet on slightly improved terms to the previous facility and including an element related to the achievement of sustainability targets. The finance cost and leverage covenants remain in place, with the former remaining at a multiple of 4 and the latter increasing to 3.5 from 3.0. In January 2023, the Group successfully extended the facility by a year in line with the term option, resulting in an end term date now of March 2027.

The Directors believe that the Group is well placed to manage its business risks and, after making enquiries including a review of forecasts and predictions, taking account of reasonably possible changes in trading performance and considering the existing banking facilities, have a reasonable expectation that the Group has adequate resources to continue in operational existence for the next twelve months following the date of approval of the financial statements. The Directors have also drawn upon the experiences of reacting to the challenges of COVID-19 through its safety protocols and cost and cash management, all of which could be replicated in a similar scenario.

After due consideration of the range and likelihood of potential outcomes, the Directors continue to adopt the going concern basis of accounting in preparing the Annual Report.

2.2 Basis of consolidation

The consolidated financial statements comprise the financial statements of the Company, its subsidiaries and joint ventures as at 31 December 2022.

i) Subsidiaries

Subsidiaries are all entities over which the Group has control. The Group controls an entity when the Group is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. Subsidiaries are fully consolidated from the date on which control is transferred to the Group. If the Group loses control over a subsidiary, it derecognises the related assets (including goodwill), liabilities, non-controlling interest and other components of equity, while any resultant gain or loss is recognised in profit or loss. Any investment retained is recognised at fair value.

ii) Transactions eliminated on consolidation

All intra-group balances and transactions, including any unrealised gains and losses or income and expenses arising from such transactions, are eliminated in full on preparing the consolidated financial statements. Unrealised losses are eliminated in the same way as unrealised gains, but only to the extent that there is no evidence of impairment. Where necessary, amounts reported by subsidiaries have been adjusted to conform with the Group's accounting policies.

iii) Joint arrangements

The Group applies IFRS 11 to its joint arrangements. Under IFRS 11, investments in joint arrangements are classified as either joint operations or joint ventures, depending on the contractual rights and obligations of each investor. The Group has assessed the nature of its joint arrangements and determined them to be joint ventures. Interests in the joint ventures are accounted for using the equity method, after initially being recognised at cost.

iv) Equity method

Under the equity method of accounting, the investment is initially recognised at cost and the carrying amount is increased or decreased to recognise the investor's share of the change in net assets of the investee after the date of acquisition.

If the ownership interest in the joint venture is reduced but joint control is retained, only a proportionate share of the amounts previously recognised in other comprehensive income is reclassified to profit or loss where appropriate.

The Group's share of post-acquisition profit or loss is recognised in the income statement, and its share of post-acquisition movements in other comprehensive income is recognised with a corresponding adjustment to the carrying value of the investment. Where the Group's share of losses in the joint venture equals or exceeds its interest in the joint venture, including any other unsecured receivables, the Group does not recognise further losses unless it has incurred legal or constructive obligations or made payments on behalf of the joint venture. Distributions received from the joint venture reduce the carrying value of the investment.

The Group determines at each reporting date whether there is any objective evidence that the investment in the joint venture is impaired. If this is the case, the Group calculates the amount of impairment as the difference between the recoverable amount of the joint venture and its carrying value, and recognises the amount adjacent to "share of profit/(loss) of joint venture" in the income statement.

Gains and losses resulting from upstream and downstream transactions between the Group and the joint venture are recognised in the Group's financial statements only to the extent of an unrelated investor's interests in the joint venture. Unrealised losses are eliminated unless the transaction provides evidence of an impairment of the asset transferred. Accounting policies of the joint venture have been aligned where necessary to ensure consistency with the policies adopted by the Group.

Notes
Continued

2. Significant accounting policies (continued)

v) Accounting for business combinations
Business combinations are accounted for using the acquisition method as at the acquisition date, which is the date on which control is transferred to the Group. Control is the power to govern the financial and operating policies of an entity so as to obtain benefits from the activities. In assessing control, the Group takes into consideration potential voting rights that are currently exercisable.

The Group measures goodwill at the acquisition date as:

- the fair value of the consideration transferred; plus
- the recognised amount of any non-controlling interests in the acquiree; plus
- if the business combination is achieved in stages, the fair value remeasured at acquisition date of the existing interest in the acquiree; less
- the net recognised amount of the identifiable assets acquired and liabilities assumed.

Goodwill is initially measured at cost. After initial recognition, goodwill is measured at cost less any accumulated impairment losses. For the purpose of impairment testing, goodwill acquired in a business combination is, from the acquisition date, allocated to each of the Group's cash-generating units (CGUs) that are expected to benefit from the combination, irrespective of whether other assets or liabilities of the acquiree are assigned to those units.

Where goodwill has been allocated to a CGU and part of the operation within that unit is disposed of, the goodwill associated with the disposed operation is included in the carrying amount of the operation when determining the gain or loss on disposal. Goodwill disposed of in these circumstances is measured based on the relative values of the disposed operation and the portion of the CGU retained.

The cost of an acquisition is measured as the aggregate of the consideration transferred, which is measured at fair value at the acquisition date. When the excess is negative, a bargain purchase gain is recognised immediately in the income statement. The consideration transferred does not include amounts related to the settlement of pre-existing relationships. Such amounts are generally recognised in the income statement. Costs related to the acquisition, other than those associated with the issue of debt or equity securities, that the Group incurs in connection with a business combination are expensed as incurred.

When share-based payment awards (replacement awards) are required to be exchanged for awards held by the acquiree employees (acquiree awards) and relate to past services, then all or a portion of the amount of the acquirer replacement awards are included in measuring the consideration transferred in the business combination. This determination is based on the market-based value of the replacement awards compared with the market-based value of the acquiree awards and the extent to which the replacement awards relate to past and/or future services.

vi) Investments in subsidiaries and joint arrangements
The Company's investments in subsidiaries and joint arrangements are stated at cost.

2.3 Foreign currency

i) Functional and presentation currency
The Group's consolidated financial statements are presented in sterling, which is the Group's functional currency. For each entity, the Group determines the functional currency, and items included in the financial statements of each entity are measured using that functional currency. The Group uses the direct method of consolidation and, on disposal of a foreign operation, the gain or loss that is reclassified to profit or loss reflects the amount that arises from using this method.

The Company's financial statements are prepared and presented in sterling, which is its functional currency.

ii) Transactions and balances
Foreign currency transactions are translated into the functional currency using the exchange rates prevailing at the dates of the transactions or valuation (where items are remeasured). Monetary assets and liabilities denominated in foreign currencies are translated at the functional currency spot rates of exchange at the reporting date. Foreign exchange gains and losses resulting from the settlement of monetary assets and liabilities denominated in foreign currencies are recognised in the income statement, except when deferred in other comprehensive income as qualifying cash flow hedges. All foreign exchange gains and losses are presented in the income statement within administrative expenses.

Translation differences related to items classified through other comprehensive income are recognised in other comprehensive income (OCI), while remaining translation differences are recognised in the income statement.

Non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rates at the dates of the initial transactions. Non-monetary items measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value is determined. The gain or loss arising on translation of non-monetary items measured at fair value is treated in line with the recognition of the gain or loss on the change in fair value of the item (i.e. translation differences on items whose fair value gain or loss is recognised in OCI or profit or loss are also recognised in OCI or profit or loss respectively).

In determining the spot exchange rate to use on initial recognition of the related asset, expense or income (or part of it) or the derecognition of a non-monetary asset or non-monetary liability relating to advance consideration, the date of the transaction is the date on which the Group initially recognises the non-monetary asset or non-monetary liability arising from the advance consideration. If there are multiple payments or receipts in advance, the Group determines the transaction date for each payment or receipt of advance consideration.

iii) Group companies
The results and financial position of all the Group entities (none of which has the currency of a hyper-inflationary economy) that have a functional currency different from the presentation currency are translated into the presentation currency as follows:

- assets and liabilities of foreign operations are translated at the closing rate of exchange prevailing at the reporting date
- income and expenses for each income statement are translated at average exchange rates (unless this average is not a reasonable approximation of the cumulative effect of the rates prevailing on the transaction dates, in which case income and expenses are translated at the rate on the dates of each transaction).

All resulting exchange differences are recognised in other comprehensive income. On disposal of a foreign operation, the component of OCI relating to that particular foreign operation is reclassified to profit or loss.

Goodwill and fair value adjustments arising on the acquisition of a foreign entity are treated as assets and liabilities of the foreign entity, and they are translated at the closing rate. Exchange differences arising are recognised in other comprehensive income.

2.4 Derivative financial instruments and hedge accounting
The Group uses derivative financial instruments to hedge its exposure to foreign currency risks arising from operational, financing and investment activities. The Group does not hold or issue derivative financial instruments for trading purposes. However, derivatives that do not qualify for hedge accounting are accounted for as trading instruments.

Derivatives are initially recognised at fair value on the date when a derivative contract is entered into, and they are subsequently remeasured at their fair value. Derivatives are carried as financial assets when the fair value is positive and as financial liabilities when the fair value is negative. The method of recognising the resulting gain or loss depends on whether the derivative is designated as a hedging instrument and, if so, the nature of the item being hedged. The Group designates all derivatives as hedges of a particular risk associated with a recognised asset or liability or a highly probable forecast transaction (cash flow hedge).

2. Significant accounting policies (continued)

At the inception of the transaction, the Group designates and documents the relationship between hedging instruments and hedged items, as well as its risk management objectives and strategy for undertaking various hedging transactions. The Group also documents its assessment, both at hedge inception and on an ongoing basis, of whether the derivatives that are used in hedging transactions are highly effective in offsetting changes in fair values or cash flows of hedged items.

The fair values of various derivative instruments used for hedging purposes are disclosed in note 21. The full fair value of a hedging derivative is classified as a non-current asset or liability where the remaining maturity of the hedged item is more than twelve months, and as a current asset or liability where the remaining maturity of the hedged item is less than twelve months. Trading derivatives are classified as a current asset or liability.

The fair value of forward exchange contracts is their quoted market price at the statement of financial position date, being the present value of the quoted forward price.

i) Cash flow hedging

The effective portion of changes in the fair value of derivatives that are designated and qualify as cash flow hedges is recognised in the hedging reserve within equity. The gain or loss relating to the ineffective portion is recognised immediately in the income statement within administrative expenses.

When forward contracts are used to hedge forecast transactions, the Group generally designates only the change in fair value of the forward contract related to the spot component as the hedging instrument. Gains or losses relating to the effective portion of the change in the spot component of the forward contracts are recognised in the cash flow hedging reserve within equity. The change in the forward element of the contract that relates to the hedged item ("aligned forward element") is recognised within other comprehensive income in the costs of hedging reserve within equity. In some cases, the entity might designate the full change in fair value of the forward contract (including forward points) as the hedging instrument. In such cases, the gains or losses relating to the effective portion of the change in fair value of the entire forward contract are recognised in the cash flow hedging reserve within equity.

When a hedging instrument expires or is sold or terminated, or when a hedge no longer meets the criteria for hedge accounting, any cumulative deferred gain or loss and deferred costs of hedging in equity at that time remain in equity until the forecast transaction occurs, resulting in the recognition of a non-financial asset. When the forecast transaction is no longer expected to occur, the cumulative gain or loss and deferred costs of hedging that were reported in equity are immediately reclassified to the income statement.

2.5 Property, plant and equipment

i) Owned assets

Items of property, plant and equipment are stated at cost or deemed cost less accumulated depreciation and any impairment losses. Such costs include those directly attributable to making the asset capable of operating as intended. The carrying amount of the replaced part is derecognised. When parts of an item of property, plant and equipment have different useful lives, those components are accounted for as separate items of property, plant and equipment.

Subsequent costs are included in the asset's carrying amount or recognised as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the item will flow to the Group and the cost of the item can be measured reliably. All other repairs and maintenance are charged to the income statement during the financial year in which they are incurred.

An item of property, plant and equipment and any significant part initially recognised is derecognised upon disposal (i.e. at the date the recipient obtains control) or when no future economic benefits are expected from its use or disposal. Any gain or loss arising on derecognition of the asset (calculated as the difference between the net disposal proceeds and the carrying amount of the asset) is included in the statement of profit or loss when the asset is derecognised.

The cost of assets under construction includes the cost of materials and direct labour, and any other costs directly attributable to bringing the asset to a working condition for its intended use.

ii) Depreciation

Land is not depreciated. Depreciation is charged to the income statement on a straight-line basis over the estimated useful lives of each part of the item of property, plant and equipment. The estimated useful lives are as follows:

Buildings	20–40 years
Plant and equipment	5–20 years
Fixtures and fittings	3–5 years

Assets under construction are depreciated from the month in which the asset is ready for its intended use.

The assets' residual values and expected useful lives are reviewed, and adjusted if appropriate, at the end of each financial year.

2.6 Intangible assets

i) Research and development

Expenditure on research activities undertaken with the prospect of gaining new scientific or technical knowledge and understanding is recognised in the income statement as an expense as incurred.

Development costs that are directly attributable to the design and testing of identifiable and unique products controlled by the Group are recognised as intangible assets where the following criteria are met:

- it is technically feasible to complete the asset so that it will be available for use
- management intends to complete the asset and use or sell it
- there is an ability to use or sell the asset
- it can be demonstrated how the asset will generate probable future economic benefits
- adequate technical, financial and other resources to complete the development and to use or sell the asset are available
- the expenditure attributable to the asset during its development can be reliably measured.

Directly attributable costs that are capitalised as part of the asset include the product development employee costs and an appropriate portion of relevant overheads.

Following initial recognition of the development expenditure as an asset, the asset is carried at cost less any accumulated amortisation and accumulated impairment losses. Amortisation of the asset begins when development is complete, and the asset is available for use. It is amortised over the period over which future economic benefits are expected to be derived. Amortisation is recorded in cost of sales. During the period of development, the asset is tested for impairment annually.

Other development expenditures that do not meet these criteria are recognised as an expense as incurred. Development costs previously recognised as an expense are not recognised as an asset in a subsequent period.

ii) Goodwill

Goodwill represents the excess of the cost of acquisition over the fair value of the Group's interest in the identifiable assets, liabilities and contingent liabilities acquired in a business combination. Goodwill is stated at the amount recognised on the date of acquisition less any accumulated impairment losses. Goodwill is tested annually for impairment or more frequently if there are indications that goodwill may be impaired.

iii) Software

Acquired computer software licences are capitalised on the basis of the costs incurred to acquire and bring to use the specific software. Following initial recognition, items of software are carried at cost less any accumulated amortisation and accumulated impairment losses.

Notes
Continued

2. Significant accounting policies (continued)

iv) Patents
Patents are initially measured at purchase cost and are amortised on a straight-line basis over their estimated useful economic lives.

v) Other intangible assets
Intangible assets acquired from a business combination are capitalised at fair value as at the date of acquisition and amortised over their estimated useful economic life. Their carrying value is the fair value at acquisition less cumulative amortisation and any impairment. An intangible asset acquired as part of a business combination is recognised outside goodwill if the asset is separable or arises from contractual or other legal rights and its fair value can be measured reliably.

Development costs that are directly attributable to the design and development of internally generated intangible assets controlled by the Group are recognised when the relevant criteria are met. Internally generated intangible assets are amortised from the point at which the asset is ready for use.

Expenditure on internally generated goodwill and brands is recognised in the income statement as an expense as incurred. Research expenditure and development expenditure that do not meet the criteria above are recognised as an expense as incurred. Development costs previously recognised as an expense are not recognised as an asset in a subsequent period.

vi) Amortisation
The estimated useful lives of the Group's intangible assets are as follows:

Marketing related	5–15 years
Customer related	2–10 years
Technology related	5–20 years
Software related	3–10 years
Capitalised development	3–10 years, from the date the patent is granted

Amortisation methods, useful lives and residual values are reviewed at each reporting date and adjusted if appropriate.

2.7 Financial instruments

i) Classifications
The Group classifies its financial assets in the following categories: a) those to be measured subsequently at fair value, and b) those to be measured at amortised cost.

The classification depends on the purpose for which the financial assets were acquired. Management determines the classification of its financial assets at initial recognition.

a) Financial assets measured at fair value through profit or loss
Financial assets measured at fair value through profit or loss are financial assets held for trading. A financial asset is classified in this category if acquired principally for the purpose of selling it in the short term. Derivatives are also categorised as held for trading unless they are designated as hedges.

b) Financial assets measured at amortised cost
Financial assets measured at amortised cost are held for collection of contractual cash flows where those cash flows represent solely payments of principal and interest.

c) Financial assets measured at fair value through other comprehensive income
Purchases and sales of financial assets measured at fair value through other comprehensive income are recognised on settlement date with any change in fair value between trade date and settlement date being recognised in the fair value through other comprehensive income reserve.

ii) Recognition and measurement
Financial assets not carried at fair value through profit or loss are initially recognised at fair value plus transaction costs. Financial assets carried at fair value through profit or loss are initially recognised at fair value, and transaction costs are expensed in the income statement. Financial assets are derecognised when the rights to receive cash flows from the investments have expired or have been transferred and the Group has transferred substantially all risks and rewards of ownership. Interest income from financial assets at amortised cost is included in finance income using the effective interest rate method. Any gain or loss arising on derecognition is recognised directly in profit or loss and presented in other gains/(losses) together with foreign exchange gains and losses. Impairment losses are presented as a separate line item in the statement of profit or loss.

Gains or losses arising from changes in the fair value of the "financial assets at fair value through profit or loss" category are presented in the income statement within administrative expenses in the financial year in which they arise.

iii) Impairment of financial assets carried at amortised cost
The Group assesses on a forward-looking basis the expected credit losses associated with its debt instruments carried at amortised cost. The impairment methodology applied depends on whether there has been a significant increase in credit risk. For trade receivables, the Group applies the simplified approach permitted by IFRS 9, which requires expected lifetime losses to be recognised from initial recognition of the receivables. Further details are provided in note 21.

iv) Derecognition of financial assets
The Group derecognises a financial asset only when the contractual rights to the cash flows from the asset expire, or when it transfers the financial asset and substantially all the risks and rewards of ownership of the asset to another entity. If the Group neither transfers nor retains substantially all the risks and rewards of ownership and continues to control the transferred asset, the Group recognises its retained interest in the asset and an associated liability for amounts it may have to pay. If the Group retains substantially all the risks and rewards of ownership of a transferred financial asset, the Group continues to recognise the financial asset and also recognises a collateralised borrowing for the proceeds received.

v) Financial liabilities
Financial liabilities are recognised when the Group becomes party to the contractual provisions of the instrument. The Group derecognises financial liabilities when the obligation specified in the contract is discharged, cancelled or expired. The measurement of financial liabilities depends on their classification, as follows:

a) Financial liabilities measured at fair value through profit or loss
Financial liabilities that meet the definition of being held for trading are classified as measured at fair value through profit or loss. Such liabilities are carried on the balance sheet at fair value with gains or losses recognised in the income statement. Derivatives, other than those designated as effective hedging instruments, are included in this category.

b) Financial liabilities measured at amortised cost
All other financial liabilities are initially recognised at fair value, net of directly attributable transaction costs. For interest-bearing loans and borrowings, this is typically equivalent to the fair value of the proceeds received, net of issue costs associated with the borrowing. After initial recognition, other financial liabilities are subsequently measured at amortised cost using the effective interest method. Amortised cost is calculated by taking into account any issue costs and any discount or premium on settlement. Gains and losses arising on the repurchase, settlement or cancellation of liabilities are recognised in finance income and finance costs respectively.

2. Significant accounting policies (continued)

This category of financial liabilities includes trade and other payables.

vi) Offsetting of financial assets and liabilities

Financial assets and liabilities are presented gross in the balance sheet unless both of the following criteria are met: the Group currently has a legally enforceable right to offset the recognised amounts, and the Group intends to either settle on a net basis or realise the asset and settle the liability simultaneously. A right of offset is the Group's legal right to settle an amount payable to a creditor by applying against it an amount receivable from the same counterparty. The relevant legal jurisdiction and laws applicable to the relationships between the parties are considered when assessing whether a legally enforceable right to offset currently exists.

vii) Current versus non-current classification

The Group classifies assets and liabilities in the statement of financial position as either current or non-current.

An asset is classified as current when it is:

- expected to be realised or intended to be sold or consumed in the normal operating cycle
- held primarily for the purpose of trading
- expected to be realised within twelve months after the reporting period; or
- cash or cash equivalent unless restricted from being exchanged or used to settle a liability for at least twelve months after the reporting period.

All other assets are classified as non-current.

A liability is classified as current when it is:

- expected to be settled in the normal operating cycle
- held primarily for the purpose of trading
- due to be settled within twelve months after the reporting period; or
- there is no unconditional right to defer the settlement of the liability for at least twelve months after the reporting period.

The terms of the liability that could, at the option of the counterparty, result in its settlement by the issue of equity instruments do not affect its classification.

The Group classifies all other liabilities as non-current. Deferred tax assets and liabilities are classified as non-current assets and liabilities.

2.8 Trade and other receivables

Trade receivables are amounts due from customers for goods sold or services performed in the ordinary course of business. They are generally due for settlement within 30–90 days and are therefore all classified as current. Trade receivables are recognised initially at the amount of consideration that is unconditional, unless they contain significant financing components, in which case they are recognised at fair value. The Group holds the trade receivables with the objective of collecting the contractual cash flows, and so it measures them subsequently at amortised cost using the effective interest method.

Due to the short-term nature of current receivables, their carrying amount is considered to be the same as their fair value. Information about the impairment of trade receivables and the Group's exposure to credit risk and foreign currency risk can be found in note 21.

2.9 Inventories

Inventories are stated at the lower of cost and net realisable value. Net realisable value is the estimated selling price in the ordinary course of business, less the estimated costs of completion and selling expenses.

In determining the cost of raw materials, consumables and goods purchased for resale, the weighted average purchase price is used. The cost of finished goods and work in progress comprises design costs, raw materials, direct labour, other direct costs and related production overheads (based on normal operating capacity) but excludes borrowing costs. For work in progress and finished goods manufactured by the Group, cost is taken as production cost, which includes an appropriate proportion of attributable overheads.

2.10 Cash and cash equivalents

Cash and cash equivalents comprise cash balances and short-term highly liquid investments with an original maturity of three months or less, that are readily convertible to a known amount of cash and subject to an insignificant risk of changes in value.

2.11 Impairment of non-financial assets

The carrying amounts of the Group's non-financial assets are reviewed at each statement of financial position date where there is an indication that the asset may be impaired. If any such indication exists, the asset's recoverable amount is estimated (see below).

For goodwill, property, plant and equipment and intangible assets that have indefinite useful lives or that are not yet available for use, the recoverable amount is estimated each year at the same time. An impairment loss is recognised if the carrying amount of an asset or its related CGU exceeds its estimated recoverable amount.

i) Calculation of recoverable amount

With the exception of the current development investment in ReZorce®, a mono-material barrier technology solution for the packaging industry that uses MuCell® technology, the recoverable amount of an asset or CGU is the greater of its value in use and its fair value less costs to sell. In assessing value in use, the estimated future cash flows are discounted to their present value using a discount rate that reflects current market assessments of the time value of money and the risks specific to the asset or CGU. For the purpose of impairment testing, assets that cannot be tested individually are grouped together into the smallest group of assets that generates cash inflows from continuing use that are largely independent of the cash inflows of other assets or CGUs. Subject to an operating segment ceiling test, for the purposes of goodwill impairment testing, CGUs to which goodwill has been allocated are aggregated so that the level at which impairment testing is performed reflects the lowest level at which goodwill is monitored for internal reporting purposes. Goodwill acquired in a business combination is allocated to groups of CGUs that are expected to benefit from the synergies of the combination.

In the case of ReZorce, management judgements based on factors such as market potential, customer interest, technology development status, funding capability and Board appetite form the basis for assessing the recoverable amount.

The Group's corporate assets do not generate separate cash inflows and are utilised by more than one CGU. Corporate assets are allocated to CGUs on a reasonable and consistent basis and tested for impairment as part of the testing of the CGU to which the corporate asset is allocated.

ii) Impairment losses

Impairment losses are recognised in the income statement. Impairment losses recognised in respect of CGUs are allocated first to reduce the carrying amount of any goodwill allocated to the CGU (or group of CGUs), and then to reduce the carrying amounts of the other assets in the CGU (or group of CGUs) on a pro rata basis.

iii) Reversal of impairment

An impairment loss in respect of goodwill is not reversed. In respect of other assets, impairment losses recognised in prior years are assessed at each reporting date for any indications that the loss has decreased or no longer exists. An impairment loss is reversed if there has been a change in the estimates used to determine the recoverable amount. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortisation, if no impairment loss had been recognised.

2.12 Dividends

Final dividends are recognised as a liability in the financial year in which they are approved, and the corresponding amount is recognised directly in equity. Interim dividends are recognised when paid.

Notes
Continued

2. Significant accounting policies (continued)
2.13 Interest-bearing loans and borrowings
Interest-bearing borrowings are recognised initially at fair value less attributable transaction costs. Subsequent to initial recognition, interest-bearing borrowings are stated at amortised cost with any differences between cost and redemption values being recognised in the income statement over the period of the borrowings on an effective interest basis, where material. Adherence with loan covenants is discussed in note 21.

2.14 Employee benefits
i) Defined contribution plans
A defined contribution plan is a pension plan under which the Group pays fixed contributions into a separate entity. The Group has no legal or constructive obligations to pay further contributions if the fund does not hold sufficient assets to pay all employees the benefits relating to employee service in the current and prior periods. Obligations for contributions to defined contribution pension plans are recognised as an expense in the income statement as incurred.

For defined contribution plans, the Group pays contributions to publicly or privately administered pension insurance plans on a mandatory, contractual or voluntary basis. The Group has no further payment obligations once the contributions have been paid. The contributions are recognised as an employee benefit expense when they are due. Prepaid contributions are recognised as an asset to the extent that a cash refund or reduction in future payments is available.

ii) Defined benefits plans
A defined benefit plan is a pension plan that is not a defined contribution plan. Typically, defined benefit plans define an amount of pension benefit that an employee will receive on retirement, usually dependent on one or more factors, such as age, years of service and compensation.

The liability recognised in the statement of financial position in respect of defined benefit pension plans is the present value of the defined benefit obligation at the end of the financial year, less the fair value of plan assets. The defined benefit obligation is calculated annually by independent actuaries using the projected unit credit method. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using AA credit-rated bonds that have terms to maturity approximating to the terms of the related pension obligation.

The current service cost of the defined benefit plan, recognised in "staff expenses" in the income statement, except where included in the cost of an asset, reflects the increase in the defined benefit obligation resulting from service in the current year, benefit changes, curtailments and settlements.

Past service costs are recognised immediately in the income statement.

The net interest cost is calculated by applying the discount rate to the net balance of the defined benefit obligation and the fair value of plan assets. This cost is included in finance costs in the income statement.

Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions are charged or credited to equity in other comprehensive income in the year in which they arise.

2.15 Share-based payment transactions
i) Equity settled transactions
The Company operates a number of equity-settled, share-based compensation plans, under which the entity receives services from employees as consideration for equity instruments (share awards) of the Company. The fair value of the employee services received in exchange for the grant of the share awards is recognised as an expense. The total amount of the share award to be valued is determined by reference to the fair value of the share awards granted:

- including any market performance conditions (for example, an entity's share price)
- excluding the impact of any service and non-market performance vesting conditions (for example, profitability, sales growth targets, and remaining an employee of the entity over a specified time period); and
- including the impact of any non-vesting conditions (for example, the requirement for employees to save or hold shares for a specific period of time).

Where material, share awards granted since 1 January 2006 with market-based vesting conditions are valued using the Black-Scholes model. Per the standard, these have no revisions to original estimates.

At the end of each reporting period, the Company revises its estimates of the number of share awards that are expected to vest based on the non-market vesting conditions and service conditions. It recognises the impact of the revision to original estimates, if any, in the income statement, with a corresponding adjustment to equity.

In addition, in some circumstances, employees might provide services in advance of the grant date, and so the grant date fair value is estimated for the purposes of recognising the expense during the period between service commencement and grant date.

When the share awards vest or are exercised, the Employee Benefit Trust (EBT) will normally release the shares to the participant. This may involve selling all, or a portion of, the shares. The proceeds received from the sale, net of any directly attributable transaction costs, are credited to share capital (nominal value) and share premium.

Any social security contributions payable in connection with the grant of the share awards are considered an integral part of the grant itself, and the charge will be treated as a cash-settled transaction.

ii) Own shares held by the EBT
Transactions of the EBT are treated as being those of the Group and are therefore reflected in the financial statements. In particular, the EBT's purchase and sale of shares in the Company are debited and credited directly to equity.

2.16 Trade and other payables
Trade and other payables are obligations to pay for goods or services that have been acquired in the ordinary course of business from suppliers.

Trade and other payables are classified as current liabilities if payment is due within one year or less (or in the normal operating cycle of the business, if longer). If not, they are presented as non-current liabilities. Trade and other payables are stated at cost.

Trade and other payables are recognised initially at fair value and subsequently measured at amortised cost using the effective interest method.

2.17 Borrowing costs
General and specific borrowing costs directly attributable to the acquisition, construction or production of qualifying assets, which are assets that necessarily take a substantial period of time to get ready for their intended use or sale, are added to the cost of those assets until such time as the assets are substantially ready for their intended use or sale.

Investment income earned on the temporary investment of specific borrowings, pending their expenditure on qualifying assets, is deducted from the borrowing costs eligible for capitalisation. All other borrowing costs are recognised in the income statement in the period in which they are incurred.

2.18 Revenue
Revenue comprises the sale of finished goods (foam), trading goods (equipment) and licence and royalty income. All these revenue streams are revenues arising from contracts with customers. The recognition and measurement principles of IFRS 15 are applied as set out below.

Revenue excludes inter-company revenues and value added taxes and is stated net of discounts and returns.

2. Significant accounting policies (continued)

i) Sale of finished goods (foam)

Revenue from the sale of foam is recognised when control of the goods has been transferred to a customer at an amount that reflects the consideration to which the Group expects to be entitled in exchange for those goods. This usually occurs when the title passes to the customer, either on shipment or on receipt of goods by the customer, depending on agreed trading terms. Payment is due within credit terms which are consistent with industry practices, with no financing components.

ii) Sale of trading goods (equipment)

Revenue from the sale of equipment is recognised when control of the goods has been transferred to a customer. This usually occurs when the title passes to the customer, either on shipment or on receipt of the goods by the customer, depending on agreed trading terms.

iii) Licence and royalty income

Revenue from usage-based royalties in exchange for a licence of the Group's technology is recognised when the performance obligation is satisfied, which is at the time when the sale or usage occurs. Licence revenue from contracts, which include a minimum royalty guarantee to provide use of the Group's technology, is recognised at a point in time when the uptake of the minimum royalty becomes unconditional. Royalty income which does not include a minimum royalty guarantee is recognised when the usage occurs.

2.19 Leases

The Group leases offices and various equipment. Rental contracts are typically between two and seven years. Lease terms are negotiated on an individual basis and contain a wide range of different terms and conditions. The lease agreements do not impose any covenants, but leased assets may not be used as security for borrowing purposes.

Leases are recognised as a right-of-use asset and a corresponding liability at the date at which the leased asset is available for use by the Group. Each lease payment is allocated between the liability and finance cost. The finance cost is charged to the income statement over the lease period to produce a constant periodic rate of interest on the remaining balance of the liability for each period. The right-of-use asset is depreciated over the shorter of the asset's useful life and the lease term on a straight-line basis.

Assets and liabilities arising from a lease are initially measured on a present value basis. Lease liabilities include the net present value of the following lease payments:

- fixed payments (including in-substance fixed payments), less any lease incentives receivable
- variable lease payments that are based on an index or a rate
- the exercise price of a purchase option if the lessee is reasonably certain to exercise that option
- payments of penalties for terminating the lease, if the lease term reflects the lessee exercising that option.

The lease payments are discounted using the Group's incremental borrowing rate, being the rate that the Group would have to pay to borrow the funds necessary to obtain an asset of similar economic environment within similar terms and conditions. After the commencement date, the amount of lease liabilities is increased to reflect the accretion of interest and reduced for the lease payments made. In addition, the carrying value of lease liabilities is remeasured if there is a modification, a change in the lease term, a change in the lease payments (e.g. changes to future payments resulting from a change in an index or rate used to determine such lease payments) or a change in the assessment of an option to purchase the underlying asset.

Right-of-use assets are measured at cost comprising the following:

- the amount of initial measurement of lease liability
- any lease payments made at or before the commencement date, less any lease incentives received
- any initial direct costs
- restoration costs.

Payments associated with short-term leases and leases of low value are recognised on a straight-line basis as an expense in the income statement. Short-term leases are leases with a lease term of twelve months or less. Low-value assets comprise small items of equipment.

2.20 Current and deferred tax

The tax expense for the period comprises current and deferred tax. Tax is recognised in the income statement except to the extent that it relates to items recognised directly in other comprehensive income or directly in equity, in which case it is recognised in other comprehensive income or directly in equity respectively.

The current tax charge is calculated on the basis of the tax laws enacted at the statement of financial position date in the countries where the Group operates and generates taxable income. Management periodically evaluates positions taken in tax returns with respect to situations in which applicable tax regulation is subject to interpretation. It establishes provisions, where appropriate, on the basis of amounts expected to be paid to the tax authorities.

Deferred tax is recognised on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the financial statements. However, deferred tax liabilities are not recognised if they arise from the initial recognition of goodwill; deferred tax is not accounted for if it arises from the initial recognition of an asset or liability in a transaction other than a business combination that, at the time of the transaction, affects neither accounting nor taxable profit or loss. Deferred tax is determined using tax rates (and laws) that have been enacted or substantively enacted by the statement of financial position date and are expected to apply when the related deferred tax asset is realised, or the deferred tax liability is settled.

Deferred tax assets are recognised only to the extent that it is probable that future taxable profit will be available against which the temporary differences can be utilised.

Deferred tax liabilities are provided on taxable temporary differences arising from investments in subsidiaries and joint arrangements, except for any deferred tax liability where the timing of the reversal of the temporary difference is controlled by the Group and it is probable that the temporary difference will not reverse in the foreseeable future.

Deferred tax assets are recognised on deductible temporary differences arising from investments in subsidiaries and joint arrangements only to the extent that it is probable that the temporary difference will reverse in the future and there is sufficient taxable profit available, against which the temporary difference can be utilised.

Deferred tax assets and liabilities are offset when there is a legally enforceable right to offset current tax assets against current tax liabilities and when the deferred tax assets and liabilities relate to income taxes levied by the same taxation authority on either the same taxable entity or different taxable entities and there is an intention to settle the balances on a net basis.

Notes
Continued

2. Significant accounting policies (continued)

2.21 Share capital
Ordinary shares are classified as equity. Incremental costs directly attributable to the issue of new ordinary shares or options are shown in equity as a deduction, net of tax, from the proceeds.

Where any Group company purchases the Company's equity share capital (treasury shares), the consideration paid, including any directly attributable incremental costs (net of income tax), is deducted from equity attributable to the Company's equity holders until the shares are cancelled or reissued. Where such ordinary shares are subsequently reissued, any consideration received, net of any directly attributable incremental transaction costs and the related income tax effects, is included in equity attributable to the Company's equity holders.

2.22 Exceptional items
Exceptional items are disclosed separately in the financial statements where it is necessary to do so to provide further understanding of the financial performance of the Group. These are items that are material, either because of their size or their nature, or that are non-recurring, and are presented within the line items to which they best relate.

2.23 New standards and interpretations
The IASB and IFRS Interpretations Committee have issued the following standards and interpretations with an effective date of implementation for accounting periods beginning after the date on which the Group's financial statements for the current year commenced.

i) New standards and amendments – applicable 1 January 2022
The following standards and interpretations apply for the first time to financial reporting periods commencing on or after 1 January 2022:

	Effective for accounting periods beginning on or after	Impact
Property, Plant and Equipment: Proceeds before intended use – Amendments to IAS 16	1 January 2022	None
Reference to the Conceptual Framework – Amendments to IFRS 3	1 January 2022	None
Onerous Contracts: Cost of Fulfilling a Contract – Amendments to IAS 37	1 January 2022	None
Annual Improvements to IFRS Standards 2018–2020	1 January 2022	None

ii) Forthcoming requirements
As at 31 December 2022, the following standards and interpretations had been issued but were not mandatory for annual reporting periods ending on 31 December 2022.

	Effective for accounting periods beginning on or after	Expected Impact
IFRS 17 Insurance Contracts	1 January 2023	None
Amendments to IAS 1: Classification of Liabilities as Current or Non-current	1 January 2023	See below
Definition of Accounting Estimates – Amendments to IAS 8	1 January 2023	See below
Disclosure of Accounting Policies – Amendments to IAS 1 and IFRS Practice Statement 2	1 January 2023	None
Deferred Tax related to Assets and Liabilities arising from a Single Transaction – Amendments to IAS 12	1 January 2023	None

Amendments to IAS 1: Classification of Liabilities as Current or Non-current
The Group is currently assessing the impact the amendments will have on current practice and whether existing loan agreements may require reclassification.

Definition of Accounting Estimates – Amendments to IAS 8
The amendments are not expected to have a material impact on the Group's financial statements.

3. Segment reporting

The Group's operating segments are reported in a manner consistent with the internal reporting provided to and regularly reviewed by the Group Chief Executive Officer, David Stirling, who is considered to be the "chief operating decision maker" for the purpose of evaluating segment performance and allocating resources. The Group Chief Executive Officer primarily uses a measure of profit for the year (before exceptional items) to assess the performance of the operating segments.

The Group manufactures and sells high-performance foams and licenses related technology for specialist markets worldwide. The Group's activities are categorised as follows:

- Polyolefin Foams: these foams are made from olefinic homopolymer and copolymer resin. The most common resin used is polyethylene.
- High-Performance Products (HPP): these foams exhibit high performance on certain key properties, such as improved chemical, flammability, temperature or energy management performance. Revenue in the segment is currently mainly derived from products manufactured from three main polymer types: polyvinylidene fluoride (PVDF) fluoropolymer, polyamide (nylon) and thermoplastic elastomers. Foams are sold under the brand name ZOTEK®, while technical insulation products manufactured from certain materials are branded as T-FIT®.
- MuCell Extrusion LLC (MEL): licenses microcellular foam technology and sells related machinery. It is also currently developing a fully circular solution for mono-material barrier packaging, which it has branded ReZorce®.

	Polyolefin Foams		HPP		MEL		Consolidated	
	2022 £'000	2021 £'000	**2022 £'000**	2021 £'000	**2022 £'000**	2021 £'000	**2022 £'000**	2021 £'000
Group revenue	**70,123**	56,166	**54,439**	42,294	**2,807**	2,290	**127,369**	100,750
Segment profit/(loss) pre-amortisation of acquired intangibles	**4,883**	684	**15,321**	8,732	**(1,634)**	(456)[1]	**18,570**	8,960[1]
Amortisation of acquired intangible assets	**–**	–	**–**	–	**(258)**	(232)[1]	**(258)**	(232)[1]
Segment profit/(loss)	**4,883**	684	**15,321**	8,732	**(1,892)**	(688)	**18,312**	8,728
Foreign exchange (losses)/gains	**–**	–	**–**	–	**–**	–	**(1,844)**	1,168
Unallocated central costs	**–**	–	**–**	–	**–**	–	**(2,537)**	(1,763)
Operating profit							**13,931**	8,133
Financing costs	**–**	–	**–**	–	**–**	–	**(1,814)**	(1,116)
Financing income	**–**	–	**–**	–	**–**	–	**56**	11
Share of profit/(loss) from joint venture	**50**	(20)	**–**	–	**–**	–	**50**	(20)
Taxation	**–**	–	**–**	–	**–**	–	**(2,217)**	(2,632)
Profit for the year							**10,006**	4,376
Segment assets	**116,426**	107,633	**40,358**	40,189	**13,165**	9,601	**169,949**	157,423
Unallocated assets	**–**	–	**–**	–	**–**	–	**410**	492
Total assets							**170,359**	157,915
Segment liabilities	**(39,814)**	(40,795)	**(15,508)**	(15,224)	**(1,427)**	(883)	**(56,749)**	(56,902)
Unallocated liabilities	**–**	–	**–**	–	**–**	–	**(4,072)**	(3,238)
Total liabilities							**(60,821)**	(60,140)
Depreciation of property, plant and equipment	**5,422**	4,793	**1,079**	1,052	**369**	133	**6,870**	5,978
Depreciation of right-of-use assets	**306**	302	**70**	90	**156**	133	**532**	525
Amortisation	**386**	584[1]	**144**	289	**312**	248[1]	**842**	1,121
Capital expenditure:								
Property, plant and equipment (PPE)	**3,584**	4,093	**888**	743	**785**	1,160	**5,257**	5,996
Intangible assets	**112**	98	**43**	34	**1,569**	937	**1,724**	1,069

[1] Prior year amortisation of acquired intangibles amended from £194k reported in 2021 to £232k.

Unallocated assets made up of deferred tax assets are £410k for the year (2021: £492k). Unallocated liabilities are made up of corporation tax £226k (2021: £83k) and deferred tax liabilities £3,846k (2021: £3,155k).

Segment profit/(loss) is made up of operating profit/(loss) before exceptional items, foreign exchange gains/(losses) and unallocated central costs. Unallocated central costs are not directly attributable to or cannot be allocated to a segment. Hedging gains/(losses) are not allocated to the segment but are instead recorded under unallocated central costs.

Segment profit/(loss) pre-amortisation only excludes amortisation on acquired intangible assets.

Notes
Continued

3. Segment reporting (continued)

Geographical segments

Polyolefin Foams, HPP and MEL are managed on a worldwide basis but operate from UK, USA, European and Asian locations. In presenting information on the basis of geographical segments, segmental revenue is based on the geographical location of customers. Segment assets are based on the geographical location of assets.

	United Kingdom £'000	Continental Europe £'000	North America £'000	Rest of the world £'000	Total £'000
For the year ended 31 December 2022					
Group revenue from external customers	**13,702**	**32,374**	**29,127**	**52,166**	**127,369**
Non-current assets	**41,951**	**20,943**	**39,869**	**367**	**103,130**
Capital expenditure – PPE	**3,057**	**559**	**1,618**	**23**	**5,257**
For the year ended 31 December 2021					
Group revenue from external customers	10,768	28,200	19,959	41,823	100,750
Non-current assets	42,944	19,830	35,521	445	98,740
Capital expenditure – PPE	2,776	798	2,391	31	5,996

Non-current assets do not include deferred tax assets or investments in joint ventures.

Major customer

Revenue from one customer located in 'Rest of the world' contributed £42,176k to the Group's revenue (2021: one customer located in 'Rest of the world' contributed £33,850k to the Group's revenue).

Analysis of revenue by category

Breakdown of revenues by products and services for the Group:

	2022 £'000	2021 £'000
Sale of finished goods (foam)	**124,562**	98,460
Licence and royalty income	**1,528**	1,066
Sale of equipment	**1,279**	1,224
Group revenue	**127,369**	100,750

4. Expenses by nature

	2022 £'000	2021 £'000
Included in profit for the year are:		
Changes in inventories of finished goods and work in progress	**1,926**	1,958
Changes in raw materials and consumables used	**(1,742)**	963
Inventory write-down/(back)	**489**	(1)
Staff costs (note 5)	**29,264**	25,196
Operating lease charges (note 11)	**185**	192
Amortisation (note 12)	**842**	1,121
Depreciation of PPE and right-of-use assets (note 10 and note 11)	**7,402**	6,503
Loss on disposal of assets	**283**	53
Research and development costs expensed	**787**	806
Development costs capitalised (note 12)	**(1,192)**	(627)
Net exchange losses/(gains)	**1,844**	(1,168)
External Auditor's remuneration:		
Group – Fees payable to the Group's External Auditor and its associates for the audit of the Company and consolidated financial statements		
PKF Littlejohn LLP	**224**	177
Fees payable to the External Auditor and its associates in respect of other services:		
Interim Review fee	**18**	18
Total cost of sales, distribution costs and administrative expenses	**113,438**	92,617

5. Staff numbers and expenses

The monthly average number of people employed by the Group and Company (including Executive Directors) during the year, analysed by category, was as follows:

	Number of employees			
	Group		Company	
	2022	2021	**2022**	2021
Production	**280**	258	**169**	166
Maintenance	**38**	36	**25**	25
Distribution and marketing	**83**	87	**44**	49
Administration and technical	**117**	115	**83**	90
	518	496	**321**	330

The aggregate payroll costs of these persons were as follows:

	Group		Company	
	2022 £'000	2021 £'000	**2022 £'000**	2021 £'000
Wages and salaries*	**23,852**	20,842	**16,048**	14,462
Social security costs*	**3,228**	2,796	**1,691**	1,495
Share options granted to directors and employees (note 24)	**809**	360	**809**	360
Pension costs, including past service costs	**1,375**	1,198	**958**	855
	29,264	25,196	**19,506**	17,172
* Net of directly attributable costs capitalised	**884**	820	**337**	284

Notes
Continued

5. Staff numbers and expenses (continued)
Details of aggregate Directors' emoluments are provided below:

	2022 £'000	2021 £'000
Aggregate emoluments	**994**	648
Aggregate gains made on the exercise of share options	**83**	159
Aggregate amounts receivable under long-term incentive schemes	**153**	–
Company contribution to money purchase pension scheme	**77**	71
	1,307	878

Further details of Directors' emoluments, including details of the highest-paid Director, are included in the Directors' Remuneration report on pages 88 to 109.

6. Finance income and costs
Finance income

	2022 £'000	2021 £'000
Interest income	**56**	11

Finance costs

	2022 £'000	2021 £'000
Interest on borrowings	**1,714**	1,014
Interest on lease liabilities	**24**	32
Amount capitalised	**–**	(32)
Finance costs expensed	**1,738**	1,014
Interest on defined benefit pension obligation (note 23)	**76**	102
	1,814	1,116

7. Income tax expense

	2022 £'000	2021 £'000
UK corporation tax	**1,137**	673
Overseas tax	**232**	79
Adjustment for tax for prior years	**44**	(272)
Total current tax	**1,413**	480
Deferred tax	**804**	2,152
Income tax expense	**2,217**	2,632

7. Income tax expense (continued)

Factors affecting the tax charge

The weighted average applicable tax rate for the Group is 19.50% (2021: 18.96%). The main elements of the income tax expense are as follows:

	2022 £'000	2021 £'000
Tax reconciliation		
Profit before tax	**12,223**	7,008
Tax at the UK tax rate of 19% (2021: 19%)	**2,335**	1,332
Effects of:		
Expenses not deductible for tax purposes	**223**	173
Research and development and other tax credits	**(115)**	(199)
(Utilisation of) tax losses for which no deferred income tax asset recognised	**(68)**	420
Effect of different overseas tax rates	**60**	20
Changes in tax rates	**206**	1,024
Capital allowance super deductions	**(146)**	(101)
Special Economic Zone Relief (Poland)	**(373)**	–
Other differences	**29**	(53)
Adjustments to prior year UK corporation tax charge	**66**	16
	2,217	2,632

The main rate of UK corporation tax substantively enacted for the period was 19%. The Group has not identified any uncertain tax positions as at 31 December 2022 (2021: none).

An increase in the UK corporate tax rate from 19% to 25% (effective from 1 April 2023) was substantively enacted on 14 May 2021.

8. Dividends and earnings per share

	2022 £'000	2021 £'000
Prior year final dividend of 4.40p (2021: 4.27p) per 5.0p ordinary share	**2,131**	2,058
Interim dividend of 2.18p (2021: 2.10p) per 5.0p ordinary share	**1,057**	1,016
Dividends paid during the year	**3,188**	3,074

The proposed final dividend for the year ended 31 December 2022 of 4.62p per share (2021: 4.40p) is subject to approval by shareholders at the AGM and has not been recognised as a liability in these financial statements. The proposed dividend would amount to £2,241k if paid to all shareholders on the Company register at the close of business on 2 June 2023.

Earnings per ordinary share

Earnings per ordinary share is calculated by dividing consolidated profit after tax attributable to equity holders of the Company of £10,006k (2021: £4,376k) by the weighted average number of shares in issue during the year and excluding own shares held by the EBT which are administered by independent trustees. The number of shares held in the trust at 31 December 2022 was 107,130 (2021: 196,888). Distribution of shares from the trust is at the discretion of the trustees. Diluted earnings per ordinary share adjusts for the potential dilutive effect of share option schemes in accordance with IAS 33 "Earnings per Share".

	2022	2021
Weighted average number of ordinary shares in issue	**48,551,379**	48,577,945
Adjustments for share options	**987,750**	755,954
Diluted number of ordinary shares issued	**49,539,129**	49,333,899

9. Investments in joint venture

During 2013, the Group entered into joint-venture arrangements with INOAC Corporation. As a result, the Group had a 50% interest in Azote Asia Limited (a private company incorporated in Hong Kong) and Inoac Zotefoams Korea Limited (incorporated in South Korea). Azote Asia Limited commenced trading in 2014 and is the exclusive distributor of Zotefoams' AZOTE® products in the Far East. The registered address and principal place of business is 1318-22, Park-In Commercial Centre, 56 Dundas Street, Kowloon, Hong Kong. Inoac Zotefoams Korea Limited remained non-trading until closure in 2022. As at the end of the year, there were no contingent liabilities or commitments relating to the Group's interest in the joint venture.

The joint venture has share capital consisting solely of ordinary shares which are held directly by the Group. Azote Asia Limited is a private company and there is no quoted market price available for its shares.

Notes
Continued

9. Investments in joint venture (continued)

Set out below is the summarised financial information for Azote Asia Limited, which is accounted for using the equity method.

Summarised statement of financial position:

	As at 31 December	
	2022 £'000	2021 £'000
Cash and cash equivalents	**664**	323
Other current assets (excluding cash)	**1,190**	1,102
Disposal of Inoac Zotefoams Korea Ltd	**(120)**	–
Total current assets	**1,734**	1,425
Financial liabilities (excluding trade payables)	**(173)**	(79)
Other current liabilities (including trade payables)	**(1,256)**	(1,021)
Total current liabilities	**(1,429)**	(1,100)
Net assets	**305**	325

Summarised statement of comprehensive income:

	As at 31 December	
	2022 £'000	2021 £'000
Revenue	**4,382**	3,766
Finance costs	**–**	(2)
Profit/(loss) before tax	**100**	(41)
Income tax expense	**–**	–
Profit/(loss) after tax	**100**	(41)
Other comprehensive income	**–**	–
Total comprehensive income	**100**	(41)
Dividend received from joint venture	**–**	–

The information above reflects the amounts presented in the financial statements of the joint venture. There are no material differences in accounting policies between the Group and the joint venture.

A reconciliation of the summarised financial information presented to the carrying amount of the interest in the joint venture is provided below:

	2022 £'000	2021 £'000
Opening net assets	**325**	366
Profit/(loss) for the year	**100**	(41)
Other comprehensive income	**–**	–
Disposal of Inoac Zotefoams Korea Ltd	**(120)**	–
Closing net assets	**305**	325
Interest in joint venture @ 50%	**153**	163

	2022 £'000	2021 £'000
Information of the joint venture		
Carrying value at 1 January	**163**	183
Share of profit/(loss) for the year	**50**	(20)
Disposal of Inoac Zotefoams Korea Ltd	**(60)**	–
Carrying value at 31 December	**153**	163

10. Property, plant and equipment

Group

	Land and buildings £'000	Plant and equipment £'000	Fixtures and fittings £'000	Under construction £'000	Total £'000
Cost					
Balance at 1 January 2021	32,793	99,037	4,031	24,733	160,594
Additions	16	404	254	5,322	5,996
Disposals	(88)	(122)	(133)	–	(343)
Transfers	13,346	11,239	(291)	(24,774)	(480)
Effect of movement in foreign exchange	(291)	233	10	(815)	(863)
Balance at 31 December 2021	45,776	110,791	3,871	4,466	164,904
Balance at 1 January 2022	**45,776**	**110,791**	**3,871**	**4,466**	**164,904**
Additions	**13**	**441**	**37**	**4,766**	**5,257**
Transfers	**346**	**5,699**	**196**	**(6,241)**	**–**
Disposals	**(535)**	**(3,336)**	**(683)**	**–**	**(4,554)**
Effect of movement in foreign exchange	**1,798**	**4,996**	**141**	**57**	**6,992**
Balance at 31 December 2022	**47,398**	**118,591**	**3,562**	**3,048**	**172,599**
Accumulated depreciation					
Balance at 1 January 2021	12,578	52,195	2,896	–	67,669
Depreciation charge for the year	1,479	4,184	315	–	5,978
Disposals	–	(87)	(114)	–	(201)
Transfers	51	(79)	(125)	–	(153)
Effect of movement in foreign exchange	52	148	10	–	210
Balance at 31 December 2021	14,160	56,361	2,982	–	73,503
Balance at 1 January 2022	**14,160**	**56,361**	**2,982**	**–**	**73,503**
Depreciation charge for the year	**1,374**	**5,176**	**320**	**–**	**6,870**
Transfers	**–**	**–**	**–**	**–**	**–**
Disposals	**(521)**	**(3,139)**	**(680)**	**–**	**(4,340)**
Effect of movement in foreign exchange	**640**	**1,521**	**110**	**–**	**2,271**
Balance at 31 December 2022	**15,653**	**59,919**	**2,732**	**–**	**78,304**
Net book value					
At 1 January 2021	20,215	46,842	1,135	24,733	92,925
At 31 December 2021 and 1 January 2022	31,616	54,430	889	4,466	91,401
At 31 December 2022	**31,745**	**58,672**	**830**	**3,048**	**94,295**

Depreciation is included in cost of sales in the income statement.

During the year, the Group has capitalised borrowing costs amounting to £nil (2021: £32k) on qualifying assets.

Bank borrowings are secured on property, plant and equipment. Refer to note 18 for details.

Notes
Continued

10. Property, plant and equipment (continued)
Company

	Land and buildings £'000	Plant and equipment £'000	Fixtures and fittings £'000	Under construction £'000	Total £'000
Cost					
Balance at 1 January 2021	24,056	64,242	3,016	3,245	94,559
Additions	–	96	203	2,477	2,776
Disposals	(88)	(78)	(128)	–	(294)
Transfers	104	2,894	(457)	(2,949)	(408)
Balance at 31 December 2021	24,072	67,154	2,634	2,773	96,633
Balance at 1 January 2022	**24,072**	**67,154**	**2,634**	**2,773**	**96,633**
Additions	**13**	**21**	**20**	**3,003**	**3,057**
Transfers	**785**	**3,393**	**156**	**(4,334)**	**–**
Disposals	**(535)**	**(3,337)**	**(679)**	**–**	**(4,551)**
Balance at 31 December 2022	**24,335**	**67,231**	**2,131**	**1,442**	**95,139**
Accumulated depreciation					
Balance at 1 January 2021	7,959	42,501	2,139	–	52,599
Depreciation charge for the year	856	1,901	218	–	2,975
Disposals	–	(78)	(111)	–	(189)
Transfers	50	(49)	(154)	–	(153)
Balance at 31 December 2021	8,865	44,275	2,092	–	55,232
Balance at 1 January 2022	**8,865**	**44,275**	**2,092**	**–**	**55,232**
Depreciation charge for the year	**847**	**2,361**	**200**	**–**	**3,408**
Transfers	**–**	**–**	**–**	**–**	**–**
Disposals	**(521)**	**(3,139)**	**(679)**	**–**	**(4,339)**
Balance at 31 December 2022	**9,191**	**43,497**	**1,613**	**–**	**54,301**
Net book value					
At 1 January 2021	16,097	21,741	877	3,245	41,960
At 31 December 2021 and 1 January 2022	15,207	22,879	542	2,773	41,401
At 31 December 2022	**15,144**	**23,734**	**518**	**1,442**	**40,838**

11. Leases

(i) Amounts recognised in the statement of financial position relating to leases:

Right-of-use assets

	Group		Company	
	2022 £'000	2021 £'000	**2022 £'000**	2021 £'000
Property	**574**	494	**–**	–
Equipment	**365**	610	**347**	519
	939	1,104	**347**	519

Lease liabilities

	Group		Company	
	2022 £'000	2021 £'000	**2022 £'000**	2021 £'000
Lease liability falls due within 1 year	**509**	486	**245**	251
Lease liability falls due within 1-3 years	**454**	553	**101**	274
Lease liability falls due in more than 3 years	**–**	90	**–**	–
	963	1,129	**346**	525

Additions to the right-of-use assets during the financial year were £309k (2021: £230k) for the Group and £78k (2021: £28k) for the Company.

(ii) Amounts recognised in the income statement relating to leases:

Amortisation charge of right-of-use assets

	Group		Company	
	2022 £'000	2021 £'000	**2022 £'000**	2021 £'000
Property	**224**	194	**–**	–
Equipment	**308**	331	**250**	288
	532	525	**250**	288
Interest expenses (included in finance costs)	**24**	39	**11**	17
Expense relating to short-term leases (included in cost of sales and administrative expenses)	**185**	192	**91**	13
Expense relating to leases of low-value assets that are not shown above as short-term leases (included in administrative expenses)	**21**	72	**21**	15
The total cash outflow for leases	**499**	543	**265**	304

Notes
Continued

12. Intangible assets
Group

	Marketing related £'000	Customer related £'000	Technology related £'000	Software related £'000	Goodwill £'000	Capitalised development £'000	Total £'000
Cost							
Balance at 1 January 2021	232	379	5,026	3,273	2,228	718	11,856
Additions	–	–	277	165	–	627	1,069
Transfer	–	–	–	466	–	14	480
Effect of movement in foreign exchange	3	3	63	(3)	26	12	104
Balance at 31 December 2021	235	382	5,366	3,901	2,254	1,371	13,509
Balance at 1 January 2022	**235**	**382**	**5,366**	**3,901**	**2,254**	**1,371**	**13,509**
Additions	**–**	**–**	**378**	**154**	**–**	**1,192**	**1,724**
Disposals	**–**	**–**	**–**	**(129)**	**–**	**–**	**(129)**
Effect of movement in foreign exchange	**29**	**32**	**668**	**8**	**275**	**122**	**1,134**
Balance at 31 December 2022	**264**	**414**	**6,412**	**3,934**	**2,529**	**2,685**	**16,238**
Accumulated amortisation							
Balance at 1 January 2021	232	379	2,912	2,355	–	90	5,968
Charge for the year	–	–	194	743	–	184	1,121
Transfer	–	–	–	148	–	5	153
Effect of movement in foreign exchange	3	3	37	–	–	–	43
Balance at 31 December 2021	235	382	3,143	3,246	–	279	7,285
Balance at 1 January 2022	**235**	**382**	**3,143**	**3,246**	**–**	**279**	**7,285**
Charge for the year	**–**	**–**	**303**	**511**	**–**	**28**	**842**
Disposals	**–**	**–**	**–**	**(120)**	**–**	**–**	**(120)**
Effect of movement in foreign exchange	**29**	**32**	**400**	**(4)**	**–**	**–**	**457**
Balance at 31 December 2022	**264**	**414**	**3,846**	**3,633**	**–**	**307**	**8,464**
Net book value							
At 1 January 2021	–	–	2,114	918	2,228	628	5,888
At 31 December 2021 and 1 January 2022	–	–	2,223	655	2,254	1,092	6,224
At 31 December 2022	**–**	**–**	**2,566**	**301**	**2,529**	**2,378**	**7,774**

Amortisation is included in cost of sales in the income statement.

Goodwill arising on acquisition is allocated to the CGU that is expected to benefit, this being MEL. The recoverable amount of the CGU has been determined based on an assessment of the MuCell® technology and the potential of the ReZorce mono-material barrier packaging solution.

The business has prepared financial models approved by management which support the carrying value of intangibles. Please see the Group CFO's review on page 32 for more detail. The assessment of the potential of ReZorce has been made based on:

- the technology and current stage of development
- its link to MuCell technology
- the potential market size for the solution
- management plans to access this market
- potential customer appetite
- sufficient funding
- board risk appetite.

12. Intangible assets (continued)
Company

	Customer related £'000	Software related £'000	Capitalised development £'000	Total £'000
Cost				
Balance at 1 January 2021	121	3,271	718	4,110
Additions	–	132	–	132
Transfer	–	393	14	407
Balance at 31 December 2021	121	3,796	732	4,649
Balance at 1 January 2022	**121**	**3,796**	**732**	**4,649**
Additions	**–**	**149**	**–**	**149**
Disposals	**–**	**(129)**	**–**	**(129)**
Balance at 31 December 2022	**121**	**3,816**	**732**	**4,669**
Accumulated amortisation				
Balance at 1 January 2021	121	2,354	89	2,564
Charge for the year	–	737	185	922
Transfer	–	148	5	153
Balance at 31 December 2021	121	3,239	279	3,639
Balance at 1 January 2022	**121**	**3,239**	**279**	**3,639**
Charge for the year	**–**	**480**	**28**	**508**
Disposals	**–**	**(119)**	**–**	**(119)**
Balance at 31 December 2022	**121**	**3,600**	**307**	**4,028**
Net book value				
At 1 January 2021	–	917	629	1,546
At 31 December 2021 and 1 January 2022	–	557	453	1,010
At 31 December 2022	**–**	**216**	**425**	**641**

13. Investment in subsidiaries
Company

	2022 £'000	2021 £'000
Shares in Group undertakings – at cost	**30,822**	30,822

Notes
Continued

13. Investment in subsidiaries (continued)

The following is a complete list of the subsidiary undertakings of the Company:

	Registered office	Ownership	Incorporated in:
Zotefoams International Limited	675 Mitcham Road, Croydon CR9 3AL	100%	Great Britain
Zotefoams Pension Trustees Limited	675 Mitcham Road, Croydon CR9 3AL	100%	Great Britain
Zotefoams Inc (indirectly owned)	Corporation Trust Center, 1209 Orange Street, Wilmington, New Castle, Delaware	100%	USA
Zotefoams Midwest LLC (indirectly owned)	Corporation Trust Center, 1209 Orange Street, Wilmington, New Castle, Delaware	100%	USA
MuCell Extrusion LLC (indirectly owned)	Corporation Trust Center, 1209 Orange Street, Wilmington, New Castle, Delaware	100%	USA
Zotefoams Operations Limited (indirectly owned)	675 Mitcham Road, Croydon CR9 3AL	100%	Great Britain
Zotefoams Technology Limited (indirectly owned)	675 Mitcham Road, Croydon CR9 3AL	100%	Great Britain
KZ Trading and Investment Limited (indirectly owned)	15/F OTB Building, 160 Gloucester Road, Hong Kong	100%	Hong Kong
Zotefoams T-FIT Material Technology (Kunshan) Limited (indirectly owned)	181 Huanlou Road, Kunshan, Jiangsu	100%	China
Zotefoams France SAS (indirectly owned)	29 Boulevard Albert Einstein, Nantes	100%	France
Zotefoams Poland Sp. z.o.o. (indirectly owned)	ul. Grzybowska 2/29, 00-131, Warszawa	100%	Poland
T-FIT Insulation Solutions India Private Limited (indirectly owned)	335 Udyog Vihar Phase IV Gurgaon, Gurgaon, Haryana 122015	100%	India
Zotefoams Denmark ApS (indirectly owned)	Niels Bohrs Vej 36, 8660 Skanderborg	100%	Denmark

The principal activities of the subsidiary undertakings are as follows:

Zotefoams International Limited is a holding company. Zotefoams Pension Trustees Limited and Zotefoams Technology Limited are currently inactive. Zotefoams Inc is a wholly owned subsidiary of Zotefoams International Limited and purchases, manufactures and distributes cross-linked block foams. Zotefoams Midwest LLC, a wholly owned subsidiary of Zotefoams Inc, is a trading company with operations in Oklahoma, USA and supplies specialist materials, based on AZOTE® foams, for the construction industry. MuCell Extrusion LLC, a wholly owned subsidiary of Zotefoams Inc, holds and develops microcellular foam technology which it licenses to customers and is also developing a mono-material barrier packaging solution branded ReZorce®. Zotefoams Operations Limited, a wholly owned subsidiary of Zotefoams International Limited, is a trading company and distributes T-FIT® technical insulation products. KZ Trading and Investment Limited, a wholly owned subsidiary of Zotefoams International Limited, is a holding and trading company for Zotefoams T-FIT Material Technology (Kunshan) Limited (previously known as Kunshan Zotek King Lai Limited), which is a trading company based in Kunshan, China, processing Zotefoams foams into T-FIT technical insulation products and distributing them. Zotefoams France SAS, a wholly owned subsidiary of Zotefoams International Limited, did not engage in any trading activities in 2022. Zotefoams Poland Sp. z.o.o. is a wholly owned subsidiary of Zotefoams International Limited which purchases, manufactures and distributes cross-linked block foams. T-FIT Insulation Solutions India Private Limited, majority owned by Zotefoams International Limited with a one percent shareholding held by Zotefoams Operations Limited in line with local legislation, distributes T-FIT technical insulation products. Zotefoams Denmark ApS Limited was incorporated in 2022, is a wholly owned subsidiary of Zotefoams International and engaged in no trading activities during 2022. In the opinion of the Directors, the investments in the Company's subsidiary undertakings are worth at least the amount at which they are stated in the statement of financial position.

Zotefoams plc Employee Benefit Trust (EBT) is a wholly owned entity with its registered office JTC House, 28 Esplanade, St Helier, Jersey, Channel Islands, JE2 3QA. The EBT releases shares in the Company when share awards vest or are exercised.

Zotefoams International Limited, Zotefoams Technology Limited and Zotefoams Operations Limited are relying upon the exemption from audit of individual financial statements as permitted by section 479A of the Companies Act 2006. All outstanding liabilities as at 31 December 2022 of these companies have been guaranteed by the Company and no liability is expected to arise under this guarantee.

The Company has a branch in Italy.

14. Inventories

	Group		Company	
	2022 £'000	2021 £'000	**2022 £'000**	2021 £'000
Raw materials and consumables	**12,895**	14,637	**9,803**	11,759
Work in progress	**7,645**	5,704	**6,573**	4,342
Finished goods	**5,599**	5,613	**2,356**	2,594
	26,139	25,954	**18,732**	18,695
Inventories are shown net of:				
Provision for impairment losses	**(2,261)**	1,772	**(1,042)**	1,051

In 2022, the value of inventory recognised by the Group as an expense in cost of goods sold was £57,336k (2021: £46,878k).

14. Inventories (continued)

Movement in provision

Movements in the inventory provision during the financial year are set out below:

	Group		Company	
	2022 £'000	2021 £'000	**2022 £'000**	2021 £'000
Provision for impairment losses as at 1 January	**1,772**	1,773	**1,051**	1,100
Inventories written off against provision	**(173)**	(138)	**(144)**	(119)
Additional provisions recognised	**662**	169	**135**	102
Unused amounts reversed	**–**	(32)	**–**	(32)
Provision for impairment losses as at 31 December	**2,261**	1,772	**1,042**	1,051

15. Trade and other receivables

	Group		Company	
	2022 £'000	2021 £'000	**2022 £'000**	2021 £'000
Amounts falling due over one year:				
Prepayments and accrued income	**122**	11	**122**	11
Amounts falling due within one year:				
Trade receivables	**25,803**	20,885	**16,040**	14,356
Amounts owed by Group undertakings	**–**	–	**39,787**	37,746
Other receivables	**1,867**	2,438	**1,294**	1,903
Prepayments and accrued income	**1,777**	1,015	**405**	332
	29,569	24,349	**57,648**	54,348

Trade receivables are generally on terms of 30 to 90 days.

Amounts owed by Group undertakings are payable on demand. The trading portion does not attract any interest. Unsecured loans provided to Group undertakings totalling £24,840k (2021: £25,327k) attract an interest charge of 6.10% for loans linked to US dollar, 4.00% for euro and 4.45% for sterling (2021: 1.73% for loans linked to US dollar, 1.60% for euro and 1.83% for sterling). Bank borrowings are secured on the trade receivables of the Group. Refer to note 18 for details.

16. Cash and cash equivalents

	Group		Company	
	2022 £'000	2021 £'000	**2022 £'000**	2021 £'000
Cash at bank and in hand	**10,594**	8,055	**7,288**	5,034

Cash at bank earns interest at floating rates based on daily bank deposit rates.

17. Trade and other payables

	Group		Company	
	2022 £'000	2021 £'000	**2022 £'000**	2021 £'000
Trade payables	**5,706**	4,322	**4,672**	3,459
Amounts owed to Group undertakings	**–**	–	**30**	30
Other taxation and social security	**560**	921	**454**	413
Other payables	**3,276**	1,042	**2,119**	680
Accruals and deferred income	**3,958**	2,957	**2,764**	2,085
	13,500	9,242	**10,039**	6,667

Amounts owed to Group undertakings are unsecured, repayable on demand and attract no interest.

Notes
Continued

18. Interest-bearing loans and borrowings

		Group		Company	
	Note	**2022 £'000**	2021 £'000	**2022 £'000**	2021 £'000
Current bank borrowings		**37,446**	26,564	**37,446**	26,564
Non-current bank borrowings		**–**	14,710	**–**	14,710
	21	**37,446**	41,274	**37,446**	41,274

In March 2022, the Group completed a debt refinancing and selected Handelsbanken and NatWest, the incumbents, to continue as its lenders. Under the terms of the new facility, secured against the property, plant and equipment and trade receivables, the Group's gross finance facility consists of a £50m multi-currency revolving credit facility with a £25m accordion. With a 4+1 tenor, the extending year option was taken up in January 2023.

At the end of the financial year, the Group has utilised £37.4m (31 December 2021: £41.3m) of its multi-currency revolving credit facility of £50m. The total amount of £37.4m, repayable on the last day of each loan interest period, which is of either a three- or six-month duration, is net of £0.5m origination fees paid up front and being amortised over four years. The Group has headroom of £22.9m, being £10.6m cash and cash equivalents, as per note 16, and the undrawn facility of £12.3m, being the facility of £50m less the drawn-down balance of £37.4m, less £0.3m of exchange rate differences between the Group and the banks.

The interest rates on the debt facility ranged between 1.60% and 6.00% in 2022 (2021: between 1.60% and 2.35%).

The Group and the Company have the following undrawn borrowing facilities as per the bank at the end of the financial year:

	2022 £'000	2021 £'000
Floating rate:		
Expiring within one year	**–**	5,307
Expiring beyond one year	**12,295**	–
Total	**12,295**	5,307

Reconciliation of liabilities arising from financing activities:

Group	2021 £'000	Net cash inflows £'000	Non-cash changes: Loan origination fee £'000	Loan restructure £'000	Recognition of lease liabilities £'000	Foreign exchange movement £'000	**2022 £'000**
Long-term borrowings	14,710	–	73	(14,749)	–	(34)	**–**
Short-term borrowings	26,564	7,826	(373)	–	–	3,429	**37,446**
Total liabilities	41,274	7,826	(300)	(14,749)	–	3,395	**37,446**

Group	2020 £'000	Net cash (outflows)/ inflows £'000	Non-cash changes: Loan origination fee £'000	Loan restructure £'000	Recognition of lease liabilities £'000	Foreign exchange movement £'000	2021 £'000
Long-term borrowings	19,263	(4,739)	156	–	–	30	14,710
Short-term borrowings	23,430	3,974	(12)	–	–	(828)	26,564
Total liabilities	42,693	(765)	144	–	–	(798)	41,274

18. Interest-bearing loans and borrowings (continued)

Company	2021 £'000	Net cash inflows £'000	Non-cash changes Loan origination fee £'000	Loan restructure £'000	Recognition of lease liabilities £'000	Foreign exchange movement £'000	2022 £'000
Long-term borrowings	14,710	–	73	(14,749)	–	(34)	**–**
Short-term borrowings	26,564	7,826	(373)	–	–	3,429	**37,446**
Total liabilities	41,274	7,826	(300)	(14,749)	–	3,395	**37,446**

Company	2020 £'000	Net cash (outflows)/ inflows £'000	Non-cash changes Loan origination fee £'000	Loan restructure £'000	Recognition of lease liabilities £'000	Foreign exchange movement £'000	2021 £'000
Long-term borrowings	19,263	(4,739)	156	–	–	30	14,710
Short-term borrowings	23,430	3,974	(12)	–	–	(828)	26,564
Total liabilities	42,693	(765)	144	–	–	(798)	41,274

19. Deferred tax assets and liabilities

Recognised deferred tax assets and liabilities – Group

Deferred tax assets and liabilities are attributable to the following:

	Assets 2022 £'000	Assets 2021 £'000	Liabilities 2022 £'000	Liabilities 2021 £'000	Net 2022 £'000	Net 2021 £'000
Property, plant and equipment	**–**	–	**4,450**	3,810	**4,450**	3,810
Rolled-over gain	**–**	–	**806**	806	**806**	806
Inventories	**(255)**	(321)	**–**	–	**(255)**	(321)
Derivative financial instruments	**(266)**	(81)	**–**	–	**(266)**	(81)
Defined benefit pension scheme	**(822)**	(1,164)	**–**	–	**(822)**	(1,164)
Share-based payments	**(322)**	(216)	**–**	–	**(322)**	(216)
Losses available for offsetting against future taxable income	**(155)**	(171)	**–**	–	**(155)**	(171)
	(1,820)	(1,953)	**5,256**	4,616	**3,436**	2,663
Offset	**1,410**	1,461	**(1,410)**	(1,461)	**–**	–
Net deferred tax (assets)/liabilities	**(410)**	(492)	**3,846**	3,155	**3,436**	2,663

Unrecognised deferred tax assets

The Group has tax losses carried forward in the USA of $2,885k (2021: $2,885k), which expire between 2023 and 2037 under prevailing tax legislation. In addition to this, the Group has further tax losses in the USA of $27,256k (2021: $22,661k), which are carried forward indefinitely. At year-end exchange rates, these tax losses translate to £25,043k (2021: £18,913k). Applying the enacted US corporation tax rate of 21% (2021: 21%), the Group has taken a prudent approach and recognised a deferred tax asset of £138k (2021: £138k) on such tax losses expected to be utilised in future periods.

The Group can potentially recover £521k (2021: £402k) of the deferred tax asset within twelve months of the reporting period. The remainder of the deferred tax asset will potentially be recovered more than twelve months after the reporting period.

The Group can potentially settle none (2021: none) of the deferred tax liability within twelve months of the reporting period. The remainder of the deferred tax liability will potentially be settled more than twelve months after the reporting period.

Notes
Continued

19. Deferred tax assets and liabilities (continued)
Movement in deferred tax

	Property, plant and equipment £'000	Rolled-over gain £'000	Inventories £'000	Derivative financial instruments £'000	Defined benefit pension scheme £'000	Share option charges £'000	Tax value of recognised losses carried forward £'000	Total £'000
Balance at 1 January 2021	1,986	613	(374)	295	(1,681)	(317)	(140)	382
Charged/(credited) to the income statement	1,824	193	53	–	73	40	(31)	2,152
Recognised in other comprehensive income and equity	–	–	–	(376)	444	61	–	129
Balance at 31 December 2021	3,810	806	(321)	(81)	(1,164)	(216)	(171)	2,663
Balance at 1 January 2022	**3,810**	**806**	**(321)**	**(81)**	**(1,164)**	**(216)**	**(171)**	**2,663**
Charged/(credited) to the income statement	**640**	**–**	**66**	**–**	**196**	**(114)**	**16**	**804**
Recognised in other comprehensive income and equity	**–**	**–**	**–**	**(185)**	**146**	**8**	**–**	**(31)**
Balance at 31 December 2022	**4,450**	**806**	**(255)**	**(266)**	**(822)**	**(322)**	**(155)**	**3,436**

Deferred tax assets and liabilities – Company
Deferred tax assets and liabilities are attributable to the following:

	Assets		Liabilities		Net	
	2022 £'000	2021 £'000	**2022 £'000**	2021 £'000	**2022 £'000**	2021 £'000
Property, plant and equipment	**–**	–	**4,450**	3,810	**4,450**	3,810
Rolled-over gain	**–**	–	**806**	806	**806**	806
Derivative financial instruments	**(266)**	(81)	**–**	–	**(266)**	(81)
Defined benefit pension scheme	**(822)**	(1,164)	**–**	–	**(822)**	(1,164)
Share option charges	**(322)**	(216)	**–**	–	**(322)**	(216)
	(1,410)	(1,461)	**5,256**	4,616	**3,846**	3,155
Offset	**1,410**	1,461	**(1,410)**	(1,461)	**–**	–
Deferred tax (assets)/liabilities	**–**	–	**3,846**	3,155	**3,846**	3,155

Movement in deferred tax

	Property, plant and equipment £'000	Rolled-over gain £'000	Derivative financial instruments £'000	Defined benefit pension scheme £'000	Share option charges £'000	Total £'000
Balance at 1 January 2021	1,986	613	290	(1,681)	(317)	891
Charged to the income statement	1,824	193	5	73	40	2,135
Recognised in other comprehensive income and equity	–	–	(376)	444	61	129
Balance at 31 December 2021	3,810	806	(81)	(1,164)	(216)	3,155
Balance at 1 January 2022	**3,810**	**806**	**(81)**	**(1,164)**	**(216)**	**3,155**
Charged to the income statement	**640**	**–**	**–**	**196**	**(114)**	**722**
Recognised in other comprehensive income and equity	**–**	**–**	**(185)**	**146**	**8**	**(31)**
Balance at 31 December 2022	**4,450**	**806**	**(266)**	**(822)**	**(322)**	**3,846**

20. Issued share capital

Issued, allotted and fully paid ordinary shares of 5p each:

	Number of shares	Par value £'000	Share premium £'000	Total £'000
At 1 January 2022 and 31 December 2022	**48,621,234**	**2,431**	**44,178**	**46,609**

The holders of ordinary shares are entitled to receive dividends as declared from time to time and are entitled, on a poll, to one vote per share at meetings of the Company.

Nature and purpose of other reserves

Capital redemption reserve

On the buy-back and cancellation of preference shares, an amount equal to the par value was transferred from retained earnings to the capital redemption reserve for capital maintenance purposes.

Translation reserve

Exchange differences arising on translation of the foreign controlled entities are recognised in other comprehensive income and accumulated in a separate reserve within equity. The cumulative amount is reclassified to the income statement when the net investment is disposed of.

Hedging reserve

The hedging reserve includes the cash flow hedge reserve and the costs of the hedging reserve (see note 21 for details). The cash flow hedge reserve is used to recognise the effective portion of gains or losses on derivatives that are designated and qualify as cash flow hedges. Amounts are subsequently reclassified to the income statement as appropriate.

21. Financial instruments and financial risk management

The Group's and Company's principal financial instruments include cash in hand and at bank and interest-bearing loans and borrowings, the main purpose of which is to provide finance for the Group's and Company's operations. Foreign exchange derivatives are used to help manage the Group's and Company's currency exposure. Per the Group's and Company's policy, no trading in financial instruments is undertaken.

The main risks arising from the Group's and Company's financial instruments are credit risk, interest rate risk, liquidity risk and foreign currency risk. The Board reviews and agrees policies for managing each of these risks and they are summarised below. These policies have remained consistent throughout the year.

Credit risk

Credit risk is managed on a Group basis, except for credit risk relating to accounts receivable balances. Each local entity is responsible for managing and analysing the credit risk for each of their new customers before standard payment and delivery terms and conditions are offered. Credit risk arises from cash and cash equivalents and derivative financial instruments with banks and financial institutions, as well as credit exposures to customers, including outstanding receivables and committed transactions. A financial asset is considered in default when the counterparty fails to pay its contractual obligations. Financial assets are written off when there is no expectation of recovery.

Management has a credit policy in place and the exposure to credit risk is monitored on an ongoing basis. Credit evaluations are performed for customers offered credit over a certain amount. The Group and Company do not require collateral in respect of financial assets.

At the statement of financial position date there were no significant concentrations of credit risk. The maximum exposure to credit risk is represented by the carrying amount of each financial asset, including derivative financial instruments, in the statement of financial position.

Notes
Continued

21. Financial instruments and financial risk management (continued)
Credit quality of financial assets

	Group		Company	
Counterparties without external credit rating:	**2022 £'000**	2021 £'000	**2022 £'000**	2021 £'000
Existing customers with no defaults in the past	**25,198**	20,529	**15,715**	14,039
Existing customers with some defaults in the past, net of impairment allowance	**605**	356	**325**	317
	25,803	20,885	**16,040**	14,356

	Group		Company	
Cash at bank	**2022 £'000**	2021 £'000	**2022 £'000**	2021 £'000
Moody's P-1	**10,195**	7,849	**7,288**	5,034
Moody's P-3	**399**	206	**–**	–
	10,594	8,055	**7,288**	5,034

	Group		Company	
Derivative financial assets	**2022 £'000**	2021 £'000	**2022 £'000**	2021 £'000
Moody's P-1	**486**	92	**486**	92
Moody's P-2	**–**	81	**–**	81
	486	173	**486**	173

While cash and cash equivalents are subject to impairment review under IFRS 9 "Financial Instruments", the identified impairment loss was immaterial (2021: immaterial).

Trade receivables are analysed as follows:

	Group		Company	
	2022 £'000	2021 £'000	**2022 £'000**	2021 £'000
Gross carrying amount	**26,017**	20,980	**16,051**	14,367
– due for less than 60 days	**25,296**	20,132	**16,051**	14,248
– due for more than 60 days	**721**	848	**–**	119
Expected loss rate				
– due for less than 60 days	**0.36%**	0.05%	**0.00%**	0.08%
– due for more than 60 days	**23.22%**	9.91%	**0.00%**	0.00%
Loss allowance	**214**	95	**11**	11
Trade receivables net of allowances	**25,803**	20,885	**16,040**	14,356

21. Financial instruments and financial risk management (continued)

Loss allowances analysed as follows:

	Group £'000	Company £'000
At 1 January 2021	32	11
Increase in loss allowance recognised in profit or loss during the year	96	11
Receivables written off during the year as uncollectable	–	–
Reversal of loss allowance on collection of dues	(33)	(11)
At 31 December 2021	95	11
At 1 January 2022	**95**	**11**
Increase in loss allowance recognised in profit or loss during the year	**144**	**11**
Receivables written off during the year as uncollectable	**–**	**–**
Reversal of loss allowance on collection of dues	**(25)**	**(11)**
At 31 December 2022	**214**	**11**

The normal terms of trade are between 30 and 90 days from the end of the month of invoice.

The credit quality of trade receivables that are neither past due nor impaired is assessed individually based on credit history and experience. In 2022 and 2021, the Group and Company insured a material portion of its trade receivable balances to mitigate credit risk. The uninsured exposure as at 31 December 2022 for the Group was £17,572k (2021: £13,011k) and for the Company was £9,104k (2021: £7,183k). The Group and the Company make provisions against trade receivables, such provisions being based on the debtor's prior credit history and knowledge of any adverse conditions affecting the debtor (e.g. receivership or liquidation). The Directors believe an adequate provision has been made for trade receivables at the year-end. None of the amounts owed by Group undertakings are impaired.

Interest rate risk

The Group's and Company's interest rate risk arises from long-term borrowings and short-term borrowings. Borrowings issued at variable rates expose the Group and Company to cash flow interest rate risk. Borrowings issued at fixed rates expose the Group to fair value interest rate risk.

The Group and Company have strong cash generation from their operations and closely monitor borrowing levels to manage the interest rate risk.

The interest rate profile of the Group's and Company's borrowings at 31 December is shown below:

	2022			2021		
Group	**Effective interest rate %**	**Fixed rates £'000**	**Variable rates £'000**	Effective interest rate %	Fixed rates £'000	Variable rates £'000
Dollar short-term borrowings	**3.73%**	**–**	**21,603**	1.86%	–	4,812
Sterling short-term borrowings	**–**	**–**	**–**	1.84%	–	6,750
Euro short-term borrowings	**2.21%**	**–**	**16,391**	1.81%	–	14,675
Dollar long-term borrowings	**–**	**–**	**–**	2.03%	–	15,284
Total*		**–**	**37,994**		–	41,521

	2022			2021		
Company	**Effective interest rate %**	**Fixed rates £'000**	**Variable rates £'000**	Effective interest rate %	Fixed rates £'000	Variable rates £'000
Dollar short-term borrowings	**3.73%**	**–**	**21,603**	1.86%	–	4,812
Sterling short-term borrowings	**–**	**–**	**–**	1.84%	–	6,750
Euro short-term borrowings	**2.21%**	**–**	**16,391**	1.81%	–	14,675
Dollar long-term borrowings	**–**	**–**	**–**	2.03%	–	15,284
Total*		**–**	**37,994**		–	41,521

* The total amount of £37,994k is gross of an outstanding amount of £548k of loan origination fees paid upfront and being amortised over the period of the loan (2021: £41,521k is gross of £247k of loan origination fees).

The impact on post-tax profit of a 1% shift in the variable rate borrowings would be £308k (2021: £336k).

Notes
Continued

21. Financial instruments and financial risk management (continued)

Liquidity risk

Group Finance performs cash flow forecasting in the operating entities of the Group, which is then aggregated. Group Finance monitors rolling forecasts of the Group's liquidity requirements to ensure that it has sufficient cash to meet operational needs, while maintaining sufficient headroom on its undrawn committed borrowing facilities (note 18) at all times, so that the Group does not breach borrowing limits or covenants (where applicable) on any of its borrowing facilities. Such forecasting takes into consideration the Group's debt financing plans, covenant compliance, compliance with internal balance sheet ratio targets and any applicable external regulatory or legal requirements.

The following are the contractual maturities of financial liabilities, including estimated payments and excluding the effect of netting agreements:

	2022					2021				
Group	Carrying amount £'000	Contractual cash flows £'000	1 year or less £'000	1 to 2 years £'000	More than 2 years £'000	Carrying amount £'000	Contractual cash flows £'000	1 year or less £'000	1 to 2 years £'000	More than 2 years £'000
Non-derivative financial liabilities										
Interest-bearing loans and borrowings	**(37,446)**	**(37,994)**	**(37,994)**	**–**	**–**	(41,274)	(42,052)	(27,212)	(14,840)	–
Trade and other payables	**(8,982)**	**(8,982)**	**(8,982)**	**–**	**–**	(5,364)	(5,364)	(5,364)	–	–
Lease liabilities	**(963)**	**(983)**	**(513)**	**(470)**	**–**	(1,129)	(1,130)	(479)	(363)	(288)
Total non-derivative financial liabilities	**(47,391)**	**(47,959)**	**(47,489)**	**(470)**	**–**	(47,767)	(48,546)	(33,055)	(15,203)	(288)
Derivative financial liabilities	**(1,550)**	**(1,550)**	**(1,550)**	**–**	**–**	(600)	(600)	(600)	–	–

	2022					2021				
Company	Carrying amount £'000	Contractual cash flows £'000	1 year or less £'000	1 to 2 years £'000	More than 2 years £'000	Carrying amount £'000	Contractual cash flows £'000	1 year or less £'000	1 to 2 years £'000	More than 2 years £'000
Non-derivative financial liabilities										
Interest-bearing loans and borrowings	**(37,446)**	**(37,994)**	**(37,994)**	**–**	**–**	(41,274)	(42,052)	(27,212)	(14,840)	–
Trade and other payables	**(6,821)**	**(6,821)**	**(6,821)**	**–**	**–**	(4,139)	(4,139)	(4,139)	–	–
Lease liabilities	**(346)**	**(299)**	**(228)**	**(71)**	**–**	(524)	(516)	(249)	(200)	(67)
Total non-derivative financial liabilities	**(44,613)**	**(45,114)**	**(45,043)**	**(71)**	**–**	(45,937)	(46,707)	(31,600)	(15,040)	(67)
Derivative financial liabilities	**(1,550)**	**(1,550)**	**(1,550)**	**–**	**–**	(600)	(600)	(600)	–	–

Foreign currency risk

The Group and Company operate internationally and are exposed to foreign exchange risk arising from various currency exposures, primarily with respect to the euro and US dollar. Foreign exchange risk arises from recognised assets and liabilities and future commercial transactions.

Foreign exchange risk is managed centrally by Group Finance and arises when future commercial transactions or recognised assets or liabilities are denominated in a currency that is not the Company's functional currency.

The Group's policy is to use forward currency contracts to cover approximately two-thirds of the estimated net cash foreign exchange trading exposure for the euro and US dollar for the next twelve months, as well as approximately 25% of the estimated net cash foreign exchange trading exposure for the following six months. The Group also hedges its exposure to foreign currency denominated assets, where possible, by offsetting them with same-currency liabilities, primarily through borrowing in the relevant currency. These foreign currency denominated assets, which are translated on a mark to market basis every month and with the resulting movement being taken to the income statement, include loans made by the Company to, and intercompany trading balances with, its overseas subsidiaries, the effect of which is cash neutral. They also include non-sterling accounts receivable, held on the Company's statement of financial position, which are impacted by foreign exchange movements between revenue recognition and cash receipt, the impact of which is mitigated through further hedging activities but remains exposed to the exact timing of cash receipts.

21. Financial instruments and financial risk management (continued)

The euro and US dollar rates used in preparing the financial statements are as follows:

	2022		2021	
	Average	**Closing**	Average	Closing
Euro/sterling	**1.173**	**1.129**	1.163	1.192
US dollar/sterling	**1.238**	**1.204**	1.376	1.351

In respect of other monetary assets and liabilities held in currencies other than the euro and the US dollar, the Group and the Company ensure that the net exposure is kept to a manageable level by buying or selling foreign currencies at spot rates, where necessary, to address short-term imbalances.

Where possible, the Group tries to hold the majority of its cash and cash equivalent balances in the local currency of the respective entity or, for borrowings, in a currency which provides an offset, albeit often partial, against monetary working capital net assets in that currency.

Recognised assets and liabilities

The table below shows non-derivative financial instruments of the Group and Company in currencies other than sterling:

Group – 2022	**Euro £'000**	**US dollar £'000**	**Other £'000**	**Total £'000**
Cash and cash equivalents	**2,256**	**1,871**	**1,234**	**5,361**
Trade receivables	**4,598**	**12,777**	**1,289**	**18,664**
Trade payables	**(4,082)**	**(941)**	**(233)**	**(5,256)**

Group – 2021	Euro £'000	US dollar £'000	Other £'000	Total £'000
Cash and cash equivalents	1,483	2,056	436	3,975
Trade receivables	3,494	11,212	1,242	15,948
Trade payables	(3,016)	(540)	(317)	(3,873)

Company – 2022	**Euro £'000**	**US dollar £'000**	**Other £'000**	**Total £'000**
Cash and cash equivalents	**1,340**	**780**	**80**	**2,200**
Trade receivables	**3,293**	**7,202**	**145**	**10,640**
Trade payables	**(3,945)**	**(262)**	**(16)**	**(4,223)**

Company – 2021	Euro £'000	US dollar £'000	Other £'000	Total £'000
Cash and cash equivalents	512	390	78	980
Trade receivables	3,288	6,378	248	9,914
Trade payables	(2,601)	3	–	(2,598)

Notes
Continued

21. Financial instruments and financial risk management (continued)

Forecast transactions

The Group and the Company classify their forward exchange contracts used to hedge forecast transactions as cash flow hedges. The fair value of such forward exchange contracts is shown in the table below:

31 December 2022	**Level 1 £'000**	**Level 2 £'000**	**Level 3 £'000**	**Total £'000**
Assets				
Forward exchange contracts	**–**	**486**	**–**	**486**
Total assets	**–**	**486**	**–**	**486**
Liabilities				
Forward exchange contracts	**–**	**(1,550)**	**–**	**(1,550)**
Total liabilities	**–**	**(1,550)**	**–**	**(1,550)**

31 December 2021	Level 1 £'000	Level 2 £'000	Level 3 £'000	Total £'000
Assets				
Forward exchange contracts	–	173	–	173
Total assets	–	173	–	173
Liabilities				
Forward exchange contracts	–	(600)	–	(600)
Total liabilities	–	(600)	–	(600)

The hedged highly probable forecast transactions denominated in foreign currency are expected to occur at various dates during the next twelve months. Gains and losses recognised in the hedging reserve in equity on forward foreign exchange contracts as of 31 December 2022 are recognised in the income statement in the period or periods during which the hedged forecast transaction affects the income statement. This is generally within twelve months of the end of the reporting period.

Hedge ineffectiveness

Hedge effectiveness is determined at the inception of the hedge relationship and through periodic prospective effectiveness assessments to ensure that an economic relationship exists between the hedged item and hedging instrument. In hedges of forward exchange contracts, ineffectiveness mainly arises if the timing of the forecast transaction changes from what was originally estimated. There was no ineffectiveness during 2022 or 2021 in relation to the forward exchange contracts.

Estimation of fair values

The following summarises the major methods and assumptions used in estimating fair values of financial instruments reflected in the table above. They are classified according to the following fair value hierarchy:

- Level 1: quoted process (unadjusted) in active markets for identical assets or liabilities
- Level 2: inputs other than quoted process included within Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (derived from prices)
- Level 3: inputs for the asset or liability that are not based on observable market data (unobservable inputs).

Derivative financial instruments are valued using Handelsbanken and NatWest mid-market rates (2021: Handelsbanken and NatWest mid-market rates) at the statement of financial position date.

The maturity profile of the forward contracts as at 31 December is as follows:

	2022				2021			
Group and Company:	**Foreign currency $'000**	**Contract value £'000**	**Transaction fair value £'000**	**Contract fair value £'000**	Foreign currency $/€'000	Contract value £'000	Transaction fair value £'000	Contract fair value £'000
Sell EUR	**–**	**–**	**–**	**–**	€3,000	2,554	2,522	32
Buy EUR	**–**	**–**	**–**	**–**	–	–	–	–
Sell USD	**$47,900**	**38,563**	**39,628**	**(1,065)**	$38,300	27,968	28,427	(459)

21. Financial instruments and financial risk management (continued)

Sensitivity analysis

In managing currency risks, the Group and Company aim to reduce the impact of short-term fluctuations on their earnings. Over the longer term, however, changes in foreign exchange would have an impact on earnings.

In respect of retranslation of monetary items, at 31 December 2022, it is estimated that an increase of one percentage point in the value of sterling against the US dollar would decrease the Group's profit before tax by approximately £418k (2021: £240k) before forward exchange contracts and £144k (2021: £79k) after forward exchange contracts are included. The effect of an increase of one percentage point against the euro is considered marginal.

Financial instruments by category

		2022			2021	
Group	**Financial assets at amortised cost £'000**	**Derivatives used for hedging £'000**	**Financial liabilities at amortised cost £'000**	Financial assets at amortised cost £'000	Derivatives used for hedging £'000	Financial liabilities at amortised cost £'000
Trade and other receivables	**27,670**	**–**	**–**	23,323	–	–
Cash and cash equivalents	**10,594**	**–**	**–**	8,055	–	–
Derivative financial instruments – assets	**–**	**486**	**–**	–	173	–
– liabilities	**–**	**(1,550)**	**–**	–	(600)	–
Interest-bearing loans and borrowings	**–**	**–**	**(37,446)**	–	–	(41,274)
Trade and other payables	**–**	**–**	**(8,982)**	–	–	(5,364)
Lease liability	**–**	**–**	**(963)**	–	–	(1,129)

		2022			2021	
Company	**Financial assets at amortised cost £'000**	**Derivatives used for hedging £'000**	**Financial liabilities at amortised cost £'000**	Financial assets at amortised cost £'000	Derivatives used for hedging £'000	Financial liabilities at amortised cost £'000
Trade and other receivables	**57,121**	**–**	**–**	54,008	–	–
Cash and cash equivalents	**7,288**	**–**	**–**	5,034	–	–
Derivative financial instruments – assets	**–**	**486**	**–**	–	173	–
– liabilities	**–**	**(1,550)**	**–**	–	(600)	–
Interest-bearing loans and borrowings	**–**	**–**	**(37,446)**	–	–	(41,274)
Trade and other payables	**–**	**–**	**(6,821)**	–	–	(4,139)
Lease liability	**–**	**–**	**(346)**	–	–	(524)

Capital management

The Group's objectives when managing capital are to safeguard its ability to continue as a going concern, in order to provide returns for shareholders and benefits for other stakeholders, and to maintain an optimal capital structure to reduce the cost of capital. In order to maintain or adjust the capital structure, the Group can adjust the amount of dividends paid to shareholders, issue new shares or redeem existing ones or borrow funds from financial institutions.

The Group monitors capital on the basis of the following leverage ratio: net borrowings divided by EBITDA (as per bank facility agreement).

Loan covenants

Under the terms of its borrowing facilities, the Group is required to comply with the following financial covenants:

- the ratio of net borrowings on the last day of the relevant period to earnings before interest, tax, depreciation and amortisation, share of profit/(loss) from joint venture, equity-settled share-based payments and exceptional items (EBITDA) shall not exceed 3.50:1.00 (until 9 March 2022, 3.00:1.00, under the terms of the previous debt facility)
- the ratio of EBITDA to net finance charges in respect of the relevant period shall not be less than 4.00:1.00.

The Group has complied with its covenants throughout the financial year.

Net borrowings comprise current and non-current interest-bearing loans and borrowings of £37,446k, as per note 18, and cash and cash equivalents of £10,594k as per note 16.

Notes
Continued

21. Financial instruments and financial risk management (continued)

	As at 31 December 2022 £'000	As at 31 December 2021 £'000
Net borrowings	**26,852**	33,219
EBITDA	**22,985**	16,117
Net borrowings/EBITDA	**1.17**	2.06
Net finance charges	**1,682**	1,002
EBITDA/Net finance charges	**13.67**	16.08

EBITDA comprises:

	Note	2022 £'000	2021 £'000
Profit for the year		**10,006**	4,376
Depreciation and amortisation	10,11,12	**8,245**	7,624
Finance costs	6	**1,758**	1,105
Share of loss/(profit) from joint venture	9	**(50)**	20
Equity-settled share-based payments	24	**809**	360
Taxation	7	**2,217**	2,632
		22,985	16,117

Net finance charges comprise interest income of £56k and finance costs expensed of £1,738k as per note 6.

The Group's objective is to maintain leverage below the Board's appetite of 2.0. However, it is prepared to accept increases in this ratio at times of sizeable, capacity-related, capital expenditure to support continued growth. Subject to short-term macroeconomic and geopolitical volatility, this is always expected to reduce quickly back below the Board's appetite, and to significantly lower levels, as capacity utilisation improves.

The bank covenant definition does not include the impact of IFRS 16 "Leases", which would have moved the ratio from 1.17 to 1.21.

The Group defines its return on capital as operating profit before exceptional items divided by the average sum of its equity, net debt and other non-current liabilities. This measure excludes acquired intangible assets and their amortisation costs. The Group also excludes significant capacity investments under construction until they enter production. In 2022, the return on capital was 10.1% (2021: 6.1%), mostly reflecting improved profitability in the year.

22. Commitments – Group

	Group		Company	
	2022 £'000	2021 £'000	2022 £'000	2021 £'000
Capital expenditure contracted for at the end of the reporting period but not yet incurred is as follows:				
Property, plant and equipment	**1,470**	1,383	**1,214**	742

23. Post-employment benefits

Defined benefit pension plans

The Company operates a UK registered trust-based pension scheme that provides defined benefits. In 2001, the Company closed the Defined Benefit Pension Scheme ("DB Scheme") to new members, while in 2005 the DB Scheme was closed to the future accrual of benefits, and all active members at that time transferred to a defined contribution scheme, substantially de-risking the Company's financial and accounting exposure to the DB Scheme's obligations. Following legal advice in 2017 that the closure had not been complete with respect to the breaking of linkage with future increases in salary, amendments were made in 2018 and the linkage duly broken.

Pension benefits are linked to the members' final pensionable salaries and service at their retirement (or date of leaving if earlier). The Trustees are responsible for running the DB Scheme in accordance with the DB Scheme's Trust Deed and Rules, which set out their powers. The Trustees of the DB Scheme are required to act in the best interests of the beneficiaries of the DB Scheme. There is a requirement that one-third of the Trustees are nominated by the members of the DB Scheme.

There are three categories of pension scheme members:

- deferred members with salary linkage: current employees of the Company who have not consented to the break in their salary link
- deferred members: former and current employees of the Company not yet in receipt of pension
- pensioner members: in receipt of pension.

The defined benefit obligation is valued by projecting the best estimate of future benefit outgoings (allowing for future salary increases for deferred members with salary linkage, revaluation to retirement for deferred members and annual pension increases for all members) and then discounting to the statement of financial position date. The majority of benefits receive increases in line with inflation (subject to a cap of no more than 5% per annum). The valuation method is known as the Projected Unit Method. The approximate overall duration of the DB Scheme's defined benefit obligation as at 31 December 2022 was 14 years (2021: 15 years).

Future funding obligation

The Trustees are required to carry out an actuarial valuation every three years.

The last actuarial valuation of the DB Scheme was performed by the DB Scheme Actuary for the Trustees as at 5 April 2020. This valuation revealed a funding shortfall of £7.7 million.

In respect of the deficit in the DB Scheme as at 5 April 2020, the Company has agreed to pay £643,200 p.a. from 1 July 2021 for 5 years and 4 months. In addition, the Company will pay £216,000 p.a. to cover administration expenses, Payment Protection Fund levies and premiums for death in service lump sums associated with the Scheme. The Company therefore currently expects to pay £859,200 to the Scheme during the calendar year beginning 1 January 2023.

Method and assumptions

The initial results of the valuation as at 5 April 2020 have been updated to 31 December 2022 by a qualified independent actuary.

The assumptions used were as follows:

	As at 31 December 2022	As at 31 December 2021
Discount rate	**4.80%**	1.80%
RPI inflation	**3.10%**	3.40%
CPI inflation	**2.70%**	2.90%
Salary increases	**2.70%**	2.90%
Pension increases		
– Post 88 GMP	**2.30%**	2.40%
– Non GMP	**3.10%**	3.30%
Revaluation of deferred pensions in excess of GMP	**2.70%**	2.90%
Mortality (pre- and post-retirement)	**100% S3PMA_M/ 100% S3PFA_M CMI_2021_M/F 1.25% (yob)**	100% S3PMA_M/ 100% S3PFA_M CMI_2020_M/F 1.25% (yob)

Life expectancies (in years):

	Year ended 31 December 2022		Year ended 31 December 2021	
	Males	**Females**	Males	Females
For an individual aged 65 in 2022	**21.3**	**23.8**	21.3	23.7
At age 65 for an individual aged 45 in 2022	**22.7**	**25.2**	22.6	25.2

Notes
Continued

23. Post-employment benefits (continued)
Risks
Through the Scheme, the Company is exposed to a number of risks:

- asset volatility: the Scheme's defined benefit obligation is calculated using a discount rate set with reference to corporate bond yields; however, the Scheme invests significantly in equities and other growth assets. These assets are expected to outperform corporate bonds in the long term, but are subject to increased volatility and risk in the short term
- changes in bond yields: a decrease in corporate bond yields would increase the Scheme's defined benefit obligation; however, this would be partially offset by an increase in the value of the Scheme's bond holdings
- inflation risk: a significant proportion of the Scheme's defined benefit obligation is linked to inflation, therefore higher inflation will result in a higher defined benefit obligation (subject to the appropriate caps in place). The majority of the Scheme's assets are either unaffected by inflation, or are only loosely correlated with inflation, therefore an increase in inflation would also increase the deficit
- life expectancy: if Scheme members live longer than expected, the Scheme's benefits will need to be paid for longer, increasing the Scheme's defined benefit obligation.

The Trustees and Company manage risks in the Scheme through the following strategies:

- diversification: investments are well diversified, such that the failure of any single investment would not have a material impact on the overall level of assets
- investment strategy: the Trustees are required to review their investment strategy on a regular basis
- asset-liability matching (ALM): the Scheme invests in an ALM framework that aims to achieve long-term investment returns in line with the obligations under the Scheme. This is achieved through around 25% of assets being invested in Liability Driven Investment funds.

	Change in assumption	Change in defined benefit obligation
Discount rate	+0.5%/–0.5% p.a.	–6%/+6%
RPI inflation	+0.5%/–0.5% p.a.	+5%/–5%
Assumed life expectancy	+1 year	+3%

These calculations provide an approximate guide to the sensitivity of results and may not be as accurate as a full valuation carried out on these assumptions. Each assumption change is considered in isolation, which in practice is unlikely to occur, as changes in some of the assumptions are correlated.

The assets of the Scheme are invested as follows:

	Year ended 31 December 2022		Year ended 31 December 2021	
Asset class	**Market value £'000**	**% of total Scheme assets**	Market value £'000	% of total Scheme assets
Equities and other growth assets	**7,985**	**35%**	17,831	52%
Diversified Credit Funds	**5,745**	**25%**	6,312	19%
Liability Driven Investments	**8,156**	**36%**	8,312	24%
Cash	**226**	**1%**	705	2%
Other	**660**	**3%**	997	3%
Total	**22,772**	**100%**	34,157	100%
Actual return on assets over the year	**(10,910)**		2,674	

Note: All assets listed above have a quoted market price in an active market (except for the reserve for insured pensioners).

The amounts recognised in the statement of financial position are determined as follows:

	2022 £'000	2021 £'000
Market value of plan assets	**22,772**	34,157
Present value of defined benefit pension scheme obligation	**(26,062)**	(38,814)
Deficit – recognised as a liability in the statement of financial position	**(3,290)**	(4,657)

23. Post-employment benefits (continued)

The movement in the defined benefit obligation over the year is as follows:

	2022 £'000	2021 £'000
Value of defined benefit obligation at the start of the year	**38,814**	40,769
Interest cost	**687**	482
Benefits paid	**(1,334)**	(1,214)
Actuarial losses: experience differing from that assumed	**1,360**	186
Actuarial gains: changes in demographic assumptions	**(25)**	(81)
Actuarial gains: changes in financial assumptions	**(13,440)**	(1,328)
Value of defined benefit obligation at the end of the year	**26,062**	38,814

The movement in the value of the plan assets over the year is as follows:

	2022 £'000	2021 £'000
Market value of plan assets at the start of the year	**34,157**	31,918
Interest income	**611**	380
Actual return on plan assets	**(11,521)**	2,294
Employer contributions	**859**	779
Benefits paid	**(1,334)**	(1,214)
Market value of assets at the end of the year	**22,772**	34,157

The table below outlines where the Company's post-employment amounts and activity are included in the financial statements.

	2022 £'000	2021 £'000
Statement of financial position for:		
– Defined benefit pension scheme obligations	**(3,290)**	(4,657)
Income statement charge for:		
– Defined benefit pension scheme interest cost	**(76)**	(102)
Actuarial gains recognised in other comprehensive income for:		
– Defined benefit pension scheme	**584**	3,517

Other pension schemes

On 1 January 2006 a separate stakeholder scheme was set up for those employees who were originally in the closed defined benefit pension scheme. In addition to the above, the Company created two further stakeholder schemes for future joiners. The contributions paid by the Company in 2022 were £954k (2021: £855k).

For certain non-UK based employees of the Company, the Company makes contributions into individual schemes. The contributions paid by the Company in 2022 were £5k (2021: £5k).

For USA-based employees, Zotefoams Inc operates a 401(k) plan. The contributions paid by Zotefoams Inc in 2022 were £333k (2021: £279k).

Notes
Continued

24. Share-based payments

The Company has a share option scheme that entitles senior management personnel to purchase shares in the Company. Options are exercisable at a price equal to the lower of the mid-market price of the Company's shares the day before the option is granted or the average mid-market price for the three dealing days before the option is granted. The vesting period is three years. If the options remain unexercised after a period of ten years from the date of grant, the options will expire. Depending on the circumstances, options are normally forfeited if the employee leaves the Company before the options vest.

In 2007, the Company introduced an LTIP scheme for senior management personnel. Shares are awarded in the Company and vest after three years to the extent that performance conditions are met. Dependent on the circumstances, awards are normally forfeited if the employee leaves the Company before the award vests. A new LTIP scheme was introduced in 2017, which operates in a similar way to the LTIP scheme introduced in 2007. No new awards are made under the 2007 scheme. Depending on the circumstances, options are normally forfeited if the employee leaves the Company before the options vest.

In 2007, the Company introduced a Deferred Bonus Share Plan. Under the terms of this plan, executive bonuses with a value equivalent to over 40% of eligible salary were held as deferred shares for three years. In 2014, the Remuneration Committee amended the Deferred Bonus Share Plan for bonuses awarded since 2014, such that 25% of executive bonuses are held as deferred shares for three years with no minimum value. Depending on the circumstances, awards are normally forfeited if the employee leaves the Company before the award vests. A new Deferred Bonus Share Plan scheme was introduced in 2017, which operates in a similar way to the old Plan introduced in 2007, as amended in 2014. No new awards are made under the 2007 Plan. Depending on the circumstances, awards are normally forfeited if the employee leaves the Company before the award vests.

Details of the vesting conditions for the share, share option and LTIP awards are given in the Directors' Remuneration report on pages 88 to 109.

Movements in share options during the year are as follows:

The options outstanding at 31 December 2022 have an exercise price between 245.7p and 432.5p and a weighted contractual life of seven years (2021: seven years).

There were no cancellations or modifications to the awards in 2022 or 2021.

The fair value received in return for share options granted is measured by reference to the fair value of share options granted using a Black-Scholes model. The contractual life of the option (ten years) is used as an input into this model. No allowance is made for early leavers.

	2022		2021	
	Number of share options	**Weighted average exercise price (p)**	Number of share options	Weighted average exercise price (p)
Outstanding at the beginning of the year	**101,926**	**364**	89,266	327
Exercised during the year	**–**	**–**	(14,694)	270
Granted during the year	**31,489**	**325**	40,690	433
Forfeited during the year	**(14,121)**	**464**	(13,336)	426
Outstanding at the end of the year	**119,294**	**342**	101,926	364
Exercisable at the end of the year	**54,546**	**293**	57,994	293

Movements in LTIP awards during the year are as follows:

	2022		2021	
	Number of share options	**Weighted average exercise price (p)**	Number of share options	Weighted average exercise price (p)
Outstanding at the beginning of the year	**653,656**	**–**	827,665	–
Exercised during the year	**(38,819)**	**–**	(155,084)	–
Granted during the year	**484,520**	**–**	354,372	–
Forfeited during the year	**(91,399)**	**–**	(373,297)	–
Outstanding at the end of the year	**1,007,958**	**–**	653,656	–
Exercisable at the end of the year	**–**	**–**	–	–

24. Share-based payments (continued)

Movement in Deferred Bonus Share Plan awards during the year are as follows:

	2022		2021	
	Number of share options	**Weighted average exercise price (p)**	Number of share options	Weighted average exercise price (p)
Outstanding at the beginning of the year	**91,079**	**–**	155,884	–
Exercised during the year	**(39,570)**	**–**	(79,289)	–
Granted during the year	**12,193**	**–**	14,790	–
Forfeited during the year	**–**	**–**	(306)	–
Outstanding at the end of the year	**63,702**	**–**	91,079	–
Exercisable at the end of the year	**–**	**–**	–	–

Fair value of share options and assumptions

The expected volatility is based on historic volatility for a three-year period prior to the award.

	27-Mar-17	24-Aug-17	16-Apr-19	08-Apr-21	19-Apr-22
Share price (p)	305.5	305.5	572.0	415.0	325.0
Exercise price (p)	305.5	327.5	572.0	433.0	325.0
Expected volatility	35%	35%	25%	40%	48%
Option life	Five years	Five years	Three years	Three years	Three years
Expected dividends (p) (assumed to be increasing at 2.5% p.a.)	5.7	5.7	5.5	6.3	6.5
Risk free interest rate (based on national government bonds)	2.00%	2.00%	2.00%	2.00%	2.00%
Fair value at grant date (p)	103.1	111.1	103.0	99.0	98.0

The Company's employee share option awards are granted under a service condition and a performance condition. There are no market conditions associated with the share options. The LTIP awards are granted under a service condition and a performance condition, part of which is a market condition. The Deferred Bonus Plan awards are granted under a service condition.

The amounts recognised in the income statement for equity-settled share-based payments are as follows:

	2022 £'000	2021 £'000
Within administrative expenses – share-based payment charge	**809**	360
– related National Insurance	**140**	36

Of the above, amounts relating to Directors of Zotefoams plc aggregate to £532k (2021: £177k).

Notes
Continued

25. Related parties

Directors

The Directors of the Company as at 31 December 2022 and their immediate relatives control approximately 1.28% (2021: 1.20%) of the voting shares of the Company. Details of Directors' pay and remuneration are given in the Directors' Remuneration report on pages 88 to 109. Executive Directors are considered to be the only key management personnel. Details of compensation paid to key management personnel are included in note 5.

Subsidiaries and joint venture

Details of the joint venture and subsidiaries of the Company are set out in notes 9 and 13. These companies are considered to be related parties.

The following material transactions were carried out with related parties:

	2022 £'000	2021 £'000
Sale of goods: subsidiaries of the Company	**3,875**	3,857
Sale of services: subsidiaries of the Company	**2,537**	1,246
Loans given (net of repayments): subsidiaries of the Company	**(2,419)**	2,748
Interest income: subsidiaries of the Company	**657**	468
Sale of goods: joint venture of the Company	**3,444**	2,951
Sale of services: joint venture of the Company	**232**	733
Total	**8,326**	12,003

Balances between the Company and its active subsidiaries and joint venture are as follows:

	Receivable from/(payable to)		Investment in	
	2022 £'000	2021 £'000	**2022 £'000**	2021 £'000
Zotefoams Inc	**13,163**	12,541	**–**	–
KZ Trading and Investment Limited	**–**	247	**–**	–
Azote Asia Limited	**1,304**	1,065	**–**	–
MuCell Extrusion LLC	**6,511**	4,410	**–**	–
Zotefoams International Limited	**16,370**	17,037	**30,822**	30,822
Zotefoams T-FIT Material Technology (Kunshan) Limited	**3,438**	2,993	**–**	–
Zotefoams Poland Sp. z.o.o.	**291**	304	**–**	–
Zotefoams France SAS	**(59)**	(39)	**–**	–
T-FIT Insulation Solutions India Private Limited	**75**	253	**–**	–

26. Accounting estimates and judgements for the Group and Company

In the application of the Group's accounting policies, which are described in note 2, the Directors are required to make judgements, estimates and assumptions about the carrying amounts of assets and liabilities which are not readily apparent from other sources. The estimates and associated assumptions are based on historical experience and other facts that are considered relevant. Actual amounts may differ from these estimates.

Estimates and judgements are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances.

Key sources of estimation uncertainty

The key assumptions concerning the future and other key sources of estimation uncertainty at the statement of financial position date that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are disclosed below.

i) Estimated impairment of goodwill and intangibles

The Group tests annually whether goodwill has suffered any impairment, in accordance with the accounting policy stated in note 2.11.

The determination of impairment in the carrying value of goodwill and intangible assets requires judgements to be made by Directors. These assets are assessed on an ongoing basis to determine whether circumstances exist that could lead to the conclusion that the carrying value of such assets is not supportable. In relation to the operational MuCell business that licenses technology and sells related technology, the Directors use a model that includes the use of this technology within ReZorce. In relation to the ReZorce solution and given the stage of its development, the Directors consider different factors, such as the potential market size, the ability to penetrate this market, potential customer interest, development partnerships with potential customers and future delivery partners, current technological development status, Group funding availability and the Board's commitment to the project.

Based on the judgements and estimates above, the Directors have concluded that the opportunity and strategy supports the carrying value of the underlying intangible assets.

ii) Pension assumptions

The present value of the defined benefit pension obligations depends on a number of factors that are determined on an actuarial basis using a number of assumptions. Any changes in these assumptions will impact the carrying amount of pension obligations. The Company engages an independent actuary to perform the valuation and assist in determining appropriate assumptions at the end of each year. The valuation is prepared by an independent qualified actuary, but significant judgements are required in relation to the assumptions for pension increases, inflation, the discount rate applied, investment returns and member longevity, all of which underpin the valuations. Note 23 contains information about the assumptions relating to retirement benefit obligations.

iii) General provisions

Provisions are recognised when the Group has a present obligation (legal or constructive) as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation, and a reliable estimate can be made of the amount of the obligation. When the Group expects some or all of a provision to be reimbursed, for example, under an insurance contract, the reimbursement is recognised as a separate asset, but only when the reimbursement is virtually certain. The expense relating to a provision is presented in the statement of profit or loss net of any reimbursement.

If the effect of the time value of money is material, provisions are discounted using a current pre-tax rate that reflects, when appropriate, the risks specific to the liability. When discounting is used, the increase in the provision due to the passage of time is recognised as a finance cost.

iv) Leases estimating the incremental borrowing rate

The Group cannot readily determine the interest rate implicit in the lease, therefore it uses its incremental borrowing rate (IBR) to measure lease liabilities. The IBR is the rate of interest that the Group would have to pay to borrow over a similar term, and with a similar security, the funds necessary to obtain an asset of a similar value to the right-of-use asset in a similar economic environment. The IBR therefore reflects what the Group 'would have to pay', which requires estimation when no observable rates are available (such as for subsidiaries that do not enter into financing transactions) or when they need to be adjusted to reflect the terms and conditions of the lease (for example, when leases are not in the subsidiary's functional currency). The Group estimates the IBR using observable inputs (such as market interest rates) when available and is required to make certain entity-specific estimates (such as the subsidiary's stand-alone credit rating).

v) Share-based payments

Estimating fair value for share-based payment transactions requires determination of the most appropriate valuation model, which depends on the terms and conditions of the grant. This estimate also requires determination of the most appropriate inputs to the valuation model, including the expected life of the share option or appreciation right, volatility and dividend yield, and making assumptions about them. The Group uses the Black-Scholes-Merton model to estimate the fair value of instruments. The Black-Scholes-Merton formula has been adjusted to take account of certain characteristics of share options, such as the probability of vesting and meeting the performance conditions of LTIPs. The assumptions and models used for estimating fair value for share-based payment transactions are disclosed in note 24.

Key judgements

i) Unrecognised deferred tax assets

At year-end exchange rates, the Group has tax losses carried forward of £25,043k in the USA, while tax losses of £657k have been recognised on the statement of financial position. Based on projections, the Group expects to use all these carried forward tax losses; however, management has taken a prudent approach based on historical performance by the entities in this tax jurisdiction and recognised a lower figure. If the Group makes two consecutive years of profit in the USA, further consideration will be given to recognising a deferred tax asset.

27. Events after the reporting period

There are no events after the reporting period affecting these financial statements.

Five-year trading summary

	2022 £m	2021 £m	2020 £m	2019 £m	2018 £m
Group revenue	**127.4**	100.8	82.7	80.9	81.0
Operating profit (before exceptional item)	**13.9**	8.1	9.1	9.1	11.6
Profit before tax (before exceptional item)	**12.2**	7.0	8.3	8.8	10.8
Profit before tax	**12.2**	7.0	8.3	9.8	9.9
Profit after tax	**10.0**	4.4	7.2	8.2	7.9
Capital expenditure (including intangibles)	**7.0**	7.0	12.7	24.4	16.1
Cash generated from operations	**23.0**	12.2	13.0	11.8	7.1
Basic earnings per share before exceptional item (p)	**20.61**	9.01	14.87	14.91	18.66
Basic earnings per share (p)	**20.61**	9.01	14.87	17.10	16.96
Dividends per ordinary share (p)	**6.43**	6.50	6.30	2.03	6.12

Notice of the 2023 Annual General Meeting

THIS DOCUMENT IS IMPORTANT AND REQUIRES YOUR IMMEDIATE ATTENTION

If you are in any doubt as to the action you should take, it is recommended to seek your own financial advice from your stockbroker, bank manager, solicitor, accountant or other independent adviser authorised under the Financial Services and Markets Act 2000 if you are resident in the UK or, if you reside elsewhere, another appropriately authorised financial adviser.

If you have sold or otherwise transferred your shares in Zotefoams plc, you should forward this document and other documents enclosed as soon as possible either to the purchaser or transferee or to the person who arranged the sale or transfer so they can pass these documents to the person who now holds the shares.

ZOTEFOAMS PLC

Notice of Annual General Meeting

Zotefoams plc considers it vital to engage with investors and other stakeholders through the most appropriate channels. Shareholders' views are important and we want to ensure that they are given as much information as possible in good time to enable them to participate in the decision-making process.

Zotefoams intends to hold its AGM in person. Any changes to the AGM arrangements will be published on our website www.zotefoams.com/investors/ and announced through the London Stock Exchange. Please monitor the website for any announcement and updates.

A presentation open to all existing and potential shareholders will be given after the AGM on 24 May 2023 at 1.30pm on the Investor Meet Company platform: www.investormeetcompany.com/register-investor. Investors who already follow Zotefoams plc on the Investor Meet Company platform will automatically be invited.

Notice is hereby given that the Annual General Meeting (AGM) of Zotefoams plc (the "Company") will be held at the registered office of the Company, **675 Mitcham Road, Croydon, CR9 3AL, on 24 May 2023 at 10.00 am** for the following purposes.

Ordinary business

1. To receive the Annual Report of the Company for the year ended 31 December 2022.
2. To approve the new Directors' Remuneration Policy set out on pages 91 to 99 of the Annual Report.
3. To approve the Annual Statement by the Chair of the Remuneration Committee and the Annual Report on Remuneration for the year ended 31 December 2022 set out on pages 88 to 109 of the Annual Report.
4. To declare a final dividend for the year ended 31 December 2022 of 4.62 pence per ordinary share, such dividend to be payable on 2 June 2023 to shareholders on the register of members of the Company at the close of business on 5 May 2023.
5. To elect L Drummond as a Director.
6. To re-elect D B Stirling as a Director.
7. To re-elect G C McGrath as a Director.
8. To re-elect J D Carling as a Director.
9. To re-elect A M Fielding as a Director.
10. To re-elect D G Robertson as a Director.
11. To re-elect C A Wall as a Director.
12. That PKF Littlejohn LLP be and is hereby re-appointed as Auditor of the Company to hold office from the conclusion of the AGM until the conclusion of the next general meeting at which accounts are laid before the Company.
13. To authorise the Audit Committee to determine the Auditor's remuneration.

Special business

To consider and, if thought fit, to pass the following resolutions, of which resolution 14 will be proposed as an ordinary resolution and resolutions 15, 16, 17 and 18 will be proposed as special resolutions.

14. That, in substitution for any equivalent authorities and powers granted to the Directors prior to the passing of this resolution, the Directors be, and are generally and unconditionally, authorised pursuant to Section 551 of the Companies Act 2006 (the "Act"):

    (a) to exercise all powers of the Company to allot shares in the Company and grant rights to subscribe for or to convert any security into shares of the Company (such shares, and rights to subscribe for or to convert any security into shares of the Company, being "relevant securities") up to an aggregate nominal amount of £810,353 (such amount to be reduced by the nominal amount of any allotments or grants made under paragraph (b) below in excess of £810,353); and further

    (b) to allot equity securities (as defined in Section 560 of the Act) up to an aggregate nominal amount of £1,620,706 (such amount to be reduced by the nominal amount of any allotments or grants made under paragraph (a) above) in connection with an offer by way of rights issue:

        (i) in favour of holders of ordinary shares in the capital of the Company, where the equity securities respectively attributable to the interests of all such holders are proportionate (as nearly as practicable) to the respective number of ordinary shares in the capital of the Company held by them; and

        (ii) to holders of any other equity securities as required by the rights of those securities or as the Directors otherwise consider necessary;

        but subject to such exclusions or other arrangements as the Directors may deem necessary or expedient to deal with treasury shares, fractional entitlements or legal, regulatory or practical problems arising under the laws or requirements of any overseas territory or by virtue of shares being represented by depository receipts or the requirements of any regulatory body or stock exchange or any other matter whatsoever;

    (c) provided that, unless previously revoked, varied or extended, this authority shall expire on the earlier of 30 June 2024 and the conclusion of the next AGM of the Company, except that the Company may at any time before such expiry make an offer or agreement which would or might require relevant securities to be allotted after such expiry and the Directors may allot relevant securities in pursuance of such an offer or agreement as if this authority had not expired.

15. That, if resolution 14 is passed, the Directors be authorised to allot equity securities (as defined in Section 560 of the Act) for cash under the authority given by that resolution and/or to sell ordinary shares held by the Company as treasury shares for cash as if Section 561 of the Act did not apply to any such allotment or sale, such authority to be limited:

    (a) in favour of holders of ordinary shares in the capital of the Company, where the equity securities respectively attributable to the interests of all such holders are proportionate (as nearly as practicable) to the respective number of ordinary shares in the capital of the Company held by them; and

    (b) to the allotment of equity securities or sale of treasury shares (otherwise than under paragraph (a) above) up to a nominal amount of £121,553;

    such authority to expire at the conclusion of the next AGM of the Company (or, if earlier, on 30 June 2024) but, in each case, prior to its expiry the Company may make offers, and enter into agreements, which would, or might, require equity securities to be allotted (and treasury shares to be sold) after the authority expires and the Directors may allot equity securities (and sell treasury shares) under any such offer or agreement as if the authority had not expired.

Notice of the 2023 Annual General Meeting
Continued

16. That, if resolution 14 is passed, the Directors be authorised in addition to any authority granted under resolution 15 to allot equity securities (as defined in Section 560 of the Act) for cash under the authority given by that resolution and/or to sell ordinary shares held by the Company as treasury shares for cash as if Section 561 of the Act did not apply to any such allotment or sale, such authority to be:
    (a) limited to the allotment of equity securities or sale of treasury shares up to a nominal amount of £121,553; and
    (b) used only for the purposes of financing (or refinancing, if the authority is to be used within six months after the original transaction) a transaction which the Directors determine to be an acquisition or other capital investment of a kind contemplated by the Statement of Principles on Disapplying Pre-Emption Rights most recently published by the Pre-Emption Group prior to the date of this notice,

    such authority to expire at the conclusion of the next AGM of the Company (or, if earlier, on 30 June 2024) but, in each case, prior to its expiry the Company may make offers, and enter into agreements, which would, or might, require equity securities to be allotted (and treasury shares to be sold) after the authority expires and the Directors may allot equity securities (and sell treasury shares) under any such offer or agreement as if the authority had not expired.
17. That the Company be and is hereby unconditionally and generally authorised for the purposes of Section 701 of the Act to make market purchases (within the meaning of Section 693(4) of the Act) of its ordinary shares of 5 pence each ("ordinary shares") provided that:
    (a) the maximum number of ordinary shares authorised to be purchased is 4,862,123, representing approximately 10% of the issued ordinary share capital as at 3 April 2023;
    (b) the minimum price which may be paid for any such ordinary share is 5 pence;
    (c) the maximum price which may be paid for an ordinary share shall be an amount equal to 105% of the average middle market quotations for an ordinary share as derived from the London Stock Exchange Daily Official List for the five business days immediately preceding the day on which the ordinary share is contracted to be purchased; and
    (d) this authority shall, unless previously renewed, revoked or varied, expire on the earlier of 30 June 2024 and the conclusion of the next AGM, but the Company may enter into a contract for the purchase of ordinary shares before the expiry of this authority which would or might be completed (wholly or partly) after its expiry.
18. That a general meeting other than an Annual General Meeting may be called on not less than 14 clear days' notice.

Dated: 4 April 2023
By order of the Board

Registered Office:
675 Mitcham Road
Croydon
CR9 3AL

L Harratt
Company Secretary

The following notes are subject to any applicable social distancing measures prohibiting physical attendance of the AGM by a Member or Proxy.

(i) Pursuant to Part 13 of the Companies Act 2006 and to Regulation 41 of the Uncertificated Securities Regulations 2001 (as amended), only those members registered in the register of members of the Company at the close of business on 22 May 2023 (or if the AGM is adjourned, 48 hours before the time fixed for the adjourned AGM) shall be entitled to attend and vote at the AGM in respect of the number of shares registered in their name at that time. In each case, changes to the register of members after such time shall be disregarded in determining the rights of any person to attend or vote at the AGM.

(ii) If you wish to attend the AGM in person, please bring some form of identification (such as driver's licence or bankcard) and present this to the Company's reception desk on arrival.

(iii) A member who is entitled to attend, speak and vote at the AGM may appoint a proxy to attend, speak and vote instead of him or her. A member may appoint more than one proxy, provided each proxy is appointed to exercise rights attached to different shares (so a member must have more than one share to be able to appoint more than one proxy). A proxy need not be a member of the Company but must attend the AGM in order to represent you. A proxy must vote in accordance with any instructions given by the member by whom the proxy is appointed. Appointing a proxy will not prevent a member from attending in person and voting at the AGM (although voting in person at the AGM will terminate the proxy appointment). A proxy form is enclosed or has been sent to you separately. The notes to the proxy form include instructions on how to appoint the Chair of the AGM or another person as a proxy. You can only appoint a proxy using the procedures set out in these notes and in the notes to the proxy form.

(iv) To be valid, a proxy form, and the original or duly certified copy of the power of attorney or other authority (if any) under which it is signed or authenticated, should reach the Company's registrars, Computershare Investor Services plc, The Pavilions, Bridgwater Road, Bristol BS99 6ZY, by no later than 10.00 am on 22 May 2023.

(v) CREST members who wish to appoint a proxy or proxies through the CREST electronic proxy appointment service may do so for the meeting and any adjournment(s) thereof by using the procedures described in the CREST Manual. CREST personal members or other CREST sponsored members, and those CREST members who have appointed a voting service provider(s), should refer to their CREST sponsor or voting service provider(s), who will be able to take the appropriate action on their behalf.

In order for a proxy appointment or instruction made using the CREST service to be valid, the appropriate CREST message (a CREST Proxy Instruction) must be properly authenticated in accordance with Euroclear UK & Ireland Limited's specifications and must contain the information required for such instruction, as described in the CREST Manual (available via www.euroclear.com/CREST). The message, regardless of whether it constitutes the appointment of a proxy, or is an amendment to the instruction given to a previously appointed proxy must, in order to be valid, be transmitted so as to be received by the issuer's agent (ID 3RA50) by the latest time(s) for receipt of proxy appointments specified in Note 3 above. For this purpose, the time of receipt will be taken to be the time (as determined by the time stamp applied to the message by the CREST Application Host) from which the issuer's agent is able to retrieve the message by enquiry to CREST in the manner prescribed by CREST. After this time, any change of instructions to proxies appointed through CREST should be communicated to the appointee through other means.

CREST members and, where applicable, their CREST sponsors or voting service providers should note that Euroclear UK & Ireland Limited does not make available special procedures in CREST for any particular messages. Normal system timings and limitations will therefore apply in relation to the input of CREST Proxy Instructions. It is the responsibility of the CREST member concerned to take (or, if the CREST member is a CREST personal member or sponsored member or has appointed a voting service provider(s), to procure his CREST sponsor or voting service provider(s) take) such action as shall be necessary to ensure that a message is transmitted by means of the

CREST system by any particular time. In this connection, CREST members and, where applicable, their CREST sponsors or voting service providers are referred, in particular, to those sections of the CREST Manual concerning practical limitations of the CREST system and timings (www.euroclear.com/CREST).

The Company may treat as invalid a CREST Proxy Instruction in the circumstances set out in Regulation 35(5)(a) of the Uncertificated Securities Regulations 2001 (as amended).

(vi) In the case of joint holders of shares, the vote of the first named in the register of members who tenders a vote, whether in person or by proxy, shall be accepted to the exclusion of the votes of other joint holders.

(vii) The following information is available at www.zotefoams.com: (1) the matters set out in this notice of AGM; (2) the total numbers of shares in the Company, and shares in each class, in respect of which members are entitled to exercise voting rights at the AGM; (3) the totals of the voting rights that members are entitled to exercise at the AGM, in respect of the shares of each class; and (4) members' statements, members' resolutions and members' matters of business received by the Company after the first date on which notice of the AGM was given.

(viii) If you are a person who has been nominated by a member to enjoy information rights in accordance with Section 146 of the Companies Act 2006, notes (iii) to (v) above do not apply to you (as the rights described in these notes can only be exercised by members of the Company) but you may have a right under an agreement between you and the member by whom you were nominated to be appointed or to have someone else appointed, as a proxy for the meeting. If you have no such right or do not wish to exercise it, you may have a right under such an agreement to give instructions to the member as to the exercise of voting rights.

(ix) A member that is a company, or other organisation not having a physical presence, cannot attend in person but can appoint someone to represent it. This can be done in one of two ways: either by the appointment of a proxy (described in notes (iii) to (v) above) or of a corporate representative. Members considering the appointment of a corporate representative should check their own legal position, the Company's Articles of Association and the relevant provision of the Companies Act 2006.

(x) Members attending the AGM have the right to ask, and, subject to the provisions of the Companies Act 2006, the Company must cause to be answered, any questions relating to the business being dealt with at the AGM.

(xi) As at the close of business on 3 April 2023 (being the latest practicable date before publication of this notice), the Company's issued share capital comprised 48,621,234 ordinary shares of 5 pence each. Each ordinary share carries the right to one vote at a general meeting of the Company. No ordinary shares were held in treasury and accordingly the total number of voting rights in the Company as at the close of business on 3 April 2023 is 48,621,234.

(xii) Shareholders should note that it is possible that, pursuant to requests made by shareholders of the Company under Section 527 of the Companies Act 2006, the Company may be required to publish on a website a statement setting out any matter relating to: (1) the audit of the Company's accounts (including the auditor's report and the conduct of the audit) that are to be laid before the AGM; or (2) any circumstance connected with the Auditor of the Company ceasing to hold office since the previous meeting at which annual accounts and reports were laid in accordance with Section 437 of the Companies Act 2006. The Company may not require the shareholders requesting any such website publication to pay its expenses in complying with Section 527 or 528 of the Companies Act 2006. Where the Company is required to place a statement on a website under Section 527 of the Companies Act 2006, it must forward the statement to the Company's Auditor not later than the time when it makes the statement available on the website. The business which may be dealt with at the AGM includes any statement that the Company has been required, under Section 527 of the Companies Act 2006, to publish on a website.

(xiii) Copies of the Executive Directors' service contracts with the Company and any of its subsidiary undertakings, deeds of indemnity in favour of the Directors and letters of appointment of the Non-Executive Directors are available for inspection at the registered office of the Company during the usual business hours on any weekday (Saturday, Sunday or public holidays excluded) from the date of this notice until the conclusion of the AGM.

Explanatory notes to the resolutions

Ordinary business

Resolution 1 – Receiving the Annual Report

Shareholders will be asked to receive the Company's Annual Report for the financial year ended 31 December 2022, as required by law.

Resolutions 2 and 3 – Directors' Remuneration report

Resolution 2 seeks shareholder approval for the new Directors' Remuneration Policy, which can be found on pages 91 to 99 of the Annual Report. The new Directors' Remuneration Policy will replace the current Directors' Remuneration Policy which was approved at the AGM held on 8 June 2020. The new Directors' Remuneration Policy sets out the Company's future policy on Directors' remuneration, including the setting of the Directors' pay and the granting of share awards. Details on how the policy will be applied in practice in 2023 are set out in the Directors' Remuneration report on pages 88 to 109 of the Annual Report. If Resolution 2 is approved, the new Directors' Remuneration Policy will become effective immediately.

Resolution 3 seeks shareholder approval of the Remuneration report for the year ended 31 December 2022, which can be found on pages 88 to 109 of the Annual Report. The Company's Auditors, PKF Littlejohn LLP, have audited those parts of the Directors' Remuneration report that are required to be audited and their report may be found on pages 114 to 118 of the Annual Report.

Resolution 4 – Declaration of dividend

This resolution concerns the Company's final dividend payment. The Directors are recommending a final dividend of 4.62 pence per ordinary share in respect of the year ended 31 December 2022 which, if approved, will be payable on 2 June 2023 to the shareholders on the register of members on 5 May 2023.

Resolutions 5 to 11 – Re-election of Director

In line with the provisions of the UK Corporate Governance Code, the Company Chair, S Good, will retire from the Board and L Drummond will be appointed as Company Chair subject to election as Non-Executive Director by the shareholders. Further details are provided on page 80 of the Annual Report.

The Company's Articles of Association require each Director of the Company to retire from office at each annual general meeting of the Company and, if they are willing, to offer themselves for re-appointment by the shareholders. Biographies for the Directors are set out on pages 78 to 79 of the Annual Report for the year ended 31 December 2022. With the Chair having undertaken performance reviews of the Directors, and the Non-Executive Directors having undertaken a performance review of the Chair, the Board is satisfied that each Director continues to be effective and demonstrates commitment to the role and recommends that each Director should be re-elected.

Resolutions 12 and 13 – Re-appointment of Auditor and its remuneration

Resolution 12 concerns the re-appointment of PKF Littlejohn LLP as the Company's Auditor, to hold office until the conclusion of the Company's next general meeting where accounts are laid. Resolution 13 authorises the Audit Committee to determine the Auditor's remuneration.

Notice of the 2023 Annual General Meeting
Continued

Special business

Resolution 14 – Power to allot shares

This resolution grants the Directors authority to allot shares in the capital of the Company and other relevant securities up to an aggregate nominal value of £810,353, representing approximately one-third of the nominal value of the issued ordinary share capital of the Company as at 3 April 2023, being the latest practicable date before publication of this notice. In addition, in accordance with the latest institutional guidelines issued by the Investment Association, paragraph (b) of resolution 14 grants the Directors authority to allot further equity securities up to an aggregate nominal value of £1,620,706 representing approximately two-thirds of the nominal value of the issued ordinary share capital of the Company as at 3 April 2023, being the latest practicable date before publication of this notice. This additional authority may only be applied to fully pre-emptive rights issues.

The intention of the authority granted pursuant to paragraph (b) of resolution 14 is to preserve maximum flexibility and if the Directors do exercise this authority, they intend to follow best practice as regards its use.

The Company does not currently hold any shares as treasury shares within the meaning of Section 724 of the Companies Act 2006 ("Treasury Shares").

The Directors consider it desirable that the specified amount of authorised but unissued share capital is available for issue so that they can more readily take advantage of possible opportunities, which may include the allotment of shares to the Employee Benefit Trust for the purpose of fulfilling future potential awards.

Unless revoked, varied or extended, this authority will expire at the conclusion of the next AGM of the Company or 30 June 2024, whichever is the earlier.

Resolutions 15 and 16 – Authority to allot shares disregarding pre-emption rights

These resolutions authorise the Directors in certain circumstances to allot equity securities for cash other than in accordance with the statutory pre-emption rights (which require a company to offer all allotments for cash first to existing shareholders in proportion to their holdings). Resolution 15 authorises the Directors to issue shares either where the allotment takes place in connection with a rights issue or the allotment is limited to a maximum nominal amount of £121,553, representing approximately 5% of the nominal value of the issued ordinary share capital of the Company as at 3 April 2023, being the latest practicable date before publication of this notice. Resolution 16 authorises the Directors to issue a further 5% of the issued ordinary share capital of the Company, but only to be used to raise finance for an acquisition or a specified capital investment (within the meaning given in the Pre-Emption Group's Statement of Principles) which is announced contemporaneously with the allotment, or which has taken place in the preceding six-month period and is disclosed in the announcement of the allotment.

Unless revoked, varied or extended, these authorities will expire at the conclusion of the next AGM of the Company or 30 June 2024, whichever is the earlier.

The Directors consider that the powers proposed to be granted by these resolutions are necessary to retain flexibility, although they do not have any intention at the present time of exercising them. In accordance with the Pre-Emption Group's Statement of Principles, the Directors confirm that they do not intend to issue more than 7.5% of the issued ordinary share capital of the Company on a non-pre-emptive basis in any rolling three-year period without prior consultation with shareholders.

Resolution 17 – Authority to purchase shares (market purchases)

This resolution authorises the Board to make market purchases of up to 4,862,123 ordinary shares (representing approximately 10% of the Company's issued ordinary shares as at 3 April 2023, being the latest practicable date before publication of this notice). Shares so purchased may be cancelled or held as treasury shares. The authority will expire at the end of the next AGM of the Company or 30 June 2024, whichever is the earlier. The Directors intend to seek renewal of this authority at subsequent AGMs.

The minimum price that can be paid for an ordinary share is 5 pence, being the nominal value of an ordinary share. The maximum price that can be paid is 5% over the average of the middle market prices for an ordinary share, derived from the Daily Official List of the London Stock Exchange, for the five business days immediately before the day on which the share is contracted to be purchased.

The Directors intend to exercise this right only when, in light of the market conditions prevailing at the time and taking into account all relevant factors (for example, the effect on earnings per share), they believe that such purchases are in the best interests of the Company and shareholders in general and will result in an increase in earnings per ordinary share. The overall position of the Company will be taken into account before deciding upon this course of action. The decision as to whether any such shares bought back will be cancelled or held in treasury will be made by the Directors on the same basis at the time of the purchase.

As at 3 April 2023, being the latest practicable date before publication of this notice, there were outstanding awards under the Company's long-term incentive schemes (excluding the Share Incentive Plan) in respect of 1,190,954 ordinary shares in the capital of the Company representing 2.4% of the Company's issued ordinary share capital. If the authority to purchase the Company's ordinary shares were exercised in full, such awards would represent 2.7% of the Company's issued ordinary share capital.

Resolution 18 – Notice period for general meetings

Under the Companies Act 2006, a listed company must give at least 21 days' notice of its general meetings. However, the Act enables general meetings (other than AGMs) to be held on shorter notice of not less than 14 days, provided the shareholders have given their consent at the previous AGM or a general meeting held since the last AGM. Resolution 18 seeks such approval similar to the resolution that was passed last year. The approval will be effective until the Company's next AGM, when it is intended that a similar resolution will be proposed. The Directors will always endeavour to give as much notice as possible of general meetings, but would like to have the flexibility to call a general meeting on the shorter permitted notice period for time-sensitive matters that are clearly in the shareholders' interests and otherwise for non-routine business, where merited, in the interests of shareholders as a whole. If the authority is used, the Company will offer the ability, as required by the Companies Act 2006, to vote electronically.

Recommendation

The Directors consider that the proposals being put to the shareholders at the AGM are in the best interests of the Company and of the shareholders as a whole. Accordingly, the Directors recommend that you vote in favour of the resolutions set out in the Notice of the AGM, as they intend to do in respect of their own beneficial holdings of ordinary shares.

Company information

Registered office
675 Mitcham Road
Croydon CR9 3AL
cosec@zotefoams.com

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2714645

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London EC2M 2AT

Singer Capital Markets Advisory LLP
One Bartholomew Lane
London EC2N 2AX

Financial public relations
IFC Advisory Limited
Birchin Court, 20 Birchin Lane
London EC3V 9DU

Auditor
PKF Littlejohn LLP
15 Westferry Circus
Canary Wharf
London E14 4HD

Bankers
Handelsbanken plc
3 Thomas More Square
London E1W 1WY

National Westminster Bank plc
Turnpike House, 123 High Street
Crawley RH10 1DD

Solicitors
Osborne Clarke LLP
One London Wall
London EC2Y 5EB

Collyer Bristow LLP
140 Brompton Road
London SW3 1HY

Registrars
Computershare Investor Services plc
The Pavilions
Bridgwater Road
Bristol BS13 8AE
www.computershare.com

Financial calendar

AGM	24 May 2023
Payment of final dividend	2 June 2023 to shareholders on the register at the close of business on 5 May 2023
Payment of interim dividend	October 2023
Announcement of 2023 results	March 2024

Website
The Company has a website (www.zotefoams.com) which provides information on the business and products.

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MuCell® is a registered trademark of Trexel Inc.

Registrars
Enquiries concerning the holding of ordinary shares in the Company should be addressed to the registrars who should also be notified of any changes in a holder's address.

The registrars are: Computershare Investor Services plc, The Pavilions, Bridgwater Road, Bristol BS13 8AE.

Telephone: 0370 707 1424

www.investorcentre.co.uk/contactus

Notes

FSC Mixed Sources
Product group from well-managed forests and other controlled sources
Cert no. SW-COC-005535 EM
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Print: Colourset Print Mail Solutions
www.colourset.co.uk

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