Zotefoams plc

Annual Report 2021

ZOTEFOAMS

YEARS

Optimal material solutions for the benefit of society

ZOTEFOAMS 100 YEARS

In 1921, Charles Marshall established Onazote Limited in north London

Zotefoams plc is recognised as the world leader in advanced technical foams. The Company is the direct descendant of Onazote Limited, the company that was founded in 1921 and commercialised the world's first hard and soft expanded rubber.

Inspired by the work of Hans, Fritz and Herman Pfleumer – Austrian brothers who had experimented with expanded rubber as an alternative to pneumatic tyres – Charles Marshall patented a process to manufacture expanded rubber.

1920s

Marshall registers the trademark Onazote in Great Britain and the USA; the name derives from the words ebonite – hardened rubber – and azote, the French word for nitrogen.

1925 The company name changes to The Expanded Rubber Company Limited.

1927 The company moves to a new home at the 50,000 sq.ft Palace of Arts at Wembley, constructed for the 1924–25 British Empire Exhibition.

Fritz Pfleumer holding a section of expanded rubber material used for tyre filling in 1910

1925 – T Wall and Sons adopts Onazote as an insulation material in its new ice cream business

Charles Marshall

A century of innovation...

Zotefoams materials were first used in running shoes in the 1970s

Success beckons

1930s

In 1935, the company moves to a former cable works in Mitcham Road, Croydon, where Zotefoams' headquarters and main manufacturing site are still located.

Ownership passes to The St Helens Cable and Rubber Company in 1938. New Managing Director, Henry Shelmerdine, reorganises and oversees investment in new equipment.

Within a year, production is running at **half an imperial ton per week of Onazote and Rubazote** – hard and soft expanded rubber.

Innovation and expansion in support of the nation

1940s

New factories help meet demand for marine buoyancy and aviation applications.

Aerozote, for self-sealing aircraft fuel tanks, is introduced and the company develops new materials – **Formvar,** an expanded vinyl with great impact strength and **FUF,** expanded urea-formaldehyde resin – to counteract the shortage of natural rubber.

BX Plastics Limited acquires the company in 1943 and transfers ownership in 1948 to its parent The British Xylonite Company Limited.

A world of applications

1950s

Demand for Onazote and Rubazote continues unabated and new equipment, a laboratory and the appointment of agents globally supports rapid growth of the business.

The decade is characterised by innovation, with products such as **Zote** and **Rubacurl** introduced for new areas of application.

Early 1950s – the Expanded Rubber Company is the world's largest company solely manufacturing expanded materials

Introducing Plastazote® and Evazote®

1960s

In 1962, Plastazote® polyethylene foam – the foundation of the modern-day **AZOTE®** portfolio – is launched, meeting with immediate success in a huge range of applications and industries.

1968 saw the introduction of **Evazote®** EVA copolymer foam, a further world-class product, boasting additional toughness and resilience.

New ov and a fa expand

19

The success an
Evazote leads t
being phased o
the expanded p

By the end of th
shift working is
demand for the
across a multitu
company is acq
Petroleum) and
Chemicals busi

1970 – Jensen specifies Plastazote for its impact/energy absorption

1945 – Sir Stafford Cripps, President of the Board of Trade, tours the Dundee factory

Onazote lifejacket approved by the Ministry of Transport

In 2017, an exclusive partnership with Nike – based on our groundbreaking ZOTEK® PEBA – is announced

…wnership
…arewell to
…ed rubber

…70s

…d of Plastazote and …o rubber materials …ut and the sale of …olystyrene business.

…he decade, four- … in place to meet …se materials …ude of markets. The …quired by BP (British … remained part of the …ness until 1993.

Royal recognition and global growth

1980s

In 1981, Plastazote achieves royal recognition, winning the Prince Philip Award for polymers in the service of mankind. The Award is presented by its namesake, a champion of British technology and industry.

The decade sees continuing growth and success on the global stage, firmly **establishing Plastazote and Evazote as the world's leading technical foam brands.**

A new era and the birth of Zotefoams plc

1990s

Following a management buyout in 1992, a flotation on the London Stock Exchange in 1995 gives birth to Zotefoams plc.

International growth continues with the establishment of Zotefoams Inc in the USA, to meet rapidly growing demand with local service and, a few years later, manufacturing.

The High-Performance decade

2000s

As the new millennium dawns, opportunities and optimism abound – but on the night of 22 October 2000, a fire at Mitcham Road destroys a third of the factory.

In the aftermath, the management team reassesses prospects and decides to leverage the three stage process for new, advanced materials. The resulting ZOTEK® High-Performance Products portfolio meets demanding regulatory and application requirements, opening up new markets.

In 2001, Zotefoams Inc moves into a purpose-built facility in Kentucky. Also in the USA and in 2008, Zotefoams takes a stake in MuCell Extrusion LLC (MEL), acquiring 100% ownership four years later. The company's technology is the genesis of the ReZorce mono-material barrier packaging range.

A world leader in optimal material solutions

2010–today

This is a decade of accelerating change and growth for Zotefoams.

ZOTEK® F is recognised as a gamechanger for air- and spacecraft interiors and PEBA joins the HPP line-up in 2012: this material famously becomes the basis of Zotefoams' exclusive partnership with Nike.

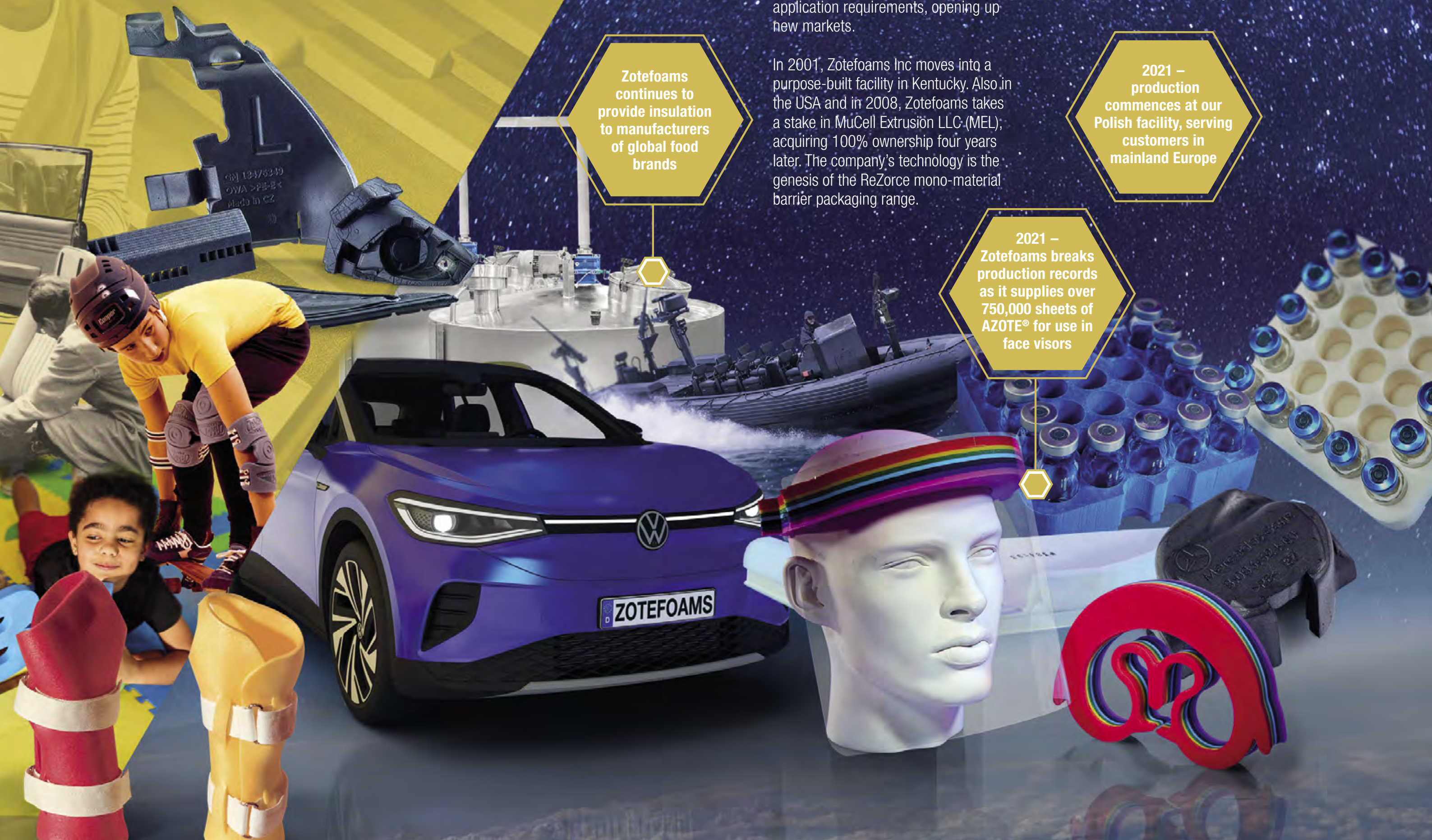
We increase our global presence, with new facilities in China, the USA, India and Poland.

A programme of foam manufacturing capacity investments in the UK, the USA and Poland concludes with the opening of our new Polish plant in February 2021: this increases block foam capacity by 60% compared to the end of 2017.

Zotefoams continues to provide insulation to manufacturers of global food brands

2021 – production commences at our Polish facility, serving customers in mainland Europe

2021 – Zotefoams breaks production records as it supplies over 750,000 sheets of AZOTE® for use in face visors



In 2021, Zotefoams achieved a significant milestone by delivering £100m of sales in the centenary year of the invention of the nitrogen gas process that we use today

Financial KPIs

Group revenue

£100.8m

Change **+22%**
2020 **£82.7m**

Gross margin

26.4%

Change **-720 basis points**
2020 **33.6%**

Operating profit

£8.1m

Change **-11%**
2020 **£9.1m**

Profit before tax

£7.0m

Change **-16%**
2020 **£8.3m**

Basic earnings per share

9.01p

Change **-39%**
2020 **14.87p**

Total dividend for the year

6.50p

Change **+3%**
2020 **6.30p**

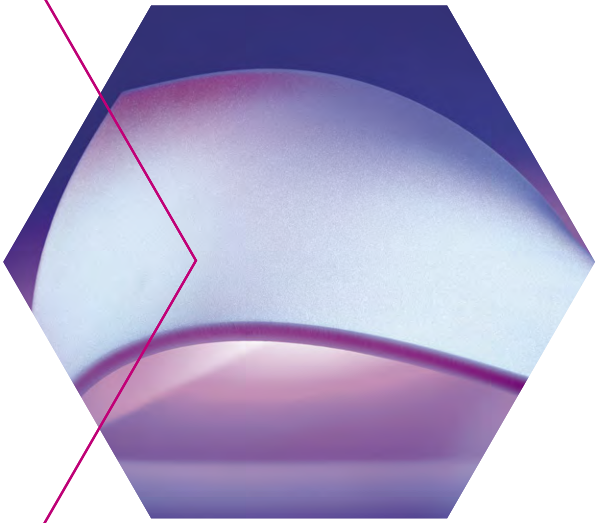
Return on capital employed

6.1%

Change **-290 basis points**
2020 **9.0%**

Contents

Learn more
zotefoams.com



Optimal material solutions for the benefit of society - past, present and future

Throughout its history, Zotefoams has been at the forefront of developments in 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 particular durability of our materials – such that the resources used in the manufacture of our products deliver payback over an extended period.

As Zotefoams marks 100 years of its three stage process, it is well-placed to serve the needs of a world where the conservation of resources is a priority and the reduction of carbon emissions an imperative.

Working with our customers to develop the products they need for a low-carbon future

Zotefoams already offers the lightest closed cell crosslinked foam in the world and our materials frequently offer a considerably better performance to weight ratio than those of our competitors. To deliver optimal materials for specific applications we continue to push the boundaries of our technology and evaluate new raw materials. Be it engineering even lighter foams or replacing traditional material choices with lightweight alternatives, our development programme is informed by a deep knowledge of the markets we serve, continuing to anticipate and respond to the sustainability ambitions of our customers.

Supporting industries of the future

Emerging technology and clean energy industries are typically founded on sustainability principles, making Zotefoams' advanced materials an attractive proposition. Electric vehicles, wind turbines, data centres, satellite communications… these are just some of the new industries with which we are engaged.

Reducing our own environmental impact

As we embed sustainability into our business model, we are undertaking a wide range of initiatives to reduce our own impact on the environment, setting targets for greater material efficiency, lower consumption of water and energy and reduced carbon emissions. We are examining the sustainability potential and performance of alternative raw materials. Read more about the delivery of our sustainability strategy in our ESG report on pages 56 to 69.

Playing our part in the circular economy

The ongoing development of ReZorce® mono-material barrier packaging is a world-first, offering the potential for a truly circular model in the 300 billion unit per annum global beverage carton market. Offering an alternative to the current multi-material solution, ReZorce is easy to recycle back into the same type of packaging, rather than being downcycled.

Closer to our customers

2021 saw the culmination of a multi-year investment programme to increase global foam manufacturing capacity, with the opening in February of our new plant in Brzeg, Poland.

Capacity investments in the UK and the USA, alongside the construction of the Polish plant, mean that global foam production capacity is now 60% higher than the position at the end of 2017.

With three plants strategically located close to manufacturing hubs in the UK, USA and central Europe, Zotefoams is well-placed to respond to our customers' needs. Significant ongoing disruption to global supply chains, combined with sustainability considerations fuelling trends towards near-shoring, makes the availability of Zotefoams materials from multiple locations a particularly attractive proposition for existing and potential customers.

USA

Zotefoams established a presence in the USA over 25 years ago, setting up a North American sales subsidiary, Zotefoams Inc, to meet rapidly growing demand with local service.

In 2001, Zotefoams Inc moved into a purpose-built manufacturing facility in Kentucky, strategically located for ease of access to major manufacturing hubs in the USA.

The first cycle of investment centred on the expansion of nitrogen-saturated slabs produced in Croydon, allowing us to bring production onstream quickly.

In recent years, we have invested in infrastructure, extrusion capabilities and two high-pressure autoclaves, the second of which was commissioned in 2020. Zotefoams Inc is now positioned to supply many key AZOTE® polyolefin foam grades to the North American market.

UK

Zotefoams' headquarters and main manufacturing site since 1935, the Croydon facility has evolved constantly to develop and subsequently manufacture new materials and reflect growing demand for our materials.

The site has the largest range of production equipment, some adapted to produce specialist grades, and is also home to extensive R&D facilities and state-of-the-art testing laboratories.

In 2018, following the announcement of our exclusive partnership with Nike, construction began on a new factory to house two high-temperature, low-pressure autoclaves, which was officially opened in May 2019.

Poland

Our £23 million manufacturing plant in Brzeg, Poland commenced production in February 2021. The project very much follows the blueprint for the establishment of our plant in Kentucky, USA, where expansion of extruded, nitrogen-saturated slabs was the first process to be introduced. This allows us to bring operations onstream at the earliest opportunity, using a large high-temperature, low-pressure autoclave to expand slabs manufactured in the UK or USA and serve customers in continental Europe.

Close to major manufacturing centres and trans-European road and rail networks, this 13,000 m² state-of-the-art site is now supplying many customers in Europe with market-leading grades from our AZOTE polyolefin foams range.

The capability to store materials for rapid delivery is almost as important as the ability to produce them in the first place. We have the capacity to store up to 7,600 pallets of foam at the Polish plant, including inside storage for 1,600 pallets, ensuring the best possible service for our customers.

Take a video tour of Zotefoams' Poland plant: zote.info/3uA6aLC

Standing together, delivering in partnership

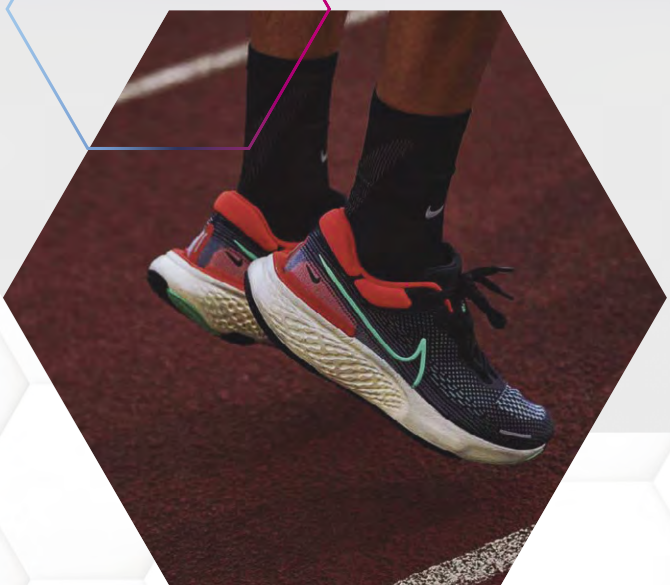
Our exclusive partnership with Nike, through which we supply lightweight ZOTEK® high-performance foams for use in the company's top flight running shoes, marked its fifth year in 2021.

2021 was coloured by the continuing impact of the pandemic, which created complex supply chain issues. These challenges served to underline the strength of our partnership, with the Nike and Zotefoams teams working closely to monitor the situation and ensure the availability and delivery of materials in a rapidly evolving environment.

Elsewhere, the partners focused on innovation, exploring the properties and potential of ZOTEK, with Nike signalling its intent to introduce the material into more of its highest-performing running shoe ranges as the popularity of running and the reputation of its footwear continue to grow.

Sustainability, too, was a priority, with both parties looking to optimise material usage, actively working to reduce waste generated by the manufacturing process and to recycle or reuse residual material wherever possible.


ENGINEERED TO THE EXACT
SPECIFICATIONS OF WORLD-CLASS RUNNERS
NIKE RUNNING
NIKE ZOOMX



Breaking down barriers to the circular economy

ReZorce® Circular Packaging
The food and beverage sector is highly competitive, with product innovation essential to maintaining a competitive edge. This has produced an explosion of choice in the juice and alternative dairy sectors in recent years, with products typically delivered in shelf-friendly cartons produced from liquid packaging board (LPB).

Some 300 billion of these cartons are produced each year and demand shows no sign of slowing – but there is a significant drawback: although produced predominantly from wood fibre, the mixed material nature of LPB makes it difficult or impossible and often economically unattractive to recycle, such that anywhere between 50% and 75% of cartons are sent to landfill or incinerated.

Research conducted in late 2020 identified the beverage carton market as one where ReZorce mono-material barrier packaging can help manufacturers comply with impending legislation on recycling and recyclability, moving towards a circular economy where LPB cannot.

Development to date has been conducted in partnership with Plastilene SA, a licensee of MEL since 2015 and a well-respected and innovative packaging provider based in Colombia. This partnership has been critical in the development of ReZorce and Plastilene are the exclusive licensee of MEL in much of South America for commercialisation of this technology.

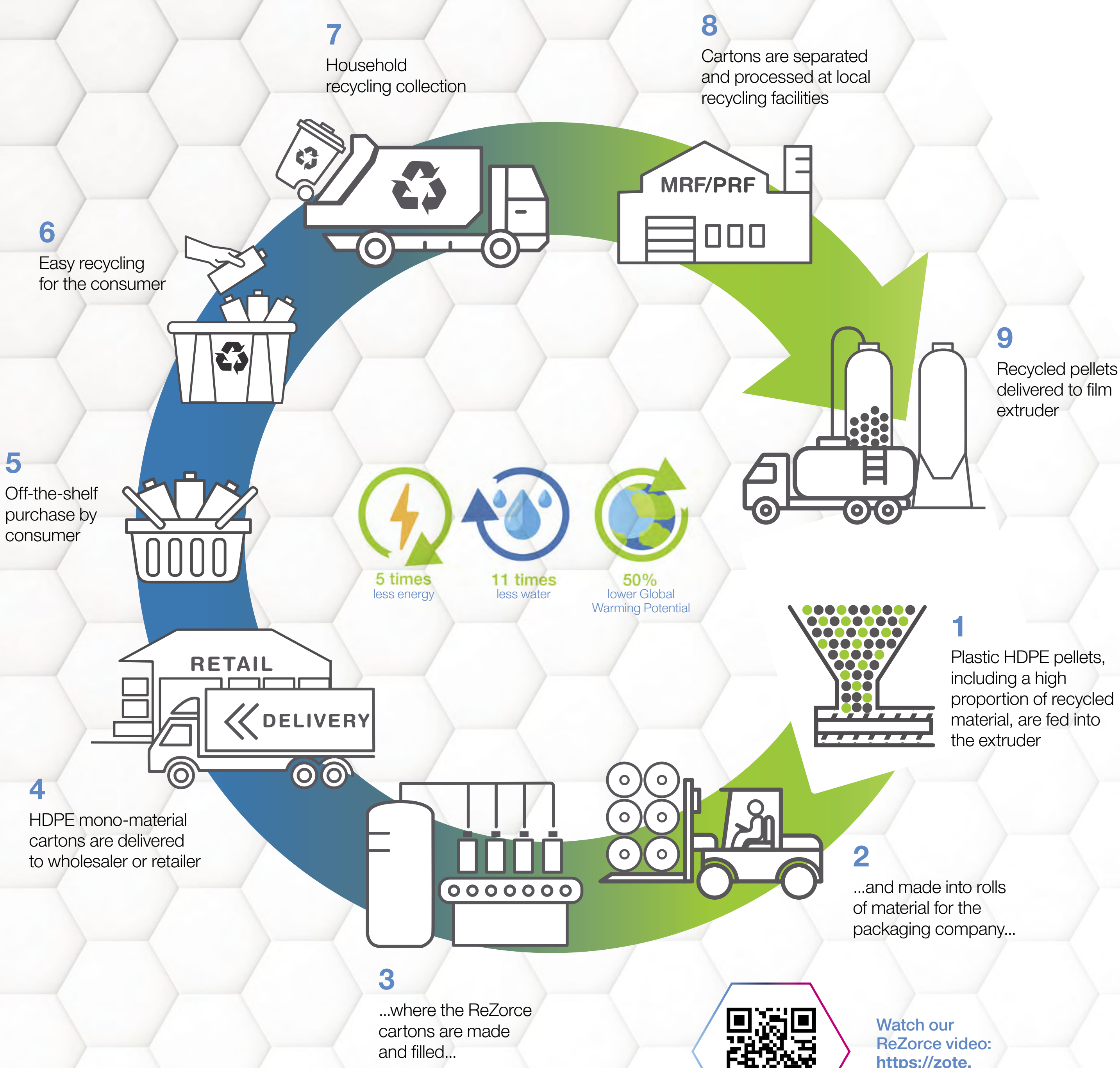
In 2021, we accelerated investment in pilot facilities and people dedicated to the development of ReZorce to meet this demand. Our commercial activity is currently focused on the Western European market, where a large number of global brands have their headquarters.

We commissioned a Life Cycle Assessment that demonstrated ReZorce is a more sustainable solution than LPB in terms of energy and water usage and reduced global warming potential. Partnerships were formed with the University of Manchester and Queen's University Belfast to further our understanding of the potential and capabilities of ReZorce.

Investment in our Massachusetts, USA, Development Center bore fruit, with internal trials commencing in Q1 2022 and we confirmed dates for factory scale-up trials at several customer sites from Q2 2022. These include a pouch format for a division of one of the world's largest food producers.

We established a partnership with leading UK waste management company Biffa to demonstrate the potential for circularity with ReZorce and engaged with the leading players in LPB, exploring routes to accelerate commercialisation.

In tandem, we mounted a communications campaign to address negative perceptions of plastic and promote the benefits of ReZorce as an easily recyclable mono-material solution in the beverage carton market. Gaining positive media coverage throughout Europe, the campaign was entirely in tune with Zotefoams' "optimal material solutions for the benefit of society" purpose statement and resulted in numerous accolades for ReZorce, including winning the British Plastics Federation and Horners Bottlemaker's Award, Best New Concept at the UK Packaging Awards and a Green Apple Environmental Award, as well as being shortlisted for several innovation, recycling and environmental awards.



Watch our ReZorce video: https://zote.info/3wPyoEK

Award winning innovation

British Plastics Federation

GREEN APPLE ENVIRONMENT AWARDS

"The Judges felt ReZorce® Circular Packaging to be a shining example of how technical developments in plastics can help us all move towards the circular economy."
Horners Awards Committee

"ReZorce® is a future for liquid board that tackles the big player alternatives and makes it easy for the consumer to dispose of and use recycled content."
UK Packaging Awards Judging Committee

Investing to accelerate growth

T-FIT® foam insulation harnesses the special properties of ZOTEK® high-performance materials to satisfy demanding applications in key economic sectors including healthcare and biotech, food and beverage and semiconductor manufacturing.

With sustainability now at the top of most customers' agendas, insulation has an important role to play in energy-intensive industries. T-FIT offers an unparalleled proposition in this regard, offering equivalent or better performance than traditional alternatives using less material and a far longer lifespan, which reduces the amount of waste going to landfill.

T-FIT is unusual in the Zotefoams portfolio in that it is supplied as a finished product – a modular range designed to fit the dimensions of standard industrial pipework, ducting and equipment. These parts are produced at our factory in China, with a second production unit at our new foam manufacturing plant in Poland coming soon to enable rapid service.

T-FIT creates the opportunity to grow our business quickly: as a finished product it commands a high margin thanks to its unique qualities and superior performance.

In 2021, we implemented a plan to accelerate the growth of the T-FIT business, investing in commercial resources and marketing activities to raise awareness, creating a global brand and generating leads.

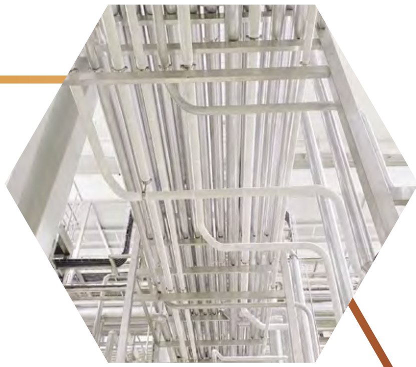
Visit the T-FIT website:
zote.info/2HZbiEZ

Building on the success already seen in China, we renegotiated our agreement with UFP technologies, formerly our exclusive fabricator and distributor in the USA. The new arrangement sees the partnership continue, but with commercial responsibilities now residing with Zotefoams, while UFP focuses on fabrication.

A new commercial team dedicated to growing the attractive USA market is now in place, increasing the opportunity for T-FIT insulation to be specified in global accounts.

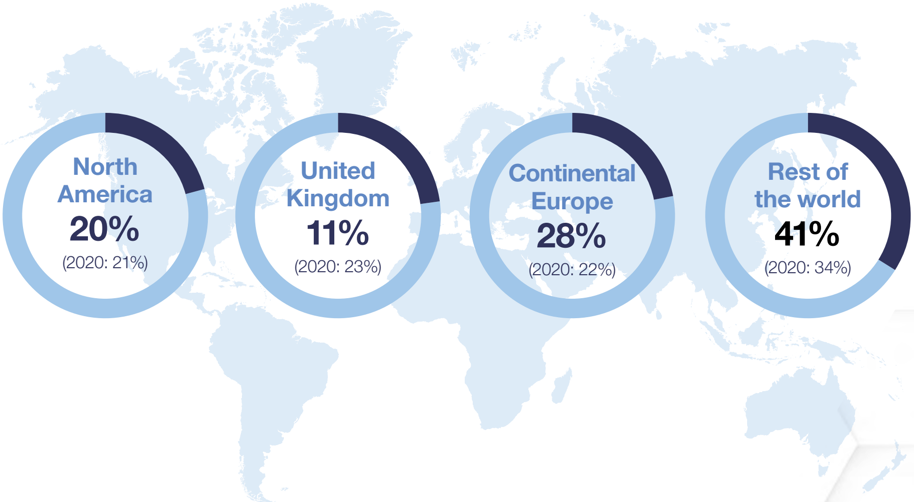
Digital marketing activities have also been key to this ramp-up, with a new, dedicated marketing manager overseeing the consolidation of the T-FIT proposition, subsequently expressed in a new website and a range of targeted activities that have built a solid pipeline of potential business.

We have seen this strategy begin to bear fruit despite challenging business conditions through 2021 and, as we move into 2022, we are confident that we have a blueprint for the high growth and global success that T-FIT merits.



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



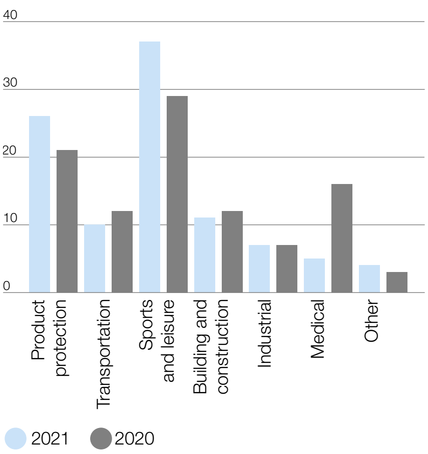
North America
Local manufacturing presence in Kentucky for the Polyolefin Foams business, cutting operation in Oklahoma to service the construction market, and headquarters of MuCell Extrusion LLC (MEL), based in Massachusetts, licensing technology globally and behind the development of ReZorce®. Local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

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

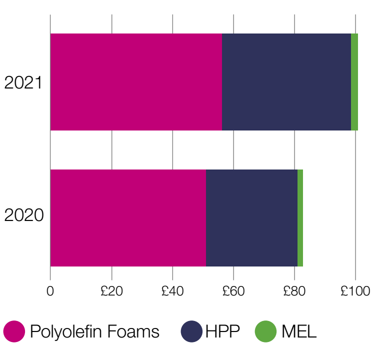
Continental Europe
Significant market for polyolefin foams. Local manufacturing presence in Brzeg, south west Poland, since February 2021, initially servicing the Polyolefin Foams business. Sufficient land has been purchased to allow larger-scale operations in the future.

Rest of the world
T-FIT® technical insulation 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

AZOTE®

POLYOLEFIN FOAMS

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

Read more page 26

EXTRUSION TECHNOLOGY

ZOTEK®

HPP

Lightweight technical foams

Foams which offer superior technical properties such as energy management, durability, 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

Read more page 26

T-FIT®

HPP

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

Read more page 28

MuCell®

MEL

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

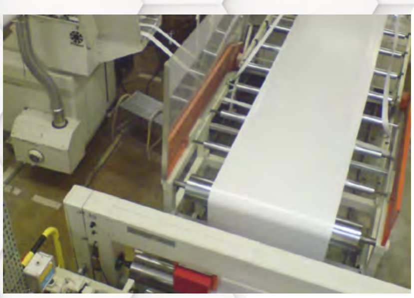
This pioneering technology injects gas into plastics during the manufacturing process to create micro-bubbles and is licensed to customers manufacturing plastic parts. The end-product uses 15–20% less material. Recently developed ReZorce recyclable mono-material barrier solutions use this technology.

Key markets served

- Automotive
- Consumer packaging

Key market drivers

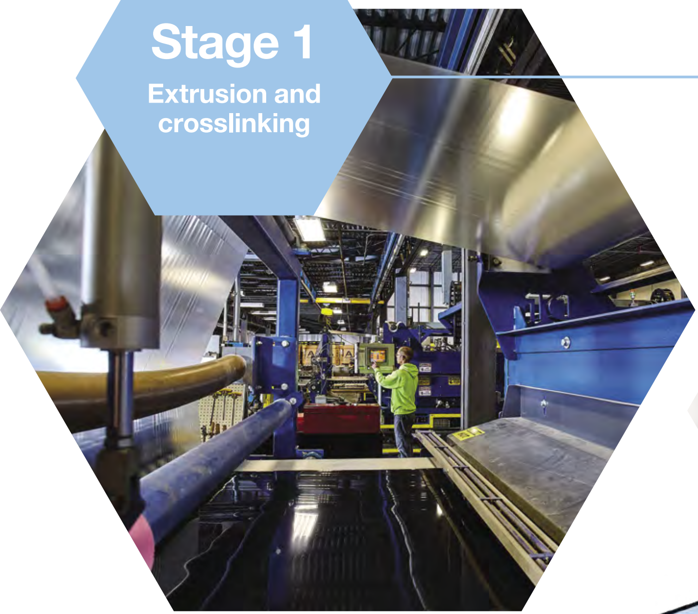
- Environmental benefit
- Lower cost



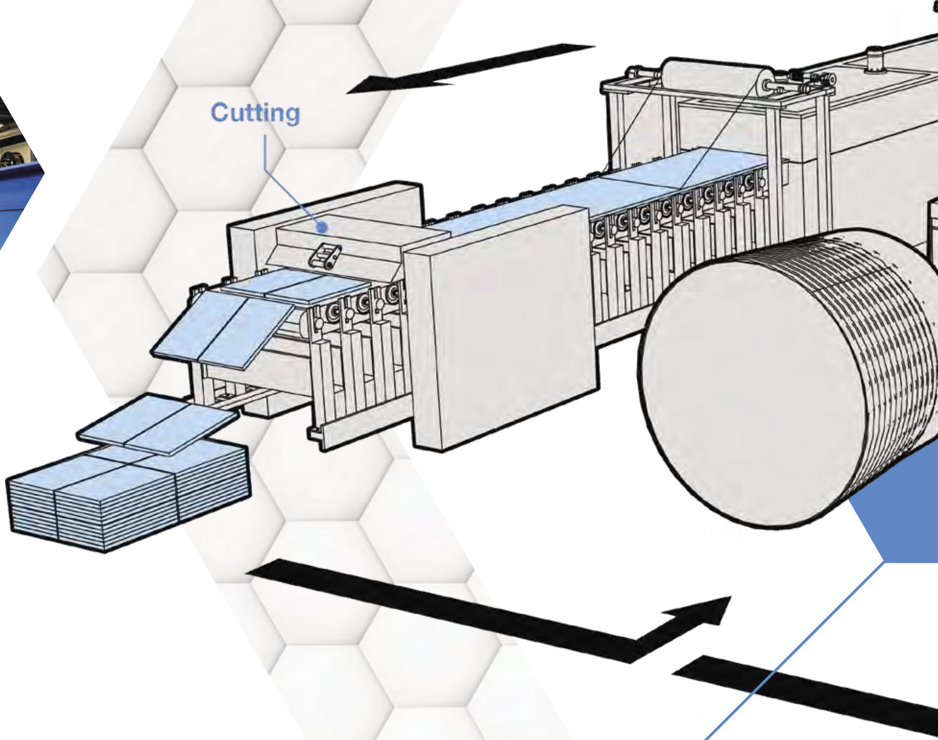
A unique manufacturing process
The Zotefoams difference

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.

Stage 1
Extrusion and crosslinking



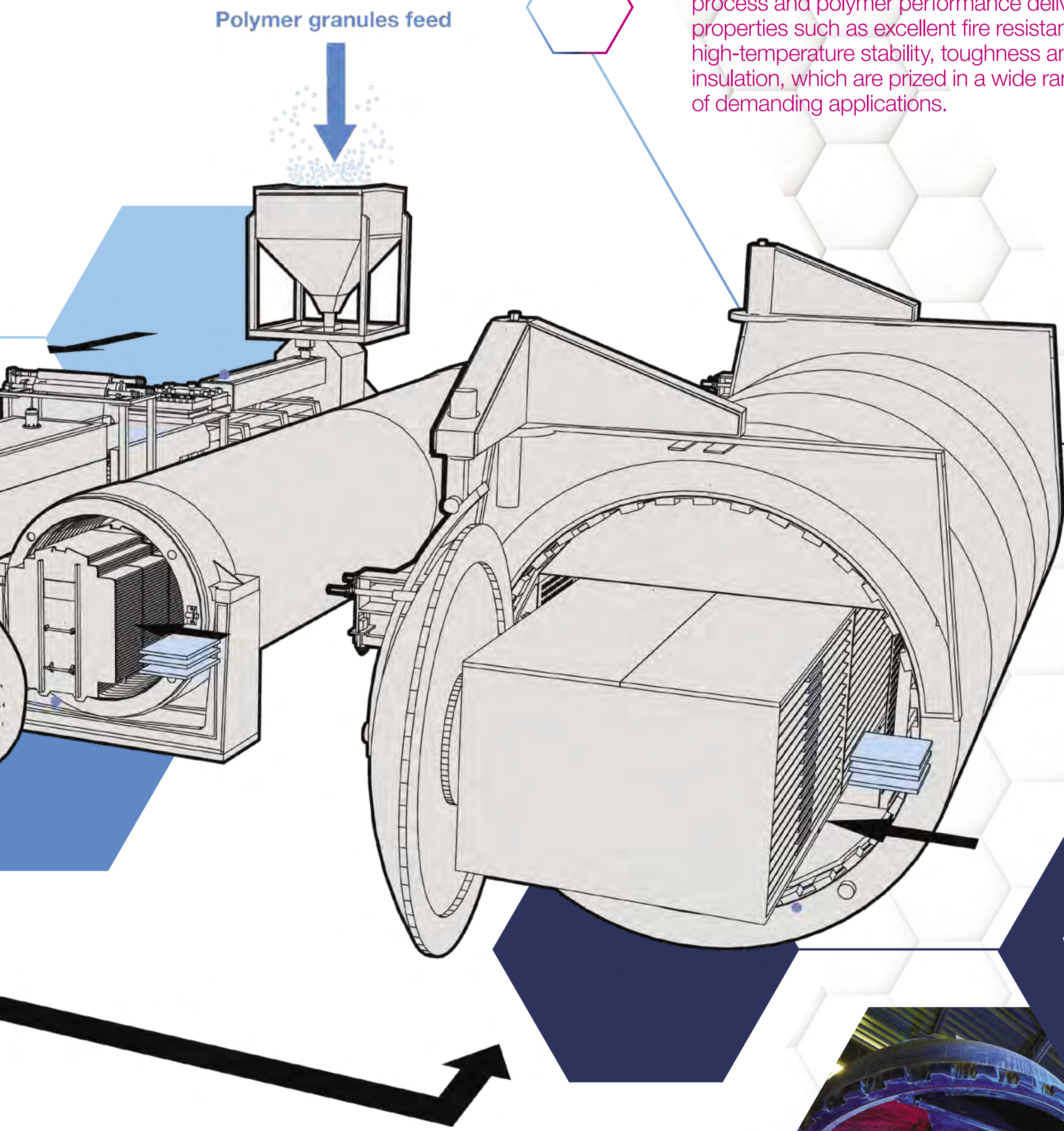
Polymer and any additives (colours, fire retardants, conductive agents) are extruded into a continuous solid plate. The plate passes through an oven which activates the crosslinking process. It then cools and is cut into slabs.



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 250°C, this nitrogen-based process (see page 18) 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.



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

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

1. 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 – extrusion, nitrogen saturation and expansion. 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.

For more information on our process, see **pages 14 and 15**

2. 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 and high-performance products. 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 and reflects 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 most of our capacity.

3. Working with our partners and enriching the product mix

We partner with a network of customers around the globe that fabricates our polyolefin foams and promotes 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 competitive solutions. They are lighter, made with less raw material and their durability means they need replacing less often. This makes them a product of choice in thermal insulation, 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.

Image © Nike

4. Developing our HPP portfolio

A significant portion of technical, sales and marketing expenditure is allocated for 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 lifecycle and we see considerable opportunity to grow and to enrich our product mix over the medium term.

5. 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.

6. 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 re-invest 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.

Our business model
Continued

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 56 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-barrier packaging solution which has been designed to replace difficult-to-recycle tubes, laminated paper, pouches and cartons.

Our sustainable competitive advantages

As described on page 16 in 'Our business model', our sustainable competitive advantages include:

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

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.

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
- Stable business environment
- 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.

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.

Our MuCell Extrusion business

MuCell Extrusion LLC (MEL) licenses a patented process that creates micro-bubbles in the core of plastic parts or products by injecting gas into them as they are manufactured. This produces a foamed core, bound by a solid skin into one integral material, that seems indistinguishable from a solid product. Products using MuCell® technology can be designed to perform like solid plastic, but will typically use 15–20% less material, realising both cost and environmental benefits by using inert carbon dioxide or nitrogen gas and reducing the plastic content at source.

Most customers are in the fast-moving consumer goods (FMCG) or food packaging industries, where value is created from making a small saving in plastic content, which is multiplied across many millions of parts annually, and where the current environment is increasingly driving them towards more sustainable solutions. MEL shares in the customers' benefits by receiving a licence fee for IP and/or royalty on parts made.

Recently, a variation of this technology has been used to create ReZorce, a recyclable, mono-material barrier packaging solution and an industry-first. In 2021, we identified the milestones necessary to commercialise ReZorce and invested in the expertise, assets and partnerships necessary to achieve this on a phased basis. The potential of ReZorce has been recognised with multiple industry awards.

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.

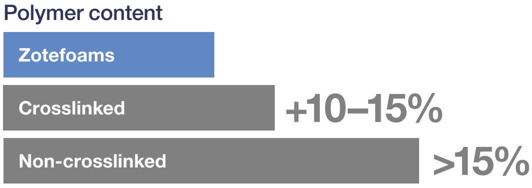
Environment

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.

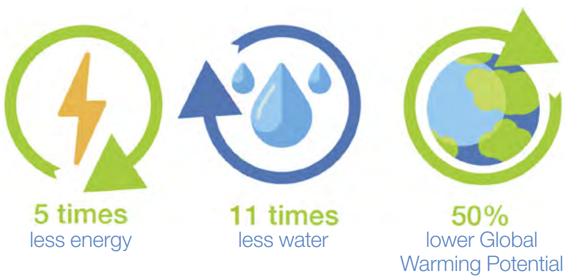
MuCell® technology uses less material to make everyday items and saves costs. ReZorce® mono-material technology can be used to create barrier packaging for items such as juices, toothpaste, food and dried goods, which can be recycled using common kerbside collections. Much of our AZOTE® foam is used 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.

Zotefoams versus other materials: typical like-for-like performance using less polymer

Polymer content



ReZorce® is a better solution with lower environmental impact



Based on an independently conducted Life Cycle Assessment, comparing the environmental impact of ReZorce with a widely used multi-material alternative, liquid packaging board

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 49% of Zotefoams' revenue from foams in 2021 came from products with specific properties tested to customer requirements, although not all of this was demonstrably for regulation compliance.

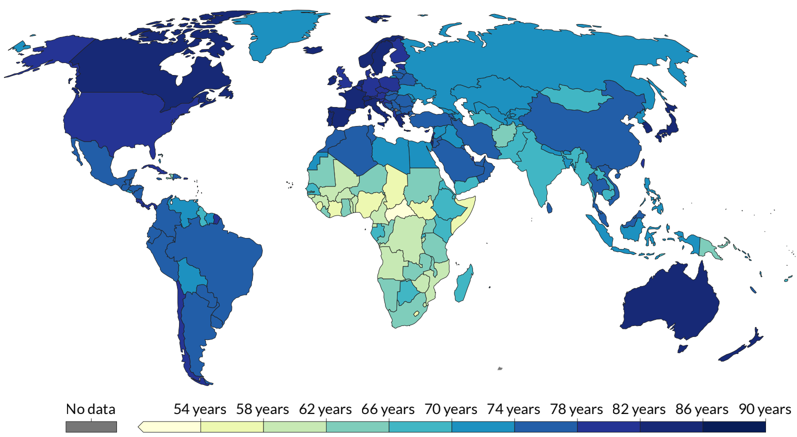
Plastazote® from our AZOTE polyolefin foams range is the most frequently cited thermoplastic foam in medical literature due to its purity and hypoallergenic characteristics. It meets ISO 10993 standards for evaluating the biocompatibility of medical devices and is the material of choice for skin contact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

Demographics

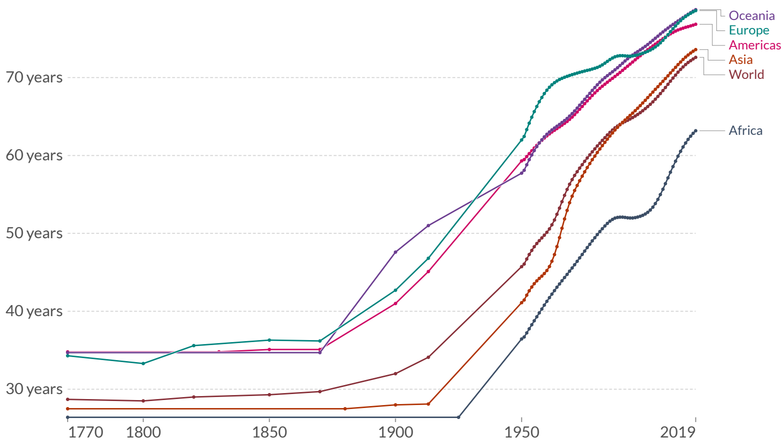
Better healthcare has created a population boom, especially in older age groups, while globally, discretionary spending power is rising rapidly. Demand for healthcare products is accelerating. Wealthier and more discerning consumers are driving growth rates in other industries such as food and drink,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

Transport, medical and sports and leisure applications account for around 53% 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 4% of sales.

Life expectancy, 2019



Life expectancy, 1770 to 2019



Source: Riley (2005), Clio Infra (2015), and UN Population Division (2019) OurWorldInData.org/life-expectancy • CC BY
Note: Shown is period life expectancy at birth, the average number of years a newborn would live if the pattern of mortality in the given year were to stay the same throughout its life.

Our strategic objectives
We measure progress against six strategic objectives:

We have made two changes this year on how we report our strategic objectives. We have separated HPP from MEL to create two separate growth objectives, given how distinct the respective opportunities are. We are also including environmental, social and governance objectives to support our short, medium and long-term development. Responsible sustainability has always been important to the Group, but we are now embedding it formally into our strategy for the benefit of our employees and stakeholders.

	Why?
1 Develop an HPP portfolio to deliver enhanced margins	HPP offers higher growth rates and the potential for 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.
2 Grow sales in our AZOTE Polyolefin Foams business in excess of twice the rate of GDP global growth	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.
3 Increase our operating margins	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 High-Performance Products 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 margin), to maximise future growth. Higher operating margins generate higher returns to shareholders.

This year

In 2021, sales in the HPP segment increased by 41% and accounted for 42% (2020: 36%) of Group revenue, with the growth in Footwear resulting in it, alone, accounting for 34% (2020: 26%) of Group revenue. ZOTEK® F fluoropolymer foams, primarily for aviation applications, declined for a second consecutive year, and are now around 60% lower than peak sales, primarily due to the impact of the pandemic. T-FIT® insulation products grew by 11% (2020: 4%), again with performance negatively impacted by the pandemic. The profit margin of the HPP business unit was 21% (2020: 26%), with the margin decline mainly due to adverse dollar exchange rates.

In 2021, sales of AZOTE polyolefin foams recovered strongly from the pandemic, growing 10% in the year or, excluding the unique PPE sales of 2020, growing 36%. Against 2019, sales were up 10%. Inventory returned to normalised levels in most industrial sectors. The Group's Poland manufacturing plant was commissioned in February 2021, completing the Group's recent capacity expansion programme. The Polyolefin Foams business unit margin declined to 1% (2020: 10%), mainly due to increased input costs and the lag on price increases to pass these costs through to customers.

In 2021, in aggregate, segment margins (before foreign exchange gains and losses and central costs) decreased to 8.7% from 13.7%. This decline in margin, despite strong growth in Group revenue, results from the rapid, large and unpredictable increase in input costs suffered by many businesses during the year, including Zotefoams, which we were unable to offset by the price increases implemented during the year, as well as the commissioning of the Poland manufacturing facility, which will require time before it becomes profit accretive. 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 movements, Group operating margin declined to 8.1% (2020: 11.0%).

Next year, and beyond

We expect to return to, and surpass, previous margins in HPP, with the rate of margin enhancement dependent on both the capacity utilisation of the Group and the relative level of investment in early-stage and high-growth opportunities within our HPP portfolios, as well as the speed of recovery from the pandemic in markets such as aviation and our T-FIT business.

We are confident that growing AZOTE sales at twice the rate of GDP growth is achievable and are very satisfied with the recovery across AZOTE markets during the year. The key drivers of this business – use of materials, light weight, 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 providing materials which optimise our customers' sustainability position (Scope 3 emissions). All these developments are set to broaden further Zotefoams' product range and offer good opportunities to grow market share by aligning closely with market trends and customer needs.

Zotefoams believes that the 2021 pricing for low-density polyethylene is unsustainably high by historic standards and that this should begin to adjust downwards during 2022, subject to the rapidly changing situation caused by events in Eastern Europe and the continuing impact of COVID-19 on supply chains, but that other costs, such as labour and other raw materials, have either ratcheted upwards and will not significantly decline or, in the case of freight, energy and nitrogen, will remain high for the majority of 2022. Pricing actions implemented during 2022 will allow gross margins in the medium term to recover and the drop-through effect on underlying profit to increase materially. We also expect the product mix to improve as ZOTEK F sales recover, plant efficiency at the newer USA and Poland facilities to improve with experience and increased utilisation, and higher margin T-FIT technical insulation sales to grow. The opportunity from ReZorce® remains significant but uncertain during this development phase, but will become clearer as we progress through 2022.

Our strategic objectives
Continued

	Why?
4 Improve our return on capital (over our investment cycle)	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. In order for return on capital to provide a meaningful measurement, major capacity and infrastructure investments, which are expected to require considerable capital over a number of years before being commissioned as production assets, are excluded from the calculation until the point of commissioning.
5 Clarify and improve the Group approach to sustainability and climate change	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.
6 Develop and invest in MuCell technology	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

In 2021, the return on capital declined to 6.1% (2020: 9.0%). Operating profit declined, while the capital base rose to include the Poland manufacturing site's assets from February 2021.

In 2021, we strengthened the ESG framework with a formal Group Sustainability Steering Committee, introducing challenging sustainability targets arising from our SASB assessment, providing fuller disclosures compliant with the Task Force on Climate-related Financial Disclosures guidance (TCFD), running customer focus groups on sustainability and using the data to guide strategy. In line with our commitment to using electricity from renewable sources wherever feasible, we switched to a fully sustainable energy source in the UK in 2021. A renewable energy contract has also been agreed for our Poland site from 2022 and efforts continue to identify renewable energy opportunities in other locations in which we operate. In March 2022, we incorporated clearly defined ESG targets within our bank refinancing arrangements.

The focus and resource allocation at MEL is currently directed to the development of the ReZorce opportunity, with growth in the underlying business being restricted to existing customers. Nevertheless, sales increased by 32% in the year to £2.3m. Of greater strategic relevance to the Group was the progress made on ReZorce, where the creation of a skilled and experienced team was completed, the trial equipment successfully commissioned and partners engaged for trials that are expected to take place in H1 2022. The reduced customer acquisition activity coupled with capitalisation of certain development costs under accounting standards resulted in a reduction in the segment loss at MEL by 52% to £0.7m (2020: £1.4m).

Next year, and beyond

The Group has committed to 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 in capital over the shorter term but recognising the importance of adequately investing in the capacity needed for anticipated future growth and the corresponding improvement in return on capital that should accompany it.

We are calculating the carbon cost of our foams and ReZorce technology. We will be 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 will also report back against the sustainability targets set in 2021, see page 61.

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, which at this time is 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 invested £2.4m until the end of 2021, we are increasing our investment in the ReZorce opportunity in 2022 as we engage with strategic partners to validate the technology and determine the business model that will capture the most value for the Group and its shareholders.

Our brands in action
Celebrating our customers

ZOTEFOAMS 100 YEARS

Awards

Marking 100 years since the commercialisation of the unique three stage foam manufacturing process, the Zotefoams Centenary Awards were instigated to recognise the excellence, creativity and innovation of the companies that turn Zotefoams materials into products that save weight, save energy, or deliver a creative solution for a challenging application. There was also an award to honour the ingenuity and dedication of an individual or individuals who have applied their expertise to establish Zotefoams materials as an optimal solution to a real-world challenge.

zotefoams100.com

Most innovative application

Winner

TECHNIFAB INC
AVON, OH, USA
Flexible Environmental Control System (ECS) Duct

Leveraging the properties of ZOTEK® F high-performance foam, this unique and innovative Flexible Environmental Control System (ECS) Duct is used in commercial aircraft and space applications.

Technifab saw the potential of ZOTEK F to replace heavier, less flexible and less reliable silicone material, creating a comprehensive test and validation plan which saw rigorous aerospace approvals for flight awarded in 2012.

The design incorporates self-aligning "clamp-less" cuffs for easy installation and the duct is highly flexible, accommodating tight bend radii and expanding and compressing for ultimate adaptability. It is incredibly lightweight, saving fuel and improving ergonomics during installation.

Watch the interview with
Bruce Whitman

https://zote.info/31bkf76

Most unique application

Winner

FOAM ENGINEERS,
HIGH WYCOMBE, UK
Foam motorbike

A life-size replica of a Suzuki Bandit motorbike using a variety of grades from Zotefoams' AZOTE® polyolefin foams family was described by the judges as "a wonderful example of high-end foam fabrication that also benefits society."

The stunning foam motorbike provides the vehicle 'targets' used in collision-testing of car onboard computer systems and automatic braking. The motorbike is part of a 'foam village' of targets that, as well as the official EuroNCP Vehicle Target, includes anything commonly involved in collisions with cars. A foam motorbike allows continuous crash-testing without having to replace either the car or the bike.

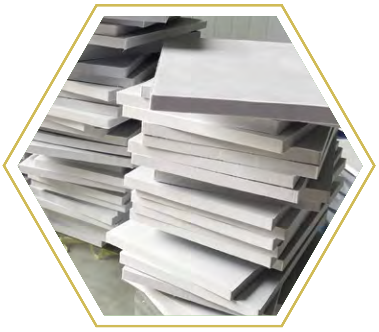
Watch the interview with
Steve Macwhirter & Matt Wright

https://zote.info/3DhaAu8

Best energy saving application

Winner

FLEXTECH (RAINBOW ENVIRONMENT PT HK), HONG KONG
Insulation for electric buses



Watch the interview with
Eddie Peng

https://zote.info/3EAGimb

Chengdu FlexTech Environment Protection Technology Co Ltd specialises in fitting out and converting buses to clean energy. The electrification of bus fleets is an important part of China's carbon reduction strategy, set out in the 2019 Blue Sky initiative.

Tasked by Sichuan Bus Group with converting its fleet, FlexTech opted to reduce vehicle weight by replacing the traditional glass-fibre boards with a lightweight foam.

FlexTech specified Zotefoams' Plastazote® LD24FR flame-retardant low-density polyethylene foam for both the bus bodywork and the EV battery insulation. LD24FR is significantly lighter than glass-fibre board, which weighs anything between three and 25 times more per cubic metre.

Longest running application

Winner

KEWELL CONVERTERS, TONBRIDGE, UK
Swimming floats for disabled children (1993)

Evazote® VA35 and Plastazote LD45 from the AZOTE polyolefin foams range offer the perfect combination of buoyancy, comfort and ease of cleaning in this application. Hydrotherapy and swimming give a wonderful sense of freedom to anyone who is otherwise confined to a wheelchair or has limited mobility. Part of a range of swimming collars, head and neck supports and other flotation devices for children and adults, the float is adjustable and comes in a range of sizes. The purity of the materials means that they are safe for extended contact with skin without the risk of irritation.

Watch the interview with
Marcos Kewell

https://zote.info/3EZbUCc

Foam Innovator of the Year
Technical

Winner

BRUCE WHITMAN
Technical Fellow,
Technifab Inc., USA

Watch the interview with
Bruce Whitman

https://zote.info/3ERRACN

Bruce Whitman has over 20 years' experience in specialist fabrication, particularly for the aviation market.

Bruce was the creative leader responsible for the Boeing 787 Window Seal, a highly engineered housing for an electronically dimmable window pane. Boeing first introduced foam Window Seals on its 737 aircraft, using ZOTEK F high-performance PVDF foam to reduce weight by 50% compared with traditional silicone materials.

The 787 Window Seal fulfils demanding aesthetic as well as technical requirements: by incorporating ZOTEK F30 Grey into the outer part of the seal, Bruce and his team were able to prevent any light from entering the cabin around closed blinds.

Foam Innovator of the Year
Business

Winner

TIMOTHY MULQUEEN
Sales Director,
Ramfoam, UK

A stalwart of the technical foam sector, Tim was recognised for his work in supporting the UK's NHS during the COVID-19 pandemic with the design of a unique, two-piece reusable visor that leveraged the unique properties of Zotefoams' Plastazote polyethylene foam.

The visor was developed in a matter of weeks and, in May 2020, Ramfoam was awarded a government contract to supply three million visors per week. At the height of the pandemic, the company was the leading supplier of face visors to the NHS, working closely with Zotefoams and other UK foam converters to meet the demand.

Watch the interview with
Timothy Mulqueen

https://zote.info/3ERRACN

Our brands in action
Continued

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 continues 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 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 ever more durable and heat-resistant insulation solutions.

Case study

T-FIT foam insulation features in China's COVID-19 vaccine effort

Context

In September 2020, Chinese health officials set the country's healthcare sector a challenging target of producing one billion doses of COVID-19 vaccine over the following twelve months.

Speed was of the essence in bringing large-scale manufacturing facilities online: most projects required a 40- to 60-day construction window – an exceptionally demanding schedule considering sites typically cover around 30,000 square metres and produce 400,000 vaccines each day.

Rapid facility construction needed to be matched by an equally rapid equipment phase, with suppliers quoting long lead times not being considered.

What we did

The T-FIT team supplied no less than nine of these projects with T-FIT Clean and T-FIT Hygiene insulation. Processed at Zotefoams' facility in Kunshan, materials are typically available in China on a one-week lead time.

One of the manufacturing facilities is biological products developer and manufacturer Shenzhen Kangtai Biological Products Co Ltd, which expanded and upgraded its cleanroom facilities using T-FIT Clean. The company's requirements included an operating temperature range of 0°C–150°C, low VOC (volatile organic compound) emissions, exceptional corrosion resistance, and a smooth closed cell surface for easy cleaning.

The particulate-free nature of T-FIT insulation meant that installation could take place during production without the need for PPE or special containment measures. Downtime was therefore minimised, with installation taking less than one month and production continuing uninterrupted for 80% of that time.

Results

Shenzhen Kangtai and the other manufacturers who selected T-FIT for cleanroom and aseptic pipework insulation were able to bypass the lead time issues often associated with traditional insulation materials, while also benefitting from the superior performance of T-FIT insulation.

The huge national effort produced astounding results, with more than 2.2 billion doses of Chinese-manufactured vaccines being administered worldwide by the end of 2021.


ZOTEFOAMS
100
YEARS
2021
LONGEST RUNNING APPLICATION
MOST INNOVATIVE APPLICATION
FOAM INNOVATOR OF THE YEAR
MOST UNIQUE APPLICATION
WINNER
2021

An introduction from our Chair

Steve Good
Chair

In the second year of the pandemic, a strong market recovery has been accompanied by inflationary challenges as we continue to deliver strategic progress

Performance

In 2021, revenue growth was strong as polyolefin foams demand rebounded from the impacts of COVID-19 in the previous year and our Footwear business grew significantly as expected. Significant and unpredictable input cost inflation throughout the year suppressed margins, alongside unfavourable currency movements, as higher selling prices to recover these higher costs were retrospectively implemented and were therefore not sufficient to recover the full impact of continuing cost increases. Group revenue was 22% up on the previous year at £100.8m (2020: £82.7m). Operating profit was 11% below the previous year at £8.1m (2020: £9.1m). Basic earnings per share was down 39% at 9.01p (2020: 14.87p). Excluding a £1.0m deferred tax charge resulting from the UK government's announced change in UK Corporation Tax rate from 19% to 25% in 2023, basic earnings per share was down 25% at 11.1p. At the end of the year, the balance sheet remained strong, with leverage at 2.1x (2020: 2.1x) and well within covenants, and liquidity headroom of £13.4m (2020: £19.2m) after £6.5m of capital repayments.

Strategic progress

Our strategy is built around a focus on sustainable organic growth. 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. In another challenging year, we have made good further progress with this strategy. Our largest market segment, Polyolefin Foams, recovered in 2021 with volumes growing 39% after excluding the one-off PPE sales of 2020. 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 this regard, we commissioned our Poland manufacturing facility in February 2021, marking the final phase of a multi-year capacity improvement commitment adding 60% capacity to pre-2018 levels. In our High-Performance Products (HPP) business, we delivered another excellent year of growth in Footwear and worked closely with our partner to develop further long-term opportunities. Also in HPP, structural high-growth opportunities in T-FIT® insulation products and ZOTEK® technical foams for aviation both remained severely impacted by COVID-19 restrictions, growing by a modest 11% and declining 10% respectively. The long-term growth outlook for these markets remains compelling and we expect to see recovery in the short to medium term. We also made significant progress at MuCell Extrusion LLC, continuing the development of the ReZorce® mono-material barrier packaging solution which offers society a truly circular option using existing recycling infrastructure. We built an experienced team and installed and commissioned both our pilot line in the USA and a sterile carton packaging machine to test the sheet's capability to be formed into a carton and sealed to the required industry standards. We have secured support to trial the technology with leading, recognised industry players, and progressed the route to market options. We expect to update stakeholders on the progress of this high-reward, high-risk opportunity during 2022.

Dividend

The Board is proposing a final dividend of 4.40p (2020: 4.27p) which, if approved by shareholders, would make a total dividend for the year of 6.50p (2020: 6.30p), an increase of 3.0%. This reflects the Board's continued confidence in the Group's future and is 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 1 June 2022 to shareholders on the register on 6 May 2022.

Our people

We know that our people are key to our success and 2021 has once again showcased their importance. They have faced a continuation of the pandemic, Brexit and severe supply chain challenges combined with high levels of business activity and a need to respond quickly. Their resilience and commitment have been outstanding and have ensured that the needs of customers were met in the most difficult of circumstances.

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 and give a special mention to our colleagues who have started up our newest manufacturing facility in Poland. 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

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. Zotefoams' products are used almost exclusively for permanent solutions and often form a positive element of our customers' own sustainability agenda. They are seldom deployed for single-use purposes which, understandably in certain applications, have caused most public concern. The premise of our MuCell® technology is the reduction of plastic in society and our exciting ReZorce mono-material barrier packaging solution, using this technology, is a fully circular solution to very challenging targets set by governments and brands in reducing their carbon footprint and increasing the use of recycled materials. We believe that plastics, used appropriately, remain the optimal solution both functionally and environmentally for our customers' needs and for society. We also recognise the importance of continuous improvement around product development and operating efficiency to reduce the Group's environmental impact. Sustainability and climate change are recognised as a principal risk at Zotefoams, see page 49, and both the strategic and operational impacts of sustainability are being embedded within decision-making processes throughout the Group. This year, we made good progress refining our sustainability strategy, based on our purpose of providing "optimal material solutions for the benefit of society", see Environment, social and governance (ESG) report on pages 56 to 69 for further details. Following our adoption of the SASB framework in 2020, the business has set clear targets aimed at optimising the use of raw materials, minimising waste and improving recyclability and we have delivered our first response to the Task Force on Climate-related Financial Disclosures (TCFD), see page 62 for further details. More details are also included under the 'Strategy update' in the Group CEO's review on page 32 and in the ESG report on page 56.

Governance and the Board

There were no changes to the experienced and engaged Board during the year.

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, see the Safety, Health and Environment section on pages 63 to 65, and I thank all employees at Zotefoams for their efforts in achieving an improved performance this year. 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 Jonathan Carling, Independent NED, 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 2021. 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 organic growth. We have committed, capable and passionate people and a strong pipeline of new opportunities, including ReZorce, and while we remain mindful of the uncertain external environment, made further unpredictable with current events in Eastern Europe and the ongoing challenges that COVID-19 and its variants bring, we are confident about our future prospects for growth and margin improvement.

S P Good
Chair

6 April 2022

Group CEO's review

Record sales exceeding £100m but profitability dampened by a lag in recovering unpredictable cost inflation

2021	United Kingdom	Continental Europe	North America	Rest of the world	Total
Change %	**(44%)**	**58%**	**13%**	**49%**	**22%**
Group revenue (£000's)	**10,768**	**28,200**	**19,959**	**41,823**	**100,750**
% of Group revenue	**11%**	**28%**	**20%**	**41%**	**100%**
2020					
Group revenue (£000's)	19,106	17,856	17,629	28,061	82,652
% of Group revenue	23%	22%	21%	34%	100%

* Rest of the World comprises China: £28.4m (2020: £13.9m) and other countries: £13.4m (2020: £14.2m)

In 2021, Zotefoams achieved a significant milestone by delivering £100m of sales in the centenary year of the invention of the nitrogen gas process that we use today. This milestone was achieved in turbulent times with pandemic restrictions, large swings in product mix and a very difficult supply chain environment.

In addition to this strong sales performance, we have made good progress on two notable initiatives, with the commissioning of our £23m capacity expansion in Poland to budget and at the expected time as well as the commissioning of our ReZorce® mono-material barrier packaging development centre in Massachusetts, USA. Also noteworthy, and based on our demonstrable focus on safety across the Zotefoams Group, was the fact that we had no major reportable accidents for the first time in many years.

We now see Zotefoams as an established, well-invested foam technology business with a good portfolio of continuing growth opportunities alongside ReZorce, which is a promising and disruptive new platform offering significant potential.

The economic environment has been very challenging, with significant and often unexpected cost increases from suppliers together with headwinds from unfavourable currency movements. In particular, prices for our main raw material, low-density polyethylene (LDPE), which is a commodity polymer, increased very sharply in the second quarter of the year shortly after we had implemented price increases to our customers. This, along with the additional overhead needed to manage our business, including costs related to our new facility in Poland, has reduced margins in the short term. As further inflationary pressures have emerged, we have implemented a series of price increases across our business, although these pressures often result in a temporary margin squeeze as, in most cases, inflationary shocks from our supply chain, such as in freight, are not forewarned and are therefore impossible to predict or pass on immediately. Over the course of the business cycle, we intend to recover in full these higher input costs.

Zotefoams' contribution to a low carbon future, and sustainability more generally, is a key consideration in how we plan and operate our business. We utilise unique technology to make what we consider to be "best in class" foams for a variety of uses aligned to global environmental, regulatory and demographic trends. We firmly believe that plastic, our main raw material, is the optimal material for the applications for which our products are used. These are predominantly not single-use and often function for many years as industrial and consumer durables in applications as varied as medical devices, footwear, cleanroom insulation, cars, aircraft and marine buoyancy. Zotefoams' stated business purpose is "optimal material solutions for the benefit of society" and, when considering our product range, markets, operations and investments, this is the guiding principle when choosing between various courses of action.

The principal drivers of short-term profitability for our business are the ability to manage prices in line with our cost base, operating efficiency, high asset utilisation and an improved product mix. We anticipate a higher proportion of sales from our more technical ZOTEK® HPP foams and T-FIT® insulation products to be the key drivers of returns in the medium term.

Group revenue increased by 22% to £100.8m (2020: £82.7m), with operating profit of £8.1m (2020: £9.1m), 11% below last year mainly due to inflationary cost pressures not being fully recovered in the period. A stronger pound, relative to the US dollar in particular, also negatively impacted sales and profitability by an estimated £4.1m and £0.5m respectively. In 2020, revenue included a "one time" PPE contract in the UK worth £9.6m for Polyolefin Foams. Excluding this contract, Group revenue increased by £27.7m, or 36%, of which £14.9m was an increase in Polyolefin Foams with strong market recovery and £12.2m was Footwear. Other movements were relatively minor, with T-FIT insulation products and MuCell Extrusion LLC (MEL) revenues both growing by over 10% from small bases and sales of ZOTEK F foams declining due to weak aerospace market conditions and associated customer destocking.

Strategy update

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.

Over the past couple of years, we have curtailed investment in some areas to manage our costs and cash at a time of extreme uncertainty, but have continued to invest in Footwear products, T-FIT insulation and ReZorce mono-material barrier technology. In 2021, we saw the benefits of this in Footwear sales and delivered good progress against technical milestones in ReZorce. The ability to develop our T-FIT business unfortunately continued to be heavily impacted by pandemic restrictions and the sales growth here was not as substantial as expected, although we do not believe this diminishes its longer-term prospects.

Sustainability is a key consideration in developing and implementing our strategy. Our core materials offer improved product performance in durable solutions while using less material than competitors do. Recyclability of waste material into foams has been proven but is not yet common in the markets in which we currently operate. MEL licenses technology specifically to reduce polymer content and ReZorce offers a fully recyclable, circular, barrier packaging solution. The strongly negative public perception of plastic is becoming more nuanced beyond the environmental impact of ill-considered, single-use plastic used predominantly in consumer packaging. Zotefoams' current markets are not immediately impacted by this, as products using our foams are primarily integrated components in larger systems or products (such as cars, planes, footwear and medical parts) or used in the long-term 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 common with other businesses, we seek to minimise the use of natural resources through measures such as reducing energy and polymer usage, which benefits the environment and reduces our costs. We believe Zotefoams has demonstrable credibility in reducing the carbon footprint of our customers, but the world is changing rapidly with different competitive solutions and a redefinition of requirements driven by preferences and regulation. We therefore continue to develop both our product range and technology to anticipate and react to these changes. We recognise the risk of not meeting our stakeholder expectations on sustainability and have reflected this in our key risks and uncertainties as a consequence, see page 49.

Capacity and investment

Zotefoams is well invested in capacity to manufacture foams and our facilities in the USA and Poland have been developed with a base infrastructure to allow future capacity increases at lower incremental costs. In making these investments, we took account of the potential growth rates of various products across different geographies. Simplistically, our polyolefin foams markets are substantially regional, benefitting from a local manufacturing presence which allows swift and efficient distribution to our customers, while our HPP products are technically more complex and expensive and customers are more able to plan further ahead, with transport being a significantly lower proportion of the cost to the customer. Our UK facility, which has the highest capacity, therefore supplies all HPP products along with AZOTE® polyolefin foam products, some of which ship to Asia and the Middle East, while our facilities in the USA and Poland are today only supplying their local markets with polyolefin foams.

Our capacity management decision-making requires us to consider the three major manufacturing processes to make a foam: extrusion, high-pressure gassing and low-pressure foam expansion. Extrusion is the lowest cost per unit of capacity and high-pressure gassing is the highest cost and most complex process, incorporating much of our proprietary technology. We can separate these three processes, for example in Poland, where its low-pressure foaming capacity receives intermediate "pre-gassed" sheets from the UK or the USA to expand into foams and thereby reduce the transport carbon consumption and cost. Additionally, our extruders tend to be set up for specific polymer types, while high- and low-pressure autoclaves can be used for all polymer types, with our newer vessels offering complete flexibility to manufacture all products. We consider capacity on a global basis with many factors influencing the decision around which products to manufacture in which locations, including customer service, sustainability and profit optimisation. Future investment at our three main foam production sites is planned to remove production bottlenecks, improve operating and carbon efficiency and upgrade infrastructure to improve our risk profile.

Outside of our autoclave technology, other planned investments relate to T-FIT, which requires a relatively low capital cost to convert sheets of foam into insulation products, and the ReZorce opportunity, which is addressed separately below.

Group CEO's review
Continued

Segment revenue
£56.2m

Change **+10%**

2020 **£50.9m**

Segment profit margin
1.2%

2020 **9.5%**

Segment profit
£0.7m

Change **(86)%**

2020 **£4.8m**

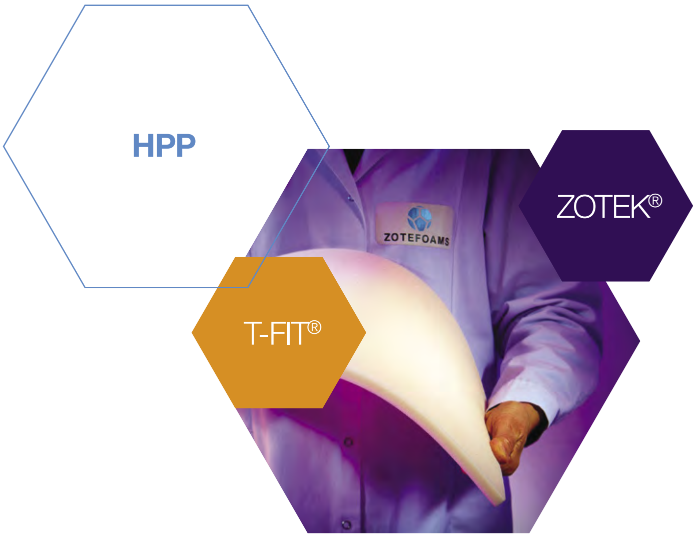
In 2021, sales in the Polyolefin Foams business unit grew by 10% to a record £56.2m (2020: £50.9m) and account for 56% of Group revenue (2020: 62%). In constant currency, sales increased by 15%. As expected, there was no repeat of the 2020 sales of £9.6m for personal protective equipment (PPE) for the UK National Health Service. Overall, sales volume grew by 6%, price increases delivered 4% sales growth in the period and sales mix improved by 5%, offset by adverse currency movements of 5%.

Volumes improved by 39%, when excluding PPE from the 2020 comparative and after very sharp falls across most industrial sectors in 2020, and were 13% ahead of 2019. Overall, we experienced a broad-based recovery in most markets by geography and by application segment, with the notable exceptions of aviation and automotive, which remained well below previous levels of activity. Geographically, those areas which experienced the sharpest falls in demand in 2020 typically grew fastest in 2021. We increased prices late in the second quarter, with the consequence that these price rises only contributed partially to full year revenues.

Input costs for polyolefin foams are primarily raw materials and, to a lesser extent, energy and operational costs such as labour. Freight costs, whether paid by Zotefoams or by customers, can also be a significant factor. Prices for the main raw material, low-density polyethylene (LDPE), increased rapidly and significantly from the relative lows experienced in the second and third quarters of 2020. The average price paid during 2021 was around 80% higher than the previous year and 50% higher than the long-run, pre-pandemic average. When we were implementing price increases during 2021, we initially predicted that this peak would correct towards the long-run average relatively quickly and that relatively modest increases in pricing would recover general inflationary pressures plus the catch-up from the relative lows of polymer pricing in the previous period. At that time in the second quarter of 2021, ethylene, the main feedstock for LDPE which normally accounts for 70–80% of the LDPE price, was priced around its long-run average and LDPE premium pricing was driven by a capacity shortage of polymer processing in Europe. Since then, demand for polymer has remained high and ethylene prices have risen considerably, leading to unprecedented levels of LDPE pricing. Input costs for other materials and services also increased markedly, particularly later in the year with respect to energy and products which are energy-intensive. As a result, input costs during 2021 were only partially recovered through pricing adjustments, impacting our margins in Polyolefin Foams significantly.

In the final quarter of 2021, we implemented further pricing increases effective early January 2022 in most markets and in January notified some customers of a further price increase from April. In setting prices historically, we have typically tried to absorb the short-term variability in polymer and freight prices and act on inflation which is more "permanent" such as employment costs or, as in the past, commodity costs which have undergone a structural change in pricing. Cost increases in polymer, freight, energy and other raw materials were substantially more impactful than expected and our 2022 price increases have reflected this. Whether these materials and services have undergone a structural change in pricing remains too early to call at this time.

Segment profit declined to £0.7m (2020: £4.8m), representing a margin of 1% (2020: 10%), with the variance being accounted for almost entirely by the timing and level of pricing not recovering increases in raw material and other input costs in the period. Segment margin benefited from an increase in volumes offset by manufacturing yield inefficiencies, predominantly in the USA, where on-site support would normally have come from UK technical staff, and adverse foreign exchange rates of around £0.6m (partially offset by hedges recorded centrally).



Segment revenue
£42.3m

Change **+41%**

2020 **£30.0m**

Segment profit margin
20.6%

2020 **26.3%**

Segment profit
£8.7m

Change **+10%**

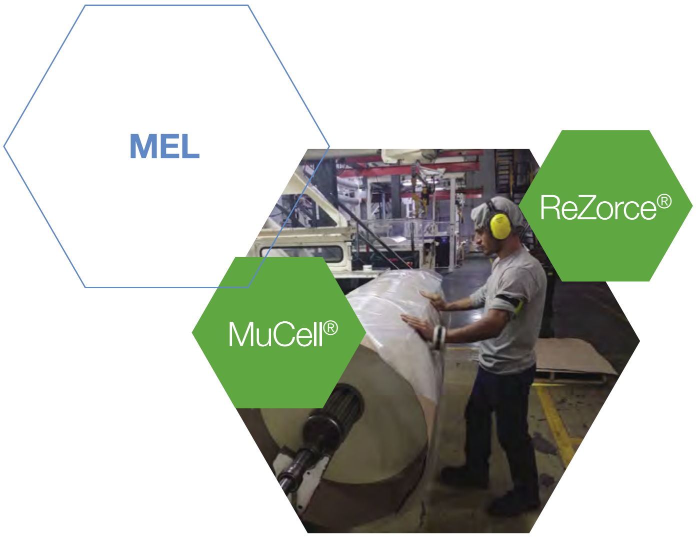
2020 **£7.9m**

HPP comprises ZOTEK® technical foams, which include foams for footwear where we have an exclusive relationship with Nike, and T-FIT® insulation products. These products are typically unique or highly differentiated and designed to deliver specific performance attributes, such as energy management, excellent fire resistance or high-temperature performance to meet the exacting needs of industries such as sports equipment, aviation, automotive, biotech and pharmaceutical.

The HPP business unit sales increased by 41% to £42.3m (2020: £30.0m) and accounted for 42% of Group sales in 2021 (2020: 36%). In constant currency, sales increased by 47%. Within this business unit there are currently three main end-use applications: footwear, aviation and technical insulation. Footwear grew strongly as expected, following on from the strong second half in 2020 and, with sales of £33.9m, now accounts for 34% (2020: 26%) of Group revenue. This strong performance came despite well-publicised shutdowns of Nike partner factories in Vietnam in the second half of the year due to COVID-19 restrictions, which negatively impacted the manufacturing of some shoe models. We have an exclusive and close relationship with Nike which aligns our activities to their business priorities on performance, sustainability and value in premium running shoes. This also gives good visibility around Nike's intentions for the future, with demand planning being a critical part of our cooperation. Sales of ZOTEK F fluoropolymer foams, primarily for aviation applications, reduced again in 2021, by 10%, following a large decline in 2020. Sales of £4.2m (2020: £4.6m) are now 58% below their peak of 2019, due to the impact of continued supply chain contraction primarily linked to Boeing's ongoing reduction in manufacturing of certain aircraft models. Demand for aircraft interior products, mainly linked to airlines, saw some modest growth from a low base in the previous year. As demand for air travel returns, we are focusing on the development of applications that use our materials within the cabin and which support the drive to make aviation lighter and thus less fuel consuming. Furthermore, our technical and business development focus over the past few years has extended beyond aviation, with an emphasis on other areas of opportunity such as battery insulation for electric vehicles and other technical insulation applications, where feedback from customer trials in these markets is encouraging. These initiatives, and the fact that our products remain specified on existing aviation manufacturing applications, give us good grounds for optimism later in 2022 and beyond. T-FIT insulation products grew by 11% in the year, which was a second year significantly below our expectations mainly due, again, to COVID-19 impacts particularly in India, where sales grew modestly, and Europe, where sales declined for the second consecutive year. In China, where we manufacture most of our T-FIT products, sales grew strongly towards the end of the year and the country now accounts for 52% of T-FIT sales. We remain optimistic about T-FIT insulation but need to recognise that our ability to create demand for this technical product range at this stage of development relies on sales teams meeting customers. Over time we will further develop our T-FIT branding and leverage customers who clearly have a positive experience of our products, thereby transitioning from the current high-contact sales model to an increasingly experienced team focused on specific development opportunities.

Segment profit increased by 10% to £8.7m (2020: £7.9m) and by 25% to £9.9m in constant currency. The main difference between sales growth of 41% and the lower percentage increase in segment profit, in addition to adverse currency movements which are hedged centrally, was the cost of servicing customers, particularly in respect of higher freight costs late in the year, investment in T-FIT selling costs relative to the growth in sales and a higher allocation of depreciation to this segment. Segment margin declined to 21% (2020: 26%).

Group CEO's review
Continued



Segment revenue
£2.3m

Change **+32%**
2020 **£1.7m**

Segment loss before amortisation
£0.5m

Change **+58%**
2020 **£1.2m**

Segment loss after amortisation
£0.7m

Change **+52%**
2020 **£1.4m**

The MuCell Extrusion LLC (MEL) business model is to develop and license or sell intellectual property (IP) and related machinery. The focus of MEL's business has evolved to create unique properties in plastic rather than merely reduce the plastic content of an article. Specifically, we have been working to develop and commercialise mono-material barrier technology, branded ReZorce®, for packaging of food and drink in a container which is recyclable and uses recycled content in its manufacture – a true circular economy product.

The core MuCell® technology can reduce polymer content, and cost, in existing packaging by around 15% by injecting inert gas to displace plastic with microcellular bubbles. This requires the packaging manufacturer and brand to align both technically and commercially on the improved solution, which has proved difficult as packaging producers are often remunerated on a "cost plus" basis. The ReZorce technology is a completely new solution, offering brands the ability to significantly reduce their carbon footprint and also help meet their pledges on both recycling and use of recycled content in their packaging, putting sustainability at the heart of our MEL development agenda. There are considerable challenges to developing the complete "end-to-end" solution, but we have made good progress in creating a sheet material which meets the required oxygen and moisture barrier properties and has a range of stiffnesses to allow it to be used in both carton and pouches, two of the most common barrier packaging formats for food and drink. We believe there is a significant market pull for this technology, as current barrier packaging is typically made from combinations of materials and is therefore difficult to recycle and often uses low or no recycled content.

Given the market opportunity and multiple challenges to commercialise, we are investing in a phased manner, with future investment and the preferred business model to be determined following the outcomes of the current phase of technical development and market assessment. At this time, we are focusing on the beverage carton market, which we estimate to be in excess of £7.5bn revenues from the sale of packaging materials which ReZorce could replace, although work is also progressing on pouches and other opportunities in the background. Internally, we have established a pilot line to develop and manufacture ReZorce sheet and commissioned a sterile carton packaging machine to test the sheet's capability to be formed into a carton and sealed to the required industry standards. This has proved successful on a limited basis, looking at one carton format and, relative to the most modern machinery, running very slow processing speeds. As we move to commercial trials, planned for the second quarter this year, the technology will be exposed to much more demanding conditions including high-speed processing. If these trials are successful, we will have passed a significant milestone in creating value from ReZorce cartons and will consider a number of business models which can deliver value to our stakeholders.

Revenue from the MEL business unit increased by 32% to £2.3m (2020: £1.7m), although both periods were heavily impacted by the inability of our staff to travel and develop business. Sales in constant currency increased by 37%. Segment loss for the year was £0.7m (2020: loss of £1.4m), representing a negative margin of 30% (2020: negative margin 83%), which reflects the switch in business focus to developing the ReZorce material and the capitalisation of certain staff and other costs in accordance with IAS 38. Overall ReZorce capital expenditure was £1.9m, of which £0.8m was the capitalisation of intangible assets, mainly related to people and IP development costs.

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. Having previously measured strategic progress on four metrics, we have this year decided to separate MEL from HPP and have added sustainability as a separate strategic objective:

1. We intend 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 42% (2020: 36%) of Group revenues with growth of 41% (47% 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 21% (2020: 26%), while margins in our Polyolefin Foams business unit were 1% (2020: 10%).
2. Sales of our highly differentiated AZOTE polyolefin foam products increased by 10% (15% in constant currency), against our target rate of twice global GDP growth. The market disruption and UK government PPE contract in the second half of 2020 distorts the underlying growth of this business unit and, against 2019, which is a better comparative, sales grew by 9% (14% in constant currency).
3. Group operating margin was 8.1% (2020: 11.0%). Increased input costs, not fully recovered in the period, were the primary reason for the reduced operating margin, which was also impacted by unfavourable foreign exchange rates, manufacturing yield inefficiencies and the additional costs of servicing customers particularly late in the year. We anticipate margin recovery as the prices we charge our customers increase more quickly than input costs in 2022 and as we experience growth in higher margin areas such as aviation and T-FIT products.
4. Group return on capital declined to 6.1% (2020: 9.0%), largely as a result of the lower profitability of the Polyolefin Foams business unit and an increased capital base which includes the commissioning of the Poland manufacturing facility. The Group has invested in a large capacity enhancement programme over recent years, including significant expenditure in the supporting infrastructure that will be sufficient to support further capacity, if needed, at much lower incremental cost. There is currently no further commitment to large-scale increases in capacity and the Group is well invested to support future growth. Capital spending is planned to return to more normal, lower levels, broadly in line with depreciation. The net assets of the business have increased significantly and profit and margin recovery and higher asset utilisation from increased sales will be an important factor in delivering material improvements in the return on capital over the coming years.
5. In 2021, we introduced material sustainability targets arising from our SASB assessment, provided fuller disclosures compliant with the Task Force on Climate-related Financial Disclosures guidance (TCFD) and ran customer focus groups on sustainability to generate data to guide strategy. In line with our commitment to using electricity from renewable sources wherever feasible, we switched to a fully sustainable energy source in the UK in 2021. In March 2022, we incorporated clearly defined ESG targets in our bank refinancing arrangements.
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 and at this time our business model remains flexible to deliver this value in the best way for our stakeholders.

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 behaviour of all employees is now the major factor driving our improved performance and lower risk profile and, in 2021, there were no major reportable injuries in the Group (2020: 1).

For the past two years, managing the business during COVID-19 has required us to adapt to different ways of working, including staff working from home and the adoption of new safety protocols across all Group sites. During this period, our employees have demonstrated flexibility and resilience and embraced the challenges of rapidly changing business priorities caused by the external environment. This has not been easy, particularly for newer employees unfamiliar with the Company or their colleagues and also for people working on new initiatives. Clear communication of our strategy, objectives, progress and approach to different challenges, as well as a common culture, are particularly important to ensure cohesion in these difficult times.

I would like to extend my thanks to my colleagues and to their families for their support given.

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

Geopolitical risks are currently much higher than normal. While these have limited direct impact on our operations currently, we are mindful of the risk that they may lead to more significant indirect impacts, especially in supply chain, inflation and demand, rendering forward looking statements particularly uncertain.

Currently, we are experiencing good demand across our business consistent with our expectations. Prices for polyolefin foams were increased in January and, in some products and geographies, we have additional increases notified to take effect in the second quarter. The inflationary environment for our input costs remains highly unsettled, with pricing of raw materials, freight and energy in particular expected to be volatile for the remainder of the year, at least, and accentuated by current events in Eastern Europe. Our sales prices and margins are therefore being closely managed. Our operational performance also continues to be challenged by an unpredictable supply chain and the ongoing challenges presented by COVID-19 and its variants. We continue to work hard to manage the impacts of these as effectively as possible, however inefficiencies are to be expected.

We expect modest volume growth in our Polyolefin Foams business during the year, with a similar product mix to 2021 and a strong benefit from price increases improving margins, subject to managing cost inflation appropriately. In our HPP business unit, both T-FIT insulation and ZOTEK foams for aviation are expected to grow strongly as market conditions improve, particularly in the second half of the year, while demand for footwear products is expected to remain at similar levels to 2021.

ReZorce barrier packaging represents a potentially very significant opportunity for Zotefoams but depends on achieving a number of developmental milestones, the outcome and timing of which are difficult to predict. We are therefore conducting frequent reviews of progress but currently expect that, working with partners, we will be able to successfully develop and commercialise the technology. We will update stakeholders when appropriate.

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

David Stirling
Group CEO

6 April 2022

Group CFO's review

2021 was a mixed year for Zotefoams, with significant revenue growth generated from footwear and polyolefin foams markets accompanied by significant cost escalation across production input costs, freight and certain critical overheads

Group revenue
£100.8m
Change **+22%**
2020 **£82.7m**

Net debt
£34.3m
Change **+4%**
2020 **£35.6m**

Profit before tax
£7.0m
Change **-16%**
2020 **£8.1m**

Leverage
2.1x
Change **nil**
2020 **2.1x**

Overview

Group revenue for the year increased by 22% to £100.8m (2020: £82.7m), with another strong year in Footwear leading to growth of 41% in High-Performance Products (HPP) and Polyolefin Foams growing 10%, or 36% excluding the one-off PPE sales in 2020, as many end markets recovered and supply chains refilled. MuCell Extrusion LLC (MEL) sales grew 32%, albeit from a smaller base. In constant currency, Group revenue increased by 27% to £104.9m, an adverse currency impact of £4.1m.

Operating profit declined 11% to £8.1m (2020: £9.1m). Input costs rose rapidly and unpredictably and were not fully offset by price increases in the year. Average raw material costs for our key raw material low-density polyethylene (LDPE) more than doubled, along with significant increases in freight, energy and operating costs from our newly commissioned Poland facility. This led to a gross margin decline of £1.2m to £26.6m (2020: £27.8m), and a gross margin percentage of 26.4% (2020: 33.6%). Net finance costs were £1.1m (2020: £0.9m), resulting in profit before tax of £7.0m (2020: £8.1m). The taxation charge was £2.6m (2020: £1.1m) and includes a £1.0m deferred tax accrual related to the UK government's announced increase in the Corporation Tax rate from 19% to 25%, a further £1.0m deferred tax charge related to a prior year tax credit and current year overseas losses prudently not recognised as an asset. Basic earnings per share was 9.01p (2020: 14.87p), down 39%. In constant currency, profit before tax was £7.5m, an adverse impact of £0.5m.

At 31 December 2021, net debt was £34.3m (2020: £35.6m) and leverage (net debt to EBITDA, using definitions under the bank facility agreement, see section 'Debt facility') was 2.1x (2020: 2.1x). Net debt declined by £1.3m after net cash flows generated from operating activities of £10.9m (2020: £11.4m) were consumed mostly by capital expenditure of £7.0m (2020: £13.3m) and dividends of £3.1m (2020: £1.0m).

Revenue performance

Polyolefin Foams business unit sales grew 10% to £56.2m (2020: £50.9m). In constant currency, sales grew 15% to £58.3m. Excluding £9.6m of PPE-related sales in H2 2020, which were a unique contract secured by the Group's largest UK customer with the UK government during the depths of the pandemic, annual sales of polyolefin foams increased 36%. This reflected the strong and rapid recovery in global demand following the sharp decline in activity from Q2 2020, coupled with restocking which, in most cases, was complete by the end of the year. All regions experienced very strong sales growth: the UK (ex PPE) increased 13%, Europe increased 58%, the USA increased 13% and the Rest of the world increased 49%, while most industrial markets recovered except aviation and automotive.

HPP sales increased 41% to £42.3m (2020: £30.0m). In constant currency, sales grew 47% to £44.1m. Footwear is the largest application currently within HPP and revenue in this market grew 56% versus 2020, after growing 68% in 2020, maintaining the run rate achieved in H2 2020. Sales were boosted by the delayed 2020 Olympic Games but hindered later in the year by an eight-week shut down of operations at one of the Group's key customers in Vietnam. ZOTEK® F fluoropolymer foam sales ended the year 10% down versus 2020, impacted by the continuing depression of the airline industry, although we began to see some signs of recovery in Q4 2021. T-FIT® advanced insulation sales continued to face challenges from COVID-19, particularly in Europe and India, which limited growth to 11% (2020: 4%), with a strong performance in China offset by a decline in Europe.

MEL sales growth was affected 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 32% to £2.3m (2020: £1.7m), with negligible impact in absolute terms from currency.

Revenue by market (%)

	2021	2020
Sports and leisure	**37**	29
Product protection	**26**	21
Building and construction	**11**	12
Transportation	**10**	12
Industrial	**7**	7
Medical	**5**	16*
Other	**4**	3

* 11.6% of this 16% was a result of the PPE sales.

Within the transportation segment, aviation represented 4.5% (2020: 6.5%) and automotive 5.8% (2020: 5.5%) 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 decreased to 26.4% (2020: 33.6%), representing a reduction of £1.2m in absolute terms from £27.8m to £26.6m. While sales price increases were implemented in the Polyolefin Foams business in Q2 2021, costs for related raw materials continued to escalate and more than doubled through H1 2021, remaining close to their peak for the rest of the year. Zotefoams' approach has previously been to adjust prices only when longer-term structural changes in input pricing are evident, absorbing the advantages and disadvantages of short-term price movements while longer-term shifts are passed on through pricing to customers. The unpredictable and significant increase in LDPE prices throughout 2021 meant that costs were not fully recovered during the period. Pricing actions implemented during 2022 are planned to allow gross margins in the medium term to recover and the drop-through effect on underlying profit to increase materially. In addition to these raw material price increases, freight availability pushed logistics charges up, most notably in H2 2021, and utilities increased significantly in Q4 despite some protection during this period from energy hedges. In February 2021, the Group commissioned its third major foam manufacturing site in Poland, which increased overhead costs, including depreciation of £0.7m and an equivalent level of other fixed overhead as expected, and delivers additional, global, operating capability that is not yet fully utilised. The increased strength of sterling against the US dollar, in particular, also impacted gross margin by £2.0m, with the offsetting impacts of the Group's hedging strategy appearing under distribution and administrative costs below, in line with accounting standards.

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. After a large part of 2020 was spent managing the uncertainties of COVID-19, with operating cost investment into these growth drivers postponed and discretionary spend tightly controlled, a return to investment in this area commenced in the latter part of 2020 and continued in 2021. During the year, the average number of Group employee roles not directly related to production amounted to 191, an increase of seven over the previous year.

Included within distribution costs in the consolidated income statement are sales, marketing and warehousing expenses. These costs increased by £0.5m, or 8%, to £7.3m (2020: £6.8m) during the year, mostly reflecting a recovery of some of the expenditure held back during 2020 and increased sales activity. 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 reduced in 2021 by £0.8m, or 6%, to £11.1m (2020: £11.9m). However, after removing foreign exchange movements, these administrative costs increased by £0.7m, mostly representing increased support costs in Asia, Poland and at MEL, together with higher recruitment costs after a quiet 2020. 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 2021, central plc costs were £1.8m (2020: £1.9m).

Group CFO's review
Continued

Operating profit
Operating profit was £8.1m, 11% below 2020 (£9.1m).

Finance costs
The total interest charge for the year increased to £1.1m (2020: £0.9m) and includes £0.1m (2020: £0.2m) of interest on the Defined Benefit Scheme pension obligation. The Group capitalised £nil (2020: £0.6m) of interest in relation to the financing of its capacity enhancement projects still under construction, a reduction following the commissioning of the Poland plant at the beginning of February 2021, at which point interest capitalisation in the Group ceased.

Profit before tax
Profit before tax decreased by 16% to £7.0m (2020: £8.3m).

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

	2021	2020
GBP to USD – average	**1.376**	1.284
GBP to USD – year-end spot	**1.351**	1.366
GBP to euro – average	**1.163**	1.125
GBP to euro – year-end spot	**1.192**	1.111

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 strengthened by 7% and the sterling average exchange rate against the euro strengthened by 3%. The sterling spot rate against the US dollar from 31 December 2020 to 31 December 2021 weakened marginally by 1%, rising steadily by 4% to the mid-year before steadily falling back, while the sterling spot rate against the euro from 31 December 2020 to 31 December 2021 strengthened by 7%, with most of the gain being achieved by mid-year.

Zotefoams is a predominantly UK-based exporter which invoices mostly in local currency. In 2021, approximately 90% of sales (2020: approximately 79%) 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 US dollar-denominated. Poland operating costs are incurred in Zloty. The Group therefore uses forward exchange contracts to hedge its foreign currency transaction risk to US dollar and the euro. The Group generated a net gain on forward exchange contracts of £1.3m (2020 loss: £0.1m).

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. It also has a growing Footwear business, which is invoiced from the UK in US dollars, adding to its exposure to foreign currency denominated net assets. 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. This treatment also applies to the non-sterling accounts receivable balances held on the Company's balance sheet, the impact of which should reverse through forward currency contracts but is subject to the timing difference between the recording of accounts receivable and cash received. In the year, the Group recorded a translation loss in the income statement of £0.1m (2020 loss: £0.2m).

Currency movements during the year negatively impacted Group revenue by £4.1m (2020: £0.1m negative impact). They positively impacted operating costs by £2.4m (2020: £0.1m negative impact), resulting in a net negative impact of £1.7m (2020: negative impact £0.2m) before hedging. After deducting the hedging gain of £1.2m (2020: charge of £0.3m), the net currency negative impact for the year was £0.5m (2020: negative impact £0.6m).

We expect growth to come mainly from outside the UK and recognise that one of our principal risks is our exposure to foreign currency fluctuations, particularly the US dollar, which we will manage through hedging strategies. Based on 2021, it is estimated that, with respect to transaction risk and for every one percentage point movement in the US dollar/sterling rate, profit moves by £0.24m unhedged and £0.08m hedged. In the year, it is assumed that the transaction risk from euro/sterling movements continues to be substantially naturally hedged, with sales revenues offset by 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.

Tax and earnings per share
The effective tax rate for the year is 37.6% (2020: 13.7%), which is significantly above the Group's weighted average corporate tax rate for the year of 19.0% (2020: 19.7%). This resulted in a tax charge of £2.6m in the year (2020: £1.1m). The higher effective tax rate for the year arises primarily from an increase in the deferred tax charge of £1.0m that results from the expected future change in UK Corporation Tax rates to 25% from the current 19% and which was substantively enacted on 14 May 2021, a prudent approach to recognising overseas tax losses as a deferred income tax asset, amounting to £0.4m

Currency impact on business segments in 2021
Currency had a £4.1m negative impact on the Group's sales performance

Segment revenue £m

	2021 Reported	**2021 Adjusted***	2020 Reported	**Net change % Reported**	**Net change % Adjusted**
Polyolefin Foams	**56.2**	**58.4**	50.9	**10**	**15**
HPP	**42.3**	**44.1**	30.0	**41**	**47**
MEL	**2.3**	**2.4**	1.8	**32**	**37**
Group	**100.8**	**104.9**	82.7	**22**	**27**

* Constant currency, adjusting 2021 values to 2020 rates. See exchange rates table above.

(2020: a credit of £0.1m), no adjustments in the current year to the prior year UK Corporation Tax charge (2020: a credit of £0.4m) and a lower profit before tax of £7.0m (2020: £8.3m). Net income tax paid during the year was £1.1m (2020: £1.1m).

Basic earnings per share was 9.01p (2020: 14.87p), a reduction of 39%. Without the deferred tax charge as a result of the expected future change in UK Corporation Tax rates, earnings per share was 11.1p, a reduction of 25%.

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 use of recycled content in their packaging, putting sustainability at the heart of our MEL development agenda. During the year, Zotefoams significantly increased its investment in this opportunity. Labour amounting to £0.4m was redirected from MEL to ReZorce and capitalised. One half of this, as well as expenditure of £0.6m representing additional, directly attributable costs, was capitalised in line with IAS 38 “Capitalisation of Development Costs”. The Group also invested £0.9m of capital and used the other £0.2m of MEL labour resource to complete the commissioning of its pilot line and implement sterile carton packaging, the combined sum of which has been recorded as tangible assets. In total, investment in ReZorce amounted to £1.9m during 2021 and £2.4m cumulatively, which will be amortised in line with Group policies, if successful, or be fully impaired, if not, in line with accounting standards.

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 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.

Zotefoams targets improvements in the Group’s return on capital over the investment cycle, while recognising the short-term impact on this return during construction and operating initially at lower utilisation 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 or the most recent investment in foam manufacturing at the Poland site, 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 defines the return on capital employed (ROCE) 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 2021, the Group’s return on capital employed decreased to 6.1% (2020: 9.0%). The main cause of this movement in the year is the commissioning of the Poland manufacturing site at the beginning of February 2021, which was previously adjusted for as a consequence of it being a significant capacity investment under construction in line with the Group’s definition of ROCE, and reduced operating profit. The main cause of a reduction in ROCE since 2018 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. However, business growth as a result of this increased capacity and improved utilisation is expected to improve ROCE beyond that previously achieved.

The Group’s recent committed capacity expansion programme is now complete.

Investing in growth (£m)

	2015	2016	2017	2018	2019	2020	**2021**	**Total**
Growth capital	6.1	6.9	7.8	12.8	19.8	10.3	**3.4**	**67.1**
Capitalised interest	–	–	–	–	0.9	0.6	**0.0**	**1.5**
Maintenance capital	2.6	5.2	3.6	3.0	3.7	2.1	**2.6**	**22.8**
Total investment in property, plant and equipment	8.7	12.1	11.4	15.8	24.4	13.0	**6.0**	**91.4**

Group CFO's review
Continued

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 4.40p (2020: 4.27p), which would be payable on 1 June 2022 to shareholders on the Company register at the close of business on 6 May 2022. Taken with the interim dividend of 2.10p (2020: 2.03p), this would bring the total dividend for the year to 6.50p (2020: 6.30p) and would represent a dividend cover of 1.4 times (2020: 2.4 times). This multiple is lower than that of 2020 as a result of the short-term inflationary impact on margins as well as the higher tax charge for the year, in part driven by the non-recurring deferred tax charge arising from the UK Corporation Tax increase to 25% in 2023.

Cash flow

The Group continues to be highly cash generative with net cash from operations before investment in working capital and provisions of £16.5m, up 3% on the previous year (2020: £16.1m). Of this, £3.0m (2020: £2.4m) was re-invested in working capital. Trade and other receivables increased by £1.6m (2020: reduced £1.2m), reflecting greatly increased sales. Overdue balances remained on average below 0.5%. Inventories increased by £2.8m (2020: increased £4.5m), with the movement being driven by an increase in footwear raw material reflecting the Vietnam shutdown close to the year end and a build-up of finished goods inventory in Poland now that it is operational. The change in mix also impacts the value of inventory, with HPP raw materials being significantly more expensive than their polyolefin counterparts and their uniqueness requiring higher inventory levels to mitigate supply chain risks. Trade and other payables increased £1.5m (2020: increased £1.0m), supporting higher business activity. Zotefoams recognises the importance of its supplier relationships and has improved its performance with respect to honouring agreed payment terms. As a result of the above, cash generated from operations was in line with the previous year at £12.8m (2020: £13.0m).

During the year, the Group paid interest of £0.8m, none of which was capitalised (2020: paid interest of £1.1m, of which it capitalised £0.6m on qualifying assets under IAS 23 "Capitalisation of Borrowing Costs"). The interest paid has been split between operating activities of £0.8m (2020: £0.5m) and investing activities of £nil (2020: £0.6m) to reflect the Group's utilisation of the interest paid. Taxation paid during the year amounted to £1.1m (2020: £1.1m).

Zotefoams' property, plant and equipment capital expenditure reduced in 2021, as expected, following several years of capacity expansion, with total expenditure including capitalised interest of £6.0m (2020: £13.0m). The primary focus on this year's expenditure was investments in the Poland plant to allow for its commissioning in February 2021, assembling a pilot line and trial system for the MEL ReZorce opportunity, and improvements to the Croydon plant. A small amount of capital investment is outstanding in Poland, delayed from 2021, and the level of expenditure on ReZorce during 2022 will be dependent on key milestones during the year. Other than this, we expect capital expenditure to be at levels more in line with the Group's depreciation charge. The Group also invested £1.1m (2020: £0.3m) in intangible assets, almost entirely related to MEL patents and capitalised development costs for the ReZorce opportunity at MEL.

After dividends paid in the year amounting to £3.1m (2020: £1.0m) and lease payments of £0.5m (2020: £0.4m), closing net debt was £34.3m (2020: £35.6m). At the year end, the Group remains comfortably within its bank facility covenants, with a ratio of EBITDA to net finance charges of 16 (2020: 24), against a covenant minimum of 4, and net debt to EBITDA (leverage) of 2.1x (2020: 2.1x), against a covenant of 3.0x. See 'Debt facility' for a definition of leverage and information on the Group's renewal of its refinancing arrangements in March 2022. We expect to remain within covenant levels going forward.

Debt facility

At 31 December 2021, the Group's gross finance facilities were £47.3m (2020: £53.8m), comprising a multi-currency term loan of £20.0m (2020: £25.0m), a multi-currency revolving credit facility of £25.0m (2020: £25.0m) and a remaining balance of £2.3m (2020: £3.8m) of a further £7.5m sterling annually renewable term loan, repayable in equal quarterly instalments. The bank facility in place at 31 December 2021 is for a five-year period and expires in May 2023. At the date of the statement of financial position, 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 £13.4m (2020: £19.2m). The facility is subject to two covenants which are tested semi-annually: net debt to EBITDA (leverage) and EBITDA to net finance charges.

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.

With the Group's debt facility arrangement expiring 13 months from the date of signing of the financial statements, the Group has undergone a renewal tender process and selected Handelsbanken and NatWest, the incumbents, to continue as its lenders. Under the terms of the new facility, completed in March 2022, the Group's gross finance facility comprises a £50m multi-currency revolving credit facility with a £25m accordion, on a 4+1 tenor, and 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 4:1 and the latter increasing to 3.5:1 from 3.0:1. Unamortised costs of £0.3m relating to the previous facility will be charged to income in the first half of 2022.

Group banking covenants definition

Net debt to EBITDA ratio (Leverage)

£m	2021	2020	£m	2021	2020
Profit after tax	**4.4**	7.2	Net debt per IFRS	**34.3**	35.6
Adjusted for:			IFRS 16 leases	**(1.1)**	(1.4)
Depreciation and amortisation	**7.6**	6.7	Finance leases pre 1 January 2019	**0.0**	0.1
Finance costs	**1.1**	0.8	Roundings	**0.0**	(0.1)
Finance income	**0.0**	0.0	Net debt per bank	**33.2**	34.2
Share of result from joint venture	**0.0**	0.0			
Equity-settled share-based payments	**0.4**	0.3			
Taxation	**2.6**	1.1			
Roundings	**0.0**	0.1			
EBITDA	**16.1**	16.2	Leverage per bank	**2.1x**	2.1x

EBITDA to net finance charges ratio

£m	2021	2020	£m	2021	2020
EBITDA, as above	**16.1**	16.2	Finance costs	**1.1**	0.8
			Finance income	**0.0**	0.0
			Share of result from joint venture	**0.0**	0.0
EBITDA to net finance charges	**16.1x**	23.7x	Net finance charges	**1.1**	0.8

Post-employment benefits

The last full actuarial valuation of the Defined Benefit Scheme ('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 per annum, beginning 1 July 2021, to meet the shortfall by 31 October 2026 (previously 31 October 2026), up from £492,000 per annum previously. In addition, the Company pays the ongoing DB Scheme expenses of £216,000 per annum (previously £180,000 per annum) 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 £4.2m to £4.7m as at 31 December 2021 (2020: £8.9m). The main factors leading to the improvement were the strong investment performance over the year and changes in assumptions, in particular the use of a higher discount rate following an increase in corporate bond yields over the year, which has placed a lower value on the defined benefit obligation. The deficit is the net total of £34.1m (2020: £31.9m) of assets and £38.8m (2020: £40.8m) of liabilities and represents 4.8% (2020: 9.4%) of consolidated net assets. Zotefoams does not consider its pension scheme to be a key risk to its ability to achieve its strategic objectives. Mitigation of further risk is expected to come from our growth expectations and the refocus 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 45 to 54. 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.

Group CFO's review
Continued

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 renewal and terms of the new debt facility, 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 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

6 April 2022

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. 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 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 arising

Leads operational management's approach to risk

Inputs its assessment of risk and opportunities into the Internal Controls Committee

Audit Committee

Monitors and reviews the effectiveness of the Group's risk management framework

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 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 successful 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)
- Environment
- Sustainability
- IT
- Quality
- Product Development
- Marketing Communications
- Planning and Capacity
- Capital Planning
- Foreign Exchange
- HR and Training
- Key Supplier Review
- Contract Control
- Credit
- 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 highlighted 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

Risk management and principal risks
Continued

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

- COVID-19 and governments' responses to the pandemic remained foremost in our thinking during 2021, although we managed this primarily with an evolution of previously embedded measures. Board activity returned to more normal levels after significantly greater activity in 2020. Zotefoams maintained its high prioritisation of the health and safety of our workforce and the immediate needs of our customers and continued to run comprehensive site pandemic response measures across all locations, keeping them fluid to reflect changing developments and ensuring they followed or exceeded local government policies at all times. These measures, together with maintaining a strong technology offering to allow staff to work effectively from home, have helped ensure operations continued safely during this second year of the pandemic
- The Group's Poland manufacturing facility was commissioned in February 2021, providing an alternative supply channel into the Group's European customer base and concluding the multi-year capacity expansion commitment
- The ReZorce® mono-material barrier packaging initiative, which puts sustainability at the heart of the MEL development agenda, progressed well, although significant challenges remain. We established a pilot line to develop and manufacture ReZorce sheet and commissioned a sterile carton packaging machine to test the sheet's ability to form into a carton and seal to the required industry standards. Commercial trials are planned for the second quarter this year which, if successful, will lead to an assessment of the right business model to deliver value to stakeholders
- Risk discussions remained highly prominent at Board meetings and regular updates were held during the year as the Board discussed, considered and assessed its ongoing responses to COVID-19, the challenging supply chain environment and the broad-based inflationary pressures, as well as the development and execution of objectives and activities
- The Executive team, who are also members of the functional steering committees, 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
- The Group reviewed its key policies, including anti-bribery and corruption, competition, ethics, whistleblowing and share dealing, to make sure they remain relevant and are operating effectively
- Zotefoams implemented a cyber security awareness testing programme across all staff in the UK, starting in July and followed by monthly testing, with training programmes for those employees failing the test. During the period, the failure rate fell from 16% to 3% while testing difficulty increased
- Zotefoams successfully regained the Cyber Essentials Plus certification, an in-depth and thorough independent assessment of our IT systems, which it first achieved in 2018 and has maintained each year 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 businesses and organisations to implement digital protection against common cyber-attacks, while allowing them to demonstrate an increased awareness of cyber security
- Renewed accreditation to the new Occupational Health and Safety Management System ISO 45001:2018 was obtained during the year, which the Company successfully transitioned to in May 2020, led by significant focus and effort from a dedicated Health and Safety team on our UK site, supported by the Executive team and impacting all UK-based employees. As with previous years, accreditation and systems audits were conducted during 2021 and the Company received no significant non-conformities
- 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 LLP completed a payroll audit across all Zotefoams subsidiaries, with outcomes and improvement plans presented to the Audit Committee. At the request of the Audit Committee and in recognition of the increased size and complexity of the organisation, a three-year rolling audit plan, with two internal audits per year, was presented and approved for implementation from 2022.

Principal risks and uncertainties

The details of our principal risks and uncertainties and the key mitigating activities can be found on pages 48 to 54. We are disclosing those risks and uncertainties that we believe have the greatest impact in achieving 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 45. 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.

Our principal risks and uncertainties are:

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

Having assessed the inputs from our risk framework mechanism during the current year, we have concluded that there are no further changes to our assessment.

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 25.

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
- At the time of writing of this Annual Report, the war in Ukraine has created significant uncertainty around the cost and availability of products and utilities, the impact of which is too early to predict. However, Zotefoams considers this risk to be more related to cost than operational disruption at this time.

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

We have adapted our on-site health and safety measures in line with the changing governance guidance in each of our global facilities. The nature of our business operations allows for social distancing without major disruption, while all relevant measures specific to face protection, cleanliness, permitted gatherings and visitors to site are reviewed on a regular basis to ensure the highest standards of safety and business continuity. All staff able to work from home currently do so, supported by modern technology and careful appraisal of their working environments. We have limited travel in line with World Health Organization advice. All manufacturing sites have remained operational, other than as specifically noted elsewhere, throughout the pandemic. We have plans and new procedures in place to manage working conditions as the impacts and risk of the pandemic subside.

International trade and Brexit

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.

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.

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.

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 will be further supported by our Poland plant, close to key European customers.

Investing in IT

We continue to invest in our IT systems and department. We operate the latest version of the Microsoft Dynamics AX ERP system. We have multiple redundancy points limiting failure of any one hardware or operating system, 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, part of the UK government's National Cyber Security Strategy, which requires an annual, fully independent assessment of our IT systems' ability to deal with common cyber-attacks. 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 Review Steering Committee
- IT Steering Committee
- Maintenance Steering Committee
- Zotefoams Inc Executive Committee
- Zotefoams Poland Executive Committee

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
- Growing global concerns over waste generated from the over-consumption, misuse and over-packaging of consumer goods. 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.

Sustainability-focused developments

In 2021, we established sustainability targets focused on the reduction of our Scope 1 and 2 carbon emissions. In parallel with these specific Scope 1 and 2 targets, we have calculated the carbon cost 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 (LCAs) 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 page 61.

Effective reporting on ESG performance

With an environmentally conscious technology and material solutions focused on non single-use applications, 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 engaged in a plan to adopt the Sustainability Accounting Standards Board (SASB) framework and are reporting against it from 2021. See our disclosures on pages 67 to 69. Zotefoams also publicly supports the Task Force on Climate-related Financial Disclosures (TCFD) guidance and has embarked on implementing its recommendations. Finally, the Group has very recently completed a bank refinancing process which includes ESG 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

Risk management and principal risks
Continued

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 price 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

During the year, we have continued to refine our monthly sales and operations planning process, which 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, 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 2021.

Current investment programme completed

We have been engaged in a significant programme of capital investment, the latest phase of which is complete with the start-up 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, will initially expand sheets manufactured by the UK and USA in its high-temperature, low-pressure autoclave.

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.

Control Committees

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

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 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.

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 resource 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 opportunity and the risk that this investment might not result in an effective solution and require a write-off are the justification for treating this risk as being on an upward trend.

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 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 and have developed strong relationships with respected universities to attract high-potential individuals in the fields of material science and engineering. We dedicate financial resource 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 not 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.

Control Committees

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

Risk management and principal risks
Continued

Scaling up international operations

Strategy 1 2 3 4

Risk trend

Description and context

What is the risk?

Working more remotely with international operations 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.

Material influencing factors

- Our business is growing in Asia and our manufacturing facility in Poland commenced operations in February 2021
- 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
- COVID-19 continues to tightly restrict international travel, particularly in Asia, requiring management and recruitment by distance. This is making it more challenging to ensure the right people are in the right roles and that behaviours are aligned with those at the corporate centre.

Mitigating actions

The Board and Executive Committee have continued to review the Group's corporate culture, its communication and the embedding of controls across the organisation.

Direct engagement with overseas employees

Key leaders, under normal circumstances, have travelled frequently to overseas locations to 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. While many countries are loosening their visitor controls in the early part of 2022, China and India, where the Group has important operations, remain restricted.

Hiring and developing overseas leaders

The Group's USA operations, comprising Zotefoams Inc and MuCell Extrusion LLC (MEL), have been part of the Group since 2001 and 2008 respectively, have experienced management teams with significant tenure at Zotefoams and well-embedded reporting and control structures, and engage in regular and effective communication with senior operational leaders of Zotefoams and the Board. The Zotefoams Inc President is a member of the Executive Committee.

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, clearer leadership and greater assurance around governance.

Building up our global functions

We have invested significantly in human resource 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.

Poland manufacturing site start-up

We recognise the importance and risks surrounding the operation of a new manufacturing site in a country with which we are less familiar. The main aspects of the Poland build and the running of the facility since its commissioning in February 2021 have been very successful despite the inability of UK experienced personnel to be physically present. This is in part due to hiring the General Manager for Zotefoams Poland in 2019 in advance of the project commencing and basing him in the UK for several months while he gained experience with Zotefoams' unique technology, became familiar with the key functional support staff in the UK required to support the plant going forward, and understood and adopted the Zotefoams culture. Key players in his leadership team, hired during H2 2019, shared this UK-based experience and have successfully taken up their operational roles during the year. Since March 2020, the beginning of the pandemic, UK and Poland teams have maintained high levels of engagement, assisted by communication technology and personal familiarity.

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 have introduced a global training tool which provides training across many facets, from governance compliance to areas of personal development, plus tracking mechanisms across all our locations on a risk-assessed basis. 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

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 2021 represented 34% of Group sales (2020: 26% 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's capacity expansion programme has completed, 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.

We are excited by the size of the opportunities offered by our ZOTEK® product portfolio and have the risk appetite to pursue them. 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 to 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

Risk management and principal risks
Continued

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
- At the time of writing of this Annual Report, the war in Ukraine has created significant uncertainty around the cost and availability of products and utilities, the impact of which is too early to predict
- 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. This is both transactional 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 in 2021 a large proportion of the Group's revenue was in currencies other than sterling, mainly US dollars or euros. We therefore generate surpluses in US dollars and euros, which are converted into sterling
- While a trade deal was concluded between the UK and the European Union at the end of 2020 allowing for tariff-free trade, there remains the threat that this might be altered 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 free movement of people.

Mitigating actions

COVID-19 response

See 'Operational disruption' risk, above.

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

2021 experienced an unprecedented increase 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. The current environment is a new experience for many and is requiring regular consideration of pricing and cost to achieve the right balance between short-term margin management and long-term strategic growth.

Managing exposure to the US dollar and euro

We reduce our net foreign exposure for 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 for 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.

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.

Managing our debt facilities

We maintain close relationships with our supporting banks, meeting with them regularly and updating them on performance and outlook. In 2020, our short-term amendments to the leverage covenant to provide greater security at a time of extreme uncertainty demonstrated the good relationship we have with them. In March 2022, we completed a new refinancing round to replace the existing one which was expiring in 13 months, remaining with our incumbent banks following a strong competitive process.

With our capacity expansion programme complete and based on our most recent five-year strategic plan, we expect our net debt levels to fall. 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 Steering 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 42, 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 54.

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

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: Operational disruption page 48; External page 54.

Scenario 2:
Significant operational disruption over a long period. This risk focuses on the extreme scenario of a fire at the Croydon, UK plant requiring a significant rebuild over a period in excess of a year.

Read more Principal risk: Operational disruption page 48; Global capacity management page 50.

Scenario 3:
Business performance risks. These include both Polyolefin Foams and High-Performance Products growth at rates significantly below those included within the five-year plan.

Read more Principal risk: Technology displacement page 51; External page 54.

Scenario 4:
Loss of a key customer in HPP. This scenario reflects losing the Footwear business.

Read more Principal risk: Operational disruption page 48; Global capacity management page 50; Customer concentration 53.

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 page 54.

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

Steve Good
Non-Executive Chair

In 2021, sustainability was central to long-term strategy discussions. Following adoption of the SASB framework in 2020, the Board set clear targets aimed at optimising the use of raw materials, minimising waste and improving recyclability. We will continue to work hard to become more sustainable and to be more transparent about our activities in this space

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.

Over the past century, materials manufactured using Zotefoams' unique three stage process have helped customers save energy by insulating and have reduced the carbon emissions of countless cars, planes and trains by reducing weight which lowers 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, currently in development, presents an 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. Building sustainability into our own business model both enhances operational resilience and enables us to help keep the rise in global temperatures to a minimum.

On page 62, we include our first response to the Task Force on Climate-related Financial Disclosures (TCFD). The combination of SASB and TCFD reporting is in line with the Financial Reporting Council's recommendations to listed businesses.

Our strengthened ESG framework

Zotefoams considers that managing environmental, social and governance (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. Our first ESG report, published in 2020, explained Zotefoams' approach to ESG. In 2021, we built on this by:

- Forming a Group Sustainability Steering Committee to provide governance and set the direction for matters relating to the long-term sustainability of the Group
- Introducing challenging sustainability targets arising from our SASB assessment, page 61
- Providing fuller disclosures compliant with the TCFD, page 62
- Running customer focus groups on sustainability and using the data garnered to guide strategy. This exercise evidenced that, given differing end-users' concerns, sustainability was defined differently across a variety of customers and geographies. Supporting customers, including by providing evidence that challenges a public perception of plastics as a non-sustainable material, now forms a key part of our strategy. We believe that plastics, used appropriately, remain the optimal solution both functionally and environmentally for our customers' needs.

Sustainability opportunities

Zotefoams considers that sustainability opportunities arise principally in two distinct areas. Firstly, in designing products valued by our customers for their use-phase resource efficiency (a concept defined by 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, and/or reduce water consumption). Thermal insulation is a typical example of this. Secondly, in reducing the carbon footprint of our operations.

Zotefoams products are used in many different applications and are often combined with other materials, making it difficult to measure our environmental impact directly. In setting targets, we therefore focus on the carbon footprint of the manufacturing process. Further details of our metrics are on pages 65 to 67.

Carbon emissions

A parallel accounting methodology has been implemented for the manufacturing process by product item, which incorporates Scope 1 and 2 emissions. In order to also consider Scope 3 emissions, we are working on a life cycle assessment (LCA) template which will be used to create LCA examples for major products and application segments specific to each use. Our Scope 1 and 2 emissions data is being made available to our customers to enable them to make informed Scope 3 decisions.

Our materials in use (known as Scope 3 emissions)

The vast majority of Zotefoams products are aimed at a low-carbon market. The key attributes of foams, and our foams in particular, are:

- Light weight
- Reduced material usage
- Energy saving
- Reduced toxicity.

Further, Zotefoams block foams are generally used for solutions other than single-use applications.

Outside of foams, our MEL business also aligns well with a low-carbon market, with ReZorce® mono-material barrier packaging in particular, see pages 8 and 9.

These sustainability benefits are recognised by our customers and in some cases justify a premium price for our products.

During the year, we amended our product development process to further prioritise sustainability and reflect input from the Board on a variety of climate impact scenarios. As a result:

- The Product Development Steering Committee considers the potential sustainability impact and benefit of all new initiatives
- Sustainability factors continually inform the new product development process
- Products containing recycled and bio-based materials have been offered to customers
- A number of development projects aimed at reducing our carbon footprint are under way.

Our operations (known as Scope 1 and 2 emissions)

Specific to the reduction of emissions in our operations, major initiatives during 2021 included:

- A switch to a supplier accredited under the Renewable Energy Guarantee of Origin scheme in the UK. A renewable sourced electricity contract has been agreed for our Poland site from 2022 as part of our commitment to using electricity from renewable sources where feasible
- The business cases for all upgrades in infrastructure and capacity enhancements considered the need to reduce carbon emissions. In H1 2021, we completed a major upgrade of the steam generation system at our UK site, which we estimate will result in annual CO_2 savings of 535 metric tonnes. We also have an ongoing programme to improve energy efficiency in process heating that we expect will significantly reduce energy usage in 2022
- Our new sustainability targets on page 61 will help to reduce operating costs by optimising raw material use and repurposing foam scraps.

Sustainability risks

The SASB framework adopted in 2020 has been implemented through the risk management framework. This ensures that all business risks related to sustainability are identified, assessed and, if above the risk appetite of the Company, treated (utilising a Business Risk Matrix) by the appropriate Functional Steering Committees within the Group. Further information about our risk management framework can be found on page 45.

Our ESG performance and plans

Zotefoams' sustainability strategy is based on the following principles:

1. We operate in markets where the vast majority of our products offer unique sustainability advantages for the benefit of society
2. We seek to minimise our use of natural resources through a series of measures such as reducing energy and optimising polymer usage.

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.

Governance
We manage the SASB, TCFD and other sustainability requirements through our internal controls framework. An independent Group Sustainability Steering Committee is responsible for longer-term ESG planning and for ESG disclosures to stakeholders.

Business model and strategy
Our business model comprises solutions with superior sustainability characteristics focused on permanent applications, see page 18.

Accreditations
We are accredited to ISO 45001:2018 (occupational health and safety), ISO 14001:2015 (environmental management) and ISO 9001:2015 (quality management).

Carbon footprint
- We have embedded systems that consider carbon footprint in every aspect of our global operations to drive sustainability initiatives through all areas of the business
- We are calculating the carbon cost of our foams and ReZorce technology. We will be 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
- Renewable electricity: a REGO-accredited supplier has been appointed in the UK. A renewable sourced electricity contract has been agreed for our Poland site from 2022 as part of our commitment to use electricity from renewable sources wherever feasible
- Targets have been adopted in 2021, see page 61.

Health and safety
We set internal targets for improvement on occupational health. Our performance and commentary are shown on page 65 and benchmark externally against rubber and plastics manufacturing industry statistics. https://www.bls.gov/web/osh/summ1_00.htm

We plan to develop a holistic approach to employee wellbeing by fostering a culture of health which recognises and supports both physical and mental health.

Social

We enable our workforce to operate in a safe environment, at home or in the factory, and are guided by strong ethical principles that inform our activities.

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 force 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 dependants' sickness and bereavement
- A performance management system is in place, designed to encourage high employee engagement with their line manager 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, discrimination, harassment and abuse and supporting collective bargaining arrangements where it is legal to do so.

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.

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. 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.

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 during 2021. https://check-payment-practices.service.gov.uk/company/02714645/reports
- 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.

zote.info/3NtUoei

Environmental, social and governance
Continued

Governance

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

Diversity and Inclusion

The Board adopted a new diversity policy in 2021. https://zote.info/3wRSYEL

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

More information on diversity and inclusion at Zotefoams may be found in our People section on pages 72 and 73 and in our Nomination Committee report on page 87.

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 74. Our plans for 2022 include canvassing the views of our shareholders on sustainability and other matters through interaction with the Company Chair. Zotefoams will continue to work with customers and suppliers on improving the sustainability characteristics of our products.

UK Corporate Governance Code 2018

The Group complies with the requirements of the UK Corporate Governance Code and has due regard to best practice in governance matters.

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 2021 (2020: 100%)
- Progression towards greater gender diversity is noted in senior roles:
  - 21% of senior managers are female
  - 29% of the Board is female, with female Board Committees representation amounting to 45% overall. A Board diversity policy was adopted in 2021
- An annual performance evaluation is carried out for the Board and its committees with the support of the Company Secretary. The results are discussed by the Board and actions agreed for the following year
- A formal process is in place for the Board to consider relevant matters under s172(1) of the Companies Act 2006
- An extended questionnaire for assessing the external auditor's effectiveness and independence in accordance with FRC guidance was implemented in 2021. This evidenced that there is candid and complete dialogue between the External Auditor and the Audit Committee
- The Board's working arrangements were reviewed in 2021 to ensure that an optimal mix of in-person and virtual meetings was in place
- Articles of association were last amended in 2020 to allow hybrid general meeting arrangements and comply with current best practice. The Board intends to extend digital inclusion by broadcasting the 2022 AGM 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 informal engagement during plant visits and Board representation on the Joint Consultative Committee, which adopted new terms of reference.

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 page 88.

Key targets

Our sustainability targets focus on the reduction of our Scope 1 and 2 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® mono-material barrier 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 (LCA) for our products in use, giving us visibility of Scope 3 emissions on a case study basis.

TARGET 1: Improve purchase-to-product (mass balance) of AZOTE® polyolefin 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 product (internal waste and oversized materials). To support this, in 2022, we will financially and operationally plan the investments required 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. Targets and achievements for intermediate years will be published on our website.

TARGET 2: Re-purpose polymer waste, that cannot be prevented, from our UK manufacturing process. Inherent to achieving longevity and light weight 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, we plan to:

- Have developed AZOTE products that will allow us to re-incorporate into our foams 50% of solid polymer waste produced at our UK site
- Find applications that reuse 90% of all AZOTE foam waste produced at the UK site.

TARGET 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. Targets and achievements for intermediate years will be published on our website.

TARGET 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%. Details of this target will be published on our website.

Environmental, social and governance
Continued

Task Force on Climate-related Financial Disclosures ("TCFD") response

Zotefoams is already well positioned to support the long-term goal of reducing carbon emissions, with foam products delivering high performance, insulation and reduced weight and offering the potential for carbon emissions reduction in excess of the carbon emissions required to manufacture the product. We are improving our energy intensity and material consumption and adapting our product range to enter new markets where these benefits are clearly understood and valued. Measurement of energy consumption and polymer usage, which generate carbon emissions, are monitored monthly and we have clear actions to improve these as described further in this report.

The table below shows our current progress against the TCFD recommendations.

Governance

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 45); 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, 24 (sustainability and climate change) and 27 (best energy saving application).

Strategy

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 45 aims to assess the Group's principal risks and ensure these are effectively managed across the entire business.

RISK	MITIGATION
Increased use of energy to satisfy operational needs or an increase in energy prices or taxation	An environmental management system is in place to ensure that systems function in an energy efficient manner and facilities only operate when required and use the minimum amount of energy necessary. Use of external consultants to: ▶ Give early warnings of forthcoming regulatory changes on energy pricing ▶ Analyse consumption patterns and identify opportunities to reduce usage without affecting operational performance.
Increased water consumption	An environmental management system is in place to monitor consumption in order to assess water usage efficiency and identify improvement opportunities by implementing technical, people or building management controls.
Increased levels of waste	Waste reductions initiatives are in place. See page 66.
Poor public perception of plastics causing a demand shift	We believe this perception is primarily related to single-use and/or non-recyclable plastics. We plan to implement a communications strategy relating to the sustainability of our use of plastics and its contribution to the low-carbon economy. ReZorce® mono-material barrier packaging is our leading initiative. See page 8 for further details.
Adverse weather event causing disruption to manufacture or supply chain	A supplier management process is in place which assesses and mitigates risk through supplier selection and second sourcing for key materials and components.
Enhanced reporting obligations	Each functional steering committee is responsible for active monitoring of key 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. This includes monitoring legal and regulatory changes which may impact the Group's risks.

Opportunities

Short-term: Our business model is centred around sustainability. The opportunities available to Zotefoams are detailed on pages 16 to 19. Details of our Strategic Objectives, including sustainability and climate change, are provided on page 24.

Medium and long-term: We believe the benefits of plastics will be recognised and scarce resources will be managed to ensure optimal use. The processing of polymers uses less energy compared to 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

⊕ **Refer to our risk management framework on** page 45 **and sustainability and climate change risk on** page 49.

Metrics and 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 metrics are disclosed on page 66. The risks are managed through our risk management framework detailed on page 45.

Our targets are detailed on page 61.

We are committed to responding to the CDP questionnaire in 2022. CDP is a not-for-profit charity that runs the global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts. https://www.cdp.net/en

Safety, Health & Environment (SHE)

Zotefoams considers that the management of SHE matters forms a key element of effective governance. Separate policies relating to SHE are in place. The Company is certified to accredited standard ISO 45001:2018 for Health and Safety, following a migration from OHSAS 18001:2007, and ISO 14001:2015, the International Standard for Environmental Management Systems, and is regularly audited by certification bodies to ensure that the Company complies with those standards. Following an integrated surveillance audit carried out in 2021, Zotefoams UK was granted ongoing certification. The auditor commended the progress and maturity of the management systems, the high degree of executive oversight and the high level of focus on safety engagement. The Company is also certified to accredited standard ISO 9001: Quality Management.

The Board has ultimate responsibility for SHE policy and performance and receives quarterly reports on Group SHE issues. The Board has set a very 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. Group committees on SHE normally meet once per quarter to consider all SHE matters and are overseen by steering committees, chaired by the Group CEO (or appropriate responsible person in subsidiary companies). The steering committees 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 the safety of themselves and their colleagues at work. 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 equally 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 that the storage and handling of such substances are safe and 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 2021, there were no prosecutions, fines or enforcement actions taken as a result of non-compliance with SHE legislation (2020: none).

Health and safety

The COVID-19 pandemic remains a threat and continuing to protect the health of all Group employees is paramount. Throughout the year, Zotefoams maintained a range of anti-COVID measures designed to mitigate the risk of transmission. These continue to apply in all locations in addition to any governmental restrictions in force. Health surveillance programmes also provide at-risk employees Group-wide with medical monitoring and support to ensure that work-related medical conditions are identified and addressed promptly through the appropriate referral to medical specialists. The change in work/life balance imposed by the pandemic has also been recognised and a number of wellbeing initiatives have been launched in response. Further details are provided in our People section on page 70.

Fostering a safety culture has a positive impact on risk and performance. Management focus remains on developing safety leadership, using various engagement methods to increase Group-wide awareness of hazard identification and control, as detailed in the case study below.

One of our core priorities in 2021 was to review the risk assessment process around our equipment to ensure that machinery was engineered in a way that minimises the risk of injuries to operators, regardless of levels of skills and experience. All new capital investment projects have been and are currently subject to a design stage occupational health and safety risk assessment.

Environmental, social and governance
Continued

CASE STUDY

Safety starts from the top

A programme of executive-level, quarterly, high-visibility tours has been in place for a number of years. Based on a predetermined schedule, the aim of these tours is to foster direct engagement with the workforce on safety behaviour, hazard and control measures. Further key initiatives undertaken this year include field-level hazard assessments, where tasks that have evolved into 'common practice' or 'local knowledge' but which have insufficient controls in place, are identified. We have also adopted incident and observation based software to monitor trends, along with methodologies to establish root causes of incidents, considering for example process gaps, human factors and the visual environment.

These initiatives, among several others, contributed to a reduction in minor incidents of 40% from 47 (2020) to 27 (2021).

CASE STUDY

Reducing open blade risk Group-wide

Open blades are used in many operations and thus constitute a safety risk within Zotefoams. A Group-wide best practice review was carried out by the SHE team and led to an open blade elimination project at our manufacturing sites. The US sites took the lead in the assessment and best practice was then shared across our UK, Poland and China sites.

Using the 'hierarchy of control' principle, each activity was assessed, and the use of blades eliminated by using alternative equipment, substituting the use of an open blade with a safety cutter or ceramic blade or creating better safe systems of work. After extensive trials, 84% of open blade tasks across the Group were successfully improved upon by at least one step of the 'hierarchy of control', contributing to a significant reduction in open blade risk.

Health and Safety performance

The primary metric used to monitor the number of reportable lost time injuries is RIDDOR. In 2021, we are very pleased to report that there were no RIDDOR incidents across the Group (2020: 1). The Group has not experienced any fatality amongst staff or contractors as a consequence of a work-related incident.

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 comparison with a large, relevant peer group and also provides an established methodology with which we can benchmark our performance annually. In 2021, there was a slight decrease in Days Away From Work (DAFW) and a slight increase in Days Away Restricted or Transferred (DART). To combat this in 2022, we will continue the programme of increasing risk and hazard awareness, which is also linked to the continuation of expanding the new safety engagement process. In both cases, the metrics are compared with the latest benchmark data for Rubber and Plastics Processors. Good performance against this benchmark was noted in both 2020 and 2021.

Year	2021	2020	2019	Industry (latest published figures)
RIDDOR	**0**	1	1	n/a
DAFW	**1.2**	1.3	1.1	1.2
DART	**1.7**	1.6	1.3	2.3

Environmental performance

An increase in Group energy usage of 5,479 MWh mainly arose through increased output levels in our main USA site (up by 2,741 MWh) and commencement of production in Poland (up by 1,477 MWh). The main reason for this increase was increased activity at these sites.

There were no significant environmental incidents during the year (2020: none). Previous years have been analysed against an internal categorisation introduced in 2018, guided by the Environmental reporting guidelines at **https://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)

SHE: Key metrics

	2021	2020	2019	2018	2017
Group: Reportable lost time injuries	**0**	1	1	4	6
Internally recorded environmental incidents					
Level 1	**0**	0	0	0	0
Level 2	**0**	0	0	0	0
Company metrics					
Energy usage (MWh)	**49,433**	48,405	44,570	52,225	49,085
Energy consumption (kWh/kg)	**9.22***	9.89*	11.60*	11.03*	11.05
Group metrics					
Energy usage (MWh)	**68,219**	62,740	56,453	63,469	55,354

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

In 2021, no incidents were reported at Level 1 or 2, meaning no significant impact to the environment. The Company ensures that all reports are taken seriously and investigated and that the responses given are appropriate to their level of impact or potential impact. Nineteen internally reported Level 3 incidents (2020: 24) 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 significant increase in safety observations, employee education and early-stage implementation of the 5S method to reduce waste and increase productivity.

At our site in Kentucky, USA we suffered an equipment failure in our silencer system which regulates noise from part of our process. A replacement system was installed quickly to allow our processes to restart and noise to be managed. Although this new system meets all environmental and local requirements for noise, there was a noticeable change from the previous system. Our team in Kentucky has liaised with the local mayor, residents and authorities and we have commissioned the design of a bespoke silencer system to further reduce local noise emissions. This is expected to be implemented in H1 2022.

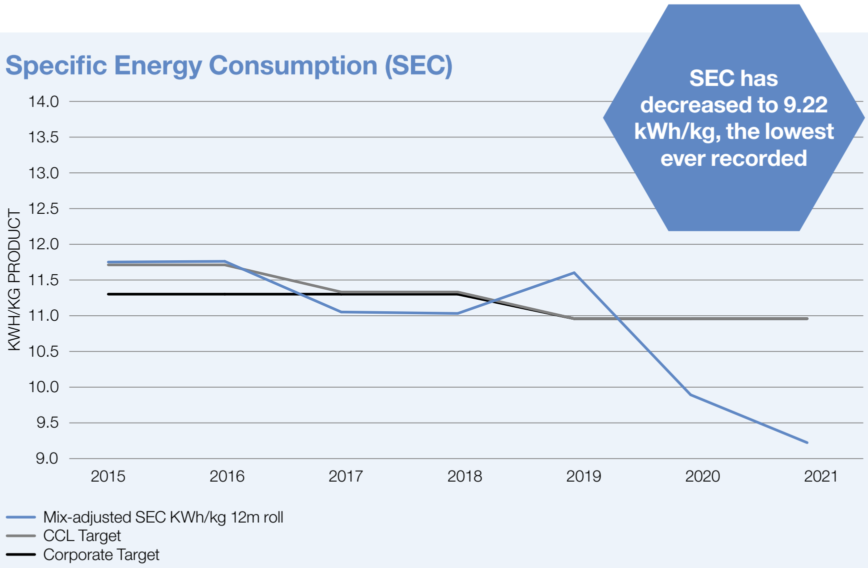
Specific Energy Consumption (SEC) – UK

In October 2009, the Company entered into a Climate Change Levy (CCL) agreement which involves meeting specific targets to reduce energy consumption. 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.

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 2021, our adjusted energy efficiency measure Specific Energy Consumption (SEC) has decreased to 9.22 kWh/kg (2020: 9.89 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 2021.

Environmental, social and governance
Continued

Specific Energy Consumption (SEC)



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.

In order to benefit from a CCL exemption, the Company has entered into Climate Change Agreements (CCAs) as set out by the Department for Business, Energy and Industrial Strategy. A CCA is a voluntary scheme setting targets to increase energy efficiency and reduce carbon dioxide (CO_2) emissions. 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.

Group: carbon emissions (CO_2 tonnes)	2021	2020	2019	2018	2017
Scope 1 Emissions (direct emissions from our operations which includes fuel)	**7,418**	7,078	5,626	6,661	5,561
Scope 2 Emissions (indirect emissions, primarily electricity)	**6,792**	7,464	6,787	8,148	10,849
Total	**14,210**	14,542	12,413	14,809	16,410
Carbon emissions (kg) per material gassed (kg)	**1.5**	1.6	1.6	1.7	2.1

Carbon emissions globally

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

The efficiency with which we use energy to process polymer is measured by the weighted specific energy consumption. In 2021, our UK site, which processed approximately 80% of Group polymer by tonnage during the year, reduced the weighted specific energy consumption by almost 7%. Overall carbon emissions for 2021 were 14,210 metric tonnes (2020: 14,542 metric tonnes), with the main changes being due to the change in the conversion factor for electricity to CO_2 as UK generation switches from coal to renewables and nuclear.

In 2021, 97.7% (2020: 93.2%) 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 (2.3% 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. Our UK site switched supply during 2021 and is now supplied with 100% REGO electricity, with our Poland site switching to renewable electricity from the start of 2022.

Water and waste

While none of our sites are located in regions where water is scarce, we recognise that usage of water is a key environmental metric supporting our sustainability proposition. The amount of waste produced is a key target updated in 2021 to minimise our impact on the environment and forms part of our corporate objectives. Water usage decreased by 2% across the Group in 2021. Our water consumption is metered and we have specific programmes to improve efficiency and reduce water usage. The main water usage is at our UK site, the largest of our manufacturing sites, where we implemented specific initiatives to prevent leaks and minimise water usage, including relining our water storage pit.

Total waste across the Group was 3,124 tonnes for the year with more than 856 tonnes being recycled. At our main site in the UK, we continue to work with partners who sort our waste, recycle significant portions and recover energy through incineration. The quantity quoted as recycled is known to be understated as our partner for non-foam waste is currently unable to report this reliably, therefore we have not reported this as recycled. During 2021, we further developed outlets for our foam scrap, the majority of which is now re-purposed into turf-underlay and blocks of particle foam.

In 2022, we will embark on a number of longer-term initiatives to reduce our waste, in particular the waste that cannot be recycled. This includes investment in machinery to improve our circularity by allowing scrap polymer from our process to be re-incorporated as the base material in the manufacture of our foam products.

Water and waste: Global

Water consumption (000m³)	2021	2020	Notes
▶ UK site	**79.3**	81.5	
▶ USA site	**5.2**	4.7	
▶ Other sites	**1.9**	1.8	
Global consumption	**86.4**	88.0	
Waste recycled (tonnes)	**856**	787	The quantity quoted as recycled is understated as our partner for non-foam waste is currently unable to report this.
Total Waste (tonnes)	**3,124**	2,636	

Sustainability Accounting Standards Board (SASB) disclosures

SASB Standards identify the subset of Environmental, Social and Governance (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** page 66
	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 on** page 66
Air quality	Air emissions of the following pollutants: (1) NOX (excluding N_2O), (2) SOX, (3) volatile organic compounds (VOCs), and (4) hazardous air pollutants (HAPs)	Quantitative	Metric tonnes	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 66
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 Zotefoams' main manufacturing sites are located in areas of low to medium water stress.
	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	Water consumption is monitored and is a consideration when making investment decisions. **See water data table** page 67

Environmental, social and governance
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	Zotefoams does not produce significant quantities of hazardous waste. Waste classified as hazardous (defined in the UK by Directive 2008/98/EC, other sites follow local regulations) is managed collected and treated, including recycling, by a responsible service provider. The weight of hazardous waste is not currently recorded. 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 page 71
Workforce health and safety	1) Total recordable incident rate (TRIR) and (2) fatality rate for (a) direct employees and (b) contract employees	Quantitative	Rate	RT-CH-320a.1	See SHE key metrics table page 65 The Group has not experienced any fatality amongst staff or contractors as a consequence of a work-related incident.
	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	Zotefoams products have historically been designed to use less material and last longer, which is our competitive advantage. See the 'Key Targets' section on page 61 for metrics.
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 (%) Nil	RT-CH-410b.1	3.4% of revenue was from products containing a Category 1 substance. The hazardous substance is a flame retardant additive and has been assessed as non-hazardous in the finished products when 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	We have developed alternative flame retarded products that do not contain the GHS Category 1 substance. While maintaining performance standards does not allow complete substitution, efforts are made to minimise the use of GHS Category 1 substances.

Sustainability Accounting Standards Board (SASB) disclosures

Topic	Accounting metric	Category	Unit of measure	Code	Supporting disclosure
Genetically modified organisms (GMOs)	Percentage of products by revenue that contain GMOs	Discussion and analysis	nil	RT-CH-410c.1	n/a
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** page 63
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 our DART and DAFW figures on** 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	8,109 tonnes of AZOTE® polyolefin foam and 1,511 tonnes of HPP were manufactured. There is a lag between manufacturing and sale.

Our people

Culture is especially important in moments that matter. Since early 2020, the impact of COVID-19 has challenged every part of our business, but on an individual level it has also tested the resilience of our people. These challenges were met head-on by employees who have continued to exemplify Zotefoams' Brand Values: Trustworthy, Responsive, Pioneering and Reliable. The consolidation of new working practices in 2021 took into account employees' mental, social and professional needs and increased employment flexibility, extending our geographic reach and increasing access to key talent. Our 2022 focus will be on embedding Zotefoams' culture and these working practices.

The volatile environment created by global economic uncertainty has required increased flexibility. New working practices aimed at striking a balance between business requirements and personal needs evolved rapidly in 2021. These included remote, flexible and different ways of working. Technology was leveraged to continue to engage successfully with customers, suppliers and colleagues at times when face-to-face contact was difficult or impossible, and we upgraded the IT support infrastructure to ensure seamless performance during remote working. Managers were encouraged to develop skills essential for building an agile workforce, such as adaptability, collaboration and communication.

Work–life balance challenges arising from these new ways of working were recognised. In addition to continuing to provide an employee assistance programme available 24 hours a day and seven days a week in our two largest sites in the UK and the USA, a number of wellbeing initiatives were launched. Managers were educated on the complex issue of mental health through HR briefings and mental health awareness courses were made available to all employees through an online training platform. Mental health first aiders were also deployed to offer emotional support to employees in any Zotefoams location experiencing mental distress and to signpost them towards appropriate internal and external resources.

Zotefoams attracts professionals at the beginning of their career and we actively manage a pipeline of future talent. A positive employee experience and training and career development opportunities are key to maximising the level of employee retention required to support our knowledge-based business. However, while a positive employee experience is useful to aid retention, the impact of staff turnover may only be mitigated effectively by the codification of knowledge and processes to support effective succession planning. The 2022 people strategy will focus on these areas.

Organisational development remains a key component of our continued expansion in markets, products and geographies. In the wake of the pandemic and Brexit, structural changes in the job market during the year created a challenging recruitment environment which required us to adapt our strategy to address localised skills shortages.

Our people strategy

We are a knowledge-based business and strongly believe that recognising the value in our people will allow our Group to create long-term value for our shareholders and alignment with other stakeholders. Through our people strategy, 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. The success of our people strategy is evaluated through the measurement of employee experience, retention rate and performance.

Delivery of our people strategy

Our people strategy is delivered through our Human Resources (HR) team, which was refreshed and augmented in 2021 by the addition of a Poland Business Partner to serve the needs of the newly commissioned Brzeg manufacturing plant locally. The UK HR system was upgraded to offer employees access to a more user-friendly, intuitive platform. In 2022, a plan is in place to accelerate the digitalisation of HR services by moving to a HR cloud-based system to drive standardisation, digitalisation and automation of currently time-consuming processes across all HR areas. This will allow our HR team to fully focus on supporting line managers and improving the employee experience.

People policies

Our UK and US sites have in place policies relating to maternity, paternity, adoption and parental leave, as well as time off for dependants' sickness and bereavement. We comply with local government guidance in all other locations.

Our culture

The pandemic has changed our social interactions and impacted the way decisions are made. Throughout this period of uncertainty, we have recognised the importance of continuing to provide direction and support to our workforce through a people-first leadership approach, conscious that office-based employees required to work remotely in order to limit COVID-19 transmission risks will have experienced the pandemic differently from our factory-based staff. While there may be a greater appreciation and understanding of each other's lives as office and home have intertwined, the loss of commonality is a risk which may impact the Group over the long term. We also recognise the importance of aligning Zotefoams' culture with its purpose; our values and habits serve as a roadmap to drive the direction of the business and achieve our objectives. The output of performance reviews and employee feedback during the year included a cultural fit assessment which will allow us to identify the changes we need to make in 2022 to respond to an evolving environment.

Employee engagement

Zotefoams recognises that employee engagement is a key enabler of our purpose. In the UK, our Joint Consultative Committee, 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. New terms of reference emphasising the importance of the employee's voice were adopted in November 2021. Employee engagement meetings are held monthly in the USA. Feedback is elicited from leavers in areas such as 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 on the organisation.

Employee safety remains the focus of our health and safety strategy. Over the past two years, we have successfully navigated COVID-19 risks and restrictions by implementing measures that kept our employees safe during the pandemic.

Employees' salaries, benefits and conditions remain under review to promote a positive employee experience.

The results of the most recent employee engagement survey in the UK were discussed by departmental representatives and reviewed by the Executive team. Key findings, linked to areas of improvement, were as follows:

- Communication at the right time and by the right people is key. Employees appreciate the business briefings provided to them by management. A recent presentation on the Group's sustainability strategy was particularly well received
- Decisions should be made at the right level and with appropriate autonomy given to staff. The ability to 'challenge up' is prized and perceived as a significant contributing factor to building a collaborative work environment
- It is important to set behaviour expectations clearly and encourage staff to raise any behavioural concerns, in line with the Dignity at Work policy, where situations warrant it.

Zotefoams and its communities

In each of its global locations, Zotefoams contributes to local employment levels and the local economy. As our sites are located close to residential areas, we understand that building strong relationships supports our social licence to operate. The Group has in place a contact mechanism for stakeholders to reach out to the business on issues of concern. Our environmental and health and safety record is sound, with any issues handled by proactively engaging the local community, and Group-wide policies will be reviewed in 2022 to incorporate community engagement considerations.

Four decades and counting – a career characterised by change and challenge

Senior Technologist Peter Winnicki joined Zotefoams as a chemistry graduate straight from King's College, London in December 1978. In the intervening 43 years, Peter has seen significant changes in products, markets and the business itself.

During the 1980s he added new product development to his original materials testing role, then commissioned a raft of new high-pressure autoclaves powered by thermal oil, instead of steam, as previously. This was a huge step; higher temperatures meant the ability to produce lower-density polyethylene foams and, eventually, to process engineering polymers at lower densities and in thicker sheets. It also meant higher productivity; the new generation of high-pressure autoclaves can hold 600–800 sheets, compared with a maximum of 200 previously (and just 27 in the earliest models still in production when Peter joined Zotefoams).

With activity accelerating over the past two decades, including further expansion in the USA, entry into Asia, the construction of the Polish manufacturing plant and moves into new markets, things have changed significantly since Peter's first day at Zotefoams. Though product protection, construction and marine have remained core markets over the years, new and exciting sectors include footwear and aviation.

Asked what has kept him at Zotefoams, Peter replies: "I haven't had the same job for 43 years – it's changed every three or four. I've never had time to get bored because something new always comes along. At the moment, we're exploring new technology for a significant new market. So, yes, there are always changes and challenges – that's the Zotefoams way."

Our people
Continued

Organisation development

Significant progress was made during the year against the HR strategy established in 2020 to underpin our talent growth agenda. As well as planned organisational development, we are constantly monitoring and reacting to changes in our business environment, with key skills and labour shortages being particularly prevalent recently. In the UK, we delivered an organisational development plan to improve our new product implementation process and proactively strengthened our supply chain, production and procurement teams to meet the demands of an increasingly complex global supply chain. This focused on key roles, improving the customer services function capability and creating a standalone logistics function to address import/export challenges. In a climate of enduring skills shortages in both Poland and the USA, our terms and conditions were realigned to local market norms and key hires were made in the USA manufacturing leadership structure. T-FIT® insulation products remain a key strategic opportunity to grow and enrich our product mix over the medium term and the calibre and size of the HPP business unit accordingly continued to be an area of focus in 2021. Our team in Kunshan, China was strengthened by the appointment of two new business development managers in 2021. The T-FIT team has expanded geographically to cover more ground and access new customers in existing markets. A further increase in headcount is planned for 2022.

As working practices develop, we plan to implement a new blended working policy during 2022. This is partly in response to continuing restrictions on certain employees attending the workplace in various jurisdictions and also recognises the evolving expectations of our current and potential employees. Our objective is to maintain a positive environment to attract and retain talented staff and has the added potential benefits of enabling a wider geographical recruitment pool, reducing the impact on our carbon footprint from commuting and also supporting a work pattern and work–life balance which would, for example, allow the recruitment of employees with child-care obligations.

Performance management

Aligning to one of Zotefoams' cultural pillars "we are a learning organisation", we launched a new performance management system in the UK, Poland, China and India in 2021. This is designed to encourage higher employee engagement, with more frequent feedback and coaching throughout the year, leading to detailed personal training plans. Managers conducted an initial objective assessment of employees' performance in order to establish a baseline of competence across the business with the dual objectives of addressing skills gaps by identifying learning and development opportunities and supporting good succession planning. Key data on organisational performance against corporate objectives will be analysed in 2022. This is similar to the processes already embedded within our main subsidiaries in the USA, informed by local practice.

People development

The importance of retaining and managing staff effectively was emphasised during the pandemic and remains a priority in a global environment affected by skills shortages. As 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 2021.

UK Graduate Scheme

Our two-year Graduate Scheme is aimed at increasing the organisation's technical capability and enables us to develop young talent which understands the business. The scheme comprises two or three development roles for each individual. Graduates undertake a programme of learning and hands-on exposure to all major functions in the business, to build broad business insight and give them the experience that will enable them to progress in their chosen career path.

2020's graduates were asked to share their insights with the Executive team. In addition to identifying a number of areas for development, graduates valued being given responsibilities that allowed them to see their contribution to the business and to gain commercial insights through the different roles they experienced as part of the scheme. The scheme is being developed to include a more formal approach to learning outcomes, briefing managers on expectations for each placement and extending the number of mentors to include members of the senior management team. From 2022, the scheme will open to potential business and IT graduates. The three graduates who completed the scheme in 2021 are now in full-time roles as a Process Engineer, a Technologist and a Senior Customer Service Representative.

Training and development

Since the introduction of an online training library in 2020, more than 1,970 courses have been completed in areas as diverse as compliance, occupational health and safety, and personal interests such as mindfulness and travel photography. 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.

To build the future leadership of the Group, some individuals identified as key talent are studying MBAs or taking other advanced qualifications at a world-class university, supported by Zotefoams. 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.

LEAD Operational Business Toolbox

Our LEAD programme, which covers commercial, project management and lean techniques, is intended to give a broad range of employees the skills to identify and address inefficiencies as well as enhance cross-functional teamwork through integrated training and projects. In 2021, these projects were rescoped to reflect new working practices, with production and technical departments participants resuming programmes suspended during the initial COVID restrictions. A progress assessment will be carried out in 2022.

Diversity

The Board is aware that diversity without inclusion will fail to generate the essential connections that attract and, crucially, retain diverse talent to foster the innovation key to business growth. Our new Board Diversity Policy is accessible on our website: https://zote.info/3wRSYEL. It 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.

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 64% of Group employees, is located in South London and 36% of the workforce is from a non-white ethnic group; 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.

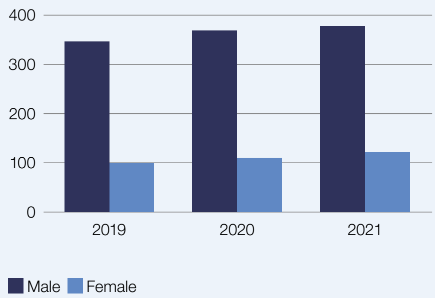
Ethnicity distribution of total workforce

	UK	US	China	Poland	India	Group-wide
Asian	50	–	35	–	9	94
Black	53	1	–	–	–	54
Hispanic or Latino	–	20	–	–	–	20
Mixed	6	–	–	–	–	6
White	196	88	1	25	–	310
Other	4	–	–	–	–	4
Unknown	11	–	–	–	–	11
Non-white ethnicity	**36%**	**19%**	**100%**	**0%**	**100%**	**34%**
Estimate of non-white ethnicity in the country	**14%**	**39%**	**100%**	**6%**	**100%**	**–**

Role by gender[1]

	Female 2021	Male 2021	Female 2020	Male 2020
Non-Executive Director	2	3	2	3
Director	–	2	–	2
Executive team[2]	1	5	2	5
Direct report to Executive team	8	31	7	31
Other staff	110	337	99	328
	121	**378**	**110**	**369**

Gender



1 In calculating headcount, we take into account 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.

Gender

Around 25% of the total workforce is female. 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 only to change over the longer term. Across the business, we also see a gender imbalance at managerial and professional levels of the business, which we will address over time through the recruitment and internal development of more junior staff who will increase the proportion of female employees progressing into these roles. Our new blended working policy is also expected 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 Gender Pay Gap has fallen significantly since 2017 and stood at 5.4% in April 2021, below a UK average of 7.9%. Our report can be accessed at https://zote.info/3iRXA5y

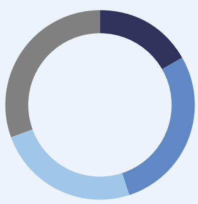
Looking forward

In the coming years, we expect further expansion of our business globally as well as a continuation of supply chain and other challenges, including shortages of talented employees in the developed economies where we operate. Zotefoams will embed the changes it has made in working practices and continue to develop policies and procedures to attract and retain the right employees. We will promote a culture where people constructively challenge themselves and others and where success is valued and recognised.

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. 30% of our workforce is aged 51 or over.



<30	84
30–40	141
41–50	122
≥51	152

To cement the augmented T-FIT team, a team building exercise aimed at encouraging a collaborative spirit was undertaken in October 2021 at Suzhou West Lake, Hangzhou, China. The exercise was well received by staff and Global Commercial Head Paul Marty commented: "This team activity was a great opportunity to connect on a deeper personal level. Ahead of a busy Q4, it gave all of us a chance to take stock in beautiful surroundings."

s172(1) statement
Our shareholders and stakeholders

The Board is 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 employees, customers, suppliers and communities) and
- Maintaining a reputation for high standards of business conduct.

The Board has strived to embed these considerations in its decision-making process and made its first report on compliance in the 2019 Annual Report.

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 for itself specific matters for approval, including significant new business initiatives. The Board ensures that management is acting in accordance with, and making progress on, the agreed Group strategy through regular Board meetings. Supported by information packs circulated in advance to enable effective preparation and discussion, these meetings are the principal forum for discussing the monthly reporting of business performance and direct engagement with the Executive team and employee groups. A Board member representing workforce engagement also attends the UK Joint Consultative Committee, which represents workforce views. Processes are in place to ensure that the Board receives relevant information which enables sound decisions to be made in support of the Group's long-term success.

Key Board decisions in 2021

Considering all stakeholders when making key business decisions is fundamental to our ability to create value over the longer term. In the midst of recovering from a global pandemic, 2021 was focused on balancing the needs and expectations of our stakeholders – our customers, shareholders, employees and suppliers and the wider communities we operate in – in line with our purpose, "optimal material solutions for the benefit of society".

Decision	Investing in the ReZorce® mono-material barrier packaging solution – the first beverage carton for the circular economy
Context	In 2020, the Board approved a ReZorce market assessment focusing primarily on cartons for aseptic liquid packaging while maintaining the optionality of exploring alternative opportunities. In 2021, the Group: ▶ Commissioned a pilot line for extrusion trials and a sterile carton packaging machine to test the sheet's capability to be formed into a carton and sealed to the required industry standards ▶ Commissioned trial sterilisation and carton packing equipment ▶ Aligned with potential customers and trial partners to test product on commercial equipment
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** Leaders with market-relevant experience were hired during 2020 and 2021 to increase the capability of the MEL team and support the realisation of the ReZorce opportunity. **Environment** Our ReZorce product line is planned to be made with increasing amounts of recycled plastic content and, as it is classified as a mono-material, can be readily recycled to support a circular economy. The product won a number of awards in 2021, including the British Plastics Federation and Horners Bottlemaker's Award, Best New Concept at the UK Packaging Awards and a Green Apple Environmental Award, as well as being shortlisted for several innovation, recycling and environmental awards.
Strategic actions supported by the Board	Supported an IP registration programme Invested £1.9m in capital assets and development costs Diverted resources from the MEL licensing business to support ReZorce and focused the latter on existing customers only
Impact of these actions on the long-term success of the Company	ReZorce mono-material barrier packaging offers society a truly circular option using existing recycling infrastructure. The strongly negative public perception of plastic is becoming more nuanced beyond the environmental impact of ill-considered, single-use plastic used predominantly in consumer packaging. The significant progress achieved in 2021 is a step forward in creating value from ReZorce cartons. In 2022, we will engage with partners to develop the technology and commercial opportunity further and consider a number of business models which can deliver value to our stakeholders

Decision	Agreeing sustainability targets
Context	Informed by a global commitment to achieve net zero carbon emissions by 2050, Zotefoams' sustainability strategy aims to minimise the use of natural resources in Group operations. The sustainability targets agreed in 2021 focus on the reduction of our Scope 1 and 2 carbon emissions (see page 61). In parallel with these specific Scope 1 and 2 targets, we have calculated the carbon cost of our foams (referred to as "carbon accounting") and ReZorce mono-material barrier packaging solution. We are using this information and working with selected customers to assess how this can be used constructively to make objective decisions that steer us and our customers towards choosing the optimal materials for their solutions.
Stakeholder considerations	**Environment** Zotefoams products deliver high performance, insulation and reduced weight, which offers the potential for carbon emissions reductions in excess of the carbon emissions required to manufacture our products in addition to other benefits to society. **Customers** Our products, when used appropriately, remain the optimal solution both functionally and environmentally for many of our customers' needs. We have the technical expertise to identify ways to reduce our customers' carbon footprints and increase material efficiency.
Strategic actions supported by the Board	Agreed targets on reducing waste and recyclability. Introduced new reporting against the recommendations of the Task Force on Climate-related Disclosures. Oversaw a number of sustainability initiatives. See our ESG report on page 56. A bank refinancing facility commenced late 2021 and completed in March 2022 includes ESG commitments.
Impact of these actions on the long-term success of the Company	We view the transition to a lower carbon economy as an opportunity to demonstrate our competitive advantage through the nature of the existing business and the proactive pursuit of opportunities with outstanding sustainability credentials.

Decision	Changing ways of working while improving employee engagement
Context	A legacy of the pandemic will be a change in how people work. Enforced working from home requirements have also brought new challenges and duties on the employer around employee welfare. New working practices, aimed at striking a balance between business requirements and people needs, evolved rapidly in 2021.
Stakeholder considerations	**Employees** Addressing challenges arising from new ways of working requires the consideration of employees' mental, social and professional needs. Amplifying the employee voice to support good governance arrangements. **Shareholders** Our people are a key asset. Initiatives supporting the development of the talent pipeline and staff retention contribute to the value of the business.
Strategic actions supported by the Board	Work/life balance challenges arising from these new ways of working were recognised. In addition to continuing to provide an employee assistance programme, available 24 hours a day and seven days a week in our two largest sites in the UK and the USA, a number of wellbeing initiatives were launched. Further details are provided in our People section on page 70. We consolidated new working practices in 2021, including remote, flexible and different ways of working. A blended working policy for UK employees was finalised and communicated to all staff, setting out how the post-COVID working environment will look at Zotefoams. A Board diversity policy was introduced to lead from the top in matters of diversity and inclusion. The UK Joint Consultative Committee, attended by J Carling, the Board Director assigned responsibility for employees, was relaunched with increased representation by departmental delegates and new terms of reference highlighting the importance of the employee voice. When permitted under prevailing COVID restrictions, senior managers were introduced to the Board for informal discussions over lunch. An updated online performance evaluation process was launched during the year in the UK, aimed at improving the Group's ability to help its employees develop in line with business needs.
Impact of these actions on the long-term success of the Company	A motivated workforce whose interests are aligned with those of the business. A wider geographical reach to increase our access to key talent.

s172(1) statement
continued

Decision	Meeting global supply chain challenges
Context	The COVID-19 crisis has exacerbated the challenges of managing extended supply chains, with Brexit causing additional logistical and administrative issues for UK manufacturers as well as increased costs.
Stakeholder considerations	**Shareholders** Achieving revenue targets and profitability required significant management time and activity to mitigate supply chain challenges. As a consequence, the Group maintained its strong financial position in 2021 and paid both a final 2020 dividend in June 2021 and an interim 2021 dividend in October 2021. **Employees** New leaders, with improved skill sets, were hired in procurement and supply chain. A Sales and Operations Planning (S&OP) Manager was hired, for the first time at Zotefoams, to manage the global challenges arising from running a more integrated business across three main manufacturing sites. The supply chain function was restructured to provide a clearer distinction between customer service and logistics management and improve employee satisfaction. Staff benefited from new job opportunities and enhanced training. **Customers** A restructured supply chain function was launched in Q4 2021, following months of trials with selected customers, to improve the customer experience. An increased focus on logistics management helped secure road and container freight in a timely fashion, under challenging circumstances, to ensure timely deliveries. **Environment** A number of sustainability initiatives were implemented in 2021 to mitigate the impact of Zotefoams' supply chain on the environment. See our ESG report on page 56. **Supply chain partners** Monitoring the end-to-end supply chain was a key challenge in 2021. Measures were put in place to keep track of the location and status of inventory, forecast customer demand accurately, and monitor a fluctuating transport capacity.
Strategic actions supported by the Board	Continued a second-sourcing approach for key suppliers in line with our risk management process. Monitored raw material and freight cost increases and made sales price increases where considered appropriate. Oversaw mitigation plans put in place to address supply chain issues. Reorganised the procurement and customer-facing functions.
Impact of these actions on the long-term success of the Company	The flexibility and resilience of the Group provided confidence in the financial stability of the business and allowed it to continue its investment programme in support of future growth.

Decision	Launching production in Poland
Context	Building our Poland manufacturing plant was part of the strategy to increase global capacity and optimise service levels for customers in continental Europe. Construction of the facility began in February 2019 and production started in February 2021. This marks the culmination of a multi-year investment programme that also increased capacity in the UK and USA and represents an overall increase of 60% compared to the position at the end of 2017.
Stakeholder considerations	**Shareholders** Additional capacity and a European location will enable the Group to meet its medium-term growth targets. **Customers** The Poland plant offers on-site storage for up to 15,000m^3 of foam. The plant's location in Brzeg, being close to trans-European road and rail networks, offers excellent service to many of our customers in continental Europe. Zotefoams also has significant foam production capability in the USA and UK, increasing the ability to serve our customers globally. **Employees and local community** The site provides further employment opportunities to the local community.
Strategic actions supported by the Board	Investment of £23m over a period of three years for a strategically located manufacturing and distribution site with 15% of Zotefoams' annual Group foam expansion capacity.
Impact of these actions on the long-term success of the Company	The eight hectare site is large enough to accommodate future expansion. We believe that near-shoring will continue to be a key consideration for our European customers in light of global supply chain challenges, and the location of our new plant will increase flexibility and responsiveness through integrated global capacity.

Board of Directors

Uniting the skills to take us forward

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 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 20 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.

External appointments
None

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
Senior Independent Director, 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. Until 31 December 2020, she was also Non-Executive Director and Chair of the Audit Committee of Mobeus Income & Growth VCT plc.

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 and is committed to the highest standards of corporate governance.

In response to the continuing challenges caused by COVID-19, the Board discussed with the Executive team how the impact of the pandemic would be mitigated across the Group's current and longer-term operations, having regard to the macroeconomic environment and related uncertainties.

Our purpose, "optimal material solutions for the benefit of society", is core to the articulation of our sustainability strategy. Significant progress was made in ESG matters in 2021. Details are provided in our ESG report on pages 56 to 69. Our purpose also drives and determines how we engage with our different stakeholders.

Key areas of stakeholder focus for 2021 included:

- The conservation of resources by setting sustainability targets aimed at reducing polymer waste in the manufacturing process
- The support of customers by commissioning a Poland plant key to increasing flexibility and responsiveness through integrated global capacity
- Employee engagement, with a reframing of the Joint Consultative Committee's terms of reference to emphasise the importance of the employee voice and new opportunities for staff to meet the Board informally.

Further details may be found in our s172(1) statement on page 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
Corporate governance plays an essential part in the long-term success of the Group and the Board and I are committed to upholding the highest standards of governance in our worldwide operations. Throughout the financial year ended 31 December 2021, 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, where an explanation of our progress to date and our plans towards bringing the Company into line with the Code are set out on page 88 of the Directors' Remuneration report.

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

Further details are provided in this report and in the Board Committee reports that follow on pages 81 to 103.

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

Board and Committee composition and diversity
The Board maintained 29% female membership in 2021. 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. Having noted the aspirational targets set by the Hampton-Alexander review and the Parker review, the Board has adopted a Board diversity policy which informs the Board recruitment process. The diversity 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 73**, and our Nomination Committee report can be found on** page 87.

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

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.

Director	Tenure at 31 December 2021
S Good	7 years and 3 months
J Carling	4 years
A Fielding	1 year and 7 months
G McGrath	6 years and 1 month
D Robertson	4 years and 4 months
D Stirling	24 years and 4 months
C Wall	1 year and 7 months

Board leadership and effectiveness
In line with the Code, we conducted an internal review of Board effectiveness with the objective of assessing whether the Board's composition, operations and structure remained effective for the Group and its business environment, both in the short and long term.

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.

Further information relating to the evaluation process can be found on pages 81 and 82.

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, at the recommendation of the Audit Committee, I confirm that we believe that the 2021 Annual Report presents a fair, balanced and understandable assessment of the Group's position, its performance and its prospects, as well as its business model and strategy.

Annual General Meeting
Given the UK government restrictions on public gatherings due to COVID-19 and to protect the health and wellbeing of our shareholders and other attendees, the Board decided to hold a closed meeting for the 2021 AGM. Shareholders were given the opportunity to pre-register their questions ahead of the meeting for the Board to address any such questions during the proceedings. A separate virtual presentation, open to all existing shareholders and other stakeholders, also took place post AGM on the Investor Meet Company platform: https://www.investormeetcompany.com/zotefoams-plc/register-investor. It is our intention this year to hold the Annual General Meeting in person. The opportunity to listen to the AGM proceedings and submit questions in real time to the Board will also be open to both existing shareholders and other stakeholders on the Investor Meet Company platform. Further information is provided in our Notice of the 2022 AGM.

The Directors and I are looking forward once again to welcoming shareholders to the meeting.

S P Good
Chair

6 April 2022

The Board and its Committees

The Board's role is to provide the entrepreneurial leadership of the Group within a framework of prudent and effective controls that enables 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's role is to act as the representative of the shareholders and other stakeholders and focus 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, www.zotefoams.com.

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 August 2021.

Chair and Group CEO

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.

Board balance and independence

The Board currently comprises two Executive Directors, four independent Non-Executive Directors and the Non-Executive Chair. 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.

Information and professional development

Each month, all Directors receive management reports and briefing papers in relation to Board matters in a timely manner to ensure 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 CPD activities through the year to support development areas identified though the Board evaluation process.

Board evaluation

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 2022.

The 2021 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 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	11	11	4	4	4	4	2	2
A Fielding	11	11	4	4	4	4	2	2
S Good	11	11	–	–	4	4	2	2
G McGrath	11	11	–	–	–	–	–	–
D Robertson	11	11	4	4	4	4	2	2
D Stirling	11	11	–	–	–	–	–	–
C Wall	11	11	4	4	4	4	2	2

The Board and its Committees
Continued

The process involved the following steps:

- Completion of a combined qualitative questionnaire for the Board and its Committees
- A skills matrix
- Individual interviews and a group discussion and
- For the first time in 2021, feedback from the Executive team on their interaction with the Board.

The main observations from the evaluation were:

- Good arrangements were in place for the administration of the Board's business (including the flow and availability of information, the conduct of meetings and interactions with Executive Directors and the Executive team). Face-to-face interaction is valued by Directors and more in-person meetings will be arranged in 2022, subject to government restrictions
- The skills matrix evidenced a strong mix of skills, experience and knowledge, with developing knowledge in environmental, social and governance (ESG) matters
- A positive Board culture enabled each Director to contribute fully and effectively to Board debate
- The Executive team valued Board input and sought to leverage individual Directors' expertise to inform executive action. Further engagement is planned in that respect in 2022
- The Board had clear sight of its objectives, with a good balance between a short and long-term focus.

The outcome of the review highlighted that the Board and its Committees are effective and well run and that 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.

Re-election of Directors
The Code requires Directors to submit for re-election annually at the AGM. The Company implemented this practice in 2012 and will continue to observe it.

Remuneration Committee and executive remuneration
A report on the work of the Remuneration Committee is contained within the Directors' Remuneration report.

The report can be found on pages 88 to 99.

Financial reporting
The Directors' responsibilities for preparing the financial statements are set out in the Statement of Directors' responsibilities.

The statement can be found on page 103.

Audit Committee and Auditor
The Audit Committee report provides details of the role and activities of the Committee and its relationship with the External Auditor.

The report can be found on pages 84 to 86.

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 2021, these meetings continued to be held virtually through video conferencing technology. 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 Board also recognises the importance of engaging with individual shareholders and the Executive Directors now 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 roadshow.

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

Internal control
The Board has applied the 2018 Code by establishing procedures to manage risk, overseeing the internal control framework, and determining the nature and extent of the principal risks the Group is willing to accept in order to achieve its long-term strategic objectives. The Board regularly reviews the process, which has been in place throughout the year to the date of approval of this report and which is in accordance with the Financial Reporting Council's Guidance on Risk Management, Internal Control and Related Financial and Business Reporting. The Board is responsible for the Group's system of internal control and for reviewing its effectiveness. Such a system is designed to manage, rather than eliminate, the risk of failure to achieve business objectives and can only provide reasonable and not absolute assurance against material misstatement or loss.

In compliance with the 2018 Code, the Board regularly reviews the effectiveness of the Group's system of internal control, as well as how it is reported to the Board. The Board's monitoring covers all controls, including financial, operational and compliance controls and risk management. It is based principally on reviewing reports from management and the Internal Control Committee to consider whether significant risks are identified, evaluated, managed and controlled and whether any significant weaknesses are promptly remedied. The Board has also performed a specific assessment for the purpose of this Annual Report. This assessment considered all the significant aspects of internal control arising during the period covered by the report. The assessment also included a robust review of the principal risks facing the Group, including those that would threaten the Group's business model, future performance, solvency and liquidity.

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

During the course of its review of the system of internal control 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 system of internal controls are as follows:

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 documented.

Risk identification
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 45.

Information and communication
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.

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 and reviews by management, Internal Audit 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.

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 Audit and management.

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

Audit Committee report
Maintaining financial control through volatile times

Dear Shareholder

The Audit Committee has reviewed the contents of the 2021 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, which now incorporate the consideration of climate-related risks by the appropriate Control Committee and a principal risk on sustainability and climate change.

While the Committee's core duties were unchanged in 2021, there was particular focus on ensuring strong internal financial controls to support agile decision-making in a fast-evolving environment that presents new global challenges, including multifaceted legal and compliance environments, integrated supply chains, cyber security risks and unprecedented volatility. Further details are provided in the risk management section on pages 45 to 54.

The environment in which Zotefoams now operates also presents emerging opportunities. The Audit Committee members have offered guidance and advice to management on the risks involved and controls required in the further development of ReZorce® Circular Packaging to the market. Further details on ReZorce are provided on pages 8 and 9.

Challenging the External Auditor's findings

The Audit Committee challenged the work done by the External Auditor to test management's assumptions and estimates. Examples of these challenges are found below under the section on financial reporting and significant financial issues.

In addition:

- The Committee specifically discussed 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). 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.
- The Committee also reviewed the work done by the External Auditor to challenge underlying assumptions supporting the going concern statement and concluded that the challenge of management forecasts and their assessment of going concern had been appropriate. It also noted the renewal of the Group's banking facilities for a further four years, with a one-year extension option, on terms more favourable than the expiring facility
- While noting that the initial external audit scope for the Group complied with the International Standards on Auditing (UK), the Committee, having considered the rate of growth of operations in Poland and China, held robust discussions with the External Auditor in respect of the level of audit work to be undertaken in respect of these Group components. It was agreed that these components would be subject to more audit testing than initially proposed or required under the International Standards on Auditing (UK). This resulted in a more in-depth review of these operations than previously proposed.

Global control

The Audit Committee reviewed the internal controls framework, see page 45, to assess how it had responded to challenges brought about by disruption to the global supply chain and evolving stakeholders' expectations in relation to environmental, social and governance matters. The Committee satisfied itself that the SASB 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. The Committee oversaw the embedding of the new principal risk of sustainability and climate change in 2021 and focused on ensuring that the improved ESG disclosures were appropriate and supported shareholder decision-making. Details of Zotefoams' strengthened ESG framework may be found on page 57.

Group cyber security arrangements

The Audit Committee reviewed Group cyber security arrangements, with a particular focus on critical security updates used to combat malware and ransomware in accordance with the requirements of the Group's Cyber Essentials Plus accreditation and employee education. The Committee satisfied itself that the level of work performed by the Group's IT department, its competence, the Group-wide employee training programme in place and the full annual penetration testing, appropriately mitigated the risk of a malicious attack.

Internal audit

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 2021. The Committee agreed the scope for the internal audit work performed in 2021, reviewed the report received and discussed the proposals made with management. 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 and fully supports them.

In recognition of the increased size and complexity of the Group, the Audit Committee requested that management develop a multi-year rolling programme that covers the most significant risks not already mitigated through other audit methods and certifications. Working closely with the Internal Auditor, these risks were identified, presented to and approved by the Audit Committee and converted into a three-year rolling cycle of two audits per year, beginning in 2022. A full scoping and planning process will be followed for each internal audit proposal and tabled for approval to the Audit Committee.

During the year, the Audit Committee monitored the effective implementation of the actions arising from the 2020 internal audit of the Purchase-to-Pay policies, processes, procedures and controls in place in the UK. Due challenge was delivered by the Committee on areas requiring management actions. Effective interim solutions to the audit findings are in place but progress in implementing longer-term systemic solutions has been impeded by the redeployment of procurement resources required to tackle global supply chain disruptions and Brexit-related import/export compliance challenges. The Audit Committee has imposed a rigid timetable for the implementation of the control improvements in 2022.

For 2021, the Internal Auditor performed an all-subsidiary review of policies, procedures, processes and controls in relation to the payroll function. Its report was presented to the Audit Committee in December 2021 and due challenge was delivered by the Committee on areas requiring management actions, with an emphasis on embedding global values around compliance, control and accountability. Following agreement, the actions were approved and are being implemented to an appropriate timetable.

The Committee will keep under review and assess the continued independence and effectiveness of internal audit in 2022.

MEL capitalisation costs

The Committee has considered the assessments made in relation to the carrying value of MEL's goodwill, tangible and intangible fixed assets on the basis of detailed reports received from management outlining the treatment of impairments, valuation methodology and the basis for capitalisation of costs in line with IAS 38. In order to consider the assumptions related to the current ReZorce initiative and how the decision not to impair has been determined on the basis of this, the Committee requested a report at the beginning of 2021 to assess the effective treatment of costs, a process which involved consulting with the External Auditor. The Committee has received regular briefings on the project development, has challenged management and is satisfied that these assumptions and the judgements and estimates disclosed in the financial statements are appropriate.

Financial Reporting Council (FRC) thematic review

During the second half of the year, in line with the FRC's review function of listed securities, a review of Zotefoams' interim financial report to 30 June 2020 was carried out. I am pleased to advise that, based on its review, there were no questions or queries that the FRC wished to raise with the Company. Zotefoams has committed to considering the points made in the FRC's letter when preparing this and future sets of reports and accounts.

It is important to note that the FRC's letter provides no assurance that the interim financial report is correct in all material respects as the FRC's role is not to verify the information provided but to consider compliance with reporting requirements.

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 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

6 April 2022

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
- 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 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 consider and approve the remit of the Group's internal audit function and to monitor and review its effectiveness in the context of the Group's overall risk management system
- 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 2021.

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 2021 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 four times in 2021.

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 management 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 2021, the Audit Committee has:

- Reviewed the financial statements in the 2020 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 audit of the 2020 Annual Report
- Noted the new mandatory European Single Electronic Format (ESEF) applicable to consolidated primary financial statements for financial periods beginning 1 January 2021 or later and satisfied itself that the ESEF process had been integrated into the Annual Report planning and appropriate testing had been carried out in anticipation of the 2021 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

Audit Committee report
Continued

- Reviewed the Interim Report issued in August 2021 and received the report from the External Auditor on its review of the Interim Report
- Agreed a programme of work for 2021 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
- Noted that the FRC had written to Zotefoams plc to advise that it had carried out a review of the Company's interim financial report to 30 June 2020 and had no questions or queries it wished to raise. The Audit Committee undertakes to ensure the points made in the FRC's letter are considered when preparing this and future sets of reports and accounts
- 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
- Reviewed and approved a plan for monitoring 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
- Reviewed Group-wide cyber security arrangements
- Considered the inventory management and working capital position of the Group
- Considered the risks impacting the Group, its customers and the economic environment, relating to Brexit 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, having regard in particular to the continuing impact of COVID-19 and Brexit in 2021
- Received reports from J Carling in relation to his engagement with the Joint Consultative Committee (JCC), which comprises an employee representative from each department and meets regularly to consider a wide range of matters affecting the employees' current and future interests
- 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 2021
- 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.

As the Group's closed defined benefit pension scheme represented one of the largest liabilities on the consolidated statement of financial position at £4.7m as at 31 December 2021, 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 2021 Audit was PKF's second 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 was implemented in 2021 and evidenced 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 2021.

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 2022 AGM to re-appoint PKF as the External Auditor.

Nomination Committee report
Cultivating agility

Dear Shareholder
I am pleased to present my report on the activities of the Nomination Committee in 2021.

Having seen two additions to, and one departure from, the Board in 2020 during a period where physical meetings were avoided and short-term problem solving took prominence, 2021 was an opportunity to develop the Board's teamwork and focus further on strategic development. While following the Group's strict COVID-19 guidelines, the Board was able to meet physically on several occasions and interact more frequently with the Executive team. This was of particular value to the 2020 new appointees, A Fielding and C Wall, who brought fresh insights to the Board and reinforced its culture of challenge and innovation.

The principle of diversity is strongly supported and recognised by the Board, which believes that one of its significant benefits is that it counters 'groupthink' by informing debate from a range of perspectives. Female Board membership of 29%, achieved in 2020, remained in 2021 and progress continues to be made within the Group with recruitment of female graduates as part of the graduate recruitment scheme. The Board has also considered the Parker review published in November 2020 and concluded that its findings should be taken into account in Board succession planning. The Board diversity policy, adopted in June 2021 and published on Zotefoams' website https://zote.info/3wRSYEL, aims to ensure that the Board's membership reflects diversity in its broadest sense. Please see our diversity figures on page 73.

In line with the provisions of the UK Corporate Governance Code, the Company Chair's term of office is due to end in 2023. Following an assessment of the Board's existing skillsets against those required to deliver the strategy, a recruitment process, led by the Senior Independent Director was initiated for the appointment of a new Company Chair in 2023. The process will focus on identifying candidates from diverse backgrounds whose skills complement those of the existing Board members, having regard to the Company's strategic vision and, in particular, to a sound understanding of sustainability matters.

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 72.

The Board's annual evaluation process in 2021 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 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 interacts with them at Board meetings and during strategic planning sessions. The Board evaluation process was extended in 2021 to assess the level and quality of interaction between the Board and members of the Executive team. Full details of the Board's annual evaluation process, including action taken on previous findings, are provided in the corporate governance section on pages 81 and 82.

Recognising that a people strategy sits at the core of the future of the Group, the Human Resources function is managed through quarterly HR risk steering committee meetings which focus on the mitigation of risks and optimisation of opportunities which 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 Board and its Committees section on pages 81 to 83.

The Committee will continue to focus on succession planning, talent development and augmenting the Company's sustainability expertise in 2022.

S P Good
Chair of the Nomination Committee

6 April 2022

Key areas of focus

The Nomination Committee currently comprises the Chair and the four independent Non-Executive Directors.

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 2021. 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 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 and
- Seek engagement with shareholders on significant matters related to the Committee's areas of responsibility when appropriate to do so.

During 2021, the Committee:

- Reviewed and updated its Terms of Reference in line with current best practice
- 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
- Reviewed the composition of the Board and its Committees and assessed which additional skills and/or experience would complement those of the existing members, having regard to the Group's risk profile and strategy. Following that review, the Committee prepared a description of the role and capabilities required for the appointment of a new Company Chair
- Following a tender process, engaged Korn Ferry executive search consultants for the recruitment of a new Company Chair, noting that it is a signatory of the voluntary Code of Conduct on gender diversity and best practice https://www.gov.uk/government/publications/standard-voluntary-code-of-conduct-executive-search-firms/the-standard-voluntary-code-of-conduct-for-executive-search-firms and accredited by the Hampton-Alexander Steering Group in its 2020 review
- Considered and recommended to the Board the re-election of each Director ahead of their re-election by shareholders at the Company's 2021 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

During 2021, despite another challenging year for Zotefoams, our Executive team continued to manage the business well and deliver progress on strategic goals. In line with the normal policy review cycle, the Committee will review in 2022 the Remuneration Policy both from a structural and opportunity perspective to ensure it reflects the Group's strategic priorities and the calibre of Executives in role

Dear Shareholder

I am pleased to present the Remuneration report for the year ended 31 December 2021.

Introduction

Whilst 2021 was a mixed year for Zotefoams financially, a significant revenue milestone of £100.8m was achieved in the centenary year (up 22% on 2020). However, due to extremely challenging conditions caused by a difficult supply chain environment, large swings in product mix and ongoing pandemic restrictions, profit before tax reduced by 16% to £7.0m (2020: £8.3m). In this context, Zotefoams' Executive team continued to manage the business effectively throughout what has been a difficult and demanding year and continued to deliver on the Group's long-term strategic objectives, having made strong progress on two priority initiatives: the £23m Poland capacity expansion was completed on time and within budget and the ReZorce® mono-material barrier packaging development facility in Massachusetts, USA was commissioned.

2021 incentive outcomes

Annual bonus

Considering the performance delivered in 2021 and reflecting that 90% of the bonus is based on financial KPIs, the Committee determined that 22.0% and 16.0% of the maximum bonus should be paid to the Group CEO and Group CFO respectively, reflecting the strategic progress made in the year. A detailed description of performance against the targets is set out on pages 92 and 93.

Long-Term Incentive Plan (LTIP): 2019 Plan outcome

Regarding longer-term performance, the Group achieved an earnings per share of 9.01p in 2021 and relative TSR performance of below median against the FTSE SmallCap Index (excluding investment trusts) over the three-year performance period. In line with performance delivered, the 2019 Long-Term Incentive Plan award will lapse in full.

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) over the course of the year. Whilst, 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 Group performance delivered. It has, therefore, not exercised discretion in relation to incentive outcomes during the year.

Implementation of Remuneration Policy in 2022

Base salary

Base salaries will increase by 4.0%, in line with the anticipated base salary increases for the wider workforce (of 4.0%), to £344,318 for D Stirling and £229,190 for G McGrath, effective from 1 April 2022.

Pension

The Committee has continued to review D Stirling's employer's pension contributions, in light of the 2018 Corporate Governance Code and developing shareholder expectations around the alignment of Executive Director pension contributions with those provided to the majority of the wider workforce, and is committed to aligning the Group CEO employer's pension contributions with the workforce by the end of 2022.

As previously disclosed, following the closure of the Defined Benefit Pension Scheme in 2005, D Stirling has been contractually entitled to a pension contribution of 18.75% of salary from January 2021, alongside 27 active members. For 2021, in acknowledgement of evolving corporate governance requirements and the importance of moving towards a best practice approach, D Stirling voluntarily accepted a reduction in his pension contribution to 15% of pensionable salary for 2021 and has agreed to the same reduction for 2022. As part of the wider Remuneration Policy Review (see below) the Committee intends to review the approach to pensions going forward and will update shareholders on its proposed approach as part of the consultation process.

As communicated in the Directors' Remuneration report last year, the Board reviewed the pension contribution rate for the wider workforce. Reflecting on market practice, the Board decided to increase the employer contribution for all UK employees on the two direct contribution pension schemes currently run by the Company that are not related to the previous Defined Benefit Scheme by 1%, for those meeting the maximum employee contribution, with effect from April 2022.

Incentive awards

There will be no change in award levels for the Group CEO and Group CFO under our annual bonus and long-term incentive plan, which are currently set at 75% and 150% of base salary respectively. With respect to the long-term incentive, the Committee is cognisant of external views on windfall gains and as such, whilst it does not consider it appropriate to adjust award levels, it will review out-turns in the context of share price performance over the period between grant and vest. Details of the metrics for the 2022 annual bonus are set out on page 90, with 75% of the bonus based on financial metrics; 5% based on safety related metrics; 5%-10% based on performance against ESG related metrics; and 10%-15% based on other strategic metrics. The metrics and targets for the 2022 LTIP award are set out on page 90. For the 2022 LTIP award, awards will be based 50% on adjusted EPS growth (as defined on page 90); 20% on average ROCE (as defined on page 90); and 30% on relative TSR against the FTSE Small Cap Index excluding investment trusts. Performance targets for incentive plans have been set to reflect the business plan for the Group over the relevant performance period and external expectations of performance.

Looking forward

In line with the three-year cycle, the Committee will undertake a thorough review of the Remuneration Policy during 2022, both from a structural and opportunity perspective, to ensure it is reflective of the Group's strategic priorities and the calibre of executives in role. Three key areas that are currently areas of consideration include:

- Does the current structure remain fit for purpose in delivering on the Group's short and long-term strategic perspectives? The Committee feels that the three-year review cycle provides the right opportunity to take a step back and consider whether it remains fit for purpose going forward
- How can sustainability be further embedded within the incentive framework? In 2021, sustainability was central to our long-term strategy discussions and our first response to the Task Force on Climate-related Financial Disclosures (TCFD) is included on page 62. Alongside this, the Committee has increased the ESG element in the 2022 Annual Bonus from 5% to 10% for the Group CEO and will further review the inclusion of appropriate ESG targets for adoption in to any short-term and long-term incentive arrangements as part of the remuneration policy renewal
- Does the current remuneration opportunity reflect the size and complexity of the Group's operations and the calibre of individuals in role? Reflecting on the external context, the Committee remains 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 shareholders and employees. The Committee is concerned that, despite implementation of the delayed increases last year, Zotefoams' overall remuneration opportunity has fallen significantly behind market and is not reflective of the calibre of the Executives. As such, as part of the Remuneration Policy review, the Committee intends to review the overall remuneration levels to ensure they are appropriate in the context of the above and support delivery of the Group's strategic priorities.

The Committee and I would like to thank you for your continued engagement over the last year and look forward to receiving your support in respect of the Directors' Remuneration report at the AGM.

In the meantime, I will be available to answer any questions you may have.

A M Fielding
Chair of the Remuneration Committee

6 April 2022

Directors' Remuneration report
Continued

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 and Implementation in 2021

The current Directors' Remuneration Policy (the "Remuneration Policy") was approved at the 2020 AGM held on 8 June 2020 and is intended to remain in place until the AGM that will be held in 2023. A summary of the Remuneration Policy and how it will be implemented in 2022 has been set out below.

The full version may be found on pages 58 to 63 of the 2019 Annual Report. A copy of the 2019 Annual Report may be found by following this link: https://zote.info/3Kar8ah

<table>
<tr><th>Element and purpose/
link to strategy</th><th>Implementation for 2022</th></tr>
<tr><td>Salary
Positioned at a level needed to recruit and retain Executive Directors of the calibre required to develop and deliver the business strategy.</td><td>In line with the approach for the wider workforce, the base salaries for the Executive Directors will be increased on 1 April 2022 by 4% to:
D Stirling – £344,318
G McGrath – £229,190</td></tr>
<tr><td>Benefits
Provide market-competitive benefits for the Executive Directors, to assist in carrying out their duties effectively.</td><td>Benefits to be provided in line with approved policy.</td></tr>
<tr><td>Retirement benefits
Provide competitive post-retirement benefits and reward sustained contribution.</td><td>D Stirling – 15%[1] of salary
G McGrath – 6% of salary
1 Following the closure of the Defined Benefit Pension Scheme (the "DB Scheme"), there was a commitment to increase the level of contribution to the replacement Defined Contribution Pension Scheme (the "DC Alternative Scheme") for the members of that scheme (which includes D Stirling) by 3% of pensionable salary every five years. The most recent increase was applicable from 1 January 2021. D Stirling has contractually waived his entitlement to a 3% increase from 1 January 2021 on an existing contribution level of 15.75% and has agreed to a reduction in the contribution level to 15% since 1 January 2021.

As set out in the letter from the Remuneration Committee Chair, as part of the remuneration review to be undertaken in 2022, the Committee intends to review the approach to pensions going forward, and will update shareholders on its proposed approach as part of the consultation process.</td></tr>
<tr><td>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.</td><td>Maximum opportunity – 75% of salary.
25% of the bonus is deferred into shares in the Company for three years under the deferred bonus share plan.
For 2022, the bonus will be assessed against the following measures for both Executive Directors:
<table>
<tr><th>Measure</th><th>Weighting – D Stirling %</th><th>Weighting – G McGrath %</th></tr>
<tr><td>Profit before tax</td><td>60</td><td>60</td></tr>
<tr><td>Free cash flow delivery</td><td>15</td><td>15</td></tr>
<tr><td>Strategic financial</td><td>10</td><td>15</td></tr>
<tr><td>Sustainability</td><td>10</td><td>5</td></tr>
<tr><td>Safety</td><td>5</td><td>5</td></tr>
</table>
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.</td></tr>
<tr><td>Long-Term Incentive Plan
To incentivise the delivery of long-term sustainable operational performance and the growth potential of the Group.
To align interests of Executive Directors and shareholders.
To attract and retain executives of the calibre required to drive the Group's long-term strategic ambitions.</td><td>Maximum opportunity – up to 150% of salary.
Awards granted 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:
<table>
<tr><th>Measure</th><th>Weighting</th><th>Threshold (0% vesting)[1]</th><th>Maximum (100% vesting)[1]</th></tr>
<tr><td>Adjusted EPS[3]</td><td>50%</td><td>15p</td><td>25p</td></tr>
<tr><td>Average Return on Capital Employed</td><td>20%</td><td>9%</td><td>15%</td></tr>
<tr><td>Relative Total Shareholder Return[2]</td><td>30%</td><td>Median</td><td>Upper quartile</td></tr>
</table>
1 Straight-line vesting occurs between threshold and maximum.
2 Relative to the FTSE Small Cap Index excluding investment trusts
3 During both 2020 and 2021 the reported tax rate has deviated significantly, primarily due to rebates lowering the 2020 rate and accounting for future tax rate increases adjusting deferred tax provisions in 2021. In line with the approach to the 2021 LTIP award, the Committee has therefore considered it appropriate to set and measure EPS targets based on a constant tax rate of 19%. The Committee retains the discretion to override this where it considers it appropriate.</td></tr>
<tr><td>Non-Executive Director fees</td><td>The Non-Executive Directors (excluding the Company Chair) will receive a fee increase of 2.5% effective 1 April 2022, in line with the general salary increase that was given to the Company's staff in the UK in 2021.
Following a review of the Company Chair's fee during the year, the Committee has agreed to increase the Chair's fee to £125,000 effective 1 April 2022 to reflect the size and scale of the Group's operations and the calibre of the individual in role.</td></tr>
</table>

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% in the second year after leaving.

The Committee considers that the remuneration framework in place at the Group appropriately addresses the following principles set out in the 2018 UK Corporate Governance Code:

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 throughout 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, comprising the following key elements: ▶ Fixed pay: comprises base salary, benefits and pension. ▶ Annual bonus: bonus which incentivises the delivery of financial, non-financial and personal performance objectives. ▶ LTIP: which 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. 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.
Predictability	The Remuneration Policy sets out the threshold targets and maximum level of pay that the Executive Directors may earn in any given year. The actual incentive outcomes would 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 to the Group's strategic objectives, with performance targets calibrated to reward outperformance both over the short and long term. Furthermore, the Committee retains the discretion to adjust formulaic outcomes under the incentive plans in the event that it determines that the outcomes do not align with individual or Company performance. 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.

Single total figure of remuneration (audited)

The following tables set out the single figure for total remuneration for Directors for the 2021 and 2020 financial years.

Executive Directors

	Salary (£)	Benefits (£)	Bonus (£)	LTIP[1] (£)	CSOP (£)	Pension (£)	Total fixed pay (£)	Total variable pay (£)	Total (£)
D Stirling									
2021	**324,258**	**14,119**	**54,627**	**nil**	**nil**	**48,365**	**386,742**	**54,627**	**441,369**
2020	303,000	14,642	63,630	62,554	nil	47,722	365,364	126,184	491,548
G McGrath									
2021	**215,406**	**12,517**	**26,445**	**nil**	**nil**	**23,054**	**250,977**	**26,445**	**277,422**
2020	200,500	12,754	57,143	42,156	nil	21,434	234,688	99,299	333,987

1 The performance period for the 2018 LTIP award (granted in May 2018) ended on 31 December 2020 and has been included in the 2020 comparative figures above. Details on out-turns against the performance targets are set out on page 75 of the 2020 Annual Report. LTIP values for 2020 have been restated using the share price on the vesting date of 24 May 2021, being £3.98. The LTIP awards made in May 2019 have been included in the 2021 table as the three-year performance period ended on 31 December 2021. As set out on page 93, the 2019 LTIP awards, which are not due to vest until 20 May 2022, will lapse in full as performance achieved was below the trigger point.

Non-Executive Directors[1,2]

	Fees paid in respect of 2021 (£)	Fees paid in respect of 2020 (£)
J Carling	37,613	36,700
S Good	85,333[3]	83,886
D Robertson	42,667	41,943
A Fielding	42,667	26,395
C Wall	37,638	23,284

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 of 2.5% effective 1 April 2022.
3 The fee of the Company Chair will be increased to £125,000 effective 1 April 2022.

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 2021, the base salary (before salary sacrifice) for G McGrath was £220,375 p.a. (£200,500 p.a. as at 31 December 2020).

D Stirling receives a cash contribution in lieu of pension contributions in accordance with the rules of the Scheme, which apply to all members. As at 31 December 2021, the base salary for D Stirling was £331,075 p.a. (£303,000 p.a. as at 31 December 2020).

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 2021

The targets for the annual bonus for 2021 for D Stirling and G McGrath are as set out in the below table:

	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%	£7.9m	£9.3m	£7.0m	0%	0%
Meet Group operating cashflow budget	15%	20%	£7.1m	£8.5m	£5.2m	0%	0%
Strategic financial – MEL	10%	0%	See below	See below	See below	7.5%	n/a
Strategic financial – S&OP planning	5%	0%	See below	See below	See below	5%	n/a
Strategic financial – PLC costing model	0%	10%	See below	See below	See below	n/a	6%
Strategic financial – Business unit segment allocation	0%	5%	See below	See below	See below	n/a	5%
Sustainability	5%	0%	See below	See below	See below	4.5%	n/a
Safety	5%	5%	See below	See below	See below	5%	5%
Total	**100%**	**100%**	**n/a**	**n/a**	**n/a**	**22%**	**16%**

1 The reported PBT was £7.0m. There were no exceptional items.

The below table sets out the targets and performance for the Executive Directors.

● Achieved in full or predominantly achieved ● Partially achieved ● Not achieved

Strategic financial metrics – D B Stirling & G C McGrath

	Weighting (% max)				Scoring	
Measure	**D Stirling**	**G McGrath**	**Objective**	**Performance**	**D Stirling**	**G McGrath**
Strategic financial – MEL	10%	0%	Present a strategy for MuCell (ReZorce® product line) with an agreed implementation plan and execute to critical milestones. Satisfaction of target to be assessed by MEL ReZorce working group against set milestones.	75% attainment due to milestones not being met to anticipated timescales	●	n/a
Strategic financial – S&OP planning	5%	0%	Deliver a system to improve decision making on Group capacity. Key elements are: ▶ A business simulation model (using Monte Carlo analysis) to allow assessment of new opportunities and existing business on Group capacity. (2.5%) ▶ A decision-making approach which examines the benefits of investing in new capacity vs mix enrichment over a 5-year horizon (2.5%)	Achieved	●	n/a
Strategic financial – PLC costing model	0%	10%	Develop and implement an updated costing model at Group level by Q4.	60% attainment due to delayed implementation	n/a	●

	Weighting (% max)				Scoring	
Measure	**D Stirling**	**G McGrath**	**Objective**	**Performance**	**D Stirling**	**G McGrath**
Strategic financial – Business Unit segment allocation	0%	5%	Reflecting on capacity investments, new overseas assets and assets in the UK, agree approach to asset allocation going forward	Achieved	n/a	
Safety	5%	5%	Based on individual assessment, achieve >90% compliance with the following: ▶ Conduct quarterly documented hi-visibility tours ▶ Participate in Safety Engagement & Observation reviews ▶ Ensure Field Level Hazard Assessment reviews conducted quarterly ▶ Participate in quarterly Safety Focus Groups ▶ Participate in quarterly Safety Culture Maturity Assessments	Achieved		
Sustainability	5%	0%	▶ Align internal control systems to SASB framework and set and implement clear targets for improvement (2.5%) ▶ Further develop and implement a wider sustainability strategy, making use as necessary of the SASB framework (2.5%)	90% attainment due to one element of the wider sustainability strategy not being fully implemented to anticipated timelines		n/a

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 Deferred Bonus Share Plan (DBSP). Full details of the operation of the DBSP are set out in the Directors' Remuneration Policy.

2021	**Cash bonus (£)**	**Deferred bonus (£)**	**Total bonus (£)**
D Stirling	40,971	13,656	54,627
G McGrath	19,834	6,611	26,445

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. Whilst, 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 2019 LTIP award was subject to two performance conditions measured over the three financial years ended 31 December 2021. 30% of the award was subject to relative total shareholder return against the FTSE SmallCap Index (excluding investment trusts). 70% of the award was subject to an EPS growth target. 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 and EPS 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 and EPS. Where performance is below the EPS trigger point, then no part of the EPS award vests. If performance is below the TSR trigger point, then no part of the TSR award vests. Between the trigger point and the maximum, the award vests on a sliding scale basis.

The table below summarises the performance criteria for the 2019 award, which is due to vest on 24 May 2022.

	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	8%	14	22%	70	-19%	0%

Based on the above level of performance, the 2019 LTIP will lapse in full. The Committee considered the formulaic outturns 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 2021 (audited)
The table below sets out details of scheme interest granted to the Executive Directors during 2021:

	Type of award	Date of grant	Number of shares granted	Face value[1] (£)
D Stirling	Deferred bonus[2] (Unconditional shares)	08.04.2021	3,678	15,926
G McGrath			3,303	14,302

	Type of award	Date of grant	Number of shares granted	Face value[3] (£)	Face value (% of salary)	Performance condition	Trigger point for vesting (% of face value)	End of performance period
D Stirling	LTIP[4] (Conditional shares)	26.04.2021	115,192	484,958	150	30% based on relative TSR growth[5]. 50% on annualised EPS growth[6] and 20% on Return on Capital Employed (ROCE)[7]	20% of maximum award for meeting the trigger points specified in notes 5, 6 and 7 below	31.12.2023
G McGrath			76,676	322,806	150			

1 Face value calculated using the average share price for the period 30 March 2021 to 7 April 2021 (£4.33). The share price was £4.15 on 8 April 2021.
2 Awards vest on the third anniversary of grant. There are no performance conditions for these awards.
3 Face value calculated using the average share price for the period 19 April 2021 to 23 April 2021 (£4.21). The share price was £4.16 on 26 April 2021.
4 Award is subject to a three-year performance period and, subject to performance, is released after a two-year holding period.
5 Relative TSR growth is measured against the FTSE SmallCap Index (excluding investment trusts). The trigger 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.
6 Annualised EPS growth is from the EPS for 2020. The trigger point is 5% annualised growth, where 10% of the award will vest, to the maximum of 15% annualised growth, where 50% of the award will vest.
7 ROCE is defined as operating profit before exceptional items divided by the average sum of equity, net debt and other non-current liabilities. This measure excludes acquired intangible assets and their amortisation costs. It is measured based on average ROCE. The trigger point is average ROCE of 8%, where 4% of the award will vest. Maximum vesting occurs for average ROCE of 10%, where 20% of the award will vest.

Total pension entitlements (audited)
The Zotefoams Defined Benefit Pension Scheme (the "DB Scheme") was closed to 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 2021 (£ p.a.)	Gross increase in pension (£)	Increase in accrued pension net of CPI inflation (£)	Change in value over the year (£)
D Stirling	22,418	112	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 2021; 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 2021.

Payments for loss of office (audited)

No payments were made during 2021.

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. The Committee intends to keep under review the mechanism to enforce the post cessation shareholding requirement during the course of 2022. Throughout 2021, D Stirling complied with the Policy, holding 577% of base salary at 31 December 2021[1]. G McGrath is making progress toward meeting the requirement and holds 184% of base salary at 31 December 2021[1].

1 Includes shares owned outright and interest in share incentive schemes without performance conditions. Calculated on the basis of the average share price over the three months to 31 December 2021 of £4.02.

The tables below set out the Directors’ interests (including those of their connected persons) in Zotefoams shares as at 31 December 2021. 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	449,824	47,127	202,866
G McGrath	61,257	65,206	134,691

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 and the unvested portions of the 2017 LTIP and the 2018 LTIP awards due to vest 1 June 2022 and 24 May 2022 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 2020	Date of exercise or release	Granted during the year	Exercised or released	Lapsed or cancelled	As at 31 Dec 2021	Market price on exercise date	Exercise price	Date from which exercisable	Expiry date
D Stirling	LTIP (2017)[1]	54,434	08.06.2021	–	(36,290)	–	**18,144**	£4.77	–	01.06.2021[2]	n/a
	LTIP (2018)	15,717	08.06.2021	–	(5,239)	–	**10,478**	£4.77	–	24.05.2021	n/a
	LTIP (2019)	73,070	–	–	–	–	**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
	DBSP (2017)	6,656	08.06.2021	–	(6,656)	–	**–**	£4.77	–	24.05.2021	n/a
	DBSP (2018)	2,677	–	–	–	–	**2,677**	–	–	20.05.2022	n/a
	DBSP (2019)[4]										
	25%	11,835	–	–	–	–	**11,835**	–	–	20.04.2023	n/a
	DBSP (2019)[4]										
	75%	35,508	08.06.2021	–	(35,508)	–	**–**	£4.77	–	See below[5]	n/a
	DBSP (2020)	–	–	3,678	–	–	**3,678**	–	–	08.04.2024	n/a
	SIP[3]	609	–	105	–	–	**714**	–	–	–	n/a
G McGrath	CSOP	10,344	–	–	–	–	**10,344**	–	£2.90	05.04.2019	05.04.2026
	LTIP (2017)[1]	35,719	08.06.2021	–	(23,813)	–	**11,906**	–	–	01.06.2021[2]	n/a
	LTIP (2018)	10,592	08.06.2021	–	(3,531)	–	**7,061**	–	–	24.05.2021	n/a
	LTIP (2019)	48,352	–	–	–	–	**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
	DBSP (2017)	4,419	08.06.2021	–	(4,419)	–	**–**	£4.77	–	24.05.2021	n/a
	DBSP (2018)	2,497	–	–	–	–	**2,497**	–	–	20.05.2022	n/a
	DBSP (2019)[4] 25%	7,444	–	–	–	–	**7,444**	–	–	20.04.2023	n/a
	DBSP (2019)[4] 75%	22,335	–	–	–	–	**22,335**	–	–	See below[5]	n/a
	DBSP (2020)	–		3,303	–	–	**3,303**	–	–	08.04.2024	n/a
	SIP[3]	561	–	106	–	–	**667**	–	–	–	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 As set out in the Committee Chair's cover letter of the 2019 Directors' Remuneration report, the decision on the timing of the vesting of the 2017 award was deferred for a period of up to one year by the Committee. The Committee set an exercise date of 1 June 2021 in 2020.
3 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".
4 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.
5 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 2021:

Director	Date of current service contract or appointment letter	Unexpired terms at 31 December 2021
J Carling	10 August 2020	1 year and 5 months
A Fielding	19 March 2020	1 year and 5 months
S Good	4 September 2019	5 months
G McGrath	15 April 2019	–
D Robertson	6 August 2020	1 year and 5 months
D Stirling	13 May 2019	–
C Wall	19 March 2020	1 year and 5 months

Copies of the Directors' service contracts and appointment letters are available for inspection at the Company's registered office.

External appointments

During 2021, 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 to 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 (2021 to 2020)	% change in taxable benefit (2021 to 2020)	% change in annual bonus UK employees only (2021 to 2020)	% change in base salary (2020 to 2019)	% change in taxable benefit (2020 to 2019)	% change in annual bonus UK employees only (2020 to 2019)
D Stirling	7.0	-3.5	-14.1	0	12.1	-24.5
G McGrath	7.4	-1.9	-53.7	0	10.2	7.8
J Carling	2.5	n/a	n/a	0	n/a	n/a
S Good	1.7	n/a	n/a	0	n/a	n/a
D Robertson	1.7	n/a	n/a	0	n/a	n/a
A Fielding	61.6[1]	n/a	n/a	n/a	n/a	n/a
C Wall	61.6[1]	n/a	n/a	n/a	n/a	n/a
Average employee	2.5	0	4.7	0	0	300

1 A Fielding and C Wall were appointed to the Board in May 2020. Their increases reflect that they were only paid their respective fees for part of the prior year.

The UK employees' salary review is negotiated with the unions and a 2.5% increase was agreed in relation to 2021. For 2022, a salary increase of 4.0% has been agreed for UK employees.

The mean staff bonus in the UK was 1.07% of base salary in relation to 2021 (2020: 3.15% of base salary).

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.

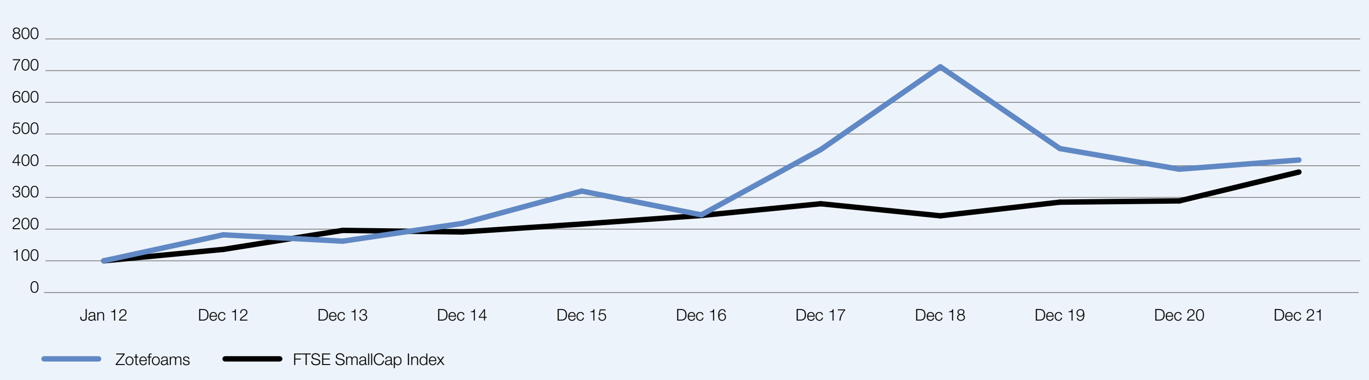
The ratios were calculated using the Option A methodology, which uses the pay and benefits of all UK employees as it provides the most accurate information and representation of the ratios. The employee pay data used was based on the total remuneration of all Zotefoams plc's full-time employees as at 31 December 2021. The Group CEO's total remuneration has been taken from the single total figure of remuneration for 2021, as disclosed on page 91.

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 reduction in total pay ratio at the 50th and 75th percentiles in comparison to 2020 is due to a reduction in the value of the LTIP award for 2021.

Directors' Remuneration report
Continued

Year	Method	25th percentile pay ratio	50th percentile pay ratio	75th percentile pay ratio
2021 – Base salary	Option A	11:1	9:1	7:1
2021 – Total pay		15:1	12:1	10:1
2020 – Total pay		17:1	14:1	10:1
2019 – Total pay		21:1	17:1	13:1
Pay data (£'000)			**Base salary**	**Total pay**
CEO's remuneration			324,258	441,369
UK employees 25th percentile			29,342	29,539
UK employees 50th percentile			35,694	35,861
UK employees 75th percentile			45,744	46,112

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)
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
2012	490,715	62.0	84.0	11.8	202.2

1 While basic earnings per share before exceptional item 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 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 below table 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 2021 and 2020.

	% change 2020/2021	2021 £'000	2020 £'000
Total remuneration[1]	10.8	22,040	19,900
Executive Directors' remuneration	-13.4	719	830
Profit after tax	-39.0	4,376	7,163
Shareholder distributions[2]	214.6	3,074	977

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 2021 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 2021 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 91 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 four times in 2021 with full attendance at each meeting. The Company Secretary acts as secretary to the Committee.

In 2021, 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 proposals arising out of the review
- Approved the 2020 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 2021 and the vesting of awards made in 2018 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 and
- Considered the performance targets for the 2021 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. They continued to work with the Committee through 2021 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:

	2021 (£)	2020 (£)
Deloitte LLP	24,300	24,500
Total	**24,300**	**24,500**

Shareholder voting (unaudited)

The table below sets out the results of the votes received on the 2020 Directors' Remuneration report at the 2021 AGM as well as the previous Directors' Remuneration Policy (approved at the 2020 AGM):

	Directors' Remuneration Policy	%	Annual Report on remuneration	%
Votes in favour	20,542,091	89.76	30,514,306	98.93
Votes against	2,331,595	10.19	320,484	1.04
Discretion	12,699	0.05	9,040	0.03
Total votes	22,886,385	100.00	30,843,830	100.00
Votes withheld	4,520	–	250	–

Directors' report

The Directors present their Annual Report and audited consolidated financial statements for the year ended 31 December 2021

Results and dividends

Profit attributable to shareholders for the year amounted to £4.4m (2020: £7.2m). An interim dividend of 2.10p (2020: 2.03p) per share was paid on 8 October 2021. The Directors recommend that a final dividend of 4.40p (2020: 4.27p) per share be paid on 1 June 2022 to shareholders who are on the Company's register at the close of business on 6 May 2022, resulting in a total dividend of 6.50p per share for the year (2020: 6.30p). 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 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.

Details of Directors who were in office during the year and up to the date of signing of the financial statements are set out on pages 78 and 79.

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 annual re-election each year.

D Stirling and G McGrath, the Executive Directors, have service contracts which are terminable on twelve months' written notice. All the other Directors have letters of appointment which are terminable on six months' written notice.

The Company maintained Directors' and Officers' Liability Insurance cover throughout 2021. The Company has issued Deeds of Indemnity in favour of all Directors. These Deeds were in force throughout the year ended 31 December 2021 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 2021 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 page 80 **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, socio-economic status, personality and ability) 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 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 74 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 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 and
- 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 2021 through the analysis of the top 50 suppliers by turnover as part of the work to compile our modern slavery statement: https://www.zotefoams.com/wp-content/uploads/2021/06/20210615-Modern-Slavery-Act-statement-FINAL.pdf. Suppliers' ethical disclosures will remain under review.

Substantial shareholdings

In accordance with the Disclosure and Transparency Rules DTR 5, the Company, as at 5 April 2022, 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	6,036,096	12.41
Invesco Ltd	4,007,910	8.29
Premier Miton Group plc	2,629,129	5.41
BlackRock, Inc	2,569,337	5.27
Highclere International Investors LLP	2,455,561	5.05
Canaccord Genuity Group, Inc	2,317,334	4.90
Claire and Marc Downes	2,102,090	4.32
Nicholas Adrian Beaumont-Dark	1,938,352	3.99
AXA Investment	1,753,934	3.61
Pershing Securities Limited	1,735,620	3.57

Directors' shareholdings are shown in the Directors' Remuneration report on pages 95 and 96.

Research and development

The amount spent by the Group on R&D in the year was £806k (2020: £1,014k). In the opinion of the Directors, £627k (2020: nil) of this expenditure met the requirements for capitalisation under IAS 38, while £179k (2020: £1,014k) 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 2021, the Zotefoams Employees' Benefit Trust (EBT) held 196,888 shares (approximately 0.4% of issued share capital) (2020: 459,201 shares) to satisfy share plans as described in the Directors' Remuneration report. During the year, the EBT released 262,313 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 26 May 2021, 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 25 May 2022. The Directors seek new authorities for a further year, in line with market practice.

The Company was given authority at the 2021 AGM to purchase up to 4,862,123 of its ordinary shares. This authority will also expire on 25 May 2022 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 an Introduction from our Chair and the Group CEO's review on pages 30 to 37.

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 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 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 Auditor will be proposed at the forthcoming AGM.

On behalf of the Board.

G C McGrath
Director

6 April 2022

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 and
- 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 and
- 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 47 to 54.

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 2021 which comprise the Consolidated Income Statement, the Consolidated Statement of Comprehensive Income, the Consolidated Statement of Financial Position, the Company Statement of Financial Position, the Consolidated Statement of Cash Flows, the Company Statement of Cash Flows, the Consolidated statement of Changes in Equity and the 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 2021 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 and
- 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:

- checking the mathematical accuracy of the spreadsheet used to model future financial performance, agreed the underlying cash flow projections to management-approved forecasts, recalculating the impact on banking covenants and liquidity headroom for the base case scenario
- evaluating the assumptions regarding the loss in revenue and associated EBITDA impact, the associated potential cost savings and the potential decrease in working capital levels that could be achieved in the downside scenario
- assessing the impact of the mitigating factors available to management in respect of the ability to restrict capital expenditure, cash payments associated with dividends, bonus and share options

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	£350,000 (2020: £400,000)	£315,000 (2020: £360,000)
Performance materiality	£245,000 (2020: £240,000)	£220,500 (2020: £216,000)
Basis of materiality	5% of profit before tax ("PBT")	5% of PBT capped at 90% of group
Rationale	This 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.	This is the primary key performance indicator used by management in assessing the performance of the 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 £68,000 and £315,000 (2020: £145,000 and £360,000). 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 to them misstatements identified during our audit above £17,500 (group audit) and £15,750 (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 nine trading companies (including joint ventures) within the consolidated financial statements, one based in the UK, one based in Europe, four in Asia and three in the USA. We identified four significant components, the parent company, Zotefoams Inc, MuCell Extrusion LLC (MEL) 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 have visited the U.S. components for the audit and we engaged the assistance of PKF network firms to assist with inventory count procedures as we were not able to visit the some of the overseas components due to the COVID travel restrictions in place

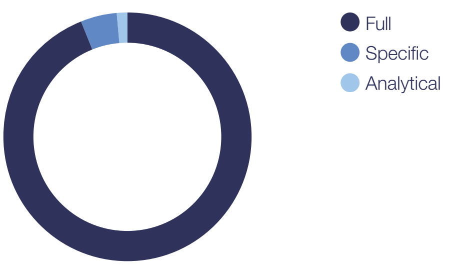
In addition, we identified components which were material but not significant to the group and performed an audit of specific account balances and classes of transactions to ensure that balances which were material to the group were subject to audit procedures, including:

- Revenue, cost of sales and bank in Zotefoams Operations Ltd
- Property, plant and equipment, inventory, creditors, revenue, cost of sales and expenses in Zotefoams T-FIT Material Technology (Kunshan) Co. Ltd
- Inventories, revenue, cost of sales and expenses in Zotefoams Midwest LLC and
- Inventories, revenue and cost of sales in T-FIT Insulation Solutions India Private Ltd.

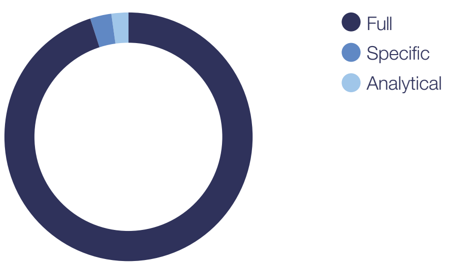
The components identified as not significant and not material were subject to review procedures undertaken by the same audit team.

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 judgment, 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 MEL (see notes 12 and 26) The Group's consolidated statement of financial position as at 31 December 2021 includes intangible assets with a carrying value of \$6.9m (2020: \$5.9m) in respect of its cash generating unit, MEL, and are comprised of goodwill that arose on the acquisition of MEL in a previous accounting period and capitalised developments costs relating to a new opportunity derived from the MuCell® technology called ReZorce®. MEL has historically been loss making and has continued to incur losses in 2021. The ReZorce solution is not yet fully developed and is seeking to be a new breakthrough product for an established market. Goodwill is required to be tested for impairment annually and Intangible Assets are required to be tested for impairment when an indication of impairment exists and the losses being incurred in MEL are an example of a potential impairment trigger. The impairment reviews undertaken require a significant amount of estimates and judgements to be made by management, many of which are new in the current year given the development of the ReZorce technology. 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 balances recoverable amount. There is no change in the risk profile from the prior year.	Our work in this area included: ▶ Obtaining and reviewing the MEL goodwill impairment assessment prepared by Management ▶ Gaining an understanding of the ReZorce technology through discussions with key management and understanding how it linked to the original Mucell technology. ▶ Gaining an understanding of the potential market size for the ReZorce solution, how management are aiming to break into the market and potential customers appetite for ReZorce ▶ Ensuring that there was a board approved plan in place for the development of ReZorce and that sufficient funding was in place for its development and ▶ Challenging management on the development of ReZorce and obtaining supporting evidence thereof through visiting MEL and seeing evidence of agreements for trial runs with potential customers. **Key observations** The impairment considerations changed during the year to reflect the stage of the development of ReZorce. Resources have been allocated to ReZorce and board approved development is in place with funding committed. The Company has made development progress and have engaged with partners for collaboration and trial runs. Based on the work performed we do not consider there to be an impairment.
Pension assumptions (see notes 23 and 26) The group's closed defined benefit pension scheme represents one of the largest liabilities on the consolidated statement of financial position at £4.7m as at 31 December 2021 (2020: £8.9m). The valuation of the schemes liabilities requires management to use their judgment in making a number of key assumptions, being the rate of inflation (CPI and RPI), the discount rate and the life expectancy of the scheme members. While historic assumptions are noted as being within acceptable ranges, the liability is highly sensitive to small changes. Given the financial significance and the inherent estimation within the calculation this has been assessed as a key audit matter. There is no change in the risk profile from 2020.	Our work in this area included: ▶ An assessment of the independence and competence of management's actuary to calculate the pension scheme liability ▶ An assessment of the appropriateness of the key assumptions used by management to value the pension liability ▶ A comparison of key assumptions to benchmarks performed by the PKF Actuarial team ▶ Obtaining confirmations and control reports from the investment manager and custodian to confirm pension assets ▶ Testing employee data used by the actuary ▶ Testing contributions and payments/claims paid to bank statements ▶ An assessment of whether adequate disclosures have been included in the annual report and accounting in line with IAS 19. **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. The discount rate has increased from 1.2% in 2020 pa to 1.8% pa in 2021. We are comfortable that the proposed increment is reasonable and note that an assumption of 1.8% pa is toward the more prudent end of the scale. The RPI assumption is derived from the Bank of England's implied RPI inflation curves with a deduction of 0.3% to reflect the "inflation risk premium". Based on the average scheme duration of 16 years, and allowing for the adjustment, the proposed assumption, based on financial conditions as at 31 December 2021, is within the range that is expected at this date. CPI has been derived as 1% less than RPI until 2030 and 0% less than RPI thereafter (equivalent to a reduction of 0.5% pa to the RPI assumption). This is a change in approach from the year ended 31 December 2020 when CPI was set as 1% less than RPI at all future terms. This is a more prudent approach that reflects RPI Reforms by the UK Treasury and Statistics Authority and is within the range expected. No issues were noted that indicate the valuation of the group's pension scheme assets are materially misstated.

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; and
- 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

The Listing Rules require us to review 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 Statement specified for our review.

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 the appropriateness of adopting the going concern basis of accounting and any material uncertainties identified, set out on page 43 and note 2.1i of this annual report;
- Directors' explanation as to its assessment of the group's prospects, the period this assessment covers and why this period is appropriate, set out on page 55 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 pages 43, 55 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 103 of this annual report;
- 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 of the annual report that describes the review of effectiveness of risk management and internal control systems set out on page 82 of this annual report; and
- The section describing the work of the audit committee set out on page 84 to 86 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, application of audit knowledge and experience of the sector.

Our audit procedures were designed to ensure 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. Auditing standards limit the required audit procedures to identify non-compliance with these laws and regulations to enquiry of the Directors and other management and inspection of regulatory and legal correspondence, if any. The identified actual or suspected non-compliance was not sufficiently significant to our audit to result in our response being identified as a key audit matter.

We also identified the risks of material misstatement of the financial statements due to fraud. We considered, in addition to the non-rebuttable presumption of a risk of fraud arising from management override of controls, that the recognition of revenue, posting of unusual journals and manipulating the group's alternative performance profit measures and other key performance indicators to meet remuneration targets and externally communicated targets.

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; reviewing accounting estimates for evidence of bias; 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.

A further description of our responsibilities for the audit of the financial statements is located on the Financial Reporting Council's website at: www.frc.org.uk/auditorsresponsibilities. This description forms part of our auditor's report.

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 ended 31 December 2020 and subsequent financial periods. Our total uninterrupted period of engagement is two years.

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
6 April 2022

Consolidated income statement
For the year ended 31 December 2021

	Note	2021 £'000	2020 £'000
Revenue	3	**100,750**	82,652
Cost of sales		**(74,184)**	(54,874)
Gross profit		**26,566**	27,778
Distribution costs		**(7,316)**	(6,793)
Administrative expenses		**(11,117)**	(11,876)
Operating profit		**8,133**	9,109
Finance costs	6	**(1,116)**	(872)
Finance income	6	**11**	26
Share of (loss)/profit from joint venture	9	**(20)**	38
Profit before income tax		**7,008**	8,301
Income tax expense	7	**(2,632)**	(1,138)
Profit for the year		**4,376**	7,163
Profit attributable to:			
Equity holders of the Company		**4,376**	7,163
		4,376	7,163
Earnings per share:			
Basic (p)	8	**9.01**	14.87
Diluted (p)	8	**8.87**	14.63

All activities of the Group are continuing.

The notes on pages 117 to 154 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 2021

	Note	2021 £'000	2020 £'000
Profit for the year		**4,376**	7,163
Other comprehensive income			
Items that will not be reclassified to profit or loss			
Actuarial gains/(losses) on defined benefit pension schemes	23	**3,517**	(2,460)
Tax relating to items that will not be reclassified		**(444)**	467
Total items that will not be reclassified to profit or loss		**3,073**	(1,993)
Items that may be reclassified subsequently to profit or loss			
Foreign exchange translation losses on investment in foreign subsidiaries		**(96)**	(583)
Change in fair value of hedging instruments		**(344)**	952
Hedging (losses)/gains reclassified to profit or loss		**(1,251)**	82
Tax relating to items that may be reclassified		**376**	(256)
Total items that may be reclassified subsequently to profit or loss		**(1,315)**	195
Other comprehensive income for the year, net of tax		**1,758**	(1,798)
Total comprehensive income for the year		**6,134**	5,365
Total comprehensive income attributable to:			
Equity holders of the Company		**6,134**	5,365
Total comprehensive income for the year		**6,134**	5,365

The notes on pages 117 to 154 form an integral part of these financial statements.

Consolidated statement of financial position
As at 31 December 2021

	Note	2021 £'000	2020 £'000
Non-current assets			
Property, plant and equipment	10	**91,401**	92,925
Right-of-use assets	11	**1,104**	1,397
Intangible assets	12	**6,224**	5,888
Investment in joint venture	9	**163**	183
Trade and other receivables	15	**11**	54
Deferred tax assets	19	**492**	509
Total non-current assets		**99,395**	100,956
Current assets			
Inventories	14	**25,954**	23,033
Trade and other receivables	15	**24,338**	22,150
Derivative financial instruments	21	**173**	1,580
Cash and cash equivalents	16	**8,055**	8,503
Total current assets		**58,520**	55,266
Total assets		**157,915**	156,222
Current liabilities			
Trade and other payables	17	**(9,242)**	(7,851)
Derivative financial instruments	21	**(600)**	(53)
Current tax liability		**(83)**	(101)
Lease liabilities	11	**(486)**	(420)
Interest-bearing loans and borrowings	18	**(26,564)**	(23,430)
Total current liabilities		**(36,975)**	(31,855)
Non-current liabilities			
Lease liabilities	11	**(643)**	(986)
Interest-bearing loans and borrowings	18	**(14,710)**	(19,263)
Deferred tax liabilities	19	**(3,155)**	(891)
Post-employment benefits	23	**(4,657)**	(8,851)
Total non-current liabilities		**(23,165)**	(29,991)
Total liabilities		**(60,140)**	(61,846)
Total net assets		**97,775**	94,376
Equity			
Issued share capital	20	**2,431**	2,431
Share premium	20	**44,178**	44,178
Own shares held		**(10)**	(23)
Capital redemption reserve		**15**	15
Translation reserve		**2,228**	2,324
Hedging reserve		**(310)**	909
Retained earnings		**49,243**	44,542
Total equity		**97,775**	94,376

The notes on pages 117 to 154 form an integral part of these financial statements.

The financial statements on pages 109 to 116 were authorised for issue by the Board of Directors on 6 April 2022 and were signed on its behalf by:

G C McGrath
Group CFO

Company number: 2714645

Company statement of financial position
As at 31 December 2021

	Note	2021 £'000	2020 £'000
Non-current assets			
Property, plant and equipment	10	**41,401**	41,960
Right-of-use assets	11	**519**	780
Intangible assets	12	**1,010**	1,546
Investment in subsidiaries	13	**30,822**	30,822
Trade and other receivables	15	**11**	54
Total non-current assets		**73,763**	75,162
Current assets			
Inventories	14	**18,695**	16,854
Trade and other receivables	15	**54,337**	49,502
Derivative financial instruments	21	**173**	1,580
Cash and cash equivalents	16	**5,034**	6,328
Total current assets		**78,239**	74,264
Total assets		**152,002**	149,426
Current liabilities			
Trade and other payables	17	**(6,667)**	(6,188)
Derivative financial instruments	21	**(600)**	(53)
Lease liabilities	11	**(251)**	(279)
Interest-bearing loans and borrowings	18	**(26,564)**	(23,430)
Total current liabilities		**(34,082)**	(29,950)
Non-current liabilities			
Lease liabilities	11	**(274)**	(504)
Interest-bearing loans and borrowings	18	**(14,710)**	(19,263)
Deferred tax liabilities	19	**(3,155)**	(891)
Post-employment benefits	23	**(4,657)**	(8,851)
Total non-current liabilities		**(22,796)**	(29,509)
Total liabilities		**(56,878)**	(59,459)
Total net assets		**95,124**	89,967
Equity			
Issued share capital	20	**2,431**	2,431
Share premium	20	**44,178**	44,178
Capital redemption reserve		**15**	15
Hedging reserve		**(310)**	909
Retained earnings		**48,810**	42,434
Total equity		**95,124**	89,967

The notes on pages 117 to 154 form an integral part of these financial statements.

The financial statements on pages 109 to 116 were authorised for issue by the Board of Directors on 6 April 2022 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 2021

	Note	2021 £'000	2020 £'000
Cash flows from operating activities			
Profit for the year		**4,376**	7,163
Adjustments for:			
Depreciation and amortisation	10,11,12	**7,624**	6,746
Disposal of assets	4	**53**	40
Finance costs	6	**1,105**	846
Share of profit from joint venture	9	**20**	(38)
Net exchange differences		**376**	(133)
Equity-settled share-based payments	24	**360**	300
Taxation	7	**2,632**	1,138
Operating profit before changes in working capital and provisions		**16,546**	16,062
(Increase)/decrease in trade and other receivables		**(1,636)**	1,199
Increase in inventories		**(2,843)**	(4,536)
Increase in trade and other payables		**1,506**	980
Employee defined benefit contributions	23	**(779)**	(700)
Cash generated from operations		**12,794**	13,005
Interest paid		**(789)**	(456)
Income taxes paid, net of refunds		**(1,087)**	(1,113)
Net cash flows generated from operating activities		**10,918**	11,436
Cash flows from investing activities			
Interest received	6	**11**	26
Interest paid	6	**(32)**	(604)
Purchases of intangibles	12	**(1,069)**	(346)
Proceeds on disposal of property, plant and equipment		**88**	–
Purchases of property, plant and equipment		**(6,002)**	(12,363)
Net cash used in investing activities		**(7,004)**	(13,287)
Cash flows from financing activities			
Proceeds from options exercised and issue of share capital		**40**	–
Repayment of borrowings		**(7,739)**	(8,053)
Proceeds from borrowings		**6,974**	13,180
Principal elements of lease payments	11	**(543)**	(433)
Dividends paid to equity holders of the Company	8	**(3,074)**	(977)
Net cash (used in)/generated from financing activities		**(4,342)**	3,717
Net (decrease)/increase in cash and cash equivalents		**(428)**	1,866
Cash and cash equivalents at 1 January		**8,503**	6,656
Exchange losses on cash and cash equivalents		**(20)**	(19)
Cash and cash equivalents at 31 December	16	**8,055**	8,503

Cash and cash equivalents comprises cash at bank and short-term highly liquid investments with a maturity date of less than three months, per the breakdown on note 21.

During the year, the Group paid interest of £821k, of which it capitalised £32k (2020: paid interest of £1,060k, of which it capitalised £604k) on qualifying assets under IAS 23 "Capitalisation of Borrowing Costs". The interest paid has been split between operating activities of £789k (2020: £456k) and investing activities of £32k (2020: £604k) to reflect the Group's utilisation of the interest paid.

The net exchange differences of £376k within operating activities relate to the foreign exchange movement on borrowings and open forward contracts in the income statement (2020: £133k).

Refer to note 18 for a reconciliation of liabilities arising from financing activities.

The notes on pages 117 to 154 form an integral part of these financial statements.

Company statement of cash flows
For the year ended 31 December 2021

	Note	2021 £'000	2020 £'000
Cash flows from operating activities			
Profit for the year		**6,038**	6,951
Adjustments for:			
Depreciation and amortisation	10,11,12	**4,185**	3,958
Disposal of assets		**105**	38
Finance costs		**628**	574
Net exchange differences		**(438)**	(133)
Equity-settled share-based payments	24	**360**	300
Taxation		**2,608**	1,199
Operating profit before changes in working capital and provisions		**13,486**	12,887
(Increase)/decrease in trade and other receivables		**(2,536)**	975
Increase in inventories		**(1,841)**	(2,492)
Increase in trade and other payables		**572**	1,481
Employee defined benefit contributions	23	**(779)**	(700)
Cash generated from operations		**8,902**	12,151
Interest paid		**(783)**	(451)
Income taxes paid, net of refunds		**(981)**	(1,095)
Net cash flows generated from operating activities		**7,138**	10,605
Cash flows from investing activities			
Investment in subsidiaries	13	**–**	(246)
Interest received		**–**	6
Interest paid		**(32)**	(166)
Loans given to subsidiaries, net of prepayments		**(1,334)**	(7,555)
Purchases of intangibles	12	**(132)**	(111)
Purchases of property, plant and equipment		**(2,831)**	(4,144)
Net cash used in investing activities		**(4,329)**	(12,216)
Cash flows from financing activities			
Proceeds from options exercised and issue of share capital		**40**	–
Repayment of borrowings		**(7,739)**	(8,053)
Proceeds from borrowings		**6,974**	13,180
Principal elements of lease payments		**(304)**	(318)
Dividends paid to equity holders of the Company	8	**(3,074)**	(977)
Net cash (used in)/generated from financing activities		**(4,103)**	3,832
Net (decrease)/increase in cash and cash equivalents		**(1,294)**	2,221
Cash and cash equivalents at 1 January		**6,328**	4,107
Cash and cash equivalents at 31 December	16	**5,034**	6,328

Cash and cash equivalents comprises cash at bank and short-term highly liquid investments with a maturity date of less than three months, per the breakdown on note 21.

During the year, the Company paid interest of £815k, of which it capitalised £32k (2020: paid interest of £617k, of which it capitalised £166k) on qualifying assets under IAS 23 "Capitalisation of Borrowing Costs". The interest paid has been split between operating activities of £783k (2020: £451k) and investing activities of £32k (2020: £166k) to reflect the Group's utilisation of the interest paid.

The net exchange differences of £438k within operating activities relate to the foreign exchange movement on borrowings and open forward contracts in the income statement (2020: £133k).

Refer to note 18 for a reconciliation of liabilities arising from financing activities.

The notes on pages 117 to 154 form an integral part of these financial statements.

Consolidated statement of changes in equity
For the year ended 31 December 2021

	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 2020		**2,415**	**44,178**	**(9)**	**15**	**2,907**	**131**	**40,003**	**89,640**
Profit for the year		–	–	–	–	–	–	7,163	7,163
Other comprehensive income for the year									
Foreign exchange translation losses on investment in subsidiaries		–	–	–	–	(583)	–	–	(583)
Change in fair value of hedging instruments recognised in other comprehensive income		–	–	–	–	–	952	–	952
Reclassification to income statement – administrative expenses		–	–	–	–	–	82	–	82
Tax relating to effective portion of changes in fair value of cash flow hedges, net of recycling		–	–	–	–	–	(256)	–	(256)
Actuarial loss on defined benefit pension scheme	23	–	–	–	–	–	–	(2,460)	(2,460)
Tax relating to actuarial loss on defined benefit pension scheme		–	–	–	–	–	–	467	467
Total comprehensive income for the year		–	–	–	–	(583)	778	5,170	5,365
Transactions with owners of the Parent:									
Options exercised		–	–	2	–	–	–	(2)	–
Proceeds of shares issued, net of expenses		16	–	(16)	–	–	–	–	–
Equity-settled share-based payments net of tax		–	–	–	–	–	–	348	348
Dividends paid	8	–	–	–	–	–	–	(977)	(977)
Total transactions with owners of the Parent		16	–	(14)	–	–	–	(631)	(629)
Balance as at 31 December 2020		**2,431**	**44,178**	**(23)**	**15**	**2,324**	**909**	**44,542**	**94,376**
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 loss 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**

The aggregate current and deferred tax relating to items that are debited to equity is £129k (2020: credited £259k).

The notes on pages 117 to 154 form an integral part of these financial statements.

Company statement of changes in equity
For the year ended 31 December 2021

	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 2020		**2,415**	**44,178**	**15**	**131**	**38,107**	**84,846**
Profit for the year		–	–	–	–	6,951	6,951
Other comprehensive income for the year							
Change in fair value of hedging instruments recognised in other comprehensive income		–	–	–	952	–	952
Reclassification to income statement – administrative expenses		–	–	–	82	–	82
Tax relating to effective portion of changes in fair value of cash flow hedges, net of recycling		–	–	–	(256)	–	(256)
Actuarial loss on defined benefit pension scheme	23	–	–	–	–	(2,460)	(2,460)
Tax relating to actuarial loss on defined benefit pension scheme		–	–	–	–	467	467
Total comprehensive income for the year		–	–	–	778	4,958	5,736
Transactions with owners:							
Options exercised		–	–	–	–	(2)	(2)
Proceeds of shares issued, net of expenses		16	–	–	–	–	16
Equity-settled share-based payments net of tax		–	–	–	–	348	348
Dividends paid	8	–	–	–	–	(977)	(977)
Total transactions with owners		16	–	–	–	(631)	(615)
Balance as at 31 December 2020		**2,431**	**44,178**	**15**	**909**	**42,434**	**89,967**
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 loss on defined benefit pension scheme	23	**–**	**–**	**–**	**–**	**3,517**	**3,517**
Tax relating to actuarial loss 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**

The aggregate current and deferred tax relating to items that are debited to equity is £129k (2020: credited £259k).

The notes on pages 117 to 154 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 of the years presented, unless otherwise stated.

2.1 Basis of preparation

The financial statements of Zotefoams plc have been prepared in accordance with International Accounting Standards in conformity with the requirements of the Companies Act 2006 and as applied in accordance with the provisions of the Companies Act 2006. The 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 IFRS 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 45 to 54. 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 2021, the Group's gross finance facilities were £47.3m (2020: £53.8m), comprising a multi-currency term loan of £20.0m, a multi-currency revolving credit facility of £25.0m, and a remaining balance of £2.3m (2020: £3.8m) of a further £7.5m sterling annually renewable term loan, repayable in equal quarterly instalments. In line with the bank financing agreement, a repayment of £5.0m was made on 30 June 2021. The bank facility is for a five-year period and expires in May 2023. At the date of the statement of financial position, £5.3m was undrawn on the facility (2020: £10.7m). At the same date, the Group also held £8.1m (2020: £8.5m) of cash and cash equivalents. The facility is subject to two covenants, which are tested semi-annually: net debt to EBITDA (leverage) and EBITDA to net finance charges.

In March 2022, the Group completed a bank refinancing 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 will be a £50m multi-currency revolving credit facility, with a £25m accordion, on a 4+1 tenor, and an interest rate ratchet on slightly improved terms to the previous facility, with a small element related to the achievement of sustainability targets. The finance cost and leverage covenants remain, with the former remaining at 4:1 and the latter increasing to 3.5:1 from 3.0:1.

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

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. They are deconsolidated from the date on which that control ceases.

ii) Transactions eliminated on consolidation

Intra-group balances and transactions, including any unrealised gains and losses or income and expenses arising from such transactions, are eliminated in 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 amount 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 amount 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.

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.

Notes
Continued

2. Significant accounting policies (continued)
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.

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.

2.3 Foreign currency
i) Functional and presentation currency

Items included in the financial statements of each of the Group's entities are measured using the currency of the primary economic environment in which each entity operates ("the functional currency"). The consolidated financial statements are presented in sterling, which is the Group's presentation currency.

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). 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, while remaining translation differences are recognised in the income statement.

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 for each statement of financial position presented are translated at the closing rate at the date of that statement of financial position
- 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); and
- All resulting exchange differences are recognised in other comprehensive income.

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
The Group uses derivative financial instruments to hedge its exposure to foreign exchange risks arising from operational, financing and investment activities. In accordance with its treasury policy, 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. 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).

At the inception of the transaction, the Group 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 remains 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. Significant accounting policies (continued)

2.5 Investments in subsidiaries and joint arrangements

The Company's investments in subsidiaries and joint arrangements are stated at cost less provision for impairment.

2.6 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.

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. The carrying amount of the replaced part is derecognised. All other repairs and maintenance are charged to the income statement during the financial year in which they are incurred.

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 useful lives are reviewed, and adjusted if appropriate, at the end of each financial year.

2.7 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 and
- 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.

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 acquisition date 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.

iv) 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.

v) 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.

2.8 Financial assets

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 subsequently measured at fair value through profit or loss

Financial assets 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. Assets in this category are classified as current assets if expected to be settled within 12 months, otherwise they are classified as non-current assets.

b) Financial assets at amortised cost

Financial assets at amortised cost are held for collection of contractual cash flows where those cash flows represent solely payments of principal and interest.

Notes
Continued

2. Significant accounting policies (continued)

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) Offsetting financial instruments
Financial assets and liabilities are offset, and the net amount is reported in the statement of financial position, when there is a legally enforceable right to offset the recognised amounts and there is an intention to settle on a net basis or realise the asset and settle the liability simultaneously. The legally enforceable right must not be contingent on future events and it must be enforceable in the normal course of business and in the event of default, insolvency or bankruptcy of the Group or the counterparty.

iv) 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.

2.9 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.

2.10 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.

2.11 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.

2.12 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 cash-generating unit (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.

2.13 Dividends
Final dividends are recognised as a liability in the financial year in which they are approved. Interim dividends are recognised when paid.

2.14 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.

2. Significant accounting policies (continued)

2.15 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.

2.16 Share-based payment 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 a Monte Carlo 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.

i) 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.

2.17 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.

2.18 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.

2.19 Revenue

Revenue comprises of the sale of foam, sale of 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.

i) Sale of foam

Revenue from the sale of foam is recognised when control of the goods has been transferred to a third party. 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 equipment

Revenue from the sale of equipment is recognised when control of the goods has been transferred to a third party. 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.

Notes
Continued

2. Significant accounting policies (continued)
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.

2.20 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 and
- 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.

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 and
- 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.

2.21 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.

2.22 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.

2.23 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.

2.24 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 2021

The following standards and interpretations apply for the first time to financial reporting periods commencing on or after 1 January 2021:

	Effective for accounting periods beginning on or after	Impact
Interest rate benchmark reform – Amendments to IFRS 17 "Insurance Contracts"	1 January 2021	None
Interest rate benchmark reform – Amendments to IFRS 16 "Leases"	1 January 2021	None
Interest rate benchmark reform – Amendments to IFRS 9 "Financial Instruments"	1 January 2021	None
Interest rate benchmark reform – Amendments to IAS 39 "Financial Instruments: Recognition and Measurement"	1 January 2021	None
Interest rate benchmark reform – Amendments to IFRS 7 "Financial Instruments: Disclosures"	1 January 2021	None

ii) Forthcoming requirements

As at 31 December 2021, the following standards and interpretations had been issued but were not mandatory for annual reporting periods ending on 31 December 2021.

	Effective for accounting periods beginning on or after	Expected Impact
COVID-19 related Rent Concessions – Amendments to IFRS 16	1 March 2021	None
Income Taxes – Deferred tax amendments to IAS 12	1 May 2021	None
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
Classification of Liabilities as Current or Non-current – Amendments to IAS 1	1 January 2023	None

Notes
Continued

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	
	2021 £'000	2020 £'000	**2021 £'000**	2020 £'000	**2021 £'000**	2020 £'000	**2021 £'000**	2020 £'000
Group revenue	**56,166**	50,904	**42,294**	30,016	**2,290**	1,732	**100,750**	82,652
Segment profit/(loss) pre-amortisation	**684**	4,836	**8,732**	7,907	**(494)**	(1,184)	**8,922**	11,559
Amortisation of acquired intangible assets	**–**	–	**–**	–	**(194)**	(262)	**(194)**	(262)
Segment profit/(loss)	**684**	4,836	**8,732**	7,907	**(688)**	(1,446)	**8,728**	11,297
Foreign exchange gains/(losses)	**–**	–	**–**	–	**–**	–	**1,168**	(300)
Unallocated central costs	**–**	–	**–**	–	**–**	–	**(1,763)**	(1,888)
Operating profit							**8,133**	9,109
Financing costs	**–**	–	**–**	–	**–**	–	**(1,116)**	(872)
Financing income	**–**	–	**–**	–	**–**	–	**11**	26
Share of (loss)/profit from joint venture	**(20)**	38	**–**	–	**–**	–	**(20)**	38
Taxation	**–**	–	**–**	–	**–**	–	**(2,632)**	(1,138)
Profit for the year							**4,376**	7,163
Segment assets	**107,633**	106,792	**40,189**	41,046	**9,601**	7,875	**157,423**	155,713
Unallocated assets	**–**	–	**–**	–	**–**	–	**492**	509
Total assets							**157,915**	156,222
Segment liabilities	**(40,795)**	(46,676)	**(15,224)**	(13,234)	**(883)**	(944)	**(56,902)**	(60,854)
Unallocated liabilities	**–**	–	**–**	–	**–**	–	**(3,238)**	(992)
Total liabilities							**(60,140)**	(61,846)
Depreciation of PPE	**4,793**	4,478	**1,052**	813	**133**	115	**5,978**	5,406
Depreciation of right-of-use assets	**302**	307	**90**	71	**133**	36	**525**	414
Amortisation	**638**	494	**289**	153	**194**	279	**1,121**	926
Capital expenditure:								
Property, plant and equipment (PPE)	**4,093**	9,928	**743**	2,401	**1,160**	447	**5,996**	12,776
Right-of-use assets	**223**	13	**7**	3	**–**	623	**230**	639
Intangible assets	**98**	89	**34**	22	**937**	235	**1,069**	346

Unallocated assets made up of deferred tax assets are £492k for the year (2020: £509k). Unallocated liabilities are made up of corporation tax £83k (2020: £101k) and deferred tax liabilities £3,155k (2020: £891k).

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 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.

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 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**
For the year ended 31 December 2020					
Group revenue from external customers	19,106	17,856	17,629	28,061	82,652
Non-current assets	44,343	21,050	34,351	520	100,264
Capital expenditure – PPE	4,090	7,095	1,423	168	12,776

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 £33,850k to the Group's revenue (2020: One customer of the Group located in the United Kingdom and one customer located in 'Rest of the world' contributed £13,904k and £21,608k respectively to the Group's revenue).

Analysis of revenue by category

Breakdown of revenues by products and services for the Group:

	2021 £'000	2020 £'000
Sale of foam	**98,460**	80,920
Licence and royalty income	**1,066**	908
Sale of equipment	**1,224**	824
Group revenue	**100,750**	82,652

Notes
Continued

4. Expenses by nature

	2021 £'000	2020 £'000
Included in profit for the year are:		
Changes in inventories of finished goods and work in progress	**1,958**	297
Changes in raw materials and consumables used	**963**	4,132
Inventory write-(back)/down	**(1)**	17
Staff costs (note 5)	**25,196**	22,784
Operating lease charges (note 11)	**192**	228
Amortisation (note 12)	**1,121**	926
Depreciation of PPE and right-of-use assets (note 10 and note 11)	**6,503**	5,820
Disposal of assets	**53**	40
Research and development costs expensed	**806**	1,014
Development costs capitalised (note 12)	**(627)**	–
Net exchange (gains)/losses	**(1,168)**	300
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		
Previous Auditor (PwC)	**–**	38
PKF Littlejohn LLP	**195**	175
Fees payable to the External Auditor and its associates in respect of other services:		
– audit-related assurance services (PwC)	**–**	30
Total cost of sales, distribution costs and administrative expenses	**92,617**	73,543

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	
	2021	2020	**2021**	2020
Production	**258**	225	**166**	153
Maintenance	**36**	36	**25**	23
Distribution and marketing	**87**	77	**49**	44
Administration and technical	**115**	114	**90**	88
	496	452	**330**	308

The aggregate payroll costs of these persons were as follows:

	Group		Company	
	2021 £'000	2020 £'000	**2021 £'000**	2020 £'000
Wages and salaries*	**20,842**	18,857	**14,462**	13,502
Social security costs*	**2,796**	2,584	**1,495**	1,488
Share options granted to directors and employees (note 24)	**360**	300	**360**	300
Pension costs, including past service costs	**1,198**	1,043	**855**	759
	25,196	22,784	**17,172**	16,049
* Net of directly attributable costs capitalised	**820**	672	**284**	207

5. Staff numbers and expenses (continued)

Details of aggregate Directors' emoluments are provided below:

	2021 £'000	2020 £'000
Aggregate emoluments	**648**	652
Aggregate gains made on the exercise of the share options	**159**	26
Aggregate amounts receivable under long-term incentive schemes	**–**	109
Company contribution to money purchase pension scheme	**71**	69
	878	856

Further details of Directors' emoluments, including details of the highest-paid Director, are included in the Directors' Remuneration report on pages 88 to 99.

6. Finance income and costs

Finance income

	2021 £'000	2020 £'000
Interest income	**11**	26

Finance costs

	2021 £'000	2020 £'000
Finance costs on bank loans	**1,014**	1,280
Lease liabilities interest	**32**	31
Amount capitalised	**(32)**	(604)
Finance costs expensed	**1,014**	707
Interest on defined benefit pension obligation (note 23)	**102**	165
	1,116	872

Capitalised borrowing costs

The capitalisation rate used to determine the amount of borrowing costs to be capitalised is the weighted average interest rate applicable to the entity's general borrowings during the year, in this case 2.46% (2020: 2.46%).

7. Income tax expense

	2021 £'000	2020 £'000
UK corporation tax	**673**	1,105
Overseas tax	**79**	120
Adjustment for tax for prior years	**(272)**	(381)
Total current tax	**480**	844
Deferred tax	**2,152**	294
Income tax expense	**2,632**	1,138

Notes
Continued

7. Income tax expense (continued)

Factors affecting the tax charge

The weighted average applicable tax rate for the Group is 18.96% (2020: 19.65%). The main elements of the income tax expense are as follows:

	2021 £'000	2020 £'000
Tax reconciliation		
Profit before tax	**7,008**	8,301
Tax at the UK tax rate of 19% (2020: 19%)	**1,332**	1,577
Effects of:		
Expenses not deductible for tax purposes	**173**	223
Research and development and other tax credits	**(199)**	(250)
(Utilisation of) tax losses for which no deferred income tax asset recognised	**420**	(147)
Effect of different overseas tax rates	**20**	(28)
Changes in tax rates	**1,024**	79
Capital allowance super deductions	**(101)**	–
Other differences	**(53)**	65
Adjustments to prior year UK corporation tax charge	**16**	(381)
	2,632	1,138

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 2021 (2020: 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

	2021 £'000	2020 £'000
Prior year final dividend of 4.27p (2020: nil) per 5.0p ordinary share	**2,058**	–
Interim dividend of 2.10p (2020: 2.03p) per 5.0p ordinary share	**1,016**	977
Dividends paid during the year	**3,074**	977

The proposed final dividend for the year ended 31 December 2021 of 4.40p per share (2020: 4.27p) 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 £2,130k if paid to all shareholders on the Company register at the close of business on 31 May 2022.

Earnings per ordinary share

Earnings per ordinary share is calculated by dividing consolidated profit after tax attributable to equity holders of the Company of £4,376k (2020: £7,163k) 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 2021 was 196,888 (2020: 459,201). 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'.

	2021	2020
Weighted average number of ordinary shares in issue	**48,577,945**	48,186,077
Adjustments for share options	**755,954**	779,660
Diluted number of ordinary shares issued	**49,333,899**	48,965,737

9. Investments in joint venture

During 2013 the Group entered into joint-venture arrangements with INOAC Corporation. As a result, the Group has 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 remains non-trading. The registered address is 100, Jayumuyeok 5-gil, Masanhoewon-gu, Chang-won-si, Gyeongsangnam-do, Republic of Korea. As at the end of the year, there were no contingent liabilities relating to the Group's interest in the joint ventures.

The joint ventures have 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.

A summarised statement of financial position of Inoac Zotefoams Korea Limited is not presented as the company is dormant.

Set out below is the summarised financial information for Azote Asia Limited, which is accounted for using the equity method.

9. Investments in joint venture (continued)

Summarised statement of financial position:

	As at 31 December	
	2021 £'000	2020 £'000
Cash and cash equivalents	**323**	371
Other current assets (excluding cash)	**1,102**	1,027
Total current assets	**1,425**	1,398
Financial liabilities (excluding trade payables)	**(79)**	(76)
Other current liabilities (including trade payables)	**(1,021)**	(956)
Total current liabilities	**(1,100)**	(1,032)
Net assets	**325**	366

Summarised statement of comprehensive income:

	As at 31 December	
	2021 £'000	2020 £'000
Revenue	**3,766**	2,694
Finance costs	**(2)**	(2)
(Loss)/profit before tax	**(41)**	76
Income tax expense	**–**	–
(Loss)/profit after tax	**(41)**	76
Other comprehensive income	**–**	–
Total comprehensive income	**(41)**	76
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:

	2021 £'000	2020 £'000
Opening net assets	**366**	290
(Loss)/profit for the year	**(41)**	76
Other comprehensive income	**–**	–
Closing net assets	**325**	366
Interest in joint venture @ 50%	**163**	183

	2021 £'000	2020 £'000
Information of the joint venture		
Carrying value at 1 January	**183**	145
Share of (loss)/profit for the year	**(20)**	38
Carrying value at 31 December	**163**	183

Notes
Continued

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 2020	31,075	83,974	3,915	29,532	148,496
Additions	159	720	115	11,782	12,776
Disposals	–	(51)	(2)	–	(53)
Transfers	1,857	15,866	36	(17,759)	–
Effect of movement in foreign exchange	(298)	(1,472)	(33)	1,178	(625)
Balance at 31 December 2020	32,793	99,037	4,031	24,733	160,594
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**
Accumulated depreciation					
Balance at 1 January 2020	11,471	48,936	2,437	–	62,844
Depreciation charge for the year	1,277	3,642	487	–	5,406
Disposals	–	(13)	–	–	(13)
Effect of movement in foreign exchange	(170)	(370)	(28)	–	(568)
Balance at 31 December 2020	12,578	52,195	2,896	–	67,669
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**
Net book value					
At 1 January 2020	19,604	35,038	1,478	29,532	85,652
At 31 December 2020 and 1 January 2021	20,215	46,842	1,135	24,733	92,925
At 31 December 2021	**31,616**	**54,430**	**889**	**4,466**	**91,401**

Depreciation is included in cost of sales in the income statement.

During the year, the Group has capitalised borrowing costs amounting to £32k (2020: £604k) on qualifying assets. Borrowing costs were capitalised at the rate of its general borrowings of 2.46% (2020: 2.46%).

Bank borrowings are secured on property, plant and equipment. Refer to note 18 for details.

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 2020	22,131	58,126	2,927	7,336	90,520
Additions	130	31	53	3,876	4,090
Disposals	–	(51)	–	–	(51)
Transfers	1,795	6,136	36	(7,967)	–
Balance at 31 December 2020	24,056	64,242	3,016	3,245	94,559
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**
Accumulated depreciation					
Balance at 1 January 2020	7,118	40,742	1,741	–	49,601
Depreciation charge for the year	841	1,772	398	–	3,011
Disposals	–	(13)	–	–	(13)
Balance at 31 December 2020	7,959	42,501	2,139	–	52,599
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**
Net book value					
At 1 January 2020	15,013	17,384	1,186	7,336	40,919
At 31 December 2020 and 1 January 2021	16,097	21,741	877	3,245	41,960
At 31 December 2021	**15,207**	**22,879**	**542**	**2,773**	**41,401**

Notes
Continued

11. Leases
(i) Amounts recognised in the statement of financial position relating to leases:
Right-of-use assets

	Group		Company	
	2021 £'000	2020 £'000	**2021 £'000**	2020 £'000
Property	**494**	560	**–**	–
Equipment	**610**	837	**519**	780
	1,104	1,397	**519**	780

Lease liabilities

	Group		Company	
	2021 £'000	2020 £'000	**2021 £'000**	2020 £'000
Lease liability falls due within 1 year	**486**	420	**251**	279
Lease liability falls due within 1-3 years	**553**	705	**274**	437
Lease liability falls due in more than 3 years	**90**	281	**–**	67
	1,129	1,406	**525**	783

Additions to the right-of-use assets during the financial year were £230k for the Group and £28k for the Company (2020: £639k for the Group and £16k for the Company).

(ii) Amounts recognised in the income statement relating to leases:
Depreciation charge of right-of-use assets

	Group		Company	
	2021 £'000	2020 £'000	**2021 £'000**	2020 £'000
Property	**194**	99	**–**	–
Equipment	**331**	315	**288**	300
	525	414	**288**	300
Interest expenses (included in finance costs)	**39**	31	**17**	24
Expense relating to short-term leases (included in cost of sales and administrative expenses)	**192**	228	**13**	28
Expense relating to leases of low-value assets that are not shown above as short-term leases (included in administrative expenses)	**72**	22	**15**	22
The total cash outflow for leases	**543**	433	**304**	318

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 2020	240	387	4,969	3,160	2,304	718	11,778
Additions	–	–	234	112	–	–	346
Effect of movement in foreign exchange	(8)	(8)	(177)	1	(76)	–	(268)
Balance at 31 December 2020	232	379	5,026	3,273	2,228	718	11,856
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**
Accumulated amortisation							
Balance at 1 January 2020	228	387	2,752	1,797	–	–	5,164
Charge for the year	12	–	266	558	–	90	926
Effect of movement in foreign exchange	(8)	(8)	(106)	–	–	–	(122)
Balance at 31 December 2020	232	379	2,912	2,355	–	90	5,968
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**
Net book value							
At 1 January 2020	12	–	2,217	1,363	2,304	718	6,614
At 31 December 2020 and 1 January 2021	–	–	2,114	918	2,228	628	5,888
At 31 December 2021	**–**	**–**	**2,223**	**655**	**2,254**	**1,092**	**6,224**

Amortisation is included in cost of sales in the income statement.

Goodwill arising on acquisition is allocated to the cash generating unit (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 38 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; and
- Board risk appetite.

Notes
Continued

12. Intangible assets (continued)
Company

	Customer related £'000	Software related £'000	Capitalised development £'000	Total £'000
Cost				
Balance at 1 January 2020	121	3,160	718	3,999
Additions	–	111	–	111
Balance at 31 December 2020	121	3,271	718	4,110
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**
Accumulated amortisation				
Balance at 1 January 2020	121	1,796	–	1,917
Charge for the year	–	558	89	647
Balance at 31 December 2020	121	2,354	89	2,564
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**
Net book value				
At 1 January 2020	–	1,364	718	2,082
At 31 December 2020 and 1 January 2021	–	917	629	1,546
At 31 December 2021	**–**	**557**	**453**	**1,010**

13. Investment in subsidiaries
Company

	2021 £'000	2020 £'000
Shares in Group undertakings – at cost	**30,822**	30,576
Additions during the year	**–**	246
	30,822	30,822

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

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. purchases, manufactures and distributes cross-linked block foams. Zotefoams Midwest LLC, based in Oklahoma, USA is a trading company with operations in Oklahoma, USA and supplies specialist materials, based on AZOTE® foams, for the construction industry. MuCell Extrusion LLC 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 is a trading company and distributes T-FIT® technical insulation products. KZ Trading and Investment 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 is a wholly owned subsidiary of Zotefoams International Limited and did not engage in any trading activities in 2021. Zotefoams Poland Sp. z.o.o., is a wholly owned subsidiary of Zotefoams International Limited and engaged in trading activities in 2021. T-FIT Insulation Solutions India Private Limited distributes T-FIT technical insulation products. 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 2021 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	
	2021 £'000	2020 £'000	**2021 £'000**	2020 £'000
Raw materials and consumables	**14,637**	13,674	**11,759**	10,167
Work in progress	**5,704**	5,348	**4,342**	4,268
Finished goods	**5,613**	4,011	**2,594**	2,419
	25,954	23,033	**18,695**	16,854
Inventories are shown net of:				
Provision for impairment losses	**1,772**	1,773	**1,051**	1,100

In 2021, the value of inventory recognised by the Group as an expense in cost of goods sold was £46,878k (2020: £31,760k).

Notes
Continued

14. Inventories (continued)
Movement in provision
Movements in the inventory provision during the financial year are set out below:

	Group		Company	
	2021 £'000	2020 £'000	**2021 £'000**	2020 £'000
Provision for impairment losses as at 1 January	**1,773**	1,756	**1,100**	1,315
Inventories written off against provision	**(138)**	(633)	**(119)**	(633)
Additional provisions recognised	**169**	816	**102**	584
Unused amounts reversed	**(32)**	(166)	**(32)**	(166)
Provision for impairment losses as at 31 December	**1,772**	1,773	**1,051**	1,100

15. Trade and other receivables

	Group		Company	
	2021 £'000	2020 £'000	**2021 £'000**	2020 £'000
Amounts falling due over one year:				
Prepayments and accrued income	**11**	54	**11**	54
Amounts falling due within one year:				
Trade receivables	**20,885**	19,766	**14,356**	15,836
Amounts owed by Group undertakings	**–**	–	**37,746**	32,815
Other receivables	**2,438**	1,331	**1,903**	488
Prepayments and accrued income	**1,015**	1,053	**332**	363
	24,349	22,204	**54,348**	49,556

Amounts owed by Group undertakings are payable on demand. The trading portion does not attract any interest. Unsecured loans provided to Group undertakings totalling £25,327k (2020: £23,519k) attract an interest charge of 1.73% for loans linked to US dollar LIBOR, 1.60% for euro and 1.83% for sterling (2020: 2.32% for loans linked to US dollar LIBOR, 2.10% for euro and 1.81% 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	
	2021 £'000	2020 £'000	**2021 £'000**	2020 £'000
Cash at bank and in hand	**8,055**	8,503	**5,034**	6,328

17. Trade and other payables

	Group		Company	
	2021 £'000	2020 £'000	**2021 £'000**	2020 £'000
Trade payables	**4,322**	3,864	**3,459**	3,276
Amounts owed to Group undertakings	**–**	–	**30**	30
Other taxation and social security	**921**	811	**413**	452
Other payables	**1,042**	809	**680**	687
Accruals and deferred income	**2,957**	2,367	**2,085**	1,743
	9,242	7,851	**6,667**	6,188

Amounts owed to Group undertakings are unsecured, repayable on demand and attract no interest.

18. Interest-bearing loans and borrowings

	Note	Group 2021 £'000	Group 2020 £'000	Company 2021 £'000	Company 2020 £'000
Current bank borrowings		**26,564**	23,430	**26,564**	23,430
Non-current bank borrowings		**14,710**	19,263	**14,710**	19,263
	21	**41,274**	42,693	**41,274**	42,693

In May 2018, the Group completed a debt refinancing to enable it to continue to grow capacity and meet its expected demand growth. These facilities are secured against the property, plant and equipment and trade receivables of the Group. The total facility of £47.25m comprises: a £20m multi-currency term loan, with £5m repayable during year four with the remainder at the end of year five; a £25m multi-currency revolving credit facility, repayable on demand, and a further £2.25m sterling term loan, renewable annually and repayable over five years in equal quarterly repayments over the term. The negotiated facility also includes a £25m accordion feature to provide additional flexibility to pursue further investment opportunities in the future.

At the end of the financial year, the Group has utilised £19.8m ($20.6m and £4.5m) of the multi-currency term loan, £19.5m (€17.5m and $6.5m) of the revolving facility and has an outstanding £2.25m on the sterling term loan. The total amount of £41.3m above is net of £0.3m loan origination fees paid upfront, being amortised over the period of the loan.

The Group and the Company have the following undrawn borrowing facilities as at the end of the financial year:

	2021 £'000	2020 £'000
Floating rate:		
Expiring within one year	**5,307**	–
Expiring beyond one year	**–**	10,191
Total	**5,307**	10,191

The difference of £0.4m between the utilised amount of £42m and £41.6m (£41.3m + £0.3m loan origination fees) is due to the different exchange rates used by the Group and the bank.

Reconciliation of liabilities arising from financing activities:

Group	2020 £'000	Non-cash changes: Net cash inflows/ (outflows) £'000	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**

Group	2019 £'000	Non-cash changes: Net cash inflows/ (outflows) £'000	Loan origination fee £'000	Loan restructure £'000	Recognition of lease liabilities £'000	Foreign exchange movement £'000	2020 £'000
Long-term borrowings	21,630	3,197	87	(5,000)	–	(651)	19,263
Short-term borrowings	15,717	1,930	(32)	5,000	–	815	23,430
Total liabilities	37,347	5,127	55	–	–	164	42,693

Notes
Continued

18. Interest-bearing loans and borrowings (continued)

Company	2020 £'000	Net cash inflows/ (outflows) £'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**

Company	2019 £'000	Net cash inflows/ (outflows) £'000	Non-cash changes: Loan origination fee £'000	Loan restructure £'000	Recognition of lease liabilities £'000	Foreign exchange movement £'000	2020 £'000
Long-term borrowings	21,630	3,197	87	(5,000)	–	(651)	19,263
Short-term borrowings	15,717	1,930	(32)	5,000	–	815	23,430
Total liabilities	37,347	5,127	55	–	–	164	42,693

In March 2022, the Group completed a bank refinancing 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 comprises a £50m multi-currency revolving credit facility, with a £25m accordion, on a 4+1 tenor, and 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 4:1 and the latter increasing to 3.5:1 from 3.0:1.

19. Deferred tax assets and liabilities

Recognised deferred tax assets and liabilities – Group

Deferred tax assets and liabilities are attributable to the following:

	Assets		Liabilities		Net	
	2021 £'000	2020 £'000	**2021 £'000**	2020 £'000	**2021 £'000**	2020 £'000
Property, plant and equipment	**–**	–	**3,810**	1,986	**3,810**	1,986
Rolled-over gain	**–**	–	**806**	613	**806**	613
Inventories	**(321)**	(374)	**–**	–	**(321)**	(374)
Derivatives financial instruments	**(81)**	–	**–**	295	**(81)**	295
Defined benefit pension scheme	**(1,164)**	(1,681)	**–**	–	**(1,164)**	(1,681)
Share option charges	**(216)**	(317)	**–**	–	**(216)**	(317)
Tax value of recognised losses carried forward	**(171)**	(140)	**–**	–	**(171)**	(140)
	(1,953)	(2,512)	**4,616**	2,894	**2,663**	382
Set off	**1,461**	2,003	**(1,461)**	(2,003)	**–**	–
Deferred tax (assets)/liabilities	**(492)**	(509)	**3,155**	891	**2,663**	382

Unrecognised deferred tax assets

The Group has tax losses carried forward in the USA of $2,855k (2020: $1,100k) which expire between 2022 and 2037 under prevailing tax legislation. In addition to this, the Group has further tax losses in the USA of $22,661k (2020: $15,622k) which are carried forward indefinitely. At year-end exchange rates, these tax losses translate to £18,913k (2020: £12,240k). Applying the enacted US corporation tax rate of 21% (2020: 21%), the Group has recognised a deferred tax asset of £138k (2020: £140k) on such tax losses expected to be utilised in future periods.

The Group can potentially recover £402k (2020: £374k) of the deferred tax asset within twelve months of the reporting period. The remainder of the deferred tax asset will be recovered more than twelve months after the reporting period.

The Group can potentially settle none (2020: £295k) of the deferred tax liability within twelve months of the reporting period. The remainder of the deferred tax liability will be settled more than twelve months after the reporting period.

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 2020	1,481	548	(190)	34	(1,177)	(211)	(138)	347
Charged/(credited) to the income statement	505	65	(184)	5	(37)	(58)	(2)	294
Recognised in other comprehensive income and equity	–	–	–	256	(467)	(48)	–	(259)
Balance at 31 December 2020	1,986	613	(374)	295	(1,681)	(317)	(140)	382
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**

Deferred tax assets and liabilities – Company
Deferred tax assets and liabilities are attributable to the following:

	Assets		Liabilities		Net	
	2021 £'000	2020 £'000	**2021 £'000**	2020 £'000	**2021 £'000**	2020 £'000
Property, plant and equipment	**–**	–	**3,810**	1,986	**3,810**	1,986
Rolled-over gain	**–**	–	**806**	613	**806**	613
Derivative financial instruments	**(81)**	–	**–**	290	**(81)**	290
Defined benefit pension scheme	**(1,164)**	(1,681)	**–**	–	**(1,164)**	(1,681)
Share option charges	**(216)**	(317)	**–**	–	**(216)**	(317)
	(1,461)	(1,998)	**4,616**	2,889	**3,155**	891
Set off	**1,461**	1,998	**(1,461)**	(1,998)	**–**	–
Deferred tax (assets)/liabilities	**–**	–	**3,155**	891	**3,155**	891

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 2020	1,481	548	34	(1,177)	(211)	675
Charged/(credited) to the income statement	505	65	–	(37)	(58)	475
Recognised in other comprehensive income and equity	–	–	256	(467)	(48)	(259)
Balance at 31 December 2020	1,986	613	290	(1,681)	(317)	891
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**

Notes
Continued

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
Opening balance 1 January 2020	48,301,234	2,415	44,178	46,593
Share issue to Employee Benefit Trust	320,000	16	–	16
As at 31 December 2020	48,621,234	2,431	44,178	46,609
At 1 January 2021 and 31 December 2021	**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 entity 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 hedging reserve (see note 21 for details). The cash flow hedging 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
Policy
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 clients 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.

21. Financial instruments and financial risk management (continued)

Credit quality of financial assets

	Group		Company	
Counterparties without external credit rating:	**2021 £'000**	2020 £'000	**2021 £'000**	2020 £'000
Existing customers with no defaults in the past	**20,529**	19,427	**14,039**	15,511
Existing customers with some defaults in the past, net of impairment allowance	**356**	339	**317**	325
	20,885	19,766	**14,356**	15,836

	Group		Company	
Cash at bank	**2021 £'000**	2020 £'000	**2021 £'000**	2020 £'000
Moody's P-1	**7,849**	8,220	**5,034**	6,328
Moody's P-3	**206**	283	**–**	–
	8,055	8,503	**5,034**	6,328

	Group		Company	
Derivative financial assets	**2021 £'000**	2020 £'000	**2021 £'000**	2020 £'000
Moody's P-1	**92**	966	**92**	966
Moody's P-2	**81**	614	**81**	614
	173	1,580	**173**	1,580

While cash and cash equivalent are subject to impairment review under IFRS 9 "Financial Instruments", the identified impairment loss was immaterial (2020: immaterial).

Trade receivables are analysed as follows:

	Group		Company	
	2021 £'000	2020 £'000	**2021 £'000**	2020 £'000
Gross carrying amount	**20,980**	19,798	**14,367**	15,847
– due for less than 60 days	**20,132**	19,324	**14,248**	15,841
– due for more than 60 days	**848**	474	**119**	6
Expected loss rate				
– due for less than 60 days	**0.05%**	0.06%	**0.08%**	0.07%
– due for more than 60 days	**9.91%**	4.43%	**0.00%**	0.00%
Loss allowance	**95**	32	**11**	11
Trade receivables net of allowances	**20,885**	19,766	**14,356**	15,836

Notes
Continued

21. Financial instruments and financial risk management (continued)

Loss allowances analysed as follows:

	Group £'000	Company £'000
At 1 January 2020	112	49
Increase in loss allowance recognised in profit or loss during the year	11	11
Receivables written off during the year as uncollectable	(42)	–
Reversal of loss allowance on collection of dues	(49)	(49)
At 31 December 2020	32	11
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**

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 2021 and 2020, the Group and Company insured a material portion of its trade receivable balances to mitigate credit risk. The uninsured exposure as at 31 December 2021 for the Group was £13,011k (2020: £12,037k) and for the Company was £7,183k (2020: £8,467k). 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 its operations and closely monitors its 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:

	2021			2020		
Group	**Effective interest rate %**	**Fixed rates £'000**	**Variable rates £'000**	Effective interest rate %	Fixed rates £'000	Variable rates £'000
Dollar short-term borrowings	**1.86%**	**–**	**4,812**	2.35%	–	500
Sterling short-term borrowings	**1.84%**	**–**	**6,750**	1.97%	–	8,250
Euro short-term borrowings	**1.81%**	**–**	**14,675**	2.10%	–	14,842
Dollar long-term borrowings	**2.03%**	**–**	**15,284**	2.35%	–	19,492
Total*		**–**	**41,521**		–	43,084

	2021			2020		
Company	**Effective interest rate %**	**Fixed rates £'000**	**Variable rates £'000**	Effective interest rate %	Fixed rates £'000	Variable rates £'000
Dollar short-term borrowings	**1.86%**	**–**	**4,812**	2.35%	–	500
Sterling short-term borrowings	**1.84%**	**–**	**6,750**	1.97%	–	8,250
Euro short-term borrowings	**1.81%**	**–**	**14,675**	2.10%	–	14,842
Dollar long-term borrowings	**2.03%**	**–**	**15,284**	2.35%	–	19,492
Total*		**–**	**41,521**		–	43,084

* The total amount of £41,521k is gross of an outstanding amount of £247k loan origination fees paid upfront and being amortised over the period of the loan (2020: £43,084k is gross of £391k loan origination fees).

The impact on post tax profit of a 1% shift in the variable rate borrowings would be £336k (2020: £349k).

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:

	2021					2020				
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	**(41,274)**	**(42,052)**	**(27,212)**	**(14,840)**	**–**	(42,693)	(44,388)	(24,199)	(5,400)	(14,789)
Trade and other payables	**(5,364)**	**(5,364)**	**(5,364)**	**–**	**–**	(4,673)	(4,673)	(4,673)	–	–
Lease liabilities	**(1,129)**	**(1,130)**	**(479)**	**(363)**	**(288)**	(1,406)	(1,467)	(448)	(399)	(620)
Total non-derivative financial liabilities	**(47,767)**	**(48,546)**	**(33,055)**	**(15,203)**	**(288)**	(48,772)	(50,528)	(29,320)	(5,799)	(15,409)
Derivative financial liabilities	**(600)**	**(600)**	**(600)**	**–**	**–**	(53)	(53)	(53)	–	–

	2021					2020				
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	**(41,274)**	**(42,052)**	**(27,212)**	**(14,840)**	**–**	(42,693)	(44,388)	(24,199)	(5,400)	(14,789)
Trade and other payables	**(4,139)**	**(4,139)**	**(4,139)**	**–**	**–**	(3,963)	(3,963)	(3,963)	–	–
Lease liabilities	**(524)**	**(516)**	**(249)**	**(200)**	**(67)**	(783)	(815)	(296)	(252)	(267)
Total non-derivative financial liabilities	**(45,937)**	**(46,707)**	**(31,600)**	**(15,040)**	**(67)**	(47,439)	(49,166)	(28,458)	(5,652)	(15,056)
Derivative financial liabilities	**(600)**	**(600)**	**(600)**	**–**	**–**	(53)	(53)	(53)	–	–

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. Foreign exchange risk 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 cover 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 the movement 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, the impact of which should reverse through forward currency contracts, but are subject to the timing between accounts receivable recording and cash received.

Notes
Continued

21. Financial instruments and financial risk management (continued)
The euro and US dollar rates used in preparing the financial statements are as follows:

	2021		2020	
	Average	**Closing**	Average	Closing
Euro/sterling	**1.163**	**1.192**	1.125	1.111
US dollar/sterling	**1.376**	**1.351**	1.284	1.366

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 – 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)**

Group – 2020	Euro £'000	US dollar £'000	Other £'000	Total £'000
Cash and cash equivalents	834	3,391	542	4,767
Trade receivables	3,700	11,553	736	15,989
Trade payables	(2,254)	(522)	(123)	(2,899)

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)**

Company – 2020	Euro £'000	US dollar £'000	Other £'000	Total £'000
Cash and cash equivalents	512	2,063	36	2,611
Trade receivables	3,352	8,287	139	11,778
Trade payables	(2,133)	(244)	–	(2,377)

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 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)**

31 December 2020	Level 1 £'000	Level 2 £'000	Level 3 £'000	Total £'000
Assets				
Forward exchange contracts	–	1,580	–	1,580
Total assets	–	1,580	–	1,580
Liabilities				
Forward exchange contracts	–	(53)	–	(53)
Total liabilities	–	(53)	–	(53)

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 2021 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 2021 or 2020 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 (2020: 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:

	2021				2020			
Group and Company:	**Foreign currency**	**Contract value £'000**	**Transaction fair value £'000**	**Contract fair value £'000**	Foreign currency	Contract value £'000	Transaction fair value £'000	Contract fair value £'000
Sell EUR	**€3,000**	**2,554**	**2,522**	**32**	€2,800	2,509	2,519	(10)
Buy EUR	**–**	**–**	**–**	**–**	€600	553	566	(13)
Sell USD	**$38,300**	**27,968**	**28,427**	**(459)**	$33,600	26,101	24,551	1,550

Notes
Continued

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 the retranslation of monetary items at 31 December 2021, it is estimated that an increase of one percentage point in the value of sterling against the euro would increase the Group's profit before tax by approximately £6k (2020: increase of £11k) before forward exchange contracts and £2k (2020: increase of £39k) after forward exchange contracts are included.

In respect of the retranslation of monetary items at 31 December 2021, 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 £240k (2020: £251k) before forward exchange contracts and £79k (2020: £82k) after forward exchange contracts are included.

Financial instruments by category

Group		2021 Financial assets at amortised cost £'000	2021 Derivatives used for hedging £'000	2021 Financial liabilities at amortised cost £'000	2020 Financial assets at amortised cost £'000	2020 Derivatives used for hedging £'000	2020 Financial liabilities at amortised cost £'000
Trade and other receivables		**23,323**	**–**	**–**	21,097	–	–
Cash and cash equivalents		**8,055**	**–**	**–**	8,503	–	–
Bank overdraft		**–**	**–**	**–**	–	–	–
Derivative financial instruments	– assets	**–**	**173**	**–**	–	1,580	–
	– liabilities	**–**	**(600)**	**–**	–	(53)	–
Interest-bearing loans and borrowings		**–**	**–**	**(41,274)**	–	–	(42,693)
Trade and other payables		**–**	**–**	**(5,364)**	–	–	(4,673)
Lease liability		**–**	**–**	**(1,129)**	–	–	(1,406)

Company		2021 Financial assets at amortised cost £'000	2021 Derivatives used for hedging £'000	2021 Financial liabilities at amortised cost £'000	2020 Financial assets at amortised cost £'000	2020 Derivatives used for hedging £'000	2020 Financial liabilities at amortised cost £'000
Trade and other receivables		**54,008**	**–**	**–**	49,139	–	–
Cash and cash equivalents		**5,034**	**–**	**–**	6,328	–	–
Bank overdraft		**–**	**–**	**–**	–	–	–
Derivative financial instruments	– assets	**–**	**173**	**–**	–	1,580	–
	– liabilities	**–**	**(600)**	**–**	–	(53)	–
Interest-bearing loans and borrowings		**–**	**–**	**(41,274)**	–	–	(42,693)
Trade and other payables		**–**	**–**	**(4,139)**	–	–	(3,963)
Lease liability		**–**	**–**	**(524)**	–	–	(783)

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).

i) 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 3.00:1.00.
- 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 these covenants throughout the financial year.

21. Financial instruments and financial risk management (continued)

Net borrowings comprise current and non-current interest-bearing loans and borrowings of £41,274k, as per note 18, and cash and cash equivalents of £8,055k as per note 16.

	As at 31 December 2021 £'000	As at 31 December 2020 £'000
Net borrowings	**33,219**	34,190
EBITDA	**16,117**	16,155
Net borrowings/EBITDA	**2.06**	2.12
Net finance charges	**1,002**	681
EBITDA/Net finance charges	**16.08**	23.72

EBITDA comprises:

	Note	**2021 £'000**	2020 £'000
Profit for the year		**4,376**	7,163
Depreciation and amortisation	10,11,12	**7,624**	6,746
Finance costs	6	**1,105**	846
Share of loss/(profit) from joint venture	9	**20**	(38)
Equity-settled share-based payments	24	**360**	300
Taxation	7	**2,632**	1,138
		16,117	16,155

Net finance charges comprise interest income of £11k and finance costs expensed of £1,014k as per note 6.

The Group's objective is to maintain leverage below the Board's appetite of 2.0. However, it has accepted an increase in this ratio, while remaining below the covenant level, as the Group invested in its capacity expansion programme. Subject to short-term macro-economic and geopolitical volatility as well as any potential longer-term strategic investments, it is expected to reduce quickly back below the Board's appetite as capacity utilisation improves.

The bank covenant definition does not include the impact of IFRS 16 "Leases", which would have moved the ratio from 2.06 to 2.13.

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 2021, the return on capital was 6.1% (2020: 9.0%) and there are no longer any significant capacity investments to be excluded following the commissioning of the Poland manufacturing facility in February 2021.

22. Commitments – Group

	Group		Company	
	2021 £'000	2020 £'000	**2021 £'000**	2020 £'000
Capital expenditure contracted for at the end of the reporting period but not yet incurred is as follows:				
Property, plant and equipment	**1,383**	1,475	**742**	471

Notes
Continued

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 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 Scheme in accordance with the Scheme's Trust Deed and Rules, which set out their powers. The Trustees of the Scheme are required to act in the best interests of the beneficiaries of the Scheme. There is a requirement that one-third of the Trustees are nominated by the members of the Scheme.

There are three categories of pension scheme members:

- Deferred member 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; and
- 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 Scheme's defined benefit obligation as at 31 December 2021 was 15 years (2020: 16 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 2022.

Method and assumptions

The initial results of the valuation as at 5 April 2020 have been updated to 31 December 2021 by a qualified independent actuary.

The assumptions used were as follows:

	As at 31 December 2021	As at 31 December 2020
Discount rate	**1.80%**	1.20%
RPI inflation	**3.40%**	2.90%
CPI inflation	**2.90%**	2.30%
Salary increases	**2.90%**	2.30%
Pension increases		
– Post 88 GMP	**2.40%**	2.10%
– Non GMP	**3.30%**	2.90%
Revaluation of deferred pensions in excess of GMP	**2.90%**	2.30%
Mortality (pre and post-retirement)	**100% S3PMA_M / 100% S3PFA_M CMI_2019_M/F 1.25% (yob)**	100% S3PMA_M / 100% S3PFA_M CMI_2019_M/F 1.25% (yob)

Life expectancies (in years):

	Year ended 31 December 2021		Year ended 31 December 2020	
	Males	**Females**	Males	Females
For an individual aged 65 in 2021	**21.3**	**23.7**	21.3	23.6
At age 65 for an individual aged 45 in 2021	**22.6**	**25.2**	22.6	25.2

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
- ALM: the Scheme invests in an asset-liability matching (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.	–8%/+9%
RPI inflation	+0.5%/–0.5% p.a.	+7%/–7%
Assumed life expectancy	+1 year	+5%

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 2021		Year ended 31 December 2020	
Asset class	**Market value £'000**	**% of total Scheme assets**	Market value £'000	% of total Scheme assets
Equities and other growth assets	**17,831**	**52%**	16,319	51%
Diversified Credit Funds	**6,312**	**19%**	6,308	20%
Liability Driven Investments	**8,312**	**24%**	7,409	23%
Cash	**705**	**2%**	804	3%
Other	**997**	**3%**	1,078	3%
Total	**34,157**	**100%**	31,918	100%
Actual return on assets over the year	**2,674**		2,949	

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:

	2021 £'000	2020 £'000
Market value of plan assets	**34,157**	31,918
Present value of defined benefit pension scheme obligation	**(38,814)**	(40,769)
Deficit – recognised as a liability in the statement of financial position	**(4,657)**	(8,851)

Notes
Continued

23. Post-employment benefits (continued)

The movement in the defined benefit obligation over the year is as follows:

	2021 £'000	2020 £'000
Value of defined benefit obligation at the start of the year	**40,769**	36,486
Interest cost	**482**	721
Benefits paid	**(1,214)**	(1,291)
Actuarial losses/(gains): experience differing from that assumed	**186**	(117)
Actuarial (gains)/losses: changes in demographic assumptions	**(81)**	19
Actuarial (gains)/losses: changes in financial assumptions	**(1,328)**	4,951
Value of defined benefit obligation at the end of the year	**38,814**	40,769

The movement in the value of the plan assets over the year is as follows:

	2021 £'000	2020 £'000
Market value of plan assets at the start of the year	**31,918**	29,560
Interest income	**380**	556
Actual return on plan assets	**2,294**	2,393
Employer contributions	**779**	700
Benefits paid	**(1,214)**	(1,291)
Market value of assets at the end of the year	**34,157**	31,918

The table below outlines where the Company's post-employment amounts and activity are included in the financial statements.

	2021 £'000	2020 £'000
Statement of financial position for:		
– Defined benefit pension scheme obligations	**(4,657)**	(8,851)
Income statement charge for:		
– Defined benefit pension scheme interest cost	**(102)**	(165)
Actuarial gains/(losses) recognised in other comprehensive income for:		
– Defined benefit pension scheme	**3,517**	(2,460)

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 2021 were £855k (2020: £755k).

For certain non-UK based employees of the Company, the Company makes contributions into individual schemes. The contributions paid by the Company in 2021 were £5k (2020: £4k).

For USA-based employees, Zotefoams Inc. operates a 401(k) plan. The contributions paid by Zotefoams Inc. in 2021 were £279k (2020: £263k).

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 Group before the options vest.

In 2007, the Company introduced a LTIP scheme for senior management personnel. Shares are awarded in the Company and vest after three years to the extent performance conditions are met. Dependent on the circumstances, awards are normally forfeited if the employee leaves the Group 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 Group 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. Depending on the circumstances, awards are normally forfeited if the employee leaves the Group 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. No new awards are made under the 2007 Plan. Depending on the circumstances, awards are normally forfeited if the employee leaves the Group 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 99.

Movements in share options during the year are as follows:

The options outstanding at 31 December 2021 have an exercise price between 245.7p and 572.0p and a weighted contractual life of seven years (2020: six years).

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.

	2021		2020	
	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	**89,266**	**327**	97,120	331
Exercised during the year	**(14,694)**	**270**	–	–
Granted during the year	**40,690**	**433**	–	–
Forfeited during the year	**(13,336)**	**426**	(7,854)	382
Outstanding at the end of the year	**101,926**	**364**	89,266	327
Exercisable at the end of the year	**57,994**	**293**	77,598	290

Movements in LTIP awards during the year are as follows:

	2021		2020	
	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	**827,665**	**–**	741,767	–
Exercised during the year	**(155,084)**	**–**	–	–
Granted during the year	**354,372**	**–**	264,615	–
Forfeited during the year	**(373,297)**	**–**	(178,717)	–
Outstanding at the end of the year	**653,656**	**–**	827,665	–
Exercisable at the end of the year	**–**	**–**	–	–

Notes
Continued

24. Share-based payments (continued)
Movement in Deferred Bonus Share Plan awards during the year are as follows:

	2021		2020	
	Number of share options	**Weighted average exercise price (p)**	Number of share options	Weighted average exercise price (p)
Outstanding at beginning of the year	**155,884**	**–**	49,135	–
Exercised during the year	**(79,289)**	**–**	(33,014)	–
Granted during the year	**14,790**	**–**	139,763	–
Forfeited during the year	**(306)**	**–**	–	–
Outstanding at the end of the year	**91,079**	**–**	155,884	–
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.

	05-Apr-16	27-Mar-17	24-Aug-17	16-Apr-19	08-Apr-21
Share price (p)	290	305.5	305.5	572	415
Exercise price (p)	290	305.5	327.5	572	433
Expected volatility	35%	35%	35%	25%	40%
Option life	Five years	Five years	Five years	Three years	Three years
Expected dividends (p) (assumed to be increasing at 2.5% p.a.)	5.6	5.7	5.7	5.5	6.3
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)	80	103.1	111.1	103	99

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:

	2021 £'000	2020 £'000
Within administrative expenses – share-based payment charge	**360**	300
– related National Insurance	**36**	57

Of the above, amounts relating to Directors of Zotefoams plc aggregate to £169k (2020: £177k).

25. Related parties

Directors

The Directors of the Company as at 31 December 2021 and their immediate relatives control approximately 1.2% (2020: 1.1%) of the voting shares of the Company. Details of Directors' pay and remuneration are given in the Directors' Remuneration report on pages 88 to 99. 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:

	2021 £'000	2020 £'000
Sale of goods: subsidiaries of the Company	**3,857**	6,465
Sale of services: subsidiaries of the Company	**1,246**	760
Loans given (net of repayments): subsidiaries of the Company	**2,748**	8,606
Interest income: subsidiaries of the Company	**468**	569
Sale of goods: joint venture of the Company	**2,951**	2,155
Sale of services: joint venture of the Company	**733**	407
Total	**12,003**	18,962

Balances between the Company and its active subsidiaries and joint venture are as follows:

	Receivable from/(payable to)		Investment in	
	2021 £'000	2020 £'000	**2021 £'000**	2020 £'000
Zotefoams Inc.	**12,541**	9,426	**–**	–
KZ Trading and Investment Limited	**247**	1,498	**–**	–
Azote Asia Limited	**1,065**	896	**–**	–
MuCell Extrusion LLC	**4,410**	3,424	**–**	–
Zotefoams International Limited	**17,037**	15,087	**30,822**	30,822
Zotefoams Operations Limited	**–**	76	**–**	–
Zotefoams T-FIT Material Technology (Kunshan) Limited	**2,993**	2,402	**–**	–
Zotefoams Poland Sp. z.o.o.	**304**	523	**–**	–
Zotefoams France SAS	**(39)**	(30)	**–**	–
T-FIT Insulation Solutions India Private Limited	**253**	379	**–**	–

Notes
Continued

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 2.12.

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.

Key judgements

i) Unrecognised deferred tax assets

At year-end exchange rates, the Group has tax losses carried forward of £18,913k in the USA while tax losses of £657k have been recognised on the statement of financial position. Based on projections, the Group anticipates using all these carried forward tax losses; however, management have 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, other than those disclosed in note 18.

Five-year trading summary

	2021 £m	2020 £m	2019 £m	2018 £m	2017 £m
Group revenue	**100.8**	82.7	80.9	81.0	70.1
Operating profit (before exceptional item)	**8.1**	9.1	9.1	11.6	9.4
Profit before tax (before exceptional item)	**7.0**	8.3	8.8	10.8	8.8
Profit before tax	**7.0**	8.3	9.8	9.9	7.5
Profit after tax	**4.4**	7.2	8.2	7.9	6.0
Capital expenditure (including intangibles)	**7.1**	12.7	24.4	16.1	12.2
Cash generated from operations	**12.2**	13.0	11.8	7.1	10.0
Basic earnings per share before exceptional item (p)	**9.01**	14.87	14.91	18.66	16.04
Basic earnings per share (p)	**9.01**	14.87	17.10	16.96	13.70
Dividends per ordinary share (p)	**6.50**	6.30	2.03	6.12	5.93

Notice of the 2022 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, you are 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

COVID-19

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.

Subject to any government restrictions in place at the time, our intention is to hold the Annual General Meeting in person. In addition, both existing shareholders and any other stakeholders may register with the Investor Meet Company platform to listen to the proceedings in real time and submit questions: https://www.investormeetcompany.com/zotefoams-plc/register-investor. Investors who already follow Zotefoams plc on the Investor Meet Company platform will automatically be invited. The platform does not offer voting facilities and participants will not be treated as legally attending or participating in the meeting.

Shareholders are strongly encouraged to submit a proxy form indicating their votes in accordance with the notes below and email any question for the Board to investorinfo@zotefoams.com a minimum of 48 hours prior to the AGM. The Board will do its best to answer these questions.

The Board is monitoring the situation and will make any further announcement required through the release of an RNS and on the AGM page of its website: https://www.zotefoams.com/agm/.

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 25 May 2022 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 2021.
2. To approve the Annual Statement by the Chair of the Remuneration Committee and the Annual Report on Remuneration for the year ended 31 December 2021 set out on pages 88 to 99 of the Annual Report.
3. To declare a final dividend for the year ended 31 December 2021 of 4.40 pence per ordinary share, such dividend to be payable on 1 June 2022 to shareholders on the register of members of the Company at the close of business on 6 May 2022.
4. To re-elect S P Good as a Director.
5. To re-elect D B Stirling as a Director.
6. To re-elect G C McGrath as a Director.
7. To re-elect J D Carling as a Director.
8. To re-elect A M Fielding as a Director.
9. To re-elect D G Robertson as a Director.
10. To re-elect C A Wall as a Director.
11. 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.
12. 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 13 will be proposed as an ordinary resolution and resolutions 14, 15, 16 and 17 will be proposed as special resolutions:

13. 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 2023 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.

14. That if resolution 13 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 2023) 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.

15. That if resolution 13 is passed, the Directors be authorised in addition to any authority granted under resolution 14 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 2023) 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.

16. 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 5 April 2022;

    (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 2023 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.

17. That a general meeting other than an Annual General Meeting may be called on not less than 14 clear days' notice.

Dated: 6 April 2022
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 23 May 2022 (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 23 May 2022.

(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 that his CREST sponsor or voting service provider(s) take(s)) such action as shall be necessary to ensure that a message is transmitted by means

Notice of the 2022 Annual General Meeting
Continued

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 5 April 2022 (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 5 April 2022 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 2021, as required by law.

Resolution 2 – Directors' Remuneration report

Resolution 2 seeks shareholder approval of the Directors' Remuneration report for the year ended 31 December 2021 which can be found on pages 88 to 99 of the Annual Report. The Company's External Auditor, PKF Littlejohn LLP, has audited those parts of the Directors' Remuneration report that are required to be audited and its report may be found on pages 104 to 108 of the Annual Report.

The shareholders approved the current Directors' Remuneration Policy at the AGM held on 8 June 2020 and it became effective immediately. As there have been no changes to the Directors' Remuneration Policy, there is no need to seek further approval of it at this year's AGM. The current intention is to submit the Directors' Remuneration Policy for shareholder approval at the AGM scheduled for 2023, unless, in the interim, there are specific changes that require shareholder approval. The Directors' Remuneration Policy may be found in the 2019 Annual Report on pages 58 to 63.

Resolution 3 – Declaration of dividend

This resolution concerns the Company's final dividend payment. The Directors are recommending a final dividend of 4.40 pence per ordinary share in respect of the year ended 31 December 2021 which, if approved, will be payable on 1 June 2022 to the shareholders on the register of members on 6 May 2022.

Resolutions 4 to 10 – Re-election of Director

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 report and financial statements for the year ended 31 December 2021. 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.

In line with the provisions of the UK Corporate Governance Code, the Company Chair's term of office is due to end in 2023. Following an assessment of the Board's existing skillsets against those required to deliver the strategy, a recruitment process, led by the Senior Independent Director, was initiated for the appointment of a new Company Chair in 2023. Further details are provided on page 87 of the Annual Report 2021.

Resolutions 11 and 12 – Re-appointment of Auditor and its remuneration

Resolution 11 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 12 authorises the Audit Committee to determine the Auditor's remuneration.

Special business

Resolution 13 – 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 5 April 2022, 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 13 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 5 April 2022, 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 13 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 2023, whichever is the earlier.

Resolutions 14 and 15 – 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 14 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 5 April 2022, being the latest practicable date before publication of this notice. Resolution 15 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 2023, 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 16 – 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 5 April 2022, 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 2023, 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 generally 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 5 April 2022, 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 835,347 ordinary shares in the capital of the Company representing 1.7% 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% of the Company's issued ordinary share capital.

Resolution 17 – 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 17 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

Registered number
2714645

Financial adviser and broker
Investec Bank plc
30 Gresham Street
London EC2V 7QN

Joint broker
Peel Hunt LLP
7th Floor, 100 Liverpool Street
London EC2M 2AT

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	25 May 2022
Payment of final dividend	1 June 2022 to shareholders on the register at the close of business on 6 May 2022
Payment of interim dividend	October 2022
Announcement of 2022 results	March 2023

Website
The Company has a website (www.zotefoams.com) which provides information on the business and products.

AZOTE®, ZOTEK®, T-FIT®, Plastazote®, Evazote® and ReZorce® are registered trademarks of Zotefoams plc.

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

FSC
Mixed Sources
Product group from well-managed forests and other controlled sources
Cert no. SW-COC-005535 EM
www.fsc.org
© 1996 Forest Stewardship Council

Print: Colourset Print Mail Solutions
www.colourset.co.uk

ZOTEFOAMS

Zotefoams plc

675 Mitcham Road
Croydon
CR9 3AL
United Kingdom

T +44 (0)20 8664 1600
F +44 (0)20 8664 1616
investorinfo@zotefoams.com
www.zotefoams.com