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24 March 2022

**Biome Technologies plc**  
**("Biome", "the Company" or "the Group")**

**Final Results 2021**

Biome Technologies plc announces its audited Final Results for the year ended 31 December 2021.

**Highlights:**

**Final Results**

- Challenging year for the Bioplastics division with continuing strength shown in the pipeline of commercial opportunities but saw a revenue decline of 3.0% as the division contended with various logistics and development issues.
- RF Technologies division revenues increased by 23.4% to £0.9m (2020: £0.8m) (after elimination of intra-group trade) as its markets started to recover. As previously announced, significant contracts from the fibre-optic, medical and food packaging industries have been secured and help underpin the Board's expectations for the division in 2022.
- Reported Group loss before interest, depreciation, taxation and amortisation (LBITDA) of £0.6m (2020: LBITDA of £1.0m restated), in line with market expectations, with Group operating loss of £1.1m (2020: loss of £1.6m).
- Group cash position as at 31 December 2021 was £1.0m (31 December 2020: £1.7m) with no bank borrowings.

**Paul Mines, Chief Executive Officer said:** *"The Group has good opportunities for growth in 2022. In 2021, the Bioplastics division continued to develop its strong product base but sales growth was frustrated by third party delays. Towards the end of 2021, the RF Technologies division saw a strong recovery in its order book which bodes well for 2022".*

- Ends -

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**About Biome**

Biome Technologies plc is an AIM listed, growth-orientated, commercially driven technology group. Our strategy is founded on building market-leading positions based on patented technology and serving international customers in valuable market sectors. We have chosen to do this by developing products in application areas where the value-added pricing can be justified and are not reliant on government legislation. These products are driven by customer requirements and are compatible with existing manufacturing processes. They are market rather than technology-led.

The Group comprises two divisions, Biome Bioplastics Limited ("Bioplastic") and Stanelco RF Technologies Limited ("RF Technologies").

Biome Bioplastics is a leading developer of highly-functional, bio-based and biodegradable plastics. The company's mission is to produce bioplastics that challenge the dominance of oil-based polymers.

Stanelco RF Technologies designs, builds and services advanced radio frequency (RF) systems. Dielectric and induction heating products are at the core of a product offering that ranges from portable sealing devices to large furnaces for the fibre optics markets.

[www.biometechnologiesplc.com](http://www.biometechnologiesplc.com) [www.biomebioplastics.com](http://www.biomebioplastics.com) and [www.thinkbioplastic.com](http://www.thinkbioplastic.com) [www.stanelcorftechnologies.com](http://www.stanelcorftechnologies.com)

## Chairman's Statement

### Business performance

2021 was a challenging year for the Group with delays to anticipated growth as the Group had to contend with a number of third-party operating issues. Project implementation by customers for our Bioplastics' products; shipping and other logistics issues; and with little sign of a return to furnace sales growth in our RF Technologies division, until the second half of the year. As a result, we had to reduce our expectations during the year.

An increased focus on cost and working capital management in the year ensured that the year-end cash position was better than anticipated at £1.0m with more identified improvements underway to provide for further anticipated growth.

### Bioplastics division

A significant commitment was secured in March 2021 for the deployment of the Bioplastics division's proprietary compostable filtration material, expected to support a significant portion of the Group's expected revenue growth during 2021 and beyond. However, the ultimate potential of this commitment was not delivered in the year as the customer delayed on more machines from the two currently in use.

In our placing circular to shareholders in 2020, we laid out four growth drivers which we believed would deliver significant value for shareholders and maintain our KPI target of 40% revenue growth in the Bioplastics division through 31 December 2023. I would like to return to these growth drivers again specifically and update you on progress in each of them:

1. Continued growth from existing customers with existing products, especially flexible film in both industrial and particularly home compostable formats, in the North American market.

***Growth from our existing customers and products stalled in 2021 as transatlantic shipments were delayed by up to five months and our customers struggled with material and labour shortages. We expect growth in flexible film in North America to be more pronounced in the medium term.***

2. Filtration mesh: The Company envisaged growth with a second end-customer with a material that has been proven with an existing customer over the last four years.

***This project, with anticipated significant and recurring revenues from H2 2021, turned into a commitment in March 2021. However, first engineering delays and then logistics issues meant that a more gradual ramp-up is now expected during 2022. Substantive discussions have begun with two further customers to deploy this material.***

3. Coffee pod material: The Company launched a project for a heat stable material for coffee pods within the US at the end of 2019. Commercial sales of this product are now well embedded with a lead customer.

***In addition to continued demand from the lead customer this material is now at a late stage of testing with another large end-user organisation. Following Covid related delays, commercial volumes are now expected to ramp-up in H2 2022.***

4. Packaging film: The Company is working on seven new customer projects that focus on the conversion of flexible packaging to compostable formats. Six of these projects are for the North American Market.

***Six of these original projects continue and whilst trials turned to commercial usage in 2021, we now expect two or three of these to become commercially meaningful during 2022.***

### Innovative materials

As a separate enterprise, Biome Bioplastics has coordinated research and development funding in conjunction with leading universities, in pursuit of bringing new novel bio-based and biodegradable polyesters to market. Exciting new materials are now being produced at pilot scale on a regular basis and their technical and commercial properties assessed. We expect to undertake initial small-scale manufacturing on semi-commercial equipment in 2022.

Our tree-guard contracts, with Innovate UK, the UK's innovation agency, and Suregreen Ltd, a leading manufacturer in the sector, to bring a biodegradable tree-guard to market, has accelerated production of the new product in 2022. There are now tens of thousands of such products being tested at various UK locations and commercial sales have begun. As both increased tree planting and environmental pressures increase, we believe we have developed an excellent material for a growing market and will seek to exploit its potential in the coming years.

Home composting, rather than industrial composting, is a trend that is coming closer to market acceptance. There has been a shift in technical requirements in the bioplastic market with more consumers and brands seeking products that can be certified for home composting as well as through industrial scale facilities. The division's scientists have been working to deliver products that deliver this technical performance at a competitive price point and a patent for a new family of materials has been filed recently. Work to exploit this technology commercially will step-up in this financial year.

We believe that the progress described above highlights the growing reputation of our Bioplastics business for innovative materials and how it will lead to market success and penetration, particularly in the USA.

### RF Technologies division

The downturn in demand for capital goods in the fibre optic cable manufacturing sector that the division first saw during 2019 continued through the first half of 2021. However, as the year progressed, we saw improvement in spares and service orders and then interest in quotations for increased capacity. Ultimately this resulted in the first substantive new order for additional capacity for the fibre optic sector since 2018.

The division's efforts to diversify its revenue stream also gained traction in 2021. The bounce back in demand as Covid-19 restrictions were eased in some territories, saw an uplift in enquiries for new capacity. This was manifested in a substantive order for the medical sector in December

2021 and another for the food packaging sector in Continental Europe in January 2022. These are important steps for the division as it refines and demonstrates its capability on a wider stage.

The division is experiencing the disruptions to supply lines other manufacturers are having to contend with. Innovative and more costly solutions are occasionally having to be applied to this challenge to enable our contracts to be delivered in a timely fashion. We expect this situation to continue for the time being.

#### **Covid-19**

The Group continues to monitor the ongoing impact of the Covid-19 epidemic and places high importance on caring for its staff and customers. Some adjustments made in 2020 to commercial and manufacturing activities remain but are now being progressively eased in line with government guidance on these matters.

We have experienced substantive supply chain issues in the Bioplastics division and whilst this turbulence is expected to continue through 2022, we are improving our capability to foresee and manage such issues. We have seen and continue to see an increase in input costs, including raw material, shipping, fuel and labour. We have, in the main, been able to pass these costs on to customers and we are continually working to mitigate the effects of inflation on our business. Business development in the North American market that has been successfully managed remotely for two years is now taking place in person again.

The RF Technologies division's ongoing activity to widen the markets that it sells to was frustrated in 2020 and early 2021 by a slowdown in capital expenditure and restrictions placed on travelling to and meeting with potential customers. However, as the pandemic has eased, more normal business development has resumed not least with three face-to-face exhibitions planned for 2022.

Whilst we expect to see a continuing limited impact from Covid-19, the business has adapted to the challenges that the pandemic has presented, and we look forward to a more normal environment in the future.

We have not experienced any further operational issues since the beginning of the Russian invasion of Ukraine.

#### **Results**

The Group's results were broadly in line with the revised market expectations for the year ended 31 December 2021.

Consolidated Group revenue for the year was £5.7m (2020: £5.7m) reflecting the slight decrease in Bioplastics sales offset by the modest uptick in those from the RF Technologies division. Group gross margins for the year were 33.8% (2020: 29.4%) reflecting an improved mix of sales during the year.

The Group loss before taxation reduced to £1.2m (2020: £1.7m) whilst the non-GAAP measure of loss before interest, taxation, depreciation and amortisation (LBITDA) was slightly better than market expectations at £0.6m (2020: £1.0m LBITDA restated). A Group operating loss of £1.1m for the year was incurred (2020: £1.6m loss).

The Bioplastics division saw a slight decrease in sales to £4.8m (2020: £4.9m) representing a 3.0% decline and flat loss before taxation of £0.6m (2020: £0.5m loss restated). The division recorded a slightly higher LBITDA of £0.2m (2020: £0.1m LBITDA) as sales marginally decreased.

The RF Technologies division's revenues were up 23.4% to £0.9m (2020: £0.8m) reflecting the start of a recovery in demand for the division's products. Loss before taxation was significantly reduced at £0.1m (2020: £0.5m). The division reported a LBITDA of £nil / breakeven for the year (2020: £0.4m LBITDA) and an operating loss of £0.1m (2020: £0.5m Loss). These results reflect the improved sales in the year and the full-year benefit of cost reductions made in 2020.

The Group's cash balances as at 31 December 2021 were £1.0m (31 December 2020: £1.7m) reflecting trading losses for the year offset by lower working capital. The Group had no debt, other than leases in respect of right of use assets, as at 31 December 2021 (2020: £nil). Capitalised product investment in the Bioplastics division was £0.3m (2020: £0.3m).

#### **Strategy**

The Group continues to execute on its strategy to be a leading player in its chosen markets. In both markets addressed by the Group our products are developed to meet our customers' demanding requirements and incorporate a high level of technological knowhow that differentiates our offerings from the competition.

In my statement, made as part of the interim results for 2020, I updated and restated our high-level Key Performance Indicators (KPIs) to 31 December 2023 to reflect the continued growth in the Bioplastics division as well as the market headwinds facing the RF Technologies division. The revised KPIs and the progress made as at 31 December 2021 is set out below: -

40% annual revenue growth in the Bioplastics division.

***During the year ended 31 December 2021, the division missed this target with a revenue decline of 3.0% as shipments in H2 were held-up and delays in the implementation of new projects occurred as customers managed their own supply chain problems. We expect growth of KPI magnitude to return in 2022.***

Bioplastics division's profitable revenue growth to achieve a 10%-12.5% EBITDA margin by the end of the KPI period.

***Progress towards this KPI was reversed with the revenue decline described above.***

Continued diversification of the Group's turnover by product and market to ensure that no single product or end customer contributes more than 15% of revenues by 2023.

***The Group had two customers (2020: two customers) who each accounted for more than 15% of Group revenues. In 2021, both of these customers were in the Bioplastics division. The two customers referred to are converters of material for a further number of end customers. Good progress is being made to diversify the number of end customers and the variety of products being sold.***

Continued investment in the Group's next generation of products by spending significantly more per annum on average than the £0.3m per annum average spend over the previous strategic objective cycle.

***The Group met this target with £1.0m R&D investment in the year representing an increase of £0.3m on 2020.***

#### **Board and personnel changes**

With the retirement of Michael Kayser, Simon Herrick joined the Board as non-executive director on 25 March 2021 and assumed the responsibilities as Chair of Audit and Remuneration Committees, member of the Nominations Committee and has recently assumed the role of senior non-executive director. Simon qualified as a Chartered Accountant with Price Waterhouse and has held several executive director roles with listed companies including Northern Foods plc, Debenhams plc and Blanco Technology Group plc.

#### **Race to Zero**

Biome Technologies signed up to the United Nations Race to Zero Climate Campaign and is committed to reducing its carbon emissions in line with publicly disclosed targets. Our reporting of actual greenhouse gas emissions and medium-term targets commences in these Statements and demonstrate good initial reductions of Scope 1 and 2 emissions (direct energy use) against the recent baseline. Plans have been developed to drive progress towards both 2030 and 2050 targets.

Our Bioplastics division's products are already subject to individual Life Cycle Analysis (LCA) that encompass the full supply chain where appropriate, and we will look to extend our broader Group reporting to include Scope 3 emissions (those from toll manufacture, growing, extraction, manufacture, and processing of the raw materials used) as robust data becomes available.

#### **Outlook**

Despite the challenging frustrations of 2021 we believe the Group has good opportunities for growth in the current year.

The Bioplastics division will continue to benefit from the move to more sustainable materials and, as it continues to broaden its product and customer portfolio and the logistics issues ease, we expect growth to return in the second half of 2022. It is also anticipated that several of the technical developments, set out in the Strategic Report, will start to be commercialised in 2022.

The RF Technologies division has been successful in winning some good contracts to underpin expectations for 2022 and we are encouraged by the improvement in its outlook. It is particularly pleasing to see the division executing on its strategy of diversification in markets served that should put the business on a more secure long-term footing, particularly in the first half of the current year.

Trading in the first quarter of 2022 has been in line with our expectations and the outlook for the year remains unchanged. We continue to manage our cash resources to ensure that we can support further growth and achieve sustainability for the Group.

#### **John Standen**

Chairman

## Strategic Report

Biome Technologies plc is a growth orientated, commercially driven technology group. Its strategy is founded on building market-leading positions based on its technology, intellectual property and serving international customers in the bioplastics and radio frequency heating sectors. We have chosen to do this by developing products in application areas where value-added pricing can be justified and that are not reliant on government legislation. The growing portfolio of products is driven by customer requirements and compatible with existing manufacturing processes. They are market rather than technology led.

The directors consider its shareholders, employees, customers and suppliers as its key stakeholders and the divisional analysis below outlines the strategies that have been adopted to promote the success of the Group and to meet its objectives.

### Biome Bioplastics division

The Bioplastics division achieved sales revenue of £4.8m (2020: £4.9m), a decrease of 3.0%. The slight decrease in reported revenues, compared to the record performance in 2020, was attributable to the industry-wide logistics challenges encountered as the global economy restarted after the first wave of lockdowns of the coronavirus pandemic. Throughout 2021 we experienced lengthening lead-times and disruptions to sea-freight and road logistics. The implementation plans of our customers were impacted by shortages of staffing and materials affecting their production and purchasing patterns. New product introductions were delayed as customers focused resource on securing existing supply to the detriment of new product introductions. The division's operating loss for the year was £0.6m (2020: £0.5m loss).

### Markets

Plastics and their use or misuse by humanity remains a key environmental topic in global markets. There is sustained pressure from consumers, media and governments to reduce the environmental impact of plastics. In recent years the focus of this pressure has been on the "end-of-life" of such materials, how they are disposed of and the consequence of fugitive release to the environment. In addition, with rising concerns regarding climate change and the pursuit of "Net Zero" strategies by governments, there is greater interest in how such materials might also be manufactured with lower carbon footprints.

The compelling case for compostable (biodegradable) bioplastics lies in their ability to ensure that organic food waste reaches appropriate treatment (e.g. industrial scale anaerobic digestion and composting facilities) and that the resulting digestate and compost does not contain persistent plastic contamination when spread to soils. This is driving the growth of the compostable packaging market in sectors such as food waste bags, coffee pods, tea bags and other food contaminated packaging formats.

The growth of the compostable plastics market is facilitated when there is a clear route for food waste and food contaminated packaging to reach appropriate sorting and treatment facilities. This requires appropriate labelling, user education, collection, sorting and treatment capacity. The quality of such "Industrial Compostable" disposal supply chains varies considerably by geographic territory and often within countries although there is, in general, a move to improve and scale-up such activity.

Arguably, the consumer desire to change the plastic model is pulling through increased demand for compostable plastics at a rate that is faster than (often government controlled) collection and disposal supply chains are able to adapt to. As a result, there is increased demand from the market for bioplastics that can be composted at home – known as "Home Compostable" products. Whilst it is a minority of the population that has the access and/or desire to treat organic waste and packaging at home, those that can, are highly motivated to treat such waste appropriately. This is driving the compostable plastics market to producing and certifying products that are suitable for this end-of-life solution. Such products are required to compost at lower temperatures and in less well managed conditions than can be expected at industrial facilities.

The case for bio-based bioplastics is driven by the growing scientific evidence that the use of biogenic inputs reduces the carbon footprint of such materials and will in time lead to a more sustainable plastics industry. There are a limited number of territories that legislatively require bio-based inputs in some plastics, but it might be expected that this trend is likely to accelerate. There is some evidence that some consumers will choose bio-based materials when offered a choice, but this appears, at present, to rank behind the desire for compostable functionality.

The UK market has been somewhat slower to embrace compostable and bio-based materials than some other territories. Whilst there is considerable focus on plastic waste, there is still a continuing debate of how best to manage the problem. The local council control of the disposal supply chain and its wide variability is seen by some as part of the problem and a move in England towards universal food waste collection by 2025 presents an opportunity for compostable plastics. At present, the UK market remains a smaller part of the Bioplastics division's short-term focus with the more immediate sales opportunities and growth being in the US market.

Cost and functionality will remain key hurdles over the widespread adoption of bioplastics over petro-chemical plastics. Current adoption is therefore driven by consumer pull, and their willingness to pay a premium for biodegradability/compostability, or government legislation. To overcome these hurdles the Group's Bioplastics division focuses on areas of the market where there is a high technical performance requirement, the cost of the biomaterial is a small fraction of the end product price, and where there is a consumer willingness to convert to a biodegradable material.

Research and development within the Bioplastics division is therefore focussed on these three areas and in particular targeted towards customer requirements for a biodegradable solution. The commercial lifecycle of our product developments can be categorised in the following stages of the product lifecycle:

- Research phase – technology and product development occurring within Biome's own laboratories or at external support facilities
- Development phase – the product is being developed and tested with small scale supplies to customers for end use testing
- Initial manufacturing phase – the product is signed off by the customer as suitable for its requirements and is now undergoing significant long-term testing to ensure the end product can be run in commercial quantities across the supply chain
- Commercial phase – the product has been through the above phases with the customer and is now achieving regular and significant sales with the end product being purchased and used by the final consumer

## **Technical Development**

Biome Bioplastic's development work remains focussed on innovative developments where there is a customer requirement for the product and a willingness to pay a premium for the environmental attributes. During 2021, the development team worked on a variety of technical challenges that included the development of a range of home compostable materials for different applications, the improvement of oxygen and vapour barrier performance, the soil degradability of materials to be used in tree guards and the improvement of temperature performance for a variety of end-uses. The home compostable work made particular progress in the year, an important patent filing has been made in this area and commercial deployment of this technology is expected to begin in 2022.

The Bioplastics division also continued its work in medium term Industrial Biotechnology research into the transformation of lignocellulose (often sourced from agricultural waste) into low-cost bioplastics using microbial and enzymatic routes. If successful, it is anticipated that this work will result in bioplastics with improved functionality at a cost comparable to current petroleum-based plastics. This development work continues to be supported by research grants and much of the work is undertaken in collaboration with leading UK universities. The scale at which the polymerisation activities have been carried out has been increased over the last twelve months and the differentiated performance of materials better understood. Plans have been developed to migrate this activity to a contract partner at pilot scale in 2022 with the capability and capacity to manufacture at commercial scale in due course.

## **Stanelco RF Technologies division**

The RF Technologies division, through the use of radio frequency technology, creates innovative solutions for thermal process applications. The division's products are renowned for their quality and durability. The division's systems are designed and manufactured to provide exceptional sealing, welding and heating process solutions to a wide variety of commercial sectors.

The division's core offering is the supply of fibre optic furnaces, although the business is also engaged with other markets where its expertise in induction heating can be utilised such as medical, food packaging and aerospace. Total revenues in 2021, after the elimination of intercompany sales, were £0.9m (2020: £0.8m) representing a 23.4% improvement. This improvement reflected an improving demand picture as industry recovers from the economic effects of the coronavirus pandemic. Order intake in the final quarter of 2021 and first quarter of 2022 has been particularly encouraging. As a consequence of the improved sales and cost reductions made in 2020, the division's operating loss for the period reduced to £0.1m (2020: £0.5m loss).

The business currently focuses on four key revenue streams:

### **Optical Fibre Furnace Systems**

The RF Technologies division is a world leader in the design and manufacture of induction furnace systems used in the manufacture and processing of silica glass "preforms" to produce optical fibre. Each system is bespoke to customers' exact requirements. After a sustained period of overcapacity in the fibre-optic manufacturing industry there are signs that producers are starting to invest in maintenance and upgrades of existing equipment and to add new capacity. Whilst no new furnaces were shipped in 2021 orders were received for two systems to be delivered in the first half of 2022. It is expected that as demand for fibre optic cable grows further furnace systems will be ordered. Whilst it is not possible to predict the timing and scale of further orders, we are encouraged by the level of enquiries and quoting activity.

### **Plastic Welding Equipment**

These units are used in a multitude of end-user applications including the nuclear, medical and industrial sectors. The equipment is provided in either hand-held, mobile or fully automated static solutions, dependent on customers' requirements.

### **Induction Heating Equipment**

The division sells bespoke induction heating equipment mainly into the UK and Continental European industrial sector. Whilst this has been a small part of the division's sales it is a strategic aim to increase the equipment offering and expand sales of this type of equipment. During 2021 we were pleased to win contracts and make some shipments to noteworthy clients in the UK and we were pleased to announce a significant contract win from a food packaging equipment manufacturer in early 2022.

### **Service and Spares**

The business continues to support its large installed equipment base through the provision of maintenance support, system upgrades and specialist spares across the globe. This provides an underlying base load of revenues for the division.

## Principal Risks and Uncertainties

Biome is subject to a number of risks. The Directors have set out below the principal risks facing the business. The Directors continually review the risks identified below and, where possible, processes are in place to monitor or mitigate all of these risks.

Risk	Nature	Mitigation strategies	Change in year
<b>Suppliers and Raw Materials</b>	<p>The Group's products and manufacturing processes utilise a number of raw materials and other commodities. In particular the Bioplastics division requires a few, key raw materials to manufacture its biodegradable polymer resins. There are very few suppliers of these key raw materials and with the current increased demand for biodegradable products there is a risk that the division may not be able to purchase the required volumes of materials to meet customer demand or that prices may be increased at short notice.</p> <p>The Bioplastics division sources raw materials internationally, some of which are bulk shipped via sea freight mainly to the US.</p>	<p>To mitigate this risk the division is seeking to validate new materials coming onto the market which may be used in substitution.</p> <p>To mitigate increased shipping lead-times the Bioplastics division is working closely with customers to improve visibility and forecast accuracy to ensure materials are ordered sufficiently far in advance to ensure that they are available to meet demand.</p>	<p>☒ Supply chains became increasingly stretched during 2022 resulting in longer-lead times and additional shipping costs.</p>
<b>Intellectual Property</b>	<p>Although the Group attempts to protect its intellectual property, there is a risk that patents will not be issued with respect to applications now pending. Furthermore, there is a risk that patents granted or licensed to Group companies may not be sufficiently broad in their scope to provide protection against other third-party technologies.</p> <p>Other companies are actively engaged in the development of bioplastics. There is a risk that these companies may have applied for (or been granted) patents which impinge on the areas of activity of the Group. This could prevent the Group from carrying out certain activities or, if the Group manufactures products which breach (or may appear to breach) such patents there is a risk that the Group could become involved in litigation which could be costly and protracted and ultimately be liable for damages if the breach is proven.</p>	<p>The Group takes professional advice from experienced patent attorneys and works hard to win patents applied for and to ensure that the scope is sufficiently broad.</p> <p>The Group keeps up to date with its competitors' product developments and patent portfolios and aims to ensure that no infringements occur. Professional advice is sought from experienced patent attorneys if there are any concerns.</p>	<p>☒ The Group continues to develop its intellectual property and has made good progress with "home compostable" innovation that has led to a new patent application in 2022.</p>
<b>Commercialisation of New Products</b>	<p>There is a risk that the Group will not be successful in the commercialisation of its products from early-stage research and development to full-scale commercial sales. The Group develops a number of products, and some may not prove to be successful. Specifically, the risks associated with the product life cycle are as follows:</p> <ul style="list-style-type: none"> <li>• Research and Development phase – the development of the products may prove not to be technically feasible or do not exactly match the perceived customer need</li> <li>• Initial manufacturing phase – whilst the product matches the customer needs it may not be able to be produced at the</li> </ul>	<p>The Directors ensure that regular reviews of product development are undertaken so that unsuccessful developments can be terminated early in their life cycle. Impairment testing of the capitalised costs is performed twice a year with any impaired capitalised costs written off.</p>	<p>☒ The Group undertakes several developments and made notable progress with its Tree Guards project during the year. However, other new product introductions were delayed due to the disruption to supplies and issues with customers caused by Covid-19.</p>

	<p>required commercial speeds and/or at the required efficiency and quality</p> <ul style="list-style-type: none"> <li>Commercialisation phase – the product may be superseded either through price or a competitor product being more advanced</li> </ul>		
<b>Customers and customer concentration</b>	The Group's ability to generate revenues for a number of its products is reliant on a small number of customers. If one of these customers was to significantly reduce its orders, then this could have a significant impact on the Group's results.	The Group works closely with its customers with the aim of ensuring that its products evolve in line with their requirements. In addition, the Group is continually seeking to add to its customer base and, as its revenues grow, seeks to become less dependent on any single customer.	Customer concentration levels remain a concern for the Group with two customers each accounting for more than 15% of sales during 2021.

In addition to the principal risks the Group is subject to a range of other risks and uncertainties. The Board maintains a risk register and reviews this biannually to ensure that the Group's operations management identifies actual and potential risks and develops appropriate mitigating activities to ensure that these risks are managed.

These risks, which also apply to many other industries and businesses, include: -

- Financial
- Political, Economic and Regulatory Environment
- Exchange rate fluctuations
- Competition
- Brexit
- Health and Safety (including Covid-19)
- Cyber Security
- Ongoing geo-political insecurity (including the Russian invasion of Ukraine)



## Financial review

The KPIs which the Board uses to assess the performance of the Group are detailed in the Chairman's Statement. The Chairman's statement forms part of the Strategic Report.

The summary results for the Group are shown below:

Like-for-like comparisons	2021	2020 restated	Growth
	£'m	£'m	
<b>Revenues</b>			
Bioplastics	4.8	4.9	(3.0%)
RF Technologies	0.9	0.8	23.4%
<b>Reported Group revenues</b>	<b>5.7</b>	5.7	0.5%
<b>(L)/EBITDA</b>			
Bioplastics	(0.2)	(0.1)	
RF Technologies	-	(0.4)	
Central Costs	(0.4)	(0.5)	
<b>Reported (L)/EBITDA</b>	<b>(0.6)</b>	(1.0)	
less depreciation, amortisation and equity share option charges:			
Bioplastics	(0.4)	(0.4)	
RF Technologies	(0.1)	(0.1)	
Central Costs	-	(0.1)	
	<b>(0.5)</b>	(0.6)	
<b>(Loss)/Profit from Operations</b>			
Bioplastics	(0.6)	(0.5)	
RF Technologies	(0.1)	(0.5)	
Central Costs	(0.4)	(0.6)	
<b>Operating Loss</b>	<b>(1.1)</b>	(1.6)	
<b>Net Assets</b>			
Non-current assets	1.2	1.4	
Inventories	0.9	0.8	
Trade and other receivables	1.4	1.4	
Tax receivable	0.1	0.2	
Cash	1.0	1.7	
Trade and other payables	(1.3)	(1.1)	
Long term lease commitments	(0.4)	(0.4)	
<b>Net assets</b>	<b>2.9</b>	4.0	

## Revenues

Reported Group revenues were unchanged in the year at £5.7m due to lower sales of Bioplastics products offset by increased revenues from the RF Technology division. Good order intake in the final quarter of 2021 and first quarter of 2022 for the RF Technology division suggests a return to more normal levels of trading, whilst new product introductions and on-boarding of new customers for the Bioplastics division was delayed in 2021, we remain confident over the longer-term prospects for the business.

## (L)/EBITDA

Reported (Loss) / Earnings Before Interest, Taxation, Depreciation and Amortisation ((L)/EBITDA) for the year was a loss of £0.6m (2020: £1.0m loss restated). The decrease in LBITDA is a direct result of the higher revenues in the RF Technologies division.

## Operating Profits/(Losses)

The Group recorded an operating loss for the year of £1.1m compared to an operating loss of £1.6m in the prior year.

Administrative costs across the Group in 2020 were £3.4m (2020: £3.6m). When the non-cash effects of depreciation, amortisation and equity settled share option charges are removed, the cash administrative expenses in 2021 were at a similar level as 2020 at £2.9m.

Investment in product research and development was £1.0m in the year (2020: £0.7m), which includes the research work in grant backed Industrial Biotechnology, of which £0.3m (2020: £0.3m) was capitalised in the year. Tax R&D claims resulted in a credit being recognised in the year of £29,000 (2020: credit of £61,000 restated) and other income from the Research and Development Expenditure Credit scheme of £50,000 (2020: £24,000 restated).

The Group recorded a loss after tax for the year of £1.1m (2020: restated loss after tax of £1.6m), giving a basic and diluted loss per share of 30p (2020: restated loss per share of 53p). A prior year adjustment has been made in respect of the timing of the recognition of current tax so that the tax payable or receivable is accrued in the current year as opposed to being recognised in the year that tax is settled. The adjustment in respect of 2020 is to reduce the tax credit from £155,000 to £61,000. The retained losses brought forward from 2019 were reduced by £155,000 in respect of the 2019 tax credit.

### Statement of Financial Position

The carrying value of intangible assets relates to capitalised development costs predominantly within the Bioplastics division for development of the Group's own intellectual property and product range.

As at 31 December 2021, there was £0.7m of capitalised development costs (2020: £0.8m) within the Group's statement of financial position, of which £0.3m relates to Biome Mesh. An assessment is made at least annually which assumes future potential market take up of the products and the margins achievable.

### Cashflow

	<b>2021</b>	2020
		restated
	<b>£'000</b>	£'000
Loss from operations	<b>(1,135)</b>	(1,639)
Adjustment for non-cash items	<b>489</b>	658
Movement in working capital	<b>69</b>	(74)
<b>Cash utilised by operations</b>	<b>(577)</b>	(1,055)
Investment activities	<b>(266)</b>	(275)
R&D Tax credit	<b>239</b>	-
Interest paid	<b>(34)</b>	(38)
Financing activities	<b>(44)</b>	920
<b>Net decrease in cash</b>	<b>(682)</b>	(448)
Opening cash balance	<b>1,678</b>	2,126
<b>Closing cash balance</b>	<b>996</b>	1,678

The cash utilised in operations, before working capital movements, was £0.6m (2020: restated cash utilisation of £1.0m). Working capital movements generated £0.1m cash in the year (2020: £0.1m utilisation).

Investment in the year in capitalised product development and capex was flat at £0.3m (2020: £0.3m). Financing activities in the year represented exercises of share options, purchase and sale of treasury shares and repayments of obligations under finance leases and rounded to a net £nil, share issues of net £1.0m were the principal financing activities in 2020. R&D tax credits of £0.2m were received during 2021 (2020: £nil), the receipts in 2021 were in respect of the 2019 and 2020 claims.

The resultant closing cash position was £1.0m (2020: £1.7m).

### Going Concern

The financial statements have been prepared on a going concern basis as the directors believe that the Group has access to sufficient resources to continue in business for the foreseeable future. This is discussed more fully in the Directors' Report on pages 14 to 17 of the 2021 report and accounts.

The key business risks and conditions that may impact the Group's ability to continue as a going concern are the utilisation of existing resources to finance growth, investment and expenditure; the rates of growth and cash generated by group revenues, the timing of breakeven and positive cashflow generation and the ability to secure additional debt or equity financing in future if this became necessary. The primary area of judgement that the Board considered, in the going concern assessment, related to revenue expectations and visibility.

The Board was mindful of the guidance surrounding a severe but plausible assessment and, accordingly, considered a number of scenarios in revenue reduction against the original plans. A reverse stress test was constructed to identify at which point the Group might run out of its available cash. The test was designed specifically to understand how far revenue would need to fall short of the base case forecast and does not represent the directors view on current and projected trading. The test was modelled over a 24-month period commencing 1 January 2022 and was based on budgeted trading that took into account contracted orderbook, existing revenue streams from current customers / products and expected revenue based on management's judgement of the likelihood of converting current sales opportunities. The sales revenue in the budgeted model was reduced evenly across the Group to the point where the projected month-end cash was equal to zero at any point during the 24-month cycle. In the model, zero month-end cash was reached in November 2023 when projected sales revenue was reduced to 86.7% of budget. Since the guidance for going concern is usually based on a period of 12-months from the date of signing the accounts a further reverse stress test was conducted over a period to 31 March 2023. In this test reducing sales to 84.0% of budgeted level resulted in a zero month-end cash position at 31 March 2023. For the reverse stress test, the Board specifically excluded any significant upsides to this scenario. This is despite strong incremental demand potential at both existing and new customers either in the Bioplastics or RF Technology divisions. This most severe scenario also excludes any mitigating reduction in the cost base that the Board would clearly undertake in this event. In all scenarios modelled, including the reverse stress test, the Group has sufficient resources to operate and meet its liabilities throughout the going concern review period without the inclusion of the impact of mitigating actions.

At 31 December 2021, the Group had a net cash balance of £1.0m and as at 22 March 2022 a balance of £0.9m. On a revised base case scenario adopted for their assessment, the Board is comfortable that the Group can continue its operations for at least a 12-month period following the approval of these financial statements.

As a result of this review, which incorporated sensitivities and risk analysis, the Directors believe that the Group has sufficient resources and working capital to meet their present and foreseeable obligations for a period of at least 12 months from the approval of these financial statements.

By order of the Board.

Paul Mines  
Chief Executive Officer

**Consolidated statement of comprehensive income**  
**For the year ended 31 December 2021**

	Note	2021 £'000	2020 restated* £'000
<b>REVENUE</b>	5	<b>5,734</b>	5,705
Cost of goods sold		<b>(3,794)</b>	(4,029)
<b>GROSS PROFIT</b>		<b>1,940</b>	1,676
Other operating income		<b>364</b>	324
Administrative expenses		<b>(3,439)</b>	(3,639)
<b>LOSS FROM OPERATIONS</b>		<b>(1,135)</b>	(1,639)
Investment income		-	2
Finance charges		<b>(34)</b>	(38)
<b>LOSS BEFORE TAXATION</b>		<b>(1,169)</b>	(1,675)
Taxation	7	<b>29</b>	61
<b>LOSS AND TOTAL COMPREHENSIVE LOSS FOR THE YEAR</b>		<b>(1,140)</b>	(1,614)
Basic loss per share - pence		<b>(30)p</b>	(53)p
Diluted loss per share - pence		<b>(30)p</b>	(53)p

\* A prior year adjustment has been made in respect of the timing of recognition of tax, see note 7 for details as well as a reclassification of £88,000 of foreign exchange loss to administrative expenses, previously presented below the operating loss.

The accompanying accounting policies and notes form an integral part of the financial statements.

# Consolidated statement of financial position

as at 31 December 2021

	Note	2021 £'000	2020 Restated* £'000	Restated balances as at 01-Jan-2020 £'000
<b>NON-CURRENT ASSETS</b>				
Other intangible assets		726	821	883
Property, plant and equipment		502	574	653
		<b>1,228</b>	1,395	1,536
<b>CURRENT ASSETS</b>				
Inventories		920	746	555
Trade and other receivables		1,377	1,440	1,885
Tax receivable	7	79	239	155
Cash and cash equivalents		996	1,678	2,126
		<b>3,372</b>	4,103	4,721
<b>TOTAL ASSETS</b>		<b>4,600</b>	5,498	6,257
<b>CURRENT LIABILITIES</b>				
Trade and other payables		1,298	1,076	1,381
Lease liabilities		40	38	76
		<b>1,338</b>	1,114	1,457
<b>NON-CURRENT LIABILITIES</b>				
Lease liabilities		361	400	438
		<b>361</b>	400	438
<b>TOTAL LIABILITIES</b>		<b>1,699</b>	1,514	1,895
<b>NET ASSETS</b>		<b>2,901</b>	3,984	4,362
<b>EQUITY</b>				
Share capital		189	186	140
Share premium account		2,282	2,200	1,250
Capital redemption reserve		4	4	4
Share options reserve		487	617	377
Translation reserves		(85)	(85)	(85)
Treasury shares reserve		(55)	-	-
Retained earnings		79	1,062	2,676
<b>TOTAL EQUITY</b>		<b>2,901</b>	3,984	4,362

\* A prior year adjustment has been made in respect of the timing of recognition of tax and to disclose a tax receivable on the Statement of Financial Position, previously included within trade and other receivables, see note 7 for details.

The financial statements were approved by the Board and authorised for issue on 23 March 2022.

Signed on behalf of the Board of Directors

Paul Mines (Chief Executive)  
23 March 2022

Rob Smith (Chief Financial Officer)

The accompanying accounting policies and notes form an integral part of the financial statements.

**Consolidated statement of changes in equity**

AS AST 31 DECEMBER 2021

	Share capital £'000	Share premium account £'000	Capital redemption reserve £'000	Share options reserve £'000	Translation reserve £'000	Treasury Shares £'000	Restated* retained earnings £'000	TOTAL EQUITY £'000
<b>Balance at 1 January 2021</b>	186	2,200	4	617	(85)	-	1,062	3,984
Share options issued in share based payments	-	-	-	48	-	-	-	48
Issue of share capital	3	82	-	-	-	-	-	85
Purchase of own shares	-	-	-	-	-	(122)	-	(122)
Sale of treasury shares	-	-	-	-	-	67	(21)	46
Exercise of share options	-	-	-	(170)	-	-	170	-
Cancellation of expired options	-	-	-	(8)	-	-	8	-
<b>Transactions with owners</b>	3	82	-	(130)	-	(55)	157	57
Loss for the year	-	-	-	-	-	-	(1,140)	(1,140)
<b>Total comprehensive loss for the year</b>	-	-	-	-	-	-	(1,140)	(1,140)
<b>Balance at 31 December 2021</b>	189	2,282	4	487	(85)	(55)	79	2,901
<b>Balance at 1 January 2020</b>	140	1,250	4	377	(85)	-	2,521	4,207
Prior year adjustment	-	-	-	-	-	-	155	155
<b>Restated balance at 1 January 2020</b>	140	1,250	4	377	(85)	-	2,676	4,362
Share options issued in share based payments	-	-	-	240	-	-	-	240
Issue of share capital	46	950	-	-	-	-	-	996
<b>Transactions with owners</b>	46	950	-	240	-	-	-	1,236
Loss for the year	-	-	-	-	-	-	(1,614)	(1,614)
<b>Total comprehensive loss for the year</b>	-	-	-	-	-	-	(1,614)	(1,614)
<b>Balance at 31 December 2020</b>	186	2,200	4	617	(85)	-	1,062	3,984

\* A prior year adjustment has been made in respect of the timing of recognition of tax (see note 7).

**Consolidated statement of cash flows**  
**For the year ended 31 December 2021**

	<b>2021</b>	2020
	<b>£'000</b>	restated*
		£'000
<b>Loss after taxation</b>	<b>(1,140)</b>	(1,614)
Adjustments for: -		
Taxation	<b>(29)</b>	(61)
Finance charges	<b>34</b>	38
Investment income	<b>-</b>	(2)
<b>Loss from operations</b>	<b>(1,135)</b>	(1,639)
Adjustments for: -		
Amortisation and impairment of intangible assets	<b>353</b>	320
Depreciation of property, plant and equipment	<b>88</b>	98
Share based payments - equity settled	<b>48</b>	240
<b>Operating cash flows before movement in working capital</b>	<b>(646)</b>	(981)
Increase in inventories	<b>(174)</b>	(191)
Decrease in receivables	<b>13</b>	269
Increase/(decrease) in payables	<b>230</b>	(152)
<b>Cash utilised in operations</b>	<b>(577)</b>	(1,055)
Corporate tax received	<b>239</b>	-
Interest paid	<b>(34)</b>	(38)
<b>Net cash outflow from operating activities</b>	<b>(372)</b>	(1,093)
<b>Investing activities</b>		
Interest received	<b>-</b>	2
Investment in intangible assets	<b>(258)</b>	(258)
Purchase of property, plant and equipment	<b>(8)</b>	(19)
<b>Net cash used in investing activities</b>	<b>(266)</b>	(275)
<b>Financing activities</b>		
Proceeds from issue of share capital	<b>1</b>	1,100
Costs of issue of ordinary share capital	<b>-</b>	(104)
Repayment of obligations under leasing activities	<b>(45)</b>	(76)
<b>Net cash (used in)/ generated from financing activities</b>	<b>(44)</b>	920
<b>Net decrease in cash and cash equivalents</b>	<b>(682)</b>	(448)
<b>Cash and cash equivalents at the beginning of the year</b>	<b>1,678</b>	2,126
<b>Cash and cash equivalents at the end of the year</b>	<b>996</b>	1,678

\* A prior year adjustment has been made in respect of foreign exchange losses included in administrative expenses that were previously separately disclosed.

## **NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS**

For the year ended 31 December 2021

### **1. NON-STATUTORY FINANCIAL STATEMENTS**

The financial information set out in this preliminary results announcement does not constitute the Group's statutory financial statements for the year ended 31 December 2021 or 2020 but is derived from those financial statements. Statutory financial statements for 2020 have been delivered to the Registrar of Companies. Those for 2021 will be delivered following the Company's Annual General Meeting on 20 April 2022. The auditors have reported on those accounts: their reports on those financial statements were unqualified and did not contain statements under Section 498 of the Companies Act 2006.

The financial statements, and this preliminary statement, of the Group for the year ended 31 December 2021 were authorised for issue by the Board of Directors on 23 March 2022 and the statement of financial position was signed on behalf of the Board by Paul Mines and Rob Smith.

### **2. BASIS OF PREPARATION**

The Group's financial statements have been prepared in accordance with UK-adopted international accounting standards.

### **3. BASIS OF CONSOLIDATION**

The Group financial statements consolidate the results of the Company and all of its subsidiary undertakings drawn up to 31 December 2021. Subsidiaries are entities over which the Group has control. Control comprises an investor having power over the investee and is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power. At 31 December 2021 the subsidiary undertakings were Biome Bioplastics Limited, Biome Bioplastics Inc, Stanelco RF Technologies Limited, Aquasol Limited, and InGel Technologies Limited (dormant).

### **4. GOING CONCERN**

The Directors have reviewed forecasts for the period to December 2023. These have been prepared with appropriate regard for the current macroeconomic environment including the ongoing impact of Covid-19 and the circumstances in which the Group operates. In particular, the Directors have considered the continuing growth of the Bioplastics Division, its need for continued investment in development resource and working capital, the steps they can take to improve the efficiency of the working capital deployed and the availability of future funding.

The model has assumed growth in the period from the Stanelco RF Division and the Directors have already taken steps to ensure resources meet current demand.

The Directors are satisfied that the Group has sufficient resources to continue in operational existence for at least one year from the date of approval of these Interim Results.



## 5. SEGMENTAL INFORMATION FOR YEAR ENDED 31 DECEMBER 2021

	2021				2020 restated			
	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000
	Bioplastics	RF	Central	Total	Bioplastics	RF	Central	Total
<b>Revenue from sales</b>	4,797	1,140	-	<b>5,937</b>	4,946	804	-	5,750
Removal of inter-segment sales	-	(203)	-	<b>(203)</b>	-	(45)	-	(45)
<b>Total external sales</b>	<b>4,797</b>	<b>937</b>	<b>-</b>	<b>5,734</b>	<b>4,946</b>	<b>759</b>	<b>-</b>	<b>5,705</b>
<b>(Loss)/profit from operations</b>	<b>(601)</b>	<b>(59)</b>	<b>(475)</b>	<b>(1,135)</b>	<b>(544)</b>	<b>(461)</b>	<b>(634)</b>	<b>(1,639)</b>
Interest received	-	-	-	-	-	-	2	2
Finance charges	-	-	(34)	<b>(34)</b>	-	-	(38)	(38)
<b>Loss before taxation</b>	<b>(601)</b>	<b>(59)</b>	<b>(509)</b>	<b>(1,169)</b>	<b>(544)</b>	<b>(461)</b>	<b>(670)</b>	<b>(1,675)</b>
Taxation	29	-	-	<b>29</b>	61	-	-	61
<b>Loss for the year</b>	<b>(572)</b>	<b>(59)</b>	<b>(509)</b>	<b>(1,140)</b>	<b>(483)</b>	<b>(461)</b>	<b>(670)</b>	<b>(1,614)</b>
<i>Reconciliation to Loss Before Interest Tax Depreciation and Amortisation (LBITDA)</i>								
<b>(Loss)/profit from operations</b>	<b>(601)</b>	<b>(59)</b>	<b>(475)</b>	<b>(1,135)</b>	<b>(544)</b>	<b>(461)</b>	<b>(634)</b>	<b>(1,639)</b>
Depreciation/amortisation	(395)	(41)	(5)	<b>(441)</b>	(364)	(50)	(4)	(418)
Share based payments	(13)	(7)	(28)	<b>(48)</b>	(35)	(16)	(189)	(240)
LBITDA	(193)	(11)	(442)	<b>(646)</b>	(145)	(395)	(441)	(981)
<b>Other segmental information</b>								
Capital Expenditure								
Property, plant and equipment	3	12	1	<b>16</b>	9	9	1	19
Intangible assets	258	-	-	<b>258</b>	258	-	-	258
<b>Total Capital Expenditure</b>	<b>261</b>	<b>12</b>	<b>1</b>	<b>274</b>	<b>267</b>	<b>9</b>	<b>1</b>	<b>277</b>
<b>Total Assets</b>	<b>3,408</b>	<b>1,156</b>	<b>36</b>	<b>4,600</b>	<b>3,971</b>	<b>1,414</b>	<b>113</b>	<b>5,498</b>

The Bioplastics division comprises of Biome Bioplastics Limited, Biome Bioplastics Inc and Aquasol Limited.

## 5. ALTERNATIVE PROFIT MEASURE

The Group, and divisions, define earnings before interest, taxation, depreciation and amortisation (“EBITDA”) as the operating profit or loss adjusted for share option charges, depreciation, and amortisation. The Group (L)/EBITDA is reconciled as follows:

	<b>2021</b>	2020
	<b>£'000</b>	restated*
		£'000
Loss from operations per consolidated statement of comprehensive income	<b>(1,135)</b>	(1,639)
Amortisation	<b>353</b>	320
Depreciation	<b>88</b>	98
Share option charges - equity settled	<b>48</b>	240
	<b>(646)</b>	(981)

## 6. LOSS PER SHARE

The calculation of loss per share is based on the loss attributable to the equity holders of the parent for the year of £1,140,000 (2020: restated loss of £1,614,000) and a weighted average of 3,742,655 (2020: 3,033,457) ordinary shares carrying voting rights for basic earnings per share and a weighted average of 3,742,655 (2020: 3,033,457) ordinary shares carrying voting rights for diluted earnings per share.

## 7. TAXATION

A prior year adjustment has been made in respect of the timing of the recognition of current tax so that the tax payable or receivable is accrued in the current year as opposed to being recognised in the year that tax is settled. The adjustment in respect of 2020 is to reduce the tax credit from £155,000 to £61,000. The retained losses brought forward from 2019 were reduced by £155,000 in respect of the 2019 tax credit. The Consolidated Statement of Financial Position has been adjusted to include an additional £84,000 tax receivable in respect of 2020.

In the current year other income includes £50,000 (2020: £24,000 restated) arising from Research and Development Expenditure Credit scheme (RDEC) that is accounted for as a government grant.