

Biome Technologies plc

Mello London - 12 November 2019



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Group overview



Biome Technologies plc is a growth-oriented, commercially-driven technology group listed on AIM. The Group comprises two distinct leading-edge technology divisions:



Biome Bioplastics — a leader in the rapidly-developing market for bio-based and biodegradable plastics (bioplastics)



Stanelco RF Technologies — equipment manufacturer in the specialised field of radio-frequency heating

- Both divisions have a track record of commercialising technology for customer-led applications
- Group's strategy is to build market-leading positions based on patented technology or know-how, and serve international customers in high-value market sectors

Both businesses address global trends

BIOME
BIOPLASTICS



Tackling the global plastics problem

Our materials have made **half a billion** compostable coffee pods in the last year alone

STANELCO
RF TECHNOLOGIES



Supporting global internet connectivity

Our latest equipment supports the rollout of **120 million km** of fibre optic cable each year

Group profile



Listed on the AIM market, the international market for growing companies trading on the London Stock Exchange, allowing both existing and new shareholders to participate in our growth.



The Group's strategy is to build market-leading positions based on patented technology or know-how, and serve international customers in high-value market sectors.



Engaged with a variety of large-scale international customers and partners on a number of key commercial and development partnerships.



Protects its existing intellectual property in a robust manner and protects new developments through patents and confidentiality.



Driving an international expansion of activities and now operates in Europe, North America and Asia. Headquarters and R&D activity is based at Southampton in the UK.



Robust ethical and governance policies and a Board committed to driving enhanced shareholder value.

2019 highlights

Bioplastics division

- grown for 3 successive quarters
- already surpassed revenues of last year
- customer base and application base broadening
- new materials certified, developed and ready to generate market growth
- plastics pollution issue driving a sea-change in market approach

RF Technologies division

- anticipating revenues similar to 2017 (after exceptional year in 2018)
- future growth driven by demand for internet capacity and 5G rollout

Group

- Successfully raised £1.3m in October 2019 to support emerging growth of bioplastics business

Investment proposition

- The Bioplastics division has both a distinct, existing high performance product portfolio and an exciting emerging technology pipeline based on industrial biotechnology
- Rapid changes in the public perception of oil-based plastic market and associated legislative changes represents an opportunity for further significant growth
- The RF Technologies division is consistently cash generative and has secured a market-leading position that can be further exploited as demand for fibre-optic cable grows
- The successful placing of £1.3m in October 2019 gives the Group good operational flexibility
- Increased investment in sales activities and development spend that started in 2018 improves the growth potential of both businesses
- Established Board and Management Team with commitment to good governance and transparency



BIOME

BIOPLASTICS

www.biomebioplastics.com

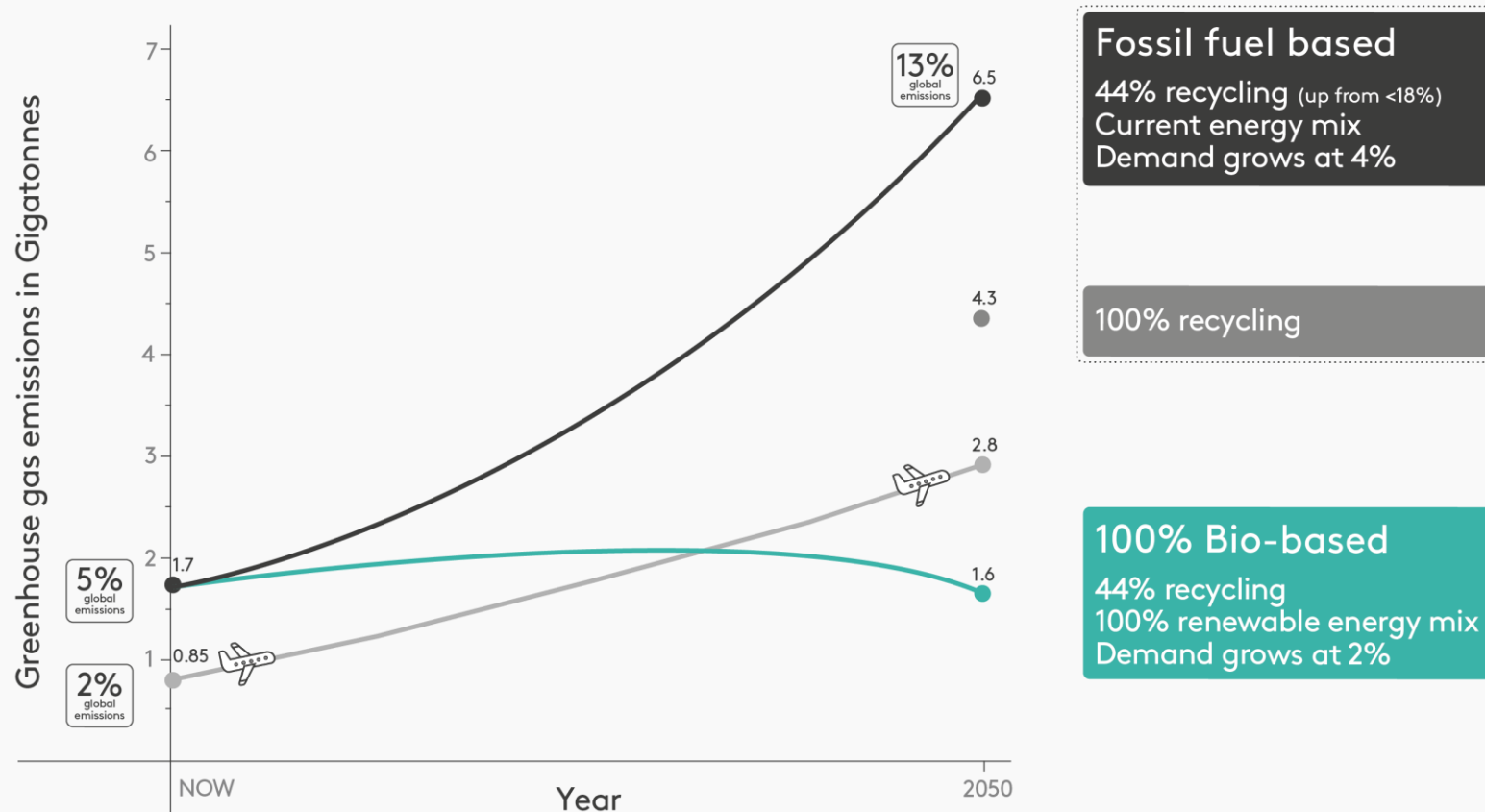
www.thinkbioplastic.com

Bioplastics: A changing market

- Plastics are in the global spotlight for their environmental damage on disposal and their CO₂ emissions during manufacture



Global GHG emissions of plastic lifecycle



SOURCE: "STRATEGIES TO REDUCE THE GLOBAL CARBON FOOTPRINT OF PLASTICS" BY JIAJIA ZHENG AND SANGWON SUH (NATURE, 2019)
2050 PREDICTION OF CO2 50 GT BY UN
2018 CO2 EMISSIONS 37 GT
AVIATION IEA, LEE (2019), FLEMING AND ZIEGLER (2016)

Bioplastics: A changing market

- Plastics are in the global spotlight for their environmental damage on disposal and their CO₂ emissions during manufacture
- The media has exposed the paucity of global recycling (<15%) and developed world's reliance on dumping waste in developing countries
- There are no simple answers to this global (350mtpa) and fast-growing "plastics problem"
- Biobased and biodegradable plastics are being seen as an important part of the solution. Consumers are demanding changes fast
- The nexus of interest is compostable plastic packaging, where such materials support the collection of food-waste
- The global market for bioplastics is predicted to grow by around 25% CAGR over the next five years*



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- The global market for bioplastics is predicted to grow by around 25% CAGR over the next five years*
- A series of factors (including price) prevent ubiquitous immediate adoption but provide a variety of fast-growing, non-commodity niches in which the Bioplastics division can prosper

UK Plastics Pact* 2025 targets



100% packaging to be reusable, recyclable or compostable



70% packaging effectively recycled or composted



30% average recycled content in packaging



Eliminate unnecessary single-use packaging

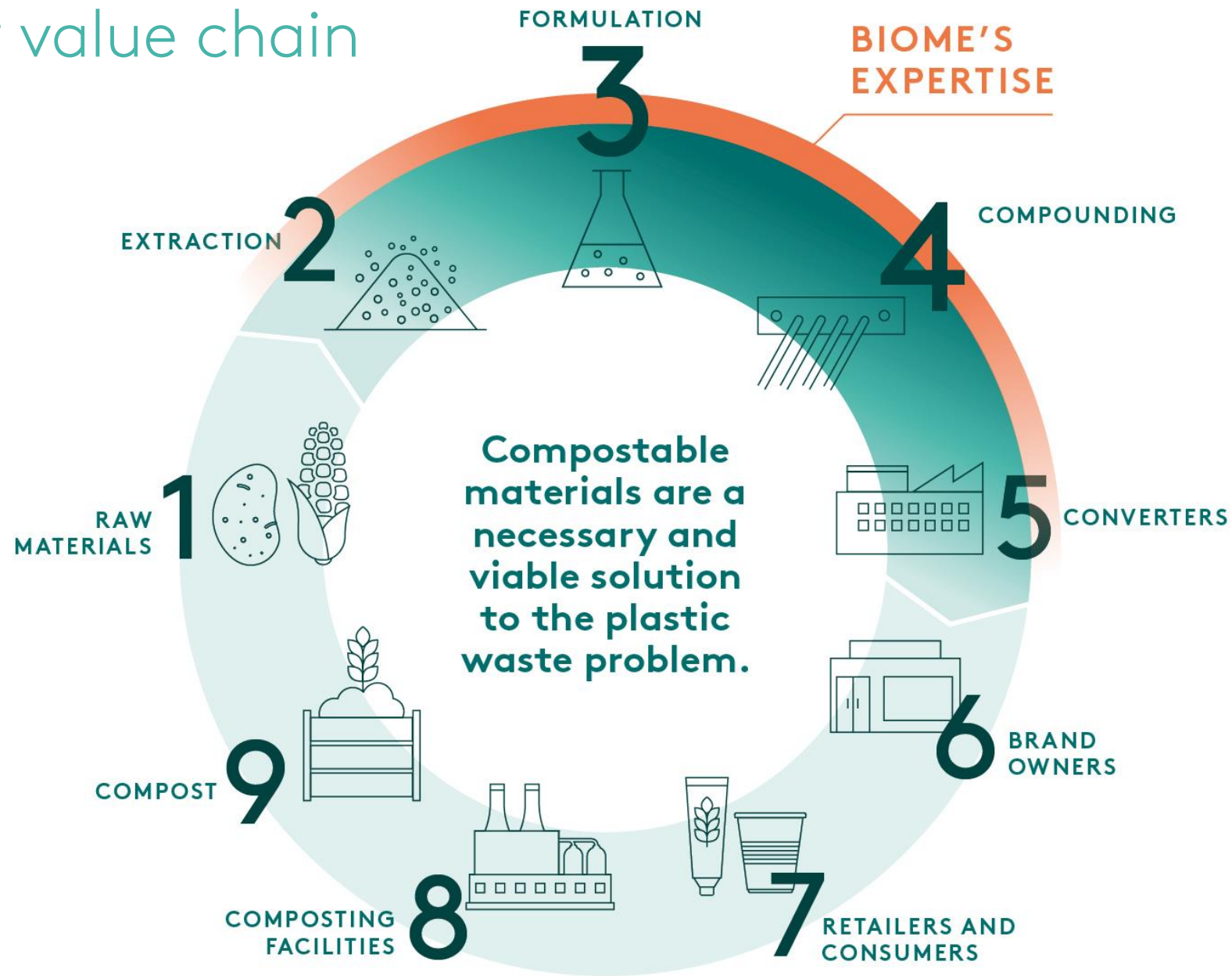
The UK market has lagged behind the likes of Italy, Germany and the US but a change of direction appears underway

Our business

- Develops and manufactures bioplastic compounds, using bio-based/biodegradable polymers, natural materials and other additives



Circular value chain



Bioplastics: Biome's business

- Develops and manufactures bioplastic compounds, using bio-based/biodegradable polymers, natural materials and other additives
- Works with customers in 2-4 year development cycles to deliver highly differentiated products
- Capability based on extensive knowledge of sector and material performance built over last 10 years
- Low capex manufacturing model using contracted manufacturing facilities in Europe/US allows rapid scale-up
- Portfolio of commercialised products includes barrier packaging for coffee, high temperature rigid materials and non-woven filtration products
- Strong focus on the US market where brand interest, volumes of scale and supportive composting infrastructure are already in place
- Pipeline of key development projects with a customer group that ranges from mid-size to multi-nationals



Bioplastics projects driving growth now

A number of high quality projects/products with significant revenue potential have come through the development cycle and are launching in 2019/20:

Project	Application	Timing
Cutlery	A new material for disposable cutlery for a customer in the US market but with broader applicability (contract)	Revenues for US started Q2 2019 and are being ramped up in Q3/Q4 2019
Coffee pod	A new material for a coffee pod in the US coffee market that is heat stable (contract)	Revenues anticipated to start in Q4 2019
Nutrition pod	A new material for a single serve nutrition pod being manufactured in Switzerland and launched in the US market	Revenues started Q2 2019 and expected to step-up in 2020
Film	Existing materials deployed in a number of plastic film products for a US customer (manufactured in Germany)	Revenues started Q2 2019

Industrial biotechnology

- R&D on the production of bio-based and biodegradable novel hetero-aromatic polyesters to further differentiate our product range
- Over six years, Biome has directed over £6m of research and development funding aimed at scaling and commercialising these polyesters
- Underlying monomers (FDCA and PDCA) to be manufactured from organic waste using engineered bacteria and enzymes
- New polyesters feature differentiated performance and the potential of a lower cost base compared to existing market alternatives
- Collaboration with leading University groups in the UK, France and Spain
- Four patent applications filed in major markets
- Demonstrated at laboratory scale
- Next 24 months we will scale-up of the processes and establish commercial viability
- UK government funding schemes in this space are accelerating in line with environmental and clean-growth goals

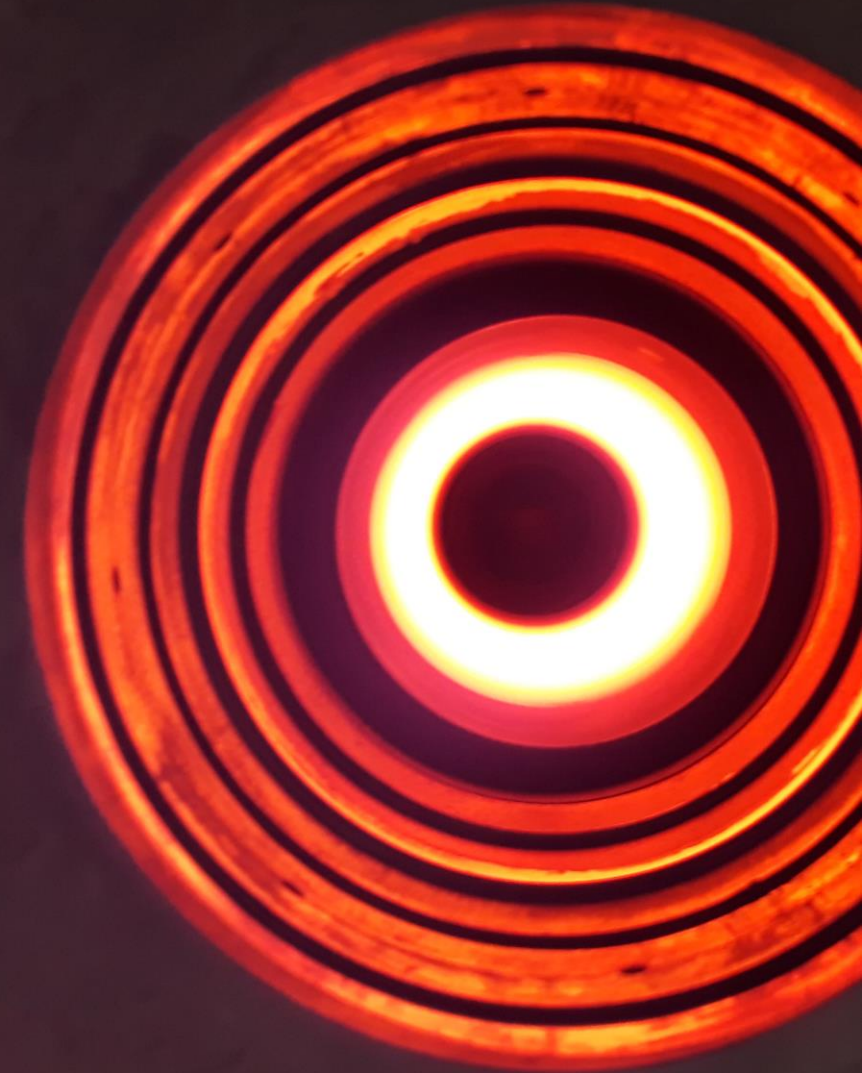




stanelco rf technologies.com

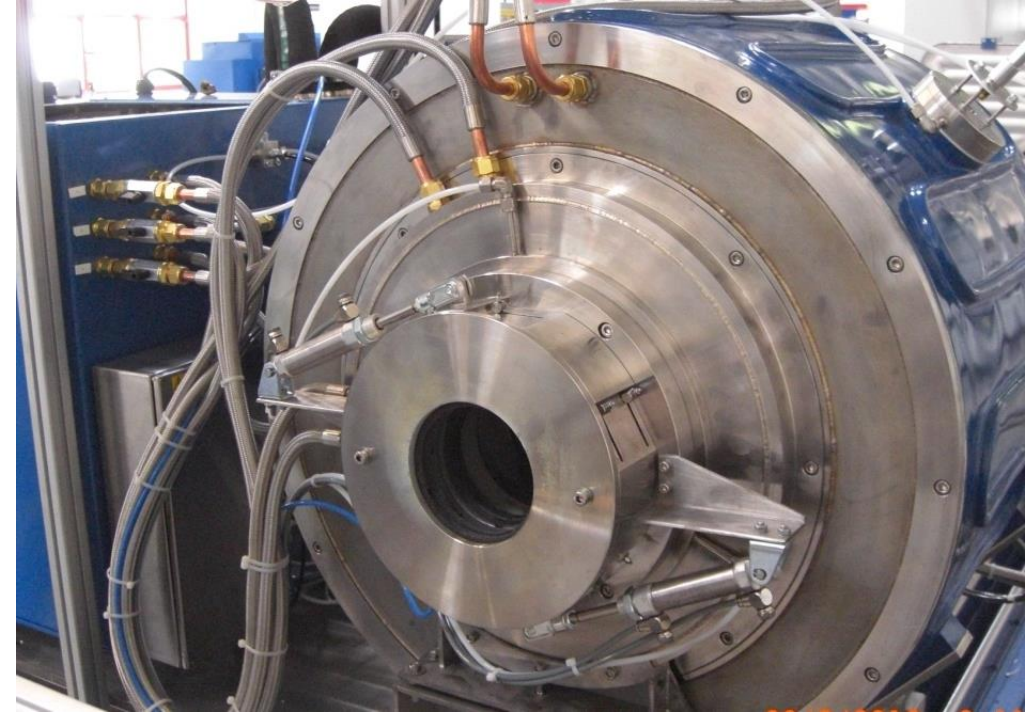
Stanelco RF Technologies

- Specialist OEM engineering business developing radio frequency (RF) welding, heating and furnace technology
- RF uses the heating effect of electromagnetic waves
- International market-leading position in the furnace market for fibre-optic cable production
- These furnaces are an important part of the 5G mobile technology rollout and demand for global data capacity for the internet
- India and China are key markets of scale
- Sound business re-energised by clear direction
- In recent years, Stanelco's cash generation has helped fund the Bioplastics division's development



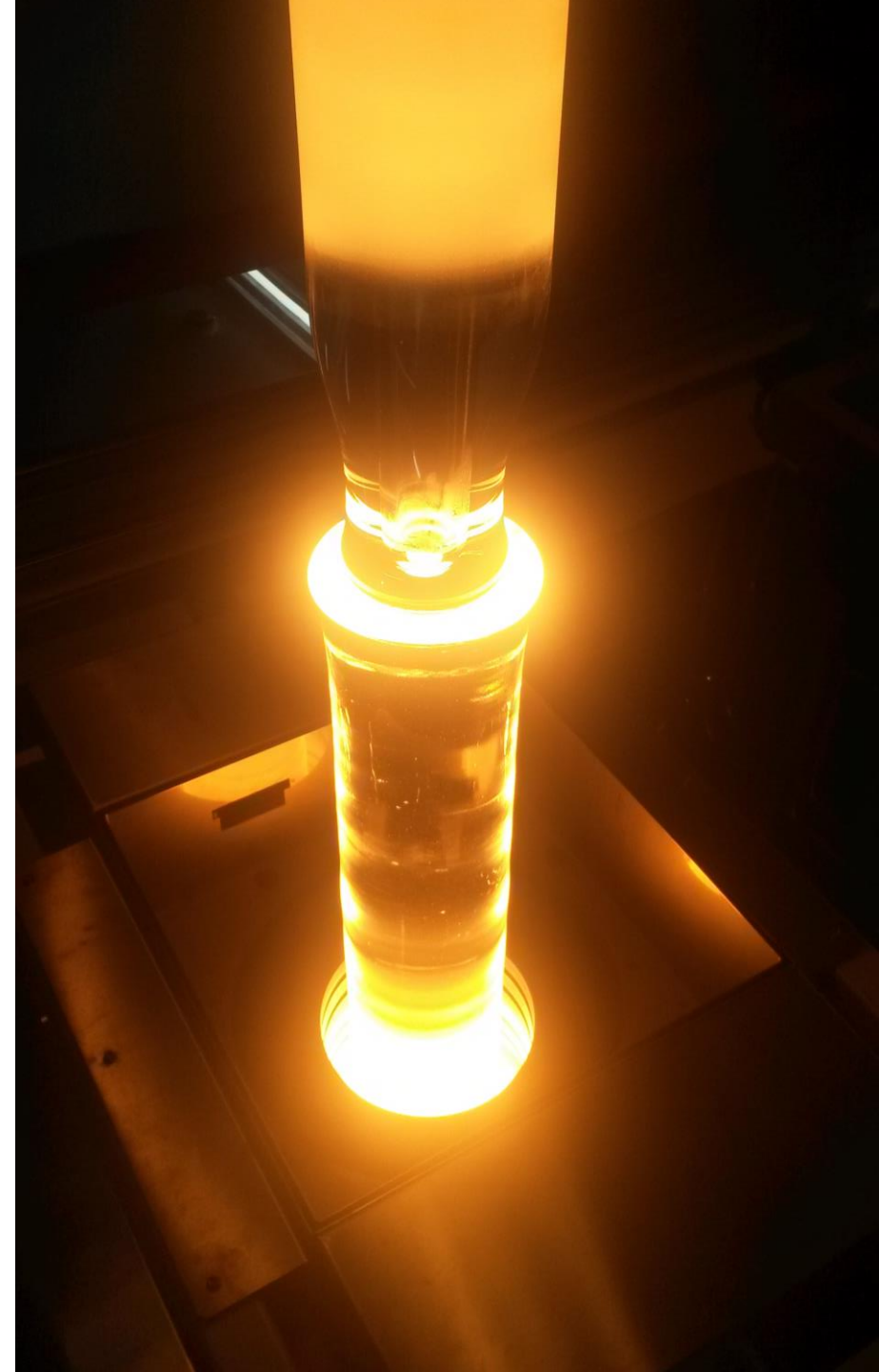
Product: Fibre-optic furnaces

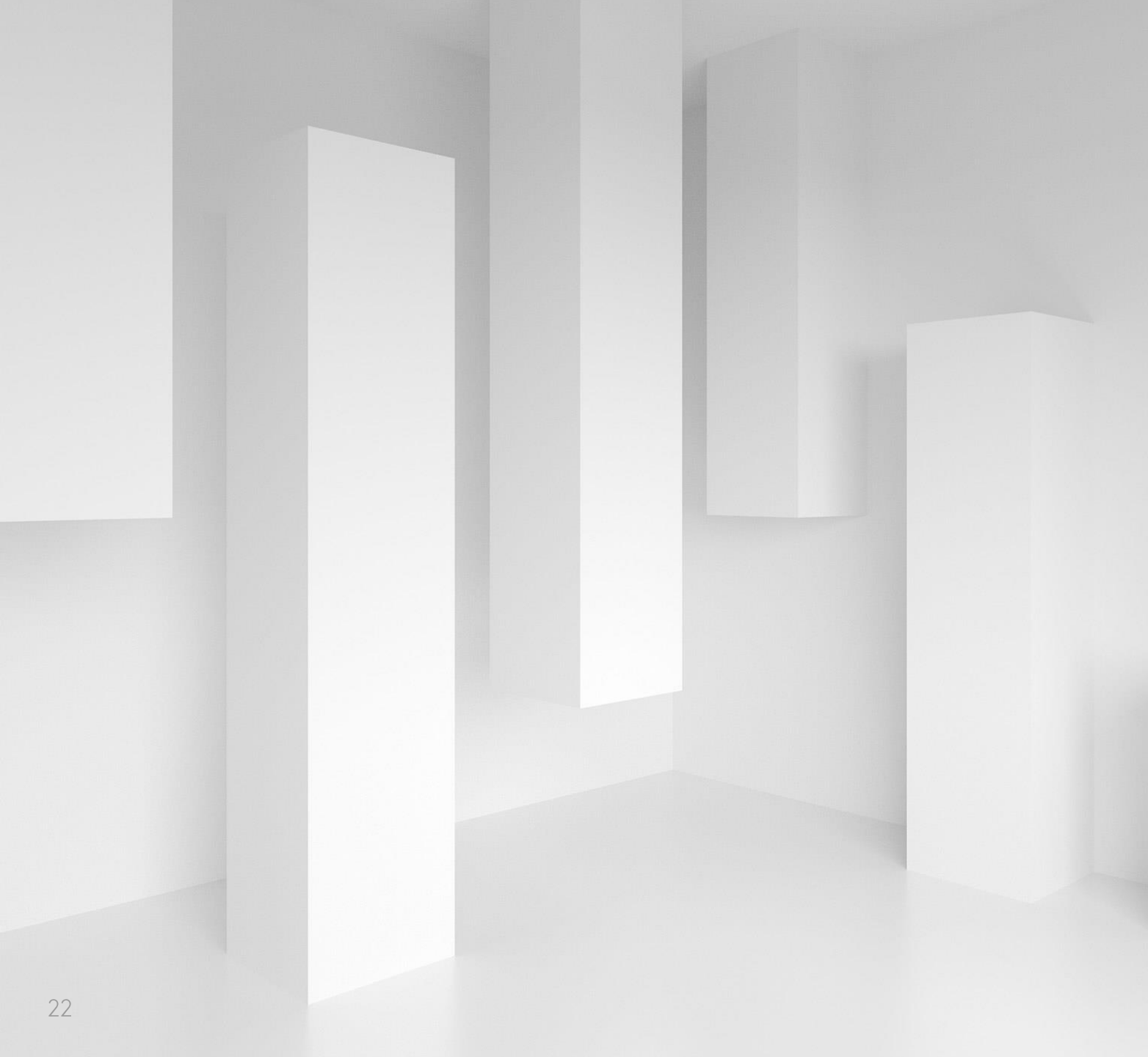
- Stanelco's fibre-optic furnaces are used for the controlled melting of glass at $>2000^{\circ}\text{C}$, a process required for the production of transparent optical fibres
- Stanelco's furnaces are promoted for their quality and reliability
- Fibre-optic market has seen recent rapid growth, driven by investment in significant new capacity in Asia
- Stanelco moved quickly to realise the growth opportunity and scaled-up the production of furnaces in 2018 to more than double that of 2017
- Scale-up included expansion at Biome's Southampton facilities and a 30% increase in production staff
- Significant further investment continues in Stanelco's next generation of furnace technologies



Strategy and Potential

- Business has made a concerted effort to increase Stanelco's geographical footprint and range of applications
- RF Technologies division now benefits from repeat revenues from power generation, medical and general industrial markets, primarily in the UK
- In 2017/2018, launched several "standard" power supply products in new industrial markets, with dedicated sales and technical support staff
- Fibre-optic furnace sales will remain at the core of Biome's revenue generation for next few years
- Anticipate that 2019 revenues will return to 2017 levels and 2020 will be similar (2018 was exceptional)
- Opportunity for further growth in mid-term as optical-fibre infrastructure requirements increase





Financials & Conclusion

Group: 2019 H1 results

	2018 H1 £m	2019 H1 £m	Comment
Group Revenue	4.4	3.6	Reflects RF reverting to more normal level whilst partially offset by acceleration in Bioplastics
Biome Bioplastics	0.9	1.4	Revenue in bioplastics increasing on broadening base
Stanelco RF Technologies	3.5	2.2	Exceptional demand in optical fibre market abating
(Gross Margin)	53%	48%	Margins change driven by divisional mix
Overheads	(2.1)	(2.2)	Additional overheads reflect additional investment in bioplastics sales and development activity
Operating profit/loss	0.2	(0.5)	
EBITDA* profit/loss	0.5	(0.2)	

Opening cash (31/12/18)

2.6

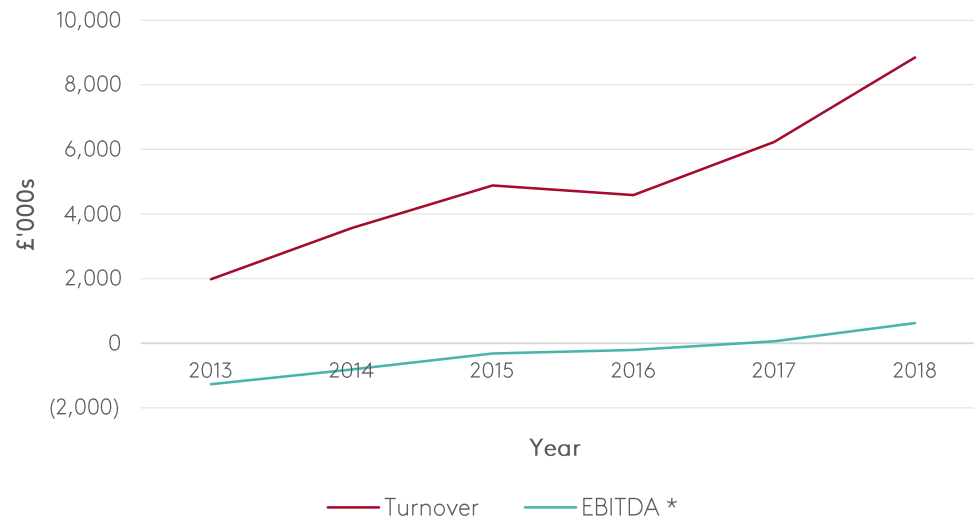
EBITDA*	(0.2)	
Capex/R&D	(0.2)	Bioplastics product development spend
Working capital	(0.5)	Reflecting an increase in working capital levels

Mid-year cash (30/06/19)

1.7

Group: Key data

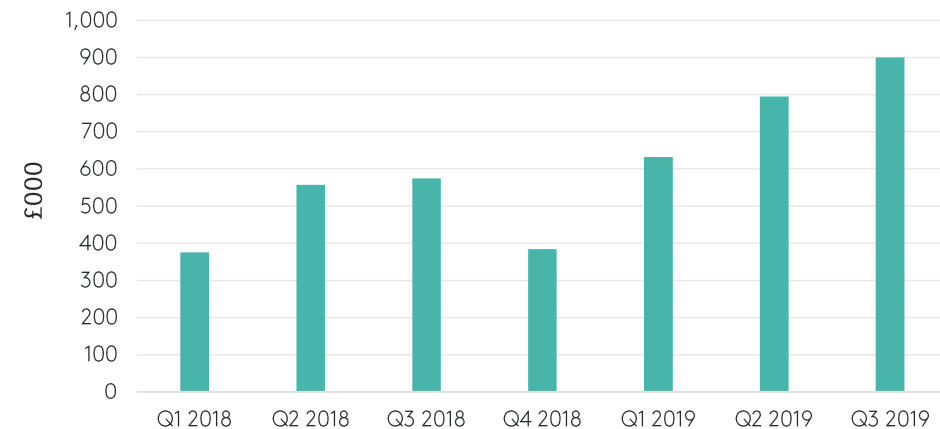
Group Key Financial Data 2013 to 2018



* Earnings before interest, depreciation, amortisation and share options charges. In addition the effect of a one off settlement income of £0.45m was removed from the result for 2016

- Turnover 9 months to 30 Sep 2019: £5.1m
- Southampton based with leased building
- Employees 38
- Successful fundraise of net £1.2m October 2019
- Market capitalisation £8.0m (30 October)
- No debt

Bioplastics Quarterly Revenues



- In the first three quarters of 2019 the Bioplastics division's revenues represented a change to the previous run-rate
- First 9 months £2.3m (2018: £1.5m), already 21% higher than full year 2018 (£1.9m)
- Driven by both new and existing customers as portfolio has broadened

KPIs

- The Board has adopted ambitious KPIs for the 2018–2020 objective cycle. These KPIs demonstrate our commitment to building a strong, innovative and balanced Group that consistently generates shareholder value:
 - Compound revenue growth of 25% per annum across the Group and 40% compound revenue growth in the Biome Bioplastics division
 - Diversify the Group's turnover by product and market to ensure that no single product or end customer contributes more than 15% of revenues by 2020
 - Increase 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 Board continues to measure the Group's performance against these KPIs and reports to shareholders annually on progress

2019 Placing

Recent successful placing raised £1.3m to fund bioplastics growth and development

Rationale - under the glare of environmental concerns, brands are changing the plastics that they use - revenues from the Bioplastics division have begun to accelerate (particularly in the US market). Investment will be used for:

- Supporting sales and manufacture of existing projects:
 - (i) costs associated with scaling up manufacture (US, Germany and UK)
 - (ii) acquisition of raw materials/stocks/debtors as volumes increase
- Supporting work on a variety of further projects with implementations that stretch through 2020 and beyond whilst the business continues to receive an elevated level of new enquiries
- R&D investment will be leveraged by grant funding to establish the initial commercial viability of the novel polyesters and supporting monomers

Investment proposition

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Contact

Address

Biome Technologies plc
North Road
Marchwood
Southampton
SO40 4BL

Call Us

+44 (0) 2380 867 100

Email Us

paul.mines@biometechnologiesplc.co.uk



Learn more about the science



www.thinkbioplastic.com

BIOME
TECHNOLOGIES

The Board



John Standen
Non-Executive Chairman

John became our Non-Executive Chairman in 2007. John has recently been Non-Executive Chairman of Lavendon Group plc. He was Chairman of the Council of Hull University for seven years until retiring in April 2013. John was previously Non-Executive Chairman of Reg Vardy plc until its sale in 2006. He spent his career in corporate finance and was Chief Executive of BZW Corporate Finance before retiring from Barclays Bank plc in 1998.



Paul Mines
Chief Executive Officer

Paul was appointed CEO in 2007. An engineer with an MBA from London Business School, Paul spent his earlier career at ICI plc and Courtaulds plc and has 20 years experience in the plastics and packaging industry, managing high growth markets, turnarounds and M&A. For the eight years to 2006, Paul was CEO of the Betts Group, having led a management buy-out of the company from Courtaulds plc.



Declan Brown
Group Finance Director

Declan was reappointed Group Finance Director on 23 April 2014 after serving in the same position from 1 November 2011 to 30 November 2012. Prior to this he was Chief Financial Officer for V.Ships Capital, part of V.Group, the world's largest shipping services provider. Previous to this he worked for Philip Morris Limited, Sappi Fine Paper plc, Standard Bank PLC and KPMG, with whom he qualified as a chartered accountant.



Michael Kayser
Independent Non-Executive Director

Michael was appointed as Non-Executive Director on 7 October 2010 and chairs the Audit and Remuneration Committees. His previous experience includes Group Finance Director at Laporte PLC for five years, Finance Director of Guinness Brewing Worldwide and Non-Executive Director of Stobart Group plc and Chairman of their Audit Committee.

Shareholders (30 October 2019)

Principal shareholders

*Mr V A Pereira's holding includes 518,273 ordinary shares held in his own name and 82,416 held by his wife, Mrs G Pereira.

Holder	Shares	%
Mr V Pereira*	600,689	21.46%
Mr JM Rushton-Turner	365,717	13.03%

Directors

**Mr John Standen's holding includes 32,668 ordinary shares held in his own name and 25,668 held by his wife, Mrs K M Standen.

Holder	Shares	%
Mr Paul Mines	31,525	1.13%
Mr John Standen**	58,336	2.08%
Mr Declan Brown	3,970	0.17%
Mr Michael Kayser	4,071	0.17%