



Filtronic

Together we build a stronger connection

Investor Presentation

Final Results FY2019



1. Executive Summary
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3. Strategy
4. Markets, Applications and Positioning





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1. Executive Summary

Filtronic plc is a designer and manufacturer of advanced RF communications products supplying a number of market sectors, including mobile telecommunications infrastructure, defence and aerospace and public safety.

5G Backhaul demand is growing and with a strong order book for transceivers and defence TRMs, we are executing a new strategy to grow in good margin markets.

1	Reduced sales versus prior year (continuing business)	<ul style="list-style-type: none">• Revenue of £15.9m (2018: £21.6m).• Operating profit of £0.2m (2018: £3.2m).• EBITDA of £0.7m (2018: £3.6m).• Net cash outflow from operating activities £0.0m (2018: £1.8m).
2	Strong demand for 5G backhaul	<ul style="list-style-type: none">• Over £10m of order intake for Orpheus (and derivatives).• Investment ongoing to increase capacity and capability.
3	Public safety market focus	<ul style="list-style-type: none">• New product developments for public safety market.• Tower top amplifier trialed.
4	Settlement of warranty claim	<ul style="list-style-type: none">• Warranty claim on antennas supplied in 2016/2017 settled for \$2m (£1.6m).• Payment plan agreed.
5	Divestment of Telecoms Antenna Operations	<ul style="list-style-type: none">• Strategic review completed.• Advisors appointed.• Discussions with interested parties in process.



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2. Financial Results



	FY 2019	FY 2018
	<i>year to 31 May 19</i>	<i>year to 31 May 18</i>
	<i>Audited</i>	<i>Audited</i>
	£'000	£'000
Revenue	15,932	21,632
Cost of Sales	(8,073)	(11,439)
Operating costs exc. depreciation and amortisation	(7,195)	(6,549)
Depreciation and amortisation	(430)	(445)
Total operating costs	(7,625)	(6,994)
Operating profit	234	3,199
Depreciation	355	367
Amortisation	75	78
EBITDA	664	3,644

- Group revenue £15.9m (2018: £21.6m).
 - ♦ Sales revenue decrease of 26% due to planned strategic withdrawal from OEM filters and one-off public safety programme in 2018.
 - ♦ Year-on-year growth from defence and mmWave products.
- Stronger sales mix from defence products whilst low margin OEM filters reduced.
- 'Cash' overhead costs £7.2m (2018: £6.5m).
 - ♦ Investment in headcount to enable ramp of capacity for recent order intake.
 - ♦ Waiver of £0.3m debtor from OEM customer relating to legacy filter product bought against forecast.
- Operating profit of £0.2m despite lower revenue, a good platform to build from.
- EBITDA of £0.7m.

		FY 2019	FY 2018
		<i>year to 31 May 19</i>	<i>year to 31 May 18</i>
		<i>Audited</i>	<i>Audited</i>
		£'000	£'000
Assets	Goodwill and other intangibles	1,247	3,904
	Property, plant and equipment	1,030	1,411
	Deferred tax	1,982	965
	Total non-current assets	4,259	6,280
	Inventories	2,081	2,138
	Trade and other receivables	4,220	6,388
	Cash and cash equivalents	2,625	3,794
	Assets held for sale	5,046	-
	Total current assets	13,972	12,320
	Total assets	18,231	18,600
Liabilities	Total current liabilities	4,893	6,127
	Liabilities held for sale	2,207	-
	Total long-term liabilities	118	312
	Total liabilities	7,218	6,439
NET ASSETS		11,013	12,161

- Deferred tax assets recognised in the UK and USA entities to reflect forecast profits.
- Net assets held for sale of £2.8m - stated at carrying value.
- Working capital in line with terms.
- Warranty provision increased by £1.6m due to component issue on legacy antenna product.
- Net cash of £2.5m (31 May 2018: £3.6m) – (£2.6m cash with £0.1m asset-based loan).

	FY 2019	FY 2018
	<i>year to 31 May 19</i>	<i>year to 31 May 18</i>
	<i>Audited</i>	<i>Audited</i>
	£'000	£'000
Net cash (used in)/ from operating activities	(20)	1,761
Net cash used in investing activities	(998)	(1,010)
Net cash from/(used in) financing activities	(209)	466
Movement in cash and cash equivalents	(1,227)	1,206
Currency exchange movements	58	(10)
Opening cash and cash equivalents	3,794	2,598
Closing cash and cash equivalents	2,625	3,794

Currency

- Natural hedging, predominantly USD.

Cash Position and Cashflows

- Cash outflow from operating activities £0.0m (2018: £1.8m inflow).
- Capex spend of £0.4m (2018: £0.6m) to increase capacity and improve capability.
- Investment of £0.7m (2018: £0.4m) in internally-generated intangible assets for product development.
- Invoice discounting facility of £3.0m available from Barclays Bank and \$4.0m arrangement with Wells Fargo Bank in the USA giving working capital flexibility against the debtor books. £Nil drawings.



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3. Strategy



Filtronic's objective is to grow profitably and to achieve this by being an embedded partner to our customers for technically advanced Radio Frequency (RF) components and sub-systems on “long tail” projects of strategic value to our clients. We will focus on markets and applications where we can leverage our know-how and IP portfolio.

Our objectives to fulfil this strategy are:

- To develop a deeper intimacy with our customers in order to transition from “Vendor” to “Partner”;
- To develop class-leading products deploying our core technologies where we can increase the ROI on our R&D and NPI investments;
- To develop our core technologies into reusable platforms for multiple customer solutions;
- To expand our customer base within the markets we serve; and,
- To increase the coverage within our core markets.

Our locations are:

- **Leeds, UK** – Head office and engineering.
- **Sedgefield, UK** – mmWave engineering, manufacturing, sales and central services.
- **Salisbury, MD, USA** – Sales, repair and service and public safety manufacturing.

Our objectives are:

- To maximise productivity and efficiency in our operations.

Our business ethos:

- We aim to be agile and responsive.
- We believe in matching empowerment and authority with responsibility and accountability.
- We value pride and respect in all our engagements with all stakeholders.

Our people:

- We have diverse, experienced and highly qualified teams, focussed on delivering outstanding products and services to our customers.
 - ♦ We encourage innovation, personal development and achievement and we incentivise these at the Individual and the team level.
 - ♦ Our low staff turnover and long service profile provide a stable foundation for our know-how.



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4. Markets, Applications and Positioning



Filtronic serves challenging, growing markets that require technically innovative, high quality, durable products that are often required to work in harsh environments and to demanding specifications.

Core applications:

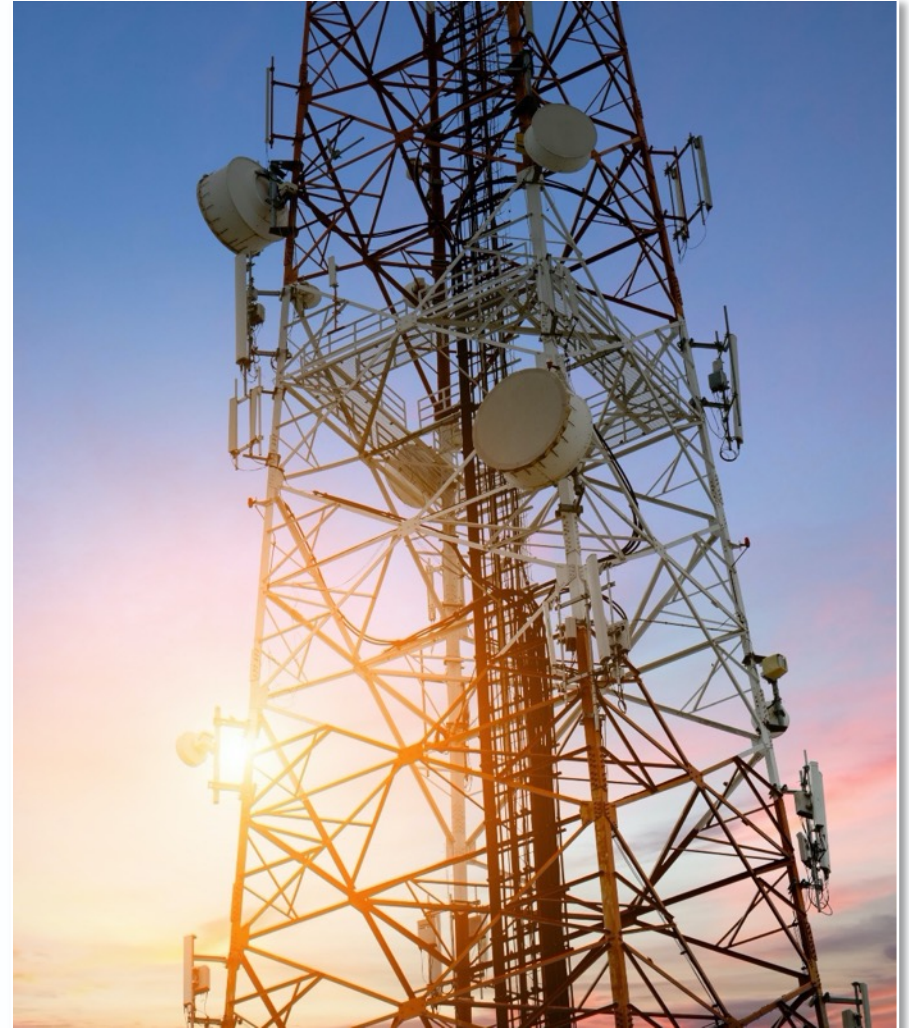
- 5G backhaul.
- Public safety.
- Defence and aerospace.

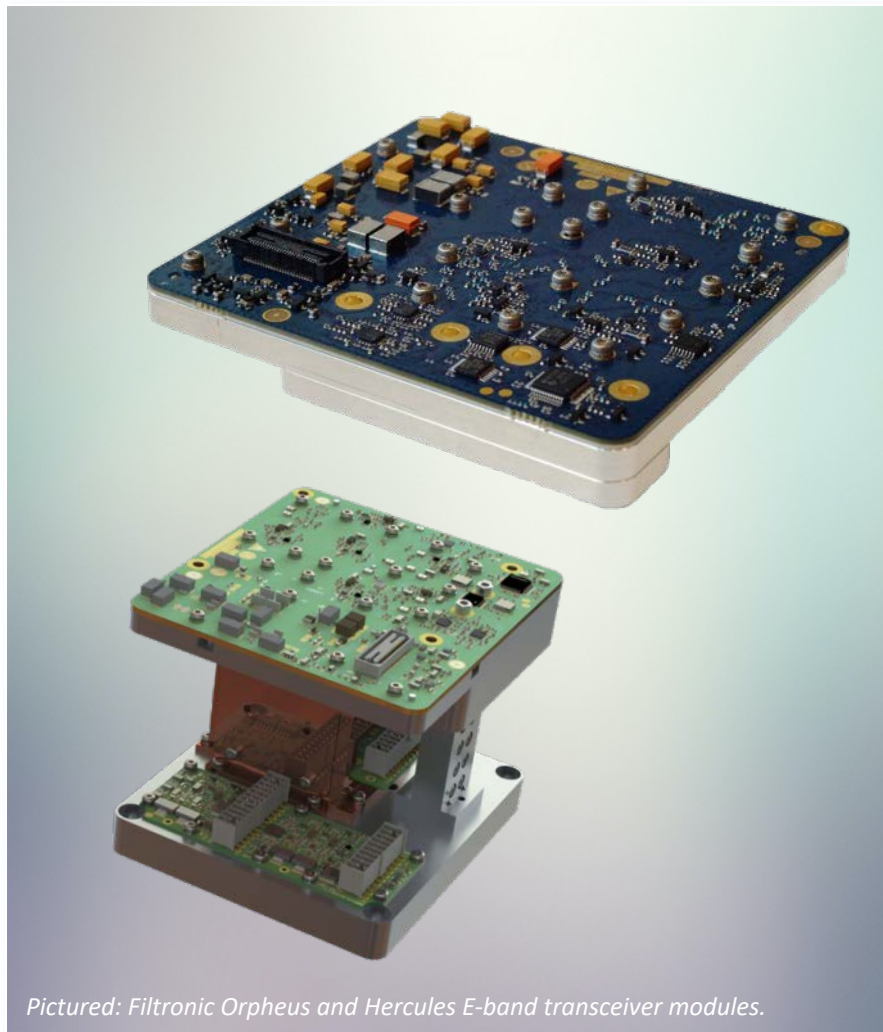
Potential growth applications in development:

- High-altitude pseudo satellites (HAPS).
- Low latency private networks.
- 5G test equipment.
- Trackside-to-train communications.



- Backhaul represents the various connections between the edge of network, remote radio heads and the core fibre network.
- Approximately 65% of backhaul connections (excl. China, Japan and South Korea) are sub 23GHz wireless.
- 5G deployment leading to a significant push to upgrade backhaul.
 - ◆ Higher capacity required to transport increasing data.
 - ◆ Cell site “densification” needed as higher frequency network access has lower range and therefore requires more cells.
 - ◆ Wireless backhaul now offers compelling data rates and is lower cost and quicker to deploy than fibre.





Pictured: Filtronic Orpheus and Hercules E-band transceiver modules.

- Filtronic designs, manufactures and supplies class-leading transceivers to OEMs for integration into their Outdoor radio Units (ODUs).
 - ♦ This allows customers to concentrate on their core competence of software and modem design.
 - ♦ Plug-and-play design results in reduced time to market for OEMs.
- Significant order intake and customer commitment for Orpheus and derivative products from a market leading OEM.
 - ♦ Sales order intake of over £10m since May 2019.
 - ♦ The next generation product (Morpheus) will be launched in 2H20 with customer orders for field trials already received.
 - ♦ Development programme, funded by the customer, is now underway to develop the follow-on generation of product on the technology roadmap.
- In addition to existing demand from Tier 2 OEMs, we are targeting further contract wins within 5G backhaul.
- Large investment in plant and machinery to augment current capacity, improve product yield and grow the capability at our Sedgefield site.

- Public safety networks are communications networks operated for or by emergency services.
- Two main international standards have been adopted world-wide:
 - ◆ The US Standard - Project 25 (“P25”).
 - ◆ The European Standard – TETRA.
 - ◆ Other countries (notably China) have established variants of these prime standards and not accessible to us.
- Increased investment in public safety communications is driven by:
 - ◆ The need to expand coverage.
 - ◆ The need to replace ageing FM networks with modern digital capability.
 - ◆ The need for increased resilience in the face of more complex threats.
 - ◆ Politics.





Pictured: Filtronic Tower Top Amplifier and TTA Controller Unit.

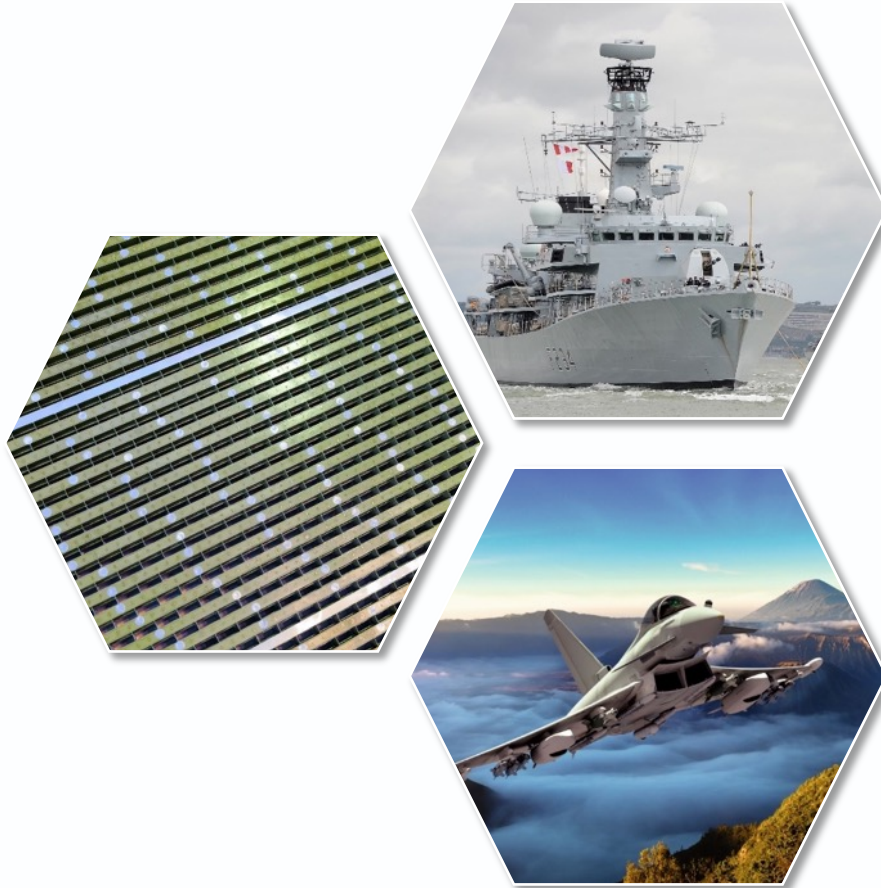
- Filtronic has traditionally focussed on the North American P25 market, where we supply into the largest OEM in the market.
- Closer engagement with our core customer has improved our profile and enabled us to identify new opportunities:
 - ◆ We have recently been awarded 'preferred vendor status' resulting in inclusion in their electronic catalogue and invitation to 'channel partner' conferences.
 - ◆ The customer has subsequently identified a number of supplier substitution opportunities for us to address.
 - ◆ First new product, Tower Top Amplifier, customer field trial units delivered October 2019 – other products in the pipeline.
 - ◆ Developing the channel to market.
 - ◆ This customer will be the prime mover in the development and deployment of the long overdue P25 replacement project = OPPORTUNITY.

- Onshoring of manufacturing to our facility in Maryland, USA from China.
 - ◆ Expected to transition in H2 FY2020.
- The rationale for this is:
 - ◆ ‘Made in America’ for a market that is increasingly security conscious and increasingly restricting foreign product access, especially Chinese suppliers.
 - ◆ Removes tariff costs imposed on Chinese products entering the USA for our customer.
 - ◆ Lower freight costs.
 - ◆ Reduced lead times.
 - ◆ De-risks supply issues.
- This is expected to be a relatively low cost project to gain significant commercial advantage.



- Increasing geopolitical tensions leading to increased defence spending by national governments. The focus is on agility and intelligent capability rather than “boots and bombs”.
- Sophisticated, resilient, high performance communications and radar systems are core to providing capability “edge”.
- Increasing restrictions on the export of defence technology and the participation of foreign companies in US/NATO defence programmes creates new opportunities for UK/EU suppliers.
- Defence procurement cycles are long but are matched by long supply programme cycles providing enduring revenue streams.





- Defence and aerospace is a traditional market for Filtronic. we have been working hard to rebuild a position in this market.
- Major contract wins to supply Transmit Receive Modules for an airborne radar application has given us a good position to further penetrate this market at our lead customer and others.
- Existing contracts are for long durations, with follow-on business likely as more of the same aircraft type are sold.
- Current major contracts are based on our specialist manufacturing know-how and capability, and our security clearances.
- Aircraft platforms typically last 25 – 30 years with frequent capability upgrades. Successful capability upgrades are often shared across Partner nations to improve interoperability.
- **Future Possibilities** : We are looking to deploy our design know-how, manufacturing IP and OEM relationships into related naval and land based systems.

- Spending on telecoms infrastructure tends to be “generational” (3G, 4G, 5G) and consequently experiences significant peaks and troughs.
- Alternative network technologies and topologies are more challenging technically but present an opportunity for Filtronic to move up the value chain in less price competitive environments.
- Filtronic is therefore targeting new application fields where we believe that we can add value in the long-term.





We have been commercially active in each of the following application fields during FY2019 and are looking to build on this initial success over the coming two years.

- **Low Latency Private Networks:**
Principally for financial markets as radio waves travel faster through air than light travels through fibre optic cable.
- **Trackside-to-Train Communications:**
Where high speed, high capacity data links are increasingly being demanded by passengers.
- **5G Test Systems:**
Servicing the demands of handset and semiconductor manufacturers, requires the use of 5G transmit and receive testing capabilities.
- **HAPS and LEO communications:**
These are being developed to provide high performance ground-to-air and inter-satellite RF links in order to deliver internet coverage to regions and terrains challenging to terrestrial networks.
 - ♦ We have successfully built and operationally tested airborne and matching ground-based equipment for capability trials with two major US technology companies.
 - ♦ **Future:** What mobile/wireless did to copper infrastructure, HAPS and LEO could do to terrestrial-based Wireless networks.



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For further information on our range of products and services, please visit our website: **www.filtronic.com**

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