



LEADING TREASURY  
PROFESSIONALS

**The Association of Corporate Treasurers**

# **MCT ADVANCED DIPLOMA CASE STUDY EXAMINATION**

## **Paper, Solutions and Examiner's Report**

**07 April 2017 09.30 – 13.00**

### **Instructions:**

Answer **EIGHT COMPULSORY** questions.

Time allowed: **3 hours + 30 minutes reading time.**

During the reading time you may annotate the examination paper but you may not write in your answer booklet or use your calculator.

- Enter your student number on the answer booklet: **do NOT write your name**
- You must write in blue or black ink and ensure your handwriting is legible.
- Enter the order in which questions are answered in the box provided on the front of the answer booklet.
- Ensure that all additional submissions (if applicable) are attached to the answer booklet by the tag provided and write your student number on all items to be marked.
- Show all your workings and state your assumptions in all questions, as appropriate.

## **QUESTION 1**

**Required:**

- a) **Review AeroTech's major costs and their key non-financial drivers, identifying any strengths or weaknesses which might impact on profit margins.**

**(5 marks)**

- b) **Analyse AeroTech's competitive position using whatever models you think appropriate.**

**(7 marks)**

**(Total 12 marks)**

## **QUESTION 2**

Replacement capital expenditure is an important element in the concept of sustainable cash flow. The table gives details of the calculations for estimating replacement expenditure on both tangible and intangible assets, as summarised in the Financial Exhibits Appendix (Cash Flow Analysis table) in the Case Study Background Information.

**Required:**

- a) **Explain the calculation of replacement capital expenditure, the definition of sustainable cash flow, how they relate to each other and how they are used in corporate financial analysis.**

**(5 marks)**

- b) **Give a reasoned argument as to whether or not you think the calculation of Replacement Investment in Intangible Assets, as presented in the bottom half of the table, is relevant to understanding the cash flow performance of AeroTech plc. Do not repeat any calculations.**

**(5 marks)**

- c) **Should goodwill, arising on acquisitions, be treated in a similar fashion?.**

**(2 marks)**

**(Total 13 marks)**

### QUESTION 3

Workings for Sustainable Cash Profit					
<u>Tangible Fixed Assets</u>					
	2011	2012	2013	2014	2015
	GBP mill	GBP mill	GBP mill	GBP mill	GBP mill
Accumulated Tangible Asset Depreciation	307	318	325	342	375
Annual Tangible Asset Depreciation	32.2	31.9	32.2	31.2	33.5
Estimated Average Age of Fixed Assets (Years)	9.5	10.0	10.1	11.0	11.2
Compound Inflation over Age of Tangible Assets %	1.36	1.39	1.39	1.45	1.44
Depreciation of Tangible Assets	32	32	32	31	34
Replacement Capital Expenditure	(44)	(44)	(45)	(45)	(48)
<u>Intangible Assets</u>					
Accumulated Amortisation of Intangibles	174	208	253	314	372
Annual Amortisation of Intangible Assets	36.8	42.2	52.1	52.5	55.5
Estimated Average Age of Intangible Assets (Years)	4.7	4.9	4.9	6.0	6.7
Compound Inflation over Age of Intangible Assets %	1.17	1.19	1.19	1.22	1.23
Amortisation of Intangible Assets excl. Goodwill	37	42	52	53	56
Replacement Investment in Intangible Assets	(43)	(50)	(62)	(64)	(68)

N.B. Annual amortisation and accumulated amortisation of intangible assets includes amortisation and impairment of capitalised development costs, amortisation of programme participation costs and amortisation of software costs.

The two figures exclude goodwill amortisation of GBP 71.9m in 2015. This relates to intangible assets acquired in business combinations, consisting of customer relations, technology, trade names and trade-marks. In 2015 accumulated goodwill amortisation was GBP 689.1m and the goodwill component of acquisitions amounted to GBP 260.8m.

#### Required:

- a) Looking ahead five years, select what you believe are the four treasury/finance areas on which it is most important for Group Treasury to focus attention. Explain your choice of areas.

(8 marks)

- b) Prioritise the four areas 1-4, with #1 being most important and justify your ranking, with quantification where possible.

(4 marks)

(Total 12 marks)

#### **QUESTION 4**

**Required:**

**a) Give practical and theoretical reasons why the company would initiate a share buyback programme and also reasons why it would suspend it only one year later. Support your answer with financial data from the accounts where appropriate.**

**(7 marks)**

**b) Review why shareholders might hold “mixed views” about the cancellation of the buy-back policy.**

**(3 marks)**

**(Total 10 marks)**

#### **QUESTION 5**

**Required:**

The company does not have a rating from Moody's or S&P, nor does it intend to seek one, preferring to work with its existing lenders

**a) Comment on how the company finances both its ongoing business and its periodic acquisitions, and the appropriateness or otherwise of the company's debt profile.**

**(7 marks)**

**b) Summarise the advantages to AeroTech in not having a rating and any disadvantages of relying on its current sources of funding.**

**(5 marks)**

**c) Present your arguments as to what the company's rating might currently be**

**(3 marks)**

**(Total 15 marks)**

## **QUESTION 6**

AeroTech policy is to hedge 70% of the next 12 months' anticipated currency transaction risk exposure. It also permits the placing of cover up to five years ahead

**Required:**

**If hedging beyond five years looks attractive due to available FX rates, identify and explain the issues to be considered before exceeding the current five-year limit**

**(Total 14 marks)**

## **QUESTION 7**

Strategically, AeroTech is contemplating a significant acquisition to expand its product coverage. Prospects will include US-based businesses. If the outcome were to be the acquisition of a US business, the current predominance of USD revenue and assets would be even more pronounced.

**Required:**

**If a significant US business was acquired, you as treasurer, have been requested to inform the board about the factors to be considered in deciding about changing the functional and presentational currency of the consolidated accounts to USD.**

**(12 marks)**

## QUESTION 8

AeroTech's original equipment and aftermarket revenues typically conform to an investment cycle as shown graphically for a civil aviation component in "1. Cash Flow Summary" at the end of this Question.

For this particular component, the financial summary is shown below. NRC is "non-recoverable cost" of development.

### 2. Financial Summary

Life of Programme	years	21
Project NPV @9%	USDm	1.0
Project IRR	%	20.13
Total Contract Value	USDm	33.7
Undiscounted EBIT	USDm	6.9
Return on Sales	%	20.33
NRCs (incl Capex)	USDm	-0.7
Max Cash Outlay	USDm	0.5
Tax Rate	%	38.00
Payback	year	2021

Details of the cash flows for 2013-2017, 2024-2030 and 2033-2035 are shown in "3. Integrated Financial Statements" at the end of the question.

For this civil aviation component the development costs arise in 2013-14, original equipment (OE) revenues begin in 2015 until 2027 and aftermarket revenues in 2025 up to 2034.

#### Required:

- a) **Comment critically on the project evaluation model and the discount rate.**

**(9 marks)**

- b) **Identify and explain the major sensitivities you would wish to test.**

**(3 marks)**

**(Total 12 marks)**

**The Association of Corporate Treasurers**

**MCT ADVANCED DIPLOMA  
CASE STUDY  
BACKGROUND INFORMATION**

**Based on Aerotech PLC**

**April 2017**

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## 1.0 INTRODUCTION

### 1.1 Group Overview

Headquartered in the UK, AeroTech PLC is a global engineering group specialising in smart engineering for extreme environments – components and sub-systems providing critical functionality in challenging market applications within civil aerospace, military and energy markets.

Nearly 12,000 people are employed across manufacturing facilities in Asia, Europe and North America and in sales offices in Brazil, India and the Middle East.

Our civil aerospace interests cover large commercial jets, regional aircraft, business jets, helicopters and general aviation.

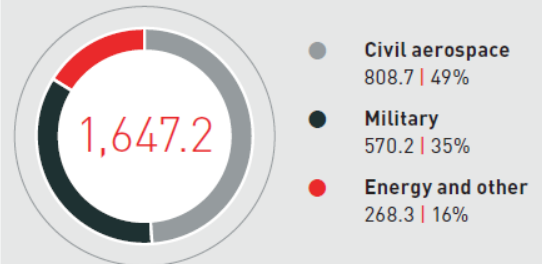
Our military markets encompass all aircraft types, land systems, naval platforms and aerial, land-based and marine threat simulation for personnel training and weapons systems development. Training extends to law enforcement and security organisations.

The aftermarket in spares and repairs is a key area for future growth and stability

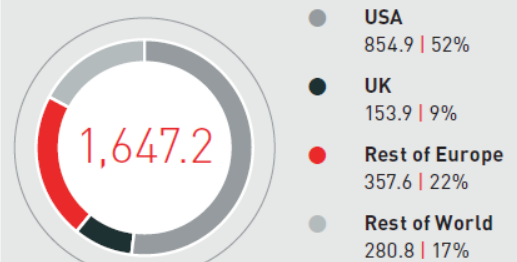
The Group's presence in energy is driven by core capabilities in control valves for industrial gas turbines; heat transfer engineering for oil and gas platforms and offshore gas processing and storage; and sensing and monitoring capabilities deployed in rotating power generation equipment. These promote safety and reduce maintenance costs, fuel consumption and carbon emissions.

The transfer of AeroTech's core technologies to other markets includes sensing materials for breakthrough medical devices and the test and measurement industry worldwide.

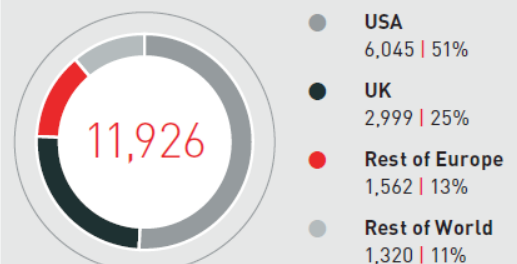
#### Revenue by market Total revenue (£ millions)



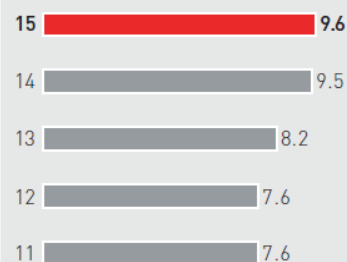
#### Revenue by destination Total revenue (£ millions)



#### Employees by region Number of employees



#### Total R&D as a % of revenue



## **1.2 Summary Financials**

<b>Summary Financials</b>	<b>2014 GBPm</b>	<b>2015 GBPm</b>
Revenues	1,554	1,647
EBIT	236	237
PAT	177	182
Gross debt	681	1,199
Net debt	576	1,053
Shareholders' funds	2,141	2,179
Average market cap.	3,915	3,656

## 2.0 BUSINESS PROFILE & ANALYSIS

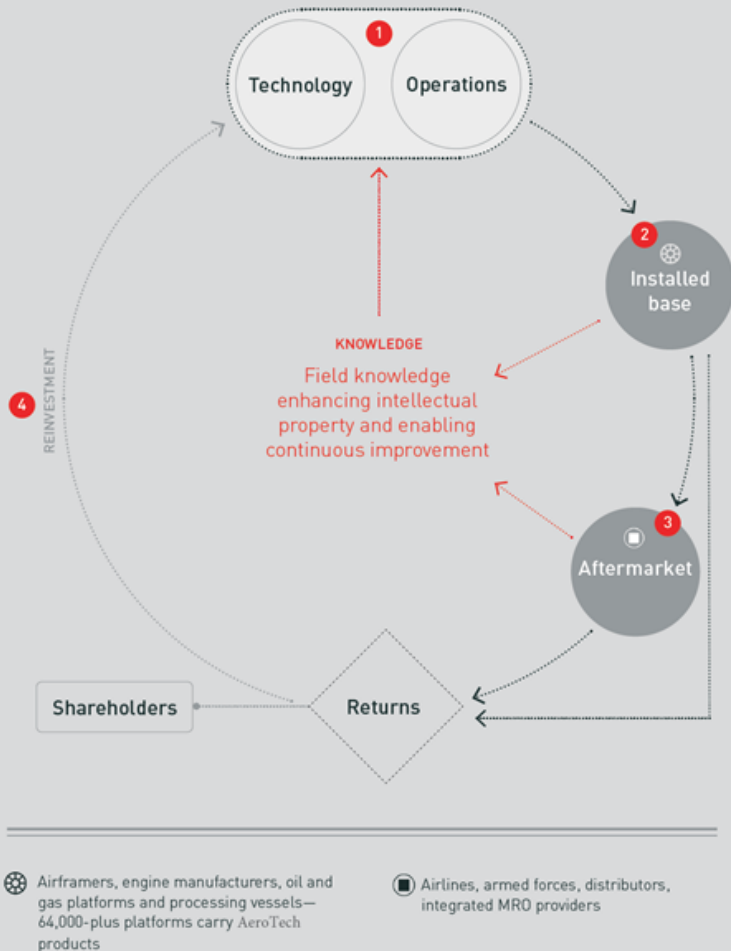
### 2.1 Group Strategy

#### Business model

We deliver strong and sustainable shareholder returns over the long term through leading positions in aerospace, defence and energy markets, secured on the basis of our intellectual property and proprietary manufacturing capabilities.

We develop and manufacture components and sub-systems to enhance the performance of airframes, engines and other high value industrial plant. Revenue comes from successfully executing original equipment programmes (often sole-source) and maximising revenue from the aftermarket opportunities that flow from the wear and tear associated with the harsh environments in which our products operate. High quality services and support and close relationships with operators deliver the field performance data needed to improve existing products and create next generation technologies.

- 1 **Winning** new programmes, often on a sole-source basis, through technology and operations excellence.
- 2 **Delivering** AeroTech content onto new platforms generates revenue and provides aftermarket access.
- 3 **Supporting** the customer through the product lifecycle delivers additional revenue-generating opportunities through maintenance, repair and overhaul and mid-life product modifications and upgrades.
- 4 **Reinvesting** returns into new technologies, capital equipment and people.



#### Strategy

Our strategy centres on outperforming our chosen markets by realising competitive advantage at every stage of our business model.

We operate in high-growth markets where smart engineering and the ability to navigate the complex regulatory and certification environment associated with our safety- and mission-critical products is essential.

We target our **technology** investments in attractive segments where AeroTech has—or can—develop leading positions. We invest in **operations excellence** as a core competitive strength and in the **people and culture** needed to deliver our strategy, through the AeroTech Production System. This all-embracing operating system is rooted in realising the potential of every employee from factory floors to functions at every level. Our organisation maximises the value of our products throughout their lifecycles, with strong programme management integrating the efforts of our dedicated original equipment and aftermarket teams to meet the exacting needs of our **customers**.

AeroTech's strategy by market and capability is outlined in the Market review [see page 10] and AeroTech divisions [see page 13].

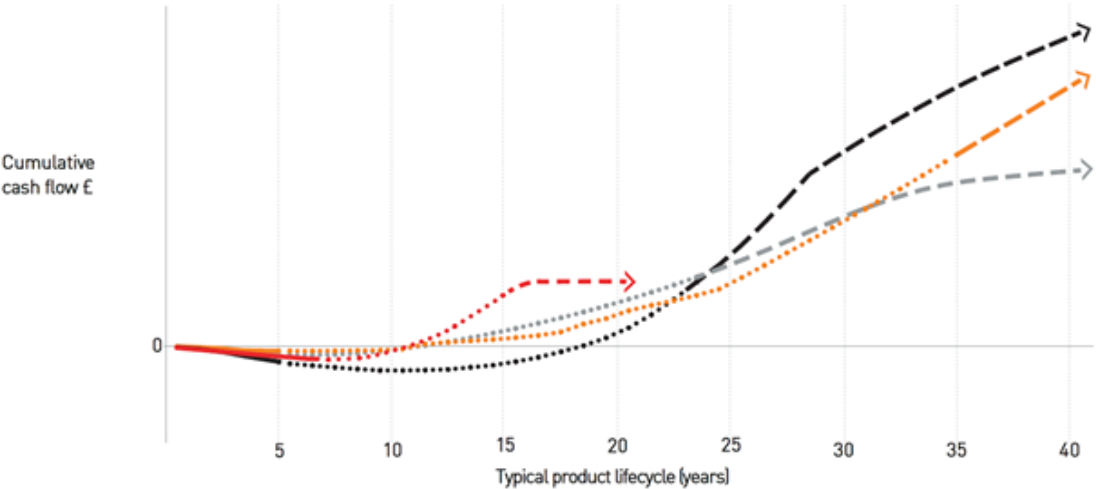


**Investment Cycle**

We develop technology for applications with product life-cycles measured in decades. Products must perform without fail in environmental extremes, requiring replacement or overhaul, generating strong returns from our initial investment over many years.

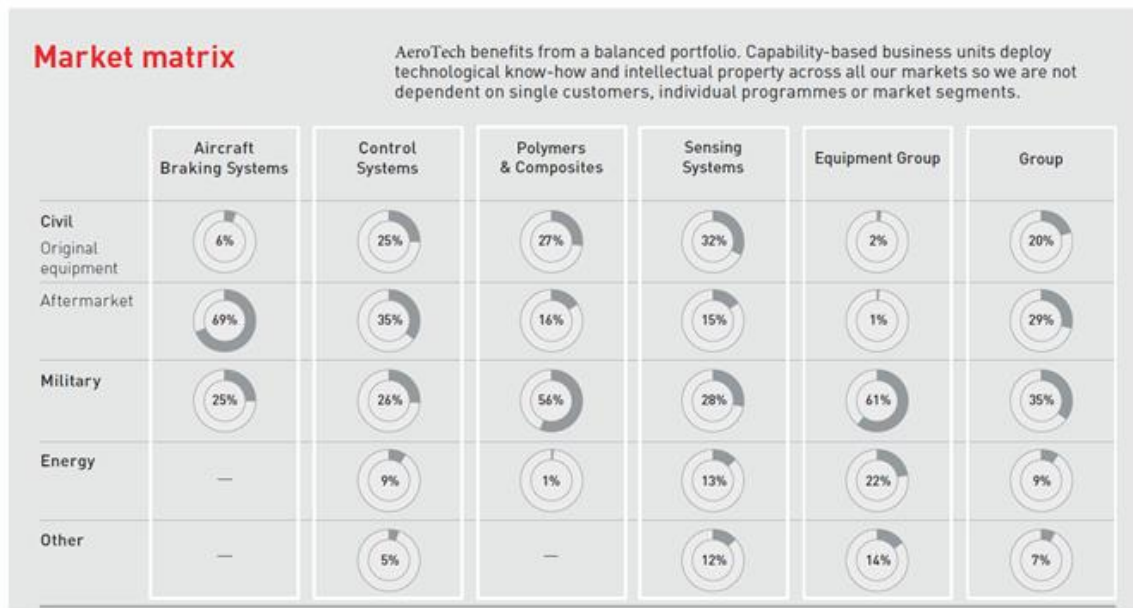
Our business model requires significant cash investment in the development phase of programmes. For our wheels and brakes business, we often supply equipment free of charge to the original equipment manufacturer. We deliver strong positive cashflow within our civil aerospace and military end-markets during the in-service phase, resulting in a cumulative cash break-even period between years 11 and 18 typically, with a shorter cash break-even in the energy market where up front investments are lower.

As our products are developed in line with our customers' technology goals, we have performed strongly in recent bid cycles, securing positions on key platforms and refreshing the long-term aftermarket pipeline. In the near-term, our business is focused on the delivery of new development programmes and the transition of new products to full run-rate manufacturing, the source of sustainable growth over the long term.



	Development	In production	Mature
Wheels and brakes	—	.....	---
Civil	—	.....	---
Military	—	.....	---
Energy	—	.....	---

## 2.2 Market Review



AeroTech's core civil aerospace, military and energy markets share a common requirement for smart engineering for extreme environments: mission- and safety-critical components and sub-systems that operate flawlessly for many years in highly demanding operating conditions, from a supplier capable of meeting rigorous certification requirements. The extreme environments in which many of our products operate results in high levels of wear and tear, which drives aftermarket revenues stretching out for many decades from initial product delivery.

### Civil aerospace

Civil aerospace accounts for 49% of Group revenue, with products and sub-systems installed on almost every jet airliner, regional aircraft and business jet in service. The global fleet of aircraft has grown significantly in recent years, totalling over 44,000 aircraft today versus 32,000 a decade ago. New aircraft deliveries drive sales of original equipment and aircraft utilisation generates demand for spare parts and repairs over many decades, so the growth of our fleet is a strong indication of future aftermarket revenue growth.

### Original equipment

We classify civil aircraft by seat capacity: large jets (>100 seats), regional aircraft (<100 seats) and business jets.

Large jet deliveries in 2015 stood at a record 1,389, 1% higher than in 2014. Future growth estimated at an average of 5-6% per annum is underpinned by the order books of Boeing and Airbus, the two major civil aircraft manufacturers, which extend to eight years at current production levels, with other manufacturers investing in the large jet market including Bombardier, Sukhoi and COMAC. The high level of demand for new aircraft, deliveries of which have grown at an average of over 8% during the last five years, has been driven in part by high oil prices, the relatively low cost of debt and the wave of newer, more fuel-efficient aircraft coming to market including Boeing's 737MAX, Airbus' A320neo and the CSeries from Bombardier. Despite the recent decrease in oil prices, the strong order backlogs mean that no significant reduction in new aircraft demand is expected in the short term.

Regional aircraft deliveries of 297 in 2015 represented a 10% increase on 2014, with an increasing proportion of these being 70-plus seat aircraft where we have a particularly strong market share. Deliveries look set to continue at this level over the medium term. Regional fleets outside North America account for over 50% of the global fleet, up from 10% a decade ago.

Business jet deliveries totalled 717, a 6% increase on 2014, although considerably

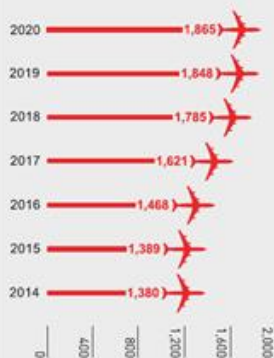
below the peak in 2008. Inventories of used aircraft are continuing to decline, although falling commodity prices are likely to reduce demand in the near term. As with regional aircraft, the fleet is becoming increasingly global—customers in the Americas currently comprise 75% of the global business jet fleet but order trends suggest this will move to around 60% over the next decade. Ten years ago, the Americas represented 84% of the global fleet. Over the medium term, we see deliveries continuing to recover, driven by increasing globalisation and an improving economic growth outlook in developed economies, enhanced by the large number of new aircraft models due to enter into service in the coming years.

### AeroTech performance

AeroTech's civil original equipment (OE) revenue grew organically by 4% in 2015, with good growth in 737 and A320 families of aircraft and initial OE revenue from the A350XWB offsetting modest reductions in A330 and A380 platforms. Large jet deliveries drive the majority of our OE revenues, involving the supply of products and sub-systems on engines and airframes covering thermal management and fluid control, fire protection, condition-monitoring and high-integrity electronics. Our largest exposure to regional aircraft and business jets is through our wheels and brakes business, which provides most original equipment

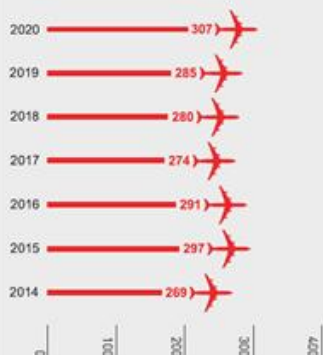


### Large jet delivery forecast



Source:

### Regional aircraft delivery forecast



Source:

### Business jet delivery forecast



Source:

free of charge to civil aircraft manufacturers. Strong OE performance is also driven by shipset values on new aircraft which exceed those of their predecessors. Order books and delivery forecasts remain robust and lend confidence in organic growth prospects ahead of the market growth rate over the medium term.

#### Aftermarket

The civil aerospace aftermarket is driven primarily by aircraft utilisation which, for large jets and regional aircraft, is measured using available seat kilometres (ASKs). We use take-offs and landings as a proxy for business jet utilisation.

ASKs in the commercial aircraft fleet grew 5.8% in 2015, above the 5% long-term average. The Middle East and Asia saw particularly strong growth, with the US market showing a steady recovery. Regional aircraft utilisation picked up noticeably, driven by the recovery in North America. Business jet utilisation in the US and Europe continued to exhibit the gradual improvement seen for the last two years, with take-offs and landings in 2015 up by over 2% versus 2014. We would normally expect our aftermarket revenues to follow these leading indicators after a lag of a few months. However, revenue can be impacted by short-term perturbations including destocking or restocking cycles, increased pooling of spares between airlines and MRO providers and excess spare part inventory arising from the

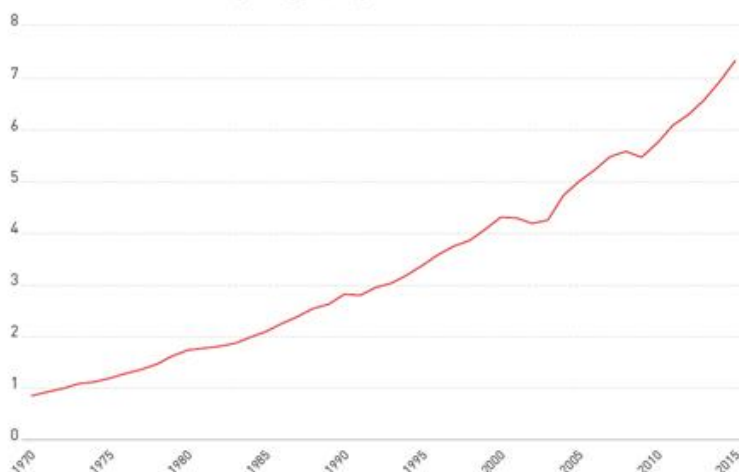
retirement of old aircraft and the subsequent harvesting of serviceable components from these aircraft. The impact of spare parts harvesting, or surplus parts, has intensified in recent years, driven by increased availability of parked aircraft which can be broken up and heightened sophistication in third party repair and distribution capability, which has caused a greater than expected dislocation between aircraft utilisation and aftermarket demand. Recent organisational changes have been made in the Group with the formation of CSS, which will leave us better equipped to directly address the surplus parts issue.

#### AeroTech performance

AeroTech's organic aftermarket revenue was up 3% for the year, with 5% growth in the first half decelerating to 2% growth in the second. Air traffic was good given the previously referenced 5.8% ASK growth. However, aftermarket revenue growth overall was held back by the parting out of old aircraft resulting from the high delivery rates of new, more fuel-efficient aircraft. Large jet aftermarket, where the effect of parting out is most pronounced, particularly in components with long lifecycles, saw flat revenue on an organic basis.

Regional aircraft and business jets are important contributors to the Group's aftermarket revenue. The continued increase in fleet size and recovery in regional aircraft utilisation in 2015 boosted overall aftermarket growth.

#### Available seat kilometres (ASKs) (billions)



## Market Review Cont'd

Military revenue by region Total revenue (£ millions)



Our regional aircraft aftermarket revenue grew organically by 4% in the year, with business jet aircraft revenue up 11% organically.

Aircraft utilisation remains very encouraging, with ASKs now tracking comfortably above the long-term average. The reduction we have seen in aircraft retirements over the last twelve months is an encouraging indicator that the headwind we have been experiencing from the parting out of older aircraft may subside over time, although we expect the negative impact of parting out to persist through 2016. Over the medium term, however, we maintain confidence in our ability to grow aftermarket revenue above the broader civil spares market.

### Military

Military accounts for 35% of Group revenue. AeroTech has equipment on around 21,000 aircraft and a variety of ground vehicles, naval vessels and training installations worldwide. During 2015, 58% of our military revenue came from US customers, with 26% from Europe and 16% from the rest of the world.

Defence budgets in some key markets remained under pressure in 2015, notably in the US where the effect of recent budget cuts and the Continuing Resolution in the latter part of the year impacted the timing and size of orders. Declining commodity prices have also had an impact on budgets in the Middle East, although European markets remained stable. The overall outlook for defence spending, however, is more positive than it has been for a number of years, with a recently agreed budget increase in the US budget spread over 2016 and 2017 and modest increases in European budgets in response to greater perceived threat levels resulting in a more benign budgetary environment than has been seen since the financial crisis in 2008/9.

While we do not expect an immediate rebound in military expenditure, driven in

part by weaker orders in 2015 and the anticipated lag between budget approval and cash deployment, opportunities remain for the reset and upgrade of repatriated equipment and the supply of new products as a significant tranche of military assets reach the end of their service lives.

### AeroTech performance

AeroTech's military revenue was flat on an organic basis in 2015, with good growth in the first half being offset by a weaker second half. The second half weakness reflected tougher comparators, the timing of programme deliveries and the US DoD entering a period of Continuing Resolution.

Our exposure to a broad range of fixed and rotary wing aircraft, ground vehicles, training facilities and naval vessels across original equipment and aftermarket spares and repairs has enabled us to demonstrate resilience in a challenging environment over the last few years. Military markets look to be entering a more benign environment now, with budgets in many regions expected to return to growth for the first time in a number of years. This will present opportunities through the expansion of the fleet of programmes on which we have good content, such as the F-35 and Rafale, as well as retrofit work arising following the repatriation of equipment from the recent conflict in Afghanistan, and the reinvestment in military training systems for a number of armed forces, where we have seen considerable contract success in recent years. Accordingly, we are targeting organic revenue growth in the low-single-digit percentage range in the medium term.

### Energy

Our energy business accounted for 9% of Group revenue in 2015. We target power generation and oil and gas markets with condition-monitoring hardware and software, control valves for aero-derivative gas turbines and microturbines, and printed circuit heat exchanger technology.

The overall energy market was very challenging in 2015. Lower demand for new equipment and deferrals of capital projects in oil and gas markets reflected the impact of lower commodity prices on the investment appetite of exploration and production companies. The market has also seen reduced demand for gas turbines used in power generation, driven by reduced investment by utilities.

Longer term, however, the power generation market remains very attractive, with increasing global demand for power driven by population growth and increasing levels of industrialisation in emerging economies. Meanwhile, the structural demand drivers for the oil and gas market remain strong. Gas, particularly is a relatively low-cost high-efficiency energy source, and our Heatric product fulfils a core technological requirement of this market. There are also significant opportunities for Heatric, our printed circuit heat exchanger business, outside of its core oil and gas market, including in power generation where a contract for the provision of heat exchangers for an innovative power station design is currently being fulfilled.

### AeroTech performance

AeroTech's energy revenue declined 20% on an organic basis in 2015. Sales to power generation customers increased modestly, with a good recovery from a weak 2014 in the first half of the year tailing off through the second half as investment budgets became more constrained. Revenue at Heatric, which accounts for 35% of our overall energy revenue, declined by 40% as the investment projects of our oil and gas customers were deferred following the reduction in the oil price.

Heightened demand for our printed circuit heat exchangers driven by a strong project pipeline and increasing market share in condition-monitoring equipment should continue to deliver strong revenue growth over the medium term. In the short term, however, we anticipate modest growth in energy control valves and condition monitoring to be more than offset by further weakness at Heatric, where further project deferrals are anticipated as capital expenditure budgets continue to be pared back.



## 2.3 Segmental Analysis

### Analysis by operating segment

The Group manages its businesses under the key segments of AeroTech Aircraft Braking Systems, AeroTech Control Systems, AeroTech Polymers & Composites, AeroTech Sensing Systems and the AeroTech Equipment Group. Details of the Group's divisions can be found on pages 13 to 17 of the Strategic report. With effect from 1 January 2015, the AeroTech Avionics business was transferred from AeroTech Equipment Group to AeroTech Sensing Systems. Prior year comparatives have been restated to reflect this new divisional structure.

#### Year ended 31 December 2015

The key performance measure reviewed by the CODM is underlying operating profit. A detailed reconciliation of operating profit to underlying operating profit is provided in note 10.

	Aircraft Braking Systems	Control Systems	Polymers & Composites	Sensing Systems	Equipment Group	Total
	£'m	£'m	£'m	£'m	£'m	£'m
Gross segment revenue	353.3	398.8	178.0	480.8	244.9	1,655.8
Inter-segment revenue	[0.2]	[0.9]	[0.6]	[6.0]	[0.9]	[8.6]
<b>Revenue from external customers</b>	<b>353.1</b>	<b>397.9</b>	<b>177.4</b>	<b>474.8</b>	<b>244.0</b>	<b>1,647.2</b>
Underlying operating profit (see note 10)*	131.7	97.0	15.4	72.3	9.1	325.5
Items not affecting underlying operating profit (see note 10)						[88.9]
<b>Operating profit (see note 10)</b>						<b>236.6</b>
Finance income (see note 12)						2.7
Finance costs (see note 13)						[29.1]
Net finance costs						[26.4]
<b>Profit before tax</b>						<b>210.2</b>
Tax (see note 14)						[28.1]
<b>Profit for the year</b>						<b>182.1</b>
Exceptional operating items (see note 11)	0.9	1.2	0.8	4.9	2.6	10.4
Amortisation of intangible assets (see notes 19 and 20)**	77.7	16.0	6.9	15.1	5.3	121.0
Impairment loss (see note 19)	–	–	–	6.4	–	6.4
Depreciation (see note 21)***	7.3	6.4	4.1	10.1	5.6	33.5

\* Central costs are allocated using a variety of bases designed to reflect the beneficial relationship between the costs and the segments. Bases include headcount, payroll costs, gross assets and revenue.

\*\* Of the total amortisation in the year, £49.1 million has been charged to underlying operating profit as defined in note 10.

\*\*\* All of the total depreciation in the year has been charged to underlying operating profit as defined in note 10.

The Group's largest customer accounts for 6.6% of revenue (£109.0 million). Revenue from this customer arises across all segments.

	Aircraft Braking Systems	Control Systems	Polymers & Composites	Sensing Systems	Equipment Group	Total
	£'m	£'m	£'m	£'m	£'m	£'m
<b>Additions to non-current assets*</b>						
Development costs net of customer funding (see note 19)	37.5	7.4	1.6	25.5	8.5	80.5
Programme participation costs (see note 19)	37.4	4.8	–	0.8	–	43.0
Other purchased intangible assets	2.0	1.2	0.4	1.2	0.9	5.7
Property, plant and equipment	8.5	8.0	6.9	11.9	4.2	39.5
<b>Total</b>	<b>85.4</b>	<b>21.4</b>	<b>8.9</b>	<b>39.4</b>	<b>13.6</b>	<b>168.7</b>

\* Relate to those non-current assets included within segmental trading assets reviewed by the CODM.



## Segmental Analysis Cont'd (1)

As at 31 December 2015

	Total €'m
Aircraft Braking Systems	666.6
Control Systems	303.7
Polymers & Composites	187.5
Sensing Systems	387.7
Equipment Group	145.9
<b>Total segmental trading assets</b>	<b>1,691.4</b>
Centrally managed trading assets*	179.8
Goodwill (see note 18)	1,866.0
Other intangible assets	612.0
Derivative financial instruments – non-current (see note 30)	25.5
Deferred tax assets (see note 32)	0.3
Derivative financial instruments – current (see note 30)	8.4
Current tax recoverable	5.5
Cash and cash equivalents (see note 24)	145.4
<b>Total assets</b>	<b>4,534.3</b>

\* Centrally managed trading assets principally include amounts recoverable from insurers in respect of environmental issues relating to former sites, other receivables and property, plant and equipment of central companies.

### Year ended 31 December 2014 (Restated)

The key performance measure reviewed by the CODM is underlying operating profit. A detailed reconciliation of operating profit to underlying operating profit is provided in note 10.

	Aircraft Braking Systems €'m	Control Systems €'m	Polymers & Composites €'m	Sensing Systems €'m	Equipment Group €'m	Total €'m
Gross segment revenue	327.1	349.7	163.2	456.5	265.4	1,561.9
Inter-segment revenue	[0.1]	[1.0]	[0.9]	[5.5]	[0.7]	[8.2]
Revenue from external customers	327.0	348.7	162.3	451.0	264.7	1,553.7
Underlying operating profit (see note 10)*	127.5	91.8	20.2	75.7	30.8	346.0
Items not affecting underlying operating profit (see note 10)						(109.8)
Operating profit (see note 10)						236.2
Finance income (see note 12)						1.2
Finance costs (see note 13)						[28.5]
Net finance costs						[27.3]
Profit before tax						208.9
Tax (see note 14)						[31.9]
Profit for the year						177.0
Exceptional operating items (see note 11)	0.5	0.2	0.3	7.0	1.0	9.0
Amortisation of intangible assets (see notes 19 and 20)**	70.9	12.2	6.4	16.2	6.9	112.6
Impairment loss (see note 19)	–	4.0	–	4.0	–	8.0
Depreciation (see note 21)***	6.7	6.1	3.3	9.9	5.2	31.2

\* Central costs are allocated using a variety of bases designed to reflect the beneficial relationship between the costs and the segments.

Bases include headcount, payroll costs, gross assets and revenue.

\*\* Of the total amortisation in the year, £44.5 million has been charged to underlying operating profit as defined in note 10. \*\*\*

Of the total depreciation in the year, £31.1 million has been charged to underlying operating profit as defined in note 10.

The Group's largest customer accounts for 6.2% of revenue (£96.3 million). Revenue from this customer arises across all segments.

## Segmental Analysis Cont'd (2)

	Aircraft Braking Systems €'m	Control Systems €'m	Polymers & Composites €'m	Sensing Systems €'m	Equipment Group €'m	Total €'m
Additions to non-current assets*						
Development costs (see note 19)	30.1	16.5	4.1	23.8	3.2	77.7
Programme participation costs (see note 19)	40.4	5.6	–	–	–	46.0
Other purchased intangible assets Property, plant and equipment	0.3	1.3	0.5	1.2	0.9	4.2
	6.1	4.5	5.9	9.9	6.9	33.3
<b>Total</b>	<b>76.9</b>	<b>27.9</b>	<b>10.5</b>	<b>34.9</b>	<b>11.0</b>	<b>161.2</b>

\* Relate to those non-current assets included within segmental trading assets reviewed by the CODM. As

at 31 December 2014 (Restated)

	Total €'m
Aircraft Braking Systems	568.3
Control System Polymers & Composites Sensing Systems Equipment	295.6
Group	94.0
	365.8
	160.0
<b>Total segmental trading assets</b>	<b>1,483.7</b>
Centrally managed trading assets*	181.4
Goodwill (see note 18)	1,534.7
Other intangible assets	609.3
Derivative financial instruments – non-current (see note 30)	29.6
Deferred tax assets (see note 32)	0.9
Derivative financial instruments – current (see note 30)	1.1
Current tax recoverable	3.3
Cash and cash equivalents (see note 24)	105.5
<b>Total assets</b>	<b>3,949.5</b>

\* Centrally managed trading assets principally include amounts recoverable from insurers in respect of environmental issues relating to former sites, other receivables and property, plant and equipment of central companies.

### Analysis by geography

	2015 €'m	2014 €'m
<b>Revenue</b>		
UK	153.9	152.4
Rest of Europe	357.6	338.1
United States of America	854.9	771.1
Rest of World	280.8	292.1
<b>Total</b>	<b>1,647.2</b>	<b>1,553.7</b>

Revenue is based on the location of the customer.

	2015 €'m	2014 Restated (see note 43) €'m
<b>Non-current assets</b>		
UK	677.7	602.0
Rest of Europe	182.2	203.6
United States of America	2,650.2	2,240.9
Rest of World	11.3	9.5
<b>Total</b>	<b>3,521.4</b>	<b>3,056.0</b>

Segmental non-current assets are based on the location of the assets. They exclude trade and other receivables, derivative financial instruments and deferred tax assets.

## **2.4 Original Equipment and Aftermarket**

Original equipment – OE – is of two main types: larger units like wings, engines and smaller components like brakes, sensors. AeroTech currently provides smaller components.

Aftermarket revenues last the lifetime of the aircraft – traditionally up to 50 years but now reducing significantly as discussed in Section 3.1 Changing Features. The newer breed of airline operators is looking for partnerships and strategies to improve operational economics during the life of the aircraft.

### **3.0 COMPETITIVE ENVIRONMENT**

#### **3.1 Overview**

AeroTech sells mainly to the US Defence Department (and other national equivalents) and the major global aircraft manufacturers. The OE market is absolutely crucial because it locks in a replacement market for up to 40 years. New models of aircraft and military equipment, with technical innovation, can potentially lead to a change of components and suppliers.

The global Aerospace and Defence (A&D) sector expects a return to strong growth (2%) by 2017 and continuing for some five years, but with commercial around maybe 4% and defence lower. This is driven, on the commercial side, by global GDP, low fuel costs, quicker aircraft replacement because of fuel efficiency improvements, increasing travel demand from emerging countries, entry of new EM aircraft manufacturers and growth of EM airline operators. In the defence sectors drivers include the new US administration, increased political tension in a number of regions, terrorist threats and previous under-spending, despite US and European problems with budget deficits.

Supply-chain efficiency is a growing concern for the main aerospace manufacturers, issues including materials shortages, production capacity, on-time delivery, innovative investment and costs. Smaller suppliers, in particular, may have problems of finance, programme management, risk-taking and effective, timely investment. Industry consolidation and supply-chain agreements, to achieve competitive pricing through economies of scale, are likely to be a continuing feature affecting smaller suppliers.

The A&D Top 100 ranges from Boeing, with revenues of USD 96,114m (in 2015) to FACC at USD 587m revenues, with AeroTech at number 49 with USD 2,439m revenues. Boeing and Airbus are at the top but there are many medium and small aircraft manufacturers e.g. Dassault (USD 4,634m). Similarly, Lockheed Martin (number 3 with USD 46,132m) and Rolls Royce (number 10 with USD 20,985m) are the dominant aero-engine manufacturers. When it comes to component suppliers they occupy the full spectrum from General Dynamics (USD 31,469m), through BAE Systems (USD 27,368m), Babcock International (USD 6,883m) and GKN (USD 3,821m) to those in the bottom half of the 100 with revenues less than USD 2,000m.

AeroTech's competitors vary considerably across different components and in terms of overall size and product range. Competition is greater and increasing in the growing re-cycling market with lower barriers to entry. Another factor is changing methods of charging for products, from leasing instead of buying to "power by the hour" and by "paying per landing".

The company's only major patents are on braking materials and wheel components. These are key high-investment areas, along with valves, sensors etc, which have lives between 6 and 10 years. Repairs to existing equipment can extend the life of parts to over 30 years.

Obtaining the necessary CAA and FAA approval involves a time-consuming and costly process of testing and approval, which represents a big barrier to entry for new competitors. The aerospace industry is quite conservative, characterised by slow developments and incremental innovation, very much determined by the over-riding safety, environmental and cost considerations, coupled with the long life-cycles.

### **3.2 Changing Features**

- Up to 50% of next generation aircraft materials will be composite. The aerospace annual composite market is worth GBP 5.1bn currently and is growing at 7% CAGR. The advantages of composites are improved performance, easier manufacture and less weight so less fuel.
- Aircraft expected life has fallen to as low as 20 years, at which point it is stripped down and the component parts are recycled. This affects after-market prices which the company monitors: it occasionally buys up and destroys selected parts to protect its franchise.
- To reduce the cost of idle craft during downturns in passenger demand some operators are switching to paying for components by use. This practice is known as “power by the hour” eg for engines by running hours, for brakes by number of landings. This motivates manufacturers to increase component working life.

## 4.0 FINANCE AND TREASURY

### 4.1 Finance

#### Obligations under Finance Leases

	Minimum lease payments		Present value of minimum lease payments	
	2015 £'m	2014 £'m	2015 £'m	2014 £'m
Amounts payable under finance leases:				
In one year or less	1.1	1.1	0.1	0.1
In more than one year but not more than five years	4.2	4.0	0.2	0.2
In more than five years	12.1	12.4	5.2	5.1
<b>Total</b>	<b>17.4</b>	<b>17.5</b>	<b>5.5</b>	<b>5.4</b>
Less: future finance charges	(11.9)	(12.1)		
<b>Present value of lease obligations</b>	<b>5.5</b>	<b>5.4</b>		
Less non-current portion	5.4	5.3		
<b>Current portion</b>	<b>0.1</b>	<b>0.1</b>		

Obligations under finance leases are US dollar denominated. The weighted average period to maturity is 14.8 years (2014: 15.4 years) and the weighted average interest rate is 18.4% (2014: 18.0%).

#### Bank and Other Borrowings

	2015 £'m	2014 £'m
<b>Current</b>		
loans	0.7	10.8
Other loans	3.3	48.1
<b>Total current</b>	<b>4.0</b>	<b>58.9</b>
<b>Non-current</b>		
Bank loans	763.2	212.6
Other loans	425.8	404.1
<b>Total non-current</b>	<b>1,189.0</b>	<b>616.7</b>
<b>Total</b>	<b>1,193.0</b>	<b>675.6</b>
Analysis of bank and other borrowings repayable: In one year or less	4.0	58.9
In more than one year but not more than five years	1,097.2	344.4
In more than five years	91.8	272.3
<b>Total</b>	<b>1,193.0</b>	<b>675.6</b>
Analysis of bank and other borrowings: Drawn under committed	1,172.8	644.9
Less unamortised debt issue costs	(3.1)	(3.6)
Fair value adjustment to fixed rate borrowings	18.4	19.5
Drawn under uncommitted facilities	1.1	11.6
Interest accruals	3.8	3.2
<b>Total</b>	<b>1,193.0</b>	<b>675.6</b>

Debt issue costs are amortised over the period of the facility to which they relate. The Group has no secured borrowings (2014: £Nil million). The Group has the following committed facilities:

	2015			2014		
	Drawn £'m	Undrawn £'m	Total £'m	Drawn £'m	Undrawn £'m	Total £'m
Senior notes (USD 70.0 million)	–	–	–	44.9	–	44.9
Senior notes (USD 600.0 million)	407.1	–	407.1	384.8	–	384.8
Syndicated credit facility (USD 900.0 million)	358.6	252.0	610.6	215.2	362.0	577.2
Bilateral credit facilities (USD 600.0 million)	407.1	–	407.1	–	–	–
<b>Total</b>	<b>1,172.8</b>	<b>252.0</b>	<b>1,424.8</b>	<b>644.9</b>	<b>362.0</b>	<b>1,006.9</b>

The Group issued USD 70.0 million of loan notes to private placement investors in 2003. The notes carried an interest rate of 5.46% and were repaid in 2015.

The Group issued USD 600.0 million of loan notes to private placement investors in 2010. The notes are in four tranches as follows: USD 200.0 million carry an interest rate of 4.62% and are due for repayment in 2017, USD 125.0 million carry an interest rate of 5.02% and are due for repayment in 2020, USD 150.0 million carry an interest rate of 5.17% and are also due for repayment in 2020 and USD 125.0 million carry an interest rate of 5.12% and are due for repayment in 2022.

During 2014, the Group secured a five-year USD 900.0 million syndicated revolving credit facility which matures in 2020, following a one-year extension which was agreed during 2015. The facility includes a further one-year extension option at the end of the second year. At 31 December 2015, the amounts drawn under the revolving credit facility were £358.6 million (2014: £215.2 million) represented by borrowings denominated in US dollars of £312.4 million (2014: £142.5 million), in Euros of £46.2 million (2014: £50.4 million), in Swiss francs of £Nil million (2014: £10.3 million) and in Sterling of £Nil million (2014: £12.0 million). Borrowings under the facility are subject to interest at floating rates.

During 2015, the Group secured two new USD 300.0 million bilateral credit facilities which mature in 2017. At 31 December 2015, the facilities were fully drawn and borrowings are all denominated in US dollars. Borrowings under the facilities are subject to interest at floating rates.

The committed facilities available at each balance sheet date expire as follows:

	2015			2014		
	Drawn £'m	Undrawn £'m	Total £'m	Drawn £'m	Undrawn £'m	Total £'m
In one year or less	–	–	–	44.9	–	44.9
In more than one year but not more than five years	1,088.0	252.0	1,340.0	343.5	362.0	705.5
In more than five years	84.8	–	84.8	256.5	–	256.5
<b>Total</b>	<b>1,172.8</b>	<b>252.0</b>	<b>1,424.8</b>	<b>644.9</b>	<b>362.0</b>	<b>1,006.9</b>

The Group also has various uncommitted facilities with its relationship banks.

The fair value of bank and other borrowings is as follows:

	2015		2014	
	Book value £'m	Fair value £'m	Book value £'m	Fair value £'m
Current	4.0	4.0	58.9	61.6
Non-current	1,189.0	1,196.9	616.7	625.7
<b>Total</b>	<b>1,193.0</b>	<b>1,200.9</b>	<b>675.6</b>	<b>687.3</b>

After taking account of financial derivatives that alter the interest basis of the financial liabilities entered into by the Group, the interest rate exposure on gross bank and other borrowings is:

	Floating	Fixed	Non-interest bearing	Total	Weighted average interest rate	Weighted average period for which rate is fixed
	£'m	£'m	£'m	£'m	%	Years
US dollar	839.2	244.3	–	1,083.5		
Swiss franc	–	65.3	–	65.3		
Euro	46.2	0.3	0.8	47.3		
Gross bank and other borrowings	885.4	309.9	0.8	1,196.1	3.4	2.5
Less unamortised debt issue costs	(2.0)	(1.1)	–	(3.1)		
<b>Bank and other borrowings</b>	<b>883.4</b>	<b>308.8</b>	<b>0.8</b>	<b>1,193.0</b>		

	Floating	Fixed	Non-interest bearing	Total	Weighted average interest rate	Weighted average period for which rate is fixed
	£'m	£'m	£'m	£'m	%	Years
US dollar	317.6	277.4	–	595.0		
Swiss franc	14.8	–	–	14.8		
Euro	50.4	–	0.9	51.3		
Sterling	18.1	–	–	18.1		
Gross bank and other borrowings	400.9	277.4	0.9	679.2	3.7	3.3
Less unamortised debt issue costs	(2.8)	(0.8)	–	(3.6)		
<b>Bank and other borrowings</b>	<b>398.1</b>	<b>276.6</b>	<b>0.9</b>	<b>675.6</b>		

The weighted average interest rate reflects the relative impact of interest rates based on the principal

Amounts and the duration of borrowings. The weighted average period to maturity for non-interest bearing borrowings is 3.8 years (2014: 4.4 years).



## **4.2 Treasury**

### **Organisation**

Treasury is very centralised. It has 3.5 employees, including one in the US.

## Interest & Foreign Exchange Risk

### Interest risk

The Group seeks to reduce the volatility caused by interest rate fluctuations on net debt. Our US private placements are subject to fixed interest rates, whereas borrowings under our syndicated and bilateral bank credit facilities are at floating rates. To manage interest rate volatility, we use interest rate derivatives to either convert floating rate interest into fixed rate or vice versa. Our policy is to generally maintain at least 25% of net debt at fixed rates with a weighted average maturity of two years or more. At 31 December 2015, the percentage of net debt at fixed rates was 23% (2014: 48%) and the weighted average period to maturity was 2.9 years (2014: 4.5 years for the first 25%). The floating rate bilateral bank credit facilities taken out to fund the acquisitions in the year, resulted in a reduction in the proportion of net debt at fixed rates to below 25%. It is the intention to seek to refinance this floating rate debt with fixed rate debt. At the same time as the new bilateral facilities were taken out, the Group entered a USD200 million treasury lock to secure current market interest rates for future fixed rate financing.

### Foreign exchange risk

The Group is exposed to both translation and transaction risk due to changes in foreign exchange rates. These risks principally relate to the US Dollar/Sterling rate, although exposure also exists in relation to other currency pairs including translation risk for the Sterling/Euro and Sterling/Swiss Franc and transaction risk for the US Dollar/Euro and US Dollar/Swiss Franc.

Exchange rates (Table 10)		
	2015	2014
Average translation rates against Sterling:		
US Dollar	1.53	1.63
Euro	1.38	1.24
Swiss Franc	1.47	1.51
Average transaction rates:		
US Dollar/Sterling	1.57	1.54
US Dollar/Euro	1.36	1.30
US Dollar/Swiss Franc	1.08	1.08
Year-end rates against Sterling:		
US Dollar	1.47	1.56
Euro	1.36	1.29
Swiss Franc	1.48	1.55

The results of overseas businesses are translated into Sterling at weighted average exchange rates. Compared to

2014, the Group's underlying profit before tax for the year benefited by £12.6 million from currency translation including a favourable impact of £13.6 million relating to US Dollar denominated profits partly offset by an adverse impact on other currencies.

Translation currency sensitivity (£'m)		
(Table 11)		
	Revenue	PBT <sup>1</sup>
Impact of 10 cent movement <sup>2</sup> :		
US Dollar	70.0	15.0
Euro	9.0	1.0
Swiss Franc	7.0	2.0

<sup>1</sup> Underlying profit before tax as defined and reconciled to statutory measures in note 10 to the Group financial statements.

<sup>2</sup> As measured against the 2015 average translation rates against Sterling set out in Table 10.

Transaction risk arises where revenues and/or costs of our businesses are denominated in a currency other than their own. We hedge known and some anticipated transaction currency exposures based on historical experience and projections. Our policy is to hedge at least 70% of the next 12 months' anticipated exposure and to permit the placing of cover up to five years ahead. Compared to 2014, the Group's underlying profit before tax for the year was adversely impacted by £2.1 million from currency transaction movements, including an adverse impact of £1.2 million relating to US Dollar/Sterling exposure. Each ten cent movement in the US Dollar against the average hedge rates achieved in 2015 would affect underlying profit before tax by approximately £8.0 million in respect of US Dollar/Sterling exposure, £3.0 million in respect of US Dollar/Euro exposure and £4.0 million in respect of US Dollar/Swiss Franc exposure.

Transaction hedging in place (Table 12)		
	Hedging in place <sup>1</sup> %	Average transaction rates
2016:		
US Dollar/Sterling	89	1.56
US Dollar/Euro	100	1.21
US Dollar/Swiss Franc	96	1.06
2017 - 2020 inclusive:		
US Dollar/Sterling	70	1.50
US Dollar/Euro	70	1.19
US Dollar/Swiss Franc	50	1.05

<sup>1</sup> Based on forecast transaction exposures and hedging in place at 22 February 2016.

## Financial Instruments

As at 31 December 2015:

	Held at fair value		Held at amortised cost		Total book value £'m	Total fair value £'m
	Through profit & loss £'m	Derivatives used for hedging £'m	Loans & receivables £'m	Liabilities £'m		
Non-current:						
Trade and other receivables (see note 23)	–	–	58.9	–	58.9	58.9
Derivative financial instruments (see note 30)	24.8	0.7	–	–	25.5	25.5
Current:						
Trade and other receivables*	–	–	335.8	–	335.8	335.8
Derivative financial instruments (see note 30)	8.4	–	–	–	8.4	8.4
Cash and cash equivalents (see note 24)	–	–	145.4	–	145.4	145.4
<b>Financial assets</b>	<b>33.2</b>	<b>0.7</b>	<b>540.1</b>	<b>–</b>	<b>574.0</b>	<b>574.0</b>
Current:						
Trade and other payables**	–	–	–	(391.8)	(391.8)	(391.8)
Derivative financial instruments (see note 30)	(12.7)	–	–	–	(12.7)	(12.7)
Obligations under finance leases (see note 27)	–	–	–	(0.1)	(0.1)	(0.1)
Bank and other borrowings (see note 28)	–	–	–	(4.0)	(4.0)	(4.0)
Non-current:						
Trade and other payables (see note 26)	–	–	–	(4.2)	(4.2)	(4.2)
Derivative financial instruments (see note 30)	(13.7)	–	–	–	(13.7)	(13.7)
Obligations under finance leases (see note 27)	–	–	–	(5.4)	(5.4)	(5.4)
Bank and other borrowings (see note 28)	(290.8)	–	–	(898.2)	(1,189.0)	(1,196.9)
<b>Financial liabilities</b>	<b>(317.2)</b>	<b>–</b>	<b>–</b>	<b>(1,303.7)</b>	<b>(1,620.9)</b>	<b>(1,628.8)</b>
<b>Total</b>	<b>(284.0)</b>	<b>0.7</b>	<b>540.1</b>	<b>(1,303.7)</b>	<b>(1,046.9)</b>	<b>(1,054.8)</b>

As at 31 December 2014:

	Held at fair value		Held at amortised cost		Total book value £'m	Total fair value £'m
	Through profit & loss £'m	Derivatives used for hedging £'m	Loans & receivables £'m	Liabilities £'m		
Non-current:						
Trade and other receivables (see note 23)	–	–	93.4	–	93.4	93.4
Derivative financial instruments (see note 30)	28.3	1.3	–	–	29.6	29.6
Current:						
Trade and other receivables*	–	–	317.3	–	317.3	317.3
Derivative financial instruments (see note 30)	1.1	–	–	–	1.1	1.1
Cash and cash equivalents (see note 24)	–	–	105.5	–	105.5	105.5
<b>Financial assets</b>	<b>29.4</b>	<b>1.3</b>	<b>516.2</b>	<b>–</b>	<b>546.9</b>	<b>546.9</b>
Current:						
Trade and other payables**	–	–	–	(350.1)	(350.1)	(350.1)
Derivative financial instruments (see note 30)	(9.6)	–	–	–	(9.6)	(9.6)
Obligations under finance leases (see note 27)	–	–	–	(0.1)	(0.1)	(0.1)
Bank and other borrowings (see note 28)	–	–	–	(58.9)	(58.9)	(61.6)
Non-current:						
Trade and other payables (see note 26)	–	–	–	(5.9)	(5.9)	(5.9)
Derivative financial instruments (see note 30)	(2.9)	–	–	–	(2.9)	(2.9)
Obligations under finance leases (see note 27)	–	–	–	(5.3)	(5.3)	(5.3)
Bank and other borrowings (see note 28)	(276.9)	–	–	(339.8)	(616.7)	(625.7)
<b>Financial liabilities</b>	<b>(289.4)</b>	<b>–</b>	<b>–</b>	<b>(760.1)</b>	<b>(1,049.5)</b>	<b>(1,061.2)</b>
<b>Total</b>	<b>(260.0)</b>	<b>1.3</b>	<b>516.2</b>	<b>(760.1)</b>	<b>(502.6)</b>	<b>(514.3)</b>

\* Excludes prepayments and accrued income of £17.9 million (2014: £14.5 million) (see note 23).

\*\* Excludes social security and other taxes of £10.3 million (2014: £8.4 million) (see note 25).

## **Financial Instruments Cont'd**

### **Fair value measurement and hierarchy**

For trade and other receivables, cash and cash equivalents, trade and other payables, obligations under finance leases and the current element of floating rate bank and other borrowings, fair values approximate to book values due to the short maturity periods of these financial instruments. For trade and other receivables, allowances are made within book value for credit risk.

Derivative financial instruments measured at fair value, are classified as level 2 in the fair value measurement hierarchy, as they have been determined using significant inputs based on observable market data. The fair values of foreign currency forward contracts have been derived from forward exchange rates observable at the balance sheet date together with the contractual forward rates. The fair values of interest rate derivatives and the treasury lock derivative, have been derived from forward interest rates based on yield curves observable at the balance sheet date together with the contractual interest rates. The fair value of the cross currency derivative has been derived from forward interest rates based on yield curves observable at the balance sheet date, forward exchange rates observable at the balance sheet date and the contractual interest and forward exchange rates.

The non-current portion of bank and other borrowings measured at fair value, is classified as level 3 in the fair value measurement hierarchy, as it has been determined using significant inputs which are a mixture of those based on observable market data (interest rate risk) and those not based on observable market data (credit risk). The fair value attributable to interest rate risk has been derived from forward interest rates based on yield curves observable at the balance sheet date together with the contractual interest rates and with the credit risk margin kept constant.

The fair value attributable to credit risk has been derived from quotes from lenders for borrowings of similar amounts and maturity periods. The same methods of valuation have been used to derive the fair value of the current element of fixed rate bank and other borrowings and the non-current element of bank and other borrowings which are held at amortised cost, but for which fair values are provided in the table above.

There were no transfers of assets or liabilities between levels of the fair value hierarchy during the year.

### **Financial liabilities designated as fair value through profit and loss**

Cumulative unrealised changes in the fair value of the non-current portion of bank and other borrowings arising from changes in credit risk are as follows:

	2015 £'m
Fair value at 1 January	7.7
(Gain)/loss recognised in net operating costs	(1.1)
<b>Fair value at 31 December</b>	<b>6.6</b>

The difference between the fair value and contractual amount at maturity of the non-current portion of bank and other borrowings is as follows:

	2015 £'m
Fair value	290.8
Difference between fair value and contractual amount at maturity	(18.4)
<b>Contractual amount payable at maturity</b>	<b>272.4</b>

### **Financial liabilities classified as level 3 in the hierarchy**

Changes in fair value are as follows:

	2015 £'m
Bank and other borrowings at fair value through profit and loss:	
At 1 January	276.9
Exchange rate adjustments	16.0
(Gain)/loss recognised in net operating costs	(2.1)
<b>At 31 December</b>	<b>290.8</b>

The largest movement in credit spread seen in a six month period since inception of the borrowings is 70 basis points. A 70 basis point movement in the credit spread used as an input in determining the fair value at 31 December 2015, would impact profit before tax by approximately £7.6 million.

## Derivative Financial Instruments

	Contract or underlying principal amount		Fair value	
	Assets £'m	Liabilities £'m	Assets £'m	Liabilities £'m
Interest rate swaps – cash flow hedges	108.5	–	0.7	–
Interest rate swaps – fair value hedges	271.4	–	24.8	–
Cross currency swap - not hedge accounted	61.0	–	4.5	–
Treasury lock - not hedge accounted	135.7	–	3.7	–
Foreign currency forward contracts – not hedge accounted	8.5	(596.9)	0.2	(26.4)
<b>Total</b>	<b>585.1</b>	<b>(596.9)</b>	<b>33.9</b>	<b>(26.4)</b>
Less non-current portion:				
Interest rate swaps – cash flow hedges	108.5	–	0.7	–
Interest rate swaps – fair value hedges	271.4	–	24.8	–
Foreign currency forward contracts – not hedge accounted	3.2	(391.6)	–	(13.7)
<b>Non-current portion</b>	<b>383.1</b>	<b>(391.6)</b>	<b>25.5</b>	<b>(13.7)</b>
<b>Current portion</b>	<b>202.0</b>	<b>(205.3)</b>	<b>8.4</b>	<b>(12.7)</b>

As at 31 December 2014:

	Contract or underlying principal amount		Fair value	
	Assets £'m	Liabilities £'m	Assets £'m	Liabilities £'m
Interest rate swaps – cash flow hedges	102.6	–	1.3	–
Interest rate swaps – fair value hedges	256.5	–	27.0	–
Foreign currency forward contracts – not hedge accounted	134.3	(284.3)	2.4	(12.5)
<b>Total</b>	<b>493.4</b>	<b>(284.3)</b>	<b>30.7</b>	<b>(12.5)</b>
Less non-current portion:				
Interest rate swaps – cash flow hedges	102.6	–	1.3	–
Interest rate swaps – fair value hedges	256.5	–	27.0	–
Foreign currency forward contracts – not hedge accounted	72.0	(131.2)	1.3	(2.9)
<b>Non-current portion</b>	<b>431.1</b>	<b>(131.2)</b>	<b>29.6</b>	<b>(2.9)</b>
<b>Current portion</b>	<b>62.3</b>	<b>(153.1)</b>	<b>1.1</b>	<b>(9.6)</b>

### Interest rate swaps

The total notional principal amount of outstanding interest rate swap contracts at 31 December 2015 is £379.9 million (2014: £359.1 million), of which £67.8 million will expire in 2017, £108.6 million will expire in 2018, £118.7 million will expire in 2020 and £84.8 million will expire in 2022. The contracts are all denominated in US dollars. Of the notional principal amount outstanding, £108.5 million (2014: £102.6 million) has the economic effect of converting floating rate US dollar borrowings into fixed rate US dollar borrowings and £271.4 million (2014: £256.5 million) has the economic effect of converting fixed rate US dollar borrowings into floating rate US dollar borrowings. To the extent they meet the criteria for hedge accounting, the floating rate to fixed rate swap contracts are accounted for as cash flow hedges and the fixed rate to floating rate swap contracts as fair value hedges.

### Cross currency swap

The cross currency swap has been used to synthetically convert US dollar denominated floating borrowings into Swiss franc denominated fixed borrowings to hedge against Swiss franc denominated assets of overseas subsidiaries. The cross currency swap does not qualify to be hedge accounted.

### Treasury lock

The treasury lock has been used to secure current market interest rates for specified amounts of future fixed-rate funding. The treasury lock does not qualify to be hedge accounted.

### Foreign currency forward contracts

Although the Group uses foreign currency forward contracts to hedge against foreign currency exposures, it has decided that the costs of meeting the extensive documentation requirements to be able to apply hedge accounting under IAS 39 'Financial Instruments: Recognition and Measurement' are not merited.

	2015 Assets £'m	2015 Liabilities £'m	2014 Assets £'m	2014 Liabilities £'m
Fair value:				
US dollar forward sales (USD/£)	–	(13.0)	2.3	(3.8)

Forward sales denominated in other currencies	0.2	(13.4)	0.1	(8.7)
<b>Total</b>	<b>0.2</b>	<b>(26.4)</b>	<b>2.4</b>	<b>(12.5)</b>

### Credit quality of derivative financial assets

The credit quality of derivative financial assets is as follows:

	2015 £'m	2014 £'m
Moody's rating:		
Aa	8.2	4.0
A	25.7	26.7
<b>Total</b>	<b>33.9</b>	<b>30.7</b>

## 5.0 FINANCIALS

Equity Analysis Model AeroTech plc Income Statement		Historical Data					Interim
Month	Accounts date	2011	2012	2013	2014	2015	2016
Dec.	Currency / units Audit / man / fcst Number of months	GBP mill audited 12	GBP mill audited 12	GBP mill audited 12	GBP mill audited 12	GBP mill audited 12	GBP mill unaudited 6
Sales Revenue		1,455.3	1,605.8	1,637.3	1,553.7	1,647.2	882.9
(Cost of Sales)		(839.8)	(929.1)	(981.1)	(935.9)	(997.2)	(547.4)
<b>Gross Profit</b>		<b>615.5</b>	<b>676.7</b>	<b>656.2</b>	<b>617.8</b>	<b>650.0</b>	<b>335.5</b>
(Selling, General and Administrative Expenses)		(411.1)	(338.1)	(282.7)	(256.5)	(313.7)	(220.9)
(R&D Expenditure)		(41.7)	(44.9)	(40.2)	(70.6)	(73.9)	(35.0)
Other Operating (Costs) & Revenues +/-		120.7	43.4	(2.5)	(41.4)	(17.8)	(9.0)
Exceptional Operating Items +/-		(20.9)	(15.7)	(30.5)	(13.1)	(8.0)	(7.6)
<b>Other Expenditure Details (for information)</b>							
(Cost of Materials, Other External Purchases)		(372.5)	(446.9)	(444.7)	(418.8)	(458.5)	
(Personnel Costs)		(469.6)	(542.7)	(566.1)	(541.8)	(590.6)	
<b>[Numbers of employees]</b>		<b>9,357</b>	<b>10,831</b>	<b>11,035</b>	<b>10,685</b>	<b>10,851</b>	
(Depreciation & Impairment of Tangible Assets)		(32.2)	(31.9)	(32.2)	(31.2)	(33.5)	(19.2)
(Amortisation & Impairment of Goodwill)		(75.1)	(80.6)	(74.3)	(68.1)	(71.9)	(41.3)
(Amortisation & Impairment of Other Intangible Assets)		(36.8)	(42.2)	(52.1)	(52.5)	(55.5)	(28.0)
<b>Operating Profit</b>		<b>262.5</b>	<b>321.4</b>	<b>300.3</b>	<b>236.2</b>	<b>236.6</b>	<b>63.0</b>
<b>EBIT</b>		<b>262.5</b>	<b>321.4</b>	<b>300.3</b>	<b>236.2</b>	<b>236.6</b>	<b>63.0</b>
<b>Interest Received &amp; Paid</b>							
Other Financial Income & Expenditure		(5.4)	(20.3)	(4.7)	(11.1)	(9.7)	(5.2)
Interest Received		0.1	0.2	0.1	0.1	0.1	-
(Gross Interest Paid)		(31.2)	(20.0)	(26.3)	(16.3)	(16.8)	(11.2)
<b>Profit before Tax</b>		<b>226.0</b>	<b>281.3</b>	<b>269.4</b>	<b>208.9</b>	<b>210.2</b>	<b>46.6</b>
(Tax charge)		(41.1)	(45.8)	(37.1)	(31.9)	(28.1)	(4.5)
<b>Profit after Tax</b>		<b>184.9</b>	<b>235.5</b>	<b>232.3</b>	<b>177.0</b>	<b>182.1</b>	<b>42.1</b>
Extraordinaries, Discontinued Operations etc							
<b>Profit / (Loss) for the Year</b>		<b>184.9</b>	<b>235.5</b>	<b>232.3</b>	<b>177.0</b>	<b>182.1</b>	<b>42.1</b>
Attributable to Non-controlling Interests							
<b>Attributable to Owners of Company</b>		<b>184.9</b>	<b>235.5</b>	<b>232.3</b>	<b>177.0</b>	<b>182.1</b>	<b>42.1</b>
(Preference Dividends)							
(Ordinary Dividends)		(81.7)	(92.5)	(101.4)	(110.4)	(111.5)	(37.2)
<b>Retained Profit for Year</b>		<b>103.2</b>	<b>143.0</b>	<b>130.9</b>	<b>66.6</b>	<b>70.6</b>	<b>4.9</b>
Statement of Gains and Losses		(39.0)	(58.2)	(10.0)	2.9	104.0	120.4
Total Comprehensive Income		145.9	177.3	222.3	179.9	286.1	162.5
<b>EBITA (before Exceptionals &amp; Goodwill Amortisation)</b>	#	<b>358.5</b>	<b>417.7</b>	<b>405.1</b>	<b>317.4</b>	<b>316.5</b>	<b>111.9</b>
<b>EBITDA (before Exceps. Deprn. &amp; All Amortisation)</b>		<b>427.5</b>	<b>491.8</b>	<b>489.4</b>	<b>401.1</b>	<b>405.5</b>	<b>159.1</b>
<b>Cash Earnings (Before Goodwill, Exceps. &amp; Extraords)</b>		<b>280.9</b>	<b>331.8</b>	<b>337.1</b>	<b>258.2</b>	<b>262.0</b>	<b>91.0</b>
<b>Cash Retained Profit (Before Goodwill, Exceps &amp; Extraords)</b>		<b>199.2</b>	<b>239.3</b>	<b>235.7</b>	<b>147.8</b>	<b>150.5</b>	<b>53.8</b>

**Equity Analysis Model**  
**AeroTech plc**  
**Balance Sheet**

<i>Accounts date</i> <i>Currency / units</i>	Historical Data					2016 GBP mill Interim
	2011 GBP mill	2012 GBP mill	2013 GBP mill	2014 GBP mill	2015 GBP mill	
Goodwill	1,544	1,494	1,457	1,535	1,866	2,024
Other Intangible Fixed Assets	1,249	1,204	1,188	1,270	1,365	1,228
Property, Land & Buildings & Capital Work	114	114	129	123	131	138
Plant, Equipment & Vehicles - net	116	118	117	128	159	175
Financial Investments, Tax & Pension Assets & Deriv.	152	150	45	31	26	34
Medium-term Trade-related Assets	115	99	90	93	59	313
<b>Total Fixed Assets</b>	<b>3,290</b>	<b>3,179</b>	<b>3,026</b>	<b>3,180</b>	<b>3,606</b>	<b>3,913</b>
Stocks, Inventories, Work in Progress	278	291	299	328	415	497
Trade and Other Receivables	317	304	329	332	354	394
Cash and Short-term Investments	95	105	116	106	145	61
Tax Assets, Derivatives, Assets for Sale & Other	7	5	14	4	14	6
<b>Total Current Assets</b>	<b>696</b>	<b>706</b>	<b>758</b>	<b>770</b>	<b>928</b>	<b>958</b>
<b>Total Assets</b>	<b>3,986</b>	<b>3,885</b>	<b>3,784</b>	<b>3,950</b>	<b>4,534</b>	<b>4,870</b>
Short-term Debt	8	130	10	59	4	15
Trade and Other Payables	349	352	329	359	402	378
Corporation Tax Payable	49	57	41	37	37	36
Provisions, Derivatives & Other Current Liabilities	63	49	45	55	49	63
<b>Total Current Liabilities</b>	<b>470</b>	<b>588</b>	<b>424</b>	<b>509</b>	<b>492</b>	<b>492</b>
Medium & Long-term Debt	875	617	671	622	1,194	1,317
Medium-term Trade Payables	7	6	5	6	4	5
Tax, Pension & Other Long-term Provisions	841	768	607	672	665	788
<b>Total Non-current Liabilities</b>	<b>1,723</b>	<b>1,392</b>	<b>1,283</b>	<b>1,300</b>	<b>1,864</b>	<b>2,109</b>
Issued Share Capital	39	39	40	40	39	39
Share Premium Account, Treasury Shares	1,130	1,144	1,166	1,219	1,219	1,219
Other Reserves	192	132	97	174	259	436
Revenue Reserves	432	590	773	708	662	575
<b>Total Capital and Reserves</b>	<b>1,793</b>	<b>1,905</b>	<b>2,076</b>	<b>2,141</b>	<b>2,179</b>	<b>2,269</b>
Non-controlling Interests						
<b>Total Shareholders' Funds</b>	<b>1,793</b>	<b>1,905</b>	<b>2,076</b>	<b>2,141</b>	<b>2,179</b>	<b>2,269</b>
Accumulated Depreciation	307.1	317.7	325.4	342.3	374.9	394.1
Accumulated Amortisation of Intangible Assets excl. goodwill	173.6	208.2	253.0	313.7	372.3	421.9
<b>Average cost of debt</b>	<b>4.12%</b>	<b>3.65%</b>	<b>3.30%</b>	<b>2.84%</b>	<b>2.05%</b>	<b>2.05%</b>



<b>Equity Analysis Model</b>							
<b>AeroTech plc</b>							
<b>UK-Style Cash Flow Statement</b>							
		<b>Historical Data</b>					<b>Interim</b>
	<i>Accounts date</i>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
	<i>Currency / units</i>	<b>GBP mill</b>	<b>GBP mill</b>	<b>GBP mill</b>	<b>GBP mill</b>	<b>GBP mill</b>	<b>GBP mill</b>
	Number of months	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>6</b>
<b>CASH FLOW FROM OPERATING ACTIVITIES</b>							
	Operating Profit	262.5	321.4	300.3	236.2	236.6	63.0
	Tangible Asset Depreciation	32.2	31.9	32.2	31.2	33.5	19.2
	Dec(Inc) in Stock / Inventories	6.4	(30.5)	(16.4)	(17.7)	(14.6)	(107.3)
	Dec(Inc) in Debtors / Receivables	(59.0)	14.7	(24.6)	9.8	55.8	(31.9)
	Inc(Dec) in Creditors / Payables & Advance Payments	35.9	6.7	(13.1)	(10.1)	27.3	32.0
	All other non-cash adjustments provisions	100.7	49.9	67.3	97.5	68.1	114.1
	<b>Cash Generated from Operations</b>	<b>378.7</b>	<b>394.1</b>	<b>345.7</b>	<b>346.9</b>	<b>406.7</b>	<b>89.1</b>
	Dividends Received from Associates						
	(Tax Paid)	(42.6)	(34.6)	(44.0)	(18.7)	(15.3)	(14.7)
	<b>Net Cash from Operating Activities</b>	<b>336.1</b>	<b>359.5</b>	<b>301.7</b>	<b>328.2</b>	<b>391.4</b>	<b>74.4</b>
<b>CASH FLOW FROM INVESTING ACTIVITIES</b>							
	Income Received from Investments						
	Interest Received	0.3	0.2	0.3	0.3	0.2	-
	(Purchase of Tangible Fixed Assets)	(27.0)	(35.5)	(52.4)	(33.0)	(45.8)	(22.2)
	Disposal of Tangible Fixed Assets	7.5	0.3	3.9	2.8	0.8	0.3
	(Purchase of Intangible Assets)	(99.5)	(116.3)	(124.3)	(135.7)	(133.9)	(70.7)
	(Acquisitions & Purchase of Financial Assets)	(417.6)	(8.4)	(26.5)	(28.6)	(362.7)	
	Disposal of Subsidiaries, Intangibles & Financial Assets		15.9	53.3		2.0	2.9
	<b>Net Cash from Investing Activities</b>	<b>(536.3)</b>	<b>(143.8)</b>	<b>(145.7)</b>	<b>(194.2)</b>	<b>(539.4)</b>	<b>(89.7)</b>
<b>CASH FLOW FROM FINANCING ACTIVITIES</b>							
	(Interest Paid)	(31.0)	(28.1)	(19.7)	(16.3)	(16.2)	(15.6)
	New Shares Issued	249.5	0.9	2.5	0.1		
	(Repurchase / Redemption of Shares)				(45.3)	(156.1)	
	Total Increase in Debt	214.3	189.3	181.5	218.3	537.0	18.2
	(Total Decrease in Debt)	(137.4)	(292.7)	(231.4)	(249.9)	(67.4)	(1.1)
	(Dividends Paid on Ordinary Shares)	(48.4)	(71.8)	(75.6)	(51.4)	(111.1)	(75.8)
	(Preference and Minority Dividends Paid)						
	Miscell. Financing Costs e.g. derivatives, bank fees	(2.9)	(2.0)	-	(2.8)	(0.4)	(1.0)
	<b>Net Cash from Financing Activities</b>	<b>244.1</b>	<b>(204.4)</b>	<b>(142.7)</b>	<b>(147.3)</b>	<b>185.8</b>	<b>(75.3)</b>
	<b>Net Cash Flow from Ops. Investing &amp; Funding</b>	<b>43.9</b>	<b>11.3</b>	<b>13.3</b>	<b>(13.3)</b>	<b>37.8</b>	<b>(90.6)</b>

<b>Equity Analysis Model</b>							
<b>AeroTech plc</b>							
<b>Cash Flow Analysis</b>							
		<b>Historical Data</b>				<b>Interim</b>	
	<i>Accounts date</i>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
	<i>Currency / units</i>	<b>GBP mill</b>	<b>GBP mill</b>	<b>GBP mill</b>	<b>GBP mill</b>	<b>GBP mill</b>	<b>GBP mill</b>
<b>Cash Flow Summary</b>		<b>audited</b>	<b>audited</b>	<b>audited</b>	<b>audited</b>	<b>audited</b>	<b>unaudited</b>
	<b>Number of months</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>6</b>
<b>CASH FLOW FROM OPERATIONS</b>							
	Operating Profit	263	321	300	236	237	63
	Other Non-cash & Exceptional Items	61	6	15	42	12	85
	<b>"Cash Profit"</b>	<b>324</b>	<b>327</b>	<b>316</b>	<b>278</b>	<b>249</b>	<b>148</b>
	(Increase) / Decrease in Net Working Assets	(17)	(9)	(54)	(18)	69	(107)
	Amortisation & Impairment of Intangible Assets	37	42	52	53	56	28
	(Purchase of Intangible Assets)	(100)	(116)	(124)	(136)	(134)	(71)
	Tangible Asset Depreciation	32	32	32	31	34	19
	Net Capital Expenditure	(20)	(35)	(49)	(30)	(45)	(22)
	(Tax Paid)	(43)	(35)	(44)	(19)	(15)	(15)
	(Dividends Paid)	(48)	(72)	(76)	(51)	(111)	(76)
	<b>Free Cash Flow before Interest</b>	<b>166</b>	<b>134</b>	<b>53</b>	<b>108</b>	<b>101</b>	<b>(95)</b>
	(Net Interest Paid)	(31)	(28)	(19)	(16)	(16)	(16)
	<b>Internal Cash Flow</b>	<b>135</b>	<b>106</b>	<b>34</b>	<b>92</b>	<b>85</b>	<b>(111)</b>
<b>ACQUISITION &amp; FINANCING CASH FLOWS</b>							
	(Acquisitions), Disposals, (Financial Investments)	(418)	8	27	(29)	(361)	3
	Increase / (Decrease) in Share Capital	250	1	3	(45)	(156)	
	Total Increase in Debt	214	189	182	221	539	25
	(Total Reduction in Debt)	(181)	(294)	(234)	(250)	(67)	(1)
	(Increase) / Decrease in Cash		(10)	(11)	11	(40)	84
	<b>Net Financing Cash Flow</b>	<b>(135)</b>	<b>(106)</b>	<b>(34)</b>	<b>(92)</b>	<b>(85)</b>	<b>111</b>
<b>Equity Analysis Model</b>							
<b>AeroTech plc</b>							
<b>Sustainable Cash Flow</b>							
		<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
		<b>GBP mill</b>	<b>GBP mill</b>	<b>GBP mill</b>	<b>GBP mill</b>	<b>GBP mill</b>	<b>GBP mill</b>
	Operating Profit & Investment Income after Tax	228	280	261	206	206	55
	Other Non-cash & Exceptional Items	61	6	15	42	12	85
	Depreciation of Tangible Assets	32	32	32	31	34	19
	Replacement Capital Expenditure	(44)	(44)	(45)	(45)	(48)	(27)
	Amortisation of Intangible Assets (excl. Goodwill )	37	42	52	53	56	28
	Replacement Investment in Intangible Assets	(43)	(50)	(62)	(64)	(68)	(34)
	Replacement Net Working Assets	(16)	(10)	(10)	(6)	(5)	(18)
	<b>Sustainable Entity Cash Flow after Tax</b>	<b>255</b>	<b>255</b>	<b>244</b>	<b>216</b>	<b>186</b>	<b>109</b>
<b>Workings</b>							
	Accumulated Tangible Asset Depreciation	307	318	325	342	375	394
	Annual Tangible Asset Depreciation	32.2	31.9	32.2	31.2	33.5	19.2
	Estimated Average Age of Fixed Assets (Years)	9.5	10.0	10.1	11.0	11.2	10.3
	<b>Compound Inflation over Age of Tangible Assets %</b>	<b>1.36</b>	<b>1.39</b>	<b>1.39</b>	<b>1.45</b>	<b>1.44</b>	<b>1.38</b>
	Accumulated Amortisation of Intangibles	174	208	253	314	372	422
	Annual Amortisation of Intangible Assets	36.8	42.2	52.1	52.5	55.5	28.0
	Estimated Average Age of Intangible Assets (Years)	4.7	4.9	4.9	6.0	6.7	7.5
	<b>Compound Inflation over Age of Intangible Assets %</b>	<b>1.17</b>	<b>1.19</b>	<b>1.19</b>	<b>1.22</b>	<b>1.23</b>	<b>1.23</b>
	Net Working Assets	354	336	384	389	422	821
	<b>Annual Inflation Rate %</b>	<b>4.82%</b>	<b>3.09%</b>	<b>2.67%</b>	<b>1.62%</b>	<b>1.20%</b>	<b>2.19%</b>

<b>Equity Analysis Model</b>							
<b>AeroTech plc</b>							
<b>Share Price Data</b>							
		Historical Data					Interim
	Accounts date	2011	2012	2013	2014	2015	2016
	Currency / units	GBP mill	GBP mill	GBP mill	GBP mill	GBP mill	GBP mill
		12	12	12	12	12	6
<b>Number of Shares &amp; Eps</b>							
	Basic Earnings per Share (pence)	24.0	30.1	29.4	22.0	23.2	5.4
	<b>Adjusted Earnings per Share (pence or equiv.)</b>	<b>31.9</b>	<b>36.5</b>	<b>37.5</b>	<b>32.0</b>	<b>31.6</b>	<b>15.4</b>
	Interim Dividend Per Share (pence)	3.20	3.60	3.95	3.95	4.60	4.8
	Final Dividend Per Share (pence)	7.30	8.20	8.80	9.80	9.80	
	<b>Total Dividends Per Share (pence)</b>	<b>10.50</b>	<b>11.80</b>	<b>12.75</b>	<b>13.75</b>	<b>14.40</b>	<b>4.8</b>
	Average number of common shares	769.7	782.3	791.1	804.1	785.4	775.5
	Average number of preference shares						
<b>Share Prices</b>							
	Common Share Price - Low (£)	3.20	3.60	4.22	4.22	3.38	3.42
	Common Share Price - High (£)	4.01	4.42	5.75	5.52	5.94	4.37
	Common Share Price - Average (£)	3.61	4.01	4.99	4.87	4.66	3.90
<b>Risk rating</b>							
	Variability %	34	34	35	28	26	24
	Beta (actual or estimate)	1.55	1.57	1.43	1.25	1.00	0.83
	<b>Assumed Market Risk premium</b>	<b>4.19</b>	<b>4.19</b>	<b>4.19</b>	<b>4.19</b>	<b>4.19</b>	<b>4.19</b>
	<b>UK 5-year Gilt Yield</b>	<b>1.74</b>	<b>0.83</b>	<b>1.23</b>	<b>1.71</b>	<b>1.28</b>	<b>1.87</b>
	<b>3-month LIBOR or equivalent</b>	<b>0.76</b>	<b>1.08</b>	<b>0.49</b>	<b>0.55</b>	<b>0.54</b>	<b>0.48</b>
<b>Market Capitalisation</b>							
	Market Capitalisation - Common Stock	2,776	3,138	3,945	3,915	3,656	3,021
	Minorities	-	-	-	-	-	-
	Net Debt	788	643	565	576	1,053	1,271
	Enterprise value [EV]	3,564	3,780	4,509	4,491	4,710	4,292
<b>Equity Analysis</b>							
<b>Equity Ratios</b>							
	Underlying Eps Growth %		14.4%	2.7%	(14.7%)	(1.3%)	
	P/E Ratio	11.3	11.0	13.3	15.2	14.7	12.6
	Market / Book Ratio of Equity	1.55	1.65	1.90	1.83	1.68	1.33
	Dividend Cover	3.04	3.09	2.94	2.33	2.19	3.2
	Dividend Yield %	2.9%	2.9%	2.6%	2.8%	3.1%	2.5%
	Total Return to Shareholders %	16.5%	14.5%	27.5%	0.4%	(1.4%)	(30.6%)
<b>EV Valuation Multiples</b>							
	EV / Sales	2.45	2.35	2.75	2.89	2.86	2.43
	EV / Book Capital Employed	1.38	1.48	1.71	1.65	1.46	1.21
	EV / EBITA	9.9	9.1	11.1	12.9	13.5	19.2
	EV / EBITDA	8.34	7.69	9.21	10.39	10.73	13.49
	EV / Staff Costs	7.6	7.0	8.0	8.3	8.0	
	EV / Sustainable Free Cash Flow	14.0	14.8	18.5	20.8	25.4	19.8
<b>Yields and Implied Growth Rates</b>							
	Sust. Free Cash Flow / EV = (WACC minus growth)	7.2%	6.7%	5.4%	4.8%	3.9%	5.1%
	Real WACC	2.5%	3.7%	4.1%	4.8%	3.5%	2.1%
	Implied Sustainable Growth Rate	(4.7%)	(3.1%)	(1.3%)	0.0%	(0.4%)	(2.9%)

# ADVANCED DIPLOMA

## CASE STUDY EXAMINATION - NOTE FORM ANSWERS

APRIL 2017

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### QUESTION 1

[21.6 mins, 12 marks)

#### Q1.a Review of major costs and their key drivers.

(9.0 mins, 5 marks)

[Marking scheme: ¼ mark for each good point].

Cost of sales has risen to 60.5% (2015) from 57.7%, up 2.8%. <sup>1</sup>

EBIT % Sales are down by 3.6%, so other costs, as a % of sales are also up by 0.8%, <sup>2</sup> now at 25.1% of sales

Personnel costs represent the biggest single item, **at 35.9%** <sup>3</sup> (up 3.6% of sales) – drivers are (international) salary levels <sup>8</sup> for highly-qualified technical staff and numbers of employees. Over the 4 years personnel costs are up by <sup>9</sup> 25.6% while personnel numbers are only up by 16.0%, <sup>10</sup> so salary levels are up by 9.8%. Salary levels were the main driver in 2015. Over the same period sales were up by 13.2%. R&D expenditure <sup>11</sup> represents 4.5% of the personnel cost – significant and critical for continued success.

Cost of materials represent <sup>12</sup> **27.8%** of sales, up by 2.2% of sales. Prices of metals and manufacturing materials are determined in international <sup>13</sup> markets and prices are volatile <sup>14</sup> /cyclical (and largely dollar-denominated). <sup>15</sup> Efficient manufacturing processes are important here.

Depreciation of tangible fixed assets is pretty insignificant at **2.0%**, amortisation of intangible assets is a bit higher at **3.4%**, <sup>16</sup> reflecting the relative importance of these two fixed asset categories for this type of business. Asset life and age is important here – ages estimated at 11.2 years for tangibles and 6.7 years for intangibles. <sup>17</sup> Intangibles have a shorter and probably less predictable life, getting even shorter with technological development. Amortisation of goodwill is a bit higher at **4.4%** and, since goodwill value on acquisitions is highly intangibles-related, and acquisitions are very much about acquiring intangibles, this can be grouped with the 3.4% to give a total intangibles charge of **7.7%** rounded. <sup>18</sup>

That leaves **12.2%** <sup>19</sup> (100% less PBIT margin = 85.6%, of which 73.4% is accounted for above, leaving the 12.2%) for non-specific SG&A expenditure – probably manufacturing overheads in the main, driven by rent, rates, utility costs <sup>20</sup> etc, reflecting general inflation and efficiency in manufacturing <sup>21</sup> and the use of manufacturing premises.

**Q1.b Porter's 5 Forces.**

**(12.6 mins, 7 marks)**

**[Marking scheme: 1/3 mark for each good point].**

**Buyer power** – as above, main input is skilled personnel, so no bargaining power over the market, <sup>1</sup> but at no competitive disadvantage. <sup>2</sup>

Similar position regarding manufacturing materials, <sup>3</sup> but price volatility is greater and can impact on profits to a degree.

**Overall – neutral.** <sup>4</sup>

**Supplier power** – much larger <sup>5</sup> customers e.g. airframe manufacturers, airlines, national governments. <sup>6</sup> But possible bargaining power disadvantage largely offset by technical performance of products, brand reputation, <sup>7</sup> long-term customer requirements and relationships, required technical/regulatory authorisation, <sup>8</sup> high criticality of the product to customers versus relatively low component of their costs.

High switching costs for customers. High switching costs for customers. <sup>9</sup>

**Overall – positive.** <sup>10</sup>

**Competing products** – company and the industry is about continuing technical innovation and operational efficiency, <sup>11</sup> so must not fall behind (R&D crucial). <sup>12</sup> But generally known technology with incremental improvement – dramatic changes don't suit the long asset cycle. <sup>13</sup> Also, re-cycled parts becoming much more important, but company getting into this market. <sup>14</sup>

**Overall – positive.** <sup>15</sup>

**New entrants** – high entry barriers <sup>16</sup> e.g. technology, regulatory, track record, reputation, long-term relationships, embedded products. <sup>17</sup> Development of ? cycling market is a new threat. <sup>19</sup>

**Overall – positive.** <sup>18</sup>

**Intensity of competition** – very competitive among established peers, <sup>20</sup> some much bigger than AeroTech. <sup>21</sup> Big US market, big US customers and big US competitors <sup>22</sup> – AeroTech UK company.

**Overall – negative.** <sup>23</sup>

**Overall 5-Forces assessment – positive but not dominant** <sup>24</sup>

## **QUESTION 2 Replacement Capex and intangibles investment.**

**[23.4 mins, 13 marks]**

### **Q2.a Explain replacement capex and CSF and their use. (10.8 mins, 6 marks)**

**[Marking scheme: 1/3 mark for each good point].**

Replacement capex; the amount of capex required to maintain the productive capability and capacity <sup>1</sup> of the tangible fixed asset base, <sup>2</sup> not simply maintaining the monetary value of the assets (could rise or could fall depending on price changes and technology). Estimate asset <sup>3</sup> age from depreciation figures <sup>4</sup> then apply an inflation multiplier <sup>5</sup> to historical cost depreciation. <sup>6</sup> An estimate of "replacement cost depreciation." <sup>15</sup>

Sustainable cash flow; the level of cash flow generation that can be maintained <sup>7</sup> over time, allowing for the "average" level of after-tax profit <sup>8</sup> that can be achieved and after sufficient expenditure to maintain the "normal" real level of <sup>9</sup> net working assets and the productive capability of the fixed asset <sup>10</sup> base, as discussed above for tangible fixed assets.

Crucial concepts when a single-period <sup>11</sup> cash flow figure, rather than multi-period figures, is used in valuations, <sup>12</sup> credit or capital <sup>13</sup> structure assessments, and viability assessments (via either multiples or DCF capitalisations). <sup>14</sup>

### **Q2.b Relevance of Replacement Intangible Investment. (9.0 mins, 5 marks)**

**[Marking scheme: 0.4 mark for each good point].**

This calculation relies on the same logic as that for <sup>1</sup> tangible fixed assets. In this technically-based company <sup>2</sup> intangible assets (capitalised development costs, programme participation costs, software costs <sup>3</sup>) are arguably more important <sup>4</sup> than tangible fixed assets, both financially and <sup>5</sup> business-wise. The Cash Flow Summary shows the significance and essential nature of investment in intangibles <sup>6</sup> for maintaining and growing the business (680 over the total period versus capex of 200). These are significant deductions <sup>7</sup> from Cash Profit of 1,641 and result in a residual Internal Cash Flow of only 342.

Once acquired the intangible assets lose value and amortisation is charged to the income statement over 5 to <sup>8</sup> 15 years, so they need to be replaced just like physical plant and equipment. The estimated replacement figure is 68 versus the historical cost amortisation charge of 56. <sup>9</sup> This reduces the estimated sustainable cash profit (2015) from 254 to 186. <sup>10</sup> The actual cash flow fluctuates <sup>11</sup> considerably from year to year because of varying levels of tangible and intangible asset investment (plus other factors). In contrast, sustainable cash flow seeks to quantify the cash that can be generated (or consumed) based on typical after-tax profits and after the estimated current cost of maintaining essential assets, which should include intangibles, <sup>11</sup> particularly in this industry. <sup>12</sup> Technically it strips out the negative impact on cash flows of sales growth and the positive impact of historical cost asset accounting, <sup>13</sup> plus the distortions of volatility, <sup>14</sup> so making it easier to understand the strength of cash flow generation of the business.

**Q2.c Should acquisition goodwill be similarly treated? [3.6 mins, 2 marks)**

**[Marking scheme: ½ mark for each good point].**

Yes. Goodwill <sup>1</sup> relates to customer relations, technology, trademarks and trade names. <sup>2</sup> Acquisitions are alternatives <sup>3</sup> equivalent to internal spending <sup>4</sup> on intangible assets. But <sup>3</sup> valuations could be more subjective. <sup>5</sup>

### QUESTION 3

[21.6 mins, 12 marks]

This question, about identifying today's major medium-term treasury/finance issues, has usually (but not always) been a feature of the Case Exam. It is something which candidates preparing for the exam should think about because even if the question itself is not on the paper, several of the questions which will be are likely to be about these major medium-term issues.

#### Q3.a

(14.4 mins, 8 marks)

**Looking ahead five years, select what you believe are the four treasury/finance areas on which it is most important for Group Treasury to focus attention. Explain your choice of areas.**

**[Marking scheme: to pass, identification of four significant areas out of A to F below or at least two out of A to C and one out of D to F, all four supported by credible narrative].**

Today's medium-term treasury/finance areas which merit attention in the medium-term include:

- A - Currency risk: functional currency is GBP but it accounts for only 9% of revenue, in contrast to the USD at 52%. Note this is based on geographical turnover rather than actual currency breakdown but as the sector is predominantly a USD-priced market, it is likely that US customers will wish to pay USD.
- B - Bid appraisal, investment analysis: the investment cycle is up to 40 years and cumulative cash break-even is between 11 and 18 years. Link to A because of increased risk of long term mismatch of income to expense.
- C - Funding for organic growth and acquisition: growth prospects for the sector are good and consolidation to improve economies of scale and more competitive pricing is a feature. Includes implications of 'pay per use' model where products are paid for over their life, not up front.
- D - Interest cost risk: currently 75% is floating.
- E - Treasury organisation: treasury is centralised, with four staff, begging the question about whether opportunities to add value at the regional operational level are being missed.
- F - Supply chain: supply chain efficiency is a growing concern in the sector, e.g. poor on-time delivery due to material shortages, production capacity and quality. AeroTech is at both sides of this issue – as a receiver of components for product which it then supplies to engine and airframe manufacturers.



**Q3.b**

**(7.2 mins, 4 marks)**

**Prioritise the four areas 1-4, with #1 being most important and justify your ranking, with quantification where possible.**

**[Marking scheme: to pass, credible narrative, preferably with some attempt at quantification, supporting the prioritisation of the four areas chosen at Q3.a]**

Arguably A, B and C are the three more important issues.

Decisions about the management of these three have long/very long-term consequences, and cannot easily be unpicked.

In some senses, B is potentially the most significant. For the first decade or more of a new project a negative cumulative cash flow is built in. Judging from the data in Question 8, overall profitability is heavily dependent on After-market sales at the farther end of the timescale which is the more uncertain. It is true that currently product approval seems to lock in the After-market but 20 years from now will that still be the case?

Currency risk is in part hedged out to five years and that may be extended (Question 6). This practice is common in the sector where trading relationships are very long-term and relatively predictable – but if currencies hedged do not cycle as predicted, profit expectations may be frustrated, collateral requirements may prove burdensome.

Funding plans to anticipate re-financings, accommodate growth and allow for changing business models and opportunistic acquisitions are important and in a continuing uncertain world appearing to have miscalculated (Question 4) can unsettle shareholders. Would having a rating introduce more flexibility of choice or just prove to be an extra burden (Question 5)?

D, E & F are less critical but nonetheless potentially significant.

**QUESTION 4 Share buy-back programme.**

**[18 mins, 10 marks]**

**Q4.a Reasons for creating then suspending share buy-backs.**

**(12.6 mins, 7 marks)**

**[Marking scheme: 0.4 mark for each good point].**

Creating; Steady generation of surplus <sup>1</sup> cash of 90m <sup>2</sup> per year (average 2011-2013) with net debt reduction, <sup>3</sup> and also forecast for 2014 and 2015 presumably <sup>4</sup>

Combined with high interest cover (over 20), low debt/EBITDA and a good and improving credit rating (est. AA/A). <sup>5</sup>

Not enough internal investment opportunities <sup>6</sup> or external acquisition <sup>7</sup> possibilities.

“Tax-Inefficient” capital structure; <sup>8</sup> Net debt % EV low and falling (13% in 2013 and 2014). <sup>9</sup>

Net debt/EBITDA at 1.31 <sup>10</sup> and 1.15 (2012 and 2013) is below the company’s target range of 1.5 to 2.5. <sup>11</sup>

A more flexible alternative <sup>12</sup> to increasing dividends for giving extra returns to shareholders. <sup>13</sup>

Suspending; Acquisitions in 2015 <sup>14</sup> (presumably not anticipated) <sup>15</sup> cost 361m, required additional debt funding <sup>16</sup> and lifted the debt/EBIDA ratio close to the top of the target range at 2.4. <sup>17</sup> Was the introduction of the policy short sighted <sup>18</sup> given the importance of acquisitions in the industry and for this company?

**Q4.b Mixed views of shareholders.**

**(5.4 mins, 3 marks)**

**[Marking scheme: 1/3 mark for each good point].**

Shareholders welcome returns of cash, <sup>1</sup> provided the company has insufficient, investment opportunities <sup>2</sup> – rather than potentially wasting the money on grandiose projects or inappropriate acquisitions, <sup>3</sup> (as history shows, most acquisitions have destroyed value). <sup>4</sup>

But they would prefer to remain invested <sup>5</sup> and avoid the inconvenience of finding <sup>6</sup> suitable alternatives. They would prefer it if the company itself could find suitable investment opportunities. <sup>7</sup>

Suspending the policy <sup>8</sup> after a couple of years looks like bad financial forecasting and management. <sup>9</sup>

**QUESTION 5 Funding and ratings.****[27.0 mins, 15 marks]****Q5.a Funding.****(12.6 mins, 7 marks)****[Marking scheme: 1/3 mark for each good point].**

Total gross debt 1,198.5m.

An insignificant amount of finance <sup>1</sup> leases – 5.5m (0.4%).

Bank loans 763.9m (63.7%) <sup>2</sup> – syndicated revolving (29.8%) <sup>3</sup> and bi-lateral credit facilities (33.8%). <sup>4</sup> N.B. 2014 100% syndicated.

Other loans 429.1m (35.8%) – PP loan notes. <sup>5</sup>

74% floating <sup>6</sup> (mainly bank loans), 26% fixed (mainly PP <sup>7</sup> notes).

Policy is minimum 25% <sup>8</sup> at fixed rates with weighted average maturity of minimum 2 years.

USD 91%, <sup>9</sup> SFR 5%, EU 4%. <sup>11</sup>

2014 maturity profile saw Current debt at 8.7%, up to 5 years 51.0% <sup>12</sup> and longer at 40.3% <sup>13</sup>

2015 maturity profile saw Current debt at 0.3%, up to 5 years 92.0% <sup>14</sup> and longer at 7.7% - presumably this will be restored to the previous pattern with re-financing of the acquisition funding with 10-year money. <sup>15</sup>

Un-drawn committed facilities = 17.5% of drawn <sup>16</sup> (syndicated bank credit)

2015 acquisitions funded by 2-year floating-rate bi-lateral bank credit <sup>17</sup> – to be re-financed with fixed-rate debt with longer maturities. <sup>18</sup>

Company's typical annual requirement for new debt averages around USD 200m, versus re-payments averaging 250 <sup>19</sup> – modest in relation to cash flow and manageable. <sup>20</sup> The occasional acquisitions, e.g. 2015 cost 361m <sup>21</sup> – also manageable, given company's strong cash flow and low gearing. <sup>22</sup>

Interest rate protection from the policy of 2 years' fixed, but exploiting recent <sup>23</sup> very low interest rates with majority of debt floating. Bank revolvers and bi-lateral a very flexible source of funding, <sup>24</sup> including acquisitions (manageable size). Predominantly USD funding to match income. <sup>25</sup> US PP very useful for non-rated FTSE 350 company <sup>26</sup> as alternative to dominant bank facilities. Adequate head-room via un-drawn syndicated credit. <sup>27</sup>

**Q5.b Pros and cons of no rating, current funding.****(9.0 mins, 5 marks)****[Marking scheme: 1/3 mark for each good point].****Advantages;**

Ratings cost money and <sup>1</sup> time, and require a strict externally-imposed financial discipline. <sup>2</sup>

Company not huge and commercial strength maybe not fully understood <sup>3</sup> – banks closer and better understanding. <sup>4</sup>

Banks providing bi-laterals and syndicated facilities more <sup>5</sup>flexible (e.g. on extensions) <sup>6</sup> and quicker esp. <sup>7</sup> regarding acquisition finance. Facilities up to USD 1 billion no problem for AeroTech. <sup>8</sup>

Banks competitive for a good company and arguably in the 'sweet spot' of around BBB or BBB+ which suits both Risk Weighted Asset approach and Leverage approach in Basel III / CRD IV. <sup>9</sup>

US PP market has shown very rapid growth, <sup>10</sup> tremendous depth – US insurance companies, easy to manage investor <sup>11</sup> relationships. AeroTech is a repeat <sup>12</sup> issuer in an attractive dollar-based, high-tech, <sup>13</sup> aerospace-related industry which US insurers understand. Rating procedure very simple, relaxed and arms-length. <sup>14</sup> Issues up to USD 1 billion adequate for AeroTech. <sup>15</sup>

**Disadvantages;**

Somewhat reliant on banks; <sup>16</sup> not very diversified <sup>17</sup> funding, but PP alternative is ideal for this company. Long term future for banks is uncertain.

**Q5.c Rating.**

**(5.4 mins, 3 marks)**

**[Marking scheme: 1/3 mark for each good point].**

Net debt/EV 22% <sup>1</sup> - good. All interest cover metrics excellent <sup>2</sup> (cash flow cover 6.3). Debt/EBITDA up to 2.6 with acquisition <sup>3</sup> debt.

Years to repay 7-8 <sup>4</sup> years – good. Return of capital low at 7%. <sup>5</sup>

Free operating cash flow % total debt 16.4% <sup>6</sup> – OK. Rates stable. <sup>7</sup>

Non-financials strong in attractive sector. <sup>8</sup> Rating A/BBB ? <sup>9</sup> <sup>10</sup>

## QUESTION 6

[25.2 mins, 14 marks]

**If hedging beyond five years looks attractive due to available FX rates, identify and explain the issues to be considered before exceeding the current five-year limit.**

**[Marking scheme: to pass, six credible factors, including at least three from 1 to 5 below with supporting narrative].**

Context: In the aerospace sector, where to-date much of the product is sold for USD, some non-US-based corporates hedge out their USD transaction risk for up to 5yrs, for instance Rolls Royce Aero Engines, AeroTech.

The reason is that, like AeroTech, the product they sell has traditionally OE (original equipment) and aftermarket (spares) components stretching out 40 to 50 years, including development phases lasting up to 10 years before certification and production start-up.

For some decades GBP-USD has cycled up and down over several years between 1.00 and 2.00. Because order books are long-term, some non-USD-based suppliers lock in a proportion of future sales as the rate moves in their favour.

Aerotech's current policy allows fx hedging out to five years. This Question is about the factors to consider when deciding about extending the time horizon beyond 5 years.

It's important to remember that the majority of AeroTech's operations are in the US selling in USD. So only a minority of total USD revenue needs to be hedged back to GBP (not forgetting the USD dividend).

### Factors for consideration

Factors for consideration include:

1. Shareholder preferences, i.e. whether or not shareholders invest in AeroTech equity to get exposure to what are in effect USD earnings, for portfolio management reasons.
2. Significance of equity analysts' and media commentary, occasionally based on mis-understanding, when hedges result in accounting losses or significant collateral calls.
3. Competitive position: hedging transaction exposure helps maintain competitiveness with USD-based firms. However, non-USD-based firms which chose not to hedge could benefit from a windfall gain and reduce prices, depending on rate outcomes.

4. MTM (mark-to-market) significance: position will either require collateral if the hedge provider is at risk to AeroTech or, if AeroTech is at risk, management of its risk on the hedge provider.
5. Impact of unrealised and realised gains and losses from long-dated hedge deals on covenants.
6. Sale of a significant non-USD business (or purchase of a significant USD business as mooted in Question 7) would reduce/relatively reduce longer term fx exposure.
7. Underlying medium/long-term fx transaction exposure shifts in customer requirements, e.g. customer failure/acquisition, sector consolidation.
8. Regional/global conditions shift, e.g. some areas shift to CNY pricing.

The first five factors are about the “now”, eg what do competitors do, how significant is MTM for a given level of hedging and extreme stress assumptions about GBP-USD movements.

The next three are about future uncertainties, eg sale of a business, customer market shifts, global shocks.

## **QUESTION 7**

**[21.6 mins, 12 marks]**

**If a significant US business was acquired, you as treasurer, have been requested to inform the board about the factors to be considered in deciding about changing the functional and presentational currency of the consolidated accounts to USD.**

**[Marking scheme: to pass, five relevant factors with supporting narrative].**

Functional currency is defined as the currency of the primary economic environment in which the entity operates.

Presentational currency is the currency in which the financial statements are presented.

Listing authority (FCA: Financial Conduct Authority in the UK) is the entity which authorises the listing of securities in a country which would then be traded on that country’s financial exchange (LSE: London Stock Exchange in the UK).

AeroTech is UK listed and GBP is the functional currency for the UK operations and for the consolidated accounts.

AeroTech is historically a UK-based company but which is now squarely situated in the Aerospace Sector and which is now also largely USD-based (75% of non-current assets). Half of Aerotech revenue and operations are USD-based and only 9% of revenue and 25% of staff are UK-based. One large US-based acquisition would diminish even further the UK connection. AeroTech shares

and dividends are already accessible to USD investors via ADRs (American Depositary Receipts).

Factors to consider include:

1. Shareholder preferences: eg maximising sterling value of shares or preferring unhedged exposure to USD as part of a broader portfolio investment strategy.
2. Accounting/reporting: company may wish to be reported upon on the same basis as its peer group/sector competitors to enable comparisons. There are circa. 100 companies in the Aerospace and Defence sector, with AeroTech halfway down the list by size (PwC 2015/16 Review).
3. Dividends would be payable in USD . . . matching cash flow generation.
4. Regulation: US statutory regulation.
5. Hedging reorientation: eg revenue, assets, operational costs.
6. Covenants impact.
7. Systems and procedures amends: time and cost.
8. Organisation/administration changes: time and cost.

## QUESTION 8

[21.6 mins, 12 marks]

**Q8.a Comment critically on the project evaluation model and the discount rate.**

**(16.2 mins, 9 marks)**

**[Marking scheme: to pass, identification of four significant factors with credible comment].**

Issues to discuss include:

- Are the forecast figures real (today's prices and costs) or nominal (inflation adjusted). At 2013, data provided in the Case (5.0 Financials) shows:

Real WACC	4.10
Inflation	<u>2.67</u>
Nominal WACC	<u>6.77</u>

- Real and nominal WACC provide comparators for the 9% used in exhibit . . . it is not clear from the data whether prices are real or nominal.

- WACC is presumably shown in GBP, whereas cash flows are in USD.

- WACC is post tax, so if used as the benchmark cash flow should be post tax.

- Are the numbers truly cash flows? There is a line for "indirect costs" which is used to calculate the tax cash flow, eg at 2024. This involves cost allocation (and in practice so may direct costs):

Gross profit	0.69
Indirect overhead	<u>(0.44)</u>
Cash in (pre-tax)	0.25
Tax at 38%	<u>(0.10)</u>
Cash in (post tax)	0.16*
Cash out	<u>(0.02)</u>
Net cashflow (post tax)	<u>0.14</u>

[\* rounded]

Issues to discuss about the future include:

- Timeframe: the calculation runs out to 22 years, with development lasting 2 years, OE 13 years and aftermarket 10 years, the last two periods overlapping.

As development costs occur in the first few years, time line is key to project profitability. How firm are the projections out to 2035?



- Payback: in discounted cash flow terms it is circa. 11 years. In terms of profitability this seems to kick in mainly at the aftermarket phase.

Is there a tension here between keeping OE prices low to win the bid (then compensating with the aftermarket revenue) and recovering development costs as early as possible in case the time lines/total revenues are not achieved?

- Pricing: how flexible is pricing once the bid is accepted?

**Q8.b Identify and explain the major sensitivities you would wish to test?**  
(5.4 mins, 3 marks)

**[Marking scheme: to pass, three significant sensitivities with supporting comment].**

An historic feature of this sector is that once a product is certified by the relevant aviation authorities, it is difficult for the buyer to switch suppliers. In that sense, OE sales dictate the aftermarket revenues and add pricing power to the supplier.

However, the historic timeline of 40-50 years is changing already (Case 3.2 Changing Features). Aircraft are being worked harder and aftermarket is being disrupted by recycling of spares from break-up of used aircraft.

Extended use of composite materials may further disrupt the aftermarket by making it easier for competitors to get certification for some components (fewer individual parts per component) during the aftermarket phase.

So historic time lines, security of aftersales (and OE??) and back-loading of profit margins are major variables and difficult to predict. Allowing for these by using a high cashflow discount rate (subject to competition) is one tactic.

So sensitivities to test include the following:

- Development time line and cost
- Sales and aftermarket revenues and time lines
- Pricing and costs
- Discount rate
- Force majeure: events beyond everyone's control

## Examiners' Report Advanced Diploma - April 2017

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### OVERALL SUMMARY OF PERFORMANCE

	General Exam	Case Exam	Combined
Average mark	45.8%	43.0%	44.6%
Questions	7	8	15
Candidates	4	3	7
Passes # @50%	1	0	1
Passes # @45%	2	1	3
Pass % (50%)	25%	0%	14%
Pass % (45%)	50%	33%	43%

### OVERVIEW

Only seven candidates in total sat these exams, two of them sitting both exams. All five candidates were re-sits. The average improvement in marks, compared with their last sitting, was 6.9%, but better in the General exam than in the Case exam. Significantly three candidates improved enough (up by 10.5%) to achieve a pass, so congratulations to them.

General exam 4 Candidates	marks available	50% passes ex. 4	average mark
Q1 (GI)	11	2	68%
Q2 (GI)	23	0	35%
Q3 (GI)	16	2	48%
Q4 (JB)	15	2	53%
Q5 (JB)	10	2	48%

Q6 (JB)	12	2	42%
Q7 (JB)	13	1	43%
<b>Case exam 3 Candidates</b>	<b>marks available</b>	<b>50% passes ex. 3</b>	<b>average mark</b>
Q1 (GI)	12	0	44
Q2 (GI)	13	0	33
Q3 (JB)	12	1	47
Q4 (GI)	10	0	21
Q5 (GI)	15	2	53
Q6 (JB)	14	1	44
Q7 (JB)	12	1	42
Q8 (JB)	12	1	47

## **Examiner's Report - Case Study Examination**

### **Question 1 Review of major costs and their key non-financial drivers and analysis of the company's competitive position.**

In this 2-part question the total marks ranged from 42% to 48% and, over the two parts there were three very good answers and three very poor answers. The high marks were gained by the candidates who really focused on the questions, as set, identifying the non-financial drivers of key costs on part one and really analysed on the competitive position in part two. Others strayed into irrelevant financial ratios or PEST analysis not related effectively to competitive position.

### **Question 2 A 3-part technical question on maintaining the stock of tangible and intangible fixed assets.**

None of the candidates really mastered this question, which did require a good understanding of the logic behind the replacement cost of medium-to-long-term assets, not just a passing knowledge of the calculations. The answers also had to be related to the high-tech nature of this particular business.

### **Question 3 Treasury/Finance: identify and prioritise top four areas.**

This question is almost an evergreen and when asked usually achieves the highest pass rate of the treasury and risk management questions. So it was surprising that for this sitting of three candidates there were two fails and only the one clear pass. The most obvious priority areas for AeroTech are currency risk, bid/project appraisal and funding/re-finance. Others include interest rate risk, treasury organisation and supply chain (as a receiver and supplier). The pass candidate picked up on two of the first three and two of the second three, with adequate narrative. The others picked up on only one of the first three and one of the second three, suggesting a partial understanding of the business from a treasury and risk perspective.

**Question 4 A question on the company's share buy-back programme.**

This proved to be the lowest scoring question on the paper, with an average mark of 20.6%. The theoretical reasons for buy-backs were reasonably well covered but the practical ones much less so, especially the large cash-flow surpluses being generated and then the cost of the recent acquisition, which appears not to have been anticipated. Shareholders' "mixed feelings" were not well covered.

**Question 5 Appropriateness, pros and cons of the company's non-rated debt funding and an assessment of its likely rating.**

This 3-part question was well answered on the whole, though the first part proved more challenging than the second, with the third part, the rating assessment itself, seeing the best marks. This question saw the highest average mark on this paper, with all 3 candidates achieving 45% or better.

**Question 6 Factors to consider if extending the fx hedging horizon beyond 5 years.**

The long-term captive nature of the supplier-buyer relationship, driven by the need for product approval by aviation authorities, is a defining characteristic of this sector, as is the dominance of the USD as the revenue currency and the consequent long-term USD currency exposure for non-USD based suppliers. This results in some sector firms hedging out fx transaction risk several years ahead, in sharp contrast to the more usual several weeks or months for the vast majority of businesses. The above "defining characteristics" mean that future medium to long term revenue is highly predictable because of long term contracts and more than half is USD. So the issue is not so much about the short term volatility of USD income as about the sheer volume of the hedge relative to the size of the business. This fact has mark-to-market collateral, covenant and accounting implications as well as implications for competitive position relative to other non-USD-based peer group companies. Only one candidate passed on this question, possibly because others did not fully grasp the special

nature of company's fx risk.

**Question 7** If a significant US business is acquired, factors to consider if deciding whether to change functional and presentational currency to USD.

Question 6 was about incremental change in currency hedging, this question is about a more fundamental shift. Shareholder preferences are again a major factor, but so now is regulation and the impact on performance metrics by the accounting changes and the re-orientation of hedging already in place. Again, only one candidate passed. There was generally a wider appreciation of the variety of issues, but in some cases too little supporting narrative.

**Question 8** Critique of the bid evaluation model and suggested sensitivities to test forecasts.

This question touches on several of the defining characteristics of AeroTech: the very long-term nature of the product/customer life cycle, the up-front development cost and its lengthy recovery time, the two product sub-markets (OE and Aftermarket) and the competitive issues around where in the time cycle to extract profit. But the core of the question is about the methodology – do the metrics provide a sound basis for decision-making? A challenging question at the end of the exam but also one which is about cashflow analysis, a basic of treasury. Of the four treasury and risk management questions, grades were best here with one good pass and one only slightly marginal pass.

### **Corporate Finance & Funding**

Unfortunately, the four questions on corporate and funding finance (1,2,4 and 5) resulted in no pass marks, the average being 39.2%. For re-sit candidates there are some clear and familiar lessons once again; be sure to answer the question as set, make sure you understand the shareholder/equity dimensions of corporate finance and try to flesh out your answers rather than just cover the bare bones of the question.

### **Treasury & Risk Management**

These questions on treasury and risk management (3, 6, 7, 8) resulted in

**two marginal passes and one fail. No question was failed by everybody and everybody passed at least one question. If there is any common factor it seems to be a failure to fully understand the business well enough to infer and explain its treasury and funding priorities. This point was already mentioned in summary comments about the treasury and risk management questions in the General paper and the prescription is the same - practice on more case studies. And when preparing for the Case Exam which you receive a week in advance, try to identify the big treasury and funding issues.**