Half-Year Financial Report

January 1 to June 30, 2017

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Key facts and figures

Key facts and figures for the Group

in € million (unless stated otherwise)	Jan. 1 - June 30, 2017	Jan. 1 - June 30, 2016	Change against previous year in € million	Change against previous year in %
Income statement				
Revenues	2,548.0	2,299.2	248.8	10.8
Gross profit	388.0	333.9	54.1	16.2
Earnings before interest and tax (EBIT)	295.1	229.0	66.1	28.9
Adjusted earnings before interest and tax (adjusted EBIT)	320.8	254.1	66.7	26.2
Earnings before tax	280.6	216.6	64.0	29.5
Earnings after tax	216.7	158.6	58.1	36.6
Adjusted earnings after tax	227.5	176.1	51.4	29.2
Basic earnings per share (in €)	4.19	3.10	1.09	35.2
Diluted earnings per share (in €)	3.92	3.02	0.90	29.8
Revenue margins in %				
Earnings before interest and tax (EBIT)	11.6	10.0		
Adjusted earnings before interest and tax (adjusted EBIT)	12.6	11.1		
Earnings before tax	11.0	9.4		
Earnings after tax	8.5	6.9		
Adjusted earnings after tax	8.9	7.7		
Cash flow				
Cash flow from operating activities	206.9	196.0	10.9	5.6
Cash flow from investing activities	-107.9	-94.7	-13.2	-13.9
Free cash flow	83.6	69.8	13.8	19.8
Cash flow from financing activities	-337.4	262.9	-600.3	<-100
Change in cash and cash equivalents	-240.5	364.4	-604.9	<-100

in € million (unless stated otherwise)	June 30, 2017	Dec. 31, 2016	Change against previous year in € million	Change against previous year in %
Balance sheet				
Intangible assets	2,290.6	2,234.2	56.4	2.5
Cash and cash equivalents	81.9	322.4	-240.5	-74.6
Pension provisions	865.5	883.3	-17.8	-2.0
Equity	1,763.2	1,500.5	262.7	17.5
Net financial debt	865.6	892.0	-26.4	-3.0
Order backlog	**12,988.9**	**14,172.2**	**-1,183.3**	**-8.3**
Commercial and military engine business (OEM) before consolidation	6,314.9	7,246.0	-931.1	-12.8
Commercial maintenance business (MRO) before consolidation	6,674.0	6,926.2	-252.2	-3.6
Number of employees	**8,499**	**8,368**	**131**	**1.6**
Commercial and military engine business (OEM)	5,415	5,374	41	0.8
Commercial maintenance business (MRO)	3,084	2,994	90	3.0

Interim group management report

The enterprise MTU

MTU Aero Engines AG, Munich, together with its consolidated group of companies, is Germany's leading engine manufacturer and one of the biggest international players in the industry. In the following, the MTU group is also referred to simply as MTU AG, MTU or the group.

Research and development

Technological changes within the aviation sector take place at an extremely rapid pace and require a continuous source of innovation. Development activities at MTU are currently dominated by work on the PW1000G family of geared turbofan engines and on the GE9X and PW800 engine programs:

MTU - geared turbofan engine programs

Engine	MTU program share	Aircraft manufacturer	Aircraft type
PW1100G-JM	18 %	Airbus	A320neo
PW1200G	15 %	Mitsubishi	MRJ
PW1400G-JM	18 %	Irkut	MS-21
PW1500G	17 %	Bombardier	C Series
PW1700G	15 %	Embraer	E-Jet E175-E2
PW1900G	17 %	Embraer	E-Jet E190-E2 / E195-E2

Research and development (R&D) expenditure will remain at a high level during the financial year 2017. In the first six months of 2017, this developed as follows:

Research and development expenditure

in € million	Jan. 1 - June 30, 2017	Jan. 1 - June 30, 2016	Change against previous year in € million	Change against previous year in %
Commercial engine business (OEM)	102.0	104.2	-2.2	-2.1
Military engine business (OEM)	6.9	6.5	0.4	6.2
Commercial maintenance business (MRO)	1.8	2.9	-1.1	-37.9
Total research and development expenditure	**110.7**	**113.6**	**-2.9**	**-2.6**
Customer-funded R&D expenditure	-19.9	-22.4	2.5	11.2
Company-funded R&D expenditure	**90.8**	**91.2**	**-0.4**	**-0.4**
Expenditure meeting recognition criteria for intangible assets				
Commercial engine business (OEM)	-59.4	-52.7	-6.7	-12.7
Commercial maintenance business (MRO)	-0.4		-0.4	
Research and development costs recognized as expense	**31.0**	**38.5**	**-7.5**	**-19.5**
Amortization of capitalized development costs	5.7	4.4	1.3	29.5
R&D expenditure impact on adjusted EBIT	**36.7**	**42.9**	**-6.2**	**-14.5**

Research and development expenditure is subdivided into two categories for accounting purposes: company-funded R&D, which the group finances from its own resources, and externally funded R&D, which is contract-based and financed by the customer. Company-funded R&D expenditure is disclosed in the condensed interim consolidated financial statements (3. Research and development expenses).

Development costs amounting to € 59.8 million were capitalized in the first six months of 2017 (January to June 2016: € 52.7 million). This represents 65.9% of all company-funded R&D expenditure (January to June 2016: 57.8%) and reflects the advanced stage of development work on engines of the GTF family and on the PW800 and GE9X projects. An amortization expense of € 5.7 million was recognized in respect of these intangible assets (January to June 2016: € 4.4 million), which primarily relate to the GTF programs that have already entered service. Consequently, the group's adjusted earnings before interest and tax (adjusted EBIT) include a total amount of € 36.7 million (January to June 2016: € 42.9 million) for expenses arising from research and development activities.

Business environment

Macroeconomic factors

The upward trend in the world economy continued in the first few months of 2017.

Despite a number of disruptive political factors, the economy in the euro zone sustained its robust growth. Gross domestic product (GDP) for the euro zone increased by 1.9 % in the first three months of 2017 compared with the first quarter of 2016.

In the United States, the GDP increased in the first quarter of 2017 by 2.0 % over the previous year. Increasing wages, decreasing unemployment and persistent low interest rates provide an encouraging environment for private consumers.

China's economy reported higher growth than had been forecast in the first quarter of 2017. GDP grew by 6.9 %, thus exceeding the 6.5 % full-year target set by the government. The currently stable economic development in China is bolstered among other things by an expansionary lending policy and high levels of public investment.

Microeconomic factors in the aviation industry

The aviation industry had a good start to 2017, recording a steady increase in demand for both passenger and freight traffic. Global passenger air traffic increased by 7.9 % in the first 5 months of the year. The growth rate is therefore considerably above the industry average for the last 5 and 10 years.

In May 2017, the average price of a barrel of Brent crude was U.S. $50, and was thus at its lowest level in the past five months (source: EIA, June 2017).

Airbus and Boeing delivered a total of 640 commercial aircraft to customers in the first six months of 2017, a decrease of 2.7 % compared with the same period of the previous year.

In terms of order backlog, airline manufacturers had orders for 13,241 aircraft on the books at the end of June 2017. This corresponds to a production workload of 8 to 9 years (source: Fleet Analyzer, June 2017).

In the first 3 months of 2017, 130 business jets were delivered to customers, up 6.6 % on the same period of the previous year, in which 122 aircraft were delivered (source: GAMA). The demand for large business jets remains unabated particularly in the United States.

Financial position

Information on exchange rates

Changes in the value of the U.S. dollar are particularly important for MTU's international business. Since the beginning of the year, the U.S. dollar has weakened further against the euro. At June 30, 2017, the euro was worth 1.14 U.S. dollars, compared with 1.05 U.S. dollars at December 31, 2016. The average exchange rate for the period from January 1 to June 30, 2017 was U.S. $1.08 to the euro (January to June 2016: U.S. $ 1.12 to the euro).

Operating results

Reconciliation to adjusted key performance indicators

The adjustments applied to reconcile earnings before interest and tax with adjusted earnings before and after interest and tax are presented below:

Reconciliation to adjusted key performance figures

in € million	Jan. 1 - June 30, 2017	Jan. 1 - June 30, 2016	Change against previous year in € million	in %
Earnings before interest and tax (EBIT)	**295.1**	**229.0**	**66.1**	**28.9**
Depreciation / amortization effects of purchase price allocation / IAE-V2500 stake increase	25.7	25.1	0.6	2.4
Adjusted earnings before interest and tax (adjusted EBIT)	**320.8**	**254.1**	**66.7**	**26.2**
Interest result	-3.1	-3.7	0.6	16.2
Interest cost on pension provisions	-6.1	-8.2	2.1	25.6
Adjusted earnings before tax	**311.6**	**242.2**	**69.4**	**28.7**
Income taxes	-84.1	-66.1	-18.0	-27.2
Adjusted earnings after tax	**227.5**	**176.1**	**51.4**	**29.2**

For the financial year 2017, an average tax rate of 29.0 % has been estimated on the basis of the expected pre-tax earnings of the MTU group's German and foreign entities. Because the profit / loss of companies accounted for using the equity method is recognized as a post-tax amount, the profit / loss of these companies does not form part of the tax basis used to calculate the group tax rate of 29.0 %. The comparative prior-period amount of income taxes is based on the average tax rate of 29.0 % for 2016, which was calculated using the same method.

Order backlog

MTU's order backlog consists of firm customer orders that commit the group to delivering products or providing services, plus the contractual value of service agreements. The order backlog for the commercial engine business amounting to € 5.9 billion corresponds to the list price of firm orders placed by customers. In arithmetical terms, the total order backlog of approximately € 13.0 billion represents a production workload of approximately two and a half years.

Revenues

Group revenues in the first six months of 2017 amounted to € 2,548.0 million, which is € 248.8 million (10.8%) higher than in the first six months of 2016. While revenues in the OEM segment (commercial and military engine business) decreased by € 25.8 million (1.8%) to € 1,415.3 million, revenues in the MRO segment (commercial maintenance business) increased by € 287.7 million (32.2%) to € 1,181.0 million.

Cost of sales and gross profit

In correlation to revenues, the cost of sales increased year on year by € 194.7 million (9.9%) to € 2,160.0 million in the first six months of 2017. In the same reporting period, gross profit increased by € 54.1 million (16.2%) to € 388.0 million, with much of this significant increase accounted for by the current product mix. This raised the gross profit margin to 15.2% (January to June 2016: 14.5%).

Earnings before interest and tax (EBIT)

Earnings before interest and tax increased in the first six months of 2017 by € 66.1 million (28.9%) to € 295.1 million (January to June 2016: € 229.0 million). Adjusted earnings before interest and tax improved to € 320.8 million (January to June 2016: € 254.1 million), resulting in an adjusted EBIT margin of 12.6% (January to June 2016: 11.1%).

Financial result

MTU's financial result for the reporting period to the end of June 2017 was a net loss of € 14.5 million (January to June 2016: a net of loss of € 12.4 million). The main reason for this outcome was exchange-rate losses from currency holdings amounting to € 4.0 million (January to June 2016: € 1.5 million).

Earnings before tax

Earnings before tax increased by € 64.0 million to € 280.6 million in the first six months of 2017 (January to June 2016: € 216.6 million).

Earnings after tax

Earnings after tax increased to € 216.7 million (January to June 2016: €158.6 million). Of this amount, € 215.5 million (January to June 2016: € 158.4 million) is eligible for distribution to the shareholders of MTU Aero Engines AG. Adjusted earnings after tax amounted to € 227.5 million (January to June 2016: € 176.1 million), which represents an increase of € 51.4 million compared with the first six months of 2016.

Consolidated statement of comprehensive income

In the consolidated statement of comprehensive income, earnings after tax of € 216.7 million (January to June 2016: € 158.6 million) are reconciled to the comprehensive income for the period, in the amount of € 342.4 million (January to June 2016: € 98.0 million).

Income and expenses recognized directly in other comprehensive income in the first six months of 2017, net of deferred taxes, include gains of € 110.2 million (January to June 2016: € 31.6 million) arising from the positive fair-value measurement of cash-flow hedging instruments, net losses of € 6.2 million (January to June 2016: € 13.4 million) attributable to translation differences arising from the financial statements of foreign entities, and actuarial gains on plan assets and pension obligations amounting to € 21.7 million (January to June 2016: actuarial losses of € 78.8 million).

Based on the total comprehensive income for the period, which amounts to € 342.4 million, a net profit of € 341.2 million (January to June 2016: € 97.8 million) is potentially available for distribution to the shareholders of MTU Aero Engines AG.

Financial position

The principles and objectives of financial management, as applied today and in the future by MTU, are described in the 2016 Annual Report on page 81 et seq.

The group's main borrowing sources are credit agreements, bank loans and corporate bonds and notes.

As at June 30, 2017, the group had access to a revolving credit facility with five banks, totaling € 600.0 million. A total of € 48.5 million had been drawn down under this facility as of June 30, 2017, including € 12.4 million in the form of bank guarantees (December 31, 2016: € 13.8 million in the form of bank guarantees).

Free cash flow
MTU determines free cash flow by combining cash flow from operating activities and cash flow from investing activities. Because the latter includes certain components (non-operating exceptional items) that lie outside the control of operations management and do not form part of the group's core activities, corresponding adjustments are applied. The free cash flow calculated for the first six months of 2017, as in previous reporting periods, therefore excludes the following components: proceeds from the sale of financial assets held for the purpose of liquidity management amounting to a negative adjustment of € 25.0 million (January to June 2016: € 37.7 million) and payments in connection with aircraft and engine financing agreements amounting on balance to € 9.6 million (January to June 2016: € 3.6 million). The adjusted acquisition payments for shares in engine programs amounting to € 2.6 million recognized in 2016 were not incurred during the reporting period.

Free cash flow in the first six months of 2017 amounted to € 83.6 million (January to June 2016: € 69.8 million).

Financial position

			Change against previous year	
in € million	Jan. 1 - June 30, 2017	Jan. 1 - June 30, 2016	in € million	in %
Cash flow from operating activities	206.9	196.0	10.9	5.6
Cash flow from investing activities	-107.9	-94.7	-13.2	-13.9
+ Non-recurring cash outflows	-15.4	-31.5	16.1	51.1
Free cash flow	**83.6**	**69.8**	**13.8**	**19.8**
- Non-recurring cash outflows	15.4	31.5	-16.1	-51.1
Cash flow from financing activities	-337.4	262.9	-600.3	<-100
Translation differences	-2.1	0.2	-2.3	<-100
Change in cash and cash equivalents	**-240.5**	**364.4**	**-604.9**	**<-100**
Cash and cash equivalents at				
the beginning of the reporting period	322.4	53.1		
the end of the reporting period	81.9	417.5		

Cash flow from operating activities
Cash flow from operating activities in the first six months of the financial year 2017 amounted to € 206.9 million (January to June 2016: € 196.0 million). The increase compared with the previous year was mainly attributable to positive business developments.

Cash flow from investing activities
The cash outflow from investing activities in the first six months of the financial year 2017 amounted to € 107.9 million (January to June 2016: € 94.7 million). Capital expenditure on intangible assets accounted for € 51.0 million (January to June 2016: € 69.5 million) of this amount, and mainly comprised payments in connection with development costs for the PW1000G family of geared turbofan engines and for the PW800 and GE9X engine programs.

Capital expenditure on property, plant and equipment in the reporting period from January to June 2017 amounted to € 57.5 million (January to June 2016: € 62.3 million). As well as being used to purchase new plant and machinery, production resources and tools for the series-production phase of the new programs and in preparation for the maintenance of these engines, this capital expenditure also included replacement investments for existing plant and machinery. Proceeds of € 2.9 million were also recognized on the disposal of property, plant and equipment (January to June 2016: € 3.1 million).

Cash outflows for investment in financial assets amounted to € 33.0 million (January to June 2016: € 4.9 million), of which € 17.7 million related to payments into equity of PW1100-JM Engine Leasing LLC., East Hartford, U.S.A., the purpose of which is to support leasing activities in connection with the PW1100-JM engine program. An additional € 15.3 million was used for the provision of loans for aircraft and engines in connection with financing the sale of aircraft. In the first six months of 2017, proceeds from the disposal of financial assets amounted to € 30.7 million (January to June 2016: € 38.9 million). These were in connection with the disposal of securities and repayments of the extended loans.

Cash flow from financing activities
In the period from January 1 to June 30, 2017, the net cash outflow from financing activities amounted to € 337.4 million (January to June 2016: a net cash inflow of € 262.9 million). The principal sources of this capital outflow were the scheduled repayment on June 21, 2017 of a bond issued in 2012 with a nominal value of € 250 million and the dividend paid to shareholders for the financial year 2016 in the amount of € 97.6 million.

Change in cash and cash equivalents

Taking the effects of currency translation into account, cash flow developments resulted in a decrease in cash and cash equivalents of € 240.5 million (January to June 2016: increase of € 364.4 million).

Net financial debt

Net financial debt serves as an indicator of the MTU group's financial position and is defined as the difference between gross financial debt and current financial assets. MTU's net financial debt at June 30, 2017 decreased to € 865.1 million (December 31, 2016: € 892.0 million).

Net financial debt

in € million	June 30, 2017	Dec. 31, 2016	Change against previous year in € million	in %
Bonds and notes	98.1	353.6	-255.5	-72.3
Convertible bond	476.3	474.6	1.7	0.4
Financial liabilities to banks	66.2	30.1	36.1	>100
thereof: Note purchase agreement	30.1	30.1		
thereof: Revolving credit facility	36.1		36.1	
Financial liabilities to related companies	0.9		0.9	
Finance lease liabilities	10.9	11.6	-0.7	-6.0
Financial liabilities arising from program participations	417.8	492.0	-74.2	-15.1
thereof: Financial liabilities arising from IAE-V2500 stake increase	352.7	400.3	-47.6	-11.9
Gross financial debt	**1,070.2**	**1,361.9**	**-291.7**	**-21.4**
less:				
Cash and cash equivalents	81.9	322.4	-240.5	-74.6
Loans to third parties	97.8	98.6	-0.8	-0.8
Loan to related companies	24.9	23.9	1.0	4.2
Securities		25.0	-25.0	-100.0
Financial assets	**204.6**	**469.9**	**-265.3**	**-56.5**
Net financial debt	**865.6**	**892.0**	**-26.4**	**-3.0**

For more detailed information on the corporate bonds, the note purchase agreement and the financial liabilities arising from the IAE-V2500 stake increase, please refer to page 192 et seq. of the MTU Aero Engines AG Annual Report 2016.

Net assets

Changes in balance sheet items

The group's total assets, equity and liabilities decreased by € 108.7 million from € 5,844.6 million at December 31, 2016 to € 5,735.9 million at June 30, 2017.

Compared with the reported amounts at December 31, 2016, non-current assets increased by € 100.3 million to € 3,406.7 million while current assets decreased by € 209.0 million to € 2,392.2 million.

Intangible assets amounting to € 69.2 million (January to June 2016: € 58.7 million) were capitalized in the first six months of 2017. This reflects, in particular, the progress made in development work on the GE9X and PW800 engine programs and the PW1000G engine family. Additions to property, plant and equipment in the first six months of 2017 amounted to € 57.5 million (January to June 2016: € 62.3 million).

In the first six months of 2017, inventories increased by € 1.0 million to € 1,023.7 million, trade receivables by € 9.6 million to € 701.7 million and construction contract and service business receivables by € 54.3 million to € 447.5 million. By contrast, other current financial assets decreased by € 6.5 million to € 36.4 million, other current assets by € 19.7 million to € 24.1 million and cash and cash equivalents by € 240.5 million to € 81.9 million.

Between December 31, 2016 and June 30, 2017, group equity increased by € 262.7 million to € 1,763.2 million.

Factors that contributed to the increase in equity in the first six months of 2017 included higher earnings after tax, which amounted to € 216.7 million compared with € 158.6 million in the period from January to June, 2016. The sale of treasury shares through the MAP employee stock option program generated proceeds of € 14.3 million (January to June 2016: € 14.5 million), while a further amount of € 3.6 million (January to June 2016: € 5.1 million) was added to equity through the Restricted Stock Plan. Fair-value gains on financial instruments designated as cash-flow hedges, amounting to € 110.2 million (January to June 2016: € 31.6 million), along with actuarial gains on plan assets and pension obligations resulting from changes in the discount rate amounting to € 21.7 million (January to June 2016: actuarial losses of € 78.8 million), also contributed to the increase in equity. Negative effects on equity included the dividend payment for the financial year 2016, amounting to € 97.6 million (January to June 2016: € 86.9 million) and translation differences arising from the financial statements of international entities, amounting to € 6.2 million (January to June 2016: € 13.4 million).

The equity ratio was 30.7 % (December 31, 2016: 25.7 %).

Pension provisions decreased by € 17.8 million compared with December 31, 2016, in particular owing to the higher discount rate applicable in the reporting period. The increase of € 60.8 million in other provisions to € 768.5 million relates primarily to the sales-related deferral of sales allowances and subsequent expenses in respect of goods and services already supplied, as well as provision for identified legal and litigation risks in connection with foreign trade and customs.

Compared with the amount reported at December 31, 2016, financial liabilities decreased overall by € 418.4 million to € 1,283.2 million, mainly as a result of the scheduled repayment of the bond mentioned earlier and the scheduled repayment of financial liabilities arising from the IAE-V2500 stake increase. Another contributing factor was the effect of the U.S.-dollar exchange rate, which reduced the carrying amount of financial liabilities denominated in U.S. dollars, especially in the case of currency derivatives.

Trade payables amounted to € 532.2 million at June 30, 2017, which is € 102.7 million lower than at December 31, 2016.

Construction contract and service business payables increased between December 31, 2016 and June 30, 2017 by € 6.2 million to € 350.4 million. This total includes advance payments from customers insofar as they exceed the corresponding amount of receivables.

Other liabilities increased by € 35.5 million compared with the amount reported at December 31, 2016, to € 77.6 million. This increase in the first half of 2017 is due mainly to the recognition of benefits payable to employees in connection with unutilized vacation entitlements owing to seasonal effects.

Employees
MTU's workforce comprised 8,449 employees at June 30, 2017 (Dec. 31, 2016: 8,368).

Subsequent events

Events after the end of the interim reporting period (June 30, 2017)

No significant events with a material impact on the net assets, financial position or operating results of the MTU group have occurred after the end of the interim reporting period and prior to the date this half-year financial report was drawn up (July 24, 2017).

Report on forecasts, risks and opportunities

In order to take best advantage of market opportunities and to identify and manage the risks involved, the Executive Board has set up an integrated opportunity and risk management system, which is linked to the group's value-oriented performance indicators and its organizational structure. The system is based on the internationally recognized COSO II Enterprise Risk Management Framework. It also incorporates the group's internal control system with respect to financial reporting processes pursuant to Section 289 (5) and 315 (2) no. 5 of the German Commercial Code (HGB). For a detailed description of the main features of the system and the methods used, please refer to page 113 et seq. of the Annual Report 2016.

Forecasts

Macroeconomic factors

According to the forecast published by the Economist Intelligence Unit (EIU) in July, global economic performance is expected to grow by 2.7% in 2017, compared to 2.3% in 2016. This optimistic outlook is mainly attributed to the stabilization of economic growth in China in the first quarter of 2017, the robust economy in the United States and the positive development in the euro area.

The EIU expects to see growth of 1.8% in the euro zone. The low euro exchange rate boosts exports, which are additionally likely to benefit from the stronger global economy. For the United States, the EIU predicts a growth rate of 2.0%. Private consumption should underpin growth.

Economic growth in China is expected to reach 6.6% according to the EIU. This growth is based on the assumption that bank lending will continue to increase. Should the reverse be the case, the EIU sees the potential risk that this could lead to a significant weakening of the Chinese economy in 2018 and trigger a slowdown in global growth. The EIU sees further risks in the increasing threat of geopolitical tensions, the erection of trade barriers and rising interest rates in the United States.

Microeconomic factors in the aviation industry

In June, the International Air Transport Association (IATA) raised its profit forecast for 2017 from around U.S. $ 29.8 billion to U.S. $ 31.4 billion and is thus predicting a decline compared to U.S. $ 34.8 billion in 2016.

In passenger air travel, IATA is predicting an increase of 7.4%, maintaining the previous year's growth rate.

Airlines are responding to the high demand by keeping more aircraft airborne, with the number of parked aircraft at an all-time low of 7.4%. The intensive utilization and longer service life of older aircraft have a positive effect on the spare parts business.

Given the currently favorable market environment, airlines are continuing to invest in fleet renewal programs. Around half of the 1,500 planned deliveries of aircraft with more than 100 seats for this year will replace existing aircraft (source: forecasts from Airbus, Boeing and Bombardier). The fleet is becoming successively more efficient and produces lower emissions.

The EIA predicts an average price per barrel of Brent crude of U.S. $ 53 for 2017. There is scarcely any movement in the price of oil. The main issue continues to be the oversupply of the world market with crude and the question of whether OPEC's strategy of lowering production can make any difference.

Future development of MTU

MTU has firmed up forecasts for the financial year 2017 compared to the outlook from the Annual Report 2016.

Growth predictions for the commercial spare parts business, as well as for the commercial maintenance business were adjusted slightly upwards, which has a positive effect on earnings potential. On account of delays in production and engine maintenance, the company is now anticipating a stronger decline in revenues in the military engine business in the reporting period.

MTU expects its commercial OEM business to see organic growth in the range of a high single digit percentage: The new engine business is affected by the ramp-up of the PW1000G programs, which should increase substantially in the second half of 2017; the main growth driver in the spare parts business is the V2500 program.

The military engine business is expected to decrease by a percentage in the mid-teens in 2017.

MTU's forecast for its commercial maintenance business in 2017 is now for revenues to grow by a percentage in the mid- to high teens in U.S.-dollar terms.

For the group as a whole, assuming an exchange rate of U.S. $ 1.10-1.15 to the euro, MTU forecasts an increase in revenues to approximately € 5,300 million (2016: € 4,733 million).

MTU also expects the group's operating profit (adjusted EBIT) for 2017 to increase to around € 560 million (2016: € 503 million). Changes in the product mix in the commercial OEM business, which compared to the previous year may have a negative impact on operating profit, are likely to be more than compensated for by growth in the commercial spare parts and maintenance business and by favorable exchange-rate effects.

Adjusted earnings after tax are expected to rise in 2017 to around € 390 million (2016: around € 345 million).

2017 will again be another year of substantial investment spending accompanied by a reduction in the amount of advance payments in the military engine business. However, MTU plans to compensate for these factors through its operating activities and with € 120 million achieve a significant increase in free cash flow compared to the previous year (2016: € 82 million).

Risks

MTU's operating environment, economic factors and relationships with business partners and consortia give rise to risks that can have an impact on the group's business performance. The recently launched engine programs (PW1100G-JM and PW1500G) are at such an early stage in their lifecycle that they bear various risks in the supply chain, which are typical for such a strong product ramp-up. New products also entail technical risks due to additional outlays potentially needed for further product development after they are launched on the market. However, the portfolio approach with engines in various lifecycle phases (e.g. V2500) helps to compensate for risk across the entire group.

Another issue of relevance to MTU is the changing nature of the engine MRO market. The trend is shifting away from different independent providers of maintenance service and towards closer ties between engine manufacturers and downstream maintenance services. This new market configuration presents MTU with both risks and opportunities. On the risk side, it will be necessary for MTU to offer greater price concessions – especially for spare parts – in order to maintain its market share. But it also creates advantages in the form of a guaranteed volume of spare parts, higher capacity utilization of MRO locations, and the financial benefits of belonging to a worldwide MRO network.

Beyond these, the areas of risk to which MTU is exposed are the same as those presented in the Annual Report 2016. For a detailed description of these risks, please refer to pages 113 et seq. (Risk report) and page 125 (SWOT analysis) of the Annual Report 2016.

Opportunities

Thanks to its balanced engine portfolio, comprising commercial and military engines at every stage of their lifecycle, MTU considers that it is well positioned in the market. Selective research and development, forward-looking investments, greater stakes in risk-and-revenue-sharing partnerships, and the maintenance business all open up new opportunities for MTU.

MTU sees opportunities for future participation in the positive market developments in the aviation industry, based on the engine programs that are currently at the development stage and on the engines that have recently been launched on the market. The selection of geared turbofan (GTF) engines for all major, recently developed regional jets and for the Airbus A320neo is a clear reflection of the technological lead enjoyed by this engine concept.

In the military engine business, export campaigns for engine programs, especially for the EJ200 Eurofighter engine, present opportunities to benefit from additional sales and from the ensuing maintenance business.

Over and above these specific cases, MTU's current assessment of its potential opportunities is the same as that presented in the Annual Report 2016. For a detailed description of these opportunities, please refer to the Annual Report 2016, page 122 et seq. (Opportunities report) and page 125 (SWOT analysis).

Overall assessment of MTU's risk exposure and potential opportunities

Thanks to its integrated risk and opportunity management system, MTU is in a position to identify areas of risk and potential opportunities at an early stage and take suitable proactive measures to address them.

The MTU group's risk exposure and potential opportunities have changed only insignificantly compared with the assessment made at December 31, 2016. Risks have arisen from the ramp-up of the new engine programs. However, due to the portfolio approach in the product mix, the risks are viewed as limited and manageable, and the MTU group's continuing existence as a going concern is therefore not deemed to be endangered.

Significant transactions with related parties

Information regarding significant transactions with related companies and persons is provided in Note 38 to the condensed interim consolidated financial statements (Transactions with related companies and persons).

Condensed interim consolidated financial statements

Consolidated income statement

Consolidated income statement (unaudited)

in € million	(Note)	Jan. 1 - June 30, 2017	Jan. 1 - June 30, 2016
Revenues	**(1.)**	**2,548.0**	**2,299.2**
Cost of sales	(2.)	-2,160.0	-1,965.3
Gross profit		**388.0**	**333.9**
Research and development expenses	(3.)	-31.0	-38.5
Selling expenses	(4.)	-46.8	-48.4
General administrative expenses	(5.)	-39.1	-35.8
Other operating income		4.3	6.0
Other operating expenses		-2.2	-3.1
Profit/loss of companies accounted for using the equity method	(7.)	21.6	14.1
Profit/loss of companies recognized at cost		0.3	0.8
Earnings before interest and tax (EBIT)		**295.1**	**229.0**
Interest income		3.0	0.4
Interest expenses		-6.1	-4.1
Interest result	(8.)	-3.1	-3.7
Financial result on other items	(9.)	-11.4	-8.7
Financial result		**-14.5**	**-12.4**
Earnings before tax		**280.6**	**216.6**
Income taxes	(10.)	-63.9	-58.0
Earnings after tax		**216.7**	**158.6**
Thereof :			
Shareholders of MTU Aero Engines AG		215.5	158.4
Shares of non-controlling interest		1.2	0.2
Earnings per share in €			
Basic (EPS)	(11.)	4.19	3.10
Diluted (DEPS)	(11.)	3.92	3.02

Consolidated statement of comprehensive income

Consolidated statement of comprehensive income (unaudited)

in € million	(Note)	Jan. 1 - June 30, 2017	Jan. 1 - June 30, 2016
Earnings after tax		**216.7**	**158.6**
Exchange differences arising from the translation of financial statements of foreign operations		–6.2	–13.4
Financial instruments designated as cash flow hedges		110.2	31.6
Items that may subsequently be recycled to profit or loss		**104.0**	**18.2**
Actuarial gains and losses on pension obligations and plan assets		21.7	–78.8
Items that will not be recycled to profit or loss		**21.7**	**–78.8**
Other comprehensive income		**125.7**	**–60.6**
Total comprehensive income		**342.4**	**98.0**
Thereof :			
Shareholders of MTU Aero Engines AG		341.2	97.8
Shares of non-controlling interest		1.2	0.2

Consolidated balance sheet – assets

Assets (unaudited)

in € million	(Note)	June 30, 2017	Dec. 31, 2016
Non-current assets			
Intangible assets	(14.)	2,290.6	2,234.2
Property, plant and equipment	(15.)	684.9	681.5
Financial assets accounted for using the equity method	(16.)	213.2	201.9
Other financial assets	(16.)	162.2	130.2
Other assets	(20.)	1.1	2.0
Deferred tax assets		54.7	56.6
Total non-current assets		**3,406.7**	**3,306.4**
Current assets			
Inventories	(17.)	1,023.7	1,022.7
Trade receivables	(18.)	701.7	692.1
Construction contract and service business receivables	(19.)	447.5	393.2
Recoverable income taxes		13.9	21.1
Other financial assets	(16.)	36.4	42.9
Other assets	(20.)	24.1	43.8
Cash and cash equivalents	(21.)	81.9	322.4
Total current assets		**2,329.2**	**2,538.2**
Total assets		**5,735.9**	**5,844.6**

Consolidated balance sheet – equity and liabilities

Equity and liabilities (unaudited)

in € million	(Note)	June 30, 2017	Dec. 31, 2016
Equity	**(24.)**		
Subscribed capital		52.0	52.0
Capital reserves		451.2	435.5
Revenue reserves		1,488.8	1,370.9
Treasury shares		–23.1	–25.3
Other comprehensive income		–207.1	–332.8
Shareholders of MTU Aero Engines AG		**1,761.8**	**1,500.3**
Shares of non-controlling interests		1.4	0.2
Total equity		**1,763.2**	**1,500.5**
Non-current liabilities			
Pension provisions		842.7	860.6
Other provisions	(27.)	35.2	23.4
Financial liabilities	(28.)	969.2	1,056.4
Other liabilities	(31.)	16.9	
Deferred tax liabilities		65.3	23.5
Total non-current liabilities		**1,929.3**	**1,963.9**
Current liabilities			
Pension provisions		22.8	22.7
Income tax liabilities		30.0	6.8
Other provisions	(27.)	733.3	684.3
Financial liabilities	(28.)	314.0	645.2
Trade payables		532.2	634.9
Construction contract and service business payables	(30.)	350.4	344.2
Other liabilities	(31.)	60.7	42.1
Total current liabilities		**2,043.4**	**2,380.2**
Total equity and liabilities		**5,735.9**	**5,844.6**

Consolidated statement of changes in equity

For more information on equity components, please refer to Note 24 of the selected explanatory notes (Equity).

Consolidated statement of changes in equity (unaudited)

in € million	Subscribed capital	Capital reserves	Revenue reserves	Treasury shares	Other comprehensive income: Translation differences arising from the financial statements of international entities	Other comprehensive income: Actuarial gains and losses [1]	Other comprehensive income: Financial instruments designated as cash flow hedges	**Shareholders of MTU Aero Engines AG**	Shares of non-controlling interests	**Total equity**
Carrying amount at Jan. 1, 2016	**52.0**	**404.7**	**1,145.6**	**-30.1**	**30.7**	**-204.4**	**-97.7**	**1,300.8**	**-0.2**	**1,300.6**
Earnings after tax			158.4					158.4	0.2	158.6
Other comprehensive income					-13.4	-78.8	31.6	-60.6		-60.6
Total comprehensive income			**158.4**		**-13.4**	**-78.8**	**31.6**	**97.8**	**0.2**	**98.0**
Dividend payment			-86.9					-86.9		-86.9
Equity portion of convertible bond [2]		16.0						16.0		16.0
Restricted Stock Plan		3.9		1.2				5.1		5.1
MAP employee stock option program		10.9		3.6				14.5		14.5
Carrying amount at June 30, 2016	**52.0**	**435.5**	**1,217.1**	**-25.3**	**17.3**	**-283.2**	**-66.1**	**1,347.3**	**0.0**	**1,347.3**
Carrying amount at Jan. 1, 2017	**52.0**	**435.5**	**1,370.9**	**-25.3**	**25.2**	**-258.7**	**-99.3**	**1,500.3**	**0.2**	**1,500.5**
Earnings after tax			215.5					215.5	1.2	216.7
Other comprehensive income					-6.2	21.7	110.2	125.7		125.7
Total comprehensive income			**215.5**		**-6.2**	**21.7**	**110.2**	**341.2**	**1.2**	**342.4**
Dividend payment			-97.6					-97.6		-97.6
Restricted Stock Plan		3.1		0.5				3.6		3.6
MAP employee stock option program		12.6		1.7				14.3		14.3
Carrying amount at June 30, 2017	**52.0**	**451.2**	**1,488.8**	**-23.1**	**19.0**	**-237.0**	**10.9**	**1,761.8**	**1.4**	**1,763.2**

[1] Refers to pension obligations and plan assets
[2] After transaction costs and taxes

Consolidated cash flow statement

Consolidated cash flow statement (unaudited)

in € million	(Note)	Jan. 1 - June 30, 2017	Jan. 1 - June 30, 2016
Operating activities			
Earnings after tax		**216.7**	**158.6**
Depreciation / appreciation, amortization and impairment of non-current assets		101.9	86.4
Profit/loss of companies accounted for using the equity method	(7.)	–21.6	–14.1
Profit/loss of companies accounted for at cost		–0.3	–0.8
Proceeds from the disposal of fixed assets		–0.1	0.3
Change in pension provisions		14.0	13.0
Change in other provisions	(27.)	60.8	36.1
Other non-cash items		–43.8	6.1
Change in working capital		–140.4	–69.2
Interest result	(8.)	3.1	3.7
Interest paid		–13.3	–12.5
Interest received		2.5	0.4
Dividends received		7.7	3.0
Income taxes	(10.)	63.9	58.0
Income taxes paid		–44.2	–73.0
Cash flow from operating activities		**206.9**	**196.0**
Investing activities			
Capital expenditure on:			
Intangible assets	(14.)	–51.0	–69.5
Property, plant and equipment	(15.)	–57.5	–62.3
Financial assets	(16.)	–33.0	–4.9
Proceeds from disposal of:			
Intangible assets / property, plant and equipment	(14.)/(15.)	2.9	3.1
Financial assets	(16.)	30.7	38.9
Cash flow from investing activities		**–107.9**	**–94.7**
Financing activities			
Proceeds from convertible bond[1]	(28.)		495.3
Repayment bond	(28.)	–250.0	
Increase in / Repayment of liabilities to banks	(28.)	36.1	–119.1
Dividend payment		–97.6	–86.9
Settlement of contingent purchase price liabilities for PW1100G-JM program shares, PW 800 program shares, V2500 stake increase		–40.4	–40.8
Sale of shares under the MAP employee stock option program		14.3	14.5
Increase in / Repayment of other financial liabilities	(28.)	0.2	–0.1
Cash flow from financing activities		**–337.4**	**262.9**
Net change in cash and cash equivalents during the period		**–238.4**	**364.2**
Effect of translation differences on cash and cash equivalents		–2.1	0.2
Cash and cash equivalents at beginning of the year (January 1)		322.4	53.1
Cash and cash equivalents at end of period (June 30)		**81.9**	**417.5**

[1] After transaction costs

Notes to the interim consolidated financial statements

Group segment reporting

Segment information

A description of the activities of the individual operating segments is provided on page 218 of the Annual Report 2016. No changes were made to the composition of the operating segments during the first six months of 2017.

Segment information was as follows:

Reporting by operating segment

in € million	Commercial and military engine business (OEM) Jan. 1 - June 30, 2017	Commercial and military engine business (OEM) Jan. 1 - June 30, 2016	Commercial maintenance business (MRO) Jan. 1 - June 30, 2017	Commercial maintenance business (MRO) Jan. 1 - June 30, 2016	Total reportable segments Jan. 1 - June 30, 2017	Total reportable segments Jan. 1 - June 30, 2016	Consolidation / reconciliation Jan. 1 - June 30, 2017	Consolidation / reconciliation Jan. 1 - June 30, 2016	MTU group Jan. 1 - June 30, 2017	MTU group Jan. 1 - June 30, 2016
External revenues	1,397.3	1,424.1	1,150.7	875.1	2,548.0	2,299.2			2,548.0	2,299.2
Revenues from intersegment sales	18.0	17.0	30.3	18.2	48.3	35.2	-48.3	-35.2		
Total revenues	**1,415.3**	**1,441.1**	**1,181.0**	**893.3**	**2,596.3**	**2,334.4**	**-48.3**	**-35.2**	**2,548.0**	**2,299.2**
Gross profit	**268.6**	**225.5**	**118.6**	**108.2**	**387.2**	**333.7**	**0.8**	**0.2**	**388.0**	**333.9**
Amortization	34.2	31.9	5.2	5.2	39.4	37.1			39.4	37.1
Depreciation	38.7	36.0	13.9	11.7	52.6	47.7			52.6	47.7
Total depreciation / amortization	**72.9**	**67.9**	**19.1**	**16.9**	**92.0**	**84.8**			**92.0**	**84.8**
Earnings before interest and tax (EBIT)	**192.3**	**145.6**	**102.5**	**83.3**	**294.8**	**228.9**	**0.3**	**0.1**	**295.1**	**229.0**
Depreciation / amortization effects of										
purchase price allocation	9.4	9.4	1.2	1.2	10.6	10.6			10.6	10.6
IAE-V2500 stake increase	15.1	14.5			15.1	14.5			15.1	14.5
Adjusted earnings before interest and tax (adjusted EBIT)	**216.8**	**169.5**	**103.7**	**84.5**	**320.5**	**254.0**	**0.3**	**0.1**	**320.8**	**254.1**
Profit / loss of companies accounted for using the equity method	3.1	0.3	18.5	13.8	21.6	14.1			21.6	14.1
Carrying amount of companies accounted for using the equity method (June 30, 2017, previous year Dec 31, 2016)	71.3	55.8	141.9	146.1	213.2	201.9			213.2	201.9
Assets (June 30, 2017/ previous year Dec 31, 2016)	**4,918.6**	**5,115.6**	**1,460.2**	**1,479.6**	**6,378.8**	**6,595.2**	**-642.9**	**-750.6**	**5,735.9**	**5,844.6**
Liabilities (June 30, 2017/ previous year Dec 31, 2016)	**3,373.9**	**3,758.8**	**900.8**	**994.8**	**4,274.7**	**4,753.6**	**-302.0**	**-409.5**	**3,972.7**	**4,344.1**
Significant non-cash items	**-38.6**	**5.8**	**-5.2**	**0.1**	**-43.8**	**5.9**		**0.2**	**-43.8**	**6.1**
Capital expenditure:										
Intangible assets	68.6	58.6	0.6	0.1	69.2	58.7			69.2	58.7
Property, plant and equipment	40.7	40.6	16.8	21.7	57.5	62.3			57.5	62.3
Capital expenditure on intangible assets and on property, plant and equipment	**109.3**	**99.2**	**17.4**	**21.8**	**126.7**	**121.0**			**126.7**	**121.0**
Key segment data:										
EBIT in % of revenues	13.6	10.1	8.7	9.3	11.4	9.8	0.6	0.3	11.6	10.0
Adjusted EBIT in % of revenues	15.3	11.8	8.8	9.5	12.3	10.9	0.6	0.3	12.6	11.1

The significant non-cash items relate in particular to gains and losses arising from foreign currency translation, which have no impact on cash flows.

Reconciliation of segment information with MTU consolidated financial statements - earnings

in € million	Jan. 1 - June 30, 2017	Jan. 1 - June 30, 2016
Consolidated earnings before interest and tax (EBIT)	**295.1**	**229.0**
Interest income	3.0	0.4
Interest expense	-6.1	-4.1
Financial result on other items	-11.4	-8.7
Earnings before tax	**280.6**	**216.6**

General information

MTU Aero Engines AG, Munich, together with its consolidated group of companies, counts among the world's largest manufacturers of engine modules and components and is one of the world's leading providers of maintenance services for commercial aircraft engines.

The group's business activities encompass the entire lifecycle of an engine program – from development, structural design, testing and manufacturing of new commercial and military engines and spare parts through to the maintenance, repair and overhaul of commercial and military engines. MTU divides its activities into two operating segments: the commercial and military engine business (OEM) and the commercial maintenance business (MRO).

MTU's commercial and military engine business, or OEM segment, covers the development and manufacturing of modules, components and spare parts for engine programs, and in some cases final assembly. The military engine business additionally includes the provision of maintenance services. The MRO segment consists of the commercial maintenance business, which covers all activities relating to the maintenance, repair and overhaul of commercial engines and associated logistical support.

The parent company, MTU Aero Engines AG, registered office Dachauer Str. 665, 80995 Munich, is registered under reference HRB 157206 in the commercial registry of the district court of Munich.

The condensed interim consolidated financial statements were approved for publication by the Executive Board of MTU Aero Engines AG on July 24, 2017.

Financial reporting

In accordance with the provisions of Section 37w of the German Securities Trading Act (WpHG), MTU's half-year financial report consists of condensed interim consolidated financial statements, an interim group management report and a statement by the legal representatives. The unaudited condensed interim consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (IFRSs) relevant for interim financial reporting, as endorsed by the European Union (EU). The interim group management report has been drawn up in accordance with the applicable provisions of the German Securities Trading Act (WpHG).

Statement of compliance

The condensed interim consolidated financial statements at June 30, 2017 have been drawn up in compliance with IAS 34. In preparing these statements, MTU has applied all International Financial Reporting Standards (IFRSs) issued by the International Accounting Standards Board (IASB) and effective at the date on which the condensed interim consolidated financial statements were approved for publication, insofar as they have been endorsed by the European Commission for use in the EU.

The accounting methods applied when preparing the condensed interim consolidated financial statements are the same as those used to prepare the annual consolidated financial statements at December 31, 2016.

The condensed interim consolidated financial statements do not contain all the information and disclosures required for year-end consolidated financial statements and should therefore be read in conjunction with the MTU consolidated financial statements at December 31, 2016.

From the perspective of management, the half-year financial report contains all customary accounting adjustments necessary for a fair presentation of the group's operating results, financial position and net assets. The fundamental accounting principles and methods applied are described in the Notes (p. 148 et seq.) to the consolidated financial statements at December 31, 2016.

Transition to IFRS 15

IFRS 15, Revenue from Contracts with Customers, was issued in May 2014 and provides a five-step model framework for accounting for revenue from contracts with customers. The new standard for the recognition of revenue will replace all currently applicable standards and interpretations for revenue recognition from customer contracts under IFRSs. Application of the standard is mandatory for annual reporting periods starting from January 1, 2018 onwards. When first applying IFRS 15, entities may opt either to apply the standard in full to prior periods (full retrospective approach) or to retain prior period figures as reported under the previous standards (modified retrospective approach).

In mid-April 2016, the International Accounting Standards Board (IASB) published additional final amendments to IFRS 15, which resolve a number of implementation issues. The amendments are effective for annual reporting periods beginning on or after January 1, 2018 (same effective date as IFRS 15 itself). However, the amendments have not yet been endorsed by the EU.

IFRS 15 introduces an extensive framework for the measurement and recognition of revenue from contracts with customers. The core principle of IFRS 15 is that an entity will recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods and services (the transaction price as defined by IFRS 15). Revenue is recognized when control of the goods or services is passed to the customer. IFRS 15 does not impact cash flows.

For MTU as an engine manufacturer, the following significant changes result from applying IFRS 15:

- The criteria for recognizing revenue over time by measuring the progress towards complete satisfaction of the performance obligation differ fundamentally from the criteria applied up to now, and focus on the right to payment for performance completed to date in the event that the customer terminates the contract. This may also result in changes to the way in which progress toward complete satisfaction of a performance obligation is measured.

- Consideration payable to customers is usually accounted for as a reduction of revenue. In the future, these costs may only be capitalized (e.g. as an intangible asset) if the payment to the customer is in exchange for a distinct good or service that clearly is not linked to the individual engine program.

- IFRS 15 provides explicit presentation and disclosure requirements, which are more detailed than under present IFRSs. For example, entities will be required to provide opening and closing balances of net contract assets and liabilities as well as the aggregate amount of performance obligations not satisfied at the reporting date.

In the reporting period, MTU continued the process of evaluating the concrete impact of applying revenue recognition requirements under IFRS 15 based on an analysis of customer contracts. On this basis and given the ongoing technical discussions among preparers in the aerospace industry, MTU currently anticipates the following impacts, which are subject to change in the period up to first-time adoption:

Commercial engine business

Expenses for marketing engines based on indirect payments to airlines and leasing companies have previously been recognized under cost of sales. Under IFRS 15, such payments would qualify as consideration payable to the customer, and consequently upon sale of the engines would have to be recognized as a reduction of revenue. This change could result in a significant decrease in the amount of revenues reported in the commercial engine business; however, it would not affect absolute earnings realized.

Payments in respect of program participations and compensation for development costs payable to the consortium leader (OEM) within the scope of commercial engine program participations are currently capitalized as intangible assets and amortized on a straight-line basis over their useful lives (lifetime of the program). At June 30, 2017, they are shown in the balance sheet with € 1,267.4 million. Such payments may qualify under IFRS 15 as consideration payable to the customer, requiring them to be deferred or recognized under other assets. MTU is therefore expecting a reclassification of intangible assets to other assets.

In accordance with IFRS 15, these payments would be amortized over the period in which revenues are realized from the respective engine program and reflected as a reduction of revenue.

Overall, the above adjustments would result in an increase in the group EBIT margin (adjusted EBIT relative to group revenues) in 2017 of between 3 and 4 %.

Additionally, for some programs transition to IFRS 15 is likely to result in a change in the timing of revenue recognition for delivery of series and spare parts. Consequently, for some engine programs, revenue will already have to be recognized in the future upon delivery of the parts and not, as is currently the case, when the customer withdraws the parts from the consignment warehouse. MTU is currently evaluating the impact on earnings and balance sheet adjustments that will result from this.

Military engine business

Revenue generated through military engine programs is currently recognized over time for the individual programs using the percentage-of-completion method. Based on the analyses performed up to the reporting date, application of IFRS 15 may in isolated cases require revenue to be recognized at a point in time because the criteria for revenue recognition over time under IFRS 15 are not met. MTU is currently evaluating the relevant contractual provisions and the impact this is expected to have on earnings.

Commercial maintenance business (MRO)

In the commercial maintenance business, the group overhauls and repairs aircraft engines and industrial gas turbines. Revenue in this segment is recognized in consideration of the customer-specific service character over the period of the respective overhaul, maintenance or repair (shop visit). Based on the analyses up to the reporting date, under IFRS 15, MTU will be required in the future to recognize revenue over the full duration of the contract and not for individual shop visits. MTU is currently evaluating the potential quantitative transition effects expected to result from this.

Initial application

As things currently stand, MTU is planning to adopt IFRS 15 using the fully retrospective approach. Under this approach, all transition effects as at the beginning of the current comparative period would be recognized directly in equity as an adjustment to retained earnings brought forward. Thus, in the 2018 consolidated financial statements, both the reporting period and the comparative period would be presented applying IFRS 15, which improves comparability of the consolidated income statement in particular. It is currently assumed that it will also be necessary to prepare a third balance sheet as at January 1, 2017. When initially applying IFRS, MTU intends to make use of the disclosure exemptions under IFRS 15 relating to modified and closed contracts.

Group reporting entity

At June 30, 2017, the MTU group including MTU Aero Engines AG, Munich, comprised interests in 32 companies.

On January 3, 2017, MTU Aero Engines North America Inc., Rocky Hill, U.S.A., founded MS Engine Leasing LLC., Rocky Hill, U.S.A. The purpose of the company is the financing of leasing business relating to the PW 1100G-JM engine program. It is planned to transfer up to 50 % of the shares in the newly established company to the financing partner, Sumitomo Corporation of Americas, New York, U.S.A., in the second half-year.

For a list of these major shareholdings, please refer to the Annual Report 2016, page 215.

Notes to the consolidated income statement

1. Revenues

Revenues

in € million	Jan. 1 - June 30, 2017	Jan. 1 - June 30, 2016
Commercial engine business	1,242.8	1,200.9
Military engine business	172.5	240.2
Commercial and military engine business (OEM)	**1,415.3**	**1,441.1**
Commercial maintenance business (MRO)	**1,181.0**	**893.3**
Consolidation	-48.3	-35.2
Total revenues	**2,548.0**	**2,299.2**

2. Cost of sales

Cost of sales

in € million	Jan. 1 - June 30, 2017	Jan. 1 - June 30, 2016
Cost of materials	-1,900.6	-1,686.5
Personnel expenses	-265.7	-253.2
Depreciation and amortization	-89.1	-81.6
Other cost of sales	95.4	56.0
Total cost of sales	**-2,160.0**	**-1,965.3**

The change in cost of sales relates to growth in revenues in the reporting period and is affected by the current product mix.

The amount stated under other cost of sales mainly derives from the increase in inventories of work in progress and finished products, the effect of translation differences, and the adjustment of accruals in respect of outstanding cost-of-sales items.

3. Research and development expenses

Research and development expenses

in € million	Jan. 1 - June 30, 2017	Jan. 1 - June 30, 2016
Cost of materials	-51.0	-49.7
Personnel expenses	-38.6	-39.8
Depreciation and amortization	-1.2	-1.7
Company-funded research and development expenditure	**-90.8**	**-91.2**
of which the following amounts were capitalized:		
Development costs (OEM)	59.4	52.7
Development costs (MRO)	0.4	
Capitalized development costs	**59.8**	**52.7**
Research and development costs recognized as expense	**-31.0**	**-38.5**

4. Selling expenses

Selling expenses

in € million	Jan. 1 - June 30, 2017	Jan. 1 - June 30, 2016
Cost of materials	–9.7	–8.5
Personnel expenses	–35.6	–32.4
Depreciation and amortization	–0.7	–0.6
Other selling expenses	–0.8	–6.9
Total selling expenses	**–46.8**	**–48.4**

In addition to marketing and advertising costs, selling expenses comprise costs incurred in connection with air shows, trade fairs, exhibitions and press costs as well as allowances and impairments on receivables from customers.

5. General administrative expenses

General administrative expenses

in € million	Jan. 1 - June 30, 2017	Jan. 1 - June 30, 2016
Cost of materials	–3.3	–3.3
Personnel expenses	–30.6	–28.4
Depreciation and amortization	–1.0	–0.9
Other administrative expenses	–4.2	–3.2
Total general administrative expenses	**–39.1**	**–35.8**

General administrative expenses are expenses incurred in connection with administrative activities unrelated to development, production or sales activities.

7. Profit / loss of companies accounted for using the equity method

Profit / loss of companies accounted for using the equity method

in € million	Jan. 1 - June 30, 2017	Jan. 1 - June 30, 2016
Associated companies	3.0	0.1
Joint ventures	18.6	14.0
Total profit / loss of companies accounted for using the equity method	**21.6**	**14.1**

8. Interest result

Interest result

in € million	Jan. 1 - June 30, 2017	Jan. 1 - June 30, 2016
Interest income	**3.0**	**0.4**
Interest expense on		
Corporate bonds and notes	–5.6	–5.7
Convertible bond	–2.3	–0.6
Liabilities to banks	–0.3	–0.6
Finance lease arrangements	–0.2	–0.2
Other interest expenses	–1.1	–0.7
Capitalized borrowing costs for qualifying assets	3.4	3.7
Interest expenses	**–6.1**	**–4.1**
Interest result	**–3.1**	**–3.7**

The improvement in the net interest result is due mainly to the higher interest income, which overcompensates for the increased interest expense for the convertible bond.

9. Financial result on other items

Financial result on other items

in € million	Jan. 1 - June 30, 2017	Jan. 1 - June 30, 2016
Effects from currency translation: exchange rate gains / losses on		
Currency holdings	–4.0	–1.5
Financing transactions	–0.6	0.9
Fair value gains / losses on derivatives		
Currency and interest rate derivatives	7.2	7.9
Forward commodity sales contracts	–0.2	
Interest portion included in measurement of assets and liabilities		
Relating to pensions funds	–6.1	–8.2
Receivables, other provisions and liabilities	–7.7	–7.7
Financial result on sundry other items		–0.1
Financial result on other items	**–11.4**	**–8.7**

The financial result on other items deteriorated in the first six months of the financial year 2017 by € 2.7 million compared with the result for the same period in the previous year. This was mainly due to exchange-rate losses incurred on currency holdings amounting to € 4.0 million (January to June 2016: € 1.5 million) and on financing transactions amounting to € 0.6 million (January to June 2016: exchange-rate gains amounting to € 0.9 million). On the other hand, interest expense attributable to pension obligations declined year on year by € 2.1 million.

10. Income taxes

Income taxes comprise the following items:

Tax expenses

in € million	Jan. 1 - June 30, 2017	Jan. 1 - June 30, 2016
Current tax expense	–74.6	–64.7
Deferred tax income	10.7	6.7
Recognized tax expense	**–63.9**	**–58.0**

11. Earnings per share

Diluted earnings per share are calculated by dividing earnings after tax by the sum obtained when the average number of common shares that could potentially be issued through the granting of equity instruments is added to the weighted average number of outstanding shares.

In the first six months of 2017, the amount of earnings after tax available for distribution to the shareholders of MTU Aero Engines AG was € 215.5 million (January to June 2015: € 158.4 million). In the reporting period from January to June 2017, the weighted average number of outstanding shares was 51,385,147 (January to June 2016: 51,168,336 shares). These combined parameters resulted in a value of € 4.19 for basic earnings per share in the first six months of 2017 (January to June 2016: € 3.10).

Diluted earnings per share came to € 3.92 (January to June 2016: € 3.02) due to the dilutive effect of the 4,007,370 shares that could potentially be issued in connection with the new convertible bond, placed in May 2016 (January to June 2016: 1,335,790 shares), and of the additional 527 shares (January to June 2016: 791 additional shares), which represent the deferred portion of a former Executive Board member’s share-based compensation.

Notes to the consolidated balance sheet

14. Intangible assets

Intangible assets comprise capitalized program assets, program-independent technologies, acquired development services, software for engineering applications, and acquired goodwill.

In the first six months of 2017, the group capitalized intangible assets totaling € 69.2 million in value (January to June 2016: € 58.7 million). These mainly related to acquired development services and allocable borrowing costs, which amounted to € 60.9 million (January to June 2016: € 53.8 million), and to the acquisition of program assets amounting to € 7.8 million (January to June 2016: € 4.3 million) for the PW1000G family of geared turbofan engines and the GE9X, GEnx and PW800 engine programs.

Of the intangible assets totaling € 69.2 million (January to June 2016: € 58.7 million) that were capitalized in the first six months of 2017, an amount of € 36.5 million (January to June 2016: € 30.6 million) relates to externally acquired assets and € 32.7 million (January to June 2016: € 28.1 million) to self-created assets. The amortization expense for intangible assets in the first six months of 2017 amounted to € 39.4 million (January to June 2016: € 37.1 million).

15. Property, plant and equipment

Additions to property, plant and equipment in the period from January 1 to June 30, 2017 amounted to € 57.5 million (January to June 2016: € 62.3 million), and related mainly to technical equipment, plant and machinery, operational and office equipment, and corresponding advance payments. The depreciation expense in the first six months of 2017 amounted to € 52.6 million (January to June 2016: € 47.7 million).

16. Financial assets

Financial assets accounted for using the equity method

Financial assets accounted for using the equity method amounted to € 213.2 million (December 31, 2016: € 201.9 million). For information on the composition of these assets, please refer to page 175 et seq. of the Annual Report 2016.

Other financial assets

Composition of other financial assets

in € million	Total		Non-current		Current	
	June 30, 2017	Dec. 31, 2016	June 30, 2017	Dec. 31, 2016	June 30, 2017	Dec. 31, 2016
Loans and receivables (LaR) and sundry other financial assets	**150.2**	**144.3**	**127.4**	**126.4**	**22.8**	**17.9**
Loans to third parties[1]	97.8	98.6	97.8	98.6		
Loans to related companies[1]	24.9	23.9	24.9	23.9		
Receivables from employees	1.7	1.1			1.7	1.1
Receivables from suppliers	4.7	1.7			4.7	1.7
Sundry other financial assets	21.1	19.0	4.7	3.9	16.4	15.1
Available-for-sale financial assets (AfS)	**3.4**	**28.4**	**3.4**	**3.4**		**25.0**
Other investments in related entities	3.4	3.4	3.4	3.4		
Securities[1]		25.0				25.0
Derivatives without hedging relationship (FAHfT)	**1.2**		**1.2**			
Derivatives with hedging relationship (n.a.)	**43.8**	**0.4**	**30.2**	**0.4**	**13.6**	
Total other financial assets	**198.6**	**173.1**	**162.2**	**130.2**	**36.4**	**42.9**

[1] Included in net financial debt

Other financial assets increased by € 25.5 million to € 198.6 million in the first six months of 2017 (December 31, 2016: € 173.1 million). This was mainly due to the increase in the carrying amount of derivatives due to the applicable U.S.-dollar exchange rate. The sale of securities, on the other hand, had a counter-effect.

17. Inventories

Inventories

in € million	June 30, 2017	Dec. 31, 2016
Raw materials and supplies	355.2	407.3
Work in progress	273.6	241.6
Finished goods	379.0	352.5
Advance payments	15.9	21.3
Total inventories	**1,023.7**	**1,022.7**

18. Trade receivables

Trade receivables

in € million	June 30, 2017	Dec. 31, 2016
Third parties	584.5	574.9
Related companies	117.2	117.2
Total trade receivables	**701.7**	**692.1**

19. Construction contract and service business receivables

Construction contracts and service business receivables

in € million	June 30, 2017	Dec. 31, 2016
Construction contract receivables (based on percentage of completion)	326.9	360.2
Thereof: Advance payments received for construction contracts	–163.3	–206.8
Service business receivables (based on percentage of completion)	283.9	239.8
Total construction contract and service business receivables	**447.5**	**393.2**

20. Other assets

Other assets comprise recoverable tax payments as well as maintenance fees paid in advance, insurance premiums and rental payments.

21. Cash and cash equivalents

Cash and cash equivalents amounting to € 81.9 million (December 31, 2016: € 322.4 million) comprise cash in hand and at banks. This item also includes foreign-currency holdings with an equivalent value of € 80.7 million (December 31, 2016: € 81.0 million).

24. Equity

Changes in equity are presented in the Consolidated Statement of Changes in Equity.

The company's subscribed capital (capital stock) is unchanged at € 52.0 million and is divided into 52.0 million non-par bearer shares.

Capital reserves include premiums from the issue of shares and the equity component (net of proportional transaction costs and taxes) of the bond issued in 2007 and repaid / converted in the first quarter of 2012, as well as of the new convertible bond issued in 2016. Also included are the measurement effects from the Executive Board's share-based compensation as well as an amount representing the difference between the proceeds of treasury shares sold under the MAP employee stock option program and their original acquisition cost.

Revenue reserves comprise the post-tax retained earnings of consolidated group companies, insofar as these have not been distributed, and the portion of earnings after tax generated in the first six months of 2017, amounting to € 215.5 million (January to June 2016: € 158.4 million), which is available for distribution to shareholders of MTU Aero Engines AG after deduction of the dividend payment for the financial year 2016, which totals € 97.6 million (January to June 2016: € 86.9 million). Due to the positive earnings after tax generated in the first six months of 2017, revenue reserves increased to € 1,488.8 million at June 30, 2017 (December 31, 2016: € 1,370.9 million).

A total of 51,499,842 MTU Aero Engines AG, Munich, shares (June 30, 2016: 51,356,103 shares) were in issue at June 30, 2017. The company held 500,158 treasury shares (June 30, 2016: 643,897 treasury shares) at June 30, 2017.

In the first six months of 2017, other comprehensive income (OCI) increased by € 125.7 million (January to June 2016: decreased by € 60.6 million), from a negative balance of € 332.8 million at December 31, 2016 to a negative balance of € 207.1 million at June 30, 2017. These changes include fair-value gains on cash flow hedging instruments amounting to € 153.5 million before tax (i.e. deferred tax) or € 110.2 million after tax (i.e. deferred tax). The comparative figures for January to June 2016 were € 47.2 million before tax and € 31.6 million after tax. Actuarial gains on pension obligations and plan assets, resulting from changes in the discount rate, amounted to € 31.8 million before tax and € 21.7 million after tax (January to June 2016: actuarial losses of € 116.2 million before tax and € 78.8 million after tax). Translation differences arising from the financial statements of international entities produced a negative effect of € 6.2 million (January to June 2016: € 13.4 million).

27. Other provisions

Other provisions mainly comprise outstanding warranty expenses, risks from pending losses on onerous contracts, personnel-related liabilities, deferred sales allowances and outstanding purchase invoices – in particular subsequent costs. The increase of € 60.8 million in other provisions to € 768.5 million relates primarily to the sales-related deferral of sales allowances and subsequent expenses in respect of goods and services already supplied, as well as provision for identified legal and litigation risks in connection with foreign trade and customs.

28. Financial liabilities

Financial liabilities

	Total		Non-current		Current	
in € million	June 30, 2017	Dec. 31, 2016	June 30, 2017	Dec. 31, 2016	June 30, 2017	Dec. 31, 2016
Bonds and notes	98.1	353.6	97.9	97.9	0.2	255.7
Convertible bond	476.3	474.6	476.2	474.2	0.1	0.4
Financial liabilities arising from IAE-V2500 stake increase	352.7	400.3	301.0	345.2	51.7	55.1
Financial liabilities arising from other program participations	65.1	91.7	15.1	24.6	50.0	67.1
Financial liabilities to banks						
Note purchase agreement	30.1	30.1	30.0	30.0	0.1	0.1
Revolving credit facility	36.1				36.1	
Financial liabilities to related companies	0.9				0.9	
Finance lease liabilities	10.9	11.6	9.5	10.2	1.4	1.4
Total gross financial debt	**1,070.2**	**1,361.9**	**929.7**	**982.1**	**140.5**	**379.8**
Derivatives without hedging relationship	9.2	29.7	1.0	0.2	8.2	29.5
Derivatives with hedging relationship	4.4	86.4		25.8	4.4	60.6
Personnel-related financial liabilities	40.0	37.7	18.7	24.3	21.3	13.4
Other financial liabilities						
Repayment of grants toward development costs	26.4	30.5	17.5	21.3	8.9	9.2
Sundry other financial liabilities	133.0	155.4	2.3	2.7	130.7	152.7
Total other financial liabilities	**213.0**	**339.7**	**39.5**	**74.3**	**173.5**	**265.4**
Total financial liabilities	**1,283.2**	**1,701.6**	**969.2**	**1,056.4**	**314.0**	**645.2**

Registered bond

For detailed information on the registered bond, issued for a nominal amount of € 100.0 million, please refer to page 192 of the Annual Report 2016.

Convertible bond

With effect of May 17, 2016, MTU Aero Engines AG placed an unsecured convertible bond with a total par value of € 500.0 million. The bond is issued with preferential subscription rights and is convertible into new and / or existing registered non-par-value common shares of the bond issuer.

For a detailed description of the convertible bond, please refer to page 193 of the Annual Report 2016.

Financial liabilities arising from IAE-V2500 stake increase

The agreement signed by MTU in the financial year 2012 in order to increase its stake in the V2500 engine program by five percentage points to 16% included a deferred purchase price component contingent upon the number of flight hours performed over the next 15 years. At June 30, 2017, this liability, taking interest and partial settlements into account, amounted to € 352.7 million (December 31, 2016: € 400.3 million).

Financial liabilities arising from other program participations

The financial liabilities arising from other program participations mainly relate to deferred program entry payments for the PW1000G family of GTF engines, the PW800 and the LM6000-PF+.

Note purchase agreement

For detailed information on the note purchase agreement issued for a nominal amount of € 30.0 million, please refer to page 193 of the Annual Report 2016.

Revolving credit facility

The company has access to a revolving credit facility of € 600.0 million with five banks, which runs until October 28, 2021. A total of € 48.5 million had been drawn down under this facility at June 30, 2017, of which € 12.4 million in the form of guarantees in favor of third parties (December 31, 2016: € 13.8 million in the form of guarantees in favor of third parties). Any credit utilized is subject to interest at the customary market reference rate plus an additional margin. Unused credit facilities are subject to a loan commitment fee.

Finance lease liabilities

Finance lease liabilities represent obligations under finance lease arrangements that are capitalized and amortized using the effective interest rate method. For information on significant leased assets, please refer to page 175 of the Annual Report 2016.

Liabilities arising out of derivatives

The derivative financial instruments with and without hedging relationship, which amounted to € 13.6 million at the interim reporting date (Dec. 31, 2016: € 116.1 million), are held for the purpose of hedging exchange-rate and commodity-price risks. The substantial decrease in liabilities is attributable to the change in the exchange rate of the U.S. dollar to the euro compared to December 31, 2016.

Personnel-related financial liabilities

Personnel-related financial liabilities mainly comprise obligations relating to company pensions and the Christmas bonus. One-time capital payments and payments by installment relating to the company pension scheme amounted to € 22.3 million (December 31, 2016: € 26.0 million). Personnel-related financial liabilities also include liabilities to group employees under the MAP employee stock option program amounting to € 4.3 million (December 31, 2016: € 6.0 million). The total expense for payments under the MAP in the first six months of 2017 amounted to € 2.6 million (January to June 2016: € 2.0 million).

Repayment of grants toward development costs

In the financial years from 1976 through 1991, MTU received grants from the German Federal Ministry of Economics and Technology toward the development costs of the PW2000 engine. Once the sales figures of PW2000 production engines for the Boeing 757 and C-17 as set down in the grant notice have been met, MTU is obliged to reimburse the full sum of the grants received within a timeframe of ten years. In the financial years 2011 through 2016, a total amount of € 34.3 million was repaid, and a further € 4.7 million in the first six months of 2017.

Sundry other financial liabilities

The sundry other financial liabilities totaling € 133.0 million (December 31, 2016: € 155.4 million) include an amount of € 96.5 million (December 31, 2016: € 111.0 million) relating to obligations arising from externally acquired development services for the PW1000G family and the PW800 program. This item also includes customer credit balances amounting to € 12.7 million (Dec. 31, 2016: € 13.7 million) and numerous other smaller amounts relating to diverse contractual obligations.

30. Construction contract and service business payables

Construction contract and service business payables

in € million	June 30, 2017	Dec. 31, 2016
Advance payments received for construction contracts	283.5	329.4
Amount of above offset against construction contract receivables	–163.3	–206.8
Advance payments received for service business	230.2	221.6
Total construction contract and service business payables	**350.4**	**344.2**

Construction contract and service business payables represent the excess amount after advance payments received have been offset against the corresponding receivables, measured using the percentage-of-completion method (see Note 19: Construction contract and service business receivables).

31. Other liabilities

Other liabilities comprise the following items:

Other liabilities

	Total		Non-current		Current	
in € million	June 30, 2017	Dec. 31, 2016	June 30, 2017	Dec. 31, 2016	June 30, 2017	Dec. 31, 2016
Personnel-related liabilities						
Social security	0.5	1.6			0.5	1.6
Other personnel-related liabilities	44.3	30.2			44.3	30.2
Other tax liabilities	15.7	8.5			15.7	8.5
Sundry other liabilities	17.1	1.8	16.9		0.2	1.8
Total other liabilities	**77.6**	**42.1**	**16.9**		**60.7**	**42.1**

Personnel-related liabilities

The social security liabilities mainly comprise contributions to insurance associations for occupational accidents and accounts payable to health insurance providers. Other personnel-related liabilities principally concern vacation entitlements and flex-time credits.

Other tax liabilities

The other tax liabilities amounting to € 15.7 million (December 31, 2016: € 8.5 million) comprise outstanding personal income tax and church tax payments, solidarity surcharges and domestic and foreign transactional taxes.

32. Additional disclosures relating to financial instruments

Carrying amounts, measurement / recognition methods and fair value aggregated by category

In the following tables, the carrying amounts of financial instruments are aggregated by category, irrespective of whether or not the instruments fall within the scope of IFRS 7 or IAS 39. The information presented also includes separate amounts for each category as a function of the measurement / recognition method applied. Finally, the carrying amounts are set opposite the fair values for comparison.

Disclosures relating to financial instruments
Carrying amounts, measurement/recognition methods and fair values aggregated by category at June 30, 2017

in € million	Category as defined in IAS 39 / other category	Carrying amount June 30, 2017	Amount carried in balance sheet in accordance with IAS 39: Measured at amortized cost	Measured at cost	Fair value recognized in equity	Fair value recognized in income statement	Amount carried in balance sheet IAS 17	Financial instru-ments not within the scope of IAS 39 or IFRS 7	Total	Fair value June 30, 2017
ASSETS										
Other financial assets										
Loans, receivables, other financial assets	LaR	150.2	147.7					2.5	150.2	150.2
Available-for-sale financial assets	AfS	3.4		3.4					3.4	3.4
Trade receivables	LaR	701.7	701.7						701.7	701.7
Construction contract and service business receivables	LaR	447.5	447.5						447.5	447.5
Derivative financial assets										
Derivatives without hedging relationship	FAHfT	1.2				1.2			1.2	1.2
Derivatives with hedging relationship	n.a.	43.8			43.8				43.8	43.8
Cash and cash equivalents	LaR	81.9	81.9						81.9	81.9
EQUITY AND LIABILITIES										
Trade payables	FLAC	532.2	532.2						532.2	532.2
Financial liabilities										
Bonds and notes	FLAC	98.1	98.1						98.1	98.1
Convertible bond	FLAC	476.3	476.3						476.3	609.0
Financial liabilities arising from increase and acquisitions of program shares	FLAC	417.8	417.8						417.8	425.7
Other gross financial debt	FLAC	67.1	67.1						67.1	67.1
Derivative financial liabilities										
Derivatives without hedging relationship	FLHfT	9.2				9.2			9.2	9.2
Derivatives with hedging relationship	n.a.	4.4			4.4				4.4	4.4
Finance lease liabilities	n.a.	10.9					10.9		10.9	10.9
Other financial liabilities	FLAC/ n.a.	199.4	159.4					40.0	199.4	201.2
Thereof aggregated by category as defined in IAS 39										
Loans and receivables	LaR	1,381.3	1,378.8					2.5	1,381.3	1,381.3
Available-for-sale financial assets	AfS	3.4		3.4					3.4	3.4
Financial assets held for trading	FAHfT	1.2				1.2			1.2	1.2
Financial liabilities measured at amortized cost	FLAC/ n.a.	1,790.9	1,750.9					40.0	1,790.9	1,933.3
Financial liabilities held for trading	FLHfT	9.2				9.2			9.2	9.2

Abbreviations:
LaR = Loans and Receivables
HtM = Held-to-Maturity Investments
AfS = Available-for-Sale Financial Assets
FAHfT = Financial Assets Held for Trading
FLAC = Financial Liabilities Measured at Amortized Cost
FLHfT = Financial Liabilities Held for Trading
FLtPL = Financial Liabilities Measured at Fair Value Through Profit or Loss

Disclosures relating to financial instruments
Carrying amounts, measurement/ recognition methods and fair values aggregated by category 2016

in € million	Category as defined in IAS 39 / other category	Carrying amount Dec. 31, 2016	Amount carried in balance sheet in accordance with IAS 39				Amount carried in balance sheet IAS 17	Financial instru-ments not within the scope of IAS 39 or IFRS 7	Total	Fair value Dec. 31, 2016
			Measured at amortized cost	Measured at cost	Fair value recognized in equity	Fair value recognized in income statement				
ASSETS										
Other financial assets										
Loans, receivables, other financial assets	LaR	144.3	143.6					0.7	144.3	144.3
Available-for-sale financial assets	AfS	28.4		3.4	25.0				28.4	28.4
Trade receivables	LaR	692.1	692.1						692.1	692.1
Construction contract and service business receivables	LaR	393.2	393.2						393.2	393.2
Derivative financial assets										
Derivatives without hedging relationship	FAHfT									
Derivatives with hedging relationship	n.a.	0.4			0.4				0.4	0.4
Cash and cash equivalents	LaR	322.4	322.4						322.4	322.4
EQUITY AND LIABILITIES										
Trade payables	FLAC	634.9	634.9						634.9	634.9
Financial liabilities										
Bonds and notes	FLAC	353.6	353.6						353.6	356.9
Convertible bond	FLAC	474.6	474.6						474.6	565.8
Financial liabilities arising from increase and acquisitions of program shares	FLAC	492.0	492.0						492.0	495.1
Other gross financial debt	FLAC	30.1	30.1						30.1	30.1
Derivative financial liabilities										
Derivatives without hedging relationship	FLHfT	29.7				29.7			29.7	29.7
Derivatives with hedging relationship	n.a.	86.4			86.4				86.4	86.4
Finance lease liabilities	n.a.	11.6					11.6		11.6	11.6
Other financial liabilities	FLAC/ n.a.	223.6	185.9					37.7	223.6	225.9
Thereof aggregated by category as defined in IAS 39										
Loans and receivables	LaR	1,552.0	1,551.3					0.7	1,552.0	1,552.0
Available-for-sale financial assets	AfS	28.4		3.4	25.0				28.4	28.4
Financial liabilities measured at amortized cost	FLAC/ n.a.	2,208.8	2,171.1					37.7	2,208.8	2,308.7
Financial liabilities held for trading	FLHfT	29.7				29.7			29.7	29.7

Financial instruments not within the scope of IFRS 7 or IAS 39 mainly relate to personnel-related liabilities and the corresponding plan assets accounted for in accordance with IAS 19.

Cash and cash equivalents, trade receivables, and other receivables are generally due within a short time. The same is usually true for trade payables and other liabilities as well; the carrying amounts of these assets therefore correspond approximately to their fair value.

Classification of fair-value measurements of financial assets and liabilities according to the fair-value hierarchy

In order to comply with the rules governing the fair-value measurement of financial assets and liabilities, MTU assigns these assets and liabilities to three levels of a fair-value hierarchy.

The three levels of the fair-value hierarchy are described below, together with their utilization when measuring financial assets and liabilities:

Level 1 Quoted prices in active markets for identical assets or liabilities (unadjusted input);

Level 2 Prices of assets or liabilities that can be observed directly or indirectly (derived);

Level 3 Unobservable inputs used to measure prices of assets or liabilities.

The following tables show the allocation of financial assets and liabilities measured at fair value to the three levels of the fair-value hierarchy for 2017 and 2016:

Classification within the fair-value hierarchy at June 30, 2017

in € million	Level 1	Level 2	Level 3	Total
Financial assets measured at fair value				
Derivative financial instruments		45.0		45.0
Total financial assets		**45.0**		**45.0**
Financial liabilities measured at fair value				
Derivative financial instruments		13.6		13.6
Total financial liabilities		**13.6**		**13.6**

Classification within the fair-value hierarchy for the financial year 2016

in € million	Level 1	Level 2	Level 3	Total
Financial assets measured at fair value				
Derivative financial instruments		0.4		0.4
Available-for-sale financial assets		25.0		25.0
Total financial assets		**25.4**		**25.4**
Financial liabilities measured at fair value				
Derivative financial instruments		116.1		116.1
Total financial liabilities		**116.1**		**116.1**

The fair value of the derivative financial instruments and securities assigned to level 2 is measured using the discounted cash flow (DCF) method. The fair value of available-for-sale financial assets corresponds approximately to their nominal value, due to the interest rate conditions and credit-worthiness of the respective contractual partners.

Within the scope of its partnerships in engine programs, MTU is a party to aircraft financing agreements for the purpose of promoting sales. Such loan commitments are only ever entered into jointly with other partners in the engine consortium. They are provided in two basic forms: predelivery payment (PDP) and backstop commitments. In both cases, any funds made available to the purchaser are always transferred directly to the aircraft manufacturer solely by the consortium leader.

MTU classifies loan commitments offered up to the reporting date totaling a nominal amount, translated into euros, of € 348.6 million (December 31, 2016: € 387.5 million) as part of its gross risk in accordance with the requirements of IFRS 7. However, based on experience, it is considered to be very unlikely that these notional loan amounts will actually be utilized to their full extent. In the event that loan commitments are utilized, MTU considers the associated liquidity and credit risks to be manageable. For more information, especially concerning the terms of the loan agreements, please refer to page 202 of the Annual Report 2016.

37. Contingent liabilities and other financial obligations

At June 30, 2017, contingent liabilities amounted to € 30.6 million (December 31, 2016: € 36.0 million). Contingent liabilities and other financial obligations are not material to the financial position of the MTU group. As in previous periods, with the exception of certain obligations in connection with leasing arrangements, no amounts fell due for payment during the reporting period. Similarly, no amounts are expected to be paid during the rest of the financial year 2017. For information concerning the composition and nature of contingent liabilities and other financial obligations, please refer to page 212 of the Annual Report 2016.

Purchase commitments for intangible assets and property, plant and equipment amounted to € 88.4 million at June 30, 2017 (December 31, 2016: € 58.0 million).

38. Transactions with related companies and persons

Related companies

Transactions between group companies and joint ventures or associated companies were, without exception, conducted in the context of their normal business activities ad made on terms equivalent to those that prevail in arm's-length transactions.

Business transactions between companies included in the consolidated financial statements were eliminated in the course of consolidation and are therefore not subject to any separate disclosure.

Business with related companies

During the course of the reporting period, intra-group transactions involving the supply of goods and services were conducted by group companies as part of their normal operating activities (e.g. development, repairs, assembly, IT support).

Trade receivables from these companies at June 30, 2017 amounted to € 117.2 million (December 31, 2016: € 117.2 million), while trade payables totaled € 43.3 million (December 31, 2016: € 56.4 million). Income arising from intra-group transactions in the first six months of 2017 amounted to € 1,010.4 million (January to June 2016: € 803.2 million), while the corresponding expenses amounted to € 796.7 million (January to June 2016: € 558.3 million).

Related persons

No group company has conducted any significant transactions with members of the group's Executive Board or Supervisory Board, or with any other individuals holding key management positions, or with companies in which these persons hold a seat on the managing or supervisory board. The same applies to close members of the families of those persons.

Events after the interim reporting date (June 30, 2017)

No significant events with a material impact on the net assets, financial position or operating results of the MTU group have occurred after the end of the interim reporting period and prior to the date this half-year financial report was drawn up (July 24, 2017).

Publication of the half-year financial report

The half-year financial report of MTU Aero Engines AG, Munich, for the period from January 1 to June 30, 2017 will be published on the company's website on July 28, 2017.

Statement by the legal representatives

We hereby affirm that, to the best of our knowledge, the condensed interim consolidated financial statements present a true and fair view of the group's net assets, financial position and operating results in accordance with the applicable financial reporting standards, and that the interim group management report provides a faithful and accurate review of the group's business performance, including operating results and situation, and outlines the significant risks and opportunities of the group's likely future development.

Munich, July 24, 2017

Reiner Winkler Chief Executive Officer	Dr. Rainer Martens Chief Operating Officer	Michael Schreyögg Chief Program Officer

Auditor's opinion

Addressed to: MTU Aero Engines AG

We have reviewed the condensed interim consolidated financial statements prepared by MTU Aero Engines AG, Munich, comprising the Consolidated Income Statement, the Consolidated Statement of Comprehensive Income, the Consolidated Balance Sheet, the Consolidated Statement of Changes in Equity, the Consolidated Cash Flow Statement and selected explanatory notes, together with the interim group management report similarly prepared by MTU Aero Engines AG, Munich, for the interim reporting period from January 1, 2017 to June 30, 2017. These documents form part of the half-year financial report pursuant to Section 37w of the German Securities Trading Act (WpHG). The preparation of the condensed interim consolidated financial statements in accordance with IFRSs as endorsed for application in the EU, and the preparation of the interim group management report in accordance with the applicable requirements of the German Securities Trading Act (WpHG), are the responsibility of the group's legal representatives. Our responsibility is to express an opinion on the condensed interim consolidated financial statements and on the interim group management report based on our review.

We conducted our review of the condensed interim consolidated financial statements and of the interim group management report in accordance with German generally accepted standards for the auditing of financial statements promulgated by the Institute of Public Auditors in Germany (IDW). Those standards require that we plan and perform the review such that we obtain reasonable assurance that the condensed interim consolidated financial statements do not deviate significantly from the IFRS requirements concerning the presentation of interim reports, as endorsed for application in the EU, and that the interim group management report does not deviate – from the applicable requirements of the German Securities Trading Act (WpHG), based on our critical evaluation of these documents. In a review as opposed to a full audit, our evaluation is based principally on interviews with employees of the company and on analytical assessments. Its findings are therefore less reliable than those of a full audit. Since our review does not constitute an audit in the strict legal sense, we are unable to pronounce a certified opinion.

Nonetheless, based on our review, no findings have come to light that might lead us to conclude that the condensed interim consolidated financial statements do not comply with the IFRS requirements for interim financial reporting, as endorsed for application in the EU, nor that the interim group management report does not comply with the applicable requirements of the German Securities Trading Act (WpHG).

Munich, July 26, 2017

Ernst & Young GmbH

Wirtschaftsprüfungsgesellschaft

Keller	Westermeier
German Public Auditor	German Public Auditor

Additional information

Financial calendar

Interim financial report at June 30, 2017	July 28, 2017
Quarterly Statement at September 30, 2017	October 26, 2017
MTU analysts and investors conference 2017	December 12, 2017

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Translation

The German version takes precedence.

MTU Aero Engines AG online

- For more information about MTU Aero Engines AG, please visit our website at www.mtu.de.
- For direct access to the section devoted to investor relations, follow this link: www.mtu.de/de/investor-relations.
- Information on products made by MTU Aero Engines AG can be found at: www.mtu.de/engines

Cover page

Visual inspection of a PW1100G-JM low-pressure turbine disk at MTU Aero Engines, Munich

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