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Half-Year Financial Report

MTU AERO ENGINES AG

FINANCIAL YEAR 2021

Contents

Half-Year Financial Report 2021

January 1 to June 30, 2021

Key facts and figures

Key facts and figures for the group

in € million (unless stated otherwise)	Jan. 1 - June 30, 2021	Jan. 1 - June 30, 2020	Year-on-year change in € million	Year-on-year change in %
Income statement				
Revenue	2,004	2,049	-45	-2.2
Gross profit	290	315	-25	-7.9
Earnings before interest and taxes (EBIT)	168	199	-31	-15.6
Adjusted earnings before interest and taxes (adjusted EBIT)	190	224	-34	-15.3
Earnings before tax	146	177	-31	-17.7
Net income	103	125	-22	-17.6
Adjusted net income	135	161	-26	-16.3
Basic earnings per share (in €)	1.89	2.30	-0.41	-17.8
Diluted earnings per share (in €)	1.85	2.25	-0.40	-17.8
Revenue margins in %				
Earnings before interest and taxes (EBIT)	8.4	9.7		
Adjusted earnings before interest and taxes (adjusted EBIT)	9.5	10.9		
Earnings before tax	7.3	8.7		
Net income	5.1	6.1		
Adjusted net income	6.7	7.9		
Cash flow				
Cash flow from operating activities	283	229	54	23.7
Cash flow from investing activities	-123	-104	-19	-17.8
Free cash flow	187	125	62	49.3
Cash flow from financing activities	-236	47	-283	<-100
Change in cash and cash equivalents	-74	168	-242	<-100

in € million (unless stated otherwise)	June 30, 2021	Dec 31, 2020	Year-on-year change in € million	Year-on-year change in %
Balance sheet				
Intangible assets	1,154	1,135	19	1.7
Cash and cash equivalents	695	773	-78	-10.0
Pension provisions	968	1,009	-42	-4.1
Equity	2,667	2,635	32	1.2
Net financial debt	698	781	-83	-10.6
Order backlog	**20,505**	**18,608**	**1,897**	**10.2**
Number of employees	**10,210**	**10,313**	**-103**	**-1.0**
Commercial and military engine business (OEM)	6,259	6,409	-150	-2.3
Commercial maintenance business (MRO)	3,951	3,904	47	1.2

Interim group management report

The MTU Group

MTU's portfolio covers the entire lifecycle of commercial and military aircraft engines and aero-derivative industrial gas turbines. The company's activities range from development, manufacturing and marketing to maintenance.

Research and development

The pace of technological development in the aviation sector is very high and requires continual innovation. Alongside ongoing development of the commercial and military engine programs in which MTU is currently involved, development work at MTU includes work on German and EU development programs for future engine programs.

Research and development expenses developed as follows in the reporting period:

Research and development expenses

in € million	Jan. 1 - June 30, 2021	Jan. 1 - June 30, 2020	Year-on-year change in € million	Year-on-year change in %
Commercial engine business (OEM)	81	88	-7	-7.5
Military engine business (OEM)	14	7	7	94.3
Commercial maintenance business (MRO)	7	3	4	>100
Total research and development expenses	**102**	**98**	**4**	**4.1**
less: customer-funded R&D expenditure	27	14	13	88.3
Company-funded R&D expenses	**75**	**84**	**-9**	**-10.3**
Expenditure meeting recognition criteria for intangible assets				
regarding commercial engine business (OEM)	23	33	-10	-30.2
regarding commercial maintenance business (MRO)	0	1	-0	-37.2
Research and development costs recognized as expense	**52**	**51**	**1**	**2.7**
Amortization of capitalized development costs	12	11	1	5.2
Development costs recognized in adjusted EBIT	**64**	**62**	**2**	**3.2**
thereof: amounts accounted for as revenue or cost of sales	26	38	-11	-29.8
thereof: amounts accounted for as research and development expenses	37	24	13	54.5

A distinction is made between company- and customer-funded research and development projects. Company-funded projects are funded out of the Group's own resources, while customer-funded projects are ordered and paid for by customers. The company-funded research and development expenses are presented in Note 3 to the condensed consolidated interim financial statements ("Research and development expenses").

Economic report

Macroeconomic conditions

In light of the development of the pandemic, the outlook for the global economy has brightened and a recovery is starting. However, this is dependent on the effectiveness of vaccination programs and health policy. Consequently, it has been erratic, with regional differences. Some economies have recovered faster than others.

In the first six months of 2021, governments and central banks continued to take or extend far-reaching measures to protect people and companies. This has prevented the health and economic crisis becoming a financial crisis. In many places, restrictions are being relaxed in response to rising vaccination rates and low incident rates. Nevertheless, the path to recovery remains uncertain and there is a risk of further waves of infection, especially as a result of new variants of the virus.

In those countries that have prevented major outbreaks of Covid-19, including China, Australia, New Zealand, South Korea and Taiwan, the economy remains strong. In the first three months of this year, the Chinese economy grew by 0.6% compared with the previous quarter. In the U.S.A., GDP was 1.6% higher than in the fourth quarter of 2020 thanks to rising consumer demand. In the euro zone, there was an economic downturn in the first quarter as a consequence of the winter wave of the pandemic, which led to repeated lockdowns and tougher restrictions. Compared with the previous quarter, GDP in the euro zone contracted by 0.3% in the first quarter.

Sector-specific conditions within the aviation industry

In April, passenger demand (measured in revenue passenger kilometers or RPKs) was 55% below the pre-crisis level (source: IATA). The pandemic-related restrictions on international air travel were a major reason for this.

Flight analyses show that the downward trend in the sector bottomed out at the start of February and that the situation is steadily improving. Since the beginning of February, there has been a continuous increase in the number of passenger flights in aircraft with more than 100 seats. The weekly decline in flights decreased from 58% in February to 37% in the first week of July (source: Flightradar 24). Moreover, the number of planes with more than 100 seats in active service increased to 73% at the end of June (source: Cirium Fleets Analyzer).

The price of Brent crude oil rose in the first six months and was U.S.$69 per barrel on July 1, compared with an average price of U.S.$42 per barrel in 2020 (source:

U.S. Energy Information Administration). That raises the financial burden on airlines and supports demand for efficient, modern aircraft.

As a result of reduced output and the postponement of orders, Airbus and Boeing delivered a total of 433 commercial aircraft in the first six months of 2021. In the same period of 2019 – prior to the crisis – 589 aircraft were delivered. At the end of June 2021, there were 12,425 orders on these two aircraft manufacturers' books, slightly less than in the prior-year period (–6.2%) due to the drop in deliveries and a moderate number of cancellations (433 in the first half of the year) (source: Cirium Fleets Analyzer).

Financial situation

Information on exchange rates

The development of the U.S. dollar is particularly important for MTU's international business. The U.S. dollar exchange rate was U.S.$1.19 per €1 as of June 30, 2021 (December 31, 2020: U.S.$1.23 per €1). The average exchange rate in the period from January 1 through June 30, 2021 was U.S.$1.21 per €1 (H1 2020: U.S.$1.10 per €1).

Results of operations

Reconciliation to adjusted key performance figures

The reconciliation from earnings before interest and taxes to adjusted earnings before interest and taxes and adjusted net income is as follows:

Reconciliation to adjusted key performance figures

in € million	Jan. 1 - June 30, 2021	Jan. 1 - June 30, 2020	Year-on-year change in € million	Year-on-year change in %
Earnings before interest and taxes (EBIT)	**168**	**199**	**–31**	**–15.6**
Adjustment of exceptional items in the EBIT	22	25	–3	–13.6
Adjusted earnings before interest and taxes (adjusted EBIT)	**190**	**224**	**–34**	**–15.3**
Interest result	–15	–6	–10	<-100
Interest cost on pension provisions	-3	–5	2	33.6
Adjusted earnings before tax	**171**	**214**	**–42**	**–19.8**
Income taxes	–36	–53	16	30.6
Adjusted net income	**135**	**161**	**–26**	**–16.3**

The reconciliation serves to factor special items out of the key earnings figures of the Group and its business segments. In this way, the success of managing operating activities is measured. The adjusted earnings figures furthermore support comparability over time, and between MTU and other companies. MTU utilizes the following adjusted key performance figures in its financial reports: adjusted earnings before interest and taxes (adjusted EBIT), the adjusted EBIT margin, and adjusted net income. The earnings figures do not come under the provisions of the International Financial Reporting Standards (IFRSs); they are to be seen as an addition to the key financial indicators reported pursuant to IFRS.

In the interests of ensuring comparability of the EBIT figure, it is adjusted for the material contributions (special items) resulting from the "effects from purchase price allocation," the "effects from the increase in the stake in IAE-V2500," accrued "impairment losses (IAS 36)" and "restructuring expenses (IAS 37)", and the disposal groups (IFRS 5).

As of January 1, 2004, MTU passed into the ownership of Kohlberg Kravis Roberts & Co. Ltd. (KKR), following the latter's purchase of 100% of the MTU shares from the then DaimlerChrysler AG. In the context of the acquisition, assets, liabilities and contingent liabilities were identified in accordance with IFRS 3 and measured at fair value. Since then, the identified intangible assets, in particular, have resulted in substantial amortization. The latter are referred to collectively as "effects from purchase price allocation." The contributions from the "effects from an increase in the stake in IAE-V2500" result from the increase in the stake in the V2500 program in 2012, which is capitalized as an acquired program asset and is accounted for as a reduction in revenue over its estimated economic life of 25 years.

Similarly, the effect of special items is eliminated from earnings before income taxes. To establish adjusted earnings before income taxes, net interest income/expense and the interest shares in other financial income/expense connected with provisions for pensions and liabilities from pensions and plan assets are added to adjusted EBIT. All other components of financial income/expense, especially those that are influenced by the U.S. dollar exchange rate, such as the effects of exchange-rate hedging, are adjusted.

Adjusted net income is derived from adjusted earnings before income taxes. The normalized income taxes are calculated on the basis of the expected sustained average tax rate for the Group of 26%. The profit/loss of companies accounted for using the equity method does not form part of the tax base. In prior periods, a Group tax rate of 29% was used to derive the “normalized” taxes. The downward trend corresponds to the expected development of growth in the international business of the MTU Group and the international distribution of the Group’s tax base.

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. As of June 30, 2021, the order backlog was approximately €20.5 billion, corresponding to a theoretical production workload of around four and a half years.

Revenue
Revenue declined by €45 million year-on-year (2.2%) to €2,004 million in the first six months of 2021, mainly due to the pandemic. Revenue from the commercial and military engine business dropped by €112 million (13.8%) to €701 million. Revenue from the commercial maintenance business increased by €80 million to €1,352 million, driven above all by additional maintenance business in connection with the stake in the PW1100G-JM program.

Cost of goods sold and gross profit
In correlation with revenue, in the first six months of 2021, the costs of goods sold declined by €20 million (1.2%) to €1,714 million. The gross profit was €290 million in the first six months, a drop of €25 million (7.9%) compared with the reference period. The decline relative to revenue was above-average as business performance was affected by the Covid-19 crisis. As a consequence, the gross margin dropped to 14.5% (January through June 2020: 15.4%).

Earnings before interest and taxes (EBIT)
Earnings before interest and taxes dropped by €31 million (15.6%) to €168 million in the first six months of 2021 (January through June 2020: €199 million). Adjusted earnings before interest and taxes declined to €190 million (January through June 2020: €224 million) and the adjusted EBIT margin was therefore 9.5% (January through June 2020: 10.9%).

Net financial income / expense
Net financial expense was €22 million in the reporting period (January through June 2020: €22 million). The €10 million deterioration in net interest income/expense was mainly due to interest expense for the corporate bond issued in the third quarter of 2020. This was offset by a year-on-year improvement of €10 million in the effects of currency translation recognized in other financial income/expense.

Earnings before income taxes
Earnings before income taxes fell by €31 million to €146 million in the first six months of 2021 (January through June 2020: €177 million).

Net income
Net income decreased to €103 million (January through June 2020: €125 million). Net income attributable to shareholders of MTU Aero Engines AG was €101 million (January through June 2020: €122 million). Adjusted net income was €135 million, which was €26 million lower than in the same period of the previous year (January through June 2020: €161 million).

Consolidated statement of comprehensive income
In the consolidated statement of comprehensive income, the net income of €103 million (January through June 2020: €125 million) is reconciled with the total comprehensive income for the period of €105 million (January through June 2020: €68 million).

Income and expense items directly recognized in other comprehensive income in the first six months of 2021, net of deferred taxes, mainly comprised negative changes in the fair value of cash flow hedges totaling €49 million (January through June 2020: €24 million), positive effects from currency translation of foreign Group companies totaling €29 million (January through June 2020:

negative effects of €23 million), and actuarial gains from changes in interest rates in connection with the measurement of pension obligations and plan assets totaling €27 million (January through June 2020: actuarial losses of €9 million).

Of the total comprehensive income for the period of €105 million (January through June 2020: €68 million), €100 million is attributable to shareholders of MTU Aero Engines AG (January through June 2020: €65 million).

Financial position

The principles and objectives of financial management are outlined on page 41 et seq. of the Annual Report 2020 and are still applied unchanged by the Group. There were the following changes compared with the consolidated financial statements as of December 31, 2020:

The promissory note with a nominal value of €100 million issued by MTU Aero Engines AG on May 6, 2020 was repaid on June 10, 2021 when it matured.

Further, the company waived a prolongation of the temporary increase in the revolving credit facility agreed with five banks from €600 million to €700 million, which had initially been agreed up to May 11, 2021 (see also Note 28 to the condensed consolidated interim financial statements as of June 30, 2021 ["Financial liabilities"]). Of the remaining credit facility of €600 million, €39 million has been drawn down in the form of guarantees as of June 30, 2021 (December 31, 2020: €35 million).

The Group's borrowing mainly comprises bonds, notes and convertible bonds.

Free cash flow

MTU determines its free cash flow from the total of its cash flow from operating activities and its cash flow from investing activities, after eliminating components of the latter (non-recurring cash flows) that are outside the operational management of the core business. In the calculation of the free cash flow, corresponding adjustments were therefore made for non-recurring cash outflows for the acquisition of stakes in programs in the net amount of €26 million (January through June 2020: €1 million) and non-recurring cash outflows for aircraft or engine financing arrangements in the amount of €1 million (January through June 2020: €0 million). The adjusted cash outflows for the acquisition of program stakes relate, in particular, to the extension of license rights and, on this basis, the access to market contingents for the maintenance and repair of the General Electric CF34 engine types by MTU Maintenance Berlin-Brandenburg GmbH, Ludwigsfelde.

A free cash flow of €187 million was realized in the first six months of 2021 (January through June 2020: €125 million).

Financial position

			Year-on-year change	
in € million	Jan. 1 - June 30, 2021	Jan. 1 - June 30, 2020	in € million	in %
Cash flow from operating activities	283	229	54	23.7
Cash flow from investing activities	-123	-104	-19	-17.8
+ Cash flow adjustments	27	1	26	>100
Free cash flow	**187**	**125**	**62**	**49.3**
- Cash flow adjustments	-27	-1	-26	<-100
Cash flow from financing activities	-236	47	-283	<-100
Translation differences	2	-4	6	>100
Change in cash and cash equivalents	**-74**	**168**	**-242**	**<-100**
Cash and cash equivalents				
at the beginning of the reporting period	773	139	633	>100
at the end of the reporting period	698	307	391	>100
thereof: presented as cash and cash equivalents	695	307	388	>100
thereof: presented as part of disposal groups of assets	3		3	

Cash flow from operating activities

In the first six months of the 2021 fiscal year, the cash flow from operating activities was €283 million (January through June 2020: €229 million). The year-on-year rise resulted mainly from optimization of working capital and dividends received from companies accounted for using the equity method.

Cash flow from investing activities

The cash outflow for investing activities was €123 million in the first six months of the 2021 fiscal year (January through June 2020: €104 million). Cash outflows for investments in intangible assets amounted to €52 million (January through June 2020: €19 million). They mainly comprised expenditures for the extension of the license for the CF34 engine program and for company-funded development assets for the Geared Turbofan™ programs and the PW800 engine program.

Cash outflows for investment in property, plant and equipment amounted to €81 million in the reporting period (January through June 2020: €65 million). The funds were used for both new technical equipment, plant and machinery and manufacturing aides, which were required to ramp up serial production and prepare for maintenance of the Geared Turbofan™ programs, and to procure replacements for existing technical equipment, plant and machinery. Investment in the new site in Serbia should also be mentioned. In addition, proceeds of €18 million were generated from the sale of property, plant and equipment (January through June 2020: €2 million).

Investment in financial assets amounted to €1 million (January through June 2020: €17 million). In 2021, no contributions were made to the equity of PW1100G-JM Engine Leasing LLC., East Hartford, U.S.A., which supports the leasing activities of the PW1100G-JM engine program (January through June 20: €12 million).

In the first half of 2021, €9 million (January through June 2020: €5 million) was spent on program assets (acquisition costs to purchase and/or increase program stakes) and acquired development assets relating to participation in consortia for commercial engine programs.

Cash flow from financing activities

Between January 1 and June 30, 2021, the cash outflow for financing activities was €236 million (January through June 2020: cash inflow of €47 million). The main drivers of the cash outflow in the reporting period were the repayment of a €100 million promissory note, the dividend payment of €67 million for the 2020 fiscal year, a share buyback of €31 million and the redemption of the €30 million note purchase agreement.

Change in cash and cash equivalents

The development of the cash flow, including currency effects, resulted in a decline of €78 million in cash and cash equivalents (January through June 2020: increase of €168 million).

The disclosure of cash and cash equivalents included in the assets held for sale as of the reporting date (IFRS 5) relates to Vericor Power Systems LLC., Alpharetta, U.S.A. As of the reporting date, the management and supervisory bodies of MTU Aero Engines AG had a concrete intention of selling this company.

Net financial debt

Net financial debt serves as an indicator of the MTU Group's liquidity situation and is defined as the difference between gross financial debt and financial assets. As of June 30, 2021, net financial debt declined by €83 million to €698 million (December 31, 2020: €781 million).

Net financial debt

in € million	June 30, 2021	Dec. 31, 2020	Year-on-year change in € million	Year-on-year change in %
Bonds and notes	594	603	-9	-1.4
Convertible bonds	532	538	-6	-1.2
Promissory notes		100	-100	-100.0
Other financial liabilities to banks		30	-30	-100.0
thereof: note purchase agreement		30	-30	-100.0
Financial liabilities to related companies	2	0	2	>100
Lease liabilities	165	177	-12	-6.9
Financial liabilities arising from acquisition of stakes in engine programs	135	138	-3	-2.3
thereof: financial liabilities arising from IAE-V2500 stake increase	129	132	-3	-2.4
Gross financial debt	**1,428**	**1,586**	**-158**	**-10,0**
less:				
Cash and cash equivalents	695	773	-78	-10.0
Loans to third parties	35	33	2	6.7
Financial assets	**730**	**805**	**-75**	**-9.4**
Net financial debt	**698**	**781**	**-83**	**-10.6**

For a detailed explanation of the bonds and notes and the financial liabilities from the increase in the stake in the IAE V2500, please refer to the explanations on page 163 et seq. of the Annual Report 2020 of MTU Aero Engines AG.

Net assets

Changes in balance sheet items

Total assets were €8,099 million as of June 30, 2021, almost unchanged from December 31, 2020 (€8,104 million).

Non-current assets were €111 million lower than on December 31, 2020 at €3,918 million, while current assets were €38 million higher at €4,112 million. Moreover, due to the concrete intention of selling its stake in Vericor Power Systems LLC., Alpharetta, U.S.A., MTU recognized assets held for sale (IFRS 5) totaling €68 million as of June 30, 2021 (December 31, 2020: €0 million).

In the first six months of 2021, intangible assets totaling €52 million were recognized (January through June 2020: €19 million). The additions mainly comprise expenses for extension of the license in connection with the General Electric CF34 engine program and capitalized, self-created development assets for the PW800 engine types and the Pratt & Whitney Geared Turbofan™.

Additions to property, plant and equipment amounted to €95 million in the first six months of 2021 (January through June 2020: €106 million).

Acquired program assets, development assets and other assets declined by €19 million to €955 million, mainly due to the impact of amortization on revenue.

In the first half of 2021, trade receivables increased by €158 million to €1,128 million and income tax receivables rose by €40 million to €82 million. By contrast, inventories decreased by €40 million to €1,239 million, contract assets declined by €17 million to €853 million, current other financial assets fell by €17 million to €84 million, other current assets dropped by €8 million to €32 million and cash and cash equivalents declined by €78 million to €695 million.

Group equity increased by €32 million compared with the level on December 31, 2020 to €2,667 million.

In the first six months of 2021, equity was increased by net income of €103 million (January through June 2020: €125 million), positive effects from currency translation of foreign Group companies totaling €27 million (January through June 2020: negative effects of €23 million), actuarial gains of €27 million, mainly due to changes in the discount rate for pension obligations and plan assets (January through June 2020: actuarial losses of €9 million), the sale of treasury shares in an amount of €23 million (January through June 2020: €23 million) in connection with the employee stock option program and €2 million (January through June 2020: €5 million) in connection with the restricted stock plan, and €8 million from conversions of the convertible bond 2016 (January through June 2020: €0 million). Equity was reduced by payment of the dividend for 2020 totaling €67 million, reductions in the fair value of cash flow hedges totaling €49 million (January through June 2020: €24 million), the share buy-back amounting to €31 million, dividend payments of €8 million to non-controlling interests (January through June 2020: €0 million), and reductions in the fair value of equity investments totaling €6 million (January through June 2020: €1 million). No dividend was paid in the reference period (January through June 2020). The equity ratio was 32.9% (December 31, 2020: 32.5%).

Pensions provisions were €42 million lower than on December 31, 2020, mainly due to an increase in the discount rate. Other provisions declined by €3 million to €195 million. This was principally attributable to the utilization of provisions for obligations relating to restructuring measures. This decline was offset to a large extent by an increase in provisions for bonuses and one-time payments.

Financial liabilities declined by €150 million compared with December 31, 2020 to €1,571 million. The reduction was mainly due to repayment of the promissory note and the note purchase agreement.

Trade payables were €220 million as of June 30, 2021, which was €51 million higher than on December 31, 2020.

Compared with December 31, 2020, contract liabilities decreased by €29 million to €710 million. This decline was mainly due to the reclassification of advance payments received relating to Vericor Power Systems LLC., Alpharetta, U.S.A., to the balance sheet item “Liabilities held for sale” (IFRS 5). Furthermore, advance payments received are recognized as contract liabilities if they exceed the associated contract assets.

Other liabilities increased by €30 million compared with December 31, 2020 to €64 million. This was principally due to higher obligations to employees.

Employees

MTU had 10,210 employees on June 30, 2021 (December 31, 2020: 10,313).

Events after the reporting date

Events after the reporting date (June 30, 2021)
There were no events of specific importance with a significant impact on the net assets, financial position and results of operations of the MTU Group between the interim reporting date and the adoption of this half-year financial report on July 26, 2021.

Forecast, risk and opportunity report

In order to take best advantage of market opportunities and to identify and manage the risks involved, the Executive Board has established an integrated opportunity and risk management system. This 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 includes the internal control system for the accounting process in accordance with Sections 289 (5) and 315 (2) No. 5 of the German Commercial Code (HGB). For a more detailed description of the attributes of this system and the methods applied, please refer to the Annual Report 2020, page 87 et seq.

Forecast

Macroeconomic conditions

The growth forecast depends on many factors, especially how the pandemic develops, the duration of lockdowns, their impact on economic activity and the effectiveness of fiscal and monetary policy stimulation.

Current forecasts assume that global GDP will grow by between 5% and 6% in 2021. This is based on the assumption that travel restrictions will be abolished in the second half of the year and there will not be a further wave of infections. In June 2021, the World Bank forecast 5.6% growth in the global economy. In its June forecast for 2021, the Economist Intelligence Unit (EIU) predicts that global GDP will rise by 5.3%.

The reasons for this growth are progress in dealing with the pandemic and the resulting economic recovery in the developed nations.

Asia and North America should recover faster and could regain the pre-crisis level in 2021. The recovery in Europe, Latin America, the Middle East and Africa will take longer and continue into 2022.

Sector-specific conditions within the aviation industry

The airlines' global revenue is expected to rise from U.S.$372 billion in 2020 to around U.S.$458 billion in 2021 (IATA forecast of April 2021). IATA assumes a lower annual loss of around U.S.$45 billion or 10% of revenue (2020: U.S.$126 billion or 33% of revenue).

For 2021, IATA is forecasting that passenger traffic will increase by 23% compared with 2020. That would still be 45% below the pre-crisis level. Tourism Economics and IATA forecast that passenger traffic will only return to the 2019 level in 2023. Domestic flights with short and mid-haul aircraft should recover earlier – in 2022 – while long-haul international flights are only expected to recover to the pre-crisis level in 2024.

This expected recovery in demand is confirmed by the announcement that Airbus and Boeing are adjusting production of new aircraft. Airbus is planning a stepwise increase in total output. The production rate of the A320 family will be adjusted from 45 to 64 planes per month by the second quarter of 2023. Boeing intends to increase monthly deliveries of its best-selling 787 from five to 14 aircraft, but has not published a concrete timeline. The low production rates at present are contributing to the delays in taking older aircraft out of service ahead of schedule.

The cargo business is doing very well. Despite lower capacity due to the unavailability of belly cargo space on passenger flights, revenue is expected to rise in 2021. While only 73% of the passenger fleet was in use as of June 30, 2021, the figure for the cargo fleet was 92% (source: Cirium Fleets Analyzer). The CF6- 80C and PW2000 programs are benefiting particularly from this development as 61% of their fleet is in the cargo sector.

Future performance of MTU

MTU has given more precise details of its guidance for 2021 compared with the Annual Report 2020.

MTU now expects sales to be between €4,300 and €4,500 million, based on an assumed exchange rate of U.S.$1.20 per €1.

This revenue forecast is based on the following assumptions:

In the commercial OEM business, MTU expects to report growth in business with both new components and spare parts. Overall, this business area should post growth in the low to mid single-digit percentage range.

Growth in the commercial OEM business is mainly dependent on a renewed rise in deliveries of the new Geared Turbofan™ programs.

Growth in the spare parts business will be driven mainly by the V2500 program and strong demand for engines for cargo planes.

Revenue in the military business should grow by a mid to high single-digit percentage in 2021.

For the commercial MRO business, MTU is forecasting organic growth of between 15% and 20%.

MTU predicts that the adjusted EBIT margin will be between 10% and 10.5% in 2021.

Previously, it forecast an adjusted EBIT margin of between 9.5% and 10.5%.

MTU also expects that adjusted net income will rise analogously to EBIT in 2021.

Investment spending will increase further in 2021. However, MTU plans to offset these expenses out of the operating business and a year-on-year increase in the free cash flow conversion rate (free cash flow/adjusted EBIT). This is now expected to be in the mid to high double-digit percentage range.

Originally, it was expected to be in the mid double-digit percentage range.

In its half-year report, MTU is raising the forecast for the free cash flow conversion rate, reflecting the fact that the free cash flow performance in the first six months was better than had been expected.

Risks

In view of its business activities, its involvement in a globally networked market with a wide range of different economic and political conditions and its business relationships dominated by consortia, MTU is exposed to risks that could influence its economic development. The aviation sector and the aviation industry are particularly affected by the ongoing global Covid-19 pandemic because international flights are still curtailed to a significant extent by restrictions imposed by individual states and the risk that virus mutations could spread. As a consortium partner and supplier to this sector, MTU is greatly affected by this crisis.

In the commercial new OEM components business and as a service provider in the commercial after-sales market, MTU is feeling the effects of the Covid-19 pandemic on many of its business activities. A clear drop in demand for passenger flights and air cargo, partly due to ongoing travel restrictions, will continue to be felt in a more cautious approach by MTU's customers to new orders for products and services, which could lead to considerable postponements or even the cancellation of some of the orders that have already been received.

Covid-19 could have a negative impact on MTU's stakes in commercial engine programs in the mid- to long-term, i.e., it could result in impairment losses on the value of the related assets or increase (contingent) liabilities from such participations and MTU's obligations as a member of risk- and revenue-sharing partnerships (RRSP). The impact of the Covid-19 pandemic on the aviation industry is therefore affecting MTU's forecasting ability for its stakes in commercial engine programs. Based on the restrictions on air travel, MTU currently anticipates in particular that there will be delays in the materialization of marketing of its products and services to the respective engine OEMs.

The Covid-19 pandemic could also lead to further operational challenges within the MTU Group because MTU has to protect the health and safety of its employees and there could be disruption at workplaces. To protect the health of its employees, MTU has proactively introduced social distancing and hygiene measures and is conducting an in-house vaccination drive. Moreover, MTU's operations could still be adversely affected by restrictions on the movement of people, raw materials and goods from and to its locations, suppliers or customers. MTU could also be indirectly affected by the effects of the Covid-19 pandemic on its suppliers. Some suppliers may have to temporarily suspend operations, confronting MTU with additional business disruption and challenges in the short or mid term. Therefore, MTU could be exposed to risks in respect of costs that are necessary to meet its contractual commitments as well as risks to its product supply schedules, possibly including penalties.

The restrictions on air travel in connection with the Covid-19 pandemic are having a direct impact on the solvency of commercial airlines. Alongside the implications for future demand for MTU products and services outlined above, which has a direct effect on the value of non-current intangible assets, other non-current assets and inventories, there are risks relating to the contract assets and financial assets recognized as of the reporting date. The latter also relate to MTU's stakes in the OEM sales financing arrangements recognized. Although MTU has many years' experience in handling such risks, especially credit risks in the aviation industry, the present situation confronts it with additional challenges. MTU is endeavoring to address these, in particular through continuous, intensive risk analyses and risk-oriented security (collateral, guarantees, etc.).

As a long-term effect of the Covid-19 pandemic, MTU could face more rapid changes in usage patterns or aviation regulations, which could adversely affect its business model. There is already a public debate about the ecological and social implications of air travel and air cargo driven by the ongoing global climate debate. This has heightened personal and corporate awareness of travel and consumption behavior. Potential changes in usage patterns and the applicable regulations could be intensified and given new momentum by experience during the Covid-19 pandemic, e.g., the shift from business trips to online video conferences. If a reduction in travel and altered consumer spending patterns are regarded as socially desirable by the general public, this could have a sustained negative impact on MTU's business model. As already mentioned, this would involve the risk of impairment losses on investments in commercial engine programs (non-current other assets, intangible assets) and, furthermore, affect the forecast long-term growth of the aviation industry and thus MTU's business potential in its current market segments.

These effects would have a direct impact on the performance indicators of both segments. Only the military business is not directly affected by the Covid-19 pandemic, either at present or in the foreseeable future. The risks in the military business still come mainly from political conditions such as export restrictions and budget reductions for new transactions.

MTU is actively monitoring and dealing with the effects of the Covid-19 pandemic. Nevertheless, the unprecedented situation resulting from the Covid-19 pandemic and uncertainty about its duration, future development and knock-on effects are seriously hampering MTU's ability to plan and forecast its business operations, especially in the short and mid term. Although MTU consults with government agencies at national and international level, as well as with OEMs and other representatives of the sector, there is a risk that it may not be (fully) able to forecast the business impact of the Covid-19 pandemic and future developments in connection with the climate debate. These could have a detrimental effect on MTU's business, cash flow, results of operations and financial position. To mitigate the impact, MTU has also implemented many countermeasures in 2021. It is addressing the present need to maintain and expand strategic resources, on the one hand, and the need to maximize the efficiency of costs and liquidity, on the other, with great determination.

Over and above this, MTU currently sees the same potential risks as outlined in the Annual Report 2020. For further details of these risks, please refer to the Annual Report 2020, page 60 et seq. (risk report).

Opportunities

MTU's business model, which focuses on the commercial engine business, military business and commercial maintenance, and its balanced product mix give it a good market position in each of its business areas. New opportunities arise from continuous investment in research, development and new technologies, strengthening risk- and revenue-sharing partnerships and extending the maintenance business.

Despite the effects of the Covid-19 pandemic, MTU sees opportunities in all business areas. In the commercial engines business, the company sees opportunities to play an above-average part in the recovery and growth of the aircraft industry through its stake in efficient GTF engine technology. In the military engine programs, orders in connection with the European FCAS program, export drives and the replacement of existing engine fleets offer opportunities for additional sales and the related maintenance business.

Over and above this, MTU currently sees the same potential opportunities as outlined in the Annual Report 2020. For a full overview of the opportunities, please refer to the Annual Report 2020, page 72 et seq. (opportunity report).

Overall assessment of the risk and opportunity situation at MTU

Thanks to its extensive risk and opportunity management system, MTU is able to identify risk areas and potential opportunities at an early stage, so it can take suitable measures to actively manage and mitigate risks and exploit opportunities. There has only been a slight change in the MTU Group's risk and opportunity situation compared with the assessment as of December 31, 2020 and MTU still classifies its risk management system as effective to counter present and future challenges.

As a result of continued close monitoring of the effects of Covid-19 pandemic and the measures developed and introduced as a result, MTU considers that in the present situation it is well-placed to come through the unprecedented disruption in the aviation industry and has taken steps to emerge strengthened and well-positioned. In view of its continuously updated countermeasures, MTU considers that the risk position is manageable. From the present viewpoint, there is no threat to the survival of the MTU Group.

Report on material transactions with related parties

For information on the main transactions with related companies and individuals please refer to Note 40 to the condensed consolidated interim financial statements (“Related party disclosures”).

Condensed consolidated interim financial statements

Consolidated income statement

Consolidated income statement (unaudited)

in € million	(Note)	Jan. 1 - June 30, 2021	Jan. 1 - June 30, 2020
Revenue	**(1.)**	**2,004**	**2,049**
Cost of goods sold	(2.)	–1,714	–1,734
Gross profit		**290**	**315**
Research and development expenses	(3.)	–37	–24
Selling expenses	(4.)	–57	–75
General administrative expenses	(5.)	–46	–42
Other operating income		24	24
Other operating expenses		–38	–31
Profit/loss of companies accounted for using the equity method	(7.)	31	33
Profit/loss of equity investments		1	0
Earnings before interest and taxes (EBIT)		**168**	**199**
Net interest income/expense	(8.)	–15	–6
Other financial income/expense	(9.)	–7	–16
Net financial income/expense		**–22**	**–22**
Earnings before income taxes		**146**	**177**
Income taxes	(10.)	–43	–52
Net income		**103**	**125**
thereof:			
Owners of MTU Aero Engines AG		101	122
Non-controlling interests		2	3
Earnings per share in €			
Basic (EPS)	(11.)	1.89	2.30
Diluted (DEPS)	(11.)	1.85	2.25

Consolidated statement of comprehensive income

Consolidated statement of comprehensive income (unaudited)

in € million	(Note)	Jan. 1 - June 30, 2021	Jan. 1 - June 30, 2020
Net income		**103**	**125**
Translation differences arising from the financial statements of foreign entities		29	-23
Financial instruments designated as cash flow hedges		-49	-24
Items that may subsequently be recycled to profit or loss		-19	-47
Actuarial gains and losses on pension obligations and plan assets		27	-9
Changes in the fair value of equity investments		-6	-1
Items that will not be recycled to profit or loss		21	-10
Other comprehensive income after taxes	**(24.)**	**2**	**-57**
Total comprehensive income		**105**	**68**
thereof:			
Owners of MTU Aero Engines AG		100	65
Non-controlling interests		5	3

Consolidated balance sheet – assets

Assets (unaudited)

in € million	(Note)	June 30, 2021	Dec. 31, 2020
Non-current assets			
Intangible assets	(14.)	1,154	1,135
Property, plant and equipment	(15.)	1,146	1,161
Financial assets accounted for using the equity method	(16.)	532	556
Other financial assets	(16.)	81	137
Acquired program assets, development work and other assets	(17.)	955	973
Deferred taxes		51	67
Total non-current assets		**3,918**	**4,030**
Current assets			
Inventories	(19.)	1,239	1,278
Trade receivables	(20.)	1,128	969
Contract assets	(21.)	853	870
Income tax receivables		82	42
Other financial assets	(16.)	84	101
Other assets	(17.)	32	40
Cash and cash equivalents	(23.)	695	773
Total current assets		**4,112**	**4,074**
IFRS 5 - Disposal groups of assets	**(42.)**	**68**	
Total assets		**8,099**	**8,104**

Consolidated balance sheet – equity and liabilities

Equity and liabilities (unaudited)

in € million	(Note)	June 30, 2021	Dec. 31, 2020
Equity	**(24.)**		
Subscribed capital		53	53
Capital reserves		525	508
Retained earnings		2,332	2,298
Treasury shares		–17	–2
Accumulated other comprehensive income		–305	–304
Owners of MTU Aero Engines AG		**2,588**	**2,553**
Non-controlling interests		78	82
Total equity		**2,667**	**2,635**
Non-current liabilities			
Pension provisions		942	984
Other provisions	(27.)	63	64
Refund liabilities	(31.)		9
Financial liabilities	(28.)	1,407	1,434
Contract liabilities	(30.)	9	10
Other liabilities	(32.)	7	0
Deferred taxes		0	0
Total non-current liabilities		**2,427**	**2,501**
Current liabilities			
Pension provisions		26	26
Income tax liabilities		7	5
Other provisions	(27.)	132	134
Refund liabilities	(31.)	1,659	1,583
Financial liabilities	(28.)	164	288
Trade payables		220	169
Contract liabilities	(30.)	701	729
Other liabilities	(32.)	57	34
Total current liabilities		**2,966**	**2,968**
IFRS5 - Disposal groups of liabilities	**(42.)**	**39**	
Total equity and liabilities		**8,099**	**8,104**

Consolidated statement of changes in equity

For information on the components of equity, please refer to Note 24 “Equity” in the selected explanatory notes to the financial statements.

Consolidated statement of changes in equity (unaudited)

in € million	Sub-scribed capital	Capital reserves	Revenue reserves	Treasury shares	Accumulated other equity				Owners of MTU Aero Engines AG	Non-controlling interests	Total equity
					Translation differenc-es arising from the financial state-ments of foreign entities	Changes in the fair value of equity invest-ments	Actuarial gains/ losses[1]	Financial instru-ments designated as cash flow hedges			
Carrying amount as of Jan. 1, 2020	**53**	**460**	**2,160**	**–11**	**22**	**11**	**–316**	**–44**	**2,336**	**86**	**2,421**
Net income			122						122	3	125
Other comprehensive income					–23	–1	–9	–24	–57	0	–57
Total comprehensive income			**122**		**–23**	**–1**	**–9**	**–24**	**65**	**3**	**68**
Convertible bond 2016		0							0		0
Restricted Stock Plan		3		2					5		5
MAP employee stock option program		16		7					23		23
Carrying amount as of June 30, 2020	**53**	**480**	**2,282**	**–2**	**–1**	**9**	**–325**	**–67**	**2,429**	**89**	**2,518**
Carrying amount as of Jan. 1, 2021	**53**	**508**	**2,298**	**–2**	**–32**	**13**	**–348**	**62**	**2,553**	**82**	**2,635**
Net income			101						101	2	103
Other comprehensive income					27	–6	27	–49	–1	2	2
Total comprehensive income			**101**		**27**	**–6**	**27**	**–49**	**100**	**5**	**105**
Dividend payment			–67						–67	–8	–75
Convertible bond 2016	0	8							8		8
Restricted Stock Plan		2		0					2		2
MAP employee stock option program		7		17					23		23
Share buy-back				–31					–31		–31
Carrying amount as of June 30, 2021	**53**	**525**	**2,332**	**–17**	**–5**	**6**	**–321**	**14**	**2,588**	**78**	**2,667**

[1] Refers to pension obligations and plan assets

Consolidated cash flow statement

Consolidated cash flow statement (unaudited)

in € million	(Note)	Jan. 1 - June 30, 2021	Jan. 1 - June 30, 2020
Operating activities			
Net income		**103**	**125**
Non-cash accounting adjustments to capitalized program assets and acquired development assets		23	26
Depreciation/appreciation, amortization and impairment of non-current assets		111	110
Profit/loss of companies accounted for using the equity method	(7.)	-31	-33
Profit/loss of equity investments		-1	-0
Gains/losses on the disposal of assets		0	0
Change in pension provisions		40	7
Change in other provisions	(27.)	-39	-52
Change in refund liabilities (not included in working capital)		-42	-8
Change in working capital		78	28
Other non-cash items		19	12
Interest result	(8.)	15	6
Interest paid		-25	-9
Interest received		1	2
Dividends received		46	1
Income taxes	(10.)	43	52
Income taxes paid		-57	-41
Cash flow from operating activities		**283**	**229**
Investing activities			
Capital expenditure on:			
Intangible assets	(14.)	-52	-19
Property, plant and equipment	(15.)	-81	-65
Financial assets	(16.)	-1	-17
Acquired program assets and development assets	(17.)	-9	-5
Proceeds from disposal of:			
Intangible assets/property, plant and equipment	(14.)/(15.)	18	2
Financial assets	(16.)	0	0
Change in cash from changes in consolidation		1	
Cash flow from investing activities		**-123**	**-104**
Financing activities			
Repayment of/proceeds from notes	(28.)	-100	100
Repayment of leasing liabilities	(28.)	-17	-21
Increase in/Repayment of liabilities to banks	(28.)	-30	-10
Dividend payment		-75	
Settlement of financial liabilities arising from increased or new stakes in engine programs	(28.)	-8	-46
Sale of treasury shares under the MAP employee stock option program/Restricted Stock Plan		23	23
Share buyback	(28.)	-31	
Increase in/Repayment of other financial liabilities	(28.)	2	1
Cash flow from financing activities		**-236**	**47**
Net change in cash and cash equivalents during the period		**-76**	**172**
Effect of translation differences on cash and cash equivalents		2	-4
Cash and cash equivalents at beginning of the year (January 1)		773	139
Cash and cash equivalents at end of period (June 30)		**698**	**307**
thereof: presented as cash and cash equivalents		695	307
thereof: presented as part of disposal groups of assets (IFRS 5)	(42.)	3	

Notes to the interim consolidated financial statements

Consolidated segment report

Segment information

For information on the activities of the individual operating segments, please refer to the notes in the Annual Report 2020, page 197 et seq. There was no change in the segmentation in the first six months of 2021.

The segment information is as follows:

Consolidated segment report

in € million	Commercial and military engine business (OEM) Jan. 1 - June 30, 2021	Commercial and military engine business (OEM) Jan. 1 - June 30, 2020	Commercial maintenance business (MRO) Jan. 1 - June 30, 2021	Commercial maintenance business (MRO) Jan. 1 - June 30, 2020	Total reportable segments Jan. 1 - June 30, 2021	Total reportable segments Jan. 1 - June 30, 2020	Consolidation/ reconciliation Jan. 1 - June 30, 2021	Consolidation/ reconciliation Jan. 1 - June 30, 2020	MTU group Jan. 1 - June 30, 2021	MTU group Jan. 1 - June 30, 2020
External revenues	678	792	1,326	1,257	2,004	2,049			2,004	2,049
Revenues from intersegment sales	24	22	26	16	50	37	-50	-37		
Total revenues	**701**	**814**	**1,352**	**1,272**	**2,054**	**2,086**	**-50**	**-37**	**2,004**	**2,049**
Gross profit	**178**	**180**	**113**	**135**	**291**	**315**	**-1**	**0**	**290**	**315**
Amortization	20	19	3	3	23	23			23	23
Non-cash amortization of capitalized program assets and acquired development work	23	27			23	27			23	27
Depreciation	55	49	33	36	88	85			88	85
Impairment losses				3		3				3
Total depreciation/ amortization/ impairment losses	**98**	**94**	**36**	**42**	**134**	**136**			**134**	**136**
Earnings before interest and taxes (EBIT)	**92**	**104**	**76**	**95**	**168**	**199**	**-0**	**-0**	**168**	**199**
thereof: special item depreciation/amortization effect of purchase price allocation	9	9	1	1	10	10			10	10
thereof: special items from increase in the stake in IAE-V2500	11	15			11	15			11	15
Adjusted earnings before interest and taxes (adjusted EBIT)	**113**	**128**	**77**	**96**	**190**	**224**	**-0**	**-0**	**190**	**224**
Profit/loss of companies accounted for using the equity method	13	12	18	21	31	33			31	33
Carrying amount of companies accounted for using the equity method (June 30, 2021/ Dec. 31, 2020)	302	323	229	233	532	556			532	556
Assets (June 30, 2021/ Dec. 31, 2020)	**6,916**	**6,996**	**2,289**	**2,344**	**9,205**	**9,340**	**-1,106**	**-1,237**	**8,099**	**8,104**
Liabilities (June 30, 2021/ Dec. 31, 2020)	**4,625**	**4,698**	**1,572**	**1,667**	**6,198**	**6,365**	**-766**	**-896**	**5,432**	**5,469**
Material non-cash items	**17**	**13**	**1**	**-0**	**19**	**13**		**-0**	**19**	**12**
Capital expenditure:										
Intangible assets	25	19	27	1	52	19			52	19
Property, plant and equipment	45	50	50	56	95	106			95	106
Acquired program assets and development assets	1	8			1	8			1	8
Total capital expenditure	**72**	**77**	**77**	**56**	**149**	**134**			**149**	**134**
Key segment data:										
EBIT in % of revenues	13.1	12.8	5.6	7.5	8.2	9.5	0.2	-0.5	8.4	9.7
Adjusted EBIT in % of revenues	16.0	15.7	5.7	7.6	9.2	10.8	0.2	-0.5	9.5	10.9

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

Reconciliation to MTU consolidated earnings before tax

in € million	Jan. 1 - June 30, 2021	Jan. 1 - June 30, 2020
Earnings before interest and taxes (EBIT)	**168**	**199**
Interest income	1	2
Interest expenses	-16	-8
Financial result on other items	-7	-16
Earnings before tax	**146**	**177**

Accounting principles and policies

MTU Aero Engines AG, Munich, together with its consolidated companies, is a manufacturer of engine modules and components as well as a provider 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 engines and spare parts through to maintenance, repair and overhaul. MTU's business activities are divided into two operating segments: the commercial and military engine business (OEM) and the commercial maintenance business (MRO).

MTU's commercial and military engine business 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 commercial maintenance segment comprises maintenance, repair and overhaul as well as logistics support for commercial engines.

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

The condensed consolidated interim financial statements were approved for publication by the Executive Board of MTU Aero Engines AG, Munich, on July 26, 2021.

Financial reporting

In accordance with the provisions of Section 115 of the German Securities Trading Act (WpHG), the half-year financial report of MTU comprises condensed consolidated interim financial statements, an interim Group management report and a responsibility statement. The condensed, unaudited consolidated interim statements were prepared in accordance with the International Financial Reporting Standards (IFRSs) for interim reporting, as applicable in the EU, and the interim Group management report was prepared in accordance with the applicable regulations of the German Securities Trading Act (WpHG).

Statement of compliance

The condensed consolidated interim financial statements as of June 30, 2021 have been prepared in accordance with International Accounting Standard (IAS) 34 "Interim Financial Reporting." MTU applied all International Financial Reporting Standards (IFRSs) issued by the International Standards Board (IASB) that were in effect at the time when the condensed consolidated interim financial statements were prepared and had been endorsed by the European Commission for use in the EU.

The same accounting policies were applied in the condensed consolidated interim financial statements as in the consolidated financial statements as of December 31, 2020. In addition, the changes relating to phase 2 of the interest rate benchmark reform were applied. These had to be applied for the first time for fiscal years beginning on or after January 1, 2021. However, they did not have any material impact on the condensed interim consolidated financial statements of MTU.

The condensed interim consolidated financial statements do not contain all information and disclosures required for consolidated financial statements at the end of the fiscal year so they should be read in conjunction with the consolidated financial statements of MTU as of December 31, 2020.

In the opinion of the management, the half-year financial report contains all customary ongoing accounting adjustments that are necessary for a fair presentation of the results of operations, financial position and net assets of the MTU Group. The accounting policies used for the consolidated financial statements are explained in the notes to the consolidated financial statements as of December 31, 2020, starting on page 126.

Consolidated group

As of June 30, 2021, the MTU Group, including MTU Aero Engines AG, Munich, comprised shares in 35 companies.

In the reporting period, MTU Aero Engines AG and Safran Aircraft Engines S.A.S., Paris, France, established EUMET GmbH. Each company holds 50% of the shares in EUMET GmbH. The purpose of this joint venture is the development and production of the Next Generation Fighter Engine (NEFE), and the related support, for Europe's new fighter plane, the Next Generation Fighter (NGF).

Furthermore, MTU intends to sell its shares in Vericor Power Systems LLC., Alpharetta, U.S.A. For this reason, the assets and liabilities of this company are presented as a disposal group in separate balance sheet items – "Assets held for sale (IFRS 5)" and "Liabilities held for sale (IFRS 5)".

Estimation uncertainties

The approach to estimation uncertainties is essentially based on the principles outlined in the Annual Report 2020, page 135 et seq. In the event of deviations, these are presented in the relevant note.

Notes to the consolidated income statement

1. Revenue

Revenues – Prior-year amounts adjusted

in € million	Revenue recognized at a point in time	Revenue recognized over time	Jan. 1 - June 30, 2021	Revenue recognized at a point in time	Revenue recognized over time	Jan. 1 - June 30, 2020
Commercial engine business	515		515	631		631
Military engine business	120	67	187	115	69	183
Commercial and military engine business (OEM)	**634**	**67**	**701**	**745**	**69**	**814**
Commercial maintenance business (MRO)	**58**	**1,294**	**1,352**	**51**	**1,221**	**1,272**
Consolidation	-24	-26	-50	-22	-16	-37
Total revenue	**668**	**1,336**	**2,004**	**775**	**1,274**	**2,049**

2. Cost of goods sold

Cost of goods sold

in € million	Jan. 1 - June 30, 2021	Jan. 1 - June 30, 2020
Cost of materials	-1,234	-1,317
Personnel expenses	-362	-345
Depreciation and amortization	-107	-107
Other cost of goods sold	-33	2
Capitalized development costs	23	32
Total cost of goods sold	**-1,714**	**-1,734**

Analogously to revenue, in the first six months of 2021, the cost of goods sold decreased at a below-average rate compared with the same period of the previous year. This was mainly due to the currency-related remeasurement of the refund liabilities and the resulting increase in the sales deductions as a result of the stronger U.S. dollar. Moreover, while the fixed costs were unchanged, in the first half of 2021, the Covid-related restrictions on business operations affected the entire reporting period, whereas in the first half of 2020 they were only relevant for the second quarter.

The other cost of goods sold still comprise principally changes in inventories of finished goods and work in progress and currency effects. The net cost of goods sold in the reporting period is reduced by capitalization of self-generated development assets in the form of intangible assets due to the corresponding company-funded work for the benefit of engine program stakes in the commercial and military engines business (OEM segment).

3. Research and development expenses

Research and development expenses

in € million	Jan. 1 - June 30, 2021	Jan. 1 - June 30, 2020
Cost of materials	−22	−14
Personnel expenses	−14	−10
Depreciation and amortization	−1	−1
Other development costs	−1	−0
Capitalized development costs	0	1
Research and development costs recognized as expense	**−37**	**−24**

4. Selling expenses

Selling expenses

in € million	Jan. 1 - June 30, 2021	Jan. 1 - June 30, 2020
Cost of materials	−10	−11
Personnel expenses	−39	−37
Depreciation and amortization	−1	−1
Other selling expenses	−7	−27
Total selling expenses	**−57**	**−75**

Alongside marketing and advertising expenses, the selling expenses contain impairments and derecognition of trade receivables, which are included in other selling expenses.

5. General administrative expenses

General administrative expenses

in € million	Jan. 1 - June 30, 2021	Jan. 1 - June 30, 2020
Cost of materials	−4	−4
Personnel expenses	−34	−30
Depreciation and amortization	−2	−2
Other administrative expenses	−6	−6
Total general administrative expenses	**−46**	**−42**

General administrative expenses are expenses incurred in connection with administrative activities that cannot be directly allocated 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, 2021	Jan. 1 - June 30, 2020
Associated companies	13	12
Joint ventures	19	21
Profit/loss of companies accounted for using the equity method	**31**	**33**

8. Net interest income / expense

Net interest income/expense

in € million	Jan. 1 - June 30, 2021	Jan. 1 - June 30, 2020
Interest income	**1**	**2**
Interest expense:		
Bonds and notes	−10	−2
Convertible bonds	−2	−2
Liabilities to banks	−0	−0
Lease liabilities	−2	−2
Other interest expense	−3	−2
Capitalized borrowing costs for qualifying assets	2	2
Interest expense	**−16**	**−8**
Net interest income/expense	**−15**	**−6**

9. Other financial income / expense

Other financial income/expense

in € million	Jan. 1 - June 30, 2021	Jan. 1 - June 30, 2020
Effects of currency translation: exchange rate gains/losses on:		
Currency holdings	3	-9
Financing transactions	-0	-0
Lease liabilities	-2	-1
Fair value gains/losses on derivatives		
Currency derivatives	-1	5
Commodity forwards	1	-1
Interest included in measurement of assets and liabilities		
Pension obligations and plan assets	-3	-5
Receivables, other provisions and liabilities	-3	-5
Miscellaneous other financial income/expense	-0	-0
Other financial income/expense	**-7**	**-16**

10. Income taxes

Analysis of current and deferred income taxes

in € million	Jan. 1 - June 30, 2021	Jan. 1 - June 30, 2020
Current income taxes	-20	-32
Deferred income taxes	-23	-20
Income tax expense	**-43**	**-52**

11. Earnings per share

To determine diluted earnings per share, the average number of common shares that could potentially be issued through the granting of equity instruments in connection with financial instruments outstanding as of the reporting date is added to the weighted average number of outstanding shares.

In the first six months of 2021, the net income attributable to the shareholders of MTU Aero Engines AG was €101 million (January through June 2020: €122 million). The weighted average number of outstanding shares in the period January through June 2021 was 53,307,744 (January through June 2020: 52,890,595 shares). This results in basic earnings per share of €1.89 in the first six months of 2021 (January through June 2020: €2.30).

Diluted earnings per share were €1.85 (January through June 2020: €2.25). Diluting effects arose from 1,756,060 shares that could potentially be issued through the convertible bond issued in May 2016 and the convertible bond issued in September 2019.

Notes to the consolidated balance sheet

14. Intangible assets

The intangible assets are program-independent technologies, development assets, technical software and acquired goodwill.

In the first six months of 2021, intangible assets amounting to €52 million were recognized (January through June 2020: €19 million). These comprised prepayments for intangible assets in the amount of €26 million as well as self-created development assets and related borrowing costs by €24 million (January through June 2020: €18 million).

Amortization of intangible assets was €23 million in the first six months of 2021 (January through June 2020: €23 million).

15. Property, plant and equipment

In the period from January 1 to June 30, 2021, additions to property, plant and equipment amounted to €95 million (January through June 2020: €106 million) and mainly comprised technical equipment, plant and machinery, operational and office equipment, and the corresponding prepayments. Depreciation of property, plant and equipment was €88 million in the first six months of 2021 (January through June 2020: €85 million).

16. Financial assets

Financial assets accounted for using the equity method

The financial assets accounted for using the equity method are described in the Annual Report 2020, page 149 et seq.

Other financial assets

Breakdown of other financial assets

in € million	Total		Non-current		Current	
	June 30, 2021	Dec. 31, 2020	June 30, 2021	Dec. 31, 2020	June 30, 2021	Dec. 31, 2020
Financial assets measured at purchase cost	**109**	**101**	**40**	**39**	**69**	**62**
Loans to third parties[1]	35	33	35	33		
Receivables from employees	1	1			1	1
Receivables from suppliers	13	23			13	23
Miscellaneous other financial assets	60	44	5	6	55	38
Financial assets measured at fair value through other comprehensive income	**15**	**27**	**15**	**27**		
Other interests in related companies	15	27	15	27		
Derivatives without hedging relationship	**1**	**1**	**0**	**0**	**1**	**1**
Derivatives with hedging relationship	**40**	**109**	**26**	**71**	**14**	**38**
Total other financial assets	**165**	**238**	**81**	**137**	**84**	**101**

[1] Included in net financial debt

The main reasons for the reduction in other financial assets are the change in receivables from suppliers and lower positive fair values of currency derivatives.

As of the reporting date, there was no relevant need to recognize impairment losses for other financial assets, especially for sales financing arrangements recognized in loans to third parties, mainly due to the existence of compensatory collateral.

17. Acquired program assets, development work and other assets

The total amount of acquired program assets recognized in profit or loss in the reporting period was €19 million (January through June 2020: €22 million).

MTU acquired development assets amounting to €0 million in the first six months of 2021 (January through June 2020: €7 million). In the reporting period, compensation payments for development work in an amount of €4 million (January through June 2020: €4 million) paid to consortium leaders (OEMs) were offset against revenue.

As well as claims to tax refunds, the other assets include prepaid maintenance charges, insurance premiums and rents.

19. Inventories

Inventories

in € million	June 30, 2021	Dec. 31, 2020
Raw materials and supplies	-638	-618
Work in progress	-377	-429
Finished goods	-209	-218
Advance payments	-15	-13
Total inventories	**-1,239**	**-1,278**

As of the reporting date, there were no material impairment effects that were mainly due to Covid-19.

20. Trade receivables

Trade receivables

in € million	June 30, 2021	Dec. 31, 2020
Third parties	532	465
Related companies	596	505
Total trade receivables	**1,128**	**969**

As of the reporting date, there were no material impairment effects resulting from Covid-19.

21. Contract assets

The contract assets result from performance obligations that have been satisfied, where receipt of the agreed consideration depends on acceptance of the performance obligation by the customer and the amounts becoming due for payment. The changes in the reporting period were attributable to the development of the operating business, which was dominated by seasonal trends.

As of the reporting date, there were no material impairment effects resulting from Covid-19.

23. Cash and cash equivalents

The cash and cash equivalents comprise cash in hand and bank balances. This item also includes foreign-currency holdings with an equivalent value of €69 million (December 31, 2020: €32 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 €53 million and is divided into 53 million non-par-value registered shares.

The capital reserves contain premiums from the issue of shares and the equity component (net of proportional transaction costs and taxes) of the bond issued in 2007 and redeemed or converted in 2012, the convertible bond issued in 2016, which was partially redeemed in 2019, and the convertible bond issued in 2019.

A total of 53,318,661 outstanding shares in MTU Aero Engines AG, Munich, were in circulation as of June 30, 2021 (June 30, 2020: 53,041,078 shares). The company held 80,088 treasury shares as of June 30, 2021 (June 30, 2020: 54,410 shares).

In May 2021, 150,000 shares (0.28% of the capital stock) were repurchased in utilization of the authorization of the Annual General Meeting of April 11, 2019. The share buyback supports execution of multi-year employee participation programs in the form of the employee stock option program and the restricted stock plan. Further information on the share buyback is available on MTU's internet site (https://www.mtu.de/investor-relations/mtu-share/share-buyback/).

27. Other provisions

The other provisions take account of obligations arising from warranty and liability risks, personnel obligations and invoices not yet received. The €3 million decrease in other provisions to €195 million results from the utilization of provisions for restructuring measures in connection with the reduction of capacity. Relative to the prior-year period, this utilization more than compensated for the higher accruals for bonuses and one-time payments for the present fiscal year.

28. Financial liabilities

Financial liabilities

	Total		Non-current		Current	
in € million	June 30, 2021	Dec. 31, 2020	June 30, 2021	Dec. 31, 2020	June 30, 2021	Dec. 31, 2020
Bonds and notes	594	603	594	593	0	9
Convertible bonds	532	538	532	538	0	0
Promissory note		100				100
Financial liabilities arising from increased or new stakes in engine programs	135	138	122	109	13	29
Financial liabilities to banks						
Note purchase agreement		30				30
Financial liabilities to related companies	2	0			2	0
Lease liabilities	165	177	97	132	68	45
Total gross financial debt	**1,428**	**1,586**	**1,345**	**1,372**	**83**	**214**
Derivatives without hedging relationship	0	0	0		0	0
Derivatives with hedging relationship	4	0	2		2	0
Personnel-related financial liabilities	97	91	60	62	37	30
Miscellaneous other financial liabilities	43	44	0	0	43	44
Total other financial liabilities	**143**	**135**	**62**	**62**	**81**	**74**
Total financial liabilities	**1,571**	**1,722**	**1,407**	**1,434**	**164**	**288**

Bonds and notes
For full details of the registered bond with a nominal value of €100 million and the corporate bond with a nominal value of €500 million, please refer to the Annual Report 2020, page 163.

Convertible bonds
On May 17, 2016, MTU Aero Engines AG issued a senior unsecured convertible bond with a total nominal value of €500 million. This bond is convertible into new and/or existing registered non-par-value shares in the issuing company. Due to partial redemption in 2019 and conversions since then, the remaining nominal value is €53 million.

Furthermore, in 2019, MTU Aero Engines AG issued a senior unsecured convertible bond with a total nominal value of €500 million. This bond is convertible into non-par-value common shares in MTU from September 18, 2024.

For a full description of the convertible bonds, please refer to the Annual Report 2020, page 163 et seq.

Promissory note
The promissory note with a nominal value of €100 million was repaid on the due date, June 10, 2021.

Financial liabilities arising from increased or new stakes in engine programs
Financial liabilities arising from the increase in the stake in IAE-V2500
The agreement signed by MTU in the fiscal year 2012 in order to increase its stake in the V2500 engine program by 5 percentage points to 16% included a deferred payment component contingent upon the number of flight hours performed over the next 15 years. Since there has been a substantial change in the estimate of the relevant flight hours in the wake of the coronavirus pandemic, the above purchase price liability and the corresponding program asset for the increase in the stake in the IAE-V2500 were reduced in 2020.

Financial liabilities arising from the acquisition of stakes in programs
The financial liabilities arising from the acquisition of stakes in programs mainly relate to program lifetime-related payments for the acquisition of shares in Pratt & Whitney and GE engine programs.

Note purchase agreement
The note purchase agreement with a nominal value of €30 million was repaid on the due date, March 27, 2021.

Revolving credit facility
The company has concluded a revolving credit facility with five banks. In 2019, the credit facility was for €600 million. On May 11, 2020, it was increased by €100 million to €700 million. This increase ran for one year and could be extended twice by 6 months in each case at the company's request. This increase expired without utilization of the extension option. As of June 30, 2021, €39 million of this credit facility had been drawn down in the form of guarantees (December 31, 2020: €35 million). Any credit utilized is subject to interest at the customary market reference rates plus an additional margin. Unused credit facilities are subject to a loan commitment fee.

Lease liabilities
Lease liabilities relate to liabilities under leases recognized using the effective interest rate method.

For a description of the main leased items, please refer to the Annual Report 2020, page 148 and page 188 et seq.

Liabilities from derivatives
The derivatives of €4 million with and without hedging relationships recognized as financial liabilities as of the reporting date (December 31, 2020: €0 million) are used to offset currency and commodity price risks. The increase in these liabilities corresponds to the hedging rates for the derivatives held relative to the U.S. dollar/euro exchange rate on the reporting date.

Personnel-related financial liabilities
The personnel-related financial liabilities mainly comprise entitlements to lump-sum and installment payments under company pension plans totaling €59 million (December 31, 2020: €70 million), granted claims arising from restructuring measures totaling €14 million (December 31, 2020: €6 million), claims to vacation pay, Christmas pay and collectively agreed one-time payments totaling €12 million (December 31, 2020: €0 million) and claims of €7 million (December 31, 2020: €11 million) arising from the employee stock option program. The total expense resulting from the stock option program in the first six months of 2021 was €5 million (January through June 2020: €4 million).

Miscellaneous other financial liabilities
The miscellaneous other financial liabilities of €43 million (December 31, 2020: €44 million) contain customer credits of €13 million (December 31, 2020: €17 million) and a large number of minor individual obligations.

30. Contract liabilities
The contract liabilities contain advance payments for the delivery of engine modules and components and for maintenance and repair services.

Where there are corresponding contract assets, these are offset in accordance with IFRS 15. In the reporting period, contract liabilities amounting to €183 million (December 31, 2020: €145 million) were offset against the corresponding contract assets.

31. Refund liabilities

Refund liabilities

	Total		Non-current		Current	
in € million	June 30, 2021	Dec. 31, 2020	June 30, 2021	Dec. 31, 2020	June 30, 2021	Dec. 31, 2020
Warranty und liability risks[1]	394	462	0	0	394	462
Invoice corrections[1]	528	500	0	0	528	500
Subsequent costs	807	678	0	9	807	668
Advance performances (prepayments)[1]	–70	–48	0	0	–70	–48
Total refund liabilities	**1,659**	**1,593**	**0**	**9**	**1,659**	**1,583**

[1] In order to increase reporting transparency, the refund liabilities and the advance payments made to the consortia in this regard are reported gross (prior-year figures adjusted).

The refund liabilities for warranty and liability risks correspond to the compensation obligations due to the consortium leader (OEM) or program company as a result of defective workmanship, and the share of the expenses of the engine program under risk- and revenue-sharing models for commercial engine programs. The decline in the reporting period corresponds primarily to the invoicing of the corresponding items by the consortia leaders (OEM) within the respective engine consortia.

The refund liabilities for invoice corrections are retrospective adjustments to the prices in contracts with customers. The increase in the reporting period corresponds to business activity close to the reporting date and the stronger U.S. dollar exchange rate. In accordance with invoicing practice for shares in commercial engine programs, retrospective adjustments are regularly made to the allocated share of revenue. Settlement of these price corrections was still outstanding as of the reporting date. The increase in the reporting period corresponds to business activity, which is dominated by seasonal effects, and the development of the U.S. dollar exchange rate.

The subsequent costs mainly comprise accruals for the share of marketing expenses for civil engine programs for which a final invoice has yet not been issued by the consortium leader (OEM) but which are already recognized as revenue reductions. The increase relates principally with the outstanding charge-through of program expenses for the commercial series business and the development of the U.S. dollar exchange rate.

The prepayments made to consortia leaders as of the reporting date in connection with the stakes in commercial engine programs (risk-and-revenue sharing) comprise proportionate funding of compensatory program activities for warranty and liability risks and corrections of invoices. The offsetting of these prepayments against the corresponding refund liabilities regularly takes place with a time lag through invoicing by the consortium leader (OEM).

32. Other liabilities

Other liabilities

in € million	Total		Non-current		Current	
	June 30, 2021	Dec. 31, 2020	June 30, 2021	Dec. 31, 2020	June 30, 2021	Dec. 31, 2020
Personnel-related liabilities						
Social security	1	1			1	1
Other personnel-related liabilities	36	17			36	17
Other tax liabilities	20	14			20	14
Miscellaneous other liabilities	7	2	7	0	1	1
Total other liabilities	**64**	**34**	**7**	**0**	**57**	**34**

Personnel-related liabilities

The other liabilities are mainly due to employees' unused vacation entitlements and flextime credits. Their development in the reporting period was dominated by normalization following the pandemic-driven restrictions on business operations in the previous year.

Other tax liabilities

The tax liabilities of €20 million (December 31, 2020: €14 million) relate to payable wage and church taxes, solidarity surcharge and transactional taxes in Germany and other countries.

33. Additional disclosures relating to financial instruments

Carrying amounts, measurement / recognition methods and fair values
The following tables present the carrying amounts of financial instruments, regardless whether the instruments fall within the scope of IFRS 7 or IFRS 9. In addition, the carrying amounts are compared to the fair values.

Disclosures relating to financial instruments
Carrying amounts, measurement/recognition methods and fair values as of June 30, 2021

	Carrying amount June 30, 2021	Amount carried in balance sheet			Amount carried in balance sheet IFRS 16	Financial instruments not within the scope of IFRS 9 or IFRS 7	Total	Fair value as of June 30, 2021
in € million		Measured at amortized cost	Fair value through other comprehensive income	Fair value through profit or loss				
ASSETS								
Financial assets								
Loans and receivables	109	103				6	109	109
Other interests in related companies	15		15				15	15
Trade receivables	1,128	1,128					1,128	1,128
Derivative financial assets								
Derivatives without hedging relationship	1			1			1	1
Derivatives with hedging relationship	40		40				40	40
Cash and cash equivalents	695	695					695	695
EQUITY AND LIABILITIES								
Refund liabilities	1,659	1,659					1,659	1,659
Trade payables	220	220					220	220
Financial liabilities								
Bonds and notes	594	594					594	666
Convertible bonds (2016 and 2019)	532	532					532	570
Financial liabilities arising from increased or new stakes in engine programs	135	135					135	140
Financial liabilities to banks								
Financial liabilities to related companies	2	2					2	2
Lease liabilities	165				165		165	165
Derivative financial liabilities								
Derivatives without hedging relationship	0			0			0	0
Derivatives with hedging relationship	4		4				4	4
Other financial liabilities	139	43				97	139	139

Disclosures relating to financial instruments
Carrying amounts, measurement/recognition methods and fair values as of Dec. 31, 2020

in € million	Carrying amount Dec. 31, 2020	Amount carried in balance sheet			Amount carried in balance sheet IFRS 16	Financial instruments not within the scope of IFRS 9 or IFRS 7	Total	Fair value as of Dec. 31, 2020
		Measured at amortized cost	Fair value through other comprehen-sive income	Fair value through profit or loss				
ASSETS								
Financial assets								
Loans and receivables	101	94				7	101	101
Other interests in related companies	27		27				27	27
Trade receivables	969	969					969	969
Derivative financial assets								
Derivatives without hedging relationship	1			1			1	1
Derivatives with hedging relationship	109		109				109	109
Cash and cash equivalents	773	773					773	773
EQUITY AND LIABILITIES								
Refund liabilities	1,593	1,593					1,593	1,593
Trade payables	169	169					169	169
Financial liabilities								
Bonds and notes	603	603					603	666
Convertible bonds (2016 and 2019)	538	538					538	614
Promissory note	100	100					100	100
Financial liabilities arising from increased or new stakes in engine programs	138	138					138	146
Financial liabilities to banks	30	30					30	30
Lease liabilities	177				177		177	177
Derivative financial liabilities								
Derivatives without hedging relationship	0			0			0	0
Derivatives with hedging relationship	0		0				0	0
Other financial liabilities	135	44				91	135	135

The financial assets and liabilities carried at amortized cost contain cash and cash equivalents, trade receivables, other receivables, trade payables and other liabilities which are generally due within a relatively short time. The carrying amounts of these assets and liabilities therefore correspond approximately to their fair value at the reporting date. Looking at the other financial instruments that are carried at amortized cost, the reported fair values would be allocated to level 2 of the fair value hierarchy, with the exception of the convertible bonds (2016 and 2019), which are traded on the stock exchange and are allocated to level 1. The difference between the carrying amounts and fair values of these instruments was determined using a discounted cash flow model.

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

To take account of the relevance of the estimated parameters used in the measurement of financial assets and liabilities measured at fair value, MTU's financial assets and liabilities are allocated to three levels.

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 2021 and 2020:

Classification within the fair-value hierarchy as of June 30, 2021

in € million	Level 1	Level 2	Level 3	Total
Financial assets measured at fair value				
Derivative financial instruments		41		41
Other interests in related companies		8	6	15
Total financial assets		**49**	**6**	**56**
Financial liabilities measured at fair value				
Derivative financial instruments		4		4
Total financial liabilities		**4**		**4**

Classification within the fair-value hierarchy for the financial year 2020

in € million	Level 1	Level 2	Level 3	Total
Financial assets measured at fair value				
Derivative financial instruments		110		110
Other interests in related companies			27	27
Total financial assets		**110**	**27**	**137**
Financial liabilities measured at fair value				
Derivative financial instruments		0		0
Total financial liabilities		**0**		**0**

The fair value of the derivative financial instruments and securities assigned to Level 2 is measured using a discounted cash flow (DCF) method. Equity investments, which are allocated to Level 3, are also measured using a DCF method based on internal planning figures. The discount rate is calculated using both internal planning data and available market data.

In the reporting period, other interests in related companies were reclassified from Level 3 to Level 2. This was due to a concrete purchase offer for the shares in a related company.

Within the scope of its participation in consortia for commercial engine programs, MTU is a party to aircraft financing agreements for the purpose of promoting sales. In principle, such commitments are made jointly with other members of engine consortium in favor of the consortium leader (OEM). They are provided in two basic forms: predelivery payments (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 (OEM).

MTU classifies loan commitments granted up to the reporting date totaling a nominal amount, translated into euros, of €738 million (December 31, 2020: €733 million) as part of its gross liquidity risk in accordance with the requirements of IFRS 7. However, still based on experience, it is considered to be very unlikely that all these nominal loan amounts will actually be utilized to their full extent. In the event that they are utilized, MTU considers the associated liquidity and credit risks to be manageable. For further explanations, especially of the structure of financing offers, please refer to the Annual Report 2020, page 174.

In addition, as of the reporting date, there were unutilized financing commitments for equity investments in the form of capital contributions or shareholder loans totaling €135 million (December 31, 2020: €160 million).

39. Contingent liabilities and other financial obligations

As of June 30, 2021, contingent liabilities amounted to €196 million (December 31, 2020: €165 million). In addition, it should be pointed out here that the Federal Financial Supervisory Authority (BaFin) has contacted MTU with questions about the timely fulfillment of its ad-hoc reporting obligations with regard to convertible bond transactions in 2019. Relevant shortcomings in this respect, which MTU Aero Engines AG has not, however, identified, would result in additional contingent liabilities for fines on the company.

The contingent liabilities and other financial obligations are not significant for MTU's financial position. In the reporting period, as in previous periods, no amounts were due and payable. No material claims are expected in the 2021 fiscal year. For information and disclosures regarding the composition of contingent liabilities and other financial obligations, please refer to the Annual Report 2020, page 190.

Purchase commitments for intangible assets and property, plant and equipment amounted to €127 million as of June 30, 2021 (December 31, 2020: €85 million). The increase is related to the newly established company MTU Maintenance Serbia d.o.o..

40. Related party disclosures

Related companies

Transactions between Group companies and joint ventures or associates were, without exception, entered into in the normal course of business and conducted as a matter of principle on an arm's length basis.

Transactions between consolidated companies were fully eliminated in the consolidated financial statements and are therefore not disclosed separately in this Note.

Business with related companies

In the reporting period, intragroup 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).

Receivables from these companies were €596 million as of June 30, 2021 (December 31, 2020: €505 million). Liabilities were €16 million (December 31, 2020: €3 million). Income was €996 million in the first six months of 2021 (January through June 2020: €994 million). Expenses were €593 million (January through June 2020: €486 million).

Related persons

No Group companies entered into any material transactions with members of the Group's Executive Board or Supervisory Board or with any other individuals in key management positions, or with companies of whose governing or supervisory bodies these individuals are members. The same applies to close members of the families of those individuals.

42. Assets and liabilities held for sale (IFRS 5)

Due the concrete intention of selling its stake in Vericor Power Systems LLC., Alpharetta, U.S.A., which has so far been fully consolidated, as of June 30, 2021, MTU recognized assets held for sale (IFRS 5) totaling €68 million (December 31, 2020: €0 million) and liabilities held for sale (IFRS 5) of €39 million (December 31, 2020: €0 million).

Events after the reporting date (June 30, 2021)

There were no events of specific importance with a significant impact on the net assets, financial position and results of operations of the MTU Group between the interim reporting date and the adoption of this half-year financial report on July 26, 2021.

Publication of the half-year financial report

The half-year financial report of MTU Aero Engines AG, Munich, for the period from January 1 through June 30, 2021 has been published on the internet (www.mtu.de).

Responsibility statement

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

Munich, July 26, 2021

signed
Reiner Winkler
Chief Executive Officer

signed
Peter Kameritsch
Chief Financial Officer and
Chief Information Officer

signed
Michael Schreyögg
Chief Program Officer

signed
Lars Wagner
Chief Operating Officer

Auditor’s review report

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 for the interim reporting period from January 1, 2021 to June 30, 2021. These documents form part of the half-year report pursuant to Section 115 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 confirm that we have reviewed the condensed interim consolidated financial statements and the interim Group Management -report in accordance with our mandate.

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 27, 2021

Ernst & Young GmbH

Wirtschaftsprüfungsgesellschaft

signed	signed
Baur	Stummer-Jovanovic
German Public Auditor	German Public Auditor

Additional information

Financial calendar

Interim financial report as of June 30, 2021	July 30, 2021
Quarterly statement as of September 30, 2021	October 29, 2021
MTU Investor & Analyst Day 2021	November 18, 2021

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MTU Aero Engines AG on the internet

- You can find further information about MTU Aero Engines AG on the internet at www.mtu.de
- The Investor Relations site can be accessed directly at www.mtu.de/de/investor-relations
- You can find information on the products of MTU Aero Engines AG at www.mtu.de/de/engines

Translation.

The German version takes precedence.

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