




# LOGBOOK

ANNUAL REPORT 2013

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	Subject:	Date: March 2014
	Annual Report 2013	Successful year
Segment:		
<input checked="" type="checkbox"/> OEM <input checked="" type="checkbox"/> MRO		

## MTU LOGBOOK: JAN. 1-DEC. 31, 2013

The MTU Logbook is a summary of the key events of 2013.

- ⇒ GEARED TURBOFAN CONTINUES TO ATTRACT CUSTOMERS
- ⇒ PRIZES AND DISTINCTIONS FOR MTU
- ⇒ NUMEROUS MAINTENANCE CONTRACTS

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	Subject:	Date:
	Segment: <input checked="" type="checkbox"/> OEM <input type="checkbox"/> MRO	Embraer E-Jet E2 family: new application for the geared turbofan

JANUARY  
2013

NEW APPLICATION: EMBRAER SELECTS GEARED TURBOFAN AS THE EXCLUSIVE ENGINE FOR ITS NEW-GENERATION E-JETS

"It's a sensational achievement that has enabled us to strengthen our position in the market segment for regional jets with a seating capacity of 70-120 passengers. Embraer's choice could lead to production contracts for up to 4,000 additional engines."

Michael Schreyögg, Chief Program Officer

THE NEW GEARED TURBOFAN ENGINES IN THE PW1000G FAMILY:



**PW1700G**

Application	Embraer E170-E2
MTU share	15%
Maximum thrust	22,000 pounds
Fan diameter	56 inches (approx. 1.42 meters)
Fuel savings	12%
Entry into service	2020



**PW1900G**

Application	Embraer E190-E2
MTU share	17%
Maximum thrust	22,000 pounds
Fan diameter	73 inches (approx. 1.85 meters)
Fuel savings	15%
Entry into service	2018/2019

OTHER GEARED TURBOFAN ENGINES BELONGING TO THE PW1000G FAMILY:



**PW 1100G-JM**

Application	Airbus A320neo
MTU share	18%
Maximum thrust	33,000 pounds
Fan diameter	81 inches (approx. 2.06 meters)
Fuel savings	15%
Entry into service	2015



**PW 1500G**

Application	Bombardier CSeries
MTU share	17%
Maximum thrust	23,000 pounds
Fan diameter	73 inches (approx. 1.85 meters)
Fuel savings	up to 15%
Entry into service	2015



**PW 1200G**


Application	Mitsubishi Regional Jet
MTU share	15%
Maximum thrust	17,000 pounds
Fan diameter	56 inches (approx. 1.42 meters)
Fuel savings	up to 15%
Entry into service	2017



**PW 1400G**

Application	Irkut MS-21
MTU share	18%
Maximum thrust	33,000 pounds
Fan diameter	81 inches (approx. 2.06 meters)
Fuel savings	15%
Entry into service	2017

➔ The total number of firm orders and options for geared turbofan engines at the end of 2013 was around 4,800!

	Subject:	Date:
	Expansion of maintenance activities	February/March/September 2013
Segment: <input type="checkbox"/> OEM <input checked="" type="checkbox"/> MRO		State of the art for customers

## MTU INVESTS IN MAINTENANCE

SEP. 17, 2013    EXPANSION OF LEASING BUSINESS:  
 MTU AND SUMITOMO JOIN FORCES

MTU Maintenance and Japanese Sumitomo Corporation, one of the largest trading companies worldwide, have set up two new joint venture companies to expand their commercial aircraft engine leasing business. MTU Maintenance Lease Services B.V., an 80/20 joint venture of MTU Maintenance and Sumitomo Corporation, is based in Amsterdam, the Netherlands and will offer short- and medium-term lease solutions for airlines, providers of maintenance, repair and overhaul (MRO) services as well as lessors. Sumisho Aero Engine Lease B.V., a 90/10 joint venture of Sumitomo Corporation and MTU Aero Engines, the parent company of MTU Maintenance, will focus on long-term lease solutions.



⇒ The joint venture's lease engine pool will also include the GE90.



## NEW LOGISTICS CENTER IN HANNOVER

MARCH 27,  
2013



Late in March, MTU Maintenance Hannover opened its new logistics center after a construction phase of just eight months. The storage building for spare parts has a floor space of 7,500 square meters and comes equipped with state-of-the-art logistics management systems. Now that the spare parts are picked up on site, rather than from the external warehouse where they used to be stored, transportation routes are appreciably shorter. This saves costs, optimizes processes, and boosts MTU's competitive position.

## READY TO RECEIVE THE GE90: THE TEST RIG IN HANNOVER

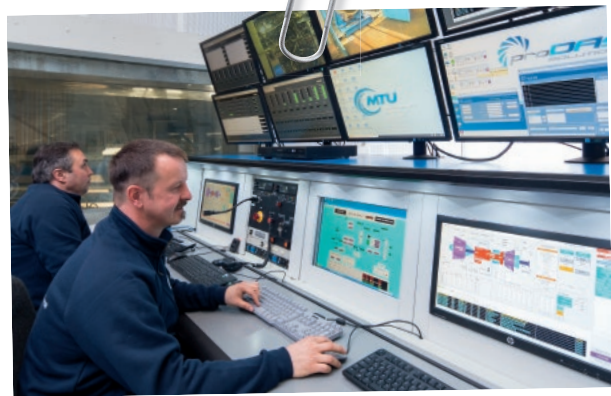
MARCH 27,  
2013

MTU Maintenance Hannover, centerpiece of the MTU Maintenance Group and a specialist for the repair of medium- and large-size commercial engines, successfully completed its GE90 test cell correlation program. "We are very proud of this milestone," commented Holger Sindemann, MTU Maintenance Hannover Managing Director. "We are one of a few maintenance providers worldwide to hold a full repair license for the GE90-110B und -115B. Now we've added engine test runs to our range of services as well."



FEBRUARY  
2, 2013

THE UPGRADED  
TESTRIG IN  
LUDWIGSFELDE




At MTU's second maintenance location in Germany, too, a test stand was upgraded to the latest standard: MTU Maintenance Berlin-Brandenburg expanded its portfolio of services to include the LM6000PF and LM2500+G4 industrial gas turbines. The Ludwigsfelde-based company boasts the only LM6000 test cell in Europe.



⇒ the only center in Europe equipped  
to test the LM6000



	Subject:	Date: March/April 2013
	Prizes and distinctions for MTU	MTU: recognized excellence!
Segment: <input checked="" type="checkbox"/> OEM <input checked="" type="checkbox"/> MRO		

MTU'S AWARD-WINNING PRODUCTS AND SERVICES

MARCH 9, 2013



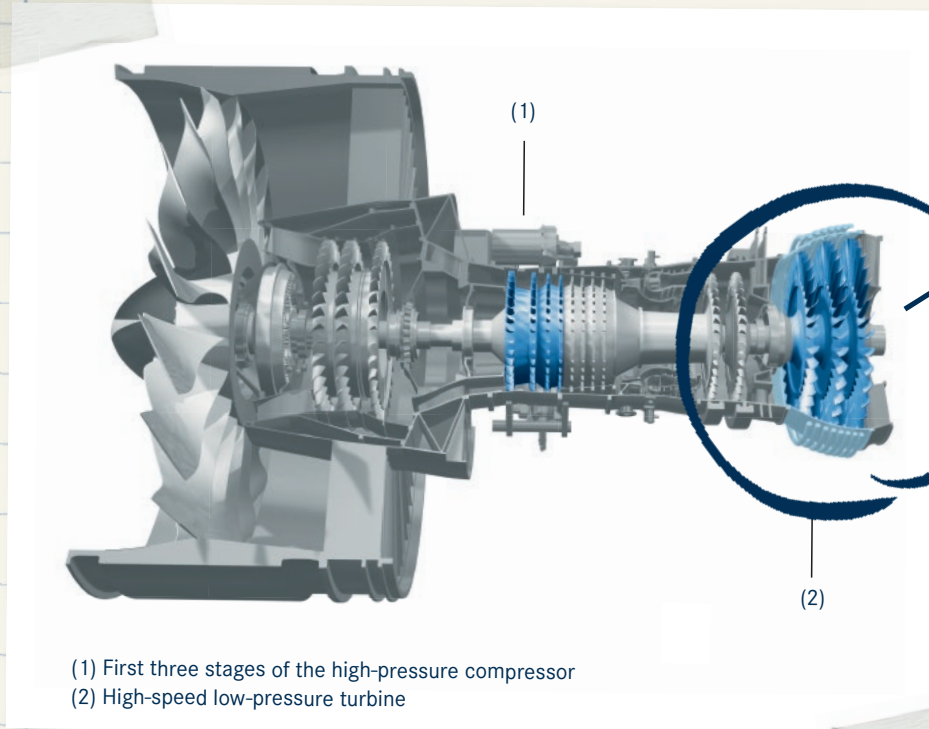
APRIL 26, 2013

Prize-winning product:  
 the high-speed  
 low-pressure turbine  
 for the geared  
 turbofan engine



Celebrating the innovation prize (from left):  
 Jürgen Eschenbacher, Dr. Erich Steinhardt, Dr. Stefan Weber, Egon Behle, Dr. Jörg Henne, Dr. Claus Riegler.

MTU's contribution to the PW1000G family of geared turbofan engines:



Winning component!

### High-speed low-pressure turbine - Advantages compared with conventional turbines:

- + More rotations per minute
- + Efficiency improved by 1 to 2%
- + Fewer stages: from 7 down to 3
- + 70% fewer blades
- + Lighter by 20 to 30%
- + Lower manufacturing and maintenance costs as a result of reduced number of stages and blades



MRO of the Year award for  
MTU Maintenance: Selected as  
the Independent MRO winner for  
the successful launch of its  
GE90 maintenance program


APRIL 16,  
2013



MTU is one of the few providers in the world with full licensed repair capability for the GE90.

### Services offered by MTU for the GE90:

- ▶ All levels of maintenance and repairs
- ▶ Engine testing at the company's Hannover facility
- ▶ On-wing services
- ▶ Technical and logistics support
- ▶ Availability of spare GE90 lease engines

	Subject:	Date: April 2013
	Segment: <input checked="" type="checkbox"/> OEM <input type="checkbox"/> MRO	New blisk manufacturing facility

APRIL 16,  
2013

CONSTRUCTION OF NEW FACILITY IN MUNICH:  
THE NEW BLISK CENTER OF EXCELLENCE



**Facts and data**

Surface area: 10,000 m<sup>2</sup>

Total investment: ~ €65 million

Equipment:

- 20 milling machines
- 7 combined turning and milling machines
- 8 coordinate measurement machines

Production capacity: up to 3,500 blisks per year

⇒ The world's most advanced blisk manufacturing center



→ Motivation for the construction of the new facility: MTU's participation in the Pratt & Whitney geared turbofan program

→ Consequences of the success of the geared turbofan program  
=> Greater demand for compressor blisks  
=> Need for new manufacturing capacity

→ Blisk center of excellence = the biggest investment project in recent years

→ Start of series production:  
September 2013

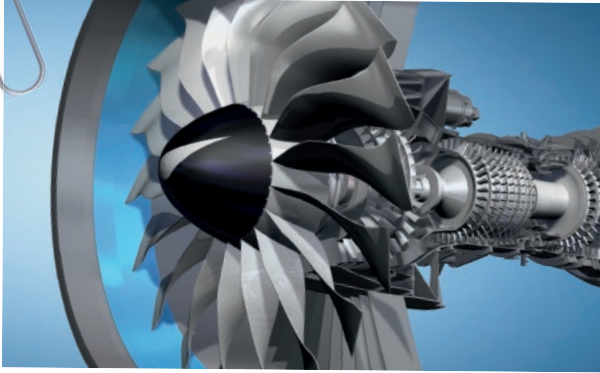


**Blisks** (blade-integrated disks) are high-tech engine components in which the disks and blades are manufactured in a single piece or can be assembled in such a way that there is no need for a separate integration process.





*Engine programs for which components will be manufactured in the new facility:*




*PW1000G family based on geared turbofan technology for the Airbus A320neo, Bombardier CRJ Series, Embraer E-Jets E2, Mitsubishi Regional Jet, Irkut MS-21*



*PW800 for long-range business jets, regional aircraft and narrowbodies*



*The TP400-D6 engine for the A400M military transporter*

	Subject:	Date: June 2013
	Expansion of capacity at MTU Aero Engines Polska	Polish site keeps on growing
Segment:		
<input checked="" type="checkbox"/> OEM <input type="checkbox"/> MRO		

## EXPANSION OF MTU FACILITY IN POLAND

JUNE 25, 2013



The new buildings will provide the additional space needed to meet the production needs derived from the increased volume of orders for geared turbofan engines and MTU's increased stake in the V2500 program.

- ⇒ Start of production: 2014
- ⇒ Necessary capital expenditure: €40 million


"The increased production areas at MTU Aero Engines Polska - together with the new blisk manufacturing facility in Munich and the new logistics center in Hannover - form part of MTU's investment and growth strategy. This capital expenditure will enable us to boost our production capacity to meet the future demands of the geared turbofan programs."

Dr. Rainer Martens, Chief Operating Officer



#### BUSINESS PORTFOLIO OF MTU AERO ENGINES POLSKA:

- ▶ Manufacture of engine components (e.g. turbine blades)
- ▶ Assembly of modules for various commercial engine programs
- ▶ Engine component repairs (e.g. feed lines)
- ▶ Pre-production processes
- ▶ Research and development (e.g. uncooled blades, design of fixtures, software engineering)

	Subject:	Date: 2013
	2013: New commercial engine contracts	Endless flow of orders!
Segment: <input checked="" type="checkbox"/> OEM <input type="checkbox"/> MRO		

PARIS AIR SHOW: MTU ACCUMULATES ORDERS WORTH AROUND 1 BILLION EUROS

JUNE 20, 2013

### Paris Air Show: Contracts signed

Airline	Aircraft type	Engine	Number of units ordered
     and others	Airbus A320neo	PW1100G-JM	over 300 engines
  and others	Embraer E-Jets E2	PW1700G / PW1900G	over 730 engines
  and others	Airbus A320	V2500	over 130 engines
  	Boeing 787	GEEx	over 70 engines

Bestseller: the geared turbofan engine!

= around 1 billion euros for MTU!

APRIL 12,  
2013

## GEARED TURBOFAN FOR HAWAIIAN AIRLINES



Hawaiian Airlines has also opted for the geared turbofan. The official carrier of the 50th American state has ordered 50 PW1133G-JM engines to equip its fleet of A321neos.

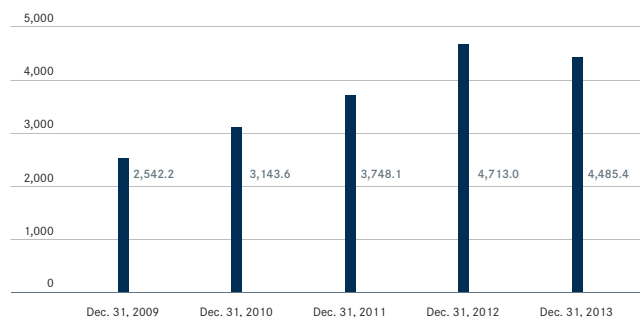
DECEMBER  
31, 2013

## STRONG FLOW OF ORDERS FOR COMMERCIAL ENGINES CONTINUES TO BOOST ORDER BACKLOG:

"Only a small proportion of the new contracts we have received - for example during the Paris Air Show - has flowed into our order backlog so far, and yet it once again stood at a very high level at the end of 2013. The reported slight decrease is an effect of the euro/dollar exchange rate. In U.S. dollar terms, the order backlog in the commercial engine business amounted to around 6.2 billion dollars, as in the previous year."


Reiner Winkler, Chief Executive Officer

Order backlog for commercial engines (in million €)



Stable order backlog in U.S. dollar terms, at around U.S. \$6.2 billion



	Subject:	Date: 2013
	Production and maintenance milestones	Engine program highlights
Segment: <input checked="" type="checkbox"/> OEM <input checked="" type="checkbox"/> MRO		

## MTU CELEBRATES PRODUCTION AND MAINTENANCE MILESTONES

GENX

MAY 2, 2013

### MTU Aero Engines delivers 200th GENx turbine center frame – in record time

Munich, May 2, 2013 – MTU Aero Engines is adding a new chapter to the success story of the turbine center frame for the GENx engine: In the past four years, Germany's leading engine manufacturer has moved from one milestone to the next in quick succession, and has now shipped the 200th module. "We've accomplished this milestone in record time," states Egon Behle. MTU's CEO emphasizes the importance of this module for MTU: "The GENx powers the Boeing 787 Dreamliner and is the sole engine for the Boeing 747-8, and we supply all of the turbine center frames." The order book, too, shows the significance of the project: So far, around 1,400 orders, including options, have been received for General Electric's new propulsion system. The total demand is estimated at about 4,400 GENx engines.



The GENx is General Electric's next-generation engine family designed for medium-capacity long-haul aircraft.

MTU Aero Engines is a risk- and revenue-sharing partner in the **GENx program**, in which it holds a **6.5% share** and is responsible for the design, manufacture and assembly of the turbine center frame.

JUNE 7,  
2013

EJ200

### 1,000th EJ200 delivered

The EUROJET consortium, formed by MTU Aero Engines, Rolls-Royce, Avio, and ITP, has delivered its 1,000th EJ200 production engine. To mark this milestone, a celebration was held on the premises of the German Council on Foreign Relations in the heart of Berlin's embassy district.



The EJ200 powers the Eurofighter military jet, also known as the Typhoon in export markets.

**MTU's production workshare in this program is 30%** and includes the manufacture of the low-pressure and high-pressure compressors, the electronic control unit, parts of the high-pressure turbine, and the assembly and testing of engines destined for the German armed forces.

GP7000

JULY 9,  
2013

**GP7000: MTU Aero Engines hands over the 300th module for the engine powering the A380**

- Low-pressure turbines and turbine center frames made in Germany
- First engines due to undergo scheduled maintenance this year

Munich, July 9, 2013 – The Airbus A380 sets a benchmark for low fuel burn and low noise. The world's largest commercial aircraft owes its high efficiency and amazing noise level to no small degree to its GP7000 engines, in which MTU Aero Engines has a stake of 22.5 percent. Three months ago, the 250th engine was handed over to Airbus in Toulouse for final assembly, and now Germany's leading engine manufacturer has completed and delivered the 300th low-pressure turbine and the 300th turbine center frame. "The GP7000 has impressively demonstrated its high reliability in more than 1.5 million flight hours," explains Michael Schreyögg, Member of the Executive Board, Chief Program Officer. "In terms of fuel consumption and emissions, the engine consistently performs at levels much better than the specifications," he adds.



MTU holds a **stake of 22.5%** in the GP7000 engine program and is responsible for the design and manufacture of the **low-pressure turbine** and the **turbine center frame**, as well as the manufacture of **components for the high-pressure turbine**.

The GP7000 family of engines is deployed in long-haul airliners such as the Airbus A380.





AUGUST 8,  
2013

CF6:

**MTU Maintenance celebrates 1,500<sup>th</sup> CF6-80 engine overhaul**

- 20-year business partnership with US Airways
- New CF34-10 maintenance contract

Hannover/Berlin (Germany), August 8, 2013 – MTU Maintenance, the world's largest independent maintenance provider for commercial aircraft engines, has completed the 1,500th overhaul of a General Electric CF6-80 engine. The engine was delivered to U.S. based operator US Airways with whom MTU is celebrating a 20-year business partnership this year.



The CF6 is a twin-spool, dual-shaft engine deployed by Airbus and Boeing to power the widebody aircraft they use on medium-range and long-haul routes.

MTU manufactures **turbine and compressor components** for this engine.

The CF6 family of engines has been in production for over 30 years. Consequently, there is an increasing demand for **MRO services and the supply of spare parts**.

	Subject:	Date: 2013
	Maintenance contracts 2013	New customers, new contracts
Segment:		
<input type="checkbox"/> OEM <input checked="" type="checkbox"/> MRO		

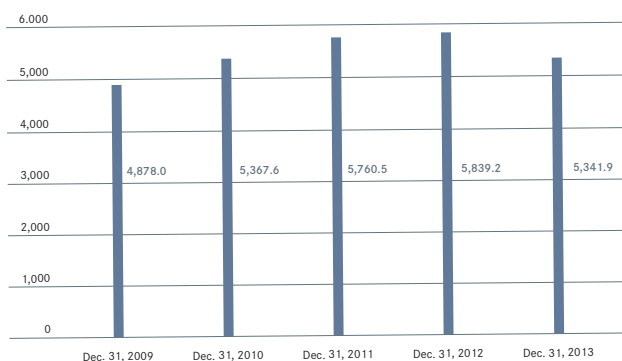
## COMMERCIAL MAINTENANCE ORDER BACKLOG

2013

➔ NEW CONTRACTS SIGNED IN 2013

worth 1.4 billion dollars!

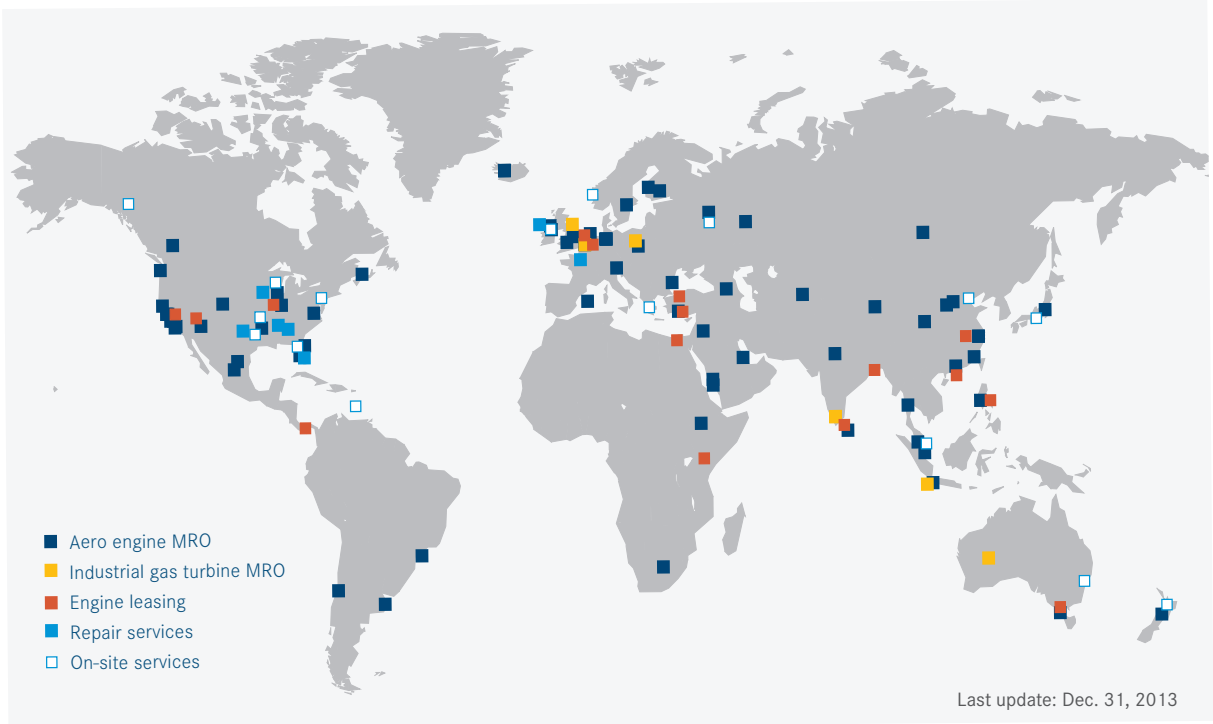
Commercial maintenance order backlog (in € million)



Order backlog represents a workload of almost four years.



**Customers who signed, renewed or expanded the scope of contracts with MTU Maintenance in 2013**



**Extract from the customer list:**

■ Aero engine MRO	■ Industrial gas turbine MRO	■ Engine leasing	■ Repair services	□ On-site services
BIMAN Bangladesh Airlines	ConocoPhillips Norway/UK	Aerologic	AJ Walter Aviation	Frontier Airlines
GOL Linhas Aéreas Inteligentes	Merah Mata	BIMAN Bangladesh	Delta Airlines	Pratt & Whitney Line Maintenance Services
Royal Jordanian Airlines	Perenco	Kenya Airways	JetBlue Airways	Shannon Engine Support
Saudia Airlines	Rio Tinto	Southern Air	Killick Aerospace	Southern Air
Southern Air	Stora Enso Sachsen	US Airways	Pinnacle Aircraft Parts	Southwest Airlines

## ⇒ Largest single contract: GOL

JAN. 31,  
2013

- Exclusive agreement
- Contract worth ~ 440 million U.S. dollars
- MRO services and on-wing support for the CFM56-7B engine



"We are delighted to have one of the fastest-growing airlines in Latin America in our customer portfolio.

The long-term service agreement with GOL is a significant milestone for MTU Maintenance, and it is a positive sign that our efforts to expand business in the growth markets are paying off."

Dr. Stefan Weingartner, President MTU Maintenance

# SELECTED CONSOLIDATED FINANCIAL INFORMATION AND KEY FIGURES

## Selected consolidated financial information and key figures at a glance

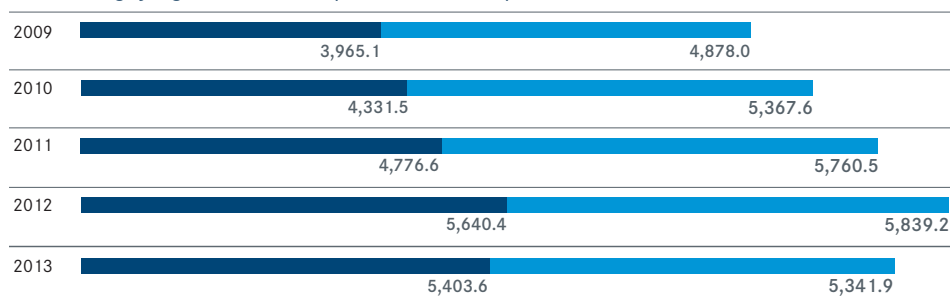
in € million (unless otherwise specified)	2013	2012	Change 2013-2012
<b>Revenues and earnings</b>			
Revenues	3,741.7	3,378.6	10.7%
attributable to the commercial engine business <sup>1)</sup>	1,891.3	1,603.1	18.0%
attributable to the military engine business <sup>1)</sup>	500.7	503.3	-0.5%
attributable to the commercial maintenance business <sup>1)</sup>	1,381.8	1,305.7	5.8%
Gross profit	550.1	555.3	-0.9%
Earnings before interest and tax (EBIT)	319.8	301.0	6.2%
Earnings after tax	172.4	174.8	-1.4%
<b>Adjusted earnings</b>			
Earnings before interest and tax (adjusted EBIT)	377.3	375.2	0.6%
EBIT margin in %	10.1	11.1	
Earnings after tax	232.1	234.0	-0.8%
<b>Balance sheet</b>			
Total assets	4,458.8	4,266.7	4.5%
Equity	1,220.3	1,094.1	11.5%
Equity ratio in %	27.4	25.6	
Net financial debt	407.3	391.3	4.1%
<b>Cash flow</b>			
Cash flow from operating activities	192.6	229.8	-16.2%
Cash flow from investing activities	-189.6	-360.0	47.3%
Free cash flow	83.0	85.7	-3.2%
Cash flow from financing activities	5.8	93.0	-93.8%
<b>Number of employees at year end</b>			
Commercial and military engine business	5,225	5,160	1.3%
Commercial maintenance business	3,470	3,321	4.5%
Other group entities		60	-100.0%
Total number of employees	8,695	8,541	1.8%
<b>Share indicators</b>			
Earnings per share in €			
Undiluted earnings per share	3.39	3.45	-1.7%
Diluted earnings per share	3.39	3.45	-1.7%
Dividend per share in € <sup>2)</sup>	1.35	1.35	
Dividend yield in %	1.9	2.0	
Total dividend <sup>2)</sup>	68.7	68.5	0.3%
Outstanding common stock at Dec. 31 (million shares)	50.9	50.7	0.4%

<sup>1)</sup> Before consolidation.

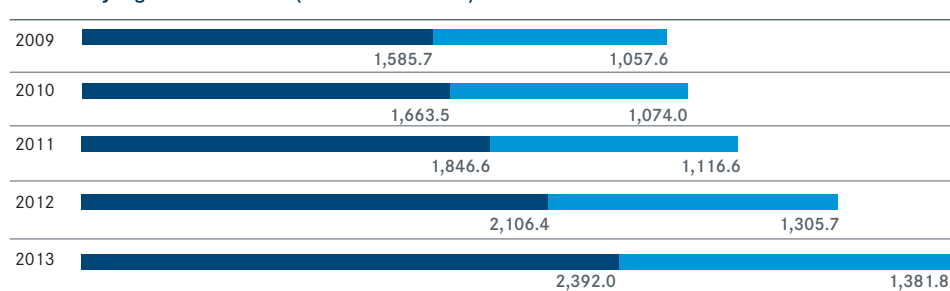
<sup>2)</sup> Proposal to the Annual General Meeting for 2013 based on an expected volume of 50.9 million dividend-entitled shares. 2012: Resolution by the Annual General Meeting for that financial year.

## KEY INDICATORS REVIEWED OVER 5 YEARS

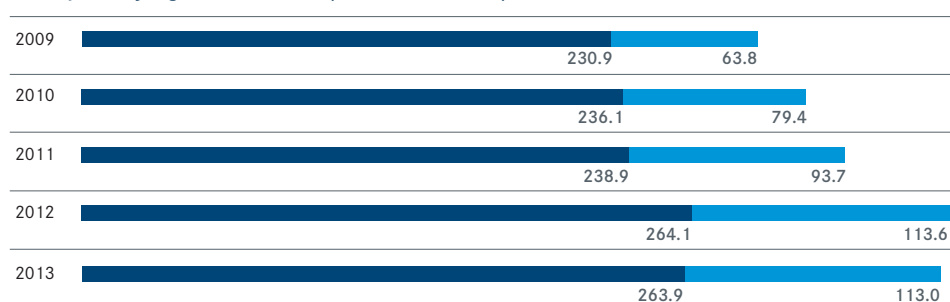
### Order backlog by segments in € million (before consolidation)



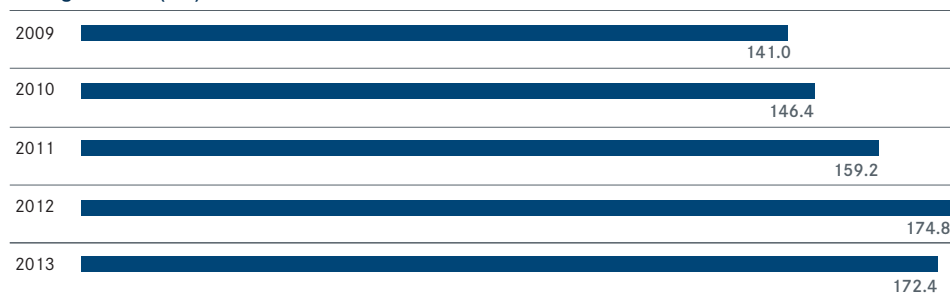
### Revenues by segments in € million (before consolidation)



### EBIT adjusted by segments in € million (before consolidation)



### Earnings after tax (EAT) in € million



The OEM segment (Original Equipment Manufacturing) covers new commercial engines, including spare parts, and the whole of the military business. The MRO segment (Maintenance, Repair and Overhaul) comprises all commercial maintenance activities.



# LETTER TO OUR SHAREHOLDERS

*Dear shareholders,*

As the new Chief Executive Officer of MTU Aero Engines, I am pleased to present to you the company's Annual Report for 2013, a financial year for which I was already responsible in my former capacity as Chief Financial Officer. As there was much to report on in 2013, we have again opted for a logbook format to summarize the year's key events.

The geared turbofan engine – or GTF for short – continued its successful run in 2013, being designated the sole engine for Embraer's new E-Jet generation. That marks the fifth deployment of the GTF, which has already been chosen for the Airbus A320neo, Bombardier CSeries, Mitsubishi Regional Jet and Irkut MS-21. The success of the PW1000G family is also underscored by order statistics, with some 4,800 orders and options having been placed for this engine type by the end of 2013. At the Paris Air Show, for instance, MTU garnered orders worth a total of around one billion euros, more than three-quarters of which were for engines of the PW1000G family.

The financial year 2013 also saw us reach key development milestones in our GTF programs. The successful maiden flight of the PW1100G-JM for the Airbus A320neo marked the start of that engine's flight-testing phase while the PW1500G, the only engine offered for the Bombardier CSeries, was the first GTF engine to receive official approval from the aviation authorities last year.

The progress being made in the development of the GTF and the rapidly approaching start of the manufacturing phase are posing big challenges at the production end, and we have consequently had to plan and prepare for increases in production capacities and volumes as never before in our company's history. To ensure that we are optimally placed to take this big step forward, we invested a lot last year. We constructed a new, state-of-the-art facility at our Munich site so as to create production capacity for the GTF. This investment strategy for the GTF is also evident at our production plant in Poland, which we are expanding preparatory to ramping up series production there. What is more, at the new facility at Rzeszów, work will also be carried out in connection with our increased stake in the V2500 engine program for the Airbus A320.

The V2500 engine is an enduring market success. Together with the GP7000, which is deployed in the A380, and the GEnx engine for the Boeing 787 and 747-8, the V2500 made a big contribution to the strong growth we posted in 2013 in the commercial engine sector, where our revenues rose by 18% to € 1.9 billion. That is a very positive trend because the new programs form a cornerstone of MTU's medium- to long-term profitable growth, thus guaranteeing the company's future. Regrettably, growth in the profitable spare parts market did not live up to our expectations last year. Although the volume of spare parts for the V2500, for example, did increase as forecast, other programs – such as the PW2000 for the C-17 and Boeing 757 experienced the opposite trend.

In 2013, MTU concluded numerous new commercial maintenance agreements, the largest individual contract – valued at around U.S. \$ 440 million – being with Brazilian airline GOL. Commercial maintenance revenues in the financial year 2013 grew by 6% to € 1.4 billion. To ensure that we can continue to offer our customers consistently high levels of service, we fully upgraded our test rigs in Ludwigsfelde and Hannover in 2013, and also took a new logistics facility into operation at the latter location. We are meeting the rising demand for leased engines through two new joint ventures with Sumitomo Corporation, a Japanese enterprise.

At € 501 million, revenues in the military sector were on a par with those posted in 2012. A new development as regards the EJ200 engine for the Eurofighter was the successful export of the

fighter jet to Oman. On top of that, the French Air Force took delivery of the first A400M military transporter. The A400M is powered by the TP400-D6 engine, series production of which is being ramped up according to plan.

Thanks to the successes of our individual business units, MTU's performance in 2013 matched that of 2012, which had been a record year for the company. We reached our revenue target in full – the € 3.7 billion posted constituted a further improvement on 2012, making it our best-ever figure. The adjusted earnings figures were comparable with our record year: Earnings before interest and tax came in at € 377 million, and the EBIT margin reached 10.1%. Earnings after tax remained unchanged at € 232 million. Admittedly, we had set ourselves higher earnings targets at the start of 2013, but had to adjust them downward mid-year owing to developments in the spare parts and industrial gas turbines markets. In the end, we did reach our adjusted targets, underscoring MTU's status as a profitable company.

For this reason, at the Annual General Meeting to be held on May 8, 2014, we will propose distribution of an unchanged dividend of € 1.35 per share.

The strong growth recorded in our new engine business looks set to continue into the future, and in 2014 we expect this sector to outpace our much more profitable spare parts business. We also expect commercial maintenance revenues to grow further, while military revenues could contract. We are therefore paying particular attention to the structure of our income and costs and, in 2013, put in place measures to further improve both these parameters. Cost discipline and the imminent ramp-up of new engine programs place big demands on our workforce, which is why I am so pleased that our employees display such energy and commitment in everything they do. It is their work and dedication, after all, that make our company so successful. On behalf of the entire Executive Board, I would like to express our sincere thanks to every one of our employees.

In 2013, recognition for the achievements of our workforce came from outside the company, too. The high-speed low-pressure turbine for the geared turbofan was honored with two awards at once: the German Industry Innovation Award and the German Innovation Prize. In addition, we also received Aviation Week's MRO Global Award for the successful launch of the GE90 program.

These successes were in part due to Egon Behle, from whom I took over as CEO on January 1, 2014, and to whom I would like to express my gratitude at this point. His achievements are an inspiration to all of us on the Executive Board and provide us with a solid basis on which to continue writing the success story that is MTU.

2014 will present us with its fair share of challenges – but also business opportunities. We invite you to continue supporting us on our path forward and to make the most of the opportunities that arise along the way. My thanks go to you – our shareholders, business partners and customers – for the trust you have placed in us, and I sincerely hope that my Executive Board colleagues and I can continue to count on that trust in future.

*Sincerely yours*

*Reinhold Winkel*

	Annual Report 2013	Reiner Winkler Dr. Rainer Martens
	Chapter: To the shareholder	
Subchapter:	The Executive Board	



REINER WINKLER  
Chief Executive Officer,  
Director of Labor Relations

- Appointed term: to September 30, 2019
- Born 1961
- Degree in business administration
- From May 2005 to December 2013: member of the MTU Executive Board with responsibility for finance, human resources and IT (Director of Labor Relations)
- Member of MTU's executive management since 2001
- Former managing director finance and controlling at TEMIC Telefunken micro-electronic GmbH
- Previous management posts: Daimler-Benz AG, Siemens AG



DR. RAINER MARTENS  
Member of the Executive Board,  
Chief Operating Officer

- Appointed term: to April 14, 2019
- Born 1961
- Doctorate and degree in mechanical engineering
- In present post since April 2006
- Has occupied various key positions in the engine and aircraft production industry over a period spanning more than 20 years
- Previous management posts: Airbus, MTU Aero Engines, CIM-Fabrik Hannover gGmbH

	Annual Report 2013	Michael Schreyögg Dr. Stefan Weingartner
	Chapter: To the shareholder	
Subchapter: The Executive Board		



**MICHAEL SCHREYÖGG**  
Member of the Executive Board,  
Chief Program Officer

- Appointed term: to June 30, 2016
- Born 1966
- Degree in mechanical engineering
- In present post since July 2013
- Former head of military programs at MTU Aero Engines
- Has managed and coordinated numerous programs at MTU Aero Engines over the past 20 years, most recently as senior manager for the TP400-D6 and MTR390 programs



**DR. STEFAN WEINGARTNER**  
Member of the Executive Board,  
President MTU Maintenance

- Appointed term: to October 31, 2015
- Born 1961
- Doctorate in engineering, degree in physics, MBA
- In present post since November 2007
- Former head of military programs at MTU Aero Engines
- Previous posts: managing director of MTU Turbomeca Rolls-Royce GmbH, president and managing director of EADS Japan Co. Ltd., managing director of DaimlerChrysler Japan Holding



## THE MTU SHARE

### CAPITAL MARKETS AT ALL-TIME HIGH

Germany's DAX blue-chip index and MDAX midcap index both soared to new heights in 2013. The DAX topped the 9,000-points mark for the first time in its history and the MDAX hovered around a record level of more than 16,000 points. This remarkable performance was attributable to solid business results on the part of the listed companies and supported by the low interest rate policy of the European Central Bank and the U.S. Federal Reserve. With key interest rates at an all-time low in the euro zone, many investors decided to place their money in shares. Sentiments were relatively subdued in the first half of 2013, when indicators pointed to a swelling of the euro crisis. But in the light of increasing signs of an economic recovery in many euro nations in the second half of the year, a new wave of optimism began to spread. This mood change was reflected in the stock market indices. After a positive start to the year, the DAX in particular moved sideways up to the summer of 2013, with stocks exhibiting high volatility before finally embarking on a steady upward trajectory. Over the year as a whole, the DAX gained in value by 25%, closing at 9,552 points on December 31, 2013. The MDAX rose by 39% in the course of the year and stood at 16,574 points at the close of trade on December 31.

Many aviation industry shares tracked the general capital market trend, gaining significantly in value in the course of the year. The Dow Jones Aerospace & Defense Index, which includes companies such as Rolls-Royce, EADS and BAE Systems in addition to MTU, recorded an increase of 45% in 2013.

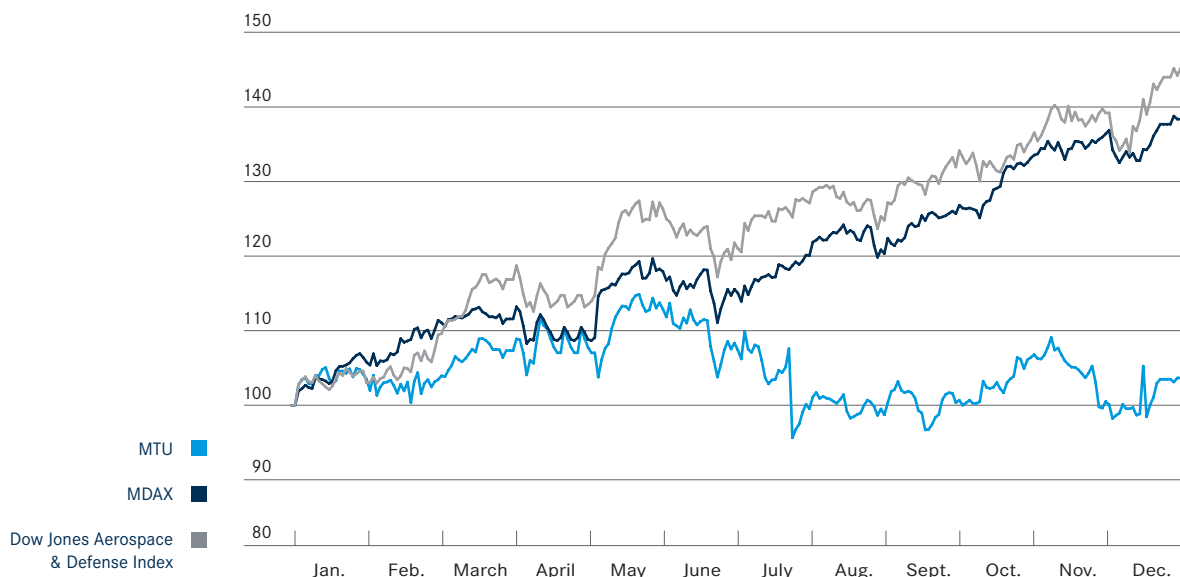
### MTU SHARE AFFIRMS QUALITY AS STABLE INVESTMENT

MTU share price up by

4%

The MTU share affirmed its quality as a stable investment throughout the past year. Like other MDAX securities, it rode out the challenges of a highly volatile capital market in the first half of 2013 and increased significantly in value. In May 2013, the MTU share price peaked at € 79.25, its highest level since the IPO in 2005. When the financial data for the first six months of 2013 were published on July 24, MTU adjusted its earnings forecast. As a result, the MTU share dropped in value by more than 10%, reaching its lowest quoted price for the year of € 65.76 on the day that the figures were announced. After treading water for a short time, investors regained confidence in the share's potential as a recommended buy from mid-September onward. Over the year as a whole, the share price rose by 4% to reach a value of € 71.39 on December 31.

MTU share performance in 2013 compared with stock market indices (baseline Dec. 31, 2012 = 100)



**MTU share indicators: year-on-year comparison**

		2013	2012
Highest quoted price <sup>1)</sup>	€	79.25	69.85
Lowest quoted price <sup>1)</sup>	€	65.76	49.00
Beginning-of-year share price <sup>1)</sup>	€	70.74	50.00
End-of-year share price <sup>1)</sup>	€	71.39	68.80
Annual performance <sup>2)</sup>	%	+4	+39
Market capitalization at year end	€ million	3,712	3,578
Average daily trading volume	€ million in '000 shares	10 146	10 170
Earnings per share	€	3.39	3.45
Dividend per share	€	1.35 <sup>3)</sup>	1.35
Dividend payout ratio <sup>4)</sup>	%	26.0	56.9
Dividend yield <sup>5)</sup>	%	1.9	2.0

<sup>1)</sup> Xetra closing price.

<sup>2)</sup> Based on Xetra year-end closing price (Dec. 31).

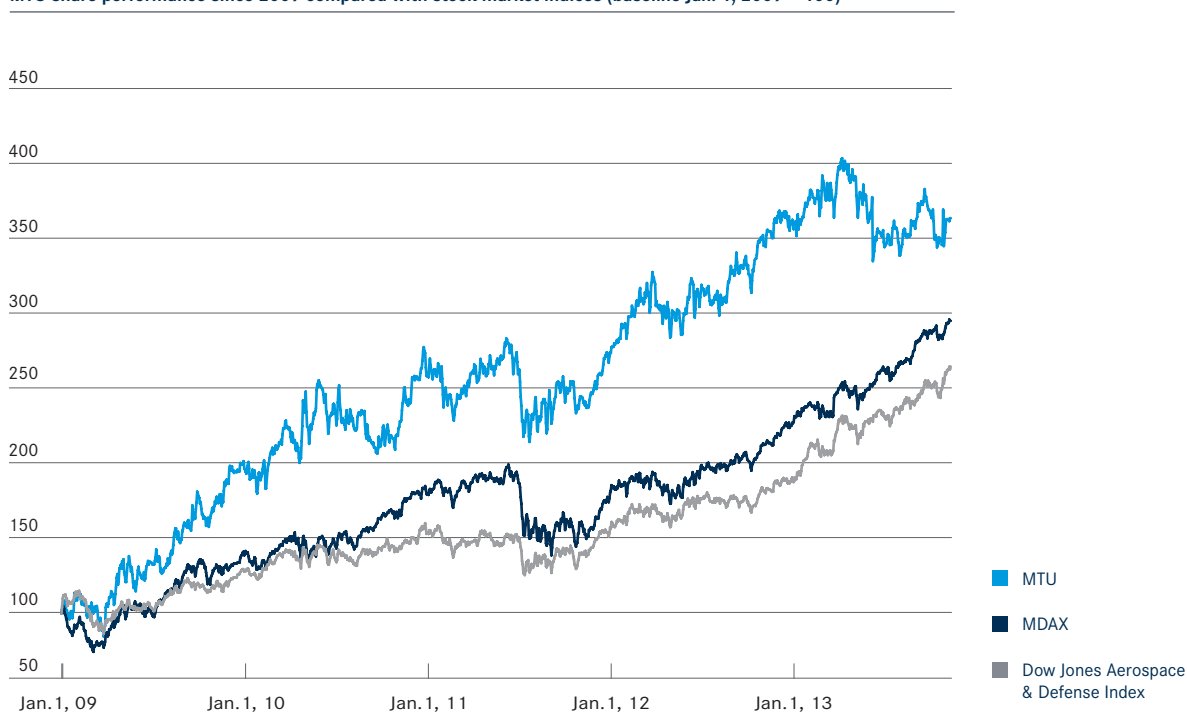
<sup>3)</sup> Proposal.

<sup>4)</sup> Dividend payout as a percentage of net profit available for distribution.

<sup>5)</sup> Net dividend yield based on Xetra year-end closing price (Dec. 31).

For the first time in many years, the MTU share's performance in 2013 was below that of the relevant stock market indices, the DAX and the MDAX. But viewed over a longer timescale, the chart of the share's five-year performance shows a different picture. Compared with the general DAX and MDAX trend since the global financial crisis in the fall of 2008, the MTU share is one of the winners on the German capital market.

Above-average  
performance over a  
five-year  
timescale

**MTU share performance since 2009 compared with stock market indices (baseline Jan. 1, 2009 = 100)**

## ATTRACTIVE DIVIDEND

Proposed dividend per share

# € 1.35

At the Annual General Meeting on May 8, 2014, the Executive Board and the Supervisory Board intend to propose a dividend payment of € 1.35 per share for the financial year 2013, in accordance with the company's earnings-oriented dividend policy. The previous year's dividend was € 1.35 per share. Investors can expect to receive their dividend payment on May 9, 2014. The dividend payout ratio calculated as a percentage of MTU's net profit available for distribution is 26.0%. Based on the share price of € 71.39 at the close of trade on December 31, 2013, this represents a dividend yield of 1.9%.

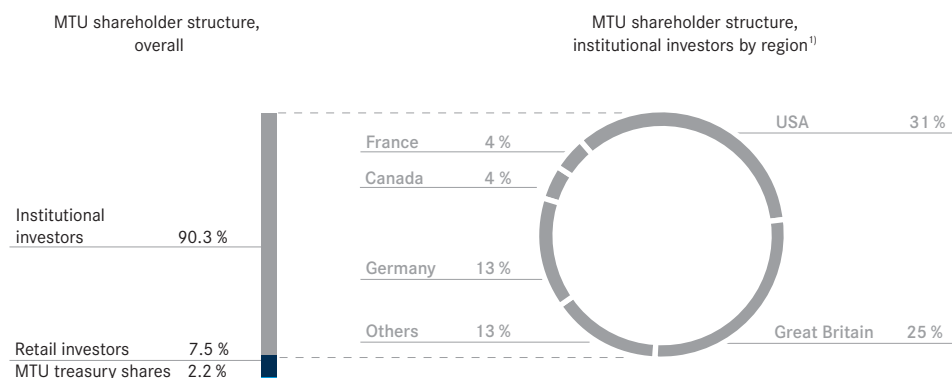
## HIGH TRADING VOLUME

In 2013, MTU shares were once again among the more vigorously traded midcap securities on the German capital market. The average number of MTU shares that changed hands each day through Xetra trading and the floor trading systems was 146,000, compared with 170,000 shares per day in 2012. The average daily trading volume expressed in monetary terms amounted to around € 10 million, as in 2012. MTU was thus placed 15th in the ranking of MDAX companies according to trading volume in 2013 (2012: 13th place). In terms of market capitalization, MTU ranked 10th in the midcap index (2012: 5th place). While MTU's market capitalization increased in 2013 by € 134 million to € 3,712 million, other MDAX companies recorded higher increases, especially in the second half of the year.

## BROAD INTERNATIONAL SHAREHOLDER BASE

At December 31, 2013, 97.8% of MTU shares were in free float and 2.2% were held by the company itself in the form of treasury shares. Of the free-floating shares, 90.3% were owned by institutional investors and 7.5% by retail investors. The shareholder structure is diversified, with the majority of institutional investors based in the United States, the U.K., Germany, Canada, France, and other western European countries. At December 31, 2013, the stock market authorities were in possession of notifications pursuant to Section 21 (1) of the German Securities Trading Act (WpHG) from the following institutional investors, each of whom holds more than 3% of the company's voting rights: The Capital Group Companies, U.S.A. (14.99%), Sun Life Financial Inc, Canada (5.77%), Artisan Partners, U.S.A. (5.08%).

### Shareholder structure



<sup>1)</sup> Approximation based on top 50 shareholders (= about 70 % of share capital).  
As of Dec. 31, 2013.

## HIGH PROFILE AMONG ANALYSTS

Many investors base their share purchase decisions on research reports issued by banks. As of the end of December 2013, 22 analysts were reporting regularly on MTU. Buy recommendations were issued by 5 of these financial institutions, while 14 gave the MTU share a hold rating, and 3 recommended selling (2012: 11 “buy”, 11 “hold”, 1 “sell”). The average upside target was € 72. In the course of 2013, Barclays, Credit Suisse and Redburn Securities stopped issuing reports on MTU due to a shift in the focus of their trading activities. They were replaced by Goldman Sachs, Hauck & Aufhäuser, and JP Morgan Cazenove, who published their first reports on MTU or resumed reporting on MTU.

### The following financial institutions report regularly on MTU

Bankhaus Lampe	DZ Bank	Independent Research GmbH	Natixis
Bank of America Merrill Lynch	Equinet	JP Morgan Cazenove	ODDO Securities Research
Berenberg Bank	Exane BNP Paribas	Kepler Cheuvreux	Société Générale
Citi Global Markets Research	Goldman Sachs	LBBW	UBS
Commerzbank	Hauck & Aufhäuser	Metzler Equities	
Deutsche Bank	HSBC	Morgan Stanley	

## AWARD-WINNING INVESTOR RELATIONS WORK

The revised forecasts issued midway through 2013 were a particular challenge for the investor relations team. In numerous meetings, the Executive Board together with the IR team explained the reasons for this reevaluation and emphasized the importance of serial-production contracts to MTU’s future growth. The share’s recovery in the fall of 2013 is a clear sign that this message has been heard. MTU’s medium-term opportunities were also one of the main subjects discussed during the company’s annual Investor and Analyst Day, which was held in London on November 26, 2013. The event was attended by 65 analysts and investors, who were able to gain an overview of the latest developments and MTU’s progress with the implementation of its growth strategy.

In 2013, MTU staged 13 road shows in all major financial centers in Europe and the United States to meet with investors. The company also participated in 12 international investor conferences, including the German Investment Seminar hosted by Commerzbank in New York, the German Corporate Conference organized by Kepler / Cheuvreux in Frankfurt, and the European Industrials Conference held by Goldman Sachs in London. A total of 224 investors attended the 17 meetings that took place during the Paris Air Show 2013. In addition, members of management and the IR team provided detailed information on the company’s business model and its potential for growth in face-to-face meetings with some 110 analysts and investors. Another key platform for dialog with shareholders was the MTU Annual General Meeting, which was held in Munich on May 3, 2013. It was attended by shareholders representing 48% of the share capital with voting rights (previous AGM: 60%).

MTU’s intensive investor relations activities were once again recompensed with numerous awards in 2013. In the “Europe’s Best Investor Relations” ranking published in the U.S. magazine Institutional Investor, the sell-side analysts put MTU in third place in the aerospace & defense sector. And MTU was placed fifth among the MDAX-listed companies in the IR ranking published by German magazine WirtschaftsWoche and the German Investor Relations Association. The MTU Annual Report was placed eleventh in manager magazin’s “Best Annual Reports” category for MDAX companies.

The Investor Relations section of the MTU website ([www.mtu.de](http://www.mtu.de)) provides all relevant information. You are also welcome to contact the IR team by calling +49 89 1489-5714.

**3rd place**  
in analysts’ ranking

## **CORPORATE GOVERNANCE**

14	Corporate Governance Report
14	Declaration of conformity
19	Management Compensation Report
32	Report of the Supervisory Board
36	The Supervisory Board



	Annual Report 2013	Date: March 2014
	Chapter: Corporate governance	Responsible business management

- ⇒ Good corporate governance is seen as a natural responsibility at MTU and is practiced in every area of the company.
- ⇒ The Supervisory Board receives regular, timely and comprehensive reports on the company's situation from the Executive Board.
- ⇒ The Supervisory Board advises the Executive Board on business administration matters and monitors its activities.
- ⇒ MTU has set up a Compliance Board which reports directly to the Executive Board.
- ⇒ The amount and composition of compensation awarded to Executive and Supervisory Board members is presented in the management compensation report.
- ⇒ MTU Aero Engines AG complies with all recommendations of the German Corporate Governance Code.

# CORPORATE GOVERNANCE

## CORPORATE GOVERNANCE REPORT

Responsible corporate governance ranks high at MTU, which is why the company complies with all the recommendations of the German Corporate Governance Code. The corporate governance report delivered pursuant to Section 3.10 of the Code qualifies as the corporate governance statement required under Section 289a of the German Commercial Code (HGB) and thus forms part of the group management report.

## RESPONSIBLE CORPORATE MANAGEMENT

Corporate governance is a  
natural  
responsibility

The term “corporate governance” stands for the practice of administering and controlling a company in accordance with the principles of responsibility and long-term added value. By its own understanding, MTU Aero Engines AG practices good corporate governance in every area of the company. That comprises mutual trust and efficient collaboration between the Executive Board and the Supervisory Board, respect for the shareholders’ interests, and open and transparent communication with all stakeholders. As a company with global operations, MTU acts in compliance with the relevant national and international standards. In Germany, where the company has its headquarters, these standards are laid down principally in the Stock Corporation Act (AktG), in the Co-Determination Act (MitbG) and in the German Corporate Governance Code (the Code). In the financial year just passed, the Executive Board and Supervisory Board closely studied the Code, the latest version of which was published on May 13, 2013.

Pursuant to Section 289a of the German Commercial Code (HGB), the Executive Board and Supervisory Board of MTU Aero Engines AG hereby make the following declaration relating to corporate management, which is followed by a report in accordance with Section 3.10 of the Code.

### **Declaration of conformity with the German Corporate Governance Code by the Executive Board and Supervisory Board of MTU Aero Engines AG, pursuant to Section 161 of the German Stock Corporation Act (AktG)**

The Executive Board and the Supervisory Board of MTU Aero Engines AG declare that the recommendations of the Government Commission on the German Corporate Governance Code, as published in the amended version of May 13, 2013 by the Federal Ministry of Justice in the official section of the Federal Gazette, have been and are being complied with in their entirety. The Executive Board and the Supervisory Board of MTU Aero Engines AG also intend to follow these recommendations in the future.

Munich, December 2013

For the Executive Board

For the Supervisory Board



Egon Behle  
Chairman



Klaus Eberhardt  
Chairman

## THE PRACTICE OF CORPORATE MANAGEMENT

MTU has always demonstrated a sense of responsibility in everything it does, applying these principles in the same measure to the environment and society as it does to its products, processes, employees, customers and partners. MTU is committed to sustainable development, and its contribution in this area goes above and beyond the minimum legal requirements. The focus of this social commitment lies on environmental protection, human resources policy and community outreach projects in the neighborhood of MTU sites. These commitments are publicly documented on the MTU website at [www.mtu.de](http://www.mtu.de) under [The company > Sustainability](#).

→ more information available online under [The company > Sustainability](#)

The company has formulated a code of conduct, which constitutes a binding standard to be observed by all employees. This code of conduct can be downloaded from the company's website at [www.mtu.de](http://www.mtu.de) under [The company > Sustainability > Code of Conduct](#).

MTU attaches great importance to maintaining an open, ongoing dialog with its target groups. The company communicates with these groups via many channels, including the intranet and internet, company brochures, employee and customer magazines, as well as in direct form at events. The goal of this communication is to generate broad public acceptance.

MTU insists on the finest quality for its products and services. Compliance with quality standards is verified by official organizations and through internal and external audits. A list of approvals and certifications can be found on the MTU website at [www.mtu.de](http://www.mtu.de) under [The company > Quality](#).

→ more information available online under [The company > Quality](#)

## TRUST-BASED COOPERATION BETWEEN GOVERNING BODIES

MTU is a stock corporation organized under German law. Its governing bodies are the Executive Board, the Supervisory Board and the Annual General Meeting. The close cooperation between the governing bodies is based on trust, and they share information with each other in a reliable and regular manner. The Annual General Meeting, in particular, offers shareholders the opportunity to present questions to MTU executives and to exercise their voting rights.

## WORKING PROCEDURES OF THE EXECUTIVE BOARD

As the executive body of MTU, the Executive Board's goal is to create sustainable added value, on its own responsibility and in the company's interest, taking into account the interests of its shareholders, employees and other groups connected with the company. The Executive Board works as a team, with its members bearing joint responsibility. The members of the Executive Board regularly discuss important measures and events within their respective remits. Their qualifications and professional experience are complementary.

Goal is to create sustainable added value

The Supervisory Board is briefed by the Executive Board in a regular, timely and comprehensive manner on the situation of the company, in particular on strategy, the status of planning, the achievement of targets, the company's risk situation and its risk management activities. The Executive Board coordinates decisions of a strategic nature with the Supervisory Board, ensures that such decisions are implemented, and discusses the progress made. Once a month, the Supervisory Board receives written reports on the company's earnings, financial situation and net asset position. Any deviations from the planned operational performance are explained in detail to the Supervisory Board. Furthermore, the chair of the Supervisory Board is briefed regularly and in person on the company's current situation, significant business transactions and important pending decisions.

The Executive Board also receives regular reports on compliance issues, i.e. on the measures taken to comply with laws and regulations and with the company's own guidelines.

→ more information available online under Investor Relations > Corporate Governance

Important Executive Board decisions, in particular those concerning the budget, require the approval of the Supervisory Board. The Supervisory Board provides information on these matters in its report on page 32. The Executive Board's rules of procedure, along with the list of transactions by MTU Aero Engines AG requiring Supervisory Board approval, can be viewed on the company website at [www.mtu.de](http://www.mtu.de) under [Investor Relations > Corporate Governance](#).

## WORKING PROCEDURES OF THE SUPERVISORY BOARD

In line with statutory requirements, the Supervisory Board comprises six shareholder representatives and six employee representatives. It appoints the Executive Board, oversees the latter's work and provides advisory support. Decisions of consequence for the company require the approval of the Supervisory Board. All Supervisory Board members are qualified for these tasks and properly perform their mandated duties. The German Corporate Governance Code recommends that not more than two former members of the Executive Board shall be members of the Supervisory Board. MTU Aero Engines AG complies with this recommendation: Prof. Dr.-Ing. Klaus Steffens is the only member of the Supervisory Board who previously served on the Executive Board. The Supervisory Board is entrusted with gauging the independence of its own members. The majority of the members of the Supervisory Board may be regarded as independent, thus ensuring that the Executive Board receives independent advice and supervision.

→ further information on page 37

The Supervisory Board's rules of procedure make provision for its members to form committees. MTU's Supervisory Board has four committees, [details of which can be found on page 37](#).

The Supervisory Board's rules of procedure contain binding provisions for dealing with conflicts of interest. Such conflicts are to be disclosed and, where appropriate, may result in termination of the member's mandate. In addition, the Supervisory Board must explicitly state such potential conflicts of interest in the nomination proposals it makes to the Annual General Meeting. In 2013, no consulting agreements, contracts for services or similar contractual agreements existed between the members of the Supervisory Board and MTU Aero Engines AG or any of its subsidiaries. Thus no conflicts of interest requiring disclosure arose.

In the financial year 2013, directors' and officers' liability insurance was in effect for the MTU Executive Board and Supervisory Board members. The cover includes a deductible amounting to 10% of the loss incurred, up to a maximum of one and a half times the board member's annual fixed compensation.

→ further information on page 19 et seq.

Compensation for the members of the Executive Board and Supervisory Board is established in accordance with clear, transparent criteria, [which are described in the management compensation report on page 19 et seq.](#)

## DIVERSITY

As the diversity of MTU's workforce is a decisive factor in the company's success, it is a topic to which MTU attaches great importance. In particular, MTU focuses strongly on ensuring the appropriate representation of people with international backgrounds and of women within the company and its corporate bodies.

International orientation

Diversity also has an important role to play in the Supervisory Board, which has set itself the following goals as regards its future composition. As a company with global operations, MTU has a keen interest in ensuring that the members of its corporate bodies have an international background, which is why at least one member of the Supervisory Board should meet this criterion. The MTU Supervisory Board already includes members who trained in other countries or have spent substantial portions of their careers abroad, and the company intends to ensure that the members of the Supervisory Board continue to contribute their international experience going forward.

At present, two seats on the MTU Supervisory Board are occupied by women, namely Babette Fröhlich as an employee representative and Prof. Dr. Marion A. Weissenberger-Eibl as a shareholder representative. This concurs with the Supervisory Board's opinion that two or more women representatives would adequately meet the requirement for fair representation, this number being based on the relative proportion of women working for the company.

MTU intends to raise the proportion of women in management positions across all levels of the hierarchy to 15% by the end of 2015. Each area of the company has set its own specific goals that will contribute toward the accomplishment of this objective. Meanwhile, MTU is consistently pursuing the measures it has initiated to encourage more women to accede to management posts. These include a targeted recruitment campaign, through which the company was able to further increase the proportion of women in its workforce in 2013. When filling vacancies for specialists and managers, for instance, the company focuses on ensuring the adequate representation of women. Female high potentials receive support through dedicated coaching and mentoring programs. Other measures address both men and women, such as the quasi full-time working model for managers and job-sharing and teleworking arrangements that allow employees to achieve a healthy work-life balance. At the same time, MTU is raising the awareness of its entire workforce on the issue of gender balance through seminars aimed at managers and employees alike. The company's own communication media are also being deployed for this purpose. On the back of these measures, MTU intends to increase successively the percentage of women in management positions within the company, and ultimately achieve its ambitious goal.

The Supervisory Board also places value on fostering diversity in appointments to the Executive Board. In terms of its members' education, training and professional experience, the Executive Board is already international, and is set to remain so in future. The Supervisory Board will also pay attention to the goal of adequate representation of women when searching for suitably qualified candidates to fill vacant positions on the Executive Board.

Since MTU's articles of association already contain an age-limit provision for Supervisory Board members, no further action on this issue is required of the Supervisory Board. Members of the Supervisory Board must relinquish their seats after the Annual General Meeting that follows their 70th birthday.

The Supervisory Board takes the above-mentioned goals into account when submitting nomination proposals to the Annual General Meeting. The same applies to the Nomination Committee, which is responsible for preparing the vote of the Supervisory Board. Since the main criterion for any nomination proposal is still the company's interest, the Supervisory Board shall propose the candidates that best meet the requirements.

## FINANCIAL REPORTING

MTU prepares its consolidated financial statements and its interim reports in accordance with the International Financial Reporting Standards (IFRSs) on the responsibility of the Executive Board. The separate, annual financial statements are compiled in accordance with the provisions of the German Commercial Code (HGB). An internal system of controls coupled with the application of uniform principles of accounting ensures that the earnings, financial situation, net asset position and cash flows of all group companies are accurately presented. In addition, MTU has a differentiated system in place to identify and monitor business and financial risks.

## RISK MANAGEMENT AND CONTROL SYSTEM

The Executive Board is responsible for ensuring that an appropriate risk management and control system is in place. This system is described on page 88 et seq. The Executive Board reports to the Supervisory Board in a regular and timely manner on existing risks and any pertinent new developments.

Promoting  
women in  
management



The Audit Committee of the Supervisory Board deliberates on risk management. In accordance with Section 107 (3) of the German Stock Corporation Act (AktG), as amended by the German Accounting Law Modernization Act (BilMoG), the Audit Committee is explicitly responsible for monitoring the effectiveness of the risk management system, the internal control and auditing systems, the financial reporting process and the audit of the financial statements, and, in particular, for assessing the auditor's independence.

## COMPLIANCE

The corporate culture at MTU sets great store by the values of trust and mutual respect. Nevertheless, the risk can never be entirely ruled out that unauthorized behavior of isolated individuals might lead to contravention of the law. MTU does everything in its power to minimize this risk as far as possible, and is committed to uncovering and pursuing all acts of misconduct, as in the case of corruption.

The observance of legal and ethical rules and principles plays a central role in this respect. These and other aspects of compliance, such as the responsible handling of insider information, are documented in a code of conduct drawn up and introduced jointly by the MTU Executive Board and the Group Works Council. This code of conduct embodies MTU's corporate culture and reflects its strict resolve to comply with the stipulations of the relevant laws and internal regulations. It is a company-wide guide to ethical business relations.

Compliance is a  
management  
duty

Compliance is an important aspect of all management functions at MTU. For example, all managers verify that each and every member of their staff has read and understood the code of conduct and is abiding by its rules. Reinforcement is provided by internal training courses.

MTU has set up a Compliance Board, which reports directly to the Executive Board. This board meets once a quarter. Its duties include identifying and evaluating legal and reputational risks. Where necessary, it recommends additional compliance rules to the Executive Board. Above and beyond this, the Compliance Board coordinates the measures taken in specific cases of non-compliance. In agreement with the Works Council, the company has set up an internal compliance office that staff, customers and suppliers may contact if they suspect unethical conduct.

Status reports on the activities of the Compliance Board are presented at meetings of the Supervisory Board's Audit Committee. The Audit Committee then informs the plenary meetings of the Supervisory Board via a summary of its own meetings.

The Supervisory Board's Audit Committee oversees the Executive Board's compliance activities. This includes proposing new rules for incorporation in the compliance guidelines and monitoring the measures and training programs implemented by the Compliance Board.

## A FULL INFORMATION SERVICE

In keeping with the principles of good corporate governance, MTU issues a regular flow of comprehensive, timely information on the company's activities and any major developments in its business situation to shareholders, shareholder associations, financial analysts, the media and other interested parties. MTU strives to ensure that all stakeholders are kept informed in equal measure. The company publishes a full range of information on its [website at www.mtu.de](http://www.mtu.de). It publishes quarterly reports on its business activities, and any new developments likely to have a significant impact on the MTU share price are disclosed in the form of ad hoc releases in accordance with statutory requirements.

→ more information  
available online

Information is also posted on the MTU website whenever members of the Executive Board or Supervisory Board or related persons have purchased or sold MTU shares or share-based derivatives. Section 15a of the German Securities Trading Act (WpHG) stipulates that this group of persons must disclose such transactions if and when their value reaches or exceeds € 5,000 within a single calendar year.

# MANAGEMENT COMPENSATION REPORT

The management compensation report describes the principles applied when establishing the compensation to be awarded to members of the Executive Board and Supervisory Board of MTU Aero Engines AG, and states the amount and composition of that compensation. The management compensation report follows the provisions of Section 314(1) no. 6 of the German Commercial Code (HGB), German Accounting Standard DRS 17 “Reporting on the remuneration of members of governing bodies”, and the recommendations of the German Corporate Governance Code.

At the proposal of its chair, the Supervisory Board decides on a system of compensation for the members of the Executive Board, including the main components of their contracts, and reviews this system at regular intervals.

The compensation system, which was developed with the support of external consultants and put in place in 2010, focuses on linking Executive Board compensation to a style of corporate management and development that has a sustainable and long-term orientation. That entails not only an appropriate mix of fixed and variable compensation components, but also the inclusion of long-term components in the variable compensation. Large parts of the variable compensation can now be deferred, or not paid out at all. The intention of these changes is to align the interests of the members of the Executive Board more closely with those of the company by increasing their participation in the company in the long term.

Members of the Executive Board did not receive any compensation for mandates on boards of MTU group companies, nor were they granted any loan facilities by the company.

Variable compensation includes long-term components

## PRINCIPLES OF THE COMPENSATION SYSTEM FOR MEMBERS OF THE EXECUTIVE BOARD

At the proposal of its chair, the Supervisory Board determines both the total compensation to be awarded to members of the Executive Board (so-called target direct compensation) and the composition of this compensation. The target direct compensation is made up of non-performance-related components (40% of the total) and performance-related components (60%). The latter comprises the Annual Performance Bonus (APB) and a share-based component, each of which makes up approximately 30% of the target direct compensation.

### NON-PERFORMANCE-RELATED COMPONENTS

The non-performance-related components consist of the basic salary and other benefits that are paid on a monthly basis. “Other benefits” comprise taxable reimbursements of expenses and the non-cash benefit deriving from payments in kind such as insurance premiums or the use of a company car for business and private purposes, including any taxes on such benefits paid by the company.

### PERFORMANCE-RELATED COMPONENTS

#### Performance-related components without long-term incentive effect

Half of the Annual Performance Bonus (APB) is granted as a short-term compensation component.

The actual amount depends on the results achieved in respect of two company performance targets and on the board member’s individual performance. The company performance targets are based on the key performance indicators at group level – “adjusted EBIT” and “free cash flow” – which are given equal weighting. The targets to be achieved to ensure payment of 100% of the APB are set annually in advance by the Supervisory Board, taking the annual planning figures into

account. In addition, an entry threshold is set for each performance target at a figure 30% below the planned level; this corresponds to a goal achievement level of 50%. Members of the Executive Board who do not reach this entry threshold are not entitled to a short-term compensation component. Similarly, the maximum goal achievement level of 180% is fixed at a figure 15% above the planned value for each of the two performance targets. Between the entry threshold, the 100% level and the maximum value, the degree of goal achievement is interpolated using a straight-line method. The Supervisory Board takes the individual Executive Board member's performance into account by decreasing or increasing the goal achievement figures by up to 20% (termed the "discretionary factor"), depending on its assessment of the individual performance of that member.

The method used to adapt and disburse compensation components that have been withheld remains unchanged until final payment, even in cases where a member of the Executive Board leaves the company prior to the payment date.

### **Performance-related components with long-term incentive effect**

Performance-related compensation with long-term incentive effect comprises the deferred APB and a share-based component.

#### **Deferred Annual Performance Bonus (APB):**

The remaining 50% of the APB is deferred and paid out in two equal portions over the following two financial years.

The ultimate amount of the deferred APB depends on the goal achievement level attained in respect of the two key performance indicators at group level and on the discretionary factor applied in the respective financial years.

In Egon Behle's case, the outstanding deferred APBs of the previous years will continue to be adjusted to the respective goal achievement level. His discretionary factor is set at one (1).

#### **Share-based component**

The long-term compensation awarded to members of the MTU Executive Board also comprises a share-based component granted in annual tranches by the Supervisory Board. The share-based component consists of the Performance Share Plan (PSP), which is linked to the development of the MTU share relative to the MDAX index, and the Share Matching Plan (SMP), in which the members of the Board of Management can opt to invest their payment from the PSP at the end of the assessment period for each tranche.

#### **Performance Share Plan (PSP)**

On the dates fixed for these tranches, the provisional number of performance shares is calculated on the basis of the average price of the MTU Aero Engines AG share over the last 30 trading days prior to commencement of the assessment period in accordance with each Executive Board member's long-term target compensation. At the end of the four-year assessment period, these performance

shares entitle the recipients to a payment either in cash or in shares, as the Supervisory Board sees fit. Since 2011, the tranches of shares have been granted with effect from January 1 of each financial year. By way of exception, Michael Schreyögg was granted the fourth tranche of the PSP on July 1, 2013.

The actual number of performance shares is determined after expiry of the four-year assessment period for each tranche of granted shares. This amount reflects the performance of the MTU share compared with the other shares in the MDAX index, based on total shareholder return (TSR). The TSR is calculated as the total return on the stock including all changes in the share price and all dividends paid during the assessment period. The TSR ranking of the MTU share relative to that of all other MDAX-listed shares at the end of the assessment period is the main factor determining the number of shares allocated. Depending on this ranking, the level of goal achievement may be between 0% and 150%, with 100% being the value for an average ranking.

The amount disbursed equals the actual number of performance shares multiplied by the average MTU Aero Engines AG share price over the last 30 trading days prior to the end of the assessment period. The maximum payment for each tranche of granted shares is limited to 300% of the individual board member's long-term target compensation. The Supervisory Board has the right to impose further limits if any extraordinary events should occur.

### Share Matching Plan (SMP)

The members of the Executive Board are entitled to use the benefits payable under each tranche of the Performance Share Plan (PSP) to purchase MTU Aero Engines AG shares. At the end of the three-year vesting period, these shares are matched on the basis of the Share Matching Plan (SMP), with each Executive Board member being awarded one additional free share for every three MTU shares acquired in this way. The total value of the free shares allocated at the end of the vesting period is limited to three times the purchase price of the shares originally acquired through the PSP.

## INDIVIDUAL COMPENSATION OF THE MEMBERS OF THE EXECUTIVE BOARD

The members of the Executive Board were awarded the following total compensation – as defined in Section 314(1) no. 6a of the German Commercial Code (HGB) – for their activities on the board in the financial years 2013 and 2012:

### Payment in cash or in shares

**Individual compensation of the members of the Executive Board**

Members of the Executive Board in €	Egon Behle <sup>1)</sup>		Dr. Rainer Martens		Michael Schreyögg <sup>2)</sup>		Dr. Stefan Weingartner		Reiner Winkler		Total compensation	
	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012
<b>Non-performance-related components</b>												
Basic salary	795,000	795,000	477,000	477,000	180,000		477,000	477,000	530,000 <sup>7)</sup>	530,000	2,459,000	2,279,000
Other benefits <sup>3)</sup>	21,116	22,774	14,426	13,426	10,371		24,021	25,670	19,158	17,025	89,092	78,895
<b>Performance-related components</b>												
Without long-term incentive effect (non-deferred) <sup>4)</sup>	285,424	422,286	171,254	253,372	64,624		171,254	253,372	190,284	281,524	882,840	1,210,554
With long-term incentive effect												
Deferred APB 2010		163,945		196,734				196,734		218,593		776,006
Deferred APB 2011 <sup>5)</sup>	218,970	323,979	131,383	194,387			131,383	194,387	145,979	215,986	627,715	928,739
Deferred APB 2012 <sup>5)</sup>	202,159		121,296				121,296		134,773		579,524	
Share-based compensation <sup>6)</sup>	498,722	502,817	299,244	301,706	107,675		299,244	301,706	332,499	335,211	1,537,384	1,441,440
<b>Total compensation</b>	<b>2,021,391</b>	<b>2,230,801</b>	<b>1,214,603</b>	<b>1,436,625</b>	<b>362,670</b>		<b>1,224,198</b>	<b>1,448,869</b>	<b>1,352,693</b>	<b>1,598,339</b>	<b>6,175,555</b>	<b>6,714,634</b>

<sup>1)</sup> Member of the Executive Board until December 31, 2013.

<sup>2)</sup> Member of the Executive Board since July 1, 2013.

<sup>3)</sup> Other benefits include charges to taxable income covering personal use of company vehicles amounting to € 82,766 (2012: € 71,337) and premiums for accident insurance policies taken out on behalf of members of the Executive Board amounting to € 6,326 (2012: € 7,558).

<sup>4)</sup> Non-deferred APB for the financial year 2013; to be paid in 2014 immediately after adoption of the annual financial statements for 2013.

<sup>5)</sup> To be paid in 2014 immediately after adoption of the annual financial statements for 2013.

<sup>6)</sup> Fair value at the grant date.

<sup>7)</sup> In connection with his appointment as CEO with effect of January 1, 2014, Reiner Winkler's basic salary since that date is € 720,000.

## PERFORMANCE-RELATED COMPONENTS

### ANNUAL PERFORMANCE BONUS (APB):

The performance targets are shown in the following table:

#### Annual Performance Bonus (APB)

in € million	2013	2012	2011	2010
<b>Adjusted EBIT</b>				
Target	414.0	345.0	300.0	285.0
Actual	377.3	374.3	328.0	310.7
<b>Free cash flow</b>				
Target	80.0	80.0	113.0	125.0
Actual	<b>83.0</b>	85.7	129.0	144.8

Deferred portions of the APB awarded in respect of 2011 and 2012 formed part of the performance-related compensation payable in 2013.



## PERFORMANCE SHARE PLAN (PSP)

The following table shows the number of performance shares granted in each PSP tranche:

### Performance Share Plan 2013

number of shares or value in €	Average Xetra share price <sup>1)</sup> €	Granted performance shares			Exercised performance shares Performance shares 2013/shares	Performance shares not yet exercisable at year-end		Time to end of vesting period for performance shares Time at Dec. 31, 2013 months
		Number at Jan. 1, 2013 shares	Acquired in 2013 shares	Number at Dec. 31, 2013 shares		Number at Dec. 31, 2013 shares	Fair value at Dec. 31, 2013 €	
<b>Egon Behle<sup>2)</sup></b>								
Performance shares tranche 1b granted July 1, 2010	46.64	6,031		6,031	6,031			
Performance shares tranche 2 granted Jan. 1, 2011	47.03	11,960		11,960	11,960			
Performance shares tranche 3 granted Jan. 1, 2012	47.47	12,561		12,561	12,561			
Performance shares tranche 4a granted Jan. 1, 2013	67.16		8,878	8,878	8,878			
<b>Personal total / average</b>	<b>51.64</b>	<b>30,552</b>	<b>8,878</b>	<b>39,430</b>	<b>39,430</b>			
<b>Dr. Rainer Martens</b>								
Performance shares tranche 1a granted Jan. 1, 2010	36.63	9,214		9,214	9,214			
Performance shares tranche 2 granted Jan. 1, 2011	47.03	7,176		7,176		7,176	57.93	12
Performance shares tranche 3 granted Jan. 1, 2012	47.47	7,537		7,537		7,537	44.75	24
Performance shares tranche 4a granted Jan. 1, 2013	67.16		5,327	5,327		5,327	37.67	36
<b>Personal total / average</b>	<b>47.53</b>	<b>23,927</b>	<b>5,327</b>	<b>29,254</b>	<b>9,214</b>	<b>20,040</b>	<b>47.59</b>	<b>23</b>
<b>Michael Schreyögg<sup>3)</sup></b>								
Performance shares tranche 4b granted July 1, 2013	76.59		1,763	1,763		1,763	38.58	42
<b>Personal total / average</b>	<b>76.59</b>		<b>1,763</b>	<b>1,763</b>		<b>1,763</b>	<b>38.58</b>	<b>42</b>
<b>Dr. Stefan Weingartner</b>								
Performance shares tranche 1a granted Jan. 1, 2010	36.63	9,214		9,214	9,214			
Performance shares tranche 2 granted Jan. 1, 2011	47.03	7,176		7,176		7,176	57.93	12
Performance shares tranche 3 granted Jan. 1, 2012	47.47	7,537		7,537		7,537	44.75	24
Performance shares tranche 4a granted Jan. 1, 2013	67.16		5,327	5,327		5,327	37.67	36
<b>Personal total / average</b>	<b>47.53</b>	<b>23,927</b>	<b>5,327</b>	<b>29,254</b>	<b>9,214</b>	<b>20,040</b>	<b>47.59</b>	<b>23</b>
<b>Reiner Winkler</b>								
Performance shares tranche 1a granted Jan. 1, 2010	36.63	10,238		10,238	10,238			
Performance shares tranche 2 granted Jan. 1, 2011	47.03	7,973		7,973		7,973	57.93	12
Performance shares tranche 3 granted Jan. 1, 2012	47.47	8,374		8,374		8,374	44.75	24
Performance shares tranche 4a granted Jan. 1, 2013	67.16		5,919	5,919		5,919	37.67	36
<b>Personal total / average</b>	<b>47.53</b>	<b>26,585</b>	<b>5,919</b>	<b>32,504</b>	<b>10,238</b>	<b>22,266</b>	<b>47.59</b>	<b>23</b>
<b>Cumulative total / average</b>	<b>49.15</b>	<b>104,991</b>	<b>27,214</b>	<b>132,205</b>	<b>68,096</b>	<b>64,109</b>	<b>47.34</b>	<b>23</b>

Note: In the financial year 2013, no performance share rights were forfeited, nor did any lapse.

<sup>1)</sup> Average Xetra share price over the 30 days preceding the grant date.

<sup>2)</sup> Member of the Executive Board until December 31, 2013. A cash settlement corresponding to the value of the performance shares granted in 2010, 2011, 2012 and 2013 will therefore be awarded in the financial year 2014.

<sup>3)</sup> Member of the Executive Board since July 1, 2013.

**Performance Share Plan 2012**

number of shares or value in €	Average Xetra share price <sup>1)</sup>	Granted performance shares			Performance shares not yet exercisable at year-end		Time to end of vesting period for performance shares Time at Dec. 31, 2012 months
		Number at Jan. 1, 2012 shares	Acquired in 2012 shares	Number at Dec. 31, 2012 shares	Number at Dec. 31, 2012 shares	Fair value at Dec. 31, 2012 €	
	€						
<b>Egon Behle</b>							
Performance shares tranche 1b granted July 1, 2010	46.64	6,031		6,031	6,031	55.55	18
Performance shares tranche 2 granted Jan. 1, 2011	47.03	11,960		11,960	11,960	60.80	24
Performance shares tranche 3 granted Jan. 1, 2012	47.47		12,561	12,561	12,561	53.51	36
<b>Personal total / average</b>	<b>47.13</b>	<b>17,991</b>	<b>12,561</b>	<b>30,552</b>	<b>30,552</b>	<b>56.77</b>	<b>28</b>
<b>Dr. Rainer Martens</b>							
Performance shares tranche 1a granted Jan. 1, 2010	36.63	9,214		9,214	9,214	64.15	12
Performance shares tranche 2 granted Jan. 1, 2011	47.03	7,176		7,176	7,176	60.80	24
Performance shares tranche 3 granted Jan. 1, 2012	47.47		7,537	7,537	7,537	53.51	36
<b>Personal total / average</b>	<b>43.16</b>	<b>16,390</b>	<b>7,537</b>	<b>23,927</b>	<b>23,927</b>	<b>59.79</b>	<b>23</b>
<b>Dr. Stefan Weingartner</b>							
Performance shares tranche 1a granted Jan. 1, 2010	36.63	9,214		9,214	9,214	64.15	12
Performance shares tranche 2 granted Jan. 1, 2011	47.03	7,176		7,176	7,176	60.80	24
Performance shares tranche 3 granted Jan. 1, 2012	47.47		7,537	7,537	7,537	53.51	36
<b>Personal total / average</b>	<b>43.16</b>	<b>16,390</b>	<b>7,537</b>	<b>23,927</b>	<b>23,927</b>	<b>59.79</b>	<b>23</b>
<b>Reiner Winkler</b>							
Performance shares tranche 1a granted Jan. 1, 2010	36.63	10,238		10,238	10,238	64.15	12
Performance shares tranche 2 granted Jan. 1, 2011	47.03	7,973		7,973	7,973	60.80	24
Performance shares tranche 3 granted Jan. 1, 2012	47.47		8,374	8,374	8,374	53.51	36
<b>Personal total / average</b>	<b>43.16</b>	<b>18,211</b>	<b>8,374</b>	<b>26,585</b>	<b>26,585</b>	<b>59.79</b>	<b>23</b>
<b>Cumulative total / average</b>	<b>44.32</b>	<b>68,982</b>	<b>36,009</b>	<b>104,991</b>	<b>104,991</b>	<b>58.91</b>	<b>24</b>

Note: In the financial years 2010, 2011 and 2012, no performance shares were exercised or forfeited, nor did any lapse.

<sup>1)</sup> Average Xetra share price over the 30 days preceding the grant date.

The fair value is calculated by an independent expert in accordance with the recommendations contained in IFRS 2. The fair value of each PSP tranche, taking into account a fluctuation rate of 4% per performance share, was as follows:

**Performance Share Plan**

in €	Tranche 4b granted in 2013	Tranche 4a granted in 2013	Tranche 3 granted in 2012	Tranche 2 granted in 2011	Tranche 1b granted in 2010	Tranche 1a granted in 2010
Fair value at the grant date	52.20	47.98	34.26	31.26	27.13	22.96

The methods used to calculate these figures are documented in the fairness opinions established at the respective grant dates.

The total carrying amount of the liabilities in connection with PSP compensation developed as follows:

#### Development of total carrying amount

in €	At Dec. 31, 2013	At Dec. 31, 2012
Performance Share Plan - tranche 1a	1,802,604	1,379,085
Performance Share Plan - tranche 1b	316,039	209,368
Performance Share Plan - tranche 2	1,847,442	1,042,263
Performance Share Plan - tranche 3	1,095,102	481,737
Performance Share Plan - tranche 4a	388,695	
Performance Share Plan - tranche 4b	8,502	
<b>Total carrying amount</b>	<b>5,458,384</b>	<b>3,112,453</b>

#### SHARE MATCHING PLAN (SMP)

The number of future matching shares depends on the cash amount paid out under the PSP. In order to determine the fair value of the SMP, a combined Monte Carlo simulation and Black-Scholes pricing model was used. The expected cash settlement was determined on the basis of the exact same assumptions used to measure the value of the PSP. The cash settlement serves as a basis for measuring the value of the Share Matching Plan in accordance with the Black-Scholes pricing model. The fair value of the forward options at the grant date was calculated on the basis of the following assumptions (an option period of 88 months, a vesting period of 52 months and a fluctuation rate of 4% were assumed for all tranches):

#### Share Matching Plan

Model parameters	Tranche 4b financial year 2013	Tranche 4a financial year 2013	Tranche 3 financial year 2012	Tranche 2 financial year 2011	Tranche 1b financial year 2010	Tranche 1a financial year 2010
Measurement date	July 1, 2013	Jan. 1, 2013	Jan. 1, 2012	Jan. 1, 2011	July 1, 2010	Jan. 1, 2010
Average share price at acquisition date	76.59	67.16	47.47	47.03	46.64	36.63
Dividend yield	1.82%	1.74%	2.23%	1.84%	2.07%	2.44%
Expected volatility	24.60%	27.94%	35.18%	51.40%	52.82%	52.08%
Risk-free interest rate	0.71%	0.26%	0.70%	1.76%	1.37%	2.30%

The following share-based SMP compensation agreements were in place during the current reporting periods and earlier reporting periods:

#### Share Matching Plan (SMP) 2013

number of shares or value in €	Fair value at grant date	Granted performance shares			Forfeited performance shares	Performance shares not yet exercisable at year-end	Time to end of vesting period for performance shares <sup>1)</sup>
		Number at Jan. 1, 2013 shares	Acquired in 2013 shares	Number at Dec. 31, 2013 shares	Performance Shares 2013/shares	Number at Dec. 31, 2013 shares	Time at Dec. 31, 2013 months
	€						
<b>Egon Behle<sup>2)</sup></b>							
Performance shares tranche 1b granted July 1, 2010	4.233	6,031		6,031	6,031		
Performance shares tranche 2 granted Jan. 1, 2011	4.779	11,960		11,960	11,960		
Performance shares tranche 3 granted Jan. 1, 2012	5.771	12,561		12,561	12,561		
Performance shares tranche 4a granted Jan. 1, 2013	8.192		8,878	8,878	8,878		
<b>Personal total / average</b>	<b>5.780</b>	<b>30,552</b>	<b>8,878</b>	<b>39,430</b>	<b>39,430</b>		
<b>Dr. Rainer Martens</b>							
Performance shares tranche 1a granted Jan. 1, 2010	3.722	9,214		9,214		9,214	4
Performance shares tranche 2 granted Jan. 1, 2011	4.779	7,176		7,176		7,176	16
Performance shares tranche 3 granted Jan. 1, 2012	5.771	7,537		7,537		7,537	28
Performance shares tranche 4a granted Jan. 1, 2013	8.192		5,327	5,327		5,327	40
<b>Personal total / average</b>	<b>5.323</b>	<b>23,927</b>	<b>5,327</b>	<b>29,254</b>		<b>29,254</b>	<b>20</b>
<b>Michael Schreyögg<sup>3)</sup></b>							
Performance shares tranche 4b granted July 1, 2013	8.874		1,763	1,763		1,763	46
<b>Personal total / average</b>	<b>8.874</b>		<b>1,763</b>	<b>1,763</b>		<b>1,763</b>	<b>46</b>
<b>Dr. Stefan Weingartner</b>							
Performance shares tranche 1a granted Jan. 1, 2010	3.722	9,214		9,214		9,214	4
Performance shares tranche 2 granted Jan. 1, 2011	4.779	7,176		7,176		7,176	16
Performance shares tranche 3 granted Jan. 1, 2012	5.771	7,537		7,537		7,537	28
Performance shares tranche 4a granted Jan. 1, 2013	8.192		5,327	5,327		5,327	40
<b>Personal total / average</b>	<b>5.323</b>	<b>23,927</b>	<b>5,327</b>	<b>29,254</b>		<b>29,254</b>	<b>20</b>
<b>Reiner Winkler</b>							
Performance shares tranche 1a granted Jan. 1, 2010	3.722	10,238		10,238		10,238	4
Performance shares tranche 2 granted Jan. 1, 2011	4.779	7,973		7,973		7,973	16
Performance shares tranche 3 granted Jan. 1, 2012	5.771	8,374		8,374		8,374	28
Performance shares tranche 4a granted Jan. 1, 2013	8.192		5,919	5,919		5,919	40
<b>Personal total / average</b>	<b>5.323</b>	<b>26,585</b>	<b>5,919</b>	<b>32,504</b>		<b>32,504</b>	<b>20</b>
<b>Cumulative total / average</b>	<b>5.507</b>	<b>104,991</b>	<b>27,214</b>	<b>132,205</b>	<b>39,430</b>	<b>92,775</b>	<b>20</b>

Note: In the financial year 2013, no performance shares rights were exercised, nor did any lapse.

<sup>1)</sup> The time to end of vesting period for SMP shares is 4 months longer than for PSP shares because the strike date is in April.

<sup>2)</sup> Member of the Executive Board until December 31, 2013; he therefore forfeits his right to reinvest the benefits payable under the Performance Share Plan (PSP) in MTU Aero Engines AG shares.

<sup>3)</sup> Member of the Executive Board since July 1, 2013.

**Share Matching Plan (SMP) 2012**

number of shares or value in €	Fair value at grant date  €	Granted performance shares			Performance shares not yet exercisable at year-end  Number at Dec. 31, 2012 shares	Time to end of vesting period for performance shares  Time at Dec. 31, 2012 months
		Number at Jan. 1, 2012 shares	Acquired in 2012 shares	Number at Dec. 31, 2012 shares		
<b>Egon Behle</b>						
Performance shares tranche 1b granted July 1, 2010	4.233	6,031		6,031	6,031	22
Performance shares tranche 2 granted Jan. 1, 2011	4.779	11,960		11,960	11,960	28
Performance shares tranche 3 granted Jan. 1, 2012	5.771		12,561	12,561	12,561	40
<b>Personal total / average</b>	<b>5.079</b>	<b>17,991</b>	<b>12,561</b>	<b>30,552</b>	<b>30,552</b>	<b>32</b>
<b>Dr. Rainer Martens</b>						
Performance shares tranche 1a granted Jan. 1, 2010	3.722	9,214		9,214	9,214	16
Performance shares tranche 2 granted Jan. 1, 2011	4.779	7,176		7,176	7,176	28
Performance shares tranche 3 granted Jan. 1, 2012	5.771		7,537	7,537	7,537	40
<b>Personal total / average</b>	<b>4.684</b>	<b>16,390</b>	<b>7,537</b>	<b>23,927</b>	<b>23,927</b>	<b>27</b>
<b>Dr. Stefan Weingartner</b>						
Performance shares tranche 1a granted Jan. 1, 2010	3.722	9,214		9,214	9,214	16
Performance shares tranche 2 granted Jan. 1, 2011	4.779	7,176		7,176	7,176	28
Performance shares tranche 3 granted Jan. 1, 2012	5.771		7,537	7,537	7,537	40
<b>Personal total / average</b>	<b>4.684</b>	<b>16,390</b>	<b>7,537</b>	<b>23,927</b>	<b>23,927</b>	<b>27</b>
<b>Reiner Winkler</b>						
Performance shares tranche 1a granted Jan. 1, 2010	3.722	10,238		10,238	10,238	16
Performance shares tranche 2 granted Jan. 1, 2011	4.779	7,973		7,973	7,973	28
Performance shares tranche 3 granted Jan. 1, 2012	5.771		8,374	8,374	8,374	40
<b>Personal total / average</b>	<b>4.684</b>	<b>18,211</b>	<b>8,374</b>	<b>26,585</b>	<b>26,585</b>	<b>27</b>
<b>Cumulative total / average</b>	<b>4.799</b>	<b>68,982</b>	<b>36,009</b>	<b>104,991</b>	<b>104,991</b>	<b>28</b>

Note: In the financial years 2010, 2011 and 2012, no performance shares were exercised or forfeited, nor did any lapse.

**TOTAL EXPENSE INCURRED FOR SHARE-BASED COMPENSATION**

The total expense incurred for share-based compensation can be broken down as follows for the individual members of the Executive Board:

**Total expense incurred for share-based compensation**

Members of the Board of Management in €	Financial year 2013			Financial year 2012		
	Cash settlement	Equity instruments	Total	Cash settlement	Equity instruments	Total
Egon Behle <sup>1)</sup>	1,255,549	170,069	1,425,618	534,596	35,810	570,406
Dr. Rainer Martens	347,748	35,936	383,684	495,792	25,866	521,658
Michael Schreyögg <sup>2)</sup>	8,502	1,805	10,307			
Dr. Stefan Weingartner	347,748	35,936	383,684	495,792	25,866	521,658
Reiner Winkler	386,384	39,929	426,313	550,873	28,740	579,613
<b>Total expense</b>	<b>2,345,931</b>	<b>283,675</b>	<b>2,629,606</b>	<b>2,077,053</b>	<b>116,282</b>	<b>2,193,335</b>

<sup>1)</sup> Member of the Executive Board until December 31, 2013.

<sup>2)</sup> Member of the Executive Board since July 1, 2013.



## **RULES WHEN TERMINATING THE CONTRACTS OF MEMBERS OF THE EXECUTIVE BOARD**

The members of the Executive Board are insured under a defined-benefit plan in which the benefits promised are based on the contributions made. The benefits payable to members of the Executive Board under this plan correspond to those of their peers in comparable companies.

### **Retirement and survivors' pensions**

The members of the Executive Board earn company pension entitlements in accordance with the "MTU Pension Capital" plan, which constitutes the current post-employment benefits plan for members of the Executive Board of MTU Aero Engines AG. The goal of the plan is to provide a pension amounting to 60% of each member's basic salary after 15 years of service on the Executive Board. When this plan was introduced on January 1, 2010, the vested benefits that each member of the Executive Board had earned up until December 31, 2009 under the previous plan were transferred to the new plan in the form of initial units. This entitlement represents the benefit payable at age 60 under the old plan, adapted to reflect the ratio between the actual number of years of service with the company and the number of years from start of service with the company until age 60. The initial units transferred to the new plan correspond to the current cash value of the pension converted into a lump sum.

Once this amount had been determined, a pension account was opened for each member of the Executive Board to which further capital units are credited annually. The amount of the annual capital units is calculated on the basis of an individually defined contribution and an age-dependent factor, with the latter taking into account an interest rate of 6% p.a. until age 60. The contribution period is capped at 15 years of service on the Executive Board, or at age 60, whichever comes first. As of the age of 61, the pension account earns interest at an annual rate of 4% until such time as the pension is drawn (= bonus amount). The accrued capital units plus the units initially transferred to the account plus any bonus amounts credited to the account together make up the pension capital available to finance retirement benefits. If a member of the Executive Board dies before reaching age 60, 50% of the benefits that he/she could still have earned until that age are added to the accrued balance on the pension account – taking into account the permissible contribution period.

The pension capital may be drawn either in a single lump sum, in installments, or as a lifelong pension increased at an annual rate of 1%. In any insured event, the pension account is topped up to the level of benefits the insured party would have reached under the previous plan (guaranteed capital). Pension benefits do not become payable until such time as an insured event occurs (i.e. on reaching pensionable age, or in the event of disability or death), even if the insured party leaves the Executive Board. The pension entitlement cannot be forfeited once the initial contribution has been paid.

Dr. Rainer Martens, Dr. Stefan Weingartner and Reiner Winkler had already been promised under the previous pension plan that their years of service with former group companies would count toward their pensions.

Details of the above-mentioned obligations and benefits are shown in the following table:

#### Existing benefit entitlements

Members of the Executive Board in €	Initial transfer amount <sup>1)</sup>	Guaranteed capital <sup>2)</sup>	Annual annuity <sup>3)</sup>	End of contribution period	Retirement benefit <sup>4)</sup>
Egon Behle <sup>5)</sup>	1,097,523	4,196,500	400,000	Dec. 31, 2013	220,863
Dr. Rainer Martens	1,366,176	2,317,650	220,000	April 1, 2021	286,200
Michael Schreyögg <sup>6)</sup>	365,627	365,627	154,690	Aug. 1, 2026	187,200
Dr. Stefan Weingartner	1,188,427	1,931,375	200,000	July 1, 2021	267,120
Reiner Winkler	1,625,140	2,510,788	400,000	Oct. 1, 2019	432,000

<sup>1)</sup> Credit for past service up to December 31, 2009 (date of changeover to new system).

<sup>2)</sup> Capital payment equal to the adjusted value of the benefit entitlement at Dec. 31, 2009, when the new pension arrangements came into force (Jan. 1, 2010).

<sup>3)</sup> The annual contribution is credited to the board member's pension account together with interest at 6% p.a.

<sup>4)</sup> Increased by 2% p.a. up to pensionable age.

<sup>5)</sup> Member of the Executive Board until December 31, 2013.

<sup>6)</sup> Member of the Executive Board since July 1, 2013.

The differences in the annual contributions to the MTU pension accounts result from the remaining periods of service on the Executive Board until the end of the respective contribution period, from the respective age-dependent factors and from the different salary amounts eligible for pension contributions.

Pension contributions to  
individual  
accounts

The following table shows the allocations made to pension provisions for the financial years 2013 and 2012, and the corresponding pension provisions recognized for the members of the Executive Board as of December 31, 2013:

#### Allocations to pension provisions and total amounts recognized

Members of the Executive Board in €	Year	Addition to pension provisions	Amount of recognized pension provisions at Dec. 31.
<b>Egon Behle<sup>1)</sup></b>	<b>2013</b>	<b>545,630</b>	<b>2,994,068</b>
	2012	529,443	2,448,438
<b>Dr. Rainer Martens</b>	<b>2013</b>	<b>301,001</b>	<b>3,129,213</b>
	2012	264,996	2,828,212
<b>Michael Schreyögg<sup>2)</sup></b>	<b>2013</b>	<b>1,087,283<sup>3)</sup></b>	<b>1,364,401</b>
	2012		
<b>Dr. Stefan Weingartner</b>	<b>2013</b>	<b>252,401</b>	<b>2,635,501</b>
	2012	223,407	2,383,100
<b>Reiner Winkler</b>	<b>2013</b>	<b>1,410,251<sup>3)</sup></b>	<b>4,172,597</b>
	2012	243,405	2,762,346
<b>Total</b>	<b>2013</b>	<b>3,596,566</b>	<b>14,295,780</b>
<b>Total</b>	<b>2012</b>	<b>1,261,251</b>	<b>10,422,096</b>

<sup>1)</sup> Member of the Executive Board until December 31, 2013.

<sup>2)</sup> Member of the Executive Board since July 1, 2013.

<sup>3)</sup> Including amount to cover new benefit entitlements.

As of December 31, 2013, the pension provisions in place for Executive Board members still in active service amounted to € 14,295,780 (December 31, 2012: € 10,422,096). The pension obligations toward former members of the Executive Board amounted to € 4,709,256 (December 31, 2012: € 4,520,454).

### **DISABILITY PENSIONS**

Under the new pension rules of January 1, 2010, if a member of the Executive Board is disabled before reaching the age of 60, 50% of the benefits to which that person would normally have been entitled up to the maximum age limit are added to the balance on the pension account at the time of disablement. The amount credited is based on the contributions paid in the last year of employment. This arrangement also applies if the insured party dies before reaching the age of 60.

### **SEVERANCE PAYMENTS ON PREMATURE TERMINATION OF CONTRACT FOR MEMBERS OF THE EXECUTIVE BOARD**

#### **Capped severance payments**

The members of the Executive Board are entitled to receive severance payments if MTU prematurely terminates their appointment. In the case of ordinary termination, a severance package is payable that corresponds to the board member's basic salary, 50% of the APB and 50% of the share-based performance-related compensation component for the time from the end of the notice period until the date on which the contract would normally have expired. The amount of the severance package may not exceed two full years of payments of these compensation components. If the employment contract is terminated for good cause, no severance package is payable.

### **SEVERANCE PAYMENTS ON PREMATURE TERMINATION OF CONTRACT FOR MEMBERS OF THE EXECUTIVE BOARD IN THE EVENT OF A CHANGE OF CONTROL OR SUBSTANTIAL CHANGES IN THE OWNERSHIP OF MTU AERO ENGINES AG**

If another company acquires a controlling interest in MTU as defined by the German Securities Acquisition and Takeover Act (WpÜG) or if the ownership structure of MTU changes substantially as a result of a merger or comparable transaction or amalgamation, the members of the Executive Board are entitled to receive severance payments. These severance payments are paid on the condition that the Supervisory Board relieves them of their duties within one year of such a change of control or if their employment contracts are not renewed as a result of the change of control. In these cases, the amount payable corresponds to the board member's basic salary for the period between leaving the Executive Board and the date on which their contract would otherwise have expired.

In addition, the Supervisory Board is entitled to commute the agreed APB for the year in which the change of control occurs, together with any deferred components of the APB from the two previous years, and to pay out a capital sum equivalent to at least 100% of the target amount.

Further, the share-based performance-related compensation components (PSP/SMP) are automatically terminated. By way of compensation, the member of the Executive Board in question receives a pro rata payment that is calculated as if the component had been continued. The only difference is that the level of goal achievement is determined on the date of change of control and the final amount disbursed is multiplied by the average MTU share price (Xetra) over the last 30 trading days prior to the change of control.

The sum total of all severance payments made in connection with a change of control may not exceed three years' total compensation in each case.

## SUPERVISORY BOARD COMPENSATION

The rules governing Supervisory Board compensation are laid down in the articles of association of MTU Aero Engines AG. Such compensation is established relative to the size of the company and as a function of the duties and responsibilities of the respective members.

Pursuant to Article 12 of the articles of association of MTU Aero Engines AG, members of the Supervisory Board receive a fixed annual payment of € 50,000, payable at the end of the financial year (this annual payment was increased from € 30,000 as from May 14, 2013). This sum is tripled in the case of the chair of the Supervisory Board, and multiplied by one-and-a-half in the case of the deputy chair. In addition to the fixed annual payment, members serving on one of the Supervisory Board's committees receive an additional € 10,000, and a further € 20,000 if they chair a committee (these amounts were increased from € 5,000 and € 10,000 respectively as of May 14, 2013). Further, members of the Supervisory Board receive an attendance fee of € 3,000 for each meeting of the Supervisory Board and its committees, subject to an upper limit of € 3,000 per day. The attendance fee is halved for meetings convened by the chair or deputy chair that take place via telephone or video conference. Expenses incurred in connection with the exercise of their office are reimbursed, as is the value-added tax payable on the fees.

The members of the Supervisory Board do not receive any share-based compensation.

The following compensation was awarded to the individual members of the Supervisory Board of MTU Aero Engines AG for the financial years 2013 and 2012 respectively:

### Supervisory Board Compensation

in €	Compensation 2013 <sup>1)</sup>	Compensation 2012 <sup>1)</sup>
Klaus Eberhardt (Supervisory Board and Personnel Committee chairman) <sup>3) 4)</sup>	205,750.00	135,000.00
Josef Hillreiner (Supervisory Board deputy chairman) <sup>2) 3) 5)</sup>	113,222.23	82,000.00
Dr. Joachim Rauhut (Audit Committee chairman)	95,222.22	64,000.00
Michael Behé <sup>5)</sup>	60,611.11	48,000.00
Dr. Wilhelm Bender	60,611.11	48,000.00
Thomas Dautl	60,611.11	48,000.00
Rudolf Domberger (until May 3, 2013) <sup>5)</sup>	19,250.00	42,000.00
Babette Fröhlich <sup>3) 5)</sup>	74,763.89	62,000.00
Berthold Fuchs (since May 3, 2013)	44,444.45	
Dr.-Ing. Jürgen M. Geißinger <sup>2) 4)</sup>	76,916.67	53,000.00
Michael Leppek (until December 31, 2013) <sup>2) 5)</sup>	71,763.89	53,000.00
Udo Stark (until May 3, 2013)	19,250.00	45,000.00
Prof. Dr.-Ing. Klaus Steffens	60,611.11	45,000.00
Prof. Dr. Marion A. Weissenberger-Eibl (since May 3, 2013)	44,444.45	
<b>Total</b>	<b>1,007,472.24</b>	<b>725,000.00</b>

<sup>1)</sup> Figures do not include VAT.

<sup>2)</sup> Member of the Personnel Committee.

<sup>3)</sup> Member of the Audit Committee.

<sup>4)</sup> Member of the Nomination Committee.

<sup>5)</sup> These employee representatives have declared that they will donate their Supervisory Board compensation to the Hans Böckler Foundation, in accordance with the guidelines of the Confederation of German Trade Unions (DGB).

Compensation takes size of company into account

## REPORT OF THE SUPERVISORY BOARD



Klaus Eberhardt,  
Chairman of the Supervisory Board

### ACTIVITIES OF THE SUPERVISORY BOARD

In this report, the Supervisory Board provides information in accordance with Section 171 (2) of the German Stock Corporation Act (AktG) on its activities in the financial year 2013 and on the results of its review of the annual financial statements and consolidated financial statements. In 2013, the Supervisory Board carried out with due care the control and consultation duties with which it is entrusted by law and under the terms of the company's articles of association and its own rules of procedure.

The Supervisory Board regularly advised the Executive Board on the running of the company, continually supported and monitored all executive business activities, and assured itself that the Executive Board's dealings were proper and lawful. The Supervisory Board was informed and consulted in a direct and timely manner on all decisions of consequence for the company. The members of the Supervisory Board were briefed by the Executive Board in a regular, timely and comprehensive manner on the situation of the company, and received written reports every month on the company's earnings, financial situation, and net asset position as well as on important business transactions. The Supervisory Board was also informed in detail of any new plans.

The Supervisory Board met with the Executive Board to discuss strategy issues and all major projects. After careful deliberation and examination, the Supervisory Board endorsed the strategic orientation of the company. Resolutions were passed concerning all transactions requiring the approval of the Supervisory Board in accordance with law, the company's articles of association or the Executive Board's rules of procedure, after these matters had been reviewed and discussed with the Executive Board.

As in previous years, the Supervisory Board devoted special attention to MTU's system of internal controls in 2013, above all the company's risk management system, its auditing practices, and the conformity of its corporate governance system with the relevant legal provisions. The Supervisory Board examined these aspects with reference to the documents submitted to it and in dialog with the Executive Board, and came to the conclusion that the company has effective systems in place to deal with such issues, in particular an effective internal control and risk management system relating to the accounting process.

The Audit Committee has a special responsibility for monitoring compliance matters, complementing the Supervisory Board's activities in this area. The internal auditors regularly present their findings to the Audit Committee and report to it on basic issues and the latest developments in the field of compliance.

## MEETINGS OF THE SUPERVISORY BOARD

In the financial year 2013, the Supervisory Board convened five ordinary meetings, one extraordinary meeting, and one voting session in which votes were submitted in writing. No telephone conferences were held. The average attendance rate at Supervisory Board meetings was 94.44 %. Between official meetings, the chairman of the Supervisory Board was regularly briefed on the company's current situation, significant business transactions and important pending decisions. This entailed frequent consultations with the Executive Board to discuss strategy, the planning status, business developments, the company's risk exposure and risk management policy, and compliance issues.

At its meetings with the Executive Board, the Supervisory Board discussed the business performance of MTU and all its affiliated companies. Both the situation on the commercial and military engine markets, and MTU's market position compared with its competitors were analyzed in depth. The company's earnings situation, including risk exposure and risk management activities, was also discussed in detail.

One of the topics discussed during Supervisory Board meetings in 2013 was MTU's role as a partner in the PW1700G and PW1900G engine programs for the next generation of Embraer E-Jets. Another item on the agenda was the joint strategy with other members of the IAE consortium that markets the V2500 engine for the Airbus A320. The Supervisory Board also dealt with the question of MTU's participation in financing agreements for aircraft marketed by one of the consortiums of which it is a member. The formation of an engine-leasing joint venture with Sumitomo Corporation in Japan was another issue discussed by the Supervisory Board. Attention was also given to the employment contracts with members of the Executive Board, and more specifically the termination arrangements for departing CEO Egon Behle, the appointment of Reiner Winkler as the new CEO and the renewal of his contract, the naming of Michael Schreyögg as a new member of the Executive Board, and the extension of the term of office of Dr. Rainer Martens.

Other issues closely examined by the Supervisory Board were the operational business plans and the budget for 2014, the annual performance bonuses for the Executive Board for 2012, and the German Corporate Governance Code.

## CORPORATE GOVERNANCE

The Supervisory Board is convinced that the success of the company is based on good corporate governance. For this reason, the Supervisory Board once again closely studied the application and implementation of the German Corporate Governance Code in 2013, taking it as a yardstick to measure the efficiency of its own activities. It analyzed the diversity of its own composition, especially with respect to the criteria of fair representation of women and an adequate number of members with international experience. The Supervisory Board also aims to enhance diversity within the Executive Board. When searching for suitably qualified candidates to fill vacant positions there, it will pay particular attention to the goal of fair representation of women.

In addition, the Supervisory Board has explicitly stated that, in the nomination proposals it makes to the Annual General Meeting, it has taken into account the principles concerning the avoidance of conflicts of interest and will continue to do so in future. In submitting nomination proposals, the Supervisory Board will disclose each candidate's possible personal ties to – and business relations with – the company, its governing bodies and/or major shareholders.

The Supervisory Board has a sufficient number of independent members. They each take part in training measures on their own responsibility, and also receive specialized training from MTU. Cooperation between the Supervisory Board and the Executive Board, and among the members of the Supervisory Board, was judged to be of a very high quality in the financial year 2013. No conflicts of interest arose between MTU and any member of its Executive Board or Supervisory Board. The Supervisory Board assured itself that the company had complied with the recommendations laid down in the German Corporate Governance Code, as stated in its declaration of conformity.



In a joint declaration with the Executive Board dated December 12, 2013, pursuant to the requirements of Section 161 of the German Stock Corporation Act (AktG), the Supervisory Board states that MTU Aero Engines AG complies with all the recommendations of the German Corporate Governance Code. The company's declaration is reproduced on page 14 of this Annual Report together with a more detailed description of the company's corporate governance system; the declaration has also been posted on the company's website.

## COMMITTEE MEETINGS

By convention, the Supervisory Board has three committees equally representing the employees and the shareholders of the company: the Audit Committee, the Personnel Committee and the Mediation Committee – the latter formed to comply with Section 27 (3) of the German Co-Determination Act (MitbG). Each of these committees presents regular reports on its activities at the plenary meetings of the Supervisory Board.

A Nomination Committee, which meets on an ad hoc basis, was set up in 2007 pursuant to the recommendations of the German Corporate Governance Code. This committee convened one meeting in the financial year 2013, on February 8. The task of the Nomination Committee is to find suitable candidates for election to the Supervisory Board. The members of this committee are Klaus Eberhardt and Dr. Jürgen M. Geißinger.

The Personnel Committee consists of Klaus Eberhardt, Dr. Jürgen M. Geißinger and the two employee representatives Josef Hillreiner and Michael Leppek (until December 31, 2013). As of March 10, 2014, Dr. Martin Kimmich takes the place of Michael Leppek. This committee met four times in the course of 2013 to discuss matters including the results of the Supervisory Board's efficiency audit and the annual performance bonuses for the Executive Board for 2012. Proposals submitted by the Personnel Committee to the Supervisory Board included the recommendation that Reiner Winkler should be named as the Group's new CEO with effect of January 1, 2014, and that his compensation should be adapted accordingly. Similarly, the committee recommended that the Supervisory Board should approve Michael Schreyögg's appointment as a member of the Executive Board as of July 1, 2013, with corresponding compensation entitlements. The Personnel Committee also recommended that the terms of office of Reiner Winkler and Dr. Rainer Martens should be extended. The Mediation Committee, whose members are identical with those of the Personnel Committee, was not called upon to convene any meetings in 2013.

The members of the Audit Committee are Dr. Joachim Rauhut, Klaus Eberhardt, Babette Fröhlich and Josef Hillreiner. The Audit Committee convened five times in the course of 2013 and was primarily concerned with reviewing the annual financial statements and management report, the consolidated financial statements and group management report of MTU Aero Engines AG as well as the company's financial situation and quarterly reports.

Other subjects discussed by the Audit Committee included the independence of the auditor, the additional services provided by the latter, and the granting of the audit mandate. The Audit Committee specified the key areas for audit in the 2013 financial statements, reviewed and approved the fees to be paid for the services of the accounting firm Deloitte & Touche, and awarded the corresponding contract. In addition, the committee obtained the auditor's statement of independence pursuant to Section 7.2.1 of the German Corporate Governance Code and also monitored the auditor's independence.

To aid the committee members in their tasks, they and all other members of the Supervisory Board were supplied with copies of the reports prepared by Deloitte & Touche concerning the auditing of the annual financial statements and consolidated financial statements as well as the management report and the group management report. These documents were thoroughly reviewed in the presence of the auditor. As a result, the committee recommended that the Supervisory Board should adopt the annual and consolidated financial statements, approve the management reports and consent to the Executive Board's profit distribution proposal.

In accordance with the legal requirements, the Audit Committee monitored the accounting process and the related internal control, risk management, and internal auditing systems, which it judged to be effective. The committee also issued an invitation to bid for auditing services for the financial year 2014. Further, the committee frequently discussed the provision of financial support for the promotion of certain engines.

### **ADOPTION OF THE ANNUAL FINANCIAL STATEMENTS, THE APPROVED CONSOLIDATED FINANCIAL STATEMENTS, AND THE MANAGEMENT REPORT**

MTU Aero Engines AG's annual financial statements, consolidated financial statements, management report and group management report for the financial year 2013 were audited and fully certified by the accounting firm Deloitte & Touche, Munich, whose appointment had been confirmed by the Annual General Meeting. The audit reports and documents to be reviewed were submitted in a timely manner to all members of the Supervisory Board. The Supervisory Board thoroughly reviewed the annual financial statements, consolidated financial statements, management report and group management report of MTU Aero Engines AG for 2013 and the Executive Board's profit distribution proposal on the basis of the preliminary audit by the accounting firm Deloitte & Touche, on which the chair of the Audit Committee had presented a full report to the Supervisory Board.

The auditor attended the meetings of the Audit Committee of MTU Aero Engines AG on February 28, 2014, and the balance sheet meeting of the Supervisory Board on March 11, 2014, and presented the main findings of the audit. The Supervisory Board reviewed the annual financial statements, consolidated financial statements, management report, group management report and the Executive Board's profit distribution proposal, and raised no objections. The company's annual financial statements and consolidated financial statements for the financial year 2013 as submitted by the Executive Board were approved at the Supervisory Board meeting on March 11, 2014. The annual financial statements are thereby adopted. The Supervisory Board agreed to the Executive Board's profit distribution proposal after giving due consideration to the interests of the company and its shareholders.

### **BOARDROOM CHANGES**

There were a number of changes in the composition of the Executive Board and Supervisory Board in the financial year 2013.

The former Chief Financial Officer Reiner Winkler was appointed as the new CEO as of January 1, 2014, succeeding Egon Behle who held this post until December 31, 2013. And Michael Schreyögg was named as a new member of the Executive Board effective July 1, 2013.

During the Annual General Meeting on May 3, 2013, the following members of the Supervisory Board were reelected: Klaus Eberhardt, Prof. Dr. Wilhelm Bender, Dr. Jürgen M. Geißinger and Prof. Dr. Klaus Steffens. On the same occasion, the following new members were elected: Prof. Dr. Marion A. Weissenberger-Eibl and Berthold Fuchs. An additional new member is Dr. Martin Kimmich, who replaces Michael Leppek as of January 1, 2014. Our special thanks go to the departing members, Udo Stark, Michael Leppek and Rudolf Domberger, for their long and faithful service as members of the MTU Supervisory Board.

The Supervisory Board wishes to thank the members of the Executive Board for their constructive and dependable collaboration. A special word of gratitude goes to Egon Behle, who led the company for six years. Thanks are also due to all MTU employees for their successful work and the great commitment shown in 2013, and to the Works Council for its close cooperation. And in the same way the Supervisory Board would like to thank all MTU's shareholders for placing their trust in the company.

Munich, March 11, 2014



Klaus Eberhardt

Chairman of the Supervisory Board

## THE SUPERVISORY BOARD

Members of the Supervisory Board and their additional supervisory board mandates and/or mandates on comparable supervisory entities of foreign or domestic commercial companies

### **Klaus Eberhardt**

*Chairman of the Supervisory Board  
Former CEO of Rheinmetall AG,  
Düsseldorf*

Dürr AG  
ElringKlinger AG (since May 16, 2013)  
Familienstiftungen Dietrich und  
Eckart Wälzholz  
KSPG AG

### **Michael Behé**

*Chairman of the Works Council of  
MTU Maintenance Hannover GmbH, Langenhagen  
Member of the Group Works Council of  
MTU Aero Engines AG, Munich*

MTU Maintenance Hannover GmbH

### **Prof. Dr. Wilhelm Bender**

*CEO of Fraport AG  
1993–2009, Frankfurt/Main*

Bombardier Transportation GmbH  
Bombardier Transportation (Bahn-  
technologie) Holding Germany GmbH  
Eintracht Frankfurt Fußball AG  
Lufthansa Cargo AG  
The New Germany Fund Inc. (U.S.A.)

### **Thomas Dautl**

*Director Manufacturing Technology,  
MTU Aero Engines AG, Munich*

### **Rudolf Domberger, until May 3, 2013**

*Full-time member of the Works Council of  
MTU Aero Engines AG, Munich*

### **Babette Fröhlich**

*Coordination of National Executive Committee tasks  
and planning, IG Metall, Frankfurt/Main*

Volkswagen AG

### **Josef Hillreiner**

*Deputy Chairman of the Supervisory Board  
Chairman of the Group Works Council of  
MTU Aero Engines AG, Munich  
Chairman of the Works Council of  
MTU Aero Engines AG, Munich*

### **Berthold Fuchs, since May 3, 2013**

*Full-time member of the Works Council of  
MTU Aero Engines AG, Munich*

### **Dr.-Ing. Jürgen M. Geißinger**

*Former CEO of Schaeffler AG, Herzogenaurach*

Sandvik AB (Sweden)

### **Dr. Martin Kimmich, since January 1, 2014**

*Second authorized representative of IG Metall, Munich*

Linde AG  
Nokia Solutions and Networks Management GmbH

### **Michael Leppik, until December 31, 2013**

*First authorized representative of IG Metall, Augsburg*

KUKA AG (since October 2013)  
MAN Diesel & Turbo SE (since October 2013)  
Nokia Solutions and Networks Management GmbH  
(until December 31, 2013)  
SGL Carbon SE (since October 2013)

### **Dr. Joachim Rauhut**

*CFO of Wacker Chemie AG, Munich*

B. Braun Melsungen AG  
J. Heinrich Kramer Holding GmbH  
Pensionskasse Wacker Chemie VVaG  
Siltronic AG

**Udo Stark**, until May 3, 2013

*Former Chief Executive Officer of  
MTU Aero Engines Holding AG, Munich*

Austria Pet Food GmbH (Austria)  
Bilfinger SE

**Prof. Dr.-Ing. Klaus Steffens**

*Former President and CEO of  
MTU Aero Engines GmbH, Munich*

CompuGroup Medical AG  
Poppe & Potthoff GmbH  
Tital Holding GmbH & Co. KG (since November 25, 2013)  
Tyczka Energie GmbH & Co. KGaA

**Prof. Dr. Marion A. Weissenberger-Eibl,**

since May 3, 2013

*Director of the Fraunhofer Institute for Systems and Innovation  
Research ISI in Karlsruhe and holder of the Chair of Innovation  
and Technology Management at the Karlsruhe Institute of  
Technology (KIT)*

HeidelbergCement AG  
Deutsche Akademie der Technikwissenschaften (acatech)

## **SUPERVISORY BOARD COMMITTEES**

### **Personnel Committee**

Klaus Eberhardt, Chairman  
Dr.-Ing. Jürgen M. Geißinger  
Josef Hillreiner  
Michael Leppek (until December 31, 2013)  
Dr. Martin Kimmich (since March 10, 2014)

### **Audit Committee**

Dr. Joachim Rauhut, Chairman  
Klaus Eberhardt  
Babette Fröhlich  
Josef Hillreiner

### **Mediation Committee**

Klaus Eberhardt, Chairman  
Dr.-Ing. Jürgen M. Geißinger  
Josef Hillreiner  
Michael Leppek (until December 31, 2013)  
Dr. Martin Kimmich (since March 10, 2014)

### **Nomination Committee**

Klaus Eberhardt  
Dr.-Ing. Jürgen M. Geißinger

# GROUP MANAGEMENT REPORT

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	Chapter: Group Management Report	Technological leader
Subchapter: The enterprise MTU		

- ⇒ MTU Aero Engines is Germany's leading engine manufacturer.
- ⇒ The company is a technological leader in low-pressure turbines, high-pressure compressors, repair techniques and manufacturing processes.
- ⇒ MTU is a key partner in all significant technology programs and cooperates with the top names in the industry.
- ⇒ With firm orders and options placed for nearly 4,800 units up to the end of 2013, the geared turbofan is on its way to becoming a huge commercial success.

⇒ The group's key performance indicators are revenues, EBIT and free cash flow.

⇒ The company strives for profitable growth, defined by a double-digit EBIT margin.



# THE ENTERPRISE MTU

## BUSINESS ACTIVITIES AND MARKETS

MTU Aero Engines AG, Munich, together with its consolidated group of companies, is Germany's leading engine manufacturer and one of the biggest international players in the industry. In the text below, the designations "MTU," "the group," "the enterprise" or "the company" are also used when referring to MTU Aero Engines.

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

**Partner**  
in significant programs

The company is a technological leader in low-pressure turbines, high-pressure compressors, repair techniques and manufacturing processes. MTU is a key partner in all national and international technology programs of note, and cooperates with the top names in the industry – General Electric, Pratt & Whitney and Rolls-Royce.

MTU is one of the world's leading providers of MRO services for commercial aero engines. In the military sector, it has been the leading company in the national market and lead industrial partner to the German armed forces for many decades.

MTU divides its activities into two operating segments: OEM business (Original Equipment Manufacturing) and MRO business (Maintenance, Repair and Overhaul). The OEM segment covers new commercial engines, including spare parts, and the whole of the military sector. The MRO segment comprises all commercial maintenance activities.

## GROUP STRUCTURE, LOCATIONS AND ORGANIZATION

Through its affiliates, associated companies, joint ventures and equity investments, MTU has a strong presence in all key markets and regions worldwide. More information on equity investments is provided in [Note I. to the consolidated financial statements \(Accounting policies and principles, Group reporting entity\)](#).

→ further information  
on page 130

MTU Aero Engines worldwide



MTU Maintenance Canada

MTU Aero Engines North America

IAE International Aero Engines<sup>1)</sup>

Vericor Power Systems

MTU Maintenance Dallas

MTU Maintenance IGT Service  
do Brasil

MTU Aero Engines

MTU Maintenance Hannover

MTU Maintenance Berlin-  
Brandenburg

MTU Aero Engines Polska

Eurojet Turbo<sup>1)</sup>

EPI Europrop International<sup>1)</sup>

MTR/MTRI<sup>1)</sup>

Turbo-Union<sup>1)</sup>

AES Aerospace Embedded Solutions<sup>1)</sup>

Pratt & Whitney Canada

Customer Service Centre Europe<sup>1)</sup>

Ceramic Coating Center<sup>1)</sup>

MTU Maintenance Zhuhai

Airfoil Services<sup>1)</sup>

Middle East Propulsion Company<sup>1)</sup>

MTU Maintenance Service Center  
Ayutthaya

MTU Maintenance Service Centre  
Australia

<sup>1)</sup> Major joint ventures.

## STRATEGY AND OBJECTIVES

### CORPORATE STRATEGY

Air traffic is set to rise by 4.6% annually between 2013 and 2020, equivalent to an increase of almost 40% over the period as a whole. The Asian and South American markets are likely to be the main drivers of this growth. To meet the demand generated by this rise in air traffic, aircraft manufacturers expect deliveries of single-aisle and widebody aircraft to increase from the current level of around 1,200 units/year to some 1,800 units. Alongside Airbus and Boeing, manufacturers such as Embraer, Bombardier and Irkut will cater to the segment for single-aisle and widebody jets. As the number of engine manufacturers in the market is unlikely to rise, securing higher shares in key engine programs will be the decisive factor in achieving above-average growth.

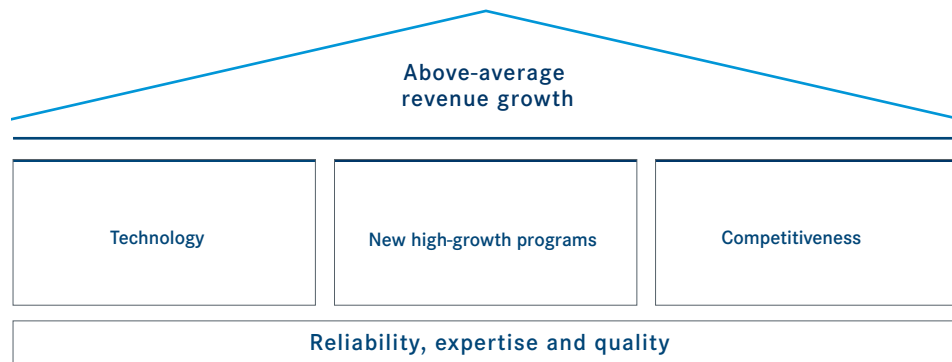
## Balanced portfolio

MTU's strategy is founded on the strategic pillars:

- cutting-edge technologies – maintaining and expanding the company's technological leadership,
- a balanced portfolio – participating in new programs that promise strong growth, and
- competitiveness – attaining benchmark levels by raising productivity through improved structures and process and by reducing tied-up capital.

In everything it does, MTU focuses on generating high added value for its customers and business partners alike. With their expertise and high motivation, the employees of the MTU group help to deliver products and services that meet the company's exacting quality standards.

#### Pillars of MTU's corporate strategy



Targeted investments in innovative technologies play a big part in ensuring MTU's long-term competitiveness and the company intends to continue driving forward the development of cutting-edge products and processes.

Through its partnership agreements with the world's major engine makers, MTU is well placed to benefit from its manufacturing share in attractive commercial engine programs. In addition to the ramp-up of the geared turbofan program, the company's main priority is to secure a strong position in future engine programs for widebody jets.

In the military sector, MTU is lead industrial partner to the German armed forces, developing, manufacturing and supporting their key programs. Exports of military engines will help to consolidate MTU's position in this sector.

In the commercial maintenance sector, MTU benefits from its strong market position, not only for those engine programs in which MTU has a stake in series production, but also for programs where it does not. MTU's broad market coverage helps to minimize the company's risk exposure and improve its growth potential. MTU enhances its customer relationships through its global network, technical expertise, and the flexibility and innovativeness of its service portfolio.

The company strives for profitable growth, defined by a double-digit EBIT margin. Growth of this kind demands sound financial underpinnings, which is why MTU strives constantly to improve its competitiveness and maintain its financial strength.

Other key success factors for MTU are the high qualification levels and motivation of its workforce.

Aiming for  
**profitable  
growth**

## GROUP INTERNAL CONTROL SYSTEM

The MTU group's internal control system mirrors the company's business strategy. The main instruments employed to ensure compliance with the integrated control system are:

- regular Executive Board meetings held at two-weekly intervals
- monthly reports
- high-level management meetings dealing with program management and coordination, investments, and technology, as well as quality issues, health and safety, and environmental protection
- risk and opportunity management

The value-driving key performance indicators EBIT, revenues and free cash flow delimit the range within which MTU operates in terms of profitability, growth and liquidity.

Please refer to the subsection "Reconciliation of adjusted performance indicators", in the section "Operating results", for a definition of adjusted EBIT, which is the most important of these KPIs. Another indicator monitored by the company is the adjusted EBIT margin, which expresses the relationship between adjusted EBIT and revenues.

→ further information  
on page 56

### Performance indicators: revenues and adjusted EBIT

in € million	2013	2012	2011	2010	2009
Revenues	3,741.7	3,378.6	2,932.1	2,707.4	2,610.8
Adjusted EBIT	377.3	375.2	329.6	316.9	292.5
Adjusted EBIT margin (in %)	10.1	11.1	11.2	11.7	11.2

The purpose of optimizing cash flow is to help the group maintain its financial strength going forward. MTU determines its free cash flow by combining its cash flow from operating activities with its cash flow from investing activities, excluding certain components of the latter that lie outside the control of operations management. These components take the form of expenditure in connection with aircraft financing agreements, program assets and the development activities of aircraft manufacturers, the level of which is linked to MTU's share in the corresponding engine programs, and scheduled contractual payments in connection with the purchase in 2012 of an increased stake in the V2500 engine program. As in previous years, the calculation of free cash flow also excludes investments in and disinvestments of financial assets that are not measured at fair value through profit or loss because they can be sold at any time and are held as a liquidity reserve.

**Free cash flow**

in € million	2013	2012	2011	2010	2009
Cash flow from operating activities	192.6	229.8	287.9	251.3	252.7
Cash flow from investing activities	-189.6	-360.0	-126.7	-173.2	-132.5
Non-recurrent cash outflows	80.0	215.9	-32.2	66.7	
<b>Free cash flow</b>	<b>83.0</b>	<b>85.7</b>	<b>129.0</b>	<b>144.8</b>	<b>120.2</b>

**RESEARCH AND DEVELOPMENT****ECONOMIC ENVIRONMENT AND GOALS**

Strong technological  
**leadership**

Growing mobility demands, limited raw materials and a rising awareness of the environment all call for innovative solutions – especially when it comes to aircraft engines. MTU has established technological leadership in its core competencies of low-pressure turbines, high-pressure compressors, and high-tech manufacturing processes and repair techniques. This provides a solid basis for making further improvements to existing engines, and for designing and implementing entirely new ones.

MTU's medium- to long-term goals in the development of new commercial engines fully comply with the voluntary commitment made by the European aviation industry and research community, who formulated ambitious targets for air traffic in 2050 in their new Strategic Research and Innovation Agenda (SRIA):

**Long-term goals<sup>1)</sup>**

	ACARE 2020 <sup>2)</sup>	SRIA 2020	SRIA 2035	SRIA 2050
CO <sub>2</sub> emissions – air traffic	-50%	-43%	-60%	-75%
CO <sub>2</sub> emissions – engines	-20%	-20%	-30%	-43% <sup>3)</sup>
NO <sub>x</sub> emissions – mainly engines	-80%		-84%	-90%
Noise – mainly engines	-50%		-55%	-65%

<sup>1)</sup> Changes compared with base year 2000, per passenger-kilometer.

<sup>2)</sup> By way of comparison: original ACARE Vision 2020 targets.

<sup>3)</sup> Given comparable improvements in aircraft and engines.

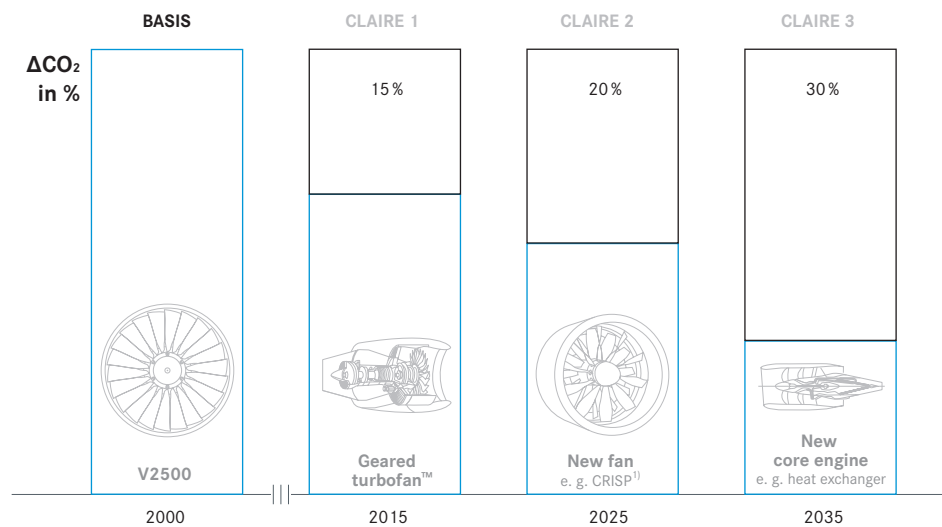
## Reducing fuel consumption and emissions

The main focus of MTU's R&D activities is to improve overall engine efficiency as a means of reducing both fuel consumption and emissions. This can be done by increasing the bypass ratio, thereby improving thrust efficiency, increasing higher overall pressure ratios to improve thermal efficiency, and enhanced component efficiency. Key components in this respect are MTU's low-pressure turbine and high-pressure compressor, which feature high pressure ratios, low weight and high efficiency ratios. Developing these technologies is an ongoing task for MTU.

MTU's Claire (Clean Air Engine) technology program covers all the technology that, in the long term, will need to be developed in order to achieve reductions in CO<sub>2</sub>, NO<sub>x</sub> and noise emissions.

- The first engine conceived under the Claire program is the geared turbofan, which reduces fuel consumption and CO<sub>2</sub> emissions by 15% each and almost halves perceived noise levels.
- The focus of the second phase of the Claire program is on generating thrust in an even more efficient manner, for instance by means of a counter-rotating integrated shrouded propfan.
- The third program phase will concentrate on raising the efficiency of the core engine. That will be achieved, for example, through deployment of a heat exchanger to recuperate energy from the exhaust gas stream and return it to the work process.

### MTU's Claire (Clean Air Engine) technology program



<sup>1)</sup>Counter-Rotating Integrated Shrouded Propfan



## TECHNOLOGIES FOR KEY ENGINES OF THE FUTURE

### Commercial engine programs

In cooperation with Pratt & Whitney, MTU is working on the geared turbofan™ (GTF) engine. Unlike conventional turbofans, in which the fan and low-pressure turbine run at the same speed on a single shaft, the GTF places a reduction gear between the two components to decouple them. This means that the large fan can be run more slowly and the low-pressure turbine faster, improving the efficiency ratios of both the fan and the low-pressure turbine, while lowering fuel consumption and CO<sub>2</sub> emissions by 15 % each. In addition, it nearly halves the perceived noise levels and makes the engine lighter, as fewer stages are required. MTU's contribution to the geared turbofan comprises the high-speed low-pressure turbine and the front half of the high-pressure compressor.

Awards for the  
**GTF**

In 2013, the engineering community honored the technological progress ushered in by the GTF engine – which depends crucially on the high-speed low-pressure turbine – with two awards: the German Industry Innovation Award and the German Innovation Prize both went to MTU for its high-speed low-pressure turbine.

In the financial year 2013, the GTF programs notched up numerous milestones. At the start of year, Embraer decided to equip its next generation of E-Jets exclusively with the GTF. In February, the PW1524G engine for the Bombardier CSeries was approved by the Canadian regulatory authorities after more than 4,000 hours of testing. The successful maiden flight of a Bombardier CSeries jet equipped with two PW1524G engines took place in September. In May, the PW1133G-JM engine for the Airbus A320neo successfully completed its maiden flight on Pratt & Whitney's flying testbed, taking a big step forward on its path toward official approval.

#### Commercial engine programs

Engine	MTU program share	Manufacturer	Aircraft type	Number of seats	Entry into service
PW1133G	18 %	Airbus	A320neo	150-200	2015
PW1217G	15 %	Mitsubishi	MRJ	70-90	2017
PW1400G	18 %	Irkut	MS21	150-200	2017
PW1524G	17 %	Bombardier	CSeries	110-150	2015
PW1700G	15 %	Embraer	E-Jet E175	80-90	2020
PW1900G	17 %	Embraer	E-Jet E190/E195	100-140	2018/2019

GTF engines have already been deployed by five different aircraft manufacturers and, with firm orders and options placed for close to 4,800 units up to the end of 2013, the geared turbofan is on its way to becoming a major commercial success.

In the sector for small business-jet engines, the PW306D, which will power the Cessna Citation Sovereign, received official approval in May following a two-year development phase. MTU has a share of 25 % in the PW306D engine program, where it is responsible for the low-pressure turbine, including the turbine exit casings and mixers.

### Military engine programs

Development activities in the military segment continued to focus on the TP400-D6 for the Airbus A400M military transporter. This three-shaft engine is the most powerful turboprop engine in the Western world. MTU is contributing the entire intermediate-pressure section, comprising compressor, turbine and spool. It is also developing the engine- and propeller-control systems in cooperation with its French partner Snecma. The development phase of the A400M came to an end in September with initial deliveries to the French air force. Since then the program has moved into the series production/launch phase.

The GE38 project marks the first time that MTU has participated in a development program for the U.S. military. This engine powers the CH-53K heavy-lift cargo helicopter that Sikorsky is developing for the United States Marine Corps. In numerous tests – some carried out at MTU – the engine proved it can meet the required technical specifications and demonstrated its suitability for flight approval. The first pre-production engines were delivered to Sikorsky on schedule.

Development of the MTR390-E, an updated version of the Tiger helicopter engine, is nearing completion. MTU's part in the program comprises developing the combustor and high-pressure turbine.

### Technologies for manufacturing and maintenance

The last few years have seen MTU carve out a leading position in the manufacture of blisk rotors for compressors. Demand for blisk rotors is set to rise substantially as the geared turbofan goes into production, which is why MTU has built a new center of excellence for blisk manufacturing in Munich. Inaugurated in April, the center covers an area of 10,000 m<sup>2</sup> and comprises one of the biggest and most flexible blisk production systems ever constructed. The current production capacity of 600 blisks per year is to be ramped up to full capacity (3,500 blisks per year) by 2016.

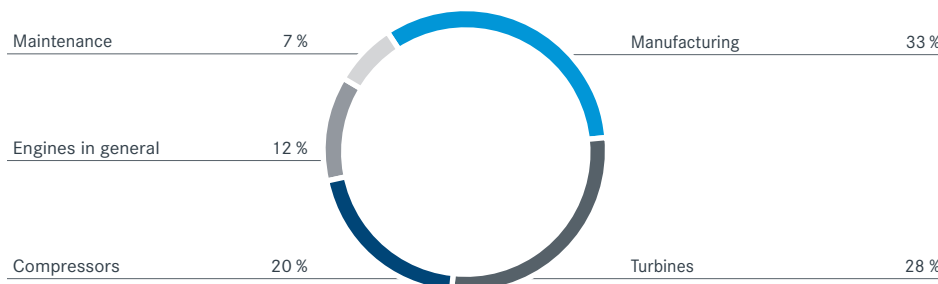
Development of an electrochemical milling process has enabled the company to manufacture blisk rotors from nickel materials more economically – overcoming the enormous challenges involved in machining these materials. The components are deployed in the rear compressor stages of engines. The new facility will go into full-scale operation in early 2014.

Production capacity 2016:  
**3,500 blisks**

### Protecting technology assets (intellectual capital)

At December 31, 2013, MTU's portfolio of intellectual property comprised 2,616 patents and other industrial property rights. This portfolio covered the following fields of technology:

Distribution of the group's intellectual property portfolio over MTU's various fields of technology



**COOPERATION IN SCIENCE AND RESEARCH**

For decades, cooperation arrangements with universities and research institutions have formed a key component of MTU’s research and development activities. For instance, specimen engines are made available to universities and colleges, and MTU experts hold lectures or act as mentors for students working on experimental projects or writing theses and dissertations for diplomas and doctorates; students are also given support while carrying out their assignments and preparing their final thesis presentations. In addition, MTU honors outstanding achievements by awarding the annual Heilmann prize to a young scientist meriting recognition for achievements in engine technology.

Cooperation with  
**24**  
research partners

Strategic alliances have been established with research partners in order to strengthen ties between universities and industry and safeguard MTU’s innovative capabilities. In recent years, these partnerships with leading German universities and research institutions have been strengthened, and six centers of competence focusing on specific areas of research have been set up with the aim of optimizing collaboration. Based in Munich, “Bauhaus Luftfahrt” is a visionary think tank that pursues novel, unconventional, cross-company and interdisciplinary research. It brings industry and science together under one roof, focusing primarily on exploring the socioeconomic, political and ecological perspectives of aviation, designing visionary aircraft, unearthing promising technologies for the future, and devising knowledge management strategies. At the “More Electric Engine” center of competence located at the Munich University of the Federal Armed Forces in Neubiberg, the MexJET experimental test platform went into operation in March, with MTU providing an EJ200 engine and supporting construction of the rig. Over the next few years, new technologies for the “More Electric Engine” including innovative control concepts will be developed and tested at the center.

**Cooperation with universities and centers of competence**

**Centers of competence**

- RWTH Aachen  
Compressor technology

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- Uni & LZ Hannover  
Maintenance Repair Overhaul

---

- DLR Cologne  
2020 plus engine

---

- Bauhaus Luftfahrt  
Munich  
Future concepts

---

- TU Munich  
Structural design and production

---

- UniBW Munich  
More Electric Engine

---

- University of Stuttgart  
Turbine technology

**Cooperation with universities**

- BAM Berlin

---

- DLR Berlin

---

- TU Berlin

---

- TU Braunschweig

---

- BTU Cottbus

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- TU Darmstadt

---

- TU Dresden

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- Uni Erlangen

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- FHG Fürth

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- TU Göttingen

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- TU Hannover

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- TU Heidelberg

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- KFA Jülich

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- TH Karlsruhe

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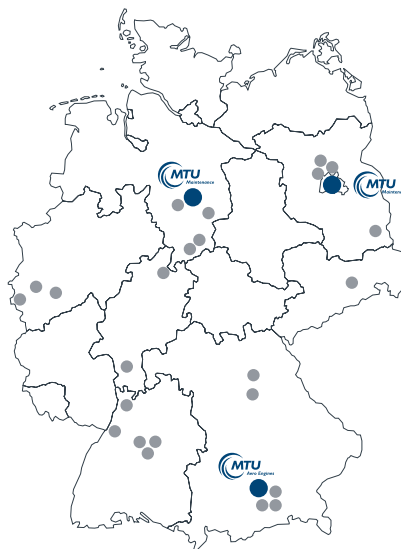
- Uni GH Kassel

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- DLR Stuttgart

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- MPA Stuttgart



## CAPITAL EXPENDITURE ON RESEARCH AND DEVELOPMENT

### Research and development expenditure

in € million	Change 2013-2012		2013	2012	2011	2010	2009
	in € million	in %					
Commercial engine business	-2.9	-2.0	144.0	146.9	147.4	126.1	100.1
Commercial maintenance business	-0.5	-9.4	4.8	5.3	8.4	11.1	13.6
Military engine business	-44.8	-50.2	44.4	89.2	106.1	101.5	116.5
<b>Research and development expenditure prior to capitalization</b>	<b>-48.2</b>	<b>-20.0</b>	<b>193.2</b>	<b>241.4</b>	<b>261.9</b>	<b>238.7</b>	<b>230.2</b>

Research and development expenditure in 2013 totaled € 193.2 million, a decrease of € 48.2 million compared with 2012. At 5.2%, R&D as a percentage of revenues was lower than the 2012 figure of 7.1%.

Externally funded development expenditure primarily relates to the military engine business. It is accounted for as construction contracts in accordance with IAS 11 and recognized as construction contract receivables (or construction contract payables) due to the fact that the work is conducted under contract to national and international consortia on a customer-specific basis. This expenditure amounted to € 50.4 million in 2013 (2012: € 80.7 million).

Company-funded expenditure originates from the group's own resources. Such expenditure is examined to determine whether it meets the criteria for capitalization as a self-created intangible asset. In addition to meeting the general requirements for recognition and initial measurement as an intangible asset, the asset's technical and commercial feasibility must be established and it must be possible to reliably measure the attributable costs. Capitalized development costs are amortized on a straight-line basis over the estimated economic life of the product. Company-funded expenditure is disclosed in [Note 3. to the consolidated financial statements \(Research and development expenses\)](#).

→ further information  
on page 142

### Company-funded research and development expenditure (P&L)

in € million	Change 2013-2012		2013	2012	2011	2010	2009
	in € million	in %					
Commercial engine business	-21.9	-14.9	125.0	146.9	147.4	126.1	100.1
Commercial maintenance business	-0.5	-9.4	4.8	5.3	8.4	11.1	13.6
Military engine business	4.5	52.9	13.0	8.5	10.0	10.9	9.3
<b>Company-funded R&amp;D expenditure</b>	<b>-17.9</b>	<b>-11.1</b>	<b>142.8</b>	<b>160.7</b>	<b>165.8</b>	<b>148.1</b>	<b>123.0</b>
Expenditure meeting recognition criteria for intangible assets							
Commercial and military engine business	-2.0	-4.3	-48.9	-46.9	-30.8	-14.0	-12.6
Commercial maintenance business	0.1	12.5	-0.7	-0.8	-3.4	-5.1	-4.8
<b>Research and development costs recognized as expense</b>	<b>-19.8</b>	<b>-17.5</b>	<b>93.2</b>	<b>113.0</b>	<b>131.6</b>	<b>129.0</b>	<b>105.6</b>
Capitalized development costs in %			34.7	29.7	20.6	12.9	14.1

The amount of € 48.9 million (2012: € 46.9 million) posted in the OEM segment (commercial and military engine business) as R&D expenditure meeting the recognition criteria for intangible assets relates to the GE38 engine program for the CH-53K transport helicopter and the GTF engines for the Airbus A320neo and Bombardier CSeries. The MRO segment (commercial maintenance business) developed special repair techniques designed to rationalize production processes, for which capitalized development costs amounting to € 0.7 million (2012: € 0.8 million) were recognized in 2013. The amortization expense on capitalized development costs amounted to € 1.6 million in the reporting period (2012: € 1.4 million).

	Annual Report 2013	Date: March 2014
	Chapter: Group Management Report	MTU on growth trajectory
Subchapter: Business environment		

- ⇒ Positive industry outlook: Global passenger traffic rose by 5.2% in 2013.
  - ⇒ The MTU workforce comprised 8,695 employees at the end of 2013, 1.8% more than in 2012.
  - ⇒ Group revenues increased by 10.7% to € 3.7 billion in 2013.
  - ⇒ Adjusted EBIT was slightly higher than in 2012.
  - ⇒ In 2013, MTU invested in engine programs of strategic importance for the future, and yet still achieved an operating margin of 10.1%.
- ⇒ The proposed dividend for 2013 is € 1.35 per share.



# BUSINESS ENVIRONMENT

## MACROECONOMIC FACTORS

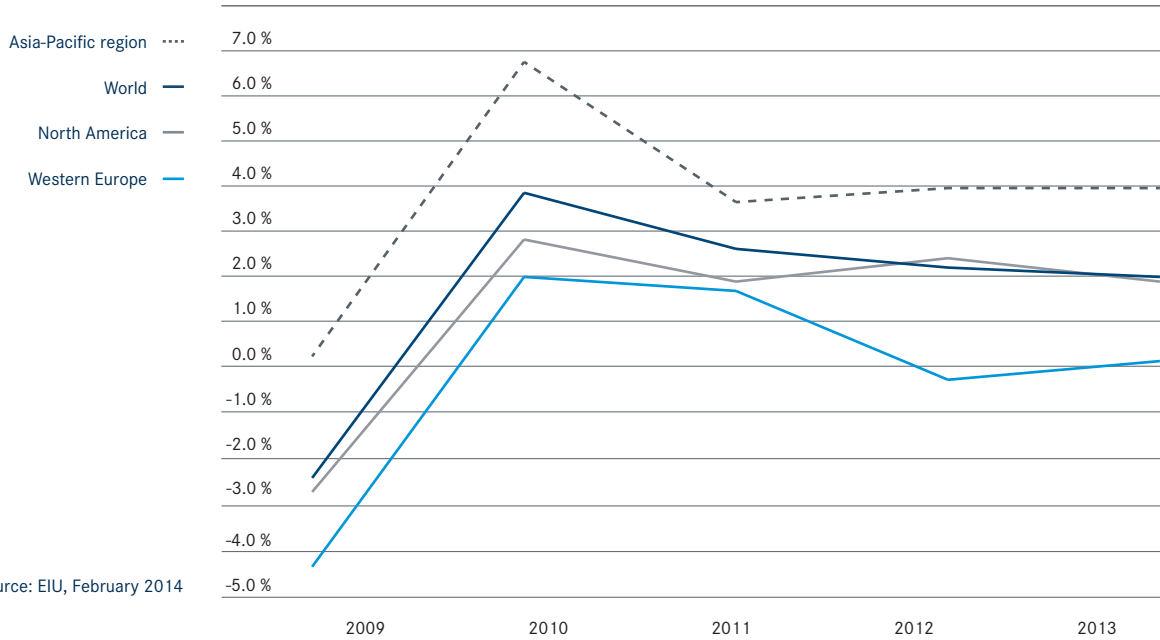
Global economy up by  
**2%**

The global economy remained weak in 2013, growing by 2% as opposed to 2.1% in 2012 (source: Economist Intelligence Unit (EIU), February 2014). A new development, however, is that growth in emerging markets has slowed – as a result of rising inflation, low raw materials prices and declining exports – whereas the industrialized economies are starting to recover.

In Europe, the longest recession of recent decades came to an end in the second quarter of 2013, with the economy growing by 0.2% over the year as a whole.

Economic output in the United States grew by 1.9% in 2013 after an increase of 2.3% in 2012. The Asia-Pacific region recorded a plus of 3.9% in 2013, equivalent to the previous year’s growth figure, and retained its crown as the world’s premier growth region. There was no change in China’s rate of GDP growth in 2013, which remained at the 2012 level of 7.7%.

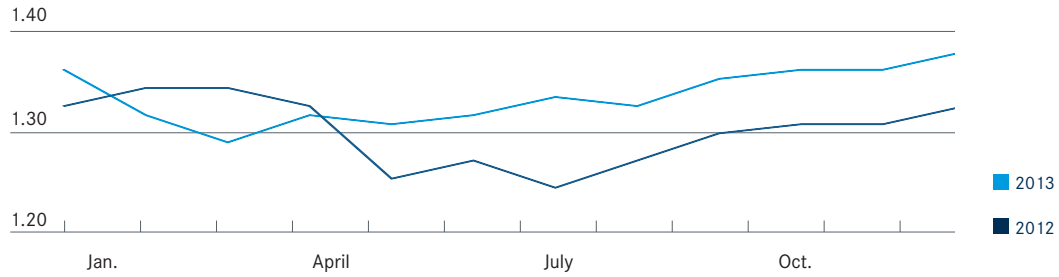
Worldwide economic growth



Source: EIU, February 2014

As an export-oriented aviation company, MTU has a strong interest in the euro / U.S. dollar exchange rate. As in previous years, that rate was again highly volatile in 2013. The average exchange rate for the period January 1 to December 31, 2013, was 1.3281 U.S. dollars to the euro and thus well above the previous year’s average of 1.2848 U.S. dollars to the euro. The highest rate (U.S. \$ 1.3814) was reached on December 27, 2013; the lowest (U.S. \$ 1.2768) on March 27, 2013. The closing rate for the year on December 31, 2013, was 1.3791 U.S. dollars to the euro, higher than the 2012 closing rate of 1.3194.

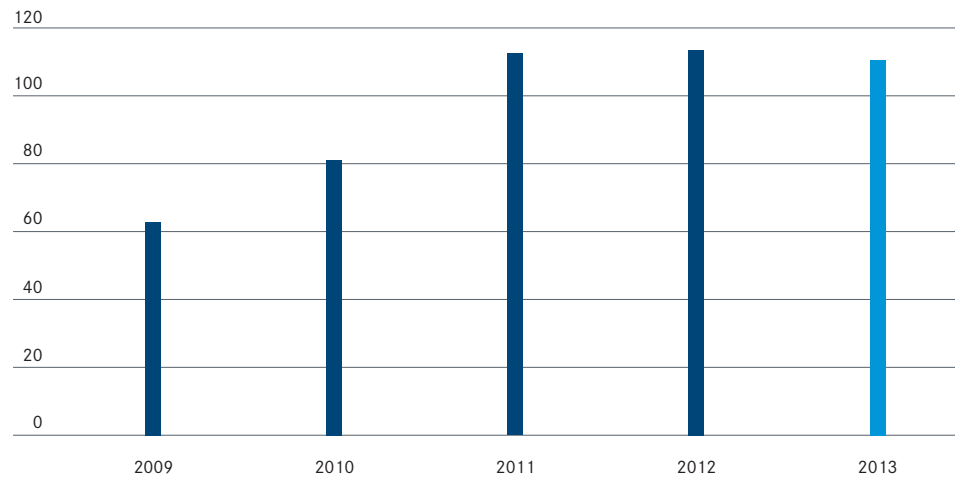
**U.S. dollar exchange rate movements 2013 and 2012**



Despite the conflicts and unrest in the Middle East, oil prices in 2013 remained slightly below the previous year's level. The annual average price of a barrel of Brent crude was U.S. \$ 109 (source: U.S. Energy Information Administration (EIA)).

This easing of oil prices lowered operating costs for airlines, for whom kerosene represents the biggest cost factor. Operators of older aircraft models, in particular, benefited from this trend. Still, unrelentingly high oil prices continue to encourage sales of new, more economical aircraft.

**Annual average Brent oil prices in U.S. dollars / barrel**



Source: EIA

## MICROECONOMIC FACTORS IN THE AVIATION INDUSTRY

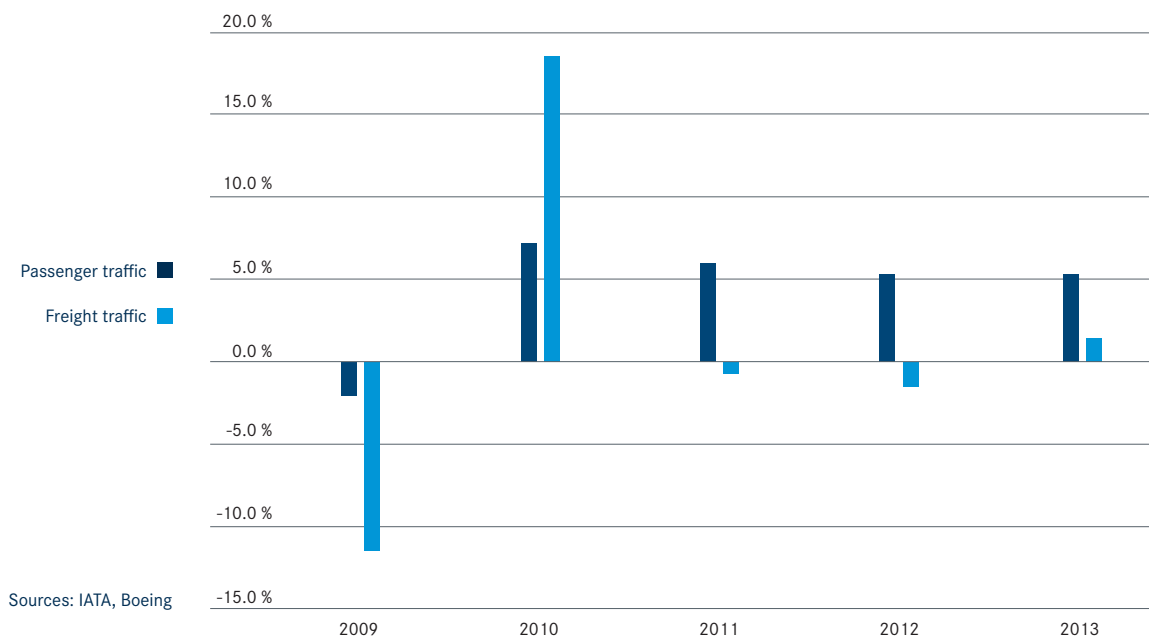
Global passenger traffic rose by 5.4% in 2013, with all regions except for North America posting higher-than-average growth. After two years of negative growth rates, freight traffic recovered in 2013, recording a rise of 1.4% (source: IATA).

Aviation industry up by  
**4.3%**

According to IATA, the aviation industry increased its total revenues in 2013 by 4.3% to U.S. \$ 708 billion (2012: U.S. \$ 637 billion), posting profits of U.S. \$ 12.9 billion.

The number of aircraft in use in flight operations and the number of hours they are flown are key indicators of trends in the spare-parts business. Both of these indicators developed well in 2013. The fleet in service rose by 4.4% (source: Ascend) and the flying hours of jet-propelled Airbus and Boeing aircraft increased by 4.3% (source: Innovata).

Growth in the volume of global passenger and freight traffic



Airbus and Boeing together manufactured 1,272 aircraft in 2013, up 7% on 2012. The total order backlog of the two manufacturers rose in 2013 to 11,235 aircraft (source: Ascend Online).

## OVERALL ASSESSMENT OF THE BUSINESS ENVIRONMENT

The modest figure of 2% recorded for global economic growth in 2013 reflects the sovereign debt crisis in the euro zone and problematic economic situation in the United States. Economic growth in emerging markets stayed at high levels, but was less dynamic than in previous years.

The aviation industry bucked the weak economic trend, however, with global passenger traffic growing by 5.2% in 2013. Airbus and Boeing both notched up new delivery records in 2013, giving rise to a corresponding increase in MTU's revenues, while the order backlog for both short- and medium-haul aircraft and widebody aircraft rose substantially.

Passenger traffic up by  
**5.2%**

## FINANCIAL SITUATION

The following explanatory comments and analyses are derived from the audited MTU consolidated financial statements for the financial years ending December 31, 2013, and 2012. The consolidated financial statements are drawn up in accordance with the International Financial Reporting Standards (IFRSs) issued by the International Accounting Standards Board (IASB), to the extent that these have been adopted by the European Union.

In accordance with IFRS requirements, new or revised/amended standards and interpretations were applied for the first time in the financial statements for 2013. Their application did not give rise to any changes with a significant impact on the group's financial situation, net assets or operating results. Above and beyond that, no changes in the financial reporting principles or in management judgments with respect to the application of the accounting standards had an effect on the group's financial situation, net assets or operating results in the reporting period.

## INFORMATION ON EXCHANGE RATES

The exchange rates used for converting the company's key foreign currencies into euros are the following official rates set by the European Central Bank.

### Foreign currency exchange rates

Currency	ISO-Code	Rate at reporting date		Average rate	
		Dec. 31, 2013 1 euro =	Dec. 31, 2012 1 euro =	2013 1 euro =	2012 1 euro =
United States dollar	USD	1.3791	1.3194	1.3281	1.2848
Canadian dollar	CAD	1.4671	1.3137	1.3684	1.2842
Chinese yuan renminbi	CNY	8.3491	8.2207	8.1646	8.1052
Polish zloty	PLN	4.1543	4.0740	4.1975	4.1847

## OPERATING RESULTS

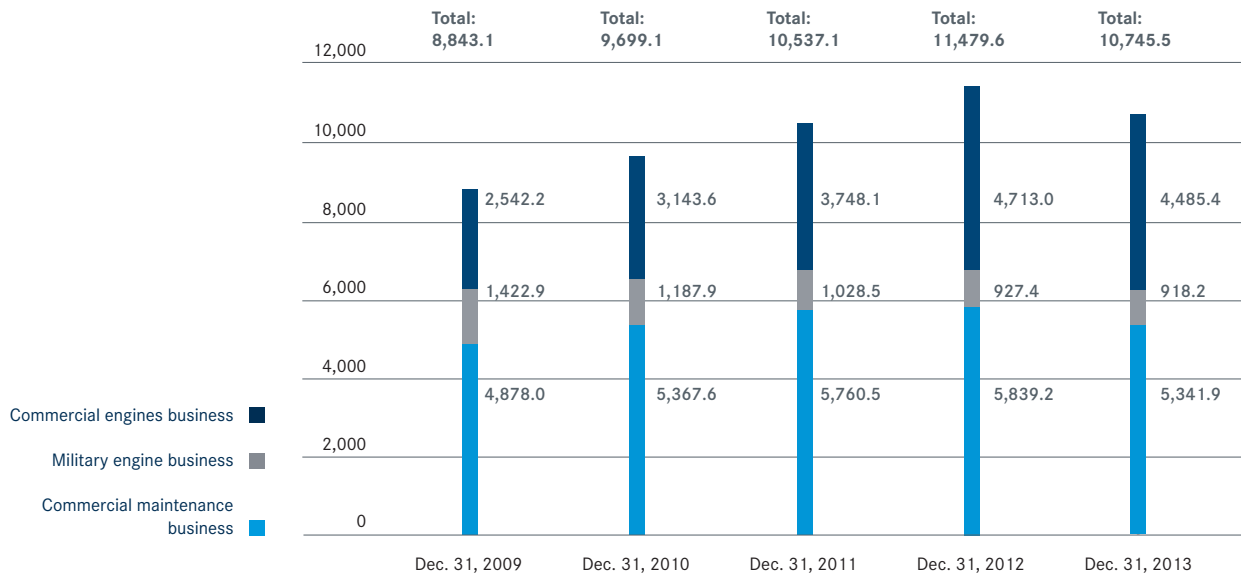
### GROUP

#### Order backlog

Order backlog at  
**€ 10.7 billion**

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. At December 31, 2013, the order backlog amounted to € 10.7 billion (2012: € 11.5 billion).

#### Order backlog (before consolidation) in € million



**Consolidated income statement**

in € million	Change 2013-2012		2013	2012
	in € million	in %		
<b>Revenues</b>	<b>363.1</b>	<b>10.7</b>	<b>3,741.7</b>	<b>3,378.6</b>
Cost of sales	-368.3	-13.0	-3,191.6	-2,823.3
<b>Gross profit</b>	<b>-5.2</b>	<b>-0.9</b>	<b>550.1</b>	<b>555.3</b>
Costs by function	24.0	9.4	-230.3	-254.3
Depreciation / amortization effects of purchase price allocation / V2500 stake increase and impairment losses	-26.2	-31.3	57.5	83.7
IAE stake increase	9.5	100.0		-9.5
<b>Adjusted earnings before interest and tax (adjusted EBIT)</b>	<b>2.1</b>	<b>0.6</b>	<b>377.3</b>	<b>375.2</b>
Depreciation / amortization effects of purchase price allocation and V2500 stake increase	-8.5	-17.3	-57.5	-49.0
IAE stake increase	-9.5	-100.0		9.5
Impairment loss (IAS 36)	34.7	100.0		-34.7
<b>Earnings before interest and tax (EBIT)</b>	<b>18.8</b>	<b>6.2</b>	<b>319.8</b>	<b>301.0</b>
Financial result	-26.7	-94.3	-55.0	-28.3
<b>Earnings before tax</b>	<b>-7.9</b>	<b>-2.9</b>	<b>264.8</b>	<b>272.7</b>
Income taxes	5.5	5.6	-92.4	-97.9
<b>Earnings after tax</b>	<b>-2.4</b>	<b>-1.4</b>	<b>172.4</b>	<b>174.8</b>
Undiluted earnings per share in €	-0.06	-1.7	3.39	3.45
Diluted earnings per share in €	-0.06	-1.7	3.39	3.45

**Revenues**

Group revenues increased in the financial year 2013 by € 363.1 million (10.7%) to € 3,741.7 million. Compared with the previous year, revenues in the OEM segment (commercial and military engine business), before consolidation, rose by € 285.6 million (13.6%) to € 2,392.0 million, while the corresponding revenues in the MRO segment (commercial maintenance business) grew by € 76.1 million (5.8%) to € 1,381.8 million.

Group revenues up by  
**10.7%**

#### Revenues by segment (before consolidation) in € million



#### Cost of sales and gross profit

The cost of sales increased by € 368.3 million (13.0%) to € 3,191.6 million. Gross profit decreased slightly by € 5.2 million (0.9%) to € 550.1 million. The gross margin amounted to 14.7% (2012: 16.4%). The downward movement in gross margin is consistent with MTU's business model and due to expenses in connection with the production ramp-up for new engine programs, even after factoring in the changes in contingent liabilities, changes in write-downs on inventories as a result of the WOC@MTU project, and changes in production contract receivables resulting from scheduled amortization.

#### Reconciliation of adjusted performance indicators

The main reason for reconciliation is to eliminate the effect of non-recurring items that are superimposed on the results of operating activities and obscure the true comparability of EBIT and other performance indicators for the group and the individual operating segments with the figures for previous years. Starting out from the unadjusted earnings figures, the respective adjusted values are obtained by adding (expenses) or subtracting (income) the non-recurring items.

Examples of adjusted performance indicators include adjusted EBIT and the adjusted EBIT margin. The International Financial Reporting Standards (IFRSs) do not stipulate any requirements concerning such indicators. Adjusted performance indicators are to be viewed as supplementary to the performance indicators reported in accordance with the IFRSs. In order to facilitate comparison, adjustments have been applied to eliminate the effect on earnings of income and expense items resulting from the purchase price allocation and the increase of the company's stake in the IAE V2500 engine program. These effects are described in more detail below.



As of January 1, 2004, MTU passed into the ownership of Kohlberg Kravis Roberts & Co. Ltd. (KKR), following the investment company's purchase of 100% of the shares in 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 led to considerable scheduled amortization expenses. These expenses are referred to collectively as "effects of the purchase price allocation".

Another effect eliminated by means of adjustments is the increase of MTU's stake in the IAE V2500 engine program, acquired in 2012. This resulted in the creation of an intangible asset that will be amortized over its estimated economic life of 25 years.

#### Reconciliation of the consolidated income statement

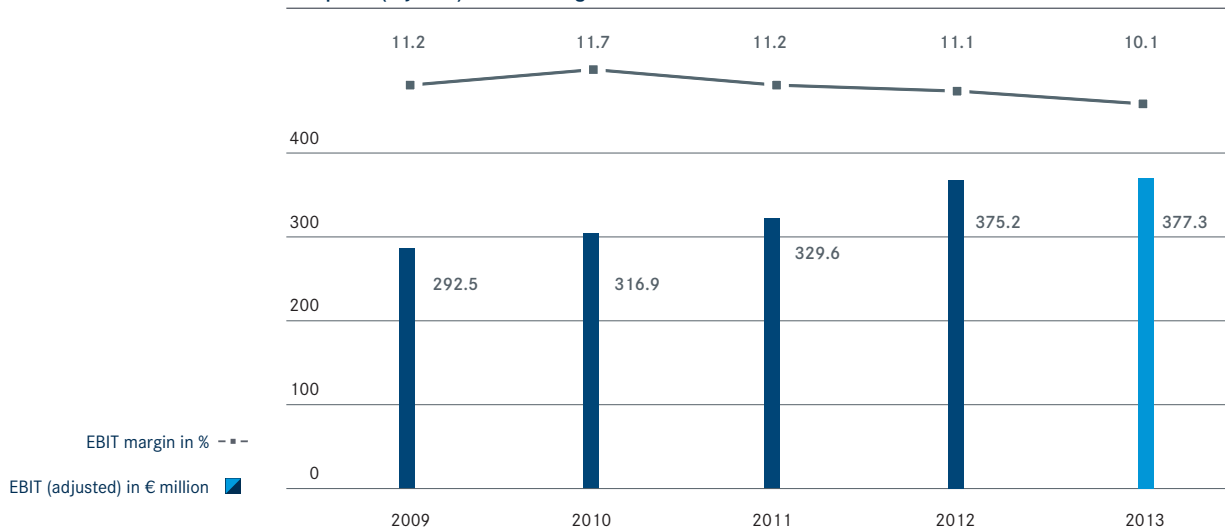
in € million	2013			2012		
	Financial year	Non-recurring items	Financial year w/o non-recurring items	Financial year	Non-recurring items	Financial year w/o non-recurring items
<b>Revenues</b>	<b>3,741.7</b>		<b>3,741.7</b>	<b>3,378.6</b>		<b>3,378.6</b>
Cost of sales	-3,191.6	49.8	-3,141.8	-2,823.3	72.7	-2,750.6
<b>Gross profit</b>	<b>550.1</b>	<b>49.8</b>	<b>599.9</b>	<b>555.3</b>	<b>72.7</b>	<b>628.0</b>
Research and development expenses	-93.2	2.4	-90.8	-113.0	5.4	-107.6
Selling expenses	-87.7	0.9	-86.8	-88.5	1.8	-86.7
General administrative expenses	-65.8	4.4	-61.4	-72.5	3.8	-68.7
Other operating income and expenses	12.6		12.6	5.7		5.7
Profit/loss of companies accounted for using the equity method	1.7		1.7	2.4		2.4
Profit/loss of companies accounted for at cost	2.1		2.1	11.6	-9.5	2.1
<b>Earnings before interest and tax (EBIT)</b>	<b>319.8</b>	<b>57.5</b>	<b>377.3</b>	<b>301.0</b>	<b>74.2</b>	<b>375.2</b>
Financial result	-55.0	22.0	-33.0	-28.3	0.3	-28.0
<b>Earnings before tax</b>	<b>264.8</b>	<b>79.5</b>	<b>344.3</b>	<b>272.7</b>	<b>74.5</b>	<b>347.2</b>
Income taxes	-92.4	-19.8	-112.2	-97.9	-15.3	-113.2
<b>Earnings after tax</b>	<b>172.4</b>	<b>59.7</b>	<b>232.1</b>	<b>174.8</b>	<b>59.2</b>	<b>234.0</b>
<b>EBIT</b>	<b>319.8</b>	<b>57.5</b>	<b>377.3</b>	<b>301.0</b>	<b>74.2</b>	<b>375.2</b>
Depreciation/amortization of:						
Intangible assets						
- Effects of purchase price allocation / V2500 stake increase	56.3	-56.3		47.3	-47.3	
- Impairment loss according to IAS 36				34.7	-34.7	
Property, plant and equipment						
- Effects of purchase price allocation	1.2	-1.2		1.7	-1.7	
IAE stake increase				-9.5	9.5	
<b>Adjusted EBIT</b>	<b>377.3</b>		<b>377.3</b>	<b>375.2</b>		<b>375.2</b>

Adjusted EBIT at  
**€ 377.3 million**

### Earnings before interest and tax (EBIT)

In 2013, EBIT rose by 6.2% to € 319.8 million (2012: € 301.0 million), while the EBIT margin decreased to 8.5% (2012: 8.9%). Adjusted earnings before interest and tax (adjusted EBIT) increased by 0.6% to € 377.3 million (2012: € 375.2 million). The adjusted EBIT margin was 10.1% (2012: 11.1%).

Group EBIT (adjusted) und EBIT margin



### Financial result

MTU's financial result weakened by € 26.7 million in the financial year 2013 to a net expense of € -55.0 million (2012: € -28.3 million). The net interest expense increased by € 9.3 million in 2013 compared with 2012, mainly due to the payment of interest on the corporate bonds. The financial result on other items deteriorated in the financial year 2013. The net expense increased by € 17.4 million to € -41.9 million (2012: € -24.5 million). The main factors responsible for this change were lower fair value gains on derivatives, which decreased from € 17.9 million in 2012 to € 11.4 million in 2013, and the interest portion included in the measurement of receivables, provisions other than pension provisions, liabilities and advance payments from customers, which amounted to € 27.0 million (2012: € 11.6 million).

### Earnings before tax (EBT)

Earnings before tax (EBT) decreased by € 7.9 million to € 264.8 million (2012: € 272.7 million), because the positive impact of the company's operating performance was outweighed by the negative impact of the weakened financial result.

## Income taxes

Income taxes amounted to € 92.4 million in the financial year 2013 (2012: € 97.9 million). The effective group tax rate, relative to earnings before tax, stood at 34.9% (2012: 35.9%). A table showing the reconciliation of the expected tax expense with the actual tax expense can be found in [Note 10. to the consolidated financial statements \(Income taxes\)](#).

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## Earnings after tax (EAT)

Earnings after tax decreased slightly by € 2.4 million (1.4%) to € 172.4 million (2012: € 174.8 million) and adjusted earnings after tax by € 1.9 million (0.8%) to € 232.1 million (2012: € 234.0 million).

## Consolidated statement of comprehensive income

In the consolidated statement of comprehensive income, earnings after tax in the amount of € 172.4 million (2012: € 174.8 million) are reconciled with the total comprehensive income for the period of € 185.1 million (2012: € 190.0 million).

The main income and expense items recognized directly in other comprehensive income in 2013, net of deferred taxes, were gains on the fair value of financial instruments designated as cash flow hedges amounting to € 20.5 million (2012: € 48.4 million) and a decrease of € 5.9 million in actuarial losses on pension obligations (2012: increase of € 46.1 million). An additional item recognized in 2012 was the net gain of € 0.1 million on financial assets not measured at fair value through profit or loss. Translation differences arising from the financial statements of international subsidiaries resulted in a negative effect of € 13.7 million (2012: positive effect of € 12.8 million).

## Earnings per share

Undiluted earnings per share amounted to € 3.39 (2012: € 3.45). The potential dilutive effects of the Share Matching Plan offered for the first time in the financial year 2010 are negligible.

## Net profit available for distribution and dividend

For an explanation of how the net profit available for distribution is calculated, please refer to Part VII. of the Notes to the consolidated financial statements (Determination of the net profit available for distribution on the basis of the German GAAP annual financial statements). On condition that the Annual General Meeting approves the proposed dividend, the total amount distributed will be € 68.7 million for the 50,855,626 shares entitled to receive a dividend.

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### Dividend

in €	2014 <sup>1)</sup>	2013	2012	2011	2010	2009
Dividend paid per share in €	1.35	1.35	1.20	1.10	0.93	0.93

Proposed dividend

€ 1.35

<sup>1)</sup> As proposed by the Executive Board and the Supervisory Board to the Annual General Meeting.

## OEM SEGMENT

### Order backlog

The order backlog for the OEM segment (commercial and military engine business) is reported on the basis of list prices. Given that orders for spare parts for commercial engines are generally completed within a short time of their receipt, the order backlog does not contain a substantial volume of such orders. The order backlog in the OEM segment stood at € 5,403.6 million as of December 31, 2013, compared with € 5,640.4 million at the end of 2012.

#### Order backlog for commercial and military engine business (OEM)

in million	Change 2013-2012		Dec. 31, 2013	Dec. 31, 2012
	in million	in %		
Commercial engines in U.S. \$	-32.5	-0.5	6,185.8	6,218.3
Commercial engines in €	-227.6	-4.8	4,485.4	4,713.0
Military engines in €	-9.2	-1.0	918.2	927.4
<b>Total order backlog in €</b>	<b>-236.8</b>	<b>-4.2</b>	<b>5,403.6</b>	<b>5,640.4</b>

### Commercial engine business

The total volume of orders held by MTU for commercial engines, which are invoiced in U.S. dollars and valued at list prices, stood at U.S. \$ 6,185.8 million as of December 31, 2013, and was thus U.S. \$ 32.5 million (0.5%) lower than the 2012 figure of U.S. \$ 6,218.3 million.

Translated into euros at the 2013 year-end closing rate, the order backlog decreased by € 227.6 million (4.8%) to € 4,485.4 million (2012: € 4,713.0 million).

### Military engine business

In the case of military programs, the customer typically places an order for a fixed number of engines at the time the production agreement is concluded. The full value of the contract flows into the order backlog when the contract is signed. This order backlog reduces over a prolonged period of time, in line with deliveries.

The volume of orders for military engines, which are contracted in euros, totaled € 918.2 million at the end of 2013. This is € 9.2 million (1.0%) below the previous year's amount of € 927.4 million.

The order backlog corresponds to around two years' production capacity.

### Revenues

OEM revenues increased by

**13.6%**

The company generated revenues of € 2,392.0 million in the OEM segment, € 285.6 million (13.6%) higher than in 2012.

In 2013, revenues in the commercial engine business (before consolidation) increased by € 288.2 million (18.0%) to € 1,891.3 million. Deliveries of GP7000, GENx and V2500 engines played a prominent role in this increase. Adjusted for the effect of the U.S. dollar exchange rate, revenues grew by 22.0%.

Revenues in the military engine business (before consolidation) were slightly lower in 2013 than in 2012, decreasing by € 2.6 million (0.5%) from € 503.3 million to € 500.7 million. The ongoing entry into service of the Eurofighter assures a steady flow of revenue from the EJ200 engine; revenues from the other military programs have stabilized.

**Revenues and adjusted EBIT (OEM)**

in € million	Change 2013-2012		2013	2012
	in € million	in %		
<b>Revenues</b>	285.6	13.6	2,392.0	2,106.4
Cost of sales	-282.8	-16.3	-2,020.6	-1,737.8
<b>Gross profit</b>	<b>2.8</b>	<b>0.8</b>	<b>371.4</b>	<b>368.6</b>
Gross margin in %			15.5	17.5
<b>Adjusted EBIT</b>	<b>-0.2</b>	<b>-0.1</b>	<b>263.9</b>	<b>264.1</b>
Adjusted EBIT margin in %			11.0	12.5

**Adjusted EBIT**

Adjusted earnings before interest and tax (adjusted EBIT) in the OEM segment decreased by € 0.2 million to € 263.9 million (2012: € 264.1 million). The adjusted EBIT margin was reduced from 12.5% to 11.0%.

**Capital expenditure**

Capital expenditure on intangible assets amounted to € 150.1 million (2012: € 592.8 million) and mainly comprised additions to program assets and capitalized development costs for the PW1133G-JM, PW1524G, PW1700G, PW1900G and GE38 engine programs. Capital expenditure on property, plant and equipment amounted to € 62.1 million (2012: € 67.4 million) and mainly related to technical equipment, plant and machinery and special tools and equipment.

**Employees**

The average number of employees increased by 76 to 5,198 (2012: 5,122), mainly due to continued expansion of the company's site in Poland.

employees in the  
OEM segment  
**5,198**

**MRO SEGMENT****Order backlog and value of contracts**

The order backlog in the MRO segment (commercial maintenance business) consists not only of orders for work on engines that have been delivered to the maintenance shop and for which failure analysis has been completed but also the contractual value of future orders under long-term service agreements.

**Order backlog for commercial maintenance business (MRO)**

in million	Change 2013-2012		Dec. 31, 2013	Dec. 31, 2012
	in million	in %		
Order backlog in U.S. \$	-337.2	-4.4	7,367.0	7,704.2
<b>Order backlog in €</b>	<b>-497.3</b>	<b>-8.5</b>	<b>5,341.9</b>	<b>5,839.2</b>

The majority of contracts in the MRO segment are priced in U.S. dollars. The order backlog for the commercial maintenance business in 2013 amounted to U.S. \$ 7,367.0 million, which is U.S. \$ 337.2 million or 4.4% lower than the 2012 figure of U.S. \$ 7,704.2 million.

The order backlog translated into euros at the 2013 year-end closing rate decreased by € 497.3 million (8.5%) to € 5,341.9 million (2012: € 5,839.2 million).

In arithmetical terms, the order backlog represents approximately four years' production capacity.

## Revenues

MRO revenues up by  
**5.8%**

MTU's revenues in the commercial maintenance business (before consolidation) increased by € 76.1 million (5.8%) in the financial year 2013 to € 1,381.8 million (2012: € 1,305.7 million). Adjusted for the effect of the U.S. dollar exchange rate, MRO revenues increased by 9.4%.

### Revenues and adjusted EBIT (MRO)

in € million	Change 2013-2012		2013	2012
	in € million	in %		
<b>Revenues</b>	<b>76.1</b>	<b>5.8</b>	<b>1,381.8</b>	<b>1,305.7</b>
Cost of sales	-78.8	-7.0	-1,208.4	-1,129.6
<b>Gross profit</b>	<b>-2.7</b>	<b>-1.5</b>	<b>173.4</b>	<b>176.1</b>
Gross margin in %			12.5	13.5
<b>Adjusted EBIT</b>	<b>-0.6</b>	<b>-0.5</b>	<b>113.0</b>	<b>113.6</b>
Adjusted EBIT margin in %			8.2	8.7

## Adjusted EBIT

In 2013, adjusted EBIT for the MRO segment decreased by € 0.6 million (0.5%) to € 113.0 million. The adjusted EBIT margin shrank to 8.2% (2012: 8.7%).

## Capital expenditure

Capital expenditure on intangible assets and property, plant and equipment decreased by € 7.5 million to € 32.7 million (2012: € 40.2 million).

## Employees

The average number of employees increased at all locations, rising by 190 to 3,431 (2012: 3,241).

## FINANCIAL SITUATION

### PRINCIPLES AND OBJECTIVES OF FINANCIAL MANAGEMENT

The main objectives of financial management are to ensure the constant availability of adequate liquid reserves, avoid financial risks, and diversify sources of financing in the interests of flexibility. In order to ensure the company's liquidity and reduce risks, MTU accesses a variety of internal and external funding sources with differing maturities.

Longer-term liquidity forecasts are based on operational planning. Short- and medium-term forecasts are updated once a month. All consolidated group companies take part in this planning process.

The business operations of the operating segments and the resulting cash inflow represent the group's main source of liquidity. MTU utilizes cash flow surpluses generated by individual group companies to cover the funding requirements of other companies in the group (cash pooling). This reduces both interest expenses and the need for external loans. MTU also makes use of a variety of internal and external funding instruments to assure its future liquidity, including long-term financing via pension provisions, the issue of promissory notes and bonds, or credit arrangements. These sources of financing are supplemented by finance and operating lease agreements. For information on the company's capacity to raise funds through authorized and conditional capital increases, please refer to [Note 24. to the consolidated financial statements \(Equity\)](#). Through these diverse measures, MTU has created a sound basis on which to meet its future financing requirements.

**Flexible**  
financing resources

→ further information  
on page 157

### FINANCING INSTRUMENTS

The banking policy including procedures for the approval of banking relationships, loan agreements, liquidity and asset management, the management of currency and interest rate risks, and the management of the group's internal cash flow are set down in the treasury principles. It is a basic principle of the group that its lines of credit are administered at corporate level. By centralizing the liquidity management function, the group is in a position to allocate resources efficiently within the organization.

The group, including its subsidiaries, maintains good business relationships with a number of different banking partners, and in so doing avoids being too strongly dependent on a single institution. The banking partners are required to have a long-term credit rating of at least "investment grade".

#### Financing sources

Financing instruments	Maturity date	Currency	Interest rate
Registered bond	June 12, 2028	Euro	Fixed
Corporate bond	June 20, 2017	Euro	Fixed
Pension obligations	Continuous	Euro	Yield as for premium fixed-income industrial
Promissory notes	June 5, 2014	Euro	Fixed
Revolving credit facility	December 1, 2018	Euro	Euribor rate + margin
Operating lease agreements	1 - 5 years	Euro / U.S. dollar	Fixed
Finance-lease-agreements	December 31, 2025	Euro	Fixed



The availability of these financial resources is unrestricted. MTU's credit line, only a small part of which has been utilized, grants the company even greater scope in its financing activities.

The factors considered when choosing financial instruments include flexibility, credit terms, the profile of maturity dates, and borrowing costs. In keeping with standard banking practice, the main sources of financing include covenants requiring the company to ensure that its performance indicators remain within defined limits. MTU complied with the contractual obligations arising from such covenants at December 31, 2013 and at the end of every quarter. Further information on agreed covenants is provided in [Note 28. to the consolidated financial statements \(Financial liabilities\)](#). Significant agreements relating to a change of control subsequent to a takeover bid are dealt with under the heading "Other disclosures".

→ further information  
on page 170 and 171

In the risk report that forms part of the [group management report](#) and in [Note 36. to the consolidated financial statements \(Financial risk\)](#), information is provided on MTU's approach to credit and valuation risks, methods used to hedge risks associated with interest rates and foreign currencies, and methods of dealing with price-change, non-payment and liquidity risks.

→ further information  
on page 185

## CAPITAL STRUCTURE

The eurozone sovereign debt crisis had no impact on the group's overall financial situation. MTU does not hold any financial instruments as defined in IAS 39 or IFRS 7 that are affected by the current sovereign debt crisis.

With the exception of finance and operating lease arrangements, and sale-and-leaseback agreements, MTU did not engage in any transactions involving off-balance-sheet financial instruments, such as the sale of receivables in connection with asset-backed securities or obligations toward special-purpose entities, neither in 2013 nor in the prior years.

### Borrowing arrangements

At the reporting date of December 31, 2013, the group had access to a credit line amounting to € 400.00 million and made available by five banks. At December 31, 2013, € 15.2 million of this credit line had been drawn down to cover guarantees in favor of third parties (December 31, 2012: € 13.7 million). The remaining available amount of € 384.8 million ensures the group's financial flexibility in the medium term.

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.

### Net financial debt

Net financial debt serves as an indicator of the MTU group's overall liquidity and is defined as the difference between gross financial debt and current financial assets. MTU's net financial debt at December 31, 2013 amounted to € 407.3 million, following a year-on-year increase of € 16.0 million (Dec. 31, 2012: € 391.3 million).

**Net financial debt**

in € million	Change 2013-2012		Dec. 31, 2013	Dec. 31, 2012
	in € million	in %		
Corporate bonds	99.8	39.5	352.3	252.5
Financial liabilities arising from IAE V2500	-29.0	-9.7	270.7	299.7
Financial liabilities to banks				
Promissory notes			12.0	12.0
Other liabilities to banks	0.9	2.6	35.8	34.9
Liabilities to related companies	4.8		4.8	
Finance lease liabilities	2.9	82.9	6.4	3.5
Other financial liabilities	-12.6	-77.3	3.7	16.3
<b>Gross financial debt</b>	<b>66.8</b>	<b>10.8</b>	<b>685.7</b>	<b>618.9</b>
Less:				
Cash and cash equivalents				
Demand deposits and cash	-57.7	-48.9	60.3	118.0
Fixed-term and overnight deposits with an original maturity of 3 months or less	60.4	>100	103.6	43.2
Other financial assets	48.1	72.4	114.5	66.4
<b>Financial assets</b>	<b>50.8</b>	<b>22.3</b>	<b>278.4</b>	<b>227.6</b>
<b>Net financial debt</b>	<b>16.0</b>	<b>4.1</b>	<b>407.3</b>	<b>391.3</b>

**Corporate bonds**

In order to finance the purchase price components of the increase in the company's stake in IAE, MTU Aero Engines AG, Munich, issued a bond for a nominal amount of € 250.0 million with effect from June 20, 2012. The bond earns an annual rate of interest of 3% from the date of issue (June 20, 2012) until the repayment date (June 20, 2017). The interest is payable in arrears on June 21 of each year. The bond was recognized at amortized cost for a total amount of € 1.5 million, which includes transaction costs and the discount on the bond.

On June 12, 2013, MTU Aero Engines AG issued a registered bond for a nominal amount of € 100.0 million. The registered bond matures on June 12, 2028 and has an annual interest rate of 3.55%. The interest is payable in arrears on June 12 of each year, initially on June 12, 2014. The registered bond was recognized at amortized cost under financial liabilities, and the amount posted includes transaction costs and a total discount of € 2.7 million on the bond.

If a change of control occurs, every bondholder is entitled to declare due part or all of his/her bond units for the nominal amount plus any accrued interest.

A change-of-control event occurs if the rating is lowered in the course of the change of control. A lowering of the rating occurs if, (1) during the change-of-control period, a rating previously granted by a rating agency to MTU or to one of its outstanding non-current liabilities is withdrawn or is

changed from an investment grade rating (equivalent to or higher than Baa3 (Moody's) or BBB- (Fitch and S&P), or if, (2) at the time of the change of control, no investment grade rating has been awarded by a rating agency to the bonds or to MTU and no rating agency awards an investment grade rating to the bond within the change-of-control period.

### Financial liabilities arising from the IAE V2500 stake increase

A condition precedent included in the purchase price agreement signed by MTU in the financial year 2012 in order to increase its stake in the V2500 engine program by five percentage points to 16% made it necessary to recognize a financial liability to cover deferred payments that are contingent upon the number of flight hours over the next 15 years. After deduction of settlement payments and discounts, this liability amounted to € 270.7 million at December 31, 2013 (2012: € 299.7 million).

### Financial liabilities to banks

#### Promissory notes

On June 3, 2009, MTU placed four promissory notes for a total nominal amount of € 65.0 million (less transaction costs of € 0.4 million), € 40.0 million of which was bought back in 2010. On June 5, 2012 a further € 13.5 million of the total amount was repaid on maturity. The remainder of € 11.5 million matures on June 5, 2014 and is recognized at amortized cost.

### Finance lease liabilities

Finance lease liabilities represent obligations under finance lease arrangements that are capitalized and amortized using the effective interest method. For information on the accounting treatment of lease assets and a summary of capitalized lease assets, please refer to [Note I \(Accounting policies and principles – accounting policy and measurement methods\)](#) and [Note 15. \(Property, plant and equipment\)](#) to the consolidated financial statements.

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### Derivative financial assets and liabilities

In the financial year 2013, almost 80% of the surplus income denominated in U.S. dollars with respect to expenses denominated in U.S. dollars was covered by forward foreign exchange contracts. At December 31, 2013, forward foreign exchange contracts were in place for the financial years 2014, 2015 and 2016, covering 68%, 45% and 14% respectively of the surplus U.S. dollar income.

The decrease in derivative financial liabilities and the increase in other financial assets are principally the result of fair value gains on forward foreign exchange transactions concluded for hedging purposes.

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Detailed information on the financial instruments used to hedge future cash flows are provided in [Note 36.](#) to the consolidated financial statements (Financial risk).

## CAPITAL EXPENDITURE

Capital expenditure relates to additions to intangible assets, property, plant and equipment, and financial assets:

### Capital expenditure by class of asset

in € million	Change 2013-2012		2013	2012
	in € million	in %		
OEM	-442.7	-74.7	150.1	592.8
MRO	-5.8	-70.7	2.4	8.2
<b>Intangible assets</b>	<b>-448.5</b>	<b>-74.6</b>	<b>152.5</b>	<b>601.0</b>
OEM	-5.3	-7.9	62.1	67.4
MRO	-1.7	-5.3	30.3	32.0
<b>Property, plant and equipment</b>	<b>-7.0</b>	<b>-7.0</b>	<b>92.4</b>	<b>99.4</b>
OEM	-0.1	-0.5	22.0	22.1
MRO	0.4	26.7	1.9	1.5
<b>Financial assets<sup>1)</sup></b>	<b>0.3</b>	<b>1.3</b>	<b>23.9</b>	<b>23.6</b>
<b>Total capital expenditure</b>	<b>-455.2</b>	<b>-62.9</b>	<b>268.8</b>	<b>724.0</b>

<sup>1)</sup> Financial assets accounted for using the equity method or at cost.

### Capital expenditure on intangible assets

In the financial year 2013, additions to intangible assets amounted to € 152.5 million (2012: € 601.0 million), of which € 96.8 million was recognized in connection with the PW1524G, PW1700G and PW1900G programs.

A further amount of € 51.4 million (2012: € 48.5 million) was recognized in the OEM segment (commercial and military engine business) in the form of capitalized development costs for the GE38 engine program for the CH-53K transport helicopter and the GTF engines for the Airbus A320neo, the next generation of Embraer E-Jets and the Bombardier CSeries. The MRO segment (commercial maintenance business) developed special repair techniques designed to rationalize production processes. Development costs for these technologies totaling € 0.7 million (2012: € 0.8 million) were capitalized as intangible assets in 2013.

Further information on capital expenditure on intangible assets is provided in [Note 13. to the consolidated financial statements \(Changes in intangible assets, property, plant and equipment, and financial assets\)](#).

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## Capital expenditure on property, plant and equipment

Additions to the item “land, leasehold rights and buildings, including buildings on non-owned land” in the financial year 2013, amounting to € 8.2 million (2012: € 12.7 million), relate mainly to the newly acquired leasehold rights on warehouse facilities in Hannover. The capital expenditure on technical equipment, plant and machinery totaling € 15.8 million (2012: € 17.0 million) relates mainly to the purchase of CNC lathes and CNC grinding/milling machines. The capital expenditure on other equipment, operational and office equipment primarily comprises special tools and equipment, fixtures and other tools, particularly those required for the ramp-up of new programs.

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Further information on capital expenditure on property, plant and equipment is provided in [Note 13. to the consolidated financial statements \(Changes in intangible assets, property, plant and equipment, and financial assets\)](#).

## LIQUIDITY ANALYSIS

One of MTU’s indicators of operational performance is free cash flow, which it determines by combining cash flow from operating activities with cash flow from investing activities.

Free cash flow does not include investments in and disinvestments of financial assets in the amount of € 5.0 million, nor aircraft financing loans in the amount of € 16.1 million, as they are not related to operating activities. Free cash flow also excludes expenditure on stakes in engine programs and acquired development costs. In the financial year 2013, these mainly comprised payments in the amount of € 20.3 million for liabilities in connection with the company’s increased stake in the V2500 engine program, payments in the amount of € 34.4 million for the stakes in the PW1700G, PW1900G and PW1524G engine programs, and acquired development costs for the PW1133G amounting to € 4.2 million. In 2012, the calculation of free cash flow excluded an amount of € -16.0 million for investments in and disinvestments of financial assets and an amount of € 231.9 million for expenditure in connection with the increased stake in the IAE V2500 engine program.

### Consolidated cash flow statement (abridged)

in € million	Change 2013-2012		2013	2012
	in € million	in %		
Cash flow from operating activities	-37.2	-16.2	192.6	229.8
Cash flow from investing activities	170.4	47.3	-189.6	-360.0
Cash flow from financing activities	-87.2	-93.8	5.8	93.0
Translation differences	-5.7	< -100	-6.1	-0.4
<b>Change in cash and cash equivalents</b>	<b>40.3</b>	<b>&gt; 100</b>	<b>2.7</b>	<b>-37.6</b>
Cash and cash equivalents at beginning of financial year			161.2	198.8
Cash and cash equivalents at end of financial year			163.9	161.2

### Cash flow from operating activities

The cash inflow from operating activities in 2013 amounted to € 192.6 million and was € 37.2 million (16.2%) lower than the previous year's level of € 229.8 million.

### Cash flow from investing activities

The cash flow from investing activities in the financial year 2013 amounted to € 189.6 million (2012: € 360.0 million). The outflow of capital expenditure on intangible assets amounted to € 94.2 million (2012: € 265.7 million) and mainly comprised program assets for the PW1524G, PW1700G and PW1900G engine programs and capitalized development costs for the PW1133G, PW1524G and GE38 engine programs and for new repair techniques. In 2012, this item additionally included expenditure for the increased stake in the IAE V2500 engine program.

Capital expenditure on property, plant and equipment amounted to € 86.0 million, compared with € 99.1 million in 2012. The net expenditure on financial assets is mainly the result of loans granted to airlines under aircraft financing agreements. The cash flow from investing activities includes proceeds from the disposal of intangible assets and property, plant and equipment amounting to € 13.5 million (2012: € 0.5 million).

### Cash flow from financing activities

In the financial year 2013, the net cash inflow from financing activities amounted to € 5.8 million (2012: € 93.0 million). This net amount includes a cash inflow of € 97.3 million, after deduction of transaction costs and discount, generated by the registered bond issued on June 12, 2013. Cash outflows in the same period included an amount of € 68.5 million paid out as dividend for the financial year 2012 and scheduled payments in connection with the purchase of PW1133G program assets and the increased stake in the V2500 program.

In the previous year, in order to finance the purchase-price components of the company's increased stake in the IAE V2500 engine program, MTU issued a corporate bond on June 20, 2012, which generated a cash inflow of € 248.5 million after deduction of transaction costs and discount. The main cash outflows in that period were an amount of € 62.6 million for cash settlements on maturity of the convertible bond, an amount of € 60.8 million paid out as dividend for the financial year 2011, and an amount of € 13.5 million for the repayment of two promissory notes.

### Cash and cash equivalents

Development of the cash flow resulted in an increase in cash and cash equivalents of € 2.7 million (2012: decrease of € 37.6 million).

## NET ASSETS

Total assets grew by € 192.1 million year-on-year (4.5%) to € 4,458.8 million (2012: € 4,266.7 million), while the equity ratio increased to 27.4% (2012: 25.6%) owing to the operating result.

Equity ratio

**27.4%**

## Changes in balance sheet items

### MTU consolidated balance sheet

	Change 2013-2012		Dec. 31, 2013		Dec. 31, 2012	
	in € million	in %	in € million	in %	in € million	in %
<b>Assets</b>						
<b>Non-current assets</b>						
Intangible assets and property, plant and equipment	91.4	3.8	2,465.7	55.3	2,374.3	55.6
Other assets	48.8	59.8	130.4	2.9	81.6	1.9
<b>Total non-current assets</b>	<b>140.2</b>	<b>5.7</b>	<b>2,596.1</b>	<b>58.2</b>	<b>2,455.9</b>	<b>57.5</b>
<b>Current assets</b>						
Inventories	-37.0	-4.6	771.8	17.3	808.8	19.0
Trade and construction contract receivables, other assets and advance payments	86.2	10.3	927.0	20.8	840.8	19.7
Cash and cash equivalents	2.7	1.7	163.9	3.7	161.2	3.8
<b>Total current assets</b>	<b>51.9</b>	<b>2.9</b>	<b>1,862.7</b>	<b>41.8</b>	<b>1,810.8</b>	<b>42.5</b>
<b>Total assets</b>	<b>192.1</b>	<b>4.5</b>	<b>4,458.8</b>	<b>100.0</b>	<b>4,266.7</b>	<b>100.0</b>
<b>Equity and liabilities</b>						
<b>Equity</b>	<b>126.2</b>	<b>11.5</b>	<b>1,220.3</b>	<b>27.4</b>	<b>1,094.1</b>	<b>25.6</b>
<b>Non-current debt</b>						
Provisions	-61.7	-9.4	596.1	13.4	657.8	15.4
Liabilities	75.5	8.6	952.3	21.3	876.8	20.6
<b>Total non-current debt</b>	<b>13.8</b>	<b>0.9</b>	<b>1,548.4</b>	<b>34.7</b>	<b>1,534.6</b>	<b>36.0</b>
<b>Current debt</b>						
Provisions / income tax liabilities	25.1	10.7	259.2	5.8	234.1	5.5
Liabilities	27.0	1.9	1,430.9	32.1	1,403.9	32.9
<b>Total current debt</b>	<b>52.1</b>	<b>3.2</b>	<b>1,690.1</b>	<b>37.9</b>	<b>1,638.0</b>	<b>38.4</b>
<b>Total equity and liabilities</b>	<b>192.1</b>	<b>4.5</b>	<b>4,458.8</b>	<b>100.0</b>	<b>4,266.7</b>	<b>100.0</b>

## ASSETS

Intangible assets and property, plant and equipment increased by a total of € 91.4 million to € 2,465.7 million (2012: € 2,374.3 million). In the financial year 2013, additions to intangible assets amounted to € 152.5 million (2012: € 601.0 million), and mainly comprised program assets and capitalized development costs for the new PW1133G-JM, PW1524G, PW1700G and PW1900G geared turbofan programs and for the GE38. The increase in property, plant and equipment relates mainly to newly acquired leasehold rights on warehouse facilities in Hannover, the purchase of CNC lathes, CNC grinding and milling machines, and initial payments on special tools and equipment and other tools and fixtures for current and future programs. Assets were also recognized under property, plant and equipment for compliance test engines (see Note 15. (Property, plant and equipment) to the consolidated financial statements).

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In 2013, inventories reduced by € 37.0 million or 4.6% to € 771.8 million (2012: € 808.8 million). Inventories of raw materials and supplies rose slightly by € 1.9 million to € 343.5 million (2012: € 341.6 million) while work in progress decreased by € 48.9 million to € 385.8 million (2012: € 434.7 million). The improvements achieved as a result of the WOC@MTU project, which was launched in the financial year 2013 with the aim of optimizing the level of inventories, made it possible to reduce write-downs on inventory by € 28.5 million compared with the previous year. Advance payments increased by € 10.0 million to € 42.5 million (2012: € 32.5 million). Altogether, inventories accounted for 17.3% of net assets, which was lower than the previous year's ratio (2012: 19.0%). The inventory turnover ratio relative to sales was 4.7 (2012: 4.1). The sum of trade receivables, construction contract receivables (after deduction of advance payments received) and other current assets including prepayments rose year-on-year by € 86.2 million (10.3%) to € 927.0 million. Trade receivables increased by € 31.6 million (5.6%) to € 600.1 million. Construction contract receivables, net of the corresponding advance payments received, rose substantially year on year, by € 40.4 million (22.1%) to € 223.4 million. This result was reduced on the one hand by scheduled amortization due to the use of the effective interest rate method when accounting for construction contract receivables in the military engine business, and increased on the other hand by the lower level of advance payments received and by the use of valuation allowances to account for impairment of construction contract receivables in respect of the TP400-D6 program (amount utilized € 37.0 million).

Financial assets (including those accounted for using the equity method) grew by € 53.1 million (51.5%) to € 156.2 million. This increase was mainly attributable to loans granted to airlines under aircraft purchase agreements and gains on the fair value of financial instruments designated as cash flow hedges.

Cash and cash equivalents amounted to € 163.9 million at the reporting date (2012: € 161.2 million). This corresponds to 3.7% of total assets, which is marginally lower than the 3.8% reported in 2012.

In terms of the structure of assets, the proportion of non-current assets increased by 0.7 percentage points to 58.2% (2012: 57.5%).

**WOC@MTU**  
generates improvements

## GROUP EQUITY

### Group equity

in € million	2013	2012
Equity at January 1	1,094.1	860.5
Other comprehensive income		
Hedging instruments	20.5	48.4
Actuarial gains and losses on plan assets and pension obligations	5.9	-46.1
Available-for-sale financial assets (AFS)		0.1
Translation differences	-13.7	12.8
Earnings after tax	172.4	174.8
Dividend payment to shareholders of MTU Aero Engines AG	-68.5	-60.8
Bond conversion to equity		97.5
Fair-value measurement and issue of treasury shares under the Share Matching Plan	1.3	1.0
Sale of treasury shares under the MAP employee stock option program	8.3	5.9
<b>Total change in equity</b>	<b>126.2</b>	<b>233.6</b>
<b>Equity at December 31</b>	<b>1,220.3</b>	<b>1,094.1</b>

## CHANGES IN THE FAIR VALUE OF FINANCIAL INSTRUMENTS DESIGNATED AS CASH FLOW HEDGES

At December 31, 2013, MTU held forward foreign exchange contracts covering the period up to March 2016 to sell a nominal volume of U.S. \$ 975.0 million (which translates to € 707.0 million at the exchange rate prevailing at the reporting date). In addition, the company held further financial instruments designated as cash flow hedges under contracts extending to 2027 to sell a nominal volume of U.S. \$ 463.7 million (2012: U.S. \$ 526.9 million), which translates to € 336.2 million at the exchange rate prevailing at the reporting date. Measurement of the fair value of the MTU cash flow hedge portfolio at the end of 2013, based on the euro-U.S. dollar exchange rate of 1.38 prevailing at the reporting date, resulted in a positive change of € 20.5 million in the fair value recognized under other comprehensive income (OCI) compared with December 31, 2012. Changes in the fair value of cash flow hedges at the end of the financial year are recognized directly in equity as an adjustment to OCI. These adjustments are applied net of the corresponding changes in deferred tax assets (for cash flow hedges with a negative change in fair value) or in deferred tax liabilities (for cash flow hedges with a positive change in fair value).

## POSITIVE CHANGES IN GROUP EQUITY

The increase of € 126.2 million in group equity in 2013 (2012: € 233.6 million) was mainly attributable to the earnings after tax (EAT) generated in the financial year, which amounted to € 172.4 million (2012: € 174.8 million) and to fair value gains on cash flow hedges in the amount of € 20.5 million (2012: € 48.4 million). A further € 8.3 million increase in group equity (2012: € 5.9 million) was due to the sale of treasury shares to group employees under the MAP employee stock option program. Group equity was also improved by the reduction in actuarial losses on pension obligations, which decreased by € 5.9 million in 2013, compared with an increase of € 46.1 million in 2012. A further rise of € 1.3 million in group equity (2012: € 1.0 million) was attributable to the fair-value measurement of treasury shares under the Share Matching Plan. A breakdown of the share-based compensation components is provided in [Note 27. to the consolidated financial statements \(Other provisions – Personnel obligations\)](#).

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## NEGATIVE CHANGES IN GROUP EQUITY

Negative changes in group equity in 2013 include an amount of € 68.5 million for the dividend payment to shareholders of MTU Aero Engines AG for the financial year 2012 (2012: dividend payment of € 60.8 million for the financial year 2011). Translation differences also had a negative impact, reducing group equity in 2013 by € 13.7 million (2012: improving group equity by € 12.8 million).

## FINANCIAL DEBT

Non-current debt increased by € 13.8 million (0.9%) to € 1,548.4 million, its share in total equity and liabilities decreasing by 1.3 percentage points to 34.7% (2012: 36.0%). In total, non-current provisions decreased by € 61.7 million to € 596.1 million. This figure includes virtually unchanged pension provisions of € 585.5 million (2012: € 585.3 million). Non-current other provisions were € 61.9 million lower (85.4%) as of December 31, 2013, mainly as a result of the full utilization of contingent liabilities arising from business combinations. As a corresponding debit entry, an amount of € 81.8 million was recognized under cost of sales to account for the amortized measurement of contingent liabilities arising from business combinations.

Non-current liabilities totaling € 952.3 million (2012: € 876.8 million) principally comprised financial liabilities amounting to € 599.9 million (2012: € 539.0 million) and deferred tax liabilities amounting to € 204.3 million at December 31, 2013 (December 31, 2012: € 207.4 million). The increase in financial liabilities is attributable to the issue of a registered bond.

The combined total of equity and non-current debt increased in the financial year 2013 by € 140.0 million (5.3%) to € 2,768.7 million (2012: € 2,628.7 million). This means that 106.6% (2012: 107.0%) of the company's non-current assets are matched by financing funds available on a medium- to long-term basis.

Current debt capital increased by € 52.1 million (3.2%) to € 1,690.1 million, including an increase of € 25.1 million (10.7%) to € 259.2 million in provisions and income tax liabilities. This item includes pension provisions amounting to € 37.6 million (2012: € 31.4 million), current other provisions of € 182.1 million, which were € 0.8 million (0.4%) lower than in 2012, and income tax liabilities, which grew from € 19.8 million to € 39.5 million. Current liabilities increased by € 27.0 million (1.9%) to € 1,403.9 million. These include obligations toward employees totaling € 46.9 million (2012: € 47.5 million), financial liabilities amounting to € 85.8 million (2012: € 79.9 million), trade payables amounting to € 673.4 million (2012: € 583.2 million), the balance of construction contract payables after deduction of the corresponding receivables amounting to € 520.1 million (2012: € 604.0 million), and sundry other identifiable obligations.

From December 31, 2012 to December 31, 2013, non-current and current financial liabilities increased by € 66.8 million to € 685.7 million.

Within the structure of equity and financial debt, the equity ratio increased by 1.8 percentage points to 27.4% (2012: 25.6%), while short-term debt capital decreased by 0.5 percentage points.

**Reduction**  
in short-term debt capital

## FINANCIAL AND NON-FINANCIAL PERFORMANCE INDICATORS

### FINANCIAL PERFORMANCE INDICATORS

The original forecast for the financial year 2013 made on February 19, 2013 was based on the knowledge available at the beginning of the year. In the half-yearly financial report issued on July 24, 2013, that forecast was confirmed as regards revenues and made more specific as regards earnings.

#### Forecast and actual results

in € million	Actual 2013	Forecast 2013 at July 24, 2013	Forecast 2013 at February 19, 2013	Actual 2012	Change 2013-2012 in %
Revenues	3,741.7	approx. 3.700	Increase of 10 - 12 %	3,378.6	10.7
Adjusted earnings before interest and tax (adjusted EBIT)	377.3	approx. 375	Increase of 10 - 12 %	375.2	0.6
Adjusted earnings after tax	232.1	approx. 235	Increase of 10 - 12 %	234.0	-0.8

## REVENUE FORECAST

On February 19, 2013, the Executive Board forecast that revenues in 2013 would increase by 10–12% (revenues in 2012: € 3,378.6). In the half-yearly financial report issued on July 24, 2013, MTU made its revenue forecast more specific, naming a figure of around € 3,700 million. Year-end revenues amounted to € 3,741.7 million, which is on a level with the revised forecast issued in July 2013 and the earlier forecast made in February 2013. The OEM segment, where military revenues remained stable, saw revenues increase by approximately 14% overall, as planned. In U.S. dollar terms, revenues from the volume production of commercial engines increased by 28%, which was slightly higher than planned, while revenues from spare parts sales were lower than expected in certain programs, resulting in an overall increase in revenues in the commercial engine business of around 5%. Revenues in the MRO segment grew by 9% in U.S. dollar terms, confirming the forecast of an increase in the upper single-digit percentage range.

## EARNINGS FORECAST (ADJUSTED EBIT)

MTU initially forecast an increase in adjusted EBIT of 10–12%. On July 24, 2013, the group revised its forecast downward, to around € 375 million. Year-end adjusted EBIT amounted to € 377.3 million, which is roughly equivalent to the figure for 2012.

## EARNINGS FORECAST (ADJUSTED EARNINGS AFTER TAX)

In its initial forecast for 2013, the Executive Board expected adjusted earnings after tax to rise by 10–12%. This forecast was amended to around € 235 million on July 24, 2013. At December 31, 2013, adjusted earnings after tax amounted to € 232.1 million, which is roughly equivalent to the figure for 2012.

## OVERALL ASSESSMENT OF BUSINESS PERFORMANCE IN 2013

Operating margin at  
**10.1%**

MTU's revenues in the financial year 2013 rose by 10.7%. At € 377.3 million, adjusted EBIT reached approximately the same level as in 2012 (€ 375.2 million). A central focus of activities at MTU in the financial year 2013 was the production ramp-up for new engine programs, leading to a significant increase in revenues from the volume production of commercial engines of well over 25%. Revenues from the more profitable spare parts business grew at the more modest rate of 5%. In 2013, MTU invested in engine programs of strategic importance for the future, especially the successful GTF programs. Despite this additional expenditure, MTU nevertheless achieved an operating margin of 10.1%. At € 83.0 million, free cash flow in 2013 was firmly in the double-digit million range, and thus on an equivalent level to 2012. The reductions in inventory made possible by the "WOC@MTU" project compensated to a large extent for the decrease in advance payments in the military engine business. The projected key performance indicators published by the group at the beginning of 2013 were adjusted to reflect current market developments in the half-yearly financial report published in late July and the year-end results were in line with this forecast.

## NON-FINANCIAL PERFORMANCE INDICATORS

### SOCIAL RESPONSIBILITY

Accepting responsibility – not only for our products and processes, employees, customers and partners, but in equal measure for the environment and society as a whole – forms an integral part of everything MTU does. This is anchored in the MTU Principles under the heading “Environment and Society.” The company supports local and regional associations, organizations and institutions as a promoter, sponsor and network participant. This social commitment focuses on the fields of education, science and research.

The partnerships MTU maintains with numerous German universities are advantageous to both sides: the universities receive economic and practical support for their research activities, while MTU safeguards its access to the latest research results and can build contacts with potential future employees.

Partnerships with  
universities

MTU is pursuing various initiatives aimed at arousing young people’s interest in the topics of science and technology. Once a year on the nationwide Girls’ Day, the company throws open its factory buildings to female school students with an interest in technology. Several of the company’s sites take part in the Training Night, informing the attendees about opportunities for training or embarking on a career at MTU. Since 2007, MTU has worked together with the educational institute Bildungswerk der bayerischen Wirtschaft and Munich University of Applied Sciences to organize science camps for women researchers, at which 15 female school students every year gain a deeper insight into everyday working life in the technical professions.

MTU helps schools in the neighborhood of its sites throughout Germany to present technical subjects in a more lively and engaging manner. In summer 2013, for instance, the company organized two large stands at the science exhibition (IdeenExpo) held in Hannover, Germany. MTU is in great demand as a partner for events organized by schools, such as “nature and technology days,” and offers the young people student research projects and opportunities to gain work experience.

For many years now, MTU has taken part in the “Lange Nacht der Münchner Museen” (The Long Night of the Munich Museums), enabling visitors to experience the development of aviation engine technology through guided tours of the company’s own museum. The museum is also open to visitors on other days of the year.

MTU is committed to providing all its employees with equal opportunities. The measures it has enacted in this respect are described in the “Employees” section of this report. For MTU, corporate responsibility involves not only complying with all applicable laws and regulations, but also supporting initiatives that go a step further. Within the organization, MTU has formulated binding principles that apply to all its employees worldwide. These principles are set down in the Code of Conduct and form a benchmark for employee behavior on a day-to-day basis. In addition, MTU is a signatory to the Standards of the Aerospace and Defence Industries Association of Europe (ASD), which are designed to combat corruption and bribery and to promote fair competition among equal parties. At a national level, this initiative is supported by the German Aerospace Industries Association (BDLI).

As a member of the United Nations Global Compact, MTU acknowledges its responsibility for protecting the environment, promoting human rights, upholding labor standards and combating corruption. This pact between international corporations and the United Nations was drawn up with the goal of making globalization more socially and ecologically compatible. MTU joined the compact in May 2011. Every year, the company publishes a report – which is made available to the public on the Internet – presenting the improvements it has achieved in the areas of activity associated with the principles outlined in the compact.

## Prime status as an ethical investment

→ more information available  
online under The company >  
Sustainability

At each of its three locations in Germany, MTU is a major regional employer. It also supports social and charitable institutions at its locations. Numerous employees do volunteer work in their private time, and MTU expressly approves their personal initiative and the role model function they embody. The trainees at the Ludwigsfelde location, for instance, have been taking part for many years now in the cystic fibrosis charity run in Potsdam, and receive financial support from MTU for doing so.

In late 2013, oekom research AG rated MTU's commitment to sustainability as C+, a "prime status" rating for the company. oekom research AG is one of the world's leading rating agencies in the sustainable investment sector. The rating measured MTU's ecological and social achievements across more than 100 selected sustainability criteria developed for the aviation industry. "Prime status" demonstrates that MTU has met the minimum standards set by oekom research AG. Any securities issued by the company thus qualify as an ecologically and socially sound investment.

For further information on how the company views its social responsibility and the key areas on which its corporate responsibility (CR) activities are focused can be found on the MTU website. In addition, the MTU Sustainability Report and the UN Global Compact Progress Report can be downloaded from [www.mtu.de/en/company/sustainability](http://www.mtu.de/en/company/sustainability). Any questions concerning social responsibility can be addressed to the CR team using the CR contact form.

## EMPLOYEES

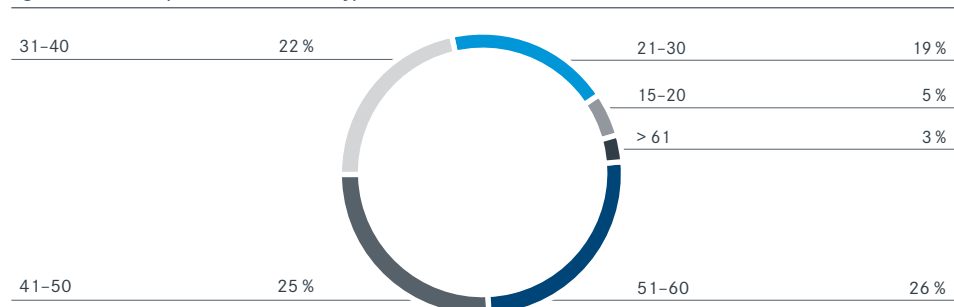
### Global MTU workforce

	Change 2013-2012		Dec. 31, 2013	Dec. 31, 2012
	Employees	in %		
Locations in Germany	30	0.4	7,278	7,248
International locations	124	9.6	1,417	1,293
<b>Total workforce</b>	<b>154</b>	<b>1.8</b>	<b>8,695</b>	<b>8,541</b>

At December 31, 2013, MTU had 8,695 employees, after increasing its workforce by 1.8% in the course of the year. The employee turnover rate at MTU's German locations was 4.5% in the financial year 2013 (2012: 3.6%).

The following diagram shows the age structure of the workforce at the group entities in Germany:

### Age structure in % (German locations only)



### Vocational training 2013

MTU invested heavily in future talent in 2013, with an apprenticeship quota of 4.7%. At year-end 2013, 343 trainees were employed at the company's locations in Germany. The share of women amounted to 15%.

In order to meet the increasing demand for IT specialists, MTU has added an IT network and software engineering course to its portfolio of dual study programs. A certified training course leading to professional qualifications as a warehouse logistics technician is now also being offered to meet the growing need for skilled personnel in this specialized field.

Vocational training at MTU is not restricted to purely professional subjects. Rather, importance is also attached to the methods and social skills that serve to develop the apprentices' personalities in line with the MTU corporate culture.

In 2013, the "Enhancing the No-Blame Culture" project was integrated in the training curricula at locations throughout Germany. It involves teaching the apprentices in workshops to adopt an open and professional approach to errors. The goal is to leverage the apprentices' awareness and understanding of errors so as to prevent such errors from occurring in productive operations.

Apprenticeship quota

4.7%

### Employee satisfaction survey 2012

MTU regularly carries out an employee satisfaction survey at its German locations in order to get an up-to-date picture of the mood there. The survey is a key tool for honing the corporate culture and enabling the employees to shape their working environments.

The results of the most recent survey carried out in 2012 show that rank-and-file employees and managers alike have great confidence in the company's management, identify closely with the corporate goals and the MTU Principles, and are convinced that MTU is a good employer. Most employees expect the company to continue developing in a positive manner in future. Despite the positive overall trend, those surveyed still see scope for action when it comes to the feedback culture and the structuring of decision-making processes. Human Resources and Organizational Development will address these issues in a follow-up process. Workshops were held at all levels of the hierarchy to communicate the results of the survey and to work out the measures that need to be taken. The next employee satisfaction survey is planned for 2015.

### Staff training and development

2013 saw the premiere of MTU's International Leadership Program. The program offers managers at all MTU locations a forum for establishing a global network and for sharing their ideas on business and leadership topics. The kick-off event took place in Rzeszów, Poland, in September, and the follow-up event was held in Hannover in December. The issues addressed at the events included project work and change processes at MTU. Interdisciplinary teams across all locations discussed the challenges MTU will face in the years ahead and presented the results of their discussions to top management.



Networking between prospective managers is one factor contributing toward effective cooperation between the MTU locations. That is why the “Building on Talent” program, which was established in 2005, will now be rolled out as an international development program. The program will target potential managers at MTU’s locations worldwide. For MTU, the program is a platform for anchoring a shared understanding of leadership and for encouraging the exchange of ideas and establishment of contacts across different cultures and regions.

MTU’s process for recognizing and promoting high potential is just as firmly established within the company as its programs and measures for training and developing managers and employees. Career counseling for women represents a new addition to this process. The counseling focuses on helping the female employees identify where exactly they stand and where their particular strengths and skills lie. It also contributes toward raising their profile and enhancing their effectiveness in their respective environments.

### Compensation and employee profit-sharing

The compensation that MTU offers its employees recognizes individual performance and is in line with market benchmarks. The performance-related compensation component is based on KPIs that apply to employees at all hierarchical levels.

For more detailed information on the compensation model for the Executive Board, we refer you to the management compensation report and to the relevant pages of the Notes to the consolidated financial statements.

Take-up ratio  
**18.5%**

Under MTU’s employee stock option program (MAP), employees are granted an incentive in that 50% of the original amount invested is matched by the company after a vesting period of two years. In 2013, 18.5% of employees took part in the MAP, the highest take-up ratio since 2008, investing a total amount of € 8.3 million.

### Work-life balance

MTU enhances the work-life balance of its employees with a range of offers and services. It provides its employees with a wide range of working-time models, teleworking options, a working time corridor from 5:15 a.m. to 8:00 p.m. as well as flexibility in taking time off. Parental leave and child/elderly care sabbaticals are arrangements that enable staff to spend more time with their families when this need is uppermost in their lives. What is more, external family-service providers offer employees a comprehensive package of additional services, including debt counseling, help in finding child minders, and advice when next of kin require long-term nursing care. MTU also provides funding for the daycare center of “TurBienchen,” a non-profit association run by a parents’ initiative. The center is located on the company’s premises in Munich. The holiday care program for children aged three to 12 that was launched in 2012 was offered again in 2013.

### Health management

A company’s ability to perform hinges upon the health of its workforce. It goes without saying that MTU complies with all statutory health and work safety regulations.

Above and beyond that, the company adapts to the changing work and leisure-time patterns of its employees and tries to avoid physical and mental health risks through a sustainable health management regime at work. It also attempts to create a working environment that is conducive to good health and to encourage the employees to take on responsibility for a healthy lifestyle. The purpose of all this is to help keep the long-term health rate stable as the workforce ages.

MTU provides its employees in Munich with an extensive range of on-site facilities and programs enabling them to improve their health and prevent work-related illnesses. These include a fully equipped health studio and physiotherapy center, extended risk assessments, preventive back pain training in the workplace, vibration training close to the workplace, training in ergonomic seating positions, health days for different divisions/departments, seminars on preventive health care, the “active break,” the light meals offered by the company restaurant, and the company medical and psychosocial counseling services.

### Awards for MTU's attractiveness as an employer

For MTU, it is important to be perceived as an attractive employer – both by employees and in comparative analyses with other enterprises.

In its ranking of Germany's top employers, the Top Employers Institute assesses companies across the country in terms of what they offer their employees in the categories of corporate culture, training and development, career perspectives, primary benefits, fringe benefits, and work-life balance. In recent years, MTU has continually been able to improve its ranking. In the category “Career Perspectives,” MTU achieved the top mark of five stars, placing it among the top 20% of the companies taking part.

In a study carried out by Focus, a German weekly news magazine, and the XING professional networking platform, employees at all levels of the hierarchy were asked to rate companies in terms of working environment, career perspectives, salary and leadership culture, with the aim of determining the “best employers” from their point of view. MTU ranked 19th overall among Germany's best employers, while the company occupied fourth place in the “Aircraft and Other Vehicles” industry.

MTU's positive image was also confirmed by the Universum Young Professionals Study carried out by WirtschaftsWoche magazine, where the company ranked 30th among the most popular employers for engineers.

In terms of image, MTU also scores well with entry-level employees. In this year's employer rankings published by research institute trendence in Berlin, engineering graduates ranked MTU 32nd from a list of 100 companies.

### The social media – one way of keeping close contact with applicants

MTU's personnel marketing mix – comprising events, development programs, print articles and the careers website – was expanded in 2012 to include a presence in social media. As a high-tech company, MTU showcases its expertise on communication platforms such as Facebook or YouTube, familiarizing the target audience with the company as an employer. In addition to its Facebook fan page covering career topics, MTU has another page on the medium where MTU trainers and apprentices are responsible for design and content. The steadily rising number of Facebook fans in 2013 underscores the excellent image of the MTU page and means that the company is achieving ever greater reach.

### Ensuring the company's future success through diversity

Workforce diversity is a key element in ensuring any company's future success. MTU aspires to identify the potential of its employees and utilize it as best possible.

**4th place**  
in industry ranking

## More women in the workforce

→ more information available  
online under Career

This aspiration finds expression in the “Charter of Diversity,” which the company signed in 2010 and which embodies its commitment to supporting diversity in the working environment. Diversity is also reflected in the MTU Principles, where the company has set itself the goal of enhancing its ability to innovate by drawing on different cultures and age groups and on broad-based expertise.

Above and beyond this, MTU has resolved to achieve a substantial increase in the percentage of women employees in the company – both at employee and management level as well as in the area of young talent. MTU supports career-minded women, for instance, through career counseling or by encouraging them to participate in the Munich-based cross-mentoring program, in which new women managers with high potential receive support from manager-mentors from outside the company for a period of one year. What is more, MTU has signed the “Munich Memorandum for Women in Management,” signaling its commitment to equal opportunities for men and women in the company.

Further information on HR activities at MTU can be found in the separate Human Resources Report 2013/2014, which can be downloaded on our [website under the menu item “Career.”](#)

## ENVIRONMENT

For MTU, protecting the environment is not simply an obligation, but part and parcel of the responsibility it shoulders on behalf of its employees, customers, partners, neighbors and society.

### Eco-friendly, sustainable aviation

If future aviation is to be more eco-friendly and sustainable, all those involved in it will have to work together closely. That is why MTU is playing an active part in numerous initiatives. The German Aerospace Industries Association (BDLI), for example, has drawn up a roadmap for the period until 2050, which defines all the necessary technologies – including alternative fuel supplies – and assigns responsibilities. While the industry focuses on addressing short- and medium-term concerns, long-term issues are more the domain of university researchers. University institutes are already working on some of these topics with the support of MTU and funding from the German Federal Ministry of Economics and Technology and/or the EU. The studies in progress are focusing, for example, on revolutionary work processes, innovative fuels, the production of synthetic kerosene using solar energy, and the integration of distributed engines in aircraft. Studies into electrical and hybrid propulsion systems are being carried out by the Bauhaus Luftfahrt think tank on behalf of MTU. What is more, together with 20 other aviation companies, bioenergy producers, universities and research institutes, MTU has launched the Aviation Initiative for Renewable Energy in Germany (aireg e.V.) to coordinate the introduction of alternative aviation fuels.

### Eliminating environmentally harmful production processes and materials

MTU reduces its environmental footprint not only by complying with existing and newly introduced statutory requirements, but also by doing away with environmentally harmful materials in its production and repair processes.

Where possible and feasible, MTU develops its own internal standards for the processes and techniques it uses and ensures they are enforced at all its locations. Compliance with these standards is regularly checked and certified by internal and external audits in accordance with DIN EN ISO 14001 – and, at the German locations in Munich and Hannover, also in accordance with the European Union’s EMAS (Eco-Management and Audit Scheme) Regulation (EC) No. 1221/2009. MTU’s environmental management system was successfully reviewed, as was its work safety management system, which complies with OHSAS 18001. The Executive Board regularly assesses the progress made in meeting environmental and work safety targets.

## Saving energy and cutting CO<sub>2</sub> emissions

MTU's production and maintenance processes must meet exacting environmental protection requirements. This is achieved at the company's locations in Germany by means of a comprehensive energy management program that focuses on conserving resources and saving materials. The Clean Air – Industrial Site (CLAIR-IS) program has been in place at MTU's headquarters in Munich since 2009. The goal is to achieve a reduction of more than 25% in CO<sub>2</sub> emissions at the Munich site by 2020 (taking 1990 as a baseline), despite steadily increasing production rates. By the end of 2012, a reduction of 12% had been achieved. The measures taken to achieve this include, for example, making greater use of well water as a coolant in production processes, modernizing the heating network, deploying building automation systems, utilizing waste heat in hot water and heating systems, recovering heat from ventilation systems (where some 1,500 metric tons of CO<sub>2</sub> has been saved annually since 2002), deploying energy-efficient lighting and drive systems, and utilizing renewable fuels in the company's cogeneration plant.

Groundwater drawn from wells that is unsuitable as drinking water is deployed as a coolant. That is highly efficient in terms of energy as it means that MTU no longer has to construct and run its own electric-powered cooling systems, saving the company around 3,000 metric tons of CO<sub>2</sub> every year. The increased use of building automation systems has already cut CO<sub>2</sub> emissions by some 71,000 metric tons since 2001. Through these measures MTU also aims to reduce its electricity consumption by 25% between 2010 and 2020. The cogeneration plant at the Munich site, which generates both electricity and heat, is powered using emissions-neutral vegetable oil, thus saving around 7,400 metric tons of CO<sub>2</sub> a year.

When constructing new buildings or renovating existing ones, MTU sets great store by efficient energy supplies. When a new production facility for high-tech engine components was built in Munich, energy efficiency and economy were of paramount importance in the design of the building. Its plans are based on the principles of low-energy architecture and the building is equipped with state-of-the-art ventilation technology and well-water cooling. The energy required for heating is recovered from the waste heat generated by air compressors in combination with a heat pump. The recovery of waste heat and the building's additional thermal insulation mean that the new building's energy consumption is only one-sixth that of a conventional production facility. This type of building thus achieves very low levels of resource consumption.

# 25 %

reduction in CO<sub>2</sub>  
emissions at the Munich site

## SUBSEQUENT EVENTS

No events of material importance with any significant impact on the financial situation, net assets or operating results of the MTU group occurred after the end of the reporting period.

## FORECASTS

### MACROECONOMIC FACTORS

The Economist Intelligence Unit (EIU) and the International Monetary Fund (IMF) both expect the global economy to recover in 2014, with the EIU anticipating growth of 2.8%, compared with 2.0% in 2013. The IMF is more upbeat, forecasting a plus of 3.7% in 2014.

According to the EIU forecast, the economy in western Europe will grow by 1.5% in 2014, while North America will post a rise of 2.6%. With an expected increase of 4.0%, the Asia-Pacific region is likely to make the biggest contribution to global economic growth.

According to the IMF, economic growth in China and other emerging markets is likely to have peaked already. However, GDP growth rates in that region are still well above those in Europe and the United States. In 2013, China's economy grew by 7.7%, with a plus of 7.3% being predicted for 2014.

The deliberate devaluation of certain currencies poses a risk for the entire global economy. The Japanese yen, for example, is held at an artificially low level by means of government intervention in order to stimulate exports. This could potentially lead to trade wars and protectionism, and act as a brake on economic growth in emerging markets.

Meanwhile, economic growth in the eurozone continues to be restrained by high national debt levels and austerity policies.

On the other hand, the global economy stands to benefit from the downward trend in oil prices.

### MICROECONOMIC FACTORS IN THE AVIATION INDUSTRY

According to a forecast by IATA, global passenger traffic will grow by 6.0% and freight traffic by 2.1% in 2014, with the former likely to stabilize at this high level.

#### An industry with growth prospects

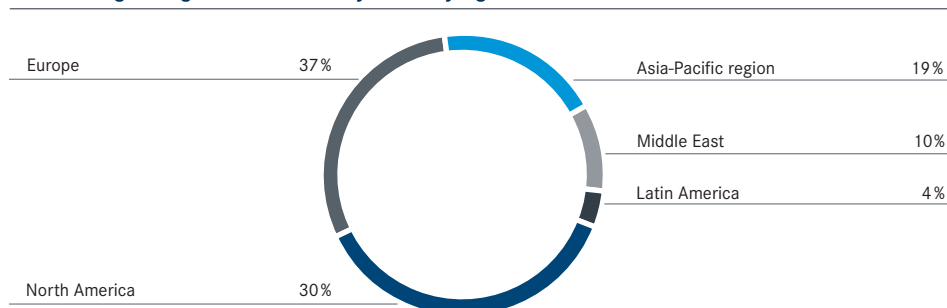
Expected rates of air traffic growth differ widely from one region to another. The forecast for Europe is one of cautious optimism, with IATA expecting accelerating economic growth to trigger a rise in passenger volumes. Demand in North America will not change significantly as the United States is a saturated market promising little growth. As far as Asia-Pacific, the Middle East and Latin America are concerned, IATA expects to see sustained growth.

In IATA's view, global economic recovery, rising passenger volumes and efficiency gains by airlines will help lift airlines' profits to around U.S. \$ 19.7 billion in 2014. Low kerosene prices look set to play a part in this, with the EIA and IATA both expecting the price of a barrel of Brent crude to fall to U.S. \$ 105 in 2014.

Airbus and Boeing plan to expand production of their A330 and 787/737 families respectively. With the launch of the Airbus A350, deliveries in 2014 are expected to rise by around 6% to a total of 1,350 aircraft.

The two manufacturers have orders for 11,235 commercial single-aisle and widebody aircraft in their books – at current delivery rates, this equates to a production volume of eight years.

About 50% of all new engine orders are for new, fuel-saving engine types, and MTU will profit from that thanks to its stakes in the geared turbofan programs for narrowbody aircraft such as the A320neo, CSeries and Irkut MS-21. The geared turbofan is also the engine of choice for the new regional jets from Embraer and Mitsubishi. What is more, MTU has stakes in the GENx engine program for the Boeing 787 and 747-8 as well as in the GP7000 program for the A380.

**Order backlog for single-aisle and widebody aircraft by region**

Source: Ascend Online, February 2013

**FUTURE DEVELOPMENT OF MTU**

The statements below are based on the knowledge available at the beginning of 2014. Owing to the large number of new programs, any delays that might occur in development or in the ramp-up of series production would have an effect on the performance indicators.

**EXPENDITURE ON NEW PRODUCTS AND SERVICES**

Preparations for the highly successful new GTF programs and the ramp-up of further programs require substantial capital expenditure on development and production resources.

MTU will implement additional measures in the coming years in order to contain the associated increase in costs. These will include cutting spending on travel, external consultants, marketing and other expenses. In addition, over the next four years, some 100 administrative posts vacated due to natural fluctuation or retirement will not be refilled. At the same time, the company wants to accelerate the pace of productivity gains. These measures, which are concentrated in the “Cash for Future” project, are designed to achieve long-term cost reductions of several tens of millions of euros per year. Through these savings, the company aims to retain sufficient scope to invest in additional engine programs.

**“Cash for Future”**

The imminent ramp-up of the new engine programs means that MTU will have to invest heavily over the next few years in building up highly productive manufacturing and logistics capacities at its main site in Munich. In addition, MTU Aero Engines Polska is set to be expanded, so that a large part of the required capacity can be provided by the Polish site. Some 300 new jobs are to be created there by 2018.

**OUTLOOK FOR 2014**

In accordance with IFRS requirements, the joint venture MTU Maintenance Zhuhai will no longer be consolidated proportionately as from 2014, but accounted for using the equity method. These effects need to be eliminated from MTU's 2013 figures in order to ensure that the results of different financial years remain comparable.

## Targets

MTU's targets for the financial year 2014 are as follows:

Outlook for 2014		
in € million	Forecast for 2014	Actual 2013
Revenues	3,750	3,574.1
Adjusted earnings before interest and tax (adjusted EBIT)	stable	373.1
Adjusted earnings after tax	stable	229.8

Revenues plus

5%

The company expects its revenues in 2014 to rise by around 5% compared with 2013, based on adjusted figures that take the new consolidation method for MTU Maintenance Zhuhai into account. MTU's risk- and revenue-sharing agreements with leading engine makers and its strong presence in its home market will serve to keep the regional distribution of the company's revenues stable. According to the company's plans, over 80% of total revenues will continue to be generated in its traditional markets of North America and Europe.

## Revenues by operating segment

MTU expects to see a sharp rise in the volume production of commercial engines (i.e. new deliveries) in the OEM segment in 2014, with revenues growing by an anticipated 10% in U.S. dollar terms. The spare parts business, which is considerably more profitable than the engine manufacturing business, is expected to record medium single-digit growth in U.S. dollar terms in 2014. These assumptions are based especially on the ongoing production ramp-up of the GEnx engine for the Boeing 787 and 747-8 and rising deliveries of the V2500 engine for the A320 family. Identified risks relate particularly to the possibility of delays in ramping up the Boeing 787 and 747-8 aircraft programs, extensions to the delivery schedule for the Airbus A380, and a potentially challenging spare parts market.

MTU expects revenues in the military engine business to decrease by around 10%, to a level at the lower end of the € 450 – 500 million range.

Regarding revenues in its commercial maintenance business in 2014, MTU's forecast foresees growth in the mid to high single-digit percentage range in U.S. dollar terms (after adjustments to take account of the new consolidation method for MTU Maintenance Zhuhai). MTU also anticipates rising demand for maintenance of GE90 and V2500 engines.

## Operating profit

For 2014, MTU expects adjusted EBIT to remain stable compared with 2013. Growth in adjusted EBIT in the MRO segment will compensate for the slight pressure on earnings in the OEM segment.

### Adjusted earnings after tax (adjusted EAT)

In 2014, adjusted earnings after tax will track operating profit, remaining stable compared with 2013.

### Free cash flow

2014 will be a year marked by substantial capital expenditure. However, MTU plans to compensate for these cash outflows through its operating activities and thereby reach a breakeven or even slightly positive free cash flow in 2014.

### Future dividend

It is MTU's policy to pay an attractive dividend. Based on the prognosis of future business developments, MTU expects to be able to offer a stable dividend for 2014, subject to the approval of the corporate bodies responsible for this decision.

### Employees

MTU will have around 450 fewer employees in 2014 than in 2013 owing to the cuts in administrative personnel that are planned as part of the "Cash for Future" project and the change in the consolidation method used to account for MTU Maintenance Zhuhai.

## OVERALL PROGNOSIS OF FUTURE BUSINESS DEVELOPMENTS IN 2014

The Executive Board of MTU remains optimistic that it will be able to profitably expand the company's business. Whereas the military business will weaken slightly, MTU will benefit from strong growth of the V2500 program and the GEnx and GP7000 widebody programs and from favorable developments in its MRO business, which is growing faster than the market.

Positive signs of  
continued growth



# RISK REPORT

## Opportunity and risk management

Risk is an inherent part of any entrepreneurial activity. To meet the expectations of its shareholders, MTU must exploit opportunities – and that entails a certain degree of risk.

MTU has an integrated opportunity and risk management system in place, which is linked to the group's value-oriented performance indicators and its organizational structure. The system ensures compliance with statutory requirements and is based on the internationally recognized COSO II Enterprise Risk Management (ERM) Framework.

The systematic consideration of significant risk factors is of vital importance to the MTU group, and serves as a fundamental basis for value-oriented controlling functions and sustainable business success. MTU identifies risks, analyzes their possible consequences and develops measures to limit them. The key areas of risk exposure are as follows:

- Risks arising from macroeconomic factors and corporate strategy
- Market and program risks
- Risks associated with product development and manufacturing
- Other risks pertaining to business operations

## STRATEGY AND RISK MANAGEMENT SYSTEM

### CONTROL ENVIRONMENT

MTU regards a suitable control environment as being essential for a functioning risk management system. The following are considered the main elements of such an environment:

- management style and philosophy,
- integrity and ethical values,
- staff training and development.

The concept of learning from mistakes is embodied in the MTU Principles, which describe it as a means of facilitating teamwork and promoting constructive behavioral attitudes. The logical consequence of striving for continuous improvement is the establishment of a Continuous Improvement Project (CIP), which aims to encourage employees to deal openly with weak points and create a culture that underpins a functioning risk management system.

## RISK MANAGEMENT OBJECTIVES AND RISK STRATEGY

The ultimate objective of MTU's risk management system is to ward off risks to MTU's status as a going concern and to safeguard the company's future business success.

MTU does not merely limit itself to ensuring compliance with statutory requirements. It has integrated its corporate risk management system, including opportunity management, into all essential controlling processes, from strategic planning right through to reporting to the Executive Board and the Supervisory Board.

## IDENTIFICATION, ANALYSIS AND MANAGEMENT OF RISKS

MTU regards risk management as a continuous, end-to-end process to ensure responsible behavior when dealing with specific risks at business unit level and general risks affecting several business units or the entire group.

The risk inventory of the group, which encompasses all the business units and all the risk factors to which MTU is exposed, forms the basis for identifying risks. According to the COSO II Framework, it is divided into governance and compliance, strategy and planning, operations and infrastructure, and reporting. In the interests of a more detailed assessment of risks, MTU has divided this framework into 15 risk categories covering all corporate areas.

Each subsidiary and business unit is responsible for identifying, assessing, controlling and monitoring the risks in their specific areas, and documenting them in risk maps. To this end, they use a general risk checklist derived from the risk inventory. They submit reports to the central risk management department for risks exceeding an amount of € 1 million over the five-year period under consideration, at dates allowing them to be reviewed together with the quarterly financial results. The risk maps also serve to document risks below a threshold of € 1 million. Risks valued at more than € 5 million are reported immediately to the central risk management department. Risk assessment is based on uniform definitions of the probabilities of loss occurrence and rated in terms of possible deviations of the group performance indicator "adjusted EBIT" from the currently valid operational planning figures and potential impact on liquidity.

The central risk management department aggregates and consolidates the risks and evaluates the overall risk position of the group and its joint ventures.

A cross-divisional Risk Management Board has been set up at group level to perform centralized control and monitoring functions. At its quarterly meetings, the Risk Management Board discusses the interactions between individual risks, ensures that all risks have been reported in full, and assesses the risk exposure of the group as a whole.

## RISK REPORTING AND COMMUNICATION

The Executive Board receives a risk report once a quarter that has been coordinated with the Risk Management Board, and is kept informed of the group's current risk situation. The Top Risk Map comprises all risks and opportunities above € 5 million over a five-year period and gives details of their probability of occurrence as well as potential countermeasures.

Risks are not offset against opportunities. Moreover, the Top Risk Map for the group forms part of the regular reports submitted to the Executive Board and Supervisory Board.

Risks exceeding  
**€ 1 million**  
are centrally reported

## MONITORING THE RISK MANAGEMENT PROCESS

Monitoring the risk management process is of crucial importance for ensuring the proper functioning and ongoing development of the risk management system.

In addition to verification by the auditor of the system employed for the early recognition of risks, the risk management system is monitored and verified by a number of other functions:

- regular checks by the internal auditing department,
- supervision by the Supervisory Board,
- checking in the course of the EFQM audits,
- process reviews by the Risk Management Board in the form of a self-assessment.

## USE OF FINANCIAL INSTRUMENTS

More than 80% of MTU's revenues are generated in U.S. dollars. On the other hand, a large proportion of expenses is likewise invoiced in U.S. dollars, thus providing a "natural hedge." Most other expenses are incurred in euros and, to a lesser extent, in Polish zloty, Chinese yuan renminbi and Canadian dollars. In line with the corporate policy of generating profit solely on the basis of its operating activities and not through currency speculation, MTU makes use of hedging strategies for the exclusive purpose of controlling and minimizing the effect of U.S. dollar exchange rate volatility on EBIT.

The forward foreign exchange contracts concluded by MTU cover the greater part of the net exposure to currency risk, leaving only a small portion of the U.S. dollar surplus exposed to this type of risk. The unhedged portion of forecast transactions is calculated at the average euro exchange rate on the date of settlement.

MTU holds a long-term hedge portfolio comprising forward foreign exchange contracts with terms to maturity stretching over several years. At December 31, 2013, the value of the portfolio of hedging instruments with terms until 2016 amounted to U.S. \$ 975.0 million (which translates to € 707.0 million at the exchange rate prevailing on the reporting date).

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Detailed information on the financial instruments used to hedge future cash flows is provided in [Note 36. to the consolidated financial statements \(Financial risk\)](#).

The company's long-term hedging strategy makes currency risks manageable.

For a detailed description of MTU's financial management system, please refer to the section Financial situation – Principles and objectives of financial management.

## STRATEGY RISKS

### Risks arising from macroeconomic factors

Factors presenting significant risks to the MTU group's business development are the U.S. dollar exchange rate, the level of commodity prices, the development of air traffic, and general economic trends. Even taking the latest market forecasts into account, MTU does not currently discern any major negative impacts for the company arising from the high sovereign debt in certain nations of the world economy. Similarly, MTU does not hold any financial instruments within the scope of IAS 39 or IFRS 7 that might be affected by the inability of any of these nations to pay their debts. If the

current economic situation should deteriorate, this could impact the volume of passengers using business jets and prompt a more cautious approach to orders for new air transportation capacity in both the freight and passenger segments. In addition, national budget cuts could negatively impact the military engine business. Other risks affecting industry in general include rising energy costs, the unavailability of suppliers, and delays in deliveries from suppliers. A further risk factor affecting engine programs is the possibility of higher interest expenses and delayed delivery schedules due to the typically long lead times.

### Risks arising from corporate strategy

The main forms of strategy risk are misjudgments when taking decisions concerning investments in engine programs, the establishment of new sites, and possible M&A activities. During the decision-making phase of a program, highly qualified specialists perform cost-benefit analyses based on set procedures that include the obligation to carry out a risk analysis on the basis of different scenarios. MTU's business model is based on long-term processes, particularly in the OEM segment. Many years of development, preproduction and series production may lie between the decision to invest in a new commercial engine and the breakeven point. The risk is that the original economic and technological parameters on which the decision was based might change over the course of time, hence the need for frequent reassessments that take into account the most recent economic and technological developments. Decisive factors in this regard are, in particular, the success of the aircraft platforms on which the engines are deployed and any changes made to those platforms. MTU counters such strategy risks by means of a broad portfolio. That means that the company limits the impact of an individual program or aircraft platform by holding an interest in a broad range of products across all thrust classes.

In the longer term, a further identifiable risk in addition to that arising from MTU's strategic decisions is the arrival on the market of new competitors, especially Asian companies. But given the high market entry barriers, this risk is not regarded as critical at the present time.

MTU has not identified any strategy risks at the present time that might endanger its status as a going concern.

## MARKET AND PROGRAM RISKS

The profit to be gained from specific engine programs depends to a large extent on spare parts sales. Many airlines are experiencing financial difficulties as a result of competitive pressure in the aviation market and because their business is strongly influenced by economic factors beyond their control, including the effects of crises. This already strained situation may be further exacerbated by escalating fuel prices and by state intervention in the aviation industry. Given this, many airlines are striving to keep their aircraft and engine maintenance costs as low as possible, for example by delaying shop visits or replacing defective parts with used ones. Competition is generally getting fiercer, too, with the MRO shops of the major engine manufacturers lowering their prices in an attempt to squeeze independent providers out of the market. In addition to its impact on the MRO operating segment, this changed aftermarket scenario is also affecting the profitability of engine programs in the OEM segment.

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Owing to the difficult financial situation of certain airlines, as described above, engine manufacturers often offer loan arrangements to the end customer. These agreements are offered in two basic forms: pre-delivery payment (PDP) financing and backstop commitments. Within the scope of its partnerships in engine programs, MTU has been a party to aircraft financing agreements with end customers since 2013 and has made initial payments to finance the purchase of aircraft. MTU's share of these loan agreements is equivalent to its proportional stake in the engine program. It is a fundamental condition that the funds are made available to the aircraft manufacturer for the exclusive benefit of a specific airline. The risk of suffering a loss because an airline becomes insolvent is considered to be low, due to the security interests retained. For a detailed description please refer to [Note 32. to the consolidated financial statements \(Additional disclosures relating to financial instruments\)](#).

MTU's military engine business customers are national and international agencies whose spending capacity is strongly dependent on public budget policies. When they are faced with budgetary constraints, there is a risk that contracts might be rescheduled or canceled. In the military engine business, MTU is firmly embedded in international cooperative ventures, which tends to have a limiting effect on risks because the partners work together to protect their common interests. The terms of existing contracts in the military sector are generally defined to cover a prolonged period of time, thus effectively excluding price risks.

### Dependency on cooperative agreements

The commercial engine market is dominated by a small number of major manufacturers. MTU sells most of its products under risk- and revenue-sharing arrangements. The major engine manufacturers, who are the lead partners in the consortia, determine the prices, conditions and concessions. As a partner in these consortia, MTU does have rights of objection and control, but is also bound by the decisions of the lead partners. By virtue of these partnerships, MTU is able to participate in the industry-leading engine programs of the major engine manufacturers. The customers of these risk- and revenue-sharing partnerships in the commercial engine and MRO business are airlines and leasing companies. The marketing of commercial engines always involves making concessions. MTU is obliged to absorb these concessions to the extent of its program share in risk- and revenue-sharing arrangements. The fact that the cooperation partners share a common interest helps to prevent excessive concessions during contract negotiations with the end customers. Furthermore, risks are spread across the various programs.

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In the commercial maintenance business, MTU's interests in the Asian market include a 50:50 joint venture, MTU Maintenance Zhuhai Co. Ltd., Zhuhai, China. MTU is involved in further joint ventures in the fields of engine leasing, maintenance and development, which are listed in [Note 38.1.2. to the consolidated financial statements \(Major shareholdings\)](#). In jointly controlled entities where decisions have to be made by consensus, there is always a risk of differences of opinion.

From today's standpoint, MTU does not expect these market and program risks or its dependency on cooperative agreements to have any significant impact on the group's continuing existence as a going concern.

## RISKS ASSOCIATED WITH PRODUCT DEVELOPMENT AND MANUFACTURING

### Development risks

In the commercial and military engine business, MTU undertakes to perform development work during which delays and additional costs may arise. The company nevertheless ensures strict adherence to time schedules and budgets by permanently monitoring project management across all the departments involved and applying appropriate corrective measures where necessary. Furthermore, through its involvement in collaborative ventures, it works in partnerships that extend beyond corporate boundaries, thus spreading the risk.

MTU products are subject to extremely stringent safety requirements. The company requires numerous official certifications, particularly from the German Federal Office of Civil Aviation (LBA) and the U.S. Federal Aviation Administration (FAA), in order to carry out its activities. These certifications are valid for limited periods and can be renewed only after further tests have been carried out. Manufacturing and repair processes are documented in detail to ensure compliance with all regulations.

### Production risks

Highly sophisticated components and new materials are called for to meet the requirements of the airlines and OEMs in respect of engine weight, fuel consumption and noise emissions. In order to produce and process such components, MTU develops – and gains official approval for – innovative new manufacturing techniques suited to meeting these challenges. This can lead to delays in the start of production or temporarily reduce the volume of deliveries to a level below that originally agreed. It could also happen that the new manufacturing processes are not yet sufficiently mature to fully meet requirements when volume production is due to start. MTU counters this risk by providing systematic support for the development and implementation process in the context of technology projects.

### Procurement and purchasing risks

MTU is dependent on suppliers and third-party vendors for some raw materials, individual parts and components, and for the provision of specific services. Risks can arise in the form of the unavailability of suppliers, problems with quality, and price increases. MTU strives to reduce its reliance on individual suppliers by securing the services of several, equally qualified, vendors for materials, parts and services. In the case of single-source suppliers, MTU enters into long-term agreements as a hedge against unforeseen shortages and to reduce the risk of sudden price hikes. The risks involved are manageable thanks to the broad diversity of the links in the supply chain.

Delays may arise when ramping up production of new, high-volume programs involving new production capacities, production processes or workflow systems, thus affecting the agreed delivery deadlines. MTU minimizes this risk through strict project management, the deployment of specialists and the implementation of program-specific preventive measures.

Risk exposure  
manageable

### Liability risks

In the aviation industry as elsewhere, accidents can still occur despite strict compliance with manufacturing quality standards and utmost diligence in performing maintenance work. In the military engine business (excluding exports), MTU is largely exempt from product risk liability through government agency indemnification. The remaining forms of product liability, especially in the commercial engine business, are covered by contractual clauses and by high-coverage insurance policies, including aircraft liability insurance. Other risks that could threaten the company's status as a going concern, such as loss of income through fire or the interruption of business operations, are similarly covered.

By limiting liability risks and taking out insurance cover, the risks are rendered transparent and manageable. MTU has not identified any risks related to its production, development or procurement activities at the present time that might endanger its status as a going concern.

## OTHER RISKS PERTAINING TO BUSINESS OPERATIONS

### Compliance risks

Compliance risks arise when managers or employees of the company fail to comply with laws and regulations or fail to observe internal rules. These risks can arise in all areas of the company.

MTU has implemented a number of measures to minimize risks and to safeguard compliance. The corporate units ensure that laws are complied with and internal regulations observed. The quality department, for example, is responsible for compliance with aviation authority regulations, while the environmental health and safety department ensures that environmental protection regulations are adhered to.

Above and beyond that, measures have been put in place to minimize the risks arising in connection with white-collar crime:

- binding rules of conduct valid throughout the group,
- the establishment of a central office to receive reports of suspected misconduct,
- the establishment of a Compliance Board,
- continuous security checks of employees,
- regular training courses.

Criminal intent can never completely be ruled out.

### Non-payment risk

Airlines in particular are direct and indirect customers of MTU. These companies may find themselves facing financial difficulties that affect the receivables of MTU and its partners. The consortium leaders in the OEM business have extensive receivables management systems in place. In the MRO business, the responsible MTU departments track open accounts receivable in short cycles. A risk assessment is carried out whenever new contracts are signed and any necessary precautions are taken, for instance by requesting an export credit guarantee (Hermes coverage) – if available – as protection against political credit risk. As a matter of principle, the group avoids signing contracts for which the parameters cannot be calculated. Hence MTU considers non-payment risks to be transparent and manageable.

Full  
precautions  
taken before  
signing contracts

## Environmental risks

MTU is subject to numerous laws and regulations aimed at protecting the environment. Any tightening of the applicable environmental requirements in connection with the use of chemicals in manufacturing and test rig emissions may give rise to additional investment costs. [Further information can be found in the section non-financial performance indicators](#). MTU requires special certification in order to operate certain production facilities. The regulations must be strictly observed and all procedures fully documented. An environmental management system certified to DIN EN ISO 14001 minimizes the risks in this area.

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## Personnel risks

The commitment, motivation and skills of the company's employees are major contributory factors in its business performance. There is considerable rivalry in the recruitment market for the aerospace sector, as companies compete to find the best-qualified employees to work on the development, manufacture and maintenance of cutting-edge technical products. This harbors a fluctuation risk. MTU minimizes this risk by means of fast-track professional training and development programs, performance-related compensation, mentoring schemes and early succession planning.

A high production capacity will be needed in the coming years to meet the demands of the new engine programs. MTU is meeting this challenge through the systematic training of entry-level employees and the targeted recruitment of specialists. No major problems are to be expected in filling the positions in question.

Variations in business volume present MTU with the challenge of managing its capacities according to current demand. The company has responded with flexible working time and work assignment models. In order to meet changing capacity requirements, MTU also takes advantage of natural fluctuation and uses the system of flexible working hours to encourage employees to reduce their flextime credit.

Insurance policies are in place to limit potential liability risks that might be caused by individuals employed by the company. Personnel risks are considered to be low.

## IT risks

The main IT risks are loss of confidential data through espionage and system failures. Through its experience in dealing with military customers, MTU is particularly aware of the need to safeguard confidential data and operates a strictly controlled, highly advanced data security system. When new IT systems are introduced, there is a possibility of workflows being disrupted. MTU minimizes these risks by employing qualified experts and using professional project management. MTU regards the risks in this area as being manageable.

## Risks arising from general and tax legislation

The legal proceedings currently pending do not present any risks that might endanger MTU's continuing existence as a going concern. Risks arising out of ongoing tax audits or from events of a non-recurring nature have been taken into account in the financial statements where necessary.



## SWOT ANALYSIS

The results of an analysis of the main strengths, weaknesses, opportunities and threats (SWOT) presented by MTU's corporate structure and market environment are as follows:

### SWOT analysis of the MTU group

Corporate	Market
<p><b>Strengths</b></p> <p>Technological leadership</p> <ul style="list-style-type: none"> <li>- OEM: Excellence in engine modules: low-pressure turbines, high-pressure and IP compressors</li> <li>- MRO: Excellence in advanced repair techniques</li> <li>- Manufacturing technologies</li> </ul> <p>Balanced mix of production and after-market business, covering all stages from development and manufacturing to maintenance</p> <p>Sustained capacity utilization assured by high order backlog</p> <p>High, stable profitability</p> <p>Focus on high-profit-margin engine business</p> <p>Presence in fast-growing Asian market</p> <p>Long-term contracts in the OEM business, involvement in consortia and cooperative ventures</p> <p>Quality and on-time delivery form basis for reliable partnerships</p> <p>Proximity of MRO sales network to customers</p>	<p><b>Opportunities</b></p> <p>Market environment of business units on a long-term growth trend</p> <p>Increasing technological complexity of future engines</p> <p>Good market opportunities for fuel-efficient engine designs (geared turbofan)</p> <p>Solid financing structure and technological leadership open the way to program investments</p> <p>Growth opportunities in the attractive GE90 market (MRO)</p> <p>Growth of MRO in newly industrializing countries</p> <p>Airline outsourcing in order to concentrate on core activities offers additional opportunities for MRO business</p> <p>Greater exploitation of synergies between areas of commercial business (Integration MRO in new engine business)</p> <p>Positive changes in U.S. dollar exchange rate</p>
<p><b>Weaknesses</b></p> <p>High dependency on U.S. dollar</p> <p>Earnings dependent on market success of OEMs and their products</p> <p>High wage levels at home manufacturing sites</p>	<p><b>Threats</b></p> <p>Low and volatile earnings of end customers (airlines)</p> <p>Changes to business model in spare parts business</p> <ul style="list-style-type: none"> <li>- Price competition in maintenance</li> <li>- Integration of MRO in new engine business</li> </ul> <p>Inherent risk of advanced technology development with regard to estimated schedules and costs</p> <p>Entry of newly industrializing nations into the aerospace industry</p> <p>Restrained public spending may lead to defense budget cuts</p> <p>Negative changes in U.S. dollar exchange rate</p>

## OVERALL ASSESSMENT OF MTU'S RISK EXPOSURE

Risks in each key area of exposure as described above are assessed according to their probability of occurrence and quantified as a deviation of EBIT from the currently valid operational planning figures. In MTU's risk management process, risks are assigned to one of four probability levels: Almost certain (>80%), Likely (>50%), Possible (>20%) or Unlikely ( $\leq$ 20%). The results of this assessment for the financial year 2014 are presented in the table below. The group considers it extremely improbable that all of these risks might arise concurrently. Therefore, the aggregated figures presented below must be viewed merely as a rough indication of MTU's overall risk exposure.

### Assessment of MTU's risk exposure

in € million	OEM	MRO
Market and program risks	16.1	5.8
Manufacturing and development risks	2.7	
Other operative risks	4.5	8.1

As well as the risks listed in this table, the risk management process is also used to monitor unplanned events with an impact on free cash flow. In addition to the impact of identified risks on EBIT, this assessment revealed further risk factors affecting liquidity evaluated at approximately € 15 million. However, these cash outflows are easily accommodated by the company's line of credit, which was increased by € 400 million in the financial year 2013.

At December 31, 2013, there had been no substantial changes in MTU's risk exposure compared with the end of the previous year. MTU considers the level of risk exposure to be manageable. From the present point of view, the MTU group's continuing existence as a going concern is not endangered. MTU does not anticipate any fundamental changes in its risk exposure at the present time. MTU has taken every possible organizational measure to ensure early awareness of potential risk situations.

No substantial change in  
risk exposure

# OPPORTUNITIES REPORT

## MARKET AND PROGRAM OPPORTUNITIES

Systematic basic research and the constant refinement of engine technologies followed by their deployment in the final products have made MTU one of the world's leading manufacturers of engine components. MTU's products lead the field in terms of efficiency, because they help to reduce fuel consumption, emissions, noise and costs. This expertise opens up opportunities for MTU to participate in new engine programs, enabling the company to maintain a balanced portfolio going forward. MTU's technological lead is also evident in the geared turboprop (GTF) engines of the PW1000G family, which are being developed in partnership with Pratt & Whitney. The GTF is the exclusive engine of all major regional jets developed in recent years – the Embraer E2 E-Jets and the Mitsubishi Regional Jet – and the Bombardier CRJ business jet, and is offered as an option for the Airbus A320neo and Irkut MS-21. Through its stakes in the GTF programs, MTU will benefit over the decades ahead from growth in short- and medium-haul air traffic. MTU has an opportunity to secure bigger market shares in the medium-haul sector because in addition to its longstanding partnership in the V2500 engine program for the current A320 family it also has a stake in the A320neo engine, which has been selling so well.

At the Dubai Airshow in November 2013, Boeing presented the successor to the successful Boeing 777 widebody jet. Called the Boeing 777X, the new model will be exclusively powered by General Electric's GE9X engine. MTU is well placed to obtain a share in this new engine program for widebody jets, as it has done in the past with the GEnx and other similar programs.

**MTU**  
recognized as a  
qualified partner

Among its customers in the military sector, MTU has established a reputation as a qualified partner with comprehensive system know-how in product development, manufacture and maintenance. In particular by driving forward its partnership with the German air force, MTU sees chances for strengthening its ties with Germany's armed forces. There are opportunities for building on existing customer relationships in the military MRO sector. What is more, potential exports – especially of the EJ200 Eurofighter engine – present opportunities to acquire new customers for military business.

The changed aftermarket scenario in the aviation industry, in which MRO services are increasingly being offered together with engine sales contracts, presents risks to MTU but also opens up opportunities to develop customer loyalty through integrated service agreements that promise to soften the impact of risks associated with the spare parts market. This integrated approach to MRO enables program partners to become members of an MRO network, giving them access to the entire volume of MRO work associated with an engine series, the so-called network volume, in accordance with their share in the program. Various different work-sharing arrangements are possible. For instance, partners in the MRO network might only perform repairs on their own components, or be allocated a quota of complete shop visits corresponding to their program share. Membership in an MRO network offers lower margins than operating as an independent MRO provider.

MTU's activities in the MRO market for the GE90 open up the longer-term prospect of participating in the steadily growing GE90 market as an independent MRO provider. In particular, as the number of aircraft resold to new owners by the original purchaser begins to rise, there will be opportunities for independent MRO providers like MTU to win new customers in the GE90 market, because in the pre-owned segment the airlines tend to have much weaker ties to the OEM.

Together with Sumitomo Corporation, MTU has established two joint ventures in the market for engine leasing. The aim is to expand the company's leasing activities and make the most of the opportunities they present for MRO services.

## OPPORTUNITIES ASSOCIATED WITH PRODUCT DEVELOPMENT AND MANUFACTURING

The risk report describes the risks associated with product development and manufacturing, but MTU's ongoing development activities also open the way to new business opportunities. For example, the new technologies and materials developed by MTU to improve the performance of its products create opportunities for the company to acquire new partnership roles in future engine programs, and thereby maintain a balanced product portfolio covering engines at all different stages of their lifecycle.

The risk report also refers to the challenges involved in ramping up new programs, and here again these challenges can be transformed into opportunities. Progress is achieved in the manufacturing sector by optimizing processes and introducing new production technologies. Advances in these two areas are not only beneficial to the new programs for which they were intended but can also be implemented in existing programs, resulting in cost savings and other advantages.

## OTHER OPPORTUNITIES

As a large part of the company's revenues is based on contracts invoiced in U.S. dollars – especially in the commercial engine business and commercial MRO – a strengthening of the U.S. dollar against the euro would improve MTU's earnings. If energy prices were to stabilize or retreat to a lower level, and if commodity prices were to fall, this would have a positive effect on MTU's cost structure and hence on its business results.

Other opportunities are listed in the SWOT analysis presented in the risk report, which also provides information on the methods employed by MTU to identify and exploit opportunities and avoid the associated risks.

## OVERALL ASSESSMENT OF OPPORTUNITIES

At December 31, 2013, the opportunities identified by MTU had not changed substantially compared with the end of the previous year. MTU has taken all the organizational measures necessary to recognize potential opportunities in good time and respond to them adequately. MTU applies the same methods in its assessment of specific opportunities as it does when evaluating risks. By taking a conservative approach to the identification of risks and opportunities, the opportunities are necessarily limited compared to the risks. Moreover, due to the long cycles on which MTU's business model is based, the company does not foresee the emergence of any major opportunities within the horizon of 2014, because the future engine programs (and especially the GTF programs) are currently still in the development phase. The total projected earnings for the financial year 2014 associated with the identified opportunities are presented in the table below:

No significant change in identified opportunities

### Assessment of opportunities

in € million	OEM	MRO
Market and program opportunities	5.7	0.4
Manufacturing and development opportunities		
Other operative opportunities		

In addition to the opportunities presented in the above table, the risk management process is also used to monitor unplanned events with an impact on liquidity. If realized, these additional earnings could have a potential positive impact on cash flow of around € 19 million. MTU does not anticipate any fundamental changes in its opportunities at the present time.

# THE INTERNAL CONTROL AND RISK MANAGEMENT SYSTEM IN RELATION TO THE GROUP ACCOUNTING PROCESS

The currently valid German accounting policy DRS 20 is used as a basis for reports concerning the main features of the accounting-related internal control and risk management system.

## OBJECTIVES AND COMPONENTS

### Controls tailored to MTU's business model

The Executive Board, Supervisory Board and Audit Committee of MTU attach the greatest importance to ensuring the regularity, accuracy and reliability of MTU's financial reporting. The accounting-related internal control and risk management system, which provides the yardstick for the MTU group's financial statements, helps ensure that these internal and external accounting requirements are systematically complied with. The Executive Board of MTU Aero Engines bears overall responsibility for establishing and refining the required control and monitoring systems. The systems are tailored to the MTU group's business model and company-specific requirements, and are an important part of the comprehensive approach to corporate governance that defines the basic framework for creating sustainable value for shareholders, customers, employees and the public.

- The accounting-related risk management system (RMS) is an integral part of the group's comprehensive company-wide risk management system. It forms the basis for the uniform and appropriate handling of risks and for communicating them within the group. The risks entailed in financial reporting at group level are a part of the corporate risks to be monitored as a whole.
- The design of the accounting-related internal control system (ICS) at MTU meets the requirements of the German Act to Modernize Accounting Law (BilMoG) as set out in the government's explanatory memorandum, the definition provided by the Institute of Public Auditors in Germany (Institut der Wirtschaftsprüfer IDW e.V.), the internationally recognized and established framework of the Committee of Sponsoring Organizations of the Treadway Commission (COSO I), and the features specific to MTU. MTU understands an internal control system (ICS) to be the principles, procedures and measures introduced at the company by its management that are aimed at the organizational implementation of the decisions of management to
  - safeguard the effectiveness and economic efficiency of business operations – which also includes protecting the company's assets,
  - ensure the regularity and reliability of internal and external accounting, and
  - comply with statutory regulations relevant to the company.

### Improved processes through internal auditing

- The internal auditing system, which is process independent, plays an important role in checking the effectiveness of, and improving, the accounting-related ICS and RMS. The corporate audit department of MTU assesses, and helps to enhance, the controlling and monitoring systems. It is also considered to have an advisory function, contributing toward improving business processes and, ultimately, the effectiveness of the internal control system. The rules of procedure of the corporate audit department comply with national and international requirements as laid down by the Deutsches Institut für Interne Revision and the Institute of Internal Auditors. The corporate audit department is also bound by the code of professional ethics. The administrative standards of the internal auditing department are available to all employees for perusal on MTU's intranet.

- The Audit Committee of the Supervisory Board deliberates on risk management and on the findings of internal auditing. In accordance with Section 107(3) Stock Corporation Act (AktG), as amended by the German Accounting Law Modernization Act (BilMoG), the Audit Committee is responsible also for monitoring the effectiveness of the risk management system, the internal control systems, the internal auditing systems, the financial reporting process and the audit of the financial statements, and, in particular, assessing their independence.

## MAIN FEATURES

- MTU has a clearly defined management and corporate structure. Key functions spanning more than one business unit are managed centrally. The individual subsidiaries nevertheless enjoy an adequate level of autonomy.
- The integrity and responsibility of all employees, also in terms of finances and financial reporting, are ensured by their undertaking to observe the company's code of conduct.
- An adequate system of guidelines has been drawn up and is updated as required.
- The departments and business units involved in the accounting process are suitably equipped and regularly trained both in quantitative and qualitative terms.
- The IT systems are protected against unauthorized access by appropriate installations in the IT area. As far as possible, standard software is used in the finance systems area. Within the framework of the comprehensive IT strategy and the IT architecture, the IT system's application controls are reviewed internally and externally on a regular basis against a background of a high level of automatic controls and plausibility checks. The general IT controls are checked during internal and external IT audits.
- Suitable controls are in place in all accounting-relevant process, such as dual control, analytical checks, and programmed plausibility checks during payment cycles in accounting or during the consolidation process.
- All the annual financial statements of group companies included in consolidation are audited by an external auditor at least once a year. The same auditor also reviews the condensed consolidated financial statements and interim group management report in the half-yearly financial report.
- Accounting-relevant processes are also checked by the process-independent corporate audit department.
- In terms of reporting and annual/monthly financial statements, the group accounting department is the direct contact for the managing directors of the subsidiaries. It is responsible for preparing the consolidated financial statements in accordance with IFRS in consultation with all the group companies.
- In the course of its monthly reports, the group accounting department monitors all the processes relating to the consolidated financial statements, such as capital consolidation, debt consolidation, consolidation of expenditures and revenues and the elimination of the unrealized results of intra-group transactions.

- The group accounting department is also the central point of contact and controlling body for specific reporting issues at group level – such as questions concerning the balance sheet – or within individual subsidiaries and joint ventures. If a need for support arises at short notice in connection with specific, complex IFRS issues or proposed company acquisitions, this demand is met by qualified staff or by employing the services of auditors.
- As every subsidiary and joint venture is obligated to report its business figures to the group in a standardized reporting format on a monthly basis in compliance both with the local GAAP and with IFRS, any planned/actual deviations during the year can be identified rapidly, enabling a swift and appropriate response.

# DISCLOSURES IN CONNECTION WITH THE TAKEOVER DIRECTIVE

The following disclosures are made pursuant to Section 315(4) of the German Commercial Code (HGB) (takeover directive implementation).

## COMPOSITION OF SUBSCRIBED CAPITAL

The subscribed capital (capital stock) of MTU Aero Engines AG is unchanged, and amounts to € 52.0 million, divided into 52.0 million registered non-par shares. All shares have equal rights and each share entitles the holder to one vote at the Annual General Meeting.

## RESTRICTIONS CONCERNING VOTING RIGHTS AND THE TRANSFER OF SHARE OWNERSHIP

At December 31, 2013, MTU held 1,144,374 treasury shares (2012: 1,260,170). No voting rights are exercised in respect of treasury shares. The articles of association of MTU Aero Engines AG do not contain any restrictions concerning voting rights or the transfer of share ownership. The Executive Board has no knowledge of any agreement between shareholders that could give rise to any such restrictions.

## CAPITAL INVESTMENTS EXCEEDING 10% OF THE VOTING RIGHTS

According to its notification dated March 18, 2013, The Capital Group Companies, Inc., Los Angeles, United States, holds 14.99% of MTU's voting rights (through 7,792,212 shares; 2012: 6,788,868 shares).

## SHARES WITH SPECIAL RIGHTS CONFERRING POWERS OF CONTROL ON THE HOLDER

MTU has not issued any shares with special rights conferring powers of control on the holder.

## METHOD OF CONTROLLING VOTING RIGHTS WHEN EMPLOYEES OWN STOCK CAPITAL AND DO NOT EXERCISE THEIR CONTROL RIGHTS DIRECTLY

Employees holding shares in MTU Aero Engines AG exercise their control rights like any other shareholder, in strict compliance with statutory regulations and the company's articles of association.

## RULES GOVERNING THE APPOINTMENT AND DISMISSAL OF MEMBERS OF THE EXECUTIVE BOARD

Members of the Executive Board are appointed by the Supervisory Board in accordance with the provisions of Section 84 of the German Stock Corporation Act (AktG). The Supervisory Board determines the number of members of the Executive Board. According to the articles of association, the Executive Board must consist of at least two members. The Supervisory Board is entitled to select one member of the Executive Board to serve as its chairman. Members of the Executive Board serve for a term of office not exceeding five years.



This initial term of office may be prolonged, in the same or a different capacity, for an additional five years. Pursuant to Section 31 of the German Co-Determination Act (MitbestG), the appointment of a member of the Executive Board requires a two-thirds majority of the votes of the Supervisory Board. In default of a majority vote, the Supervisory Board's Mediation Committee is granted a one-month period within which it must submit an alternative proposal for the appointment. If no candidate is accepted as a result of this second vote, a third voting round is held, in which the chair of the Supervisory Board has two votes but the deputy chair is not entitled to a second vote.

The Supervisory Board has the right to refuse the appointment of a member or chair of the Executive Board on significant grounds – for instance gross breach of duty or incapacity to manage a business in an orderly manner.

### **RULES GOVERNING AMENDMENTS TO THE ARTICLES OF ASSOCIATION**

All amendments to the articles of association require a resolution on the part of the Annual General Meeting, pursuant to Section 179 of the German Stock Corporation Act (AktG). Under the terms of the articles of association, such resolutions must be carried by a simple majority of the votes or, in cases where a majority of the voting stock must be represented at the meeting, by the simple majority of the voting stock – unless otherwise stipulated by the law (Section 18(1) of the articles). The right to add amendments of a purely formal nature, for instance changes to the share capital as the result of utilization of the authorized capital, is devolved to the Supervisory Board under the terms of Section 13 of the articles of association. Amendments to the articles of association become effective on the date at which they are entered in the commercial register (Section 181(3) of the German Stock Corporation Act, AktG).

### **AUTHORIZATIONS CONFERRED ON THE EXECUTIVE BOARD, ESPECIALLY CONCERNING THE ISSUE AND PURCHASE OF SHARES**

#### **Authorized capital**

By resolution of the Annual General Meeting on April 22, 2010, the Executive Board is authorized until April 21, 2015 to increase the company's capital stock by up to € 5.2 million, with the prior approval of the Supervisory Board, by issuing, either in a single step or in several steps, new registered non-par-value shares in return for cash contributions (Authorized capital I 2010).

By resolution of the Annual General Meeting on May 5, 2011, the Executive Board is further authorized until April 21, 2015 to increase the company's capital stock by up to € 15.6 million, with the prior approval of the Supervisory Board, by issuing, either in a single step or in several steps, new registered non-par-value shares in return for cash contributions (Authorized capital II 2011).

In addition, by resolution of the same Annual General Meeting, the Executive Board is authorized until April 21, 2015 to increase the company's capital stock by up to € 5.2 million, with the prior approval of the Supervisory Board, by issuing, either in a single step or in several steps, new registered non-par-value shares in return for cash and/or non-cash contributions (Authorized capital III 2011).

## Conditional capital

At the Annual General Meeting on April 22, 2010, the Executive Board was authorized until April 21, 2015 to issue conditional capital increases with the prior approval of the Supervisory Board:

- The company's capital stock may be conditionally increased by up to € 3.64 million through the issue of up to 3,640,000 new registered non-par-value shares. The purpose of this conditional capital increase is to issue shares to owners or creditors of convertible bonds and/or bonds with warrants in accordance with the authorization granted to the company's Executive Board under a resolution passed by the Annual General Meeting on May 30, 2005. Shares may be issued at a conversion price or warrant exercise price determined on the basis of the conditions laid down in the relevant authorization.
- The company's capital stock may be conditionally increased by up to € 22.36 million through the issue of up to 22,360,000 new registered non-par-value shares, each corresponding to a proportional amount (one euro) of the company's total capital stock (conditional capital). The purpose of this conditional capital increase is to issue shares to owners or creditors of convertible bonds and/or bonds with warrants in accordance with the authorization granted to the company's Executive Board under a resolution passed by the Annual General Meeting on April 22, 2010. Shares may be issued at a conversion price or warrant exercise price determined on the basis of the conditions laid down in the relevant authorization.

The Executive Board is authorized until April 21, 2015 to issue, in a single step or in several steps and with the prior approval of the Supervisory Board, bearer convertible bonds and/or bonds with warrants (collectively referred to as "securities"), with or without maturity date, with a total nominal value of up to € 500 million, and to grant the owners of convertible bonds and/or bonds with warrants the right, obligation or option to convert them into registered non-par-value shares of the company representing a stake in the capital stock of up to € 22.36 million under the conditions established for the issue of convertible bonds or bonds with warrants. The securities may be issued in return for cash contributions only. They may be issued in euros or – to an equivalent value – in any other legal currency, for instance that of an OECD country. They may also be issued by an affiliated company in which MTU holds a controlling interest. In such cases, and subject to the prior approval of the Supervisory Board, the Executive Board is authorized to act as guarantor for the securities, and to grant the owners of the securities the right, obligation or option to convert them into new registered non-par-value shares in MTU.

## Resolution concerning the authorization to purchase and use treasury shares pursuant to Section 71(1) item 8 of the German Stock Corporation Act (AktG) and to exclude subscription rights

At the Annual General Meeting on April 22, 2010, a resolution was passed by a majority of votes representing 98.03% of the stock capital with voting rights held by those present at the meeting to accept the proposal by the Supervisory Board and Executive Board concerning the authorization to purchase and use treasury shares pursuant to Section 71(1) item 8 of the German Stock Corporation Act (AktG) and to exclude subscription rights. The resolution adopted by the Annual General Meeting conferred the following authorizations on the company:

- The company is authorized to purchase treasury shares accounting for a proportion of up to 10% of the company's issued capital stock, as applicable on the date of the resolution, during the period from April 23, 2010, through April 22, 2015, pursuant to Section 71(1) item 8 of the German Stock Corporation Act (AktG). At no point in time may the value of the acquired shares, together with other treasury shares in the company's possession or which are assigned to it pursuant to Section 71a et seq. of the German Stock Corporation Act (AktG), exceed 10% of the company's capital stock. At the discretion of the Executive Board, the shares may be purchased through the stock exchange or by means of a public offering addressed to all shareholders (or – if legally acceptable – through an open invitation to submit offers for sale). The shares must be sold in return for proceeds that do not lie more than 10% above or below the quoted share price, net of any supplementary transaction charges. In the case of a sale through the stock exchange, the reference for the quoted share price as defined in the above ruling is the average value of share prices in the closing session of Xetra trading (or a comparable successor system) on the last three trading days prior to the publication of the offering or invitation. In the case of shares purchased by means of a public offering addressed to all shareholders (or an open invitation to submit offers for sale), the reference for the quoted share price is the average value of share prices in the closing session of Xetra trading (or a comparable successor system) on the last three trading days prior to the publication of the offering or invitation. In the event of substantial fluctuations in the share price, the Executive Board is authorized to publish a new public offering or invitation to submit offers for sale, based on a recalculated average value of share prices according to the previously mentioned formula. The volume of the offer can be limited in the case of shares purchased by means of a public offering addressed to all shareholders (or an open invitation to submit offers for sale). If the take-up of the offering (or the total number of offers) exceeds this volume, the purchase must be transacted in proportion to the number of shares offered. Preferential treatment may be given to small packages (up to 100 shares) offered for sale. Further conditions may be imposed in the offering or invitation to submit offers.
- The Executive Board is authorized to sell the purchased treasury shares in another manner than through the stock exchange or by means of a public offering addressed to all shareholders, on condition that the shares are sold in return for cash contributions at a price that does not lie significantly below the market price of similarly entitled MTU shares at the time of sale.
- The Executive Board is authorized, with the prior approval of the Supervisory Board, to sell the purchased treasury shares in another manner than through the stock exchange or by means of an offering addressed to all shareholders if the treasury shares are sold to program participants in conjunction with the company's stock option programs and those participants are, or were, employees or officers of the company or one of its associated companies. If shares are to be issued to active or former members of the MTU Executive Board under the terms of the company's stock option programs, the Supervisory Board is authorized to transact this issue.
- The Executive Board is furthermore authorized to use the purchased treasury shares as partial or complete payment in conjunction with business combinations or the acquisition, whether direct or indirect, of businesses, parts of businesses or equity investments.

- The Executive Board is also authorized, with the prior approval of the Supervisory Board, to use the purchased treasury shares to discharge obligations or exercise rights relating to convertible bonds, bonds with warrants, certificates of beneficial interest or income bonds (or combinations of such instruments) issued by the company or by a dependent group company.
- The Executive Board is moreover authorized, with the prior approval of the Supervisory Board and without any requirement for a further resolution to be passed by the Annual General Meeting, to retire purchased treasury shares in whole or in part. Their retirement may be effected by employing a simplified procedure without any capital reduction, by adapting the actuarial value of the outstanding portion of shares to that of the company's stock capital. The retirement may be limited to a defined fraction of the purchased shares. The authorization to retire shares may be utilized on one or more occasions. If the simplified procedure is employed, the Executive Board is authorized to amend the number of outstanding shares stated in the articles of association.
- The above-stated authorizations may be exercised on one or more occasions, in whole or in part, singly or in combination. They may be exercised also by group companies as defined in Section 17 of the German Stock Corporation Act (AktG).
- The subscription rights of existing shareholders in respect of these treasury shares are excluded insofar as the shares are utilized in the manner described in the above-stated authorizations.
- The authorization to purchase treasury shares granted to the company on May 26, 2009, is revoked as of the effective date of this new authorization. The authorization to use the treasury shares purchased under the terms of the above-mentioned earlier resolution dated May 26, 2009, remains in force.

## **SIGNIFICANT AGREEMENTS RELATING TO CHANGE OF CONTROL SUBSEQUENT TO A TAKEOVER BID**

### **Corporate bonds**

If a change of control occurs, every bondholder is entitled to declare due part or all of his/her bond units for the nominal amount plus any accrued interest.

A change-of-control event occurs if the rating is lowered in the course of the change of control. A lowering of the rating occurs if, (1) during the change-of-control period, a rating previously granted by a rating agency to MTU or to one of its outstanding non-current liabilities is withdrawn or is changed from an investment grade rating (equivalent to or higher than Baa3 (Moody's) or BBB (Fitch and S&P)) to a non-investment grade rating, or if, (2) at the time of the change of control, no investment grade rating has been awarded by a rating agency to the bonds or to MTU and no rating agency awards an investment grade rating to the bond within the change-of-control period.

### Promissory notes

The promissory notes raised by MTU Aero Engines Holding AG, Munich, in 2009 gave rise to the following agreements relating to change of control subsequent to a takeover bid:

- Notwithstanding existing statutory cancellation rights, the lenders are entitled to declare due an amount that corresponds to their share in the loan and demand the immediate repayment of this amount of principal plus accumulated interest up to the date of repayment in the event that an individual or several individuals acting collectively, or one or several third parties acting on the instructions of said individual(s), at any time directly or indirectly (irrespective of whether the Executive Board or Supervisory Board has granted its approval to the borrower) hold(s) more than 50% of the outstanding subscribed capital or hold(s) or acquire(s) a number of the borrower's shares corresponding to 50% or more of the voting rights.
- Requests for repayment must be submitted in writing, citing the reason for the cancellation of the loan and the underlying circumstances, and sent by registered mail to the borrower and the paying agency.

### Revolving credit facility

The terms of the revolving credit facility entitle the lender to cancel the agreement in the event that an individual or group of individuals should acquire a controlling interest in MTU Aero Engines AG, Munich, or any other group company benefiting from the credit agreement, or in the event that an individual or group of individuals should hold more than 50% of the share capital or corporate capital.

### Other agreements

The group holding company, MTU Aero Engines AG, Munich, has not entered into any other significant agreements with third parties or affiliated companies relating to change of control subsequent to a takeover bid.

The risk- and revenue-sharing agreements entered into by MTU Aero Engines AG also contain change-of-control clauses, i.e. clauses that entitle the other party to terminate the agreement in the event that one of that party's competitors should acquire a given percentage of the company's voting rights (generally 25 – 30%, occasionally rising to 50% of the equity capital).

Under risk- and revenue-sharing agreements, a company acquires a stake in an engine program by investing its own resources – workforce capacity and financial resources (risk) – and in turn receives a proportion of the revenues corresponding to its percentage share in the program.

The parent company of the group might be indirectly affected as a result of a change of control by agreements concluded by group subsidiaries operating in the MRO segment.

### Claims for compensation in the event of a takeover bid

The company has not entered into any agreements entitling members of the Executive Board or other employees to claim compensation in the event of a takeover bid.

# OTHER DISCLOSURES

## CORPORATE GOVERNANCE STATEMENT

### DECLARATION OF CONFORMITY

The executive and supervisory boards of listed companies issue an annually renewed declaration stating that the recommendations of the Government Commission on the German Corporate Governance Code have been and are being complied with, where necessary citing those recommendations that have not been or are not being applied. The declaration of conformity of MTU Aero Engines is included in the section on corporate governance on page 14.

There is also a section devoted to Corporate Governance on the MTU website at [www.mtu.de](http://www.mtu.de) under Investor Relations.

### MANAGEMENT PRACTICES EXTENDING BEYOND STATUTORY REQUIREMENTS

A full description of management practices that extend beyond statutory requirements is provided in the corporate governance report published as part of this 2013 Annual Report.

### WORKING PROCEDURES OF THE EXECUTIVE BOARD AND THE SUPERVISORY BOARD

A description of the working procedures of the Executive Board and Supervisory Board is provided in the corporate governance report.

## REFERENCE TO MANAGEMENT COMPENSATION REPORT

The compensation awarded to members of the Executive Board is made up of fixed and variable components. A more detailed description, including a table of individual members' compensation entitlements, can be found in the "Corporate governance" section of this Annual Report. The management compensation report forms an integral part of the group management report.

## DIRECTORS' DEALINGS

Pursuant to Section 15a of the German Securities Trading Act (WpHG), members of the Executive Board and the Supervisory Board have a legal obligation to disclose transactions involving the purchase or sale of shares in MTU Aero Engines AG, Munich, or of related financial instruments, on condition that the total amount of the transactions undertaken by a board member or related persons reaches or exceeds € 5,000 within a single calendar year. This disclosure requirement applies equally to any other management staff with executive powers and to persons closely related to them. These transactions were posted on the MTU website at [www.mtu.de](http://www.mtu.de) and published in the register of companies.

The total number of shares in MTU Aero Engines AG, Munich, held by members of the company's Executive Board and Supervisory Board at December 31, 2013, equaled less than 1% of the company's share capital (at December 31, 2012, less than 1%).

Other mandates held by members of the Executive Board in the financial year 2013 are as follows: Egon Behle: non-executive director of RUAG AG, Dr. Rainer Martens: chairman of the supervisory board of MTU Aero Engines Polska Sp. z o.o., Dr. Stefan Weingartner: chairman of the supervisory boards of MTU Maintenance Berlin-Brandenburg GmbH and MTU Maintenance Hannover GmbH. Other mandates of Supervisory Board members are listed in the Corporate Governance section of this Annual Report. Information on related-party transactions is provided in Note 38. to the consolidated financial statements (Relationships with related companies and persons).

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## CONSOLIDATED INCOME STATEMENT

### Consolidated Income Statement

in € million	Note	2013	2012
Revenues	(1.)	3,741.7	3,378.6
Cost of sales	(2.)	-3,191.6	-2,823.3
<b>Gross profit</b>		<b>550.1</b>	<b>555.3</b>
Research and development expenses	(3.)	-93.2	-113.0
Selling expenses	(4.)	-87.7	-88.5
General administrative expenses	(5.)	-65.8	-72.5
Other operating income and expenses	(6.)	12.6	5.7
Profit/loss of companies accounted for using the equity method	(7.)	1.7	2.4
Profit/loss of companies accounted for at cost	(7.)	2.1	11.6
<b>Earnings before interest and tax (EBIT)</b>		<b>319.8</b>	<b>301.0</b>
Interest income		4.3	2.6
Interest expenses		-17.4	-6.4
Interest result	(8.)	-13.1	-3.8
Financial result on other items	(9.)	-41.9	-24.5
<b>Financial result</b>		<b>-55.0</b>	<b>-28.3</b>
<b>Earnings before tax</b>		<b>264.8</b>	<b>272.7</b>
Income taxes	(10.)	-92.4	-97.9
<b>Earnings after tax</b>		<b>172.4</b>	<b>174.8</b>
<b>Earnings per share in €</b>			
Undiluted (EPS)	(11.)	3.39	3.45
Diluted (DEPS)	(11.)	3.39	3.45

# CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

## Consolidated Statement of Comprehensive Income

in € million	Note	2013	2012
<b>Earnings after tax</b>		<b>172.4</b>	<b>174.8</b>
Translation differences arising from the financial statements of international entities		-13.7	12.8
Financial instruments designated as cash flow hedges		20.5	48.4
Financial assets classified as "available for sale"			0.1
<b>Items that may subsequently be recycled to profit or loss</b>		<b>6.8</b>	<b>61.3</b>
Actuarial gains and losses on plan assets and pension obligations		5.9	-46.1
<b>Items that will not be recycled to profit or loss</b>		<b>5.9</b>	<b>-46.1</b>
<b>Other comprehensive income after tax</b>	(24.7.)	<b>12.7</b>	<b>15.2</b>
<b>Total comprehensive income</b>		<b>185.1</b>	<b>190.0</b>

## CONSOLIDATED BALANCE SHEET

### Assets

in € million	Note	Dec. 31, 2013	Dec. 31, 2012	Jan. 1, 2012
<b>Non-current assets</b>				
Intangible assets	(14.)	1,843.3	1,774.4	1,266.3
Property, plant and equipment	(15.)	622.4	599.9	584.6
Financial assets	(16.)	67.1	34.7	11.9
Financial assets accounted for using the equity method	(16.)	30.1	31.2	8.3
Other assets	(20.)	0.2	0.1	0.8
Deferred tax assets	(33.)	33.0	15.6	16.3
<b>Total non-current assets</b>		<b>2,596.1</b>	<b>2,455.9</b>	<b>1,888.2</b>
<b>Current assets</b>				
Inventories	(17.)	771.8	808.8	823.8
Trade receivables	(18.)	600.1	568.5	605.1
Construction contract receivables	(19.)	223.4	183.0	136.8
Income tax claims	(22.)	0.9	13.8	5.8
Financial assets	(16.)	59.0	37.2	44.1
Other assets	(20.)	38.8	33.1	34.2
Cash and cash equivalents	(21.)	163.9	161.2	198.8
Prepayments	(23.)	4.8	5.2	4.1
<b>Total current assets</b>		<b>1,862.7</b>	<b>1,810.8</b>	<b>1,852.7</b>
<b>Total assets</b>		<b>4,458.8</b>	<b>4,266.7</b>	<b>3,740.9</b>

## CONSOLIDATED BALANCE SHEET

### Equity and liabilities

in € million	Note	Dec. 31, 2013	Dec. 31, 2012	Jan. 1, 2012
<b>Equity</b>	<b>(24.)</b>			
Subscribed capital		52.0	52.0	52.0
Capital reserves		390.2	383.2	340.9
Revenue reserves		849.2	745.3	631.3
Treasury shares		-35.3	-37.9	-100.0
Other comprehensive income		-35.8	-48.5	-63.7
<b>Total equity</b>		<b>1,220.3</b>	<b>1,094.1</b>	<b>860.5</b>
<b>Non-current liabilities</b>				
Pension provisions	(25.)	585.5	585.3	513.2
Other provisions	(27.)	10.6	72.5	119.9
Financial liabilities	(28.)	599.9	539.0	53.4
Other liabilities	(31.)	148.1	130.4	127.6
Deferred tax liabilities	(33.)	204.3	207.4	209.3
<b>Total non-current liabilities</b>		<b>1,548.4</b>	<b>1,534.6</b>	<b>1,023.4</b>
<b>Current liabilities</b>				
Pension provisions	(25.)	37.6	31.4	17.8
Income tax liabilities	(26.)	39.5	19.8	10.0
Other provisions	(27.)	182.1	182.9	199.8
Financial liabilities	(28.)	85.8	79.9	208.2
Trade payables	(29.)	673.4	583.2	592.7
Construction contract payables	(30.)	520.1	604.0	715.0
Other liabilities	(31.)	151.6	136.8	113.5
<b>Total current liabilities</b>		<b>1,690.1</b>	<b>1,638.0</b>	<b>1,857.0</b>
<b>Total equity and liabilities</b>		<b>4,458.8</b>	<b>4,266.7</b>	<b>3,740.9</b>

# CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

## Consolidated Statement of Changes in Equity

in € million	Subscribed capital	Capital reserves	Revenue reserves	Treasury shares	Other comprehensive income				Group equity
					Translation differences	Financial assets (AfS)	Actuarial gains and losses <sup>1)</sup>	Hedging instruments	
<b>Carrying amount at Dec. 31, 2011</b>	<b>52.0</b>	<b>340.9</b>	<b>627.4</b>	<b>-100.0</b>	<b>5.2</b>	<b>-0.1</b>	<b>-54.8</b>	<b>-14.1</b>	<b>856.5</b>
Changes due to use of equity method as measurement basis			3.9		0.1				4.0
<b>Adjusted carrying amount at Dec. 31, 2011</b>	<b>52.0</b>	<b>340.9</b>	<b>631.3</b>	<b>-100.0</b>	<b>5.3</b>	<b>-0.1</b>	<b>-54.8</b>	<b>-14.1</b>	<b>860.5</b>
Earnings after tax			173.9						173.9
Other comprehensive income					12.9	0.1	-46.1	48.4	15.3
Changes due to use of equity method as measurement basis			0.9		-0.1				0.8
<b>Total comprehensive income</b>			<b>174.8</b>		<b>12.8</b>	<b>0.1</b>	<b>-46.1</b>	<b>48.4</b>	<b>190.0</b>
Total dividend payment			-60.8						-60.8
Conversion of convertible bond		38.0		59.5					97.5
MAP employee stock option program		3.3		2.6					5.9
Share Matching Plan		1.0							1.0
<b>Carrying amount at Dec. 31, 2012</b>	<b>52.0</b>	<b>383.2</b>	<b>745.3</b>	<b>-37.9</b>	<b>18.1</b>		<b>-100.9</b>	<b>34.3</b>	<b>1,094.1</b>
Earnings after tax			172.4						172.4
Other comprehensive income					-13.7		5.9	20.5	12.7
<b>Total comprehensive income</b>			<b>172.4</b>		<b>-13.7</b>		<b>5.9</b>	<b>20.5</b>	<b>185.1</b>
Total dividend payment			-68.5						-68.5
MAP employee stock option program		5.7		2.6					8.3
Share Matching Plan		1.3							1.3
<b>Carrying amount at Dec. 31, 2013</b>	<b>52.0</b>	<b>390.2</b>	<b>849.2</b>	<b>-35.3</b>	<b>4.4</b>		<b>-95.0</b>	<b>54.8</b>	<b>1,220.3</b>

<sup>1)</sup> Relates to plan assets and pension obligations.

An explanation concerning “changes due to use of equity method as measurement basis” is provided in Part I. of these Notes (Accounting Policies and Principles).

# CONSOLIDATED CASH FLOW STATEMENT

## Consolidated Cash Flow Statement

in € million	Note	2013	2012
<b>Operating activities</b>			
<b>Earnings after tax (EAT)</b>		<b>172.4</b>	<b>174.8</b>
Depreciation/amortization and impairment of non-current assets		164.3	203.8
Profit/loss of companies accounted for at cost		-2.1	-11.6
Profit/loss of companies accounted for using the equity method		-1.7	-2.4
Gains/losses on the disposal of assets		-6.7	0.1
Change in pension provisions	(25.)	14.5	17.5
Change in other provisions	(27.)	-62.7	-64.3
Other non-cash items		9.1	16.9
Change in working capital		-97.1	-119.0
Interest result	(8.)	13.1	3.8
Interest paid		-17.6	-6.0
Interest received		4.3	2.7
Dividends received		2.4	2.6
Income taxes	(10.)	92.4	97.9
Income taxes paid		-92.0	-87.0
<b>Cash flow from operating activities</b>		<b>192.6</b>	<b>229.8</b>
<b>Investing activities</b>			
Capital expenditure on:			
Intangible assets	(14.)	-94.2	-265.7
Property, plant and equipment	(15.)	-86.0	-99.1
Financial assets	(16.)	-47.9	-46.7
Proceeds from disposal of:			
Intangible assets / property, plant and equipment	(14.)/(15.)	13.5	0.5
Financial assets	(16.)	25.0	51.0
<b>Cash flow from investing activities</b>		<b>-189.6</b>	<b>-360.0</b>
<b>Financing activities</b>			
Corporate bond issue, net of transaction costs and discount	(28.)	97.3	248.5
Partial repayment of promissory notes	(28.)		-13.5
Increase in current financial liabilities	(28.)		0.5
Increase in non-current financial liabilities	(28.)	13.4	
Repayment of current financial liabilities	(28.)	-16.1	-0.4
Repayment of convertible bond	(28.)		-62.6
Total dividend payment		-68.5	-60.8
Sale of shares under the MAP employee stock option program	(31.)	8.3	5.9
Settlement of purchase price liability for PW1133G program share / V2500 stake increase		-28.6	-24.6
<b>Cash flow from financing activities</b>		<b>5.8</b>	<b>93.0</b>
<b>Net change in cash and cash equivalents during the year</b>		<b>8.8</b>	<b>-37.2</b>
Effect of translation differences on cash and cash equivalents		-6.1	-0.4
Cash and cash equivalents at beginning of financial year (January 1)		161.2	198.8
<b>Cash and cash equivalents at end of financial year (December 31)</b>		<b>163.9</b>	<b>161.2</b>

## REPORTING BY OPERATING SEGMENT

### Reporting by operating segment

in € million	Commercial and military engine business (OEM)		Commercial maintenance business (MRO)	
	2013	2012	2013	2012
External revenues	2,363.9	2,077.3	1,377.8	1,301.3
Intersegment revenues	28.1	29.1	4.0	4.4
<b>Total revenues</b>	<b>2,392.0</b>	<b>2,106.4</b>	<b>1,381.8</b>	<b>1,305.7</b>
<b>Gross profit</b>	<b>371.4</b>	<b>368.6</b>	<b>173.4</b>	<b>176.1</b>
Amortization	62.2	54.4	10.1	8.8
Depreciation	68.6	63.7	23.4	23.2
Impairment loss		53.7		
<b>Total depreciation / amortization and impairment</b>	<b>130.8</b>	<b>171.8</b>	<b>33.5</b>	<b>32.0</b>
<b>Earnings before interest and tax (EBIT)</b>	<b>209.8</b>	<b>193.5</b>	<b>109.6</b>	<b>110.0</b>
Depreciation/amortization effects of purchase price allocation / V2500 stake increase	54.1	45.4	3.4	3.6
IAE stake increase		-9.5		
Impairment loss		34.7		
<b>Earnings before interest, tax and depreciation/amortization (adjusted EBIT)</b>	<b>263.9</b>	<b>264.1</b>	<b>113.0</b>	<b>113.6</b>
<b>Assets</b>	<b>3,944.7</b>	<b>3,649.3</b>	<b>1,036.4</b>	<b>1,023.2</b>
<b>Liabilities</b>	<b>2,819.6</b>	<b>2,723.1</b>	<b>602.6</b>	<b>592.0</b>
<b>Significant non-cash items</b>	<b>87.0</b>	<b>57.1</b>		
<b>Capital expenditure on:</b>				
Intangible assets	150.1	592.8	2.4	8.2
Property, plant and equipment	62.1	67.4	30.3	32.0
<b>Total capital expenditure on intangible assets and property, plant and equipment</b>	<b>212.2</b>	<b>660.2</b>	<b>32.7</b>	<b>40.2</b>
<b>Key segment data:</b>				
EBIT in % of revenues	8.8	9.2	7.9	8.4
Adjusted EBIT in % of revenues	11.0	12.5	8.2	8.7

Detailed explanatory comments on the information disclosed for the operating segments is provided in the following tables and in Part V. of these Notes (Segment Information), together with information on major customers, and an analysis by geographical area. The key indicator used by management to measure the operating performance of each segment is earnings before interest, tax, depreciation and amortization (adjusted EBIT). The contribution to EBIT (earnings before

interest and tax) by associates and joint ventures in the MRO segment accounted for using the equity method amounted to € 1.9 million in the financial year 2013 (2012: € 1.5 million).

Intersegment sales are transacted on an arm's-length basis at normal market transfer prices – no different from those employed in transactions with external third parties.

Other entities / holding company		Total reportable segments		Consolidation / reconciliation		MTU group	
2013	2012	2013	2012	2013	2012	2013	2012
		3,741.7	3,378.6			3,741.7	3,378.6
	24.2	32.1	57.7	-32.1	-57.7		
	<b>24.2</b>	<b>3,773.8</b>	<b>3,436.3</b>	<b>-32.1</b>	<b>-57.7</b>	<b>3,741.7</b>	<b>3,378.6</b>
	<b>24.2</b>	<b>544.8</b>	<b>568.9</b>	<b>5.3</b>	<b>-13.6</b>	<b>550.1</b>	<b>555.3</b>
		72.3	63.2			72.3	63.2
		92.0	86.9			92.0	86.9
			53.7				53.7
		<b>164.3</b>	<b>203.8</b>			<b>164.3</b>	<b>203.8</b>
	-2.7	<b>319.4</b>	<b>300.8</b>	<b>0.4</b>	<b>0.2</b>	<b>319.8</b>	<b>301.0</b>
		57.5	49.0			57.5	49.0
			-9.5				-9.5
			34.7				34.7
	-2.7	<b>376.9</b>	<b>375.0</b>	<b>0.4</b>	<b>0.2</b>	<b>377.3</b>	<b>375.2</b>
	<b>1,121.6</b>	<b>4,981.1</b>	<b>5,794.1</b>	<b>-522.3</b>	<b>-1,527.4</b>	<b>4,458.8</b>	<b>4,266.7</b>
	<b>323.0</b>	<b>3,422.2</b>	<b>3,638.1</b>	<b>-183.7</b>	<b>-465.5</b>	<b>3,238.5</b>	<b>3,172.6</b>
		<b>87.0</b>	<b>57.1</b>				
		152.5	601.0			152.5	601.0
		92.4	99.4			92.4	99.4
		<b>244.9</b>	<b>700.4</b>			<b>244.9</b>	<b>700.4</b>
	-11.2	8.5	8.8			8.5	8.9
	-11.2	10.0	10.9			10.1	11.1

Changes occurred to the operating segments insofar as MTU Aero Engines Holding AG, Munich, and MTU Aero Engines GmbH, Munich, were merged and renamed MTU Aero Engines AG, Munich. The newly created MTU Aero Engines AG is assigned to the OEM segment. In addition, MTU Aero Engines Finance B.V. i.L., Amsterdam, Netherlands, was deconsolidated in 2013. Thus, as of 2013, no companies are

listed any longer under the heading "Other entities/holding company". The layout of the table in this year's Annual Report includes a new column headed "Total reportable segments", which replaces the separate reconciliation tables presented in previous years.

Information on the components of these assets is provided in Part V. (Segment Information).



**Information on revenues derived from products and services**

in € million	2013	2012
<b>Commercial engine business</b>		
Manufacturing	1,822.2	1,532.1
Other products	69.1	71.0
<b>Total commercial engine business</b>	<b>1,891.3</b>	<b>1,603.1</b>
<b>Military engine business</b>		
Manufacturing	288.9	302.1
Other products	211.8	201.2
<b>Total military engine business</b>	<b>500.7</b>	<b>503.3</b>
<b>Total commercial and military engine business (OEM)</b>	<b>2,392.0</b>	<b>2,106.4</b>
<b>Commercial maintenance business (MRO)</b>		
Engine maintenance, repair and overhaul	1,280.4	1,155.0
Other products	101.4	150.7
<b>Total commercial maintenance business (MRO)</b>	<b>1,381.8</b>	<b>1,305.7</b>
<b>Total other products of other entities</b>		<b>24.2</b>
<b>Consolidation</b>	<b>-32.1</b>	<b>-57.7</b>
<b>Group revenues</b>	<b>3,741.7</b>	<b>3,378.6</b>

**INFORMATION ON REVENUES FROM BUSINESS WITH MAJOR CUSTOMERS**

In the reporting period, three major customers each separately accounted for more than 10% of total group revenues. Business with the first customer led to revenues of € 857.5 million (2012: € 712.5 million), with the second € 640.7 million (2012: € 534.8 million) and with the third € 526.2 million (2012: € 464.3 million).

**ANALYSIS BY GEOGRAPHICAL AREA****Revenues according to customer's country of domicile**

in € million	2013	2012
Germany	465.5	484.3
Europe	282.0	252.5
North America	2,538.2	2,232.5
Asia	257.4	273.3
Other regions	198.6	136.0
<b>Total</b>	<b>3,741.7</b>	<b>3,378.6</b>

Approximately 68% (2012: 65%) of MTU's revenues were generated from business with customers in North America.

**Capital expenditure on intangible assets and property, plant and equipment**

in € million	2013	2012
Germany	236.1	143.0
Europe	4.1	548.6
North America	3.6	5.1
Asia	1.1	3.7
Other regions		
<b>Total</b>	<b>244.9</b>	<b>700.4</b>

Approximately 96% (2012: approximately 20%) of the capital expenditure on intangible assets and on property, plant and equipment relates to expenditure by group companies in Germany.

**Non-current assets**

in € million	Dec. 31, 2013	Dec. 31, 2012
Germany	1,935.9	1,770.6
Europe	597.4	613.3
North America	22.9	28.9
Asia	39.9	43.1
Other regions		
<b>Total</b>	<b>2,596.1</b>	<b>2,455.9</b>

The non-current assets comprise intangible assets, property, plant and equipment, financial assets, other non-current assets, and deferred tax assets.

**IMPAIRMENT LOSSES**

No impairment losses were recognized in the financial year 2013. In 2012, the value of F414 program assets was written down by € 19.0 million and the value of JT8D-200 program assets was written down by € 34.7 million, both due to impairment.

**RECONCILIATION OF SEGMENT INFORMATION WITH MTU CONSOLIDATED FINANCIAL STATEMENTS****Reconciliation with MTU consolidated financial statements - Earnings**

in € million	2013	2012
<b>Consolidated earnings before interest and tax (EBIT)</b>	<b>319.8</b>	<b>301.0</b>
Interest income	4.3	2.6
Interest expenses	-17.4	-6.4
Financial result on other items	-41.9	-24.5
<b>Earnings before tax</b>	<b>264.8</b>	<b>272.7</b>

The cash and cash equivalents belonging to the assets of the German group companies are managed centrally by the parent company in a cash pooling system. For this reason, the associated interest income and expense mainly arises in the OEM segment.

# I. ACCOUNTING POLICIES AND PRINCIPLES

## FUNDAMENTALS AND METHODS

MTU Aero Engines AG, Munich, together with its consolidated group of companies (hereinafter referred to as MTU or the MTU group) ranks among the world's largest manufacturers of engine modules and components, and is one of the leading providers of MRO services for commercial aero engines in the world.

The business activities of the MTU group range through the entire lifecycle of an engine program, i.e. from development, construction, testing and production of new commercial and military engines and spare parts, through to maintenance, repair and overhaul of commercial and military engines. MTU divides its activities into two operating segments: the OEM segment (commercial and military engine business) and the MRO segment (commercial maintenance business).

MTU's commercial and military engine business covers the development and production of modules, components and spare parts for engine programs, including final assembly. MTU's military engine business additionally includes maintenance services for these engines. The commercial maintenance business covers activities in the areas of maintenance and logistical support for commercial engines.

The parent company, MTU Aero Engines AG, registered office Dachauer Str. 665, 80995 Munich, Germany, is registered under HRB 157 206 in the commercial registry at the district court of Munich.

The consolidated financial statements were approved for publication by the Executive Board of MTU Aero Engines AG, Munich, on February 7, 2014.

MTU's consolidated financial statements have been drawn up in accordance with International Financial Reporting Standards (IFRSs), such as they apply in the European Union (EU), and the supplementary requirements of Section 315a (1) of the German Commercial Code (HGB). All IFRSs issued by the International Accounting Standards Board (IASB) that were effective at the time these consolidated financial statements were drawn up and that were applied by MTU have been endorsed by the European Commission for use in the EU. MTU's consolidated financial statements thus also comply with the IFRSs issued by the IASB.

The consolidated financial statements and group management report as at December 31, 2013 have been compiled in accordance with Section 315a (1) of the German Commercial Code (HGB) and published in the electronic version of the Federal Gazette (Bundesanzeiger).

The financial year is identical with the calendar year. Comparative data for the previous year are disclosed in the consolidated financial statements.

In the presentation of the balance sheet, a distinction is made between non-current and current assets and liabilities. A more detailed presentation of certain of these items in terms of their timing is provided in the Notes to the consolidated financial statements. The income statement is laid out according to the cost-of-sales accounting format, in which revenues are balanced against the expenses incurred in order to generate these revenues, and the expenses are recorded in the appropriate line items by function: manufacturing, development, selling and general administration. The consolidated financial statements have been compiled in euros. All amounts are stated in millions of euros (€ million), unless otherwise specified.

The financial statements prepared by MTU Aero Engines AG, Munich, and its subsidiaries are included in the consolidated financial statements. Uniform methods of recognition and measurement are applied throughout the group.

### Accounting standards and interpretations, and revised/ amended accounting standards and interpretations, applied for the first time in the financial year 2013

#### New and revised standards and interpretations

Standard	Title
IAS 1	Amendment: Presentation of items of other comprehensive income
IAS 12	Amendment: Deferred tax - recovery of underlying assets
IFRS 1	Amendment: Severe hyperinflation and removal of fixed dates for first-time adopters
IFRS 1	Amendment: Government loans
IFRS 7	Amendment: Offsetting financial assets and financial liabilities
IFRS 13	Fair Value Measurement
IFRIC 20	Stripping Costs in the Production Phase of a Surface Mine
Annual improvements to IFRS 2009 - 2011	IFRS 1 - First-time Adoption of International Financial Reporting Standards IAS 1 - Presentation of Financial Statements IAS 16 - Property, Plant and Equipment IAS 32 - Financial Instruments: Presentation IAS 34 - Interim Financial Reporting

IAS 1 is to be applied in the EU for annual periods beginning on or after July 1, 2012; all other standards, interpretations and revised/amended standards and interpretations are to be applied for annual periods beginning on or after January 1, 2013.

MTU applied IAS 19 in 2012, in advance of its effective date. For a detailed description of the effects of the application of this standard in advance of its effective date, please see the 2012 Annual Report.

The presentation of other comprehensive income in IAS 1 was amended in such a way that separate amounts must now be stated for items that might be reclassified to profit or loss at a future date and for items that will not be reclassified.

The additional disclosure requirements resulting from the amendments to IFRS 7 include the presentation of information on agreements that allow financial assets and liabilities to be offset against one another (e.g. by pledging financial assets as collateral for financial instruments) as part of a legally enforceable framework agreement or other similar contractual arrangements. The amended version of this standard has been applied retroactively, without impact on the consolidated financial statements.

IFRS 13 provides a package of uniform guidelines for measuring and disclosing fair value. The standard defines the concept of fair value, sets down a framework for the measurement of fair value, and prescribes the disclosures on fair value to be made in the Notes to the consolidated financial statements. IFRS 13 has a wide field of application, covering both financial and non-financial items. IFRS 13 is applicable prospectively as of January 1, 2013. For further information on the effects of its application, please refer to Note 32. (Additional disclosures relating to financial instruments). No significant effects were identified in respect of non-financial items.

The application of these standards, interpretations and revised/amended standards and interpretations had no material effect on the presentation of MTU's net assets, financial situation and operating results.

#### **Accounting standards and interpretations, and amended accounting standards and interpretations, issued but not yet applied**

The following new or revised/amended standards and interpretations have been issued, endorsed by the EU, and are effective for annual periods beginning on or after January 1, 2014:

#### **New and revised standards and interpretations**

Standard	Title
IAS 27 (2011)	Separate Financial Statements
IAS 28 (2011)	Investments in Associates and Joint Ventures
IAS 32	Amendment: Offsetting financial assets and financial liabilities
IAS 36	Amendment: Recoverable amount disclosures for non-financial assets
IAS 39	Amendment: Novation of derivatives and continuation of hedge accounting
IFRS 10, 12, IAS 27 (2011)	Amendment: Investment entities
IFRS 10	Consolidated Financial Statements
IFRS 11	Joint Arrangements
IFRS 12	Disclosure of Interests in Other Entities
IFRS 10	Transitional guidance
IFRS 11	Transitional guidance
IFRS 12	Transitional guidance

The following new or revised/amended standards and interpretations have been issued and are effective for annual periods beginning on or after January 1, 2014, or June 1, 2014 in the case of IAS 19, Annual Improvements 2010-2012 and Annual Improvements 2011-2013. However, their application is not yet allowed because they are still awaiting endorsement by the EU:

#### **New and revised standards and interpretations**

Standard	Title
IFRIC 21	Levies (Recognition of liabilities for levies imposed by a government)
IAS 19	Employee Benefits
Annual improvements to IFRS 2010 - 2012	IFRS 2 - Share-based Payment IFRS 3 - Business Combinations IFRS 8 - Operating Segments IFRS 13 - Fair Value Measurement IAS 16 - Property, Plant and Equipment IAS 24 - Related Party Disclosures IAS 38 - Intangible Assets
Annual improvements to IFRS 2011 - 2013	IFRS 1 - First-time Adoption of International Financial Reporting Standards IFRS 3 - Business Combinations IFRS 13 - Fair Value Measurement IAS 40 - Investment Property

The following standard was reissued on November 19, 2013. However, the published version contains no effective date for application. In addition, the project phases have not yet been completed. The earliest application of the standard is expected to be for annual periods beginning on or after January 1, 2017.

#### New and revised standards and interpretations

Standard	Title
IFRS 9 (2010)	Financial Instruments (Classification, recognition and measurement)

MTU does not intend voluntarily to apply any of these standards and interpretations, or any amendments made to them, in advance of their effective date.

In the interests of efficient reporting practice, the following descriptions of standards and interpretations are limited to those that, in view of MTU's business model and on the basis of the currently available knowledge of business transactions within the MTU group, will very probably have an impact on the methods of reporting used in future reporting periods.

#### IFRS 10, Consolidated Financial Statements

IFRS 10 supersedes the previous requirements concerning consolidated financial statements in IAS 27 and concerning special-purpose entities in SIC 12. In IFRS 10, the IASB makes a uniform principle of the concept of control. IFRS 10 states that a company has controlling interest in another entity when all of the following three conditions are met:

- the investor has power over the investee,
- the investor is exposed to, or has rights to, variable returns from its equity interest in the investee, and
- the investor has the ability to use its power to affect the amount of those returns.

The standard also provides comprehensive application guidance. The application of this standard is not expected to have any significant impact on MTU's consolidated financial statements.

#### IFRS 11, Joint Arrangements

IFRS 11, which replaces the previous provisions in IAS 31 and SIC 13, deals with the classification of joint arrangements. A joint arrangement is defined as a contractual arrangement via which two or more parties exercise joint control over another entity. A joint arrangement is either a joint operation or a joint venture. In contrast with IAS 31, the recognition of assets under joint control is no longer addressed separately in IFRS 11 – instead, the rules for joint business activities apply. Whether a joint arrangement is classified as a joint operation or as a joint venture depends on the rights and obligations accruing to the parties under the agreement.

In addition, IFRS 11 stipulates that joint ventures must be accounted for using the equity method, whereas IAS 31 states that either the equity method or the proportionate consolidation method is permissible for the accounting of jointly controlled entities. The first-time adoption of IFRS 11 in the financial year 2014 will thus entail changes in reporting of the joint venture MTU Maintenance Co. Ltd., Zhuhai, China, which was previously accounted for using the proportionate consolidation method. If IFRS 11 were to be applied in the current reporting period, the absence of intra-group consolidation effects would result in a decrease of € 199.3 million in revenues and a decrease of € 26.6 million in gross profit. EBIT would be largely unaffected because the profit/loss of companies accounted for using the equity method flows directly into the operating results of the MTU group and is thus recognized within EBIT. In the balance sheet, the amounts carried for non-current assets would decrease by € 39.9 million, for current assets by € 124.2 million, for non-current debt by € 16.0 million and for current debt by € 64.2 million. The impact on free cash flow would amount to € 13.4 million.

#### IFRS 12, Disclosure of Interests in Other Entities

The IFRS 12 standard concerns disclosures in the notes to financial statements relating to the group accounting process. It is to be applied by companies that hold interests in subsidiaries, joint arrangements (joint operations or joint ventures), associates and/or non-consolidated structured entities. The disclosures required under IFRS 12 are much more extensive than those of the standards currently in force.

**IAS 27 (2011), Separate Financial Statements**

IAS 27 describes the accounting and disclosure requirements for separate financial statements, which relates to statements drawn up by a parent company or an investor with a joint controlling interest in or significant influence over an investee and in which the stake in the investee is accounted for at cost or in accordance with IAS 39 Financial Instruments: Recognition and Measurement or IFRS 9 Financial Instruments.

**IAS 28 (2011), "Investments in Associates and Joint Ventures"**

IAS 28 describes how, with certain limited exceptions, the equity method is to be applied to investments in associates and joint ventures. The standard defines an associate by reference to the concept of "significant influence," which requires power to participate in financial and operating policy decisions of an investee (but not joint control or control of those policies).

**IFRS 9 (2010), Financial Instruments**

IFRS 9, which replaces IAS 39, deals with the recognition, classification and measurement of financial instruments. Application of the new standard is a mandatory requirement for annual periods beginning in 2017. MTU is currently studying its implications.

**Invocation of Section 264 (3) of the German Commercial Code (HGB)**

MTU Maintenance Hannover GmbH, Langenhagen, and MTU Maintenance Berlin-Brandenburg GmbH, Ludwigsfelde, which are consolidated affiliated companies of MTU Aero Engines AG, Munich, and for which the consolidated financial statements of MTU Aero Engines AG, Munich, constitute the exempting consolidated financial statements, have invoked the provisions

of Section 264 (3) of the German Commercial Code (HGB). The official notice of these companies' invocation of the exemption was published in the electronic version of the Federal Gazette (Bundesanzeiger) in the name of MTU Aero Engines GmbH, Munich, on December 16, 2013.

**Notes relating to changes in the reporting of the consolidated financial statements****Treatment of investments accounted for using the equity method**

All joint ventures in which MTU holds a direct interest and until now have been accounted for at cost in the consolidated financial statements will be accounted for using the equity method with effect from the financial year 2013 so as to improve presentation of MTU's financial situation, net assets and operating results. Given the increase in their revenues and earnings, the joint ventures Ceramic Coating Center S.A.S., Paris, France (CCC), Airfoil Services Sdn. Bhd., Kota Damansara, Malaysia (ASSB) and AES Aerospace Embedded Solutions GmbH, Munich (AES), which were until now excluded from consolidation on grounds of immateriality, are accounted for in the consolidated financial statements using the equity method for the first time in 2013. The criterion used by MTU to assess a joint venture's materiality is the relative percentage of its earnings after tax compared with group earnings after tax, taking into account both the individual absolute amounts and the sum of the absolute amounts. The carrying amounts of these investments at January 1, 2012 have been adjusted retrospectively. The adjustments made to the corresponding items in the consolidated balance sheet and in the consolidated income statement as of January 1, 2012 and December 31, 2012 respectively are presented in the following table.

**Consolidated income statement**

in € million	Adjusted amount Jan. 1 - Dec. 31, 2012	Adjustment			Stated amount Jan. 1 - Dec. 31, 2012
		ASSB	CCC	AES	
Revenues	3,378.6				3,378.6
Cost of sales	-2,823.3				-2,823.3
<b>Gross profit</b>	<b>555.3</b>				<b>555.3</b>
Research and development expenses	-113.0				-113.0
Selling expenses	-88.5				-88.5
General administrative expenses	-72.5				-72.5
Other operating income and expenses	5.7				5.7
Profit/loss of companies accounted for using the equity method	2.4	1.5	0.2	-0.3	1.0
Profit/loss of companies accounted for at cost	11.6		-0.5		12.1
<b>Earnings before interest and tax (EBIT)</b>	<b>301.0</b>	<b>1.5</b>	<b>-0.3</b>	<b>-0.3</b>	<b>300.1</b>
Interest income	2.6				2.6
Interest expenses	-6.4				-6.4
Interest result	-3.8				-3.8
Financial result on other items	-24.5				-24.5
<b>Financial result</b>	<b>-28.3</b>				<b>-28.3</b>
<b>Earnings before tax (EBT)</b>	<b>272.7</b>	<b>1.5</b>	<b>-0.3</b>	<b>-0.3</b>	<b>271.8</b>
Income taxes	-97.9				-97.9
<b>Earnings after tax (EAT)</b>	<b>174.8</b>	<b>1.5</b>	<b>-0.3</b>	<b>-0.3</b>	<b>173.9</b>
<b>Earnings per share in €</b>					
Undiluted (EPS)	3.45				3.43
Diluted (DEPS)	3.45				3.43

**Consolidated statement of comprehensive income**

in € million	Adjusted amount Jan. 1 - Dec. 31, 2012	Adjustment			Stated amount Jan. 1 - Dec. 31, 2012
		ASSB	CCC	AES	
<b>Earnings after tax (EAT)</b>	<b>174.8</b>	<b>1.5</b>	<b>-0.3</b>	<b>-0.3</b>	<b>173.9</b>
Translation differences arising from the financial statements of international entities	12.8	-0.1			12.9
Financial instruments designated as cash flow hedges	48.4				48.4
Financial assets classified as "available for sale"	0.1				0.1
<b>Items that may subsequently be recycled to profit or loss</b>	<b>61.3</b>	<b>-0.1</b>			<b>61.4</b>
Actuarial gains and losses on plan assets and pension obligations	-46.1				-46.1
<b>Items that will not be recycled to profit or loss</b>	<b>-46.1</b>				<b>-46.1</b>
<b>Other comprehensive income after tax</b>	<b>15.2</b>	<b>-0.1</b>			<b>15.3</b>
<b>Total comprehensive income</b>	<b>190.0</b>	<b>1.4</b>	<b>-0.3</b>	<b>-0.3</b>	<b>189.2</b>

## Assets – Adjustments as of January 1, 2012

in € million	Adjusted amount Jan. 1, 2012	Adjustment			Stated amount Jan. 1, 2012
		ASSB	CCC	AES	
<b>Non-current assets</b>					
Intangible assets	1,266.3				1,266.3
Property, plant and equipment	584.6				584.6
Financial assets	11.9	-2.3	-2.0		16.2
Financial assets accounted for using the equity method	8.3	4.7	3.6		
Other assets	0.8				0.8
Deferred tax assets	16.3				16.3
<b>Total non-current assets</b>	<b>1,888.2</b>	<b>2.4</b>	<b>1.6</b>		<b>1,884.2</b>
<b>Current assets</b>					
Inventories	823.8				823.8
Trade receivables	605.1				605.1
Construction contract receivables	136.8				136.8
Income tax claims	5.8				5.8
Financial assets	44.1				44.1
Other assets	34.2				34.2
Cash and cash equivalents	198.8				198.8
Prepayments	4.1				4.1
<b>Total current assets</b>	<b>1,852.7</b>				<b>1,852.7</b>
<b>Total assets</b>	<b>3,740.9</b>	<b>2.4</b>	<b>1.6</b>		<b>3,736.9</b>

Equity and liabilities – Adjustments as of January 1, 2012

in € million	Adjusted amount Jan. 1, 2012	Adjustment			Stated amount Jan. 1, 2012
		ASSB	CCC	AES	
<b>Equity</b>					
Subscribed capital	52.0				52.0
Capital reserves	340.9				340.9
Revenue reserves	631.3	2.3	1.6		627.4
Treasury shares	-100.0				-100.0
Other comprehensive income	-63.7	0.1			-63.8
<b>Total equity</b>	<b>860.5</b>	<b>2.4</b>	<b>1.6</b>		<b>856.5</b>
<b>Non-current liabilities</b>					
Pension provisions	513.2				513.2
Other provisions	119.9				119.9
Financial liabilities	53.4				53.4
Other liabilities	127.6				127.6
Deferred tax liabilities	209.3				209.3
<b>Total non-current liabilities</b>	<b>1,023.4</b>				<b>1,023.4</b>
<b>Current liabilities</b>					
Pension provisions	17.8				17.8
Income tax liabilities	10.0				10.0
Other provisions	199.8				199.8
Financial liabilities	208.2				208.2
Trade payables	592.7				592.7
Construction contract payables	715.0				715.0
Other liabilities	113.5				113.5
<b>Total current liabilities</b>	<b>1,857.0</b>				<b>1,857.0</b>
<b>Total equity and liabilities</b>	<b>3,740.9</b>	<b>2.4</b>	<b>1.6</b>		<b>3,736.9</b>



## Assets – Adjustments as of December 31, 2012

in € million	Adjusted amount Dec. 31, 2012	Adjustment			Stated amount Dec. 31, 2012
		ASSB	CCC	AES	
<b>Non-current assets</b>					
Intangible assets	1,774.4				1,774.4
Property, plant and equipment	599.9				599.9
Financial assets	34.7	-2.3	-2.0	-1.2	40.2
Financial assets accounted for using the equity method	31.2	6.1	3.3	0.9	20.9
Other assets	0.1				0.1
Deferred tax assets	15.6				15.6
<b>Total non-current assets</b>	<b>2,455.9</b>	<b>3.8</b>	<b>1.3</b>	<b>-0.3</b>	<b>2,451.1</b>
<b>Current assets</b>					
Inventories	808.8				808.8
Trade receivables	568.5				568.5
Construction contract receivables	183.0				183.0
Income tax claims	13.8				13.8
Financial assets	37.2				37.2
Other assets	33.1				33.1
Cash and cash equivalents	161.2				161.2
Prepayments	5.2				5.2
<b>Total current assets</b>	<b>1,810.8</b>				<b>1,810.8</b>
<b>Total assets</b>	<b>4,266.7</b>	<b>3.8</b>	<b>1.3</b>	<b>-0.3</b>	<b>4,261.9</b>

Equity and liabilities – Adjustments as of December 31, 2012

in € million	Adjusted amount Dec. 31, 2012	Adjustment			Stated amount Dec. 31, 2012
		ASSB	CCC	AES	
<b>Equity</b>					
Subscribed capital	52.0				52.0
Capital reserves	383.2				383.2
Revenue reserves	745.3	3.8	1.3	-0.3	740.5
Treasury shares	-37.9				-37.9
Other comprehensive income	-48.5				-48.5
<b>Total equity</b>	<b>1,094.1</b>	<b>3.8</b>	<b>1.3</b>	<b>-0.3</b>	<b>1,089.3</b>
<b>Non-current liabilities</b>					
Pension provisions	585.3				585.3
Other provisions	72.5				72.5
Financial liabilities	539.0				539.0
Other liabilities	130.4				130.4
Deferred tax liabilities	207.4				207.4
<b>Total non-current liabilities</b>	<b>1,534.6</b>				<b>1,534.6</b>
<b>Current liabilities</b>					
Pension provisions	31.4				31.4
Income tax liabilities	19.8				19.8
Other provisions	182.9				182.9
Financial liabilities	79.9				79.9
Trade payables	583.2				583.2
Construction contract payables	604.0				604.0
Other liabilities	136.8				136.8
<b>Total current liabilities</b>	<b>1,638.0</b>				<b>1,638.0</b>
<b>Total equity and liabilities</b>	<b>4,266.7</b>	<b>3.8</b>	<b>1.3</b>	<b>-0.3</b>	<b>4,261.9</b>

## GROUP REPORTING ENTITY

At December 31, 2013, the MTU group including MTU Aero Engines AG, Munich, comprised 30 companies (2012: 28). These are presented in detail in the list of major shareholdings in Note 38.1.2.

Further information on the changes in the group reporting entity are given later on in this Note. The assets of MTU München Unterstützungskasse GmbH, Munich, are classified as plan assets as defined in IAS 19. The fair value of these plan assets was included in the calculation of the group's defined benefit obligation for pensions. For this reason, MTU München Unterstützungskasse GmbH, Munich, is not consolidated.

## CHANGE IN COMPOSITION OF GROUP REPORTING ENTITY

The number of group companies and equity investments in associated companies and joint ventures included in the consolidated financial statements developed as follows:

Group reporting entity	Germany	International	Total
<b>Shareholdings at December 31, 2011</b>	<b>12</b>	<b>14</b>	<b>26</b>
Acquisitions 2012	1	1	2
<b>Shareholdings at December 31, 2012</b>	<b>13</b>	<b>15</b>	<b>28</b>
Acquisitions 2013		3	3
Disposals 2013	-1		-1
<b>Shareholdings at December 31, 2013</b>	<b>12</b>	<b>18</b>	<b>30</b>

No longer included is MTU Aero Engines GmbH, Munich, which was merged with MTU Aero Engines Holding AG, Munich, and renamed MTU Aero Engines AG, Munich. In addition, after fulfilling its business purpose, MTU Aero Engines Finance B.V. i.L., Amsterdam, Netherlands, was deconsolidated and is currently in liquidation.

As of September 13, 2013, MTU and Japanese enterprise Sumitomo Corporation, one of the world's largest trading companies, set up two new joint ventures with the goal of expanding

their aircraft engine leasing operations together. MTU Maintenance Lease Services B.V., an 80:20 joint venture between MTU and Sumitomo Corporation, is domiciled in Amsterdam, Netherlands, and will provide short- and medium-term leasing arrangements for airlines, MRO companies and lessors. Sumisho Aero Engine Lease B.V., a 90:10 joint venture between Sumitomo Corporation and MTU Aero Engines AG, will focus on providing its customers with long-term leasing arrangements. Both joint ventures still require approval from the respective competition authorities. Part of MTU Maintenance's contribution to the joint ventures will consist in providing Sumitomo with its many years of technical expertise, especially when it comes to the engines types in its own portfolio. In return, with Sumitomo as a risk- and revenue-sharing partner, MTU Maintenance will be able to optimize its leasing business and expand its international sales channels. As of December 31, 2013, MTU held 100% of the shares in MTU Maintenance Lease Services B.V., Amsterdam, while Sumitomo Corporation held 100% of the shares in Sumisho Aero Engine Lease B.V., Amsterdam. As soon as the competition authorities have given their approval, the partners will exchange the relevant shares. MTU Maintenance Lease Services B.V. will be fully consolidated in MTU. In 2013, leasing engines were sold to Sumisho Aero Engine Lease B.V. under the terms of a sale-and-leaseback agreement. This sale did not have any further impact on the consolidated financial statements.

On October 11, 2013, MTU established MTU Maintenance Service Centre Australia Pty. Ltd., Perth, Australia. The company is wholly owned by MTU Aero Engines AG, Munich. Its purpose is the maintenance of industrial gas turbines. The company is assigned to MTU's commercial engine maintenance business.

On November 5, 2013, MTU established MTU Aero Engines Shanghai Ltd., Shanghai, China. The company is wholly owned by MTU Aero Engines AG, Munich, and its purpose is to provide engine services aimed at enhancing the company's market position. It is assigned to MTU's OEM segment (commercial and military engine business).

As MTU Maintenance Service Centre Australia Pty. Ltd., Perth, Australia, and MTU Aero Engines Shanghai Ltd., Shanghai, China, have no significant impact on the MTU group's net assets, financial situation or operating results, they are not consolidated. They are recognized under non-current financial assets with a carrying amount of € 0.1 million.

## SUBSIDIARIES

The consolidated financial statements of MTU Aero Engines AG, Munich, include all significant companies in which MTU Aero Engines AG, Munich, has a controlling interest by virtue of directly or indirectly holding more than 50% of the voting rights in those subsidiaries. There were no changes in the assessment of these controlling interests during the reporting period.

## ASSOCIATED COMPANIES

Associated companies are companies in which MTU has significant powers of control and which are neither subsidiaries nor joint ventures. Entities corresponding to this definition over whose financial and operating policies MTU directly or indirectly exercises significant influence are accounted for using the equity method, or at cost if they have no significant impact on the presentation of MTU's net assets, financial situation or operating results. Significant powers of control are assumed to exist if MTU directly or indirectly owns 20% or more of the voting stock of an entity. The shares in IAE International Aero Engines AG, Zurich, Switzerland, are accounted for using the equity method. There were no changes in the assessment of these associated companies during the reporting period.

## JOINT VENTURES

Joint ventures are companies over which MTU exercises joint control together with another entity. Joint control is assumed to exist if MTU directly or indirectly owns 50% of the voting stock of an entity.

With the exception of MTU Maintenance Zhuhai Co. Ltd., Zhuhai, China, and the indirect investment in MTU Maintenance Hong Kong Ltd., Hong Kong, China, joint ventures are accounted for in the MTU consolidated financial statements using the equity method. There were no changes in the assessment of these joint ventures during the reporting period, other than the adjustments described earlier. Detailed information on the assets, liabilities and earnings of the joint ventures and associated companies is presented in Note 16. (Financial assets).

MTU's holding in the joint venture MTU Maintenance Zhuhai Co. Ltd., Zhuhai, China, is proportionately consolidated at 50%. The following assets, liabilities, expenses and income are recognized in the consolidated financial statements:

### Equity investment in the joint venture MTU Maintenance Zhuhai Co. Ltd., Zhuhai, China

in € million, 50% share	2013	2012
<b>Disclosures relating to the income statement</b>		
Income	201.5	162.3
Expenses	-185.3	-149.9
<b>Balance of income and expenses</b>	<b>16.2</b>	<b>12.4</b>
<b>Disclosures relating to the balance sheet</b>		
Non-current assets	39.9	43.1
Current assets	124.2	110.1
<b>Total assets</b>	<b>164.1</b>	<b>153.2</b>
Equity	83.9	75.9
Non-current liabilities	16.0	2.8
Current liabilities	64.2	74.5
<b>Total equity and liabilities</b>	<b>164.1</b>	<b>153.2</b>

At December 31, 2013, MTU Maintenance Zhuhai Co. Ltd., Zhuhai, China, had a total of 703 employees (December 31, 2012: 641 employees).

## NON-SIGNIFICANT INVESTMENTS

Non-significant investments are shares in companies and stakes in engine programs whose overall impact on the group's net assets, financial situation and operating results is not material. These equity investments are accounted for at cost in the consolidated financial statements.

## RESTRICTIONS

In individual cases, MTU or its subsidiaries may be subject to restrictions on their ability to transfer liquid funds or other assets to other group companies. Such restrictions may stem from regulatory requirements or from contractual agreements between the investors in the individual companies. At the same time, the group companies may be subject to legal or contractual restrictions, e.g. export controls or technology transfer regulations.

## CONSOLIDATION PRINCIPLES

All business combinations are accounted for using the acquisition method as defined in IFRS 3. Under the acquisition method, the acquirer accounts for the business combination by measuring and recognizing the identifiable assets acquired and the liabilities and contingent liabilities assumed. The identifiable assets, liabilities, and contingent liabilities are measured at fair value. In accordance with IAS 36, goodwill is tested for impairment at least annually or at shorter intervals if there is an indication that the asset might be impaired. If the group's interest in the net fair value of the acquired identifiable net assets exceeds the cost of the business combination, that excess (negative goodwill) is immediately recognized in the income statement – after remeasurement as required by IFRS 3.36.

The effects of intragroup transactions are eliminated. When accounting for dealings between entities of the consolidated group, accounts receivable are offset against accounts payable and expenses are offset against income. Internal sales are transacted on the basis of market prices and intragroup profits and losses are eliminated.

In accordance with IAS 12, deferred tax assets and liabilities are recognized on temporary differences arising from the elimination of intragroup profits and losses.

## CURRENCY TRANSLATION

Transactions in foreign currencies are translated to the functional currency using the exchange rate prevailing on the date of the transaction. At the reporting date, monetary items are translated using the exchange rate prevailing at that date, whereas non-monetary items are translated using the exchange rate prevailing on the transaction date. Translation differences are recognized in the income statement. The assets and liabilities of group companies whose functional currency is not the euro are translated from the corresponding local currency to the euro using the closing exchange rate at the reporting date. In the income statements of foreign group companies whose functional currency is not the euro, income and expense items are translated each month using the exchange rate applicable at the end of the month; from these can be derived the average exchange rate for the year. The translation differences arising in this way are recognized in other comprehensive income and do not have any impact on the net profit/loss for the year.

## ACCOUNTING POLICY AND MEASUREMENT METHODS

The financial statements of MTU Aero Engines AG, Munich, and of its subsidiaries are drawn up using uniform accounting policies.

## REVENUES

Revenues from the sale of goods are recognized when goods are delivered to the customer and accepted by the latter – in other words when the significant risks and rewards of ownership of the goods have been transferred to the customer and payment of the purchase price is reasonably certain. The company's customers are risk- and revenue-sharing partners in engine programs, original equipment manufacturers (OEMs), cooperation entities, public-sector contractors, airlines and other third parties.

Revenues from maintenance contracts in the commercial MRO business are recognized when the maintenance service has been performed and the criteria for recognizing revenues have been met. In the case of long-term commercial maintenance agreements and military development and construction contracts, revenues are recognized by reference to the percentage of completion in accordance with IAS 18 and IAS 11. If the outcome of a contract cannot be estimated reliably, the zero-profit method is applied, whereby revenues are recognized only to the extent that contract costs have been incurred and it is probable that those costs will be recovered. Contracts are recognized in the balance sheet under "construction contract receivables" (Note 19. Construction contract receivables) or under "construction contract payables" (Note 30. Construction contract payables). Further explanation of the measurement of percentage of completion is given in connection with work in progress (page 135, Inventories).

Revenues are reported net of trade discounts and concessions and customer loyalty awards.

The group's forward foreign currency contracts satisfy the conditions for applying hedge accounting in accordance with IAS 39. The instruments used to hedge cash flows are measured at fair value, with gains and losses recognized initially under other comprehensive income. They are subsequently recorded as revenues when the hedged item is recognized.

## COST OF SALES

The cost of sales comprises the production-related manufacturing cost of products sold, development services paid, and the cost of products purchased for resale. In addition to direct material and production costs, it also comprises allocated overheads, including amortization/depreciation of the production installations and production-related intangible assets, write-downs on inventories and an appropriate portion of production-related administrative overheads. The cost of sales also includes expenses charged by OEMs for marketing new engines in conjunction with risk- and revenue-sharing partnerships.

## RESEARCH AND DEVELOPMENT EXPENSES

Research costs are charged to expense in the period in which they are incurred.

In the case of development costs, a distinction is drawn between purchased (“externally acquired”) development assets and self-created (“internally generated”) development assets. Services provided as part of externally funded development projects are generally allocated to construction contract receivables on the basis of percentage of completion. Any surplus expense or income remaining after the end of a development project is amortized proportionately over the production phase.

Development costs generated in the context of company-funded R&D projects are capitalized at cost to the extent that they can be attributed directly to the product and on condition that the product’s technical and commercial feasibility has been proved. There must also be reasonable probability that the development activity will generate future economic benefits. The capitalized development costs comprise all costs directly attributable to the development process. Capitalized development costs are amortized over the expected product life cycle from the start of production onwards.

Capitalized development costs for previously capitalized development projects that have not been completed by the end of the financial year are subjected to an impairment test at least once a year. An impairment loss is recognized only if the carrying amount of the capitalized asset exceeds its recoverable amount.

## INTANGIBLE ASSETS

Externally acquired and internally generated intangible assets are recognized in accordance with IAS 38 if it is probable that a future economic benefit associated with the asset will flow to the entity and the cost of the asset can be measured reliably.

Intangible assets with a finite useful life are carried at cost and amortized on a straight-line basis over their useful lives.

Amortization is based on the following useful lives:

### Useful lives of assets (in years)

Program assets including development costs	maximum 30
Program-independent technologies	10
Customer relations	4 - 26
Other intangible assets	3 - 5

Goodwill is apportioned between the cash-generating units (CGUs) for the purpose of impairment testing. Consistent with the distinction made for segment reporting purposes, the OEM segment (commercial and military engine business) and the MRO segment (commercial maintenance business) are viewed as cash-generating units.

## PUBLIC SECTOR GRANTS AND ASSISTANCE

Public sector grants and assistance are recognized in accordance with IAS 20 only if there is reasonable assurance that the conditions attached to them will be complied with and that the grants will be received. Grants are recognized as income over the periods necessary to match them with the related costs that they are intended to compensate. In the case of capital expenditure on property, plant and equipment and on intangible assets, the amount of the public sector grant awarded for this purpose is deducted from the carrying amount of the asset. The grants are then recognized in the income statement using reduced depreciation/amortization amounts over the lifetime of the asset.

## PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment are subject to wear and tear and are carried at their acquisition or construction cost less cumulative depreciation charges and impairment losses. The acquisition and construction costs contain expenses for external services and, in the case of qualifying assets, borrowing costs. The qualifying assets are assigned to an appropriate category once they have been completed or are operational. The revaluation model is not applied. Depreciation on property, plant and equipment is calculated using the linear method in accordance with the useful life of the asset.

Depreciation is based on the following useful lives:

### Useful lives of assets (in years)

Buildings	25 - 50
Lightweight structures	10
Property facilities	10 - 20
Technical equipment, plant and machinery	5 - 10
Operational and office equipment	3 - 15

The depreciation of machines used in multi-shift operation is accelerated by using a higher shift coefficient to take account of additional usage.

The residual values, useful lives and depreciation methods pertaining to property, plant and equipment are regularly assessed for relevance, at least at every reporting date, and adjustments are made where necessary to the estimates used when compiling the financial statements.

The cost of items of self-constructed plant and equipment comprises all directly attributable costs and an appropriate proportion of production-related overheads, including depreciation, pro rata administrative and social security costs, and borrowing costs as applicable.

## BORROWING COSTS

Borrowing costs directly related to the acquisition, construction or production of qualifying assets are added to the acquisition or construction costs of those assets until such time as the assets have been made ready for sale or for their intended use. Qualifying assets are those that require a substantial period of time to be made ready for sale or for their intended use.

In accordance with the requirements of IAS 23, borrowing costs as presented in Note 8. (Interest result) are capitalized only insofar as they relate to the purchase and preparation of qualifying assets for their intended use or sale, and only include activities that commenced on or after January 1, 2009.

Income generated from the interim investment of debt capital raised specifically to pay for qualifying assets is deducted from the recognized borrowing costs.

All other borrowing costs are recognized in the income statement in the period in which they are incurred.

## LEASING

The beneficial ownership of leased assets is attributed to the contracting party in the lease arrangement that bears the substantial risks and rewards associated with ownership of the leased asset. If the lessor retains the substantial risks and rewards (operating lease), the leased asset is recognized in the lessor's balance sheet. The lessee in an operating lease arrangement recognizes lease payments as an expense throughout the duration of the lease arrangement.

If the substantial risks and rewards associated with ownership of the leased asset are transferred to the lessee (finance lease), the leased asset is recognized in the lessee's balance sheet. The leased object is recognized at its fair value as measured at the date of acquisition, or at the present value of future minimum lease payments if lower, and depreciated over its estimated useful life, or the contract duration if shorter. The lessee immediately recognizes a finance lease liability corresponding to the carrying amount of the leased asset. The effective interest rate method is employed to amortize and update the lease liability in subsequent periods.

## IMPAIRMENT LOSSES ON INTANGIBLE ASSETS AND PROPERTY, PLANT AND EQUIPMENT

At each reporting date, an analysis is carried out to reveal any indication that the value of intangible assets or assets of property, plant and equipment might be impaired. If impairment is indicated, the value of the asset in question is assessed on the basis of the recoverable amount.

Assets with an indefinite useful life, intangible assets that are not yet ready for use, and goodwill acquired in connection with a business combination are not subject to amortization, but are instead reviewed for impairment at least once each year.

The impairment loss on intangible assets and property, plant and equipment is determined by comparing the carrying amount with the recoverable amount. The recoverable amount is the higher amount of the fair value of the asset, or of the cash-generating unit, less costs to sell and value in use. The recoverable amount is usually determined using a discounted cash flow (DCF) method. That involves making forecasts of the cash flow that can be generated by the asset or cash-generating unit, and applying a discount rate that takes into account the risks associated with the asset or cash-generating unit. If it is not possible to attribute separate future cash flows to discrete assets that have been generated independently of other assets, then an impairment test must be carried out on the basis of the cash-generating unit to which the asset ultimately belongs.

If the reasons for impairment losses recognized in a prior period no longer exist, the impairment loss on these assets is reversed, except in the case of goodwill.

## NON-CURRENT FINANCIAL ASSETS

Investments in subsidiaries that are neither fully nor proportionately consolidated, investments in associated companies, and other equity investments do not have a significant impact on the MTU group's net assets, financial situation and operating results. Since in most cases it is not possible to reliably measure their fair value because an active market does not exist, these investments are carried at cost – with appropriate adjustments for impairment loss where necessary. Dividend income and shares in the profit/loss of these investments are included in the financial result on other items.

The group's share in the profit or loss of companies accounted for using the equity method is allocated on a pro rata basis to profit/loss and to the corresponding carrying amount of the investment. This profit/loss is reported as a separate line item under "profit/loss of companies accounted for using the equity method."

## INVENTORIES

Raw materials and supplies are measured at the lower of average acquisition cost and net realizable value. Trade discounts and concessions and customer loyalty awards are taken into account when determining acquisition costs. Advance payments for inventories are capitalized. Acquisition cost comprises all direct costs of purchasing and other costs incurred in bringing the inventories to their present location and condition. Net realizable value is the estimated selling price generated in the ordinary course of business for the finished product in question, less estimated costs necessary to make the sale (costs to complete and selling costs).

Work in progress is recognized at the lower of manufacturing cost and net realizable value. Manufacturing cost comprises all production-related expenses based on normal capacity utilization. In addition to direct costs, these include an appropriate and necessary portion of the cost of material and production overheads, including production-related depreciation. Administrative expenses are also included to the extent that they can be attributed to production operations.

The group uses the percentage-of-completion (PoC) method to recognize all construction contracts. If the outcome of a specific construction contract can be estimated reliably, revenues and income are recognized in proportion to the percentage of completion. The percentage of completion is determined as the ratio of contract costs incurred to total contract costs (cost-to-cost method). If the outcome of a contract cannot be estimated reliably, the zero-profit method is applied, whereby revenues are recognized only to the extent that contract costs have been incurred. If settlement has not yet been received for a construction contract, the construction costs – taking profit sharing into account where relevant – are recognized as construction contract receivables in the balance sheet and as revenues arising from construction contracts



in the income statement. These items are defined as the difference between the sum of contract costs incurred and measured up to the reporting date and recorded profits less losses incurred and partial settlements.

If advance payments received from customers are lower than the amount of receivables, the difference is deducted from the amount of construction contract receivables and accounted for as an asset. If the advance payments received are higher than the construction contract receivables, the negative balance of the construction contracts is recognized under construction contract payables. Construction contract receivables and construction contract payables are not offset against one another.

## FINANCIAL INSTRUMENTS

A financial instrument is a contract that simultaneously gives rise to a financial asset in one company and to a financial liability or equity instrument in another company.

## FINANCIAL ASSETS

Financial assets include, in particular, cash and cash equivalents, trade receivables, loans, other receivables, financial investments held to maturity, and non-derivative and derivative financial assets held for trading.

Financial assets are measured in accordance with their classification as per IAS 39. The measurement of a financial asset subsequent to initial recognition depends on whether the financial instrument is “held for trading,” “held to maturity,” “available for sale,” or whether it falls into the “loans and receivables” category. The assignment of an asset to a measurement category is performed at the time of acquisition and is primarily determined by the purpose for which the financial asset is held. No financial assets were reclassified in the financial year 2013 or in prior reporting periods.

At initial recognition, financial assets are measured at their fair value. In the case of financial assets that are not subsequently measured at fair value through profit or loss, the transaction costs directly attributable to the acquisition of the financial asset are included in the initial measurement.

Financial instruments held for trading are measured at fair value through profit or loss. This category primarily includes derivative financial instruments that do not form part of an effective hedging relationship as defined in IAS 39. Any gain or loss resulting from remeasurement is recognized in the income statement.

Financial investments that are intended and expected, with reasonable certainty, to be held to maturity are measured at amortized cost using the effective interest method.

Financial assets classified as loans and receivables are measured at amortized cost less impairment, using the effective interest method where appropriate.

Other non-derivative financial assets are classified as available for sale. These are always measured at fair value. Resulting gains or losses are recognized directly in equity. If it is not possible to reliably measure the fair value of an equity instrument that is not quoted in an active market, the investment is measured at cost (less impairment where appropriate).

## IMPAIRMENT LOSS ON FINANCIAL ASSETS

At each reporting date, the carrying amounts of financial assets that are not measured at fair value through profit or loss are assessed for any indication of impairment.

Examples of such indications include significant financial difficulties of the debtor or a high probability that the debtor will enter bankruptcy or financial reorganization, the closure of an active market, significant changes in technological, economic, legal or market conditions affecting the issuer, or a significant or persistent decline in the fair value of the financial asset below its (amortized) cost. The amount of the impairment loss is recognized in the income statement. If impairment is indicated for “available-for-sale” financial assets, the amounts previously recognized in other comprehensive income are eliminated from equity up to the amount of the assessed impairment loss and recycled to the income statement.

If, in a subsequent period, there is objective evidence that the fair value has increased due to an event occurring after the impairment was originally recognized, the impairment loss is reversed through profit or loss. Impairment losses affecting “available-for-sale” equity instruments and equity instruments not quoted in an active market are not allowed to be reversed through profit or loss until the loss becomes recoverable.

The fair value of securities, which are classified as “held-to-maturity” financial instruments, and the fair value of loans and receivables correspond to the present value of future estimated cash flows discounted at the financial asset’s original effective interest rate. The fair value of equity instruments not quoted in an active market is calculated on the basis of the future estimated cash flows discounted at the current rate consistent with the specific risks to which the investment is exposed.

Impairment loss on trade receivables is sometimes accounted for by means of valuation allowances. The decision whether to account for credit risk by means of an allowance account or by directly recording an impairment loss on receivables depends on the degree of certainty with which the risk situation can be assessed.

## FINANCIAL LIABILITIES

Financial liabilities often entitle the holder to return the instrument to the issuer in return for cash or another financial asset. These include, in particular, bonds and other debts evidenced by certificates, trade payables, liabilities to banks, finance lease liabilities, borrowers’ note loans and derivative financial liabilities.

Financial liabilities are measured at their fair value at the time of acquisition, which is normally equivalent to the net loan proceeds. Transaction costs directly attributable to the acquisition are deducted from the amount of all financial liabilities. If a financial liability is interest-free or bears interest at below the market rate, it is recognized at an amount below the settlement price or nominal value. The financial liability initially recognized at fair value is amortized subsequent to initial recognition using the effective interest method.

## CASH AND CASH EQUIVALENTS

The salient features of cash and cash equivalents, such as current accounts and short-term bank deposits, are that they have a maturity of three months or less from the date of acquisition, and are measured at cost.

## DERIVATIVE FINANCIAL INSTRUMENTS

MTU uses derivative financial instruments as a hedge against currency, interest rate and price risks arising out of its operating activities and financing transactions.

At initial recognition and when measured subsequently, derivative financial instruments are measured at their fair value, using quoted market prices in an active market. If no quoted market prices in an active market are available, the fair value is calculated using recognized actuarial models. The fair value of derivative financial instruments is represented by the amount that MTU would receive or would have to pay at the reporting date when the financial instrument is terminated. This value is calculated on the basis of the relevant exchange rates, interest rates and credit standing of the contractual partners at the reporting date.

## HEDGE ACCOUNTING (HEDGING RELATIONSHIPS)

MTU satisfies the requirements relating to hedging instruments in accordance with IAS 39 to hedge future payment cash flows. This reduces volatility in cash flows that could affect profit or loss. When a hedge is undertaken, the relationship between the financial instrument designated as the hedging instrument and the underlying transaction is documented, as are the risk management objective and strategy for undertaking the hedge. This includes assessing the effectiveness of the hedging instrument used. Existing cash flow hedges are monitored for effectiveness on a regular basis.

Cash flow hedges are used to hedge the exposure of future cash flows arising from underlying transactions to fluctuations in foreign currency exchange rates. When a cash flow hedge is in place, the effective portion of the change in value of the hedging instrument is recognized under other comprehensive income, together with attributable deferred taxes, until such time as the outcome of the hedged transaction is recognized.

The effective hedge is recycled to the income statement as soon as the hedged transaction is recognized in profit or loss. The ineffective portion of the change in value of the hedging instrument is recognized on each reporting date in the financial result.

### **CURRENT AND DEFERRED TAXES**

Current and deferred tax assets and liabilities are recognized in the consolidated financial statements on the basis of the tax laws in force in the relevant tax jurisdictions. Current and deferred tax assets and liabilities are recognized in equity if they relate to business transactions that directly lead to a decrease or increase in equity.

Deferred tax assets and liabilities are established for temporary differences between the tax bases of assets and liabilities used when calculating taxable income and the carrying amount of these assets and liabilities in the consolidated balance sheet ("balance sheet liability method"). Similarly, deferred tax assets are established on tax losses, interest and tax credits available for carry-forward. Deferred tax assets are recognized to the extent of the probability that taxable income will be available against which the deductible temporary difference can be applied together with losses that are permitted to be carried forward for tax purposes and tax refunds. Deferred tax assets and liabilities are measured using the tax rates expected to be applicable on the date when the temporary differences are reversed. Deferred tax assets and liabilities are offset insofar as this meets the requirements of IAS 12.74. Interest in connection with tax payments and refunds for prior periods resulting from tax field audits is recognized under income taxes.

### **PENSION OBLIGATIONS**

Pension provisions are accounted for using the projected unit credit method in accordance with IAS 19. This method takes account not only of pension and other vested benefits known at the reporting date, but also of expected increases in pensions and salaries, applying a conservative assessment of the relevant parameters.

Actuarial gains and losses – from the measurement of the defined benefit obligation (DBO) and the plan assets – may arise either from changes in the actuarial assumptions used or when the actual development diverges from those assumptions. They are recognized in other comprehensive income in the period in which they arise, and are recognized separately in the statement of comprehensive income. Past service cost is recognized directly in profit and loss. Where reinsurance claims exist and the criteria given in IAS 19 are met, these claims are treated as plan assets and netted against the pension obligations. Interest income from plan assets and the interest cost on obligations are recognized under the financial result on other items. Service cost is recognized in the income statement as personnel expenses allocated to the relevant costs by function, while the interest expense on the net debt is recognized as interest expense in the interest result.

### **OTHER PROVISIONS**

Provisions are recognized to cover the cost of legal disputes and claims for damages if the group incurs an obligation from a lawsuit or government investigation or from other claims, if it is likely that an outflow of economic resources will be necessary to fulfill the obligation, and if it is possible to reliably estimate the amount of the obligation. Non-current provisions due in more than one year are measured on the basis of their settlement amount, discounted to the reporting date. The company measures provisions for pending losses on onerous contracts at the lower of the expected costs on settlement of the contract and the expected costs on termination of the contract.

Provisions for pre-retirement part-time working arrangements and long-service awards are measured on the basis of actuarial reports prepared in accordance with IAS 19.

### CONTINGENT LIABILITIES

Contingent liabilities are potential obligations arising from past events whose existence depends on the occurrence or non-occurrence of one or more uncertain future events that are not wholly within the control of MTU.

Contingent liabilities are also obligations for which there is unlikely to be an outflow of economic resources, or where the amount of the obligation cannot be reliably estimated.

Obligations arising from contingent liabilities assumed and identified in connection with an acquisition are recognized if it is possible to reliably determine their fair value. After initial recognition, contingent liabilities are recognized at the higher of the following: the amount that would have been recognized as a provision in accordance with IAS 37, or the originally recognized amount amortized by the actual cash flows.

Negative values of engine programs resulting from the purchase price allocation are or were accounted for as contingent liabilities.

### SHARE-BASED PAYMENT TRANSACTIONS

Under IFRS 2 (Share-based Payment), a distinction is made between payment transactions settled in cash and those settled using equity. In the case of both instruments, the fair value is calculated at the grant date using recognized option pricing models and recognized as a compensation expense over the period during which the beneficiary earns a vested right to the promised instruments. MTU recalculates the fair value of cash-settled commitments at the end of every reporting period and again on the relevant settlement date.

### DIVIDEND PAYMENT AND PROFIT DISTRIBUTION

The claims of shareholders to dividend payments and profit distribution relating to a specific reporting period (financial year) are recognized as a liability in the period in which the corresponding resolution is passed. Disclosures relating to the Executive Board's proposal to the Annual General Meeting concerning the dividend payment are provided in Part VII. of these Notes under the subheading "Proposed profit distribution."

### DISCRETIONARY SCOPE, MEASUREMENT UNCERTAINTIES AND SENSITIVITY

Preparation of the consolidated financial statements in accordance with the IFRSs requires that assumptions and estimations be made that have an impact not only on the amounts of the assets and liabilities, income and expenses, and contingent liabilities, but on how these items are recognized. These assumptions and estimations conform with the circumstances prevailing at the reporting date and, to that extent, also influence the amount of income and expenditure recognized in the financial years presented. The assumptions and estimations relate primarily to the determination of the useful lives of assets that apply group-wide, the calculation of the fair value of financial instruments, the measurement and recognition of provisions, the probability that future tax savings will be realized, and assumptions in connection with impairment tests and the purchase-price allocation.

Actual values may occasionally deviate from the assumed and estimated values. Changes are made when more reliable information becomes available and these have an impact on the figures of the period in which the changes are effected and, where applicable, on subsequent periods.

- Both at initial measurement and remeasurement after initial recognition, the determination of the carrying amount of **intangible assets** and contingent liabilities identified in connection with business combinations as defined in IFRS 3 involves substantial use of forward-looking estimates, due to the long product life cycles. These estimates take into account cash flows, discount rates, future price changes as well as possible contract penalties.
  - Due to the prolonged product life cycle, changes in the applied interest rates have a significant impact on the measurement of engine programs.
  - A sensitivity analysis of the extent of possible consequences of price changes or contract penalties is not sufficiently detailed to assess the consequences of individual events, due to the multitude of sensitivity scenarios and associated high degrees of uncertainty.
  - The measurement of **property, plant and equipment, intangible assets and financial assets** (to the extent that they are accounted for using the equity method or at cost) involves the use of estimations. Judgments by management form the basis for determining the fair value of assets and liabilities and the useful life of assets.
  - In the process of determining impairment losses, estimations are made concerning such parameters as the source, timing and amount of the impairment loss. Many different factors can give rise to an impairment loss, e.g. changes in the competitive situation, expectations concerning the growth of aviation and the aircraft industry, changes in the cost of capital, changes in the future availability of financing funds, aging and obsolescence of technologies, replacement costs, or purchase prices paid in comparable transactions.
  - Estimates are also involved when calculating the **recoverable amounts** for both operating segments and the fair value of assets. They concern the identification and verification of indicated impairments, expected cash flows, relevant discount rates, corresponding useful lives and residual values. In particular, the estimation of cash flows on which the recoverable amounts are based in the case of new engine programs depends on the assumption that it will be possible to raise funds on a continuous basis and that it will be necessary to make continuous ongoing investments. If the demand for engines is slower than expected, this could reduce earnings and cash flows and possibly lead to the recognition of impairment losses.
- These estimations and the method used to obtain them have a significant impact on the recoverable amount determined and on the amount of the impairment loss recognized on goodwill. Reference is made to Note 35. (Sensitivity analysis of goodwill) for a sensitivity analysis of the goodwill of the two operating segments.
- Management creates **allowances for doubtful accounts**. Their judgments are based on the repayment structure of the balance of settlements and past experience with the writing-off of debts, the customer's credit standing, and changes in the conditions of payment. If the customer's financial situation should deteriorate, the volume of the allowances that then have to be created may exceed that of the ones already made.
  - Revenues in the military engine business and in the commercial maintenance business are recognized in progressive stages as the work advances, using the percentage-of-completion method, if it is sufficiently probable that future economic benefits associated with the business will flow to MTU. The percentage of completion is determined by comparing the actual costs up to the reporting date with estimated total contract costs. If the outcome of a construction contract cannot be estimated reliably, revenues are recognized only to the extent that contract costs have been incurred and it is probable that those costs can be recovered. Management regularly reviews all estimations made in connection with these construction contracts, making adjustments where necessary.
  - Revenues from the sale of engine components in the month of December are partially estimated for bookkeeping purposes. These estimations are derived principally from preliminary data supplied by the consortium leaders and from material flow data.

- **Income taxes** must be determined for each tax jurisdiction in which the group operates. Estimates are required when calculating current and deferred taxes. The utilization of deferred tax assets depends on the possibility of generating sufficient taxable income in a particular tax category and tax jurisdiction. A variety of factors are used to assess the probability that it will be possible to utilize deferred tax assets, including past operating results, operating business plans and the periods over which losses can be carried forward. If the actual results deviate from these estimations, or if these estimations have to be adjusted in a future period, this may have detrimental effects on the group's net asset position, financial situation and operating results. If there is a change in the value assessment of deferred tax assets, the latter are to be written down.
- The discount rate is an important factor when determining **the provisions to be allocated for pensions and similar obligations**. The total value of pension obligations and therefore the expenses in connection with employees' retirement benefits are determined using actuarial methods based on assumptions concerning interest rates and life expectancy. If it should become necessary to modify these assumptions, this could have a significant effect on the future amount of pension provisions or the expenses for pensions.
- The recognition and measurement of **other provisions** and **contingent liabilities**, especially in connection with pending legal disputes or other pending claims arising from conciliation or arbitration proceedings, joint committee procedures, government lawsuits or other types of contingent liability, involve substantial estimations on the part of MTU. Similarly, when accounting for aircraft financing agreements, estimations are required concerning the probability that the loans will be realized, the consistency of the terms with market conditions, and the change in value of the pledged securities. The probability that a pending case will be won or that an obligation will arise, or the quantification of the ensuing payment, depends on an accurate evaluation of the prevailing situation. Due to the uncertainties attached to this assessment, the actual losses may deviate from those originally estimated, and hence from the amount of the provision.

All assumptions and estimates are based on the prevailing conditions and judgments made at the reporting date. Any subsequent changes occurring before the financial statements are published are taken into account. Estimations of future business developments also take into account the economic environment of the industry and the regions in which MTU is active, such as are deemed realistic at that time. In order to obtain new information, MTU also relies on the services of external consultants such as actuaries and legal counsels. Changes to the estimations of these obligations can have a significant impact on future operating results.

## II. NOTES TO THE CONSOLIDATED INCOME STATEMENT

### 1. REVENUES

Revenues have developed as follows:

Revenues		
in € million	2013	2012
<b>Commercial engine business</b>		
Manufacturing	1,822.2	1,532.1
Other products	69.1	71.0
<b>Total commercial engine business</b>	<b>1,891.3</b>	<b>1,603.1</b>
<b>Military engine business</b>		
Manufacturing	288.9	302.1
Other products	211.8	201.2
<b>Total military engine business</b>	<b>500.7</b>	<b>503.3</b>
<b>Total commercial and military engine business (OEM)</b>	<b>2,392.0</b>	<b>2,106.4</b>
<b>Commercial maintenance business (MRO)</b>	<b>1,381.8</b>	<b>1,305.7</b>
<b>Other entities / consolidation</b>	<b>-32.1</b>	<b>-33.5</b>
<b>Total revenues</b>	<b>3,741.7</b>	<b>3,378.6</b>

A more detailed presentation of revenues, with tables showing external and intersegment revenues, their derivation from products and services and their attribution to major customers, is provided in the section preceding these Notes, under "Reporting by operating segment." Additional information can be found in the section "Operating results" of the group management report.

### 2. COST OF SALES

Cost of sales		
in € million	2013	2012
Cost of materials	-2,535.7	-2,293.1
Personnel expenses	-439.9	-420.1
Depreciation and amortization	-149.9	-181.8
Other cost of sales	-66.1	71.7
<b>Total cost of sales</b>	<b>-3,191.6</b>	<b>-2,823.3</b>

The decrease in depreciation and amortization expenses included in cost of sales and other costs by function compared with the previous year is due to valuation allowances created in 2012. For a detailed presentation of these valuation allowances, please refer to the tables following the consolidated financial statements (Reporting by operating segment).

The item "Other cost of sales" mainly comprises changes in inventories for work in progress, the effect of translation differences, and changes in provisions. The reported changes compared with 2012 are due to provisions and liabilities recognized in connection with the production ramp-up for new engine programs. An amount of € 81.8 million was recognized under cost of sales to account for the amortized measurement of contingent liabilities arising from business combinations and the corresponding debt expense. Income resulting from the use of valuation allowances to account for impairment of construction contract receivables in respect of the TP400-D6 program (amount utilized € 37.0 million) was also recognized.

In the first half of 2013, MTU launched the WOC@MTU project with the aim of optimizing inventory levels. This included a detailed analysis of inventories associated with individual engine programs compared with their net realizable value. Between 2012 and 2013, write-downs on inventories decreased by € 28.5 million. A more detailed presentation of inventories, including write-downs, is provided in Note 17. (Inventories).

### 3. RESEARCH AND DEVELOPMENT EXPENSES

Research and development expenses, defined as company-funded research and development expenditure less capitalized development costs, developed as follows:

Research and development expenses		
in € million	2013	2012
Cost of materials	-69.0	-71.6
Personnel expenses	-68.5	-78.0
Depreciation and amortization	-5.3	-11.1
<b>Company-funded research and development expenditure</b>	<b>-142.8</b>	<b>-160.7</b>
of which the following amounts were capitalized:		
Development costs (OEM)	48.9	46.9
Development costs (MRO)	0.7	0.8
<b>Capitalized development costs</b>	<b>49.6</b>	<b>47.7</b>
<b>Research and development costs recognized as expense</b>	<b>-93.2</b>	<b>-113.0</b>



## 4. SELLING EXPENSES

### Selling expenses

in € million	2013	2012
Cost of materials	-15.2	-13.1
Personnel expenses	-56.3	-53.5
Depreciation and amortization	-2.4	-3.7
Other selling expenses	-13.8	-18.2
<b>Total selling expenses</b>	<b>-87.7</b>	<b>-88.5</b>

Selling expenses comprise expenses for advertising and marketing, expenses in connection with air shows, trade fairs and exhibitions, media relations expenses, and valuation allowances and write-downs on trade receivables.

## 5. GENERAL ADMINISTRATIVE EXPENSES

### General administrative expenses

in € million	2013	2012
Cost of materials	-7.1	-7.6
Personnel expenses	-44.3	-50.0
Depreciation and amortization	-6.7	-7.2
Other administrative expenses	-7.7	-7.7
<b>Total general administrative expenses</b>	<b>-65.8</b>	<b>-72.5</b>

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

## 6. OTHER OPERATING INCOME AND EXPENSES

### Other operating income and expenses

in € million	2013	2012
<b>Income</b>		
Gains from the disposal of intangible assets and property, plant and equipment	7.3	0.4
Reimbursement of insurance claims	0.7	0.8
Rental income from		
property owned by MTU	2.4	1.4
sublet property owned by third parties	0.8	0.8
Sundry other operating income	4.9	5.1
<b>Total other operating income</b>	<b>16.1</b>	<b>8.5</b>
<b>Expenses</b>		
Losses from the disposal of intangible assets and property, plant and equipment	-0.6	-0.5
Rental payments for sublet property	-0.8	-0.8
Expenses associated with insurance claims	-1.9	-0.7
Sundry other operating expenses	-0.2	-0.8
<b>Total other operating expenses</b>	<b>-3.5</b>	<b>-2.8</b>
<b>Balance of other operating income and expenses</b>	<b>12.6</b>	<b>5.7</b>

The increase in gains from the disposal of intangible assets and property, plant and equipment results from the sale of lease engines to Sumisho Aero Engine Lease B.V., Amsterdam, Netherlands under a sale-and-leaseback agreement. For more detailed information on MTU's relationship with Sumisho Aero Engine Lease B.V., Amsterdam, Netherlands, please refer to Part I. of these Notes, which deals with accounting policies and principles, under the heading "Change in composition of group reporting entity."



The MTU group does not hold any investment property. An insignificant part of the buildings recognized under property, plant and equipment is rented out to external third parties.

In 2013, as in the previous year, other operating income did not include any government grants.

## 7. PROFIT/LOSS OF COMPANIES ACCOUNTED FOR USING THE EQUITY METHOD OR AT COST

In the financial year 2013, the profit/loss of companies accounted for using the equity method comprised MTU's share of the profit of IAE International Aero Engines AG, Zurich, Switzerland, Ceramic Coating Center S.A.S., Paris, France, Airfoil Services Sdn. Bhd., Kota Damansara, Malaysia, and AES Aerospace Embedded Solutions GmbH, Munich, Germany. As in 2012, the profit/loss of Pratt & Whitney Canada Service Centre Europe GmbH, Ludwigsfelde, which is also accounted for using the equity method, was not recognized in the financial year 2013 because this asset has already been written down to zero, in particular owing to the liability for tax risks that was assumed in 2010.

The profit/loss of related companies accounted for at cost amounted to € 2.1 million (2012: € 11.6 million including an amount of € 9.5 million resulting from remeasurement of the former IAE shares).

<b>Profit / loss of companies accounted for using the equity method / at cost</b>		
in € million	2013	2012
<b>Profit / loss of companies accounted for using the equity method</b>		
IAE International Aero Engines AG, Zurich, Switzerland	0.3	1.0
Other companies accounted for using the equity method	1.4	1.4
<b>Total profit / loss of companies accounted for using the equity method</b>	<b>1.7</b>	<b>2.4</b>
<b>Profit / loss of companies accounted for at cost</b>		
Military program coordination and management companies	0.4	0.5
Other related companies	1.7	11.1
<b>Total profit / loss of companies accounted for at cost</b>	<b>2.1</b>	<b>11.6</b>

## 8. INTEREST RESULT

<b>Interest result</b>		
in € million	2013	2012
<b>Interest income</b>	<b>4.3</b>	<b>2.6</b>
Interest expense on		
Corporate bonds	-10.0	-4.1
Convertible bond		-0.4
Liabilities to banks	-2.3	-3.0
Finance lease agreements	-0.4	-0.2
Transactions with non-consolidated companies		-0.1
Other interest expenses	-7.4	-0.8
Capitalized borrowing costs for qualifying assets	2.7	2.2
<b>Interest expenses</b>	<b>-17.4</b>	<b>-6.4</b>
<b>Interest result</b>	<b>-13.1</b>	<b>-3.8</b>
Thereof: on financial instruments classified in accordance with IAS 39 as:		
Loans and receivables	4.3	2.2
Available-for-sale financial assets	0.1	0.3
Financial instruments measured at amortized cost	-17.5	-6.4
Financial instruments not within the scope of IFRS 7 or IAS 39	0.5	1.1

The interest expense on bonds in 2013 covers interest payments for the full 12-month period, whereas the comparative amount for 2012 only covers interest payments for a period of approximately 6 months, because the new registered bond was issued in June 2012. The increase in other interest expenses is mainly attributable to the extension of the group's borrowing facilities, on which further information is provided in Note 28. (Financial liabilities).

Interest income on financial instruments not within the scope of IFRS 7 or IAS 39 amounted to € 0.5 million (2012: € 1.1 million) and related to cash and cash equivalents.

In the financial year 2013, borrowing costs in the amount of € 2.7 million (2012: € 2.2 million) were capitalized, thus reducing the net interest expense. The amount recognized is based on an interest rate of 3.95% (2012: 4.90%). Where the borrowing costs can be directly attributed to a specific qualifying asset, the actual amount of those borrowing costs is capitalized.

## 9. FINANCIAL RESULT ON OTHER ITEMS

The financial result on other items deteriorated in the financial year 2013. The net expense increased by € 17.4 million to € -41.9 million (2012: € -24.5 million). The main factors responsible for this change were lower fair value gains on derivatives, which decreased from € 17.9 million in 2012 to € 11.4 million in 2013, and the interest portion included in the measurement of receivables, provisions other than pension provisions, liabilities and advance payments from customers, which amounted to € 27.0 million (2012: € 11.6 million).

### Financial result on other items

in € million	2013	2012
Effects of currency translation: exchange rate gains / losses on		
Currency holdings	-4.8	-1.2
Financing transactions	0.6	
Finance leases	0.1	0.1
Fair value gain / losses on derivatives		
Currency and interest rate derivatives	12.1	18.6
Forward commodity sales contracts	-0.7	-0.7
Interest portion included in measurement of assets and liabilities		
Pension provisions	-19.9	-24.2
Contingent liabilities	-2.3	-5.8
Receivables, other provisions, plan assets, liabilities and advance payments from customers	-27.0	-11.6
Financial result on sundry other items		0.3
<b>Financial result on other items</b>	<b>-41.9</b>	<b>-24.5</b>
Thereof: on financial instruments classified in accordance with IAS 39 as		
Financial assets at fair value through profit or loss - held for trading	18.6	40.4
Financial liabilities at fair value through profit or loss - held for trading	-7.2	-22.2

The financial result on other items includes all income and expense components of financial instruments classified as “held for trading” in accordance with IAS 39.

## FAIR VALUE GAINS / LOSSES ON DERIVATIVES

The fair value measurement of currency and interest rate derivatives resulted in fair value gains of € 12.1 million (2012: € 18.6 million). The collective forward transactions concluded with German banks had an effect on this result. More detailed information on these transactions is given in Note 36.2. (Market risks).

## INTEREST PORTION INCLUDED IN MEASUREMENT OF ASSETS AND LIABILITIES

Expenses from the unwinding of discount on pension provisions amounted to € 19.9 million. This is lower than the previous year's level (2012: € 24.2 million) due to the reduced discount rate applied in respect of the financial year 2013. A net expense of € 27.0 million (2012: € 11.6 million) was recognized for the interest portion included in the measurement of receivables accounted for at amortized cost, other provisions, plan assets, liabilities and advance payments from customers.

## 10. INCOME TAXES

Recognized income taxes comprise current income taxes paid or payable in the countries in which the group operates, and deferred tax income or expense, including interest in connection with tax payments and refunds for prior periods resulting from tax field audits.

### Analysis of current and deferred tax expense

in € million	2013	2012
Tax expense incurred in current period	-103.2	-89.7
Tax expense (-) / income incurred in prior periods	-22.0	0.9
<b>Current tax expense</b>	<b>-125.2</b>	<b>-88.8</b>
Deferred tax expense (-) / income resulting from temporary differences	8.7	-10.5
Deferred tax income resulting from tax credits	24.1	1.4
<b>Deferred tax income / expense (-)</b>	<b>32.8</b>	<b>-9.1</b>
<b>Recognized tax expense</b>	<b>-92.4</b>	<b>-97.9</b>

The tax expense for prior periods includes interest payments amounting to € 16.4 million.

## TAX RECONCILIATION

As a basic principle, deferred tax assets and liabilities are measured using the tax rates that are expected to apply to the period when the asset is realized or the liability is settled, based on current tax legislation in the countries concerned.

In the financial year 2013, the tax assets and liabilities of the German entities were measured using an income tax rate of 32.6% (2012: 32.6%). This rate comprises the uniform corporate tax rate of 15.0%, a solidarity surcharge of 5.5% on the calculated corporation tax expense, and an average municipal trade tax rate of 16.8%.

The tax assets and liabilities of companies outside Germany were measured using the relevant tax rates for the country in question, which range between 15% and 39%.

Information on changes in deferred tax assets and liabilities is provided in Note 33. (Deferred tax assets and liabilities).

Reconciliation of expected tax expense to recognized tax expense:

Tax reconciliation		
in € million	2013	2012
Earnings before tax	264.8	272.7
Income tax rate (including municipal trade tax)	32.6%	32.6%
<b>Expected tax expense</b>	<b>-86.3</b>	<b>-88.9</b>
Impact of		
Recognition and measurement adjustments and write-downs on deferred tax assets	-8.8	0.9
Non-tax-deductible expenses and tax-exempt income	-1.2	
Lower tax rate for companies outside Germany	0.1	-15.2
Investments accounted for using the equity method	0.5	0.6
Tax field audit	-22.0	0.9
Tax credits available for carry-forward	27.0	1.4
Change in tax rate for MTU Maintenance Zhuhai	-1.5	
Other impacts	-0.2	2.4
<b>Recognized tax expense</b>	<b>-92.4</b>	<b>-97.9</b>
Effective tax rate	34.9%	35.9%

## 11. EARNINGS PER SHARE

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

In 2013, earnings after tax amounted to € 172.4 million (2012: € 174.8 million). The potential dilutive effect of the Share Matching Plan is negligible.

In 2013, the weighted average number of outstanding shares was 50,807,378 (2012: 50,695,186 shares). A further 19,048 shares (2012: 21,187 shares) could potentially be issued through the Share Matching Plan as part of the deferred share-based compensation for members of the Executive Board.

Based on these parameters, undiluted earnings per share amounted to € 3.39 in 2013 (2012: € 3.45), and diluted earnings per share were no different, at € 3.39 (2012: € 3.45).

## 12. ADDITIONAL DISCLOSURES RELATING TO THE INCOME STATEMENT

After adjustments to eliminate the effect of purchase price allocation in connection with the acquisition of the group companies, and of non-recurring items, and after addition of depreciation/amortization and impairment losses, the following intermediate results are obtained:

Reconciliation of EBIT to adjusted EBIT, depreciation / amortization expense and non-recurring items		
in € million	2013	2012
<b>Earnings before interest and tax (EBIT)</b>	<b>319.8</b>	<b>301.0</b>
+ Depreciation/amortization effect of purchase price allocation / V2500 stake increase		
Intangible assets	56.3	47.3
Property, plant and equipment	1.2	1.7
+ Impairment loss on:		
Intangible assets		34.7
<b>Total depreciation / amortization expense and impairment losses</b>	<b>57.5</b>	<b>83.7</b>
+ IAE stake increase		-9.5
<b>Adjusted EBIT</b>	<b>377.3</b>	<b>375.2</b>

Costs by function include the following personnel expenses items:

**Personnel expenses**

in € million	2013	2012
Wages and salaries	496.0	493.8
Social security, pension and other benefit expenses	98.9	90.8
<b>Total personnel expenses</b>	<b>594.9</b>	<b>584.6</b>

Pension benefits account for € 15.6 million (2012: € 11.2 million) of these expenses. Other social security expenses amounted to € 83.3 million (2012: € 79.6 million).

The average number of persons employed during the financial year 2013 breaks down as follows:

**Disclosures relating to the average number of employees**

Average number of	2013	2012
Industrial staff	3,741	3,603
Administrative staff	3,791	3,785
Employees on temporary contracts	493	460
Trainees	345	326
Students on work experience projects	259	250
<b>Total average number of employees</b>	<b>8,629</b>	<b>8,424</b>

Costs by function include the following cost-of-materials items:

**Cost of materials**

in € million	2013	2012
Cost of raw materials and supplies	1,069.1	985.4
Cost of purchased services	1,475.1	1,349.3
<b>Total cost of materials</b>	<b>2,544.2</b>	<b>2,334.7</b>

The fees charged in the financial year 2013 by the accounting firm Deloitte & Touche GmbH Wirtschaftsprüfungsgesellschaft for services that include the auditing of the consolidated financial statements amounted to a total of € 1.0 million (2012: € 1.1 million). The separate items are presented below in accordance with Section 314(1) no. 9 of the German Commercial Code (HGB).

**Fees paid to the auditor**

in € million	2013	2012
Financial statement auditing services	0.6	0.6
Tax consulting services	0.3	0.3
Other independent auditing services	0.1	0.2
<b>Total fees paid to the auditor</b>	<b>1.0</b>	<b>1.1</b>

The expense item “Financial statement auditing services” includes all fees paid to the external auditor for the auditing of the separate financial statements of MTU’s consolidated group companies.

The expense for tax consulting services mainly comprises services rendered to expatriated MTU employees on international assignments outside Germany. The item “Other independent auditing services” primarily relates to the auditing of the group’s interim financial reports.

### III. NOTES TO THE CONSOLIDATED BALANCE SHEET

#### 13. ANALYSIS OF CHANGES IN INTANGIBLE ASSETS, PROPERTY, PLANT AND EQUIPMENT, AND FINANCIAL ASSETS 2013

##### Cost of acquisition and construction 2013

in € million	Balance at Jan. 1, 2013	Translation differences	Additions	Transfers	Disposals	Balance at Dec. 31, 2013
Program assets	1,457.0	-10.9	97.0		-1.8	1,541.3
Program-independent technologies	124.7					124.7
Customer relations	68.6	-0.2				68.4
Rights and licenses	94.0	-0.9	3.4	9.6	-2.1	104.0
Goodwill	406.3	-0.4				405.9
Prepayments on intangible assets	8.9			-8.8	-0.1	
Development costs	173.7		52.1			225.8
<b>Intangible assets</b>	<b>2,333.2</b>	<b>-12.4</b>	<b>152.5</b>	<b>0.8</b>	<b>-4.0</b>	<b>2,470.1</b>
Land, leasehold rights and buildings, including buildings on non-owned land	416.2	-1.5	8.2	2.0	-0.7	424.2
Technical equipment, plant and machinery	472.3	-2.2	15.8	24.5	-7.0	503.4
Other equipment, operational and office equipment	348.8	-0.9	63.8	6.6	-33.4	384.9
Advance payments and construction in progress	50.3	-0.1	36.5	-33.9	-0.2	52.6
<b>Property, plant and equipment</b>	<b>1,287.6</b>	<b>-4.7</b>	<b>124.3</b>	<b>-0.8</b>	<b>-41.3</b>	<b>1,365.1</b>
Investments in subsidiaries	0.7		4.4			5.1
Investments in associated companies	21.3	-1.8	0.3			19.8
Equity investments in joint ventures	10.3	-0.7	2.3		-1.2	10.7
Other equity investments	4.4					4.4
Loans to joint ventures			1.7			1.7
Other loans			15.2			15.2
<b>Financial assets<sup>1)</sup></b>	<b>36.7</b>	<b>-2.5</b>	<b>23.9</b>		<b>-1.2</b>	<b>56.9</b>
<b>Total</b>	<b>3,657.5</b>	<b>-19.6</b>	<b>300.7</b>	<b>0.0</b>	<b>-46.5</b>	<b>3,892.1</b>

<sup>1)</sup> Accounted for using the equity method or at cost.

**Depreciation / amortization and carrying amount 2013**

in € million	Balance at Jan. 1, 2013	Translation differences	Depre- ciation/ amor- tization	Disposals	Balance at Dec. 31, 2013	Carrying amount Dec. 31, 2013
Program assets	341.9		46.6	-1.6	386.9	1,154.4
Program-independent technologies	112.2		12.5		124.7	
Customer relations	35.0		2.9		37.9	30.5
Rights and licenses	66.4	-0.7	8.7	-2.0	72.4	31.6
Goodwill						405.9
Prepayments on intangible assets						
Development costs	3.3		1.6		4.9	220.9
<b>Intangible assets</b>	<b>558.8</b>	<b>-0.7</b>	<b>72.3</b>	<b>-3.6</b>	<b>626.8</b>	<b>1,843.3</b>
Land, leasehold rights and buildings, including buildings on non-owned land	93.7	-0.4	12.8	-0.1	106.0	318.2
Technical equipment, plant and machinery	351.8	-1.2	36.7	-4.9	382.4	121.0
Other equipment, operational and office equipment	242.2	-0.5	42.5	-29.9	254.3	130.6
Advance payments and construction in progress						52.6
<b>Property, plant and equipment</b>	<b>687.7</b>	<b>-2.1</b>	<b>92.0</b>	<b>-34.9</b>	<b>742.7</b>	<b>622.4</b>
Investments in subsidiaries						5.1
Investments in associated companies						19.8
Equity investments in joint ventures						10.7
Other equity investments						4.4
Loans to joint ventures						1.7
Other loans						15.2
<b>Financial assets<sup>1)</sup></b>						<b>56.9</b>
<b>Total assets</b>	<b>1,246.5</b>	<b>-2.8</b>	<b>164.3</b>	<b>-38.5</b>	<b>1,369.5</b>	<b>2,522.6</b>

<sup>1)</sup> Accounted for using the equity method or at cost.

## ANALYSIS OF CHANGES IN INTANGIBLE ASSETS, PROPERTY, PLANT AND EQUIPMENT, AND FINANCIAL ASSETS 2012

### Cost of acquisition and construction 2012

in € million	Balance at Jan. 1, 2012	Translation differences	Additions	Transfers	Disposals	Balance at Dec. 31, 2012
Program assets	892.3	23.3	541.4			1,457.0
Program-independent technologies	124.7					124.7
Customer relations	68.6					68.6
Rights and licenses	89.6	0.5	4.7	2.9	-3.7	94.0
Goodwill	406.5	-0.2				406.3
Prepayments on intangible assets	5.5		5.6	-1.8	-0.4	8.9
Development costs	124.4		49.3			173.7
<b>Intangible assets</b>	<b>1,711.6</b>	<b>23.6</b>	<b>601.0</b>	<b>1.1</b>	<b>-4.1</b>	<b>2,333.2</b>
Land, leasehold rights and buildings, including buildings on non-owned land	384.6	2.1	12.7	16.8		416.2
Technical equipment, plant and machinery	436.0	1.8	17.0	21.1	-3.6	472.3
Other equipment, operational and office equipment	313.7	0.5	37.1	11.1	-13.6	348.8
Advance payments and construction in progress	67.6	0.2	32.6	-50.1		50.3
<b>Property, plant and equipment</b>	<b>1,201.9</b>	<b>4.6</b>	<b>99.4</b>	<b>-1.1</b>	<b>-17.2</b>	<b>1,287.6</b>
Investments in subsidiaries	0.5		0.2			0.7
Investments in associated companies	0.4		20.8	0.1		21.3
Equity investments in joint ventures	8.3	-0.1	2.6		-0.5	10.3
Other equity investments	4.5			-0.1		4.4
Other loans						
<b>Financial assets<sup>1)</sup></b>	<b>13.7</b>	<b>-0.1</b>	<b>23.6</b>		<b>-0.5</b>	<b>36.7</b>
<b>Total assets</b>	<b>2,927.2</b>	<b>28.1</b>	<b>724.0</b>	<b>0.0</b>	<b>-21.8</b>	<b>3,657.5</b>

<sup>1)</sup> Accounted for using the equity method or at cost.

**Depreciation/amortization and carrying amount 2012**

in € million	Balance at Jan. 1, 2012	Translation differences	Depre- ciation/ amor- tization	Transfers	Disposals	Balance at Dec. 31, 2012	Carrying amount Dec. 31, 2012
Program assets	249.7	0.1	38.4	53.7		341.9	1,115.1
Program-independent technologies	99.7		12.5			112.2	12.5
Customer relations	32.1		2.9			35.0	33.6
Rights and licenses	61.9	0.2	8.0		-3.7	66.4	27.6
Goodwill							406.3
Prepayments on intangible assets							8.9
Development costs	1.9		1.4			3.3	170.4
<b>Intangible assets</b>	<b>445.3</b>	<b>0.3</b>	<b>63.2</b>	<b>53.7</b>	<b>-3.7</b>	<b>558.8</b>	<b>1,774.4</b>
Land, leasehold rights and buildings, including buildings on non-owned land	81.4	0.2	12.1			93.7	322.5
Technical equipment, plant and machinery	318.8	0.2	36.3		-3.5	351.8	120.5
Other equipment, operational and office equipment	217.1	0.1	38.5		-13.5	242.2	106.6
Advance payments and construction in progress							50.3
<b>Property, plant and equipment</b>	<b>617.3</b>	<b>0.5</b>	<b>86.9</b>		<b>-17.0</b>	<b>687.7</b>	<b>599.9</b>
Investments in subsidiaries							0.7
Investments in associated companies							21.3
Equity investments in joint ventures							10.3
Other equity investments							4.4
Other loans							
<b>Financial assets<sup>1)</sup></b>							<b>36.7</b>
<b>Total assets</b>	<b>1,062.6</b>	<b>0.8</b>	<b>150.1</b>	<b>53.7</b>	<b>-20.7</b>	<b>1,246.5</b>	<b>2,411.0</b>

<sup>1)</sup> Accounted for using the equity method or at cost.



## 14. INTANGIBLE ASSETS

Intangible assets mainly comprise program assets capitalized as part of the purchase price allocation, program-independent technologies and software (the latter mostly for engineering applications), and acquired goodwill.

In the financial year 2013, additions to intangible assets totaled € 152.5 million (2012: € 601.0 million). The main additions to program-related assets are as follows:

### Capitalized, program-related intangible assets

in € million	Additions 2013			Additions 2012		
	Externally acquired	Internally generated	Total	Externally acquired	Internally generated	Total
V2500-IAE				541.1		541.1
PW1133G	16.5	23.6	40.1	16.8	24.2	41.0
PW1524G	27.6	4.9	32.5			
PW1700G / PW1900G	71.1		71.1			
GE38		4.7	4.7		7.8	7.8
<b>Intangible assets</b>	<b>115.2</b>	<b>33.2</b>	<b>148.4</b>	<b>557.9</b>	<b>32.0</b>	<b>589.9</b>

The amortization expense (2012: amortization expense and impairment loss) on intangible assets is included in the following line items at the following amounts: cost of sales € 64.2 million (2012: € 102.6 million), research and development expenses € 2.3 million (2012: € 7.1 million), selling expenses € 1.2 million (2012: € 2.5 million), and general administrative expenses € 4.6 million (2012: € 4.7 million). Significant intangible assets are program assets for which the cost of acquisition and construction exceeds € 100 million. They are amortized on a straight-line basis over a period of 25-30 years.

## 15. PROPERTY, PLANT AND EQUIPMENT

Through its capital expenditure on property, plant and equipment, MTU aims to consolidate and extend its position as a leading engine manufacturer, improve efficiency, and modernize equipment and machinery to state-of-the-art standards.

In the financial year 2013, the group's total capital expenditure on property, plant and equipment amounted to € 92.4 million (2012: € 99.4 million). The depreciation expense on property, plant and equipment is included in the presentation of the following line items: cost of sales € 85.7 million (2012: € 79.2 million), research and development expenses € 3.0 million (2012: € 4.0 million), selling expenses € 1.2 million (2012: € 1.2 million), and general administrative expenses € 2.1 million (2012: € 2.5 million).

Additions to land, leasehold rights and buildings, including buildings on non-owned land, in the financial year 2013 amount-

ed to € 8.2 million (2012: € 12.7 million) and relate mainly to the newly leased warehouse facilities in Hannover.

Capital expenditure on technical equipment, plant and machinery totaling € 15.8 million (2012: € 17.0 million) relates mainly to the purchase of CNC lathes and CNC grinding/milling machines.

The capital expenditure on other equipment, operational and office equipment primarily comprises special tools and equipment, fixtures and other tools, particularly those required for the ramp-up of new programs.

For the first time in 2013, assets were also recognized under property, plant and equipment for compliance test engines. These are engines used in flight tests of an airframe and engine combination for the purpose of testing and optimizing the performance of the system as a whole, according to the specified requirements. Whereas in the past these engines were usually offered for sale after testing and therefore accounted for under current assets, nowadays they tend to be kept for longer by the OEM, airframe manufacturer or airline, and are often subsequently transferred to the engine lease pool. For this reason, an amount of € 31.9 million was transferred in 2013 from current assets to property, plant and equipment (non-current assets).

Additions to advance payments and construction in progress in the current financial year amounting to € 36.5 million (2012: € 32.6 million) relate mainly to work in progress on special tools and equipment, especially for new engine programs.

Capitalized assets under finance lease agreements are based on the following components:

**Lease payments under finance lease agreements**

in € million	2013	2012
<b>Lease payments</b>		
due in less than one year	0.4	2.6
due in more than one and less than five years	1.3	0.1
due in more than five years	5.0	
<b>Total future minimum lease payments</b>	<b>6.7</b>	<b>2.7</b>
<b>Interest included in lease payments</b>		
due in less than one year		
due in more than one and less than five years	0.2	
due in more than five years	1.8	
<b>Total interest portion of future minimum lease payments</b>	<b>2.0</b>	
<b>Present value of lease payments</b>		
due in less than one year	0.4	2.6
due in more than one and less than five years	1.1	0.1
due in more than five years	3.2	
<b>Total present value of future minimum lease payments</b>	<b>4.7</b>	<b>2.7</b>

A net carrying amount of € 6.3 million (2012: € 0.3 million) was recognized for the capitalized assets under finance lease agreements at the reporting date.

A significant part of these assets is accounted for by the newly leased warehouse facilities in Hannover, for which MTU Maintenance Hannover GmbH (MTU) entered into an agreement with Wirtschaftsförderungs-Gesellschaft Langenhagen Flughafen mbH (WFG). The new logistics center has been built on land owned partly by MTU and partly by the development company Entwicklungsgesellschaft Langenhagen mbH. In order to construct this facility, MTU obtained heritable building rights from WFG permitting the site and its buildings to be utilized for a total period of 33 years. The lease became effective in 2013 and has a fixed contractual term that expires at the end of 2025, with a renewal option that allows the contract to be

extended over subsequent 5-year periods. The lease payments are on a level with those normally charged in the region, and include ground rent, interest charges, depreciation charges and administrative expenses. MTU is responsible for the upkeep of the property, including general maintenance and repairs. The contract also includes a clause allowing MTU to purchase the real estate, comprising land and buildings, at any time and at a previously agreed purchase price based on terms equivalent to those that prevail in arm's length transactions.

## 16. FINANCIAL ASSETS

The carrying amounts of financial assets included in the consolidated financial statements are presented below:

**Composition of financial assets**

in € million	Dec. 31, 2013	Dec. 31, 2012
Financial assets accounted for using the equity method	30.1	31.2
Financial assets accounted for at cost	26.8	5.5
Financial assets classified as cash flow hedges	43.2	26.6
Derivative financial instruments without hedging relationship	26.1	14.8
Available-for-sale financial assets	30.0	25.0
<b>Total financial assets</b>	<b>156.2</b>	<b>103.1</b>

The financial assets accounted for using the equity method amount to € 30.1 million (at December 31, 2012: € 31.2 million) and in addition to shares in IAE International Aero Engines AG, Zurich, Switzerland, include the shares in Airfoil Services Sdn. Bhd., Kota Damansara, Malaysia, Ceramic Coating Center S.A.S., Paris, France, and the fully written down investments in AES Aerospace Embedded Solutions GmbH, Munich, and Pratt & Whitney Canada Customer Service Centre Europe GmbH, Ludwigsfelde. The additions to other loans relate primarily to payments in connection with aircraft financing agreements, where the funds in question were transferred directly to the aircraft manufacturer for the exclusive benefit of a specific airline.

The following amounts have been recognized in respect of the assets, liabilities, income and expenses of joint ventures and associated companies, with the exception of MTU Maintenance Co. Ltd., Zhuhai, China:

**Disclosures concerning the income statements, statements of comprehensive income and balance sheets of joint ventures and associated companies**

in € million	Joint ventures accounted for using the equity method 2013	Associated companies accounted for using the equity method 2013	Associated companies accounted for at cost 2013	Joint ventures accounted for using the equity method 2012	Associated companies accounted for using the equity method 2012	Associated companies accounted for at cost 2012
<b>Income statement disclosures</b>						
Revenues	187.5	2,104.1	1,074.9	151.6	2,167.2	1,040.0
Interest income			0.1		0.2	0.3
Income tax credits	0.5					
Other income	4.4	0.3	1.3	0.8	3.4	1.4
<b>Total income</b>	<b>192.4</b>	<b>2,104.4</b>	<b>1,076.3</b>	<b>152.4</b>	<b>2,170.8</b>	<b>1,041.7</b>
Depreciation / amortization and valuation allowances	-2.4		-0.6	-2.0		-0.6
Interest expense	-0.2		-0.3	-0.2		
Income tax expense	-0.3	-2.3	-0.4	-0.2	-2.0	-0.4
Other expenses	-185.8	-2,099.6	-1,073.8	-146.9	-2,165.0	-1,039.3
<b>Total expenses</b>	<b>-188.7</b>	<b>-2,101.9</b>	<b>-1,075.1</b>	<b>-149.3</b>	<b>-2,167.0</b>	<b>-1,040.3</b>
<b>Earnings after tax</b>	<b>3.7</b>	<b>2.5</b>	<b>1.2</b>	<b>3.1</b>	<b>3.8</b>	<b>1.4</b>
Other comprehensive income	0.3					
<b>Total comprehensive income</b>	<b>4.0</b>	<b>2.5</b>	<b>1.2</b>	<b>3.1</b>	<b>3.8</b>	<b>1.4</b>
<b>Balance sheet disclosures</b>						
Non-current assets	17.8	165.8	6.0	19.3	212.5	2.6
Cash and cash equivalents	25.2	184.3	36.4	11.8	241.5	76.6
Other current assets	51.0	1,085.0	216.4	71.0	1,030.3	245.2
<b>Total assets</b>	<b>94.0</b>	<b>1,435.1</b>	<b>258.8</b>	<b>102.1</b>	<b>1,484.3</b>	<b>324.4</b>
Equity	25.1	52.6	2.9	23.7	49.8	3.3
Non-current financial liabilities	6.4	107.4			160.2	
Other non-current liabilities	0.8	47.6	26.1	6.0	44.6	47.0
Current financial liabilities		6.3		0.5	9.7	
Other current liabilities	61.7	1,221.2	229.8	71.9	1,220.0	274.1
<b>Total equity and liabilities</b>	<b>94.0</b>	<b>1,435.1</b>	<b>258.8</b>	<b>102.1</b>	<b>1,484.3</b>	<b>324.4</b>
Dividends received from joint ventures and associated companies	0.3		0.4	0.5		0.5

The disclosures for associated companies accounted for at cost relate to the prior year, as the actuals for the year stated were not yet available at the time of reporting. The reporting date for Ceramic Coating Center S.A.S., Paris, France, and for

Pratt & Whitney Canada Customer Service Centre Europe GmbH, Ludwigsfelde, Germany, is November 30.

The derivative financial assets can be broken down as follows:

**Derivative financial instruments**

in € million	Total		Non-current		Current	
	Dec. 31, 2013	Dec. 31, 2012	Dec. 31, 2013	Dec. 31, 2012	Dec. 31, 2013	Dec. 31, 2012
Forward foreign exchange contracts	43.2	26.6	20.0	15.0	23.2	11.6
Currency options / collective forward transactions	26.1	14.8	20.3	14.2	5.8	0.6
<b>Total</b>	<b>69.3</b>	<b>41.4</b>	<b>40.3</b>	<b>29.2</b>	<b>29.0</b>	<b>12.2</b>

## 17. INVENTORIES

The carrying amount of inventories, after write-downs, comprises the following components:

<b>Inventories</b>		
in € million	<b>Dec. 31, 2013</b>	Dec. 31, 2012
Raw materials and supplies	343.5	341.6
Work in progress	385.8	434.7
Advance payments	42.5	32.5
<b>Total inventories</b>	<b>771.8</b>	<b>808.8</b>

Changes in the valuation allowances on raw materials and supplies and work in progress were as follows:

<b>Valuation allowances</b>		
in € million	<b>2013</b>	2012
<b>Balance at January 1</b>	91.9	74.8
Allocated/utilized (-)	-28.5	17.1
<b>Balance at December 31</b>	<b>63.4</b>	<b>91.9</b>

As part of the WOC@MTU project launched in 2013 with the aim of optimizing inventories, a detailed analysis of the cost of acquisition and construction of inventories associated with individual engine programs was conducted with respect to their value in use. As a result, valuation allowances for inventories were reduced by € 28.5 million compared with the previous year.

## 18. TRADE RECEIVABLES

<b>Trade receivables</b>		
in € million	<b>Dec. 31, 2013</b>	Dec. 31, 2012
Third parties	564.5	547.3
Related companies	35.6	21.2
<b>Total trade receivables</b>	<b>600.1</b>	<b>568.5</b>

Transactions with related companies are presented in more detail in Note 38.1.1. (Business with related companies).

The valuation allowances on trade receivables changed as follows:

<b>Valuation allowances</b>		
in € million	<b>2013</b>	2012
<b>Allowances at January 1</b>	<b>10.2</b>	<b>7.9</b>
Translation differences	-0.1	
Additions (expense for specific allowances)	1.5	5.5
Utilized	-1.2	-0.4
Reversed	-1.0	-2.8
<b>Allowances at December 31</b>	<b>9.4</b>	<b>10.2</b>

The net expense for bad debts on trade receivables written off as uncollectable offset against income from bad debts recovered amounted to € -1.2 million (2012: € -0.6 million).

All expense and income amounts arising from valuation allowances and the write-off of uncollectable bad debts on trade receivables are recognized as selling expenses.

## 19. CONSTRUCTION CONTRACT RECEIVABLES

<b>Construction contract receivables</b>		
in € million	<b>Dec. 31, 2013</b>	Dec. 31, 2012
Construction contract receivables	535.4	547.0
Thereof: Advance payments received	-312.0	-364.0
<b>Total construction contract receivables</b>	<b>223.4</b>	<b>183.0</b>

If the amount of the directly attributable advance payments received exceeds the amount of the receivables, the balance is recognized under construction contract payables.

The decrease in construction contract receivables compared with the previous year is mainly due to the settlement of payments in the military engine business. Except in cases where the outstanding amount is balanced by advance payments, the remaining sum is offset against the corresponding trade payables. The amount of € 535.4 million for construction contract receivables at December 31, 2013 (2012: € 547.0 million) includes advance payments received amounting to € 312.0 million (2013: € 364.0 million). No amounts were retained for partial settlement of construction contract receivables.

For disclosures relating to construction contract receivables that have been offset against directly attributable advance payments received, please refer to Note 30. (Construction contract payables).

The table shows the carrying amounts and a breakdown of the due dates of trade and construction contract receivables at the reporting date.

The impaired portion of these receivables amounting to € 2.6 million is due to payments owed by insolvent customers. The majority of the impaired receivables are due in more than 360 days.

#### Impairment status and due dates of trade and construction contract receivables

in € million	Dec. 31, 2013	Dec. 31, 2012
<b>Neither impaired nor past due at the reporting date</b>	<b>922.1</b>	<b>878.3</b>
<b>Not impaired and due in the following time windows</b>	<b>198.7</b>	<b>212.8</b>
Less than 90 days	150.0	151.6
Between 90 and 180 days	23.1	25.1
Between 181 and 360 days	16.8	25.9
More than 360 days	8.8	10.2
<b>Impaired</b>	<b>14.7</b>	<b>24.4</b>
<b>Total carrying amount</b>	<b>1,135.5</b>	<b>1,115.5</b>

## 20. OTHER ASSETS

Other assets comprise the following items:

#### Other assets

in € million	Total		Non-current		Current	
	Dec. 31, 2013	Dec. 31, 2012	Dec. 31, 2013	Dec. 31, 2012	Dec. 31, 2013	Dec. 31, 2012
Other taxes	13.2	16.2			13.2	16.2
Receivable from employees	0.9	0.9			0.9	0.9
Receivable from suppliers	9.3	2.1			9.3	2.1
Sundry other assets	15.6	14.0	0.2	0.1	15.4	13.9
<b>Total other assets</b>	<b>39.0</b>	<b>33.2</b>	<b>0.2</b>	<b>0.1</b>	<b>38.8</b>	<b>33.1</b>

The other taxes totaling € 13.2 million (2012: € 16.2 million) mainly comprise input taxes.

The receivables from suppliers primarily include credit notes due in the short term which were not balanced at the reporting date for accounting reasons. The amount reported at December 31, 2013 had already been reduced by € 6 million at the beginning of January 2014 and was thus at the prior year's level.

The sundry other assets totaling € 15.6 million (2012: € 14.0 million) groups together a variety of different assets.

At December 31, 2013, other assets did not require adjustment and were within due date and almost all of these assets had a due date of less than one year.

## 21. CASH AND CASH EQUIVALENTS

The cash and cash equivalents of € 163.9 million (2012: € 161.2 million) comprise cash in hand and bank deposits. This item also includes foreign currency holdings amounting to the equivalent of € 101.9 million (2012: € 71.9 million).

MTU is not free to dispose of cash and cash equivalents in the amount of € 13.8 million (2012: € 6.5 million) held by MTU Maintenance Zhuhai Co. Ltd.

## 22. INCOME TAX CLAIMS

Income tax claims in the financial year 2013 amounted to € 0.9 million (2012: € 13.8 million).

## 23. PREPAYMENTS

The prepayments of € 4.8 million (2012: € 5.2 million) consist primarily of prepayments for insurance premiums and rents.

## 24. EQUITY

Changes in group equity are set out in the consolidated statement of changes in equity.

### 24.1. SUBSCRIBED CAPITAL

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

### 24.2. AUTHORIZED CAPITAL

The Executive Board is authorized until April 21, 2015, to increase the company's capital stock by up to € 5.2 million, with the prior approval of the Supervisory Board, by issuing, either in a single step or in several steps, new registered non-par-value shares in return for cash contributions (Authorized capital I 2010).

The Executive Board is further authorized until April 21, 2015, to increase the company's capital stock by up to € 15.6 million, with the prior approval of the Supervisory Board, by issuing either in a single step or in several steps, new registered non-par-value shares in return for cash contributions (Authorized capital II 2011).

In addition, the Executive Board is authorized until April 21, 2015, to increase the company's capital stock by up to € 5.2 million, with the prior approval of the Supervisory Board, by issuing, either in a single step or in several steps, new registered non-par-value shares in return for cash and/or non-cash contributions (Authorized capital III 2011).

### 24.3. CONDITIONAL CAPITAL

At the Annual General Meeting on April 22, 2010, the Executive Board was authorized until April 21, 2015, to issue conditional capital increases with the prior approval of the Supervisory Board:

- The company's capital stock may be conditionally increased by up to € 3.64 million through the issue of up to 3,640,000 new registered non-par-value shares. The purpose of this conditional capital increase is to issue shares to holders or creditors of convertible bonds and/or bonds with warrants.
- The company's capital stock may be conditionally increased by up to € 22.36 million through the issue of up to 22,360,000 new registered non-par-value shares, each corresponding to a proportional amount (one euro) of the company's total capital stock. The purpose of this conditional capital increase is to issue shares to holders or creditors of convertible bonds and/or bonds with warrants.

The Executive Board is authorized until April 21, 2015 to issue, in a single step or several steps and with the prior approval of the Supervisory Board, bearer convertible bonds and/or bonds with warrants (collectively referred to as "bonds") with or without maturity date, with a total nominal value of up to € 500 million. At the same time, the holders of convertible bonds and/or bonds with warrants are to be granted the right, obligation or option to convert them into registered non-par-value shares of the company representing a stake in the capital stock of up to € 22.36 million under the conditions established for the issue of convertible bonds or bonds with warrants. The bonds may be issued in return for cash contributions only. They may be issued in euros or in any other legal currency. They may also be issued by an affiliated company in which MTU holds a controlling interest. In such cases, and subject to the prior approval of the Supervisory Board, the Executive Board is authorized to act as guarantor for the bonds.

#### 24.4. CAPITAL RESERVES

Capital reserves include premiums from the issue of shares and the equity component (net of proportional transaction costs) of the bond issued in 2007 and repaid/converted in the first quarter of 2012. In addition, they contain the fair value of shares granted under the Share Matching Plan, and an amount of € 5.7 million (2012: € 3.3 million) representing the difference between the proceeds of shares sold under the MAP employee stock option program and their original acquisition cost. The MAP employee stock option program is described in Note 31. (Other liabilities).

##### Share Matching Plan (SMP) for the MTU Executive Board

At the end of a four-year assessment period, members of the Executive Board have the option of converting the payment under the Performance Share Plan (PSP), which constitutes part of their deferred compensation, into shares of MTU Aero Engines AG. If these shares are held for a further three years, these shares are matched on the basis of a Share Matching Plan (SMP) at the end of the vesting period. This entitles each Executive Board member to one additional free share for every three MTU shares acquired in this way. The total value of the free shares allocated at the end of the vesting period is limited to three times the purchase price of the shares originally acquired through the PSP.

The number of future matching shares depends on the amount of benefits payable under the Performance Share Plan (PSP). For more information on the PSP, please read the explanatory comments in Note 27. (Other provisions). In order to determine the fair value, a combined Monte Carlo simulation and Black-Scholes pricing model is used. The expected payout is determined on the basis of the exact same assumptions used to measure the PSP. The result of this calculation serves as a basis for measuring the SMP in accordance with the Black-Scholes pricing model. The fair value of this forward option at the grant date is recognized in the balance sheet taking into account the conditions of exercise. The vesting period of the forward option is 52 months.

##### Share Matching Plan (SMP) for senior managers of MTU

With effect of January 1, 2011, MTU also launched a Share Matching Plan (SMP) for employees of the top two tiers of senior management (OFK and FK).

Tier-1 senior managers (OFK) may, after the expiry of a three-year PSP vesting period, invest a maximum amount of € 60,000 in shares of MTU Aero Engines AG while tier-2 senior managers (FK) may, after the expiry of a two year PSP vesting period, invest a maximum amount of € 30,000. If these shares are held for a further two years, this investment is matched at the end of the supplementary vesting period. The employee receives one additional free share for every three MTU shares held, on condition that he or she is still employed by MTU at that date.

The fair value of the forward options for members of the Executive Board of MTU Aero Engines AG was determined at the grant date on the basis of the following parameters and

assumptions, whereby the option period amounts to 88 months, the vesting period to 52 months and the assumed fluctuation is 4.0% for all tranches:

**Share Matching Plan – Forward options granted to Executive Board, by tranche**

Model parameters	Forward options					
	Tranche 4 Executive Board Financial year 2013	Tranche 4a Executive Board Financial year 2013	Tranche 3 Executive Board Financial year 2012	Tranche 2 Executive Board Financial year 2011	Tranche 1b Executive Board Financial year 2010	Tranche 1a Executive Board Financial year 2010
Measurement date	July 1, 2013	Jan. 1, 2013	Jan. 1, 2012	Jan. 1, 2011	July 1, 2010	Jan. 1, 2010
Average share price at acquisition date	76.59	67.16	47.47	47.03	46.52	36.63
Dividend yield	1.82%	1.74%	2.23%	1.84%	2.07%	2.44%
Expected volatility	24.60%	27.94%	35.18%	51.40%	52.82%	52.08%
Risk-free interest rate	0.71%	0.26%	0.70%	1.76%	1.37%	2.30%

The fair value of the forward options for tier-1 (OFK) and tier-2 (FK) senior managers of group companies was determined at the grant date on the basis of the following parameters and

assumptions, whereby a fluctuation of 4% was assumed for all tranches.

**Share Matching Plan – Forward options granted to senior managers (OFK / FK), by tranche**

Model parameters	Forward options					
	Tranche 4 tier 1 (OFK) Financial year 2013	Tranche 4a tier 2 (FK) Financial year 2013	Tranche 3 tier 1 (OFK) Financial year 2012	Tranche 3 tier 2 (FK) Financial year 2012	Tranche 2 tier 1 (OFK) Financial year 2011	Tranche 2 tier 2 (FK) Financial year 2011
Option period	64 months	52 months	64 months	52 months	64 months	52 months
Vesting period	40 months	28 months	40 months	28 months	40 months	28 months
Measurement date	Jan. 1, 2013	Jan. 1, 2013	Jan. 1, 2012	Jan. 1, 2012	Jan. 1, 2011	Jan. 1, 2011
Average share price at acquisition date	67.16	67.16	47.47	47.47	47.03	47.03
Dividend yield	1.74%	1.74%	2.23%	2.23%	1.84%	1.84%
Expected volatility	27.94%	27.94%	35.18%	35.18%	51.40%	51.40%
Risk-free interest rate	0.05%	0.04%	0.36%	0.14%	1.38%	1.00%



The number of performance shares not yet exercisable under the Share Matching Plan (SMP) at the beginning and end of the reporting period is shown in the following tables:

#### Share Matching Plan (SMP)

(number of shares or value in €)	Fair value at grant date	Granted performance shares			Forfeited performance shares	Performance shares not yet exercisable at year end	Time to end of vesting period for performance shares <sup>1)</sup>
		Number at Jan. 1, 2013 shares	Acquired in 2013 shares	Number at Dec. 31, 2013 shares			
	€				Performance shares 2013 shares	Number at Dec. 31, 2013 shares	Time at Dec. 31, 2013 months
<b>Executive Board</b>							
Performance shares tranche 1a granted Jan. 1, 2010	3.722	28,666		28,666		28,666	4
Performance shares tranche 1b granted July 1, 2010	4.233	6,031		6,031	6,031		10
Performance shares tranche 2 granted Jan. 1, 2011	4.779	34,285		34,285	11,960	22,325	16
Performance shares tranche 3 granted Jan. 1, 2012	5.771	36,009		36,009	12,561	23,448	28
Performance shares tranche 4a granted Jan. 1, 2013	8.192		25,451	25,451	8,878	16,573	40
Performance shares tranche 4b granted July 1, 2013	8.874		1,763	1,763		1,763	46
<b>Total / average</b>	<b>5.507</b>	<b>104,991</b>	<b>27,214</b>	<b>132,205</b>	<b>39,430</b>	<b>92,775</b>	<b>20</b>

Note: No performance shares were exercised in the financial year 2013, nor did any lapse.

<sup>1)</sup> The time to end of vesting period for SMP shares is 4 months longer than for PSP shares because the strike date is in April.

#### Share Matching Plan (SMP)

(number of shares or value in €)	Fair value at grant date	Granted performance shares			Exercised performance shares	Lapsed performance shares	Performance shares not yet exercisable at year end	Time to end of vesting period for performance shares <sup>1)</sup>
		Number at Jan. 1, 2013 shares	Acquired in 2013 shares	Number at Dec. 31, 2013 shares				
	€				Performance shares 2013 shares	Performance shares 2013 shares	Number at Dec. 31, 2013 shares	Number at Dec. 31, 2013 months
<b>Tier-1 senior managers (OFK)</b>								
Performance shares tranche 2 granted Jan. 1, 2011	4.779	18,204		18,204			18,204	4
Performance shares tranche 3 granted Jan. 1, 2012	5.771	19,552		19,552			19,552	16
Performance shares tranche 4 granted Jan. 1, 2013	8.192		15,191	15,191			15,191	28
<b>Total / average (tier-1 senior managers)</b>	<b>6.125</b>	<b>37,756</b>	<b>15,191</b>	<b>52,947</b>			<b>52,947</b>	<b>15</b>
<b>Tier-2 senior managers (FK)</b>								
Performance shares tranche 2 granted Jan. 1, 2011	4.779	32,291		32,291	12,396	19,895		
Performance shares tranche 3 granted Jan. 1, 2012	5.771	36,476		36,476			36,476	4
Performance shares tranche 4 granted Jan. 1, 2013	8.192		27,644	27,644			27,644	16
<b>Total / average (tier-2 senior managers)</b>	<b>6.133</b>	<b>68,767</b>	<b>27,644</b>	<b>96,411</b>	<b>12,396</b>	<b>19,895</b>	<b>64,120</b>	<b>9</b>
<b>Total / average (tiers 1 and 2)</b>	<b>6.130</b>	<b>106,523</b>	<b>42,835</b>	<b>149,358</b>	<b>12,396</b>	<b>19,895</b>	<b>117,067</b>	<b>12</b>

The share price on the strike date was € 76.85.

Note: No performance shares were forfeited in the financial year 2013.

<sup>1)</sup> The time to end of vesting period for SMP shares is 4 months longer than for PSP shares because the strike date is in April.

The total expense incurred in the financial year 2013 for share-based compensation settled through the issuance of equity instruments amounted to € 1.3 million (2012: € 1.0 million).

The total expense incurred for share-based compensation settled by cash payment is presented under other provisions.

## 24.5. REVENUE RESERVES

Revenue reserves comprise the post-acquisition and non-distributed earnings of consolidated group companies.

## 24.6. TREASURY SHARES

### Purchase of treasury shares in accordance with the authorization granted by the Annual General Meeting on April 22, 2010

The Executive Board of MTU Aero Engines AG, Munich, has been authorized by resolution of the Annual General Meeting to buy back shares. These shares may be purchased on the stock market or by means of a public offering addressed to all shareholders. The purchase price paid in consideration of these shares must not exceed or undercut the market value by more than 10%, net of any supplementary transaction fees.

The Executive Board of MTU was thus authorized to purchase treasury shares with an aggregate nominal value not exceeding 10% of the company's issued capital stock, as applicable on the date of the resolution, during the period from April 23, 2010, through April 22, 2015, pursuant to Section 71 (1) item 8 of the German Stock Corporation Act (AktG). At no point in time may the value of the acquired shares, together with other treasury shares in the company's possession or which are assigned to it pursuant to Section 71a et seq. of the German Stock Corporation Act (AktG), exceed 10% of the company's capital stock.

### Purchase of treasury shares

The shares purchased by MTU in prior years served and still serve to meet contractual obligations attached to the convertible bond issue, to issue shares under the Matching Stock Program (MSP) and the MAP employee stock option

program, and to make shares available for issue under the Share Matching Plan (SMP). As in 2012, MTU did not purchase any treasury shares in the financial year 2013.

### Reconciliation of weighted average number of outstanding shares

In 2013, the weighted average number of outstanding shares totaled 50,807,378 (2012: 50,695,186). At December 31, 2013, the number of outstanding shares of MTU Aero Engines AG, Munich, totaled 50,855,626 (December 31, 2012: 50,739,830). The number of treasury shares amounted to 1,144,374 at December 31, 2013 (December 31, 2012: 1,260,170).

### Issue of shares

A total of 103,400 shares (2012: 107,145 shares) were sold to group employees in the financial year 2013 under the MAP employee stock option program. Eligible senior managers received a total of 12,396 free shares under the Share Matching Plan, for which the supplementary vesting period expired for the first time in 2013.

## 24.7. Other comprehensive income (OCI)

In the financial year 2013, other comprehensive income (OCI) improved by € 12.7 million to a negative balance of € -35.8 million (2012: € -48.5 million), principally as a result of translation differences arising from the financial statements of international subsidiaries, actuarial gains and losses on plan assets and pension obligations and the change in fair value of hedging instruments.

The table below shows the income and expenses recognized in other comprehensive income, including fair value changes, both before and after income taxes:

### Items recognized in other comprehensive income

in € million	2013			2012		
	Before	Income taxes	After	Before	Income taxes	After
Translation differences arising from the financial statements of international entities	-13.7		-13.7	12.8		12.8
Actuarial gains and losses on plan assets and pension obligations	8.1	-2.2	5.9	-68.2	22.1	-46.1
Financial assets classified as "available for sale"				0.2	-0.1	0.1
Financial instruments designated as cash flow hedges	29.9	-9.4	20.5	65.9	-17.5	48.4
<b>Income and expenses recognized in other comprehensive income</b>	<b>24.3</b>	<b>-11.6</b>	<b>12.7</b>	<b>10.7</b>	<b>4.5</b>	<b>15.2</b>

## 24.8. DISCLOSURES RELATING TO CAPITAL MANAGEMENT

MTU strives to maintain a strong financial profile in the interests of carrying out the company's business within a flexible financing framework and in order to generate confidence on the part of its shareholders. It observes the statutory requirements on capital maintenance as part of its capital management and the company's Articles of Association do not stipulate any capital requirements. In general, the dividend policy is based on distributing at least 25 percent of the annual profit to shareholders if the financial situation permits this and the corporate bodies give their approval. The group's capital management activities are focused on optimizing the balance between equity and net financial debt and on optimizing the equity ratio.

## 25. PENSION PROVISIONS

Defined benefit and defined contribution plans are in place for MTU employees. In the case of defined contribution plans, the company has no further obligations beyond the payment of fixed contributions to the plan. In the case of defined benefit plans, the company has an obligation to fulfill commitments to current and former employees. For group companies in Germany, these benefits are financed primarily by provisions recognized in the financial statements, which are covered only to a minor extent by plan assets. In contrast, MTU Maintenance Canada Ltd., Richmond, Canada, has a fund-financed retirement benefit plan.

In some cases, it is difficult to differentiate between defined contribution and defined benefit plans. In Germany, for example, a minimum level of benefits is guaranteed for defined contribution plans, such that, even when the plan is organized via an external fund or insurance company, it is still the employer that remains liable. The so-called "ultimate liability of the employer" is governed by Section 1 (1) sentence 3 of the German Law on Retirement Pensions (BetrAVG). For financial reporting purposes, the term "defined benefit plans" is required to be interpreted on the basis of the underlying economic substance of the arrangements. Insofar as the MTU group has no further obligations beyond its so-called ultimate liability once the contributions have been paid to state and private retirement funds, these plans are classified as defined contribution plans. Current contributions are recognized as expenses in the period in which payments are made.

## 25.1. DEFINED CONTRIBUTION PLANS

Since January 1, 2007, no direct pension commitments have been granted to new employees in Germany. Instead MTU pays contributions to a company-sponsored external fund for employees who joined the company after that date. Other plans that exist within the MTU group are direct insurance contracts funded by employee contributions.

Employer's contributions to the state pension scheme in the financial year 2013 totaled € 35.8 million (2011: € 36.3 million).

## 25.2. DEFINED BENEFIT PLANS

The pension obligations of MTU are measured using the projected unit credit method in accordance with IAS 19, taking account of future salary and pension increases and other adjustments expected to be made to benefits and pension plans. The provision for defined benefit plans recognized in the balance sheet corresponds to the present value of the benefits payable for current and past service (the defined benefit obligation) of beneficiaries less the fair value of plan assets at the reporting date. Extensive actuarial reviews and computations are carried out annually for each pension plan by independent actuaries.

Actuarial gains or losses can result from increases or decreases either in the present value of the defined benefit obligations or in the fair value of the plan assets. Causes of actuarial gains or losses include the effect of changes in the measurement parameters, changes in the assessment of risks on pension obligations, and differences between the actual and expected return on plan assets.

These defined benefit plans represent an actuarial risk for the company, because they are associated with numerous risk factors including the long-term security of investments, currency exchange risks, interest rate risks and (investment) market risks.

In order to calculate the funding status or the pension obligation recognized, the present value of the provision-financed and fund-financed obligations is offset against the fair value of the plan assets.

The present value and funding status of the defined benefit obligation is as follows:

**Present value of the defined benefit obligation (DBO)**

in € million	Dec. 31, 2013	Dec. 31, 2012
Present value of provision-financed pension obligations	624.8	615.4
Fair value of plan assets	-3.5	-5.3
<b>Total Germany</b>	<b>621.3</b>	<b>610.1</b>
Present value of fund-financed pension obligations	24.2	28.7
Fair value of plan assets	-22.4	-22.1
<b>Total other countries</b>	<b>1.8</b>	<b>6.6</b>
<b>Recognized pension obligations</b>	<b>623.1</b>	<b>616.7</b>

The following parameters were applied to measure the pension obligations at December 31 of the respective year and to measure the pension plan expense in the respective year under review:

**Actuarial assumptions: Germany**

in %	Dec. 31, 2013	Dec. 31, 2012
Interest rate for accounting purposes	3.40	3.20
Salary trend	2.50	2.50
Pension trend	1.50	1.50

**Actuarial assumptions: Other countries**

in %	Dec. 31, 2013	Dec. 31, 2012
Interest rate for accounting purposes	4.50	3.75
Salary trend	3.00	3.00
Pension trend	2.50	2.50

The market yields on high-quality, fixed-interest corporate bonds with similar maturities in Germany have risen slightly compared to the prior year. For this reason, pension obligations were discounted at December 31, 2013, using a discount

rate of 3.4%. The biometric tables issued by Prof. Dr. Heubeck (RT 2005G) were used for the purpose of measuring the obligations of pension plans in Germany. In the case of group companies in other countries, up-to-date biometric assumptions for each relevant country were applied. The expected salary trend refers to the expected rate of increases in salaries and other compensation, which is estimated depending on inflation and the length of service of employees within the group. Employee turnover, mortality and disability rates were estimated on the basis of statistical data.

The present value of pension obligations changed as follows in the financial year 2013:

**Change in present value of pension obligations**

in € million	2013	2012
<b>Defined benefit obligation at January 1</b>	<b>644.1</b>	<b>558.0</b>
Current service cost	10.6	9.8
Past service cost	2.5	
Contributions for pension plan subscribers	5.9	5.1
Interest cost	19.9	24.2
Translation differences	-3.0	0.1
Actuarial gains (-) / losses (+)		
Financial assumptions	-13.9	63.7
Demographic assumptions	8.8	5.5
Plan settlements / transfers	-4.6	-1.5
Pension benefit and capital payments	-21.3	-20.8
<b>Defined benefit obligation at December 31</b>	<b>649.0</b>	<b>644.1</b>

The obligations resulting from plan settlements and curtailments are attributable to the deconsolidation of group companies and the conversion of pension benefits into fixed-sum payments.

The fair value of plan assets changed as follows in the financial year 2013:

#### Change in the fair value of plan assets

in € million	2013	2012
<b>Fair value of plan assets at January 1</b>	<b>27.4</b>	<b>27.0</b>
Interest income on plan assets	0.9	1.1
Actuarial gains / losses resulting from:		
Income / expenses (-) arising from plan assets	1.9	0.9
Transfers / translation differences	-2.3	0.1
Employer contributions	1.1	1.1
Employee contributions to plan	0.1	0.1
Pension benefit payments	-3.2	-2.9
<b>Fair value of plan assets at December 31</b>	<b>25.9</b>	<b>27.4</b>

#### Composition of plan assets

in %	2013	2012
Share investments	51.7	52.9
Fixed-interest securities	34.4	19.6
Cash and cash equivalents and other assets	13.9	27.5
<b>Total plan assets</b>	<b>100.0</b>	<b>100.0</b>

Each year, the company's investment strategy for the plan assets is reviewed on the basis of a risk and reward profile for the purpose of asset/liability management and adjusted where necessary. The pension fund's statement of principles defines restrictions to be observed when choosing investments. The group has made no changes to its risk management process compared with that used in previous years.

The expense from defined benefit pension plans and similar obligations recognized in the income statement for the relevant reporting periods comprised the following items:

#### Expense from defined benefit pension plans and similar obligations

in € million	2013	2012
Current service cost	10.6	9.8
Past service cost	2.5	
<b>Total service cost</b>	<b>13.1</b>	<b>9.8</b>
Interest cost	19.9	24.2
Interest income on plan assets	-0.9	-1.1
<b>Net interest cost</b>	<b>19.0</b>	<b>23.1</b>
<b>Total expense</b>	<b>32.1</b>	<b>32.9</b>

Current and past service cost are recognized under personnel expenses. The other components of the expense from defined benefit pension plans and similar obligations are recognized in the financial result on other items. Remeasurement of the net benefit obligation is recognized in the statement of comprehensive income as part of other comprehensive income.

#### Expected future pension benefit payments

The company expects the following pension benefit payments, including non-recurrent payments, in the coming years:

#### Expected yearly amounts of pension benefit payments

in € million	2014	2015	2016	2017
Expected amount of pension benefit payments	21.9	22.6	23.3	24.0

As a result of switching to the "MTU kapitalPlus 2006" and "MTU Pension Capital" pension plans, in place since the financial year 2006, all group employees have the option of receiving their retirement benefits as an immediate cash payment, as a ten-year series of payments by installment, or as a life-long pension. The expected distribution of pension benefit payments over annual periods is based on the assumption that beneficiaries will choose a balanced mix of the available payment options.

The main actuarial assumptions used to calculate the defined benefit obligation (DBO) are the discount rate at year-end and the expected annual increases in salaries. The following scenario-based sensitivity analyses show how the DBO would have been influenced by potential changes in the underlying assumptions:

**Sensitivity analysis of the defined benefit obligation**

in € million	Dec. 31, 2013	Dec. 31, 2012
Discount rate 50 basis points higher	-30.1	-29.5
Discount rate 20 basis points lower	12.9	12.4
Expected salary increase 50 basis points higher	14.2	14.0
Assumed life expectancy 1 year higher	10.7	10.4

There are interdependencies between the actuarial assumptions, especially between the discount rate and the expected salary increases, as both depend to a certain extent on the expected rate of inflation. The sensitivity analysis does not take these interdependencies into account.

## 26. INCOME TAX PAYABLE

The income tax payable amounting to € 39.5 million (2012: € 19.8 million) comprises corporation and municipal trade tax amounting to € 38.0 million (2012: € 13.7 million) and taxes on the income of group companies outside Germany amounting to € 1.5 million (2011: € 6.1 million).

**Income tax payable**

in € million	2013	2012
<b>Balance at January 1</b>	<b>19.8</b>	<b>10.0</b>
Utilized	-19.8	-10.0
Allocated	39.5	19.8
<b>Balance at December 31</b>	<b>39.5</b>	<b>19.8</b>

The income tax liabilities are due for payment within one year.

## 27. OTHER PROVISIONS

**Other provisions**

in € million	Total		Non-current		Current	
	Dec. 31, 2013	Dec. 31, 2012	Dec. 31, 2013	Dec. 31, 2012	Dec. 31, 2013	Dec. 31, 2012
Warranty obligations and risks from pending losses on onerous contracts	18.7	24.0		6.8	18.7	17.2
Personnel obligations	48.0	58.4	10.5	14.4	37.5	44.0
Contingent liabilities arising from business combinations		51.3		51.3		
Losses arising from the settlement of accounts	60.1	67.3			60.1	67.3
Other obligations	65.8	54.3	0.1		65.7	54.3
Other tax obligations	0.1	0.1			0.1	0.1
<b>Total other provisions</b>	<b>192.7</b>	<b>255.4</b>	<b>10.6</b>	<b>72.5</b>	<b>182.1</b>	<b>182.9</b>

### Warranty obligations and risks from pending losses on onerous contracts

Risks from pending losses on onerous contracts primarily contain provisions for pending losses on onerous contracts, and legal disputes. Provisions for warranties mainly consist of obligations in connection with product entry into service, products that have been sold and for which accounts have been settled, and a variety of other services.

MTU has identified onerous contracts in which the unavoidable costs of fulfilling contractual obligations are higher than the expected economic benefits. A provision of € 18.7 million (2012: € 24.0 million) was recognized to cover the probable expenditure in excess of the expected inflow of economic benefits. It was not necessary to recognize impairment losses on assets relating to these contracts in 2013 or 2012 beyond those already recognized in previous financial years.

### Personnel obligations

The provisions for personnel expenses include provisions for long-service awards amounting to € 4.7 million (2012: € 5.3 million), and, in particular, provisions for profit-sharing bonuses, which amounted to € 42.1 million (2012: € 50.0 million). The provisions for pre-retirement part-time working arrangements are based on the collective agreement on phased retirement and related works agreements. These provisions, which amount to € 11.0 million (2012: € 9.8 million), are fully covered by plan assets.

The provisions for profit-sharing bonuses relate to the annual performance bonus for the Executive Board, senior managers, employees covered by the collective wage agreement and exempt employees, and to the long-term compensation for the Executive Board and senior managers.

For more detailed explanatory comments concerning the annual performance bonus (APB) for the Executive Board, please refer to the management compensation report in the Corporate Governance section of this Annual Report. One half of the annual performance bonus is paid in the calendar year following the financial year in which it was earned. The other 50% is deferred and paid in two equal portions in the two subsequent years. A provision was recognized for the deferred components based on the level of goal achievement attained in the respective financial years.

A portion of the annual performance bonus for senior managers – 70% for tier-1 (OFK) and 80% for tier-2 (FK) – is paid in the calendar year following the financial year in which it was earned. Payment of the remaining 30% (OFK) or 20% (FK) is deferred to the subsequent year. Consequently, the ultimate amount to be paid depends on the level of goal achievement attained in respect of the key performance indicators at group level in the subsequent financial years.

The long-term compensation awarded to members of the Executive Board and to the top two tiers of senior management is granted in annual tranches under the Performance Share Plan (PSP). A defined benefit obligation also exists for this group of employees in respect of their future pensions.

Starting in the financial year 2010, the members of the Executive Board and as of the financial year 2011 the top two tiers of senior managers were allocated phantom stocks of MTU Aero Engines AG (so-called performance shares) at the beginning of each financial year. The number of performance shares granted to the Executive Board is determined in accordance with the level of performance-related compensation as approved by the Supervisory Board.

In the case of the Executive Board, the performance shares are disbursed after a vesting period of four years; in the case of senior managers, the vesting period is three years for the first tier and two years for the second.

The number of performance shares that may be settled in cash or shares at the end of the respective vesting period depends on the MTU share price performance during the respective period compared with that of other MDAX companies. Depending on whether the performance thresholds are reached, the participants can expect to receive a payment equivalent to 150% (maximum) of the value of the individually allocated performance shares. If the minimum performance threshold – ranking at least 45th in the MDAX – is not achieved, the participants receive no payment. The amount paid out is capped at three times the individual participant's long-term target compensation as assigned at the grant date.

The fair value of the expected payout of the performance shares was calculated for each tranche and for each particular group entitled to receive it using a combined Monte Carlo simulation and Black-Scholes pricing model. In this way, the fair values of the PSP tranches were reduced to make allowance for the residual probability that they might lapse. The calculation therefore incorporated an assumed fluctuation rate of 4% p.a. Given that a collective method of calculation was used, no individual departure probabilities based on age or years of service were factored in.

**Performance Share Plan (PSP)**

(number of shares or value in €)	Average Xetra share price <sup>1)</sup>	Granted performance shares			Exercised performance shares	Performance shares not yet exercisable at year end		Time to end of vesting period for performance shares
		Number at Jan. 1, 2013 shares	Acquired in 2013 shares	Number at Dec. 31, 2013 shares		Performance shares 2013 shares	Number at Dec. 31, 2013 shares	
Financial year 2013	€							
<b>Executive Board</b>								
Performance shares tranche 1a granted 2010	36.63	28,666		28,666	28,666			
Performance shares tranche 1b granted 2010	46.64	6,031		6,031	6,031			
Performance shares tranche 2 granted 2011	47.03	34,285		34,285	11,960	22,325	57.93	12
Performance shares tranche 3 granted 2012	47.47	36,009		36,009	12,561	23,448	44.75	24
Performance shares tranche 4a granted 2013	67.16		25,451	25,451	8,878	16,573	37.67	36
Performance shares tranche 4b granted 2013	76.59		1,763	1,763		1,763	38.58	42
<b>Total / average (Executive Board)</b>	<b>49.15</b>	<b>104,991</b>	<b>27,214</b>	<b>132,205</b>	<b>68,096</b>	<b>64,109</b>	<b>47.34</b>	<b>23</b>
<b>Tier-1 senior managers (OFK)</b>								
Performance shares tranche 2 granted 2011	47.03	18,204		18,204	18,204			
Performance shares tranche 3 granted 2012	47.47	19,552		19,552		19,552	41.81	12
Performance shares tranche 4 granted 2013	67.16		15,191	15,191		15,191	34.71	24
<b>Total / average (tier-1 senior managers)</b>	<b>52.97</b>	<b>37,756</b>	<b>15,191</b>	<b>52,947</b>	<b>18,204</b>	<b>34,743</b>	<b>38.71</b>	<b>17</b>
<b>Tier-2 senior managers (FK)</b>								
Performance shares tranche 3 granted 2012	47.47	36,476		36,476	36,476			
Performance shares tranche 4 granted 2013	67.16		27,644	27,644		27,644	28.39	12
<b>Total / average (tier-2 senior managers)</b>	<b>55.96</b>	<b>36,476</b>	<b>27,644</b>	<b>64,120</b>	<b>36,476</b>	<b>27,644</b>	<b>28.39</b>	<b>12</b>
<b>Total / average (all participants)</b>	<b>51.71</b>	<b>179,223</b>	<b>70,049</b>	<b>249,272</b>	<b>122,776</b>	<b>126,496</b>	<b>40.83</b>	<b>19</b>

Note: No performance shares lapsed or were forfeited in the financial year 2013.

<sup>1)</sup> Average Xetra share price during the 30 days preceding the grant date.



The comparative data for the financial year 2012 are presented below:

#### Performance Share Plan (PSP)

(number of shares or value in €)	Average Xetra share price <sup>1)</sup>	Granted performance shares			Exercised performance shares	Performance shares not yet exercisable at year end		Time to end of vesting period for performance shares
		Number at Jan. 1, 2012 shares	Acquired in 2012 shares	Number at Dec. 31, 2012 shares		Number at Dec. 31, 2012 shares	Fair value at Dec. 31, 2012 €	
Financial year 2012	€							
<b>Executive Board</b>								
Performance shares tranche 1a granted 2010	36.63	28,666		28,666		28,666	64.15	12
Performance shares tranche 1b granted 2010	46.64	6,031		6,031		6,031	55.55	18
Performance shares tranche 2 granted 2011	47.03	34,285		34,285		34,285	60.80	24
Performance shares tranche 3 granted 2012	47.47		36,009	36,009		36,009	53.51	36
<b>Total / average (Executive Board)</b>	<b>44.32</b>	<b>68,982</b>	<b>36,009</b>	<b>104,991</b>		<b>104,991</b>	<b>58.91</b>	<b>24</b>
<b>Tier-1 senior managers (OFK)</b>								
Performance shares tranche 2 granted 2011 <sup>2)</sup>	47.03	18,204		18,204		18,204	65.81	12
Performance shares tranche 3 granted 2012 <sup>2)</sup>	47.47		19,552	19,552		19,552	57.27	24
<b>Total / average (tier-1 senior managers)</b>	<b>47.26</b>	<b>18,204</b>	<b>19,552</b>	<b>37,756</b>		<b>37,756</b>	<b>61.39</b>	<b>18</b>
<b>Führungskreis (FK)</b>								
Performance shares tranche 2 granted 2011 <sup>2)</sup>	47.03	32,104		32,104	32,104			
Performance shares tranche 3 granted 2012 <sup>2)</sup>	47.47		36,476	36,476		36,476	61.75	12
<b>Total / average (tier-2 senior managers)</b>	<b>47.26</b>	<b>32,104</b>	<b>36,476</b>	<b>68,580</b>	<b>32,104</b>	<b>36,476</b>	<b>61.75</b>	<b>12</b>
<b>Total / average (all participants)</b>	<b>45.80</b>	<b>119,290</b>	<b>92,037</b>	<b>211,327</b>	<b>32,104</b>	<b>179,223</b>	<b>60.01</b>	<b>21</b>

Note: No performance shares lapsed or were forfeited in the financial year 2012.

<sup>1)</sup> Average Xetra share price during the 30 days preceding the grant date.

<sup>2)</sup> Adjusted prior-year data.

The fair value of the performance shares granted under each tranche of the PSP was as follows:

#### Performance Share Plan (PSP)

Fair value of performance shares at the grant date	Tranche 5 granted in financial year 2014	Tranche 4b granted in financial year 2013	Tranche 4a granted in financial year 2013	Tranche 3 granted in financial year 2012	Tranche 2 granted in financial year 2011	Tranche 1b granted in financial year 2010	Tranche 1a granted in financial year 2010
Executive Board	50.42	52.20	47.98	34.26	31.26	27.13	22.96
Tier-1 senior managers (OFK)	52.56		50.15	36.27	34.40		
Tier-2 senior managers (FK)	54.37		51.93	37.91	37.25		

Share-based compensation gave rise to the following expenses:

#### Performance Share Plan (PSP)

in € million	Expense 2013	Balance at Dec. 31, 2013	Expense 2012	Balance at Dec. 31, 2012
Expense recognized for cash settlement of share-based compensation	4.0		6.1	
Carrying amount of liabilities arising from the cash settlement of share-based compensation		9.6		8.2
<b>Total</b>	<b>4.0</b>	<b>9.6</b>	<b>6.1</b>	<b>8.2</b>

### Contingent liabilities arising from business combinations

The obligations arising under engine programs absorbed in the purchase price allocation relate to the amortized measurement of contingent liabilities for engine programs identified and measured in connection with the acquisition of the company by Kohlberg Kravis Roberts & Co. from the then DaimlerChrysler AG. The contingent liabilities are measured in accordance with IFRS 3.56. The contingent liabilities arising from business combinations were fully utilized in 2013 (remaining liabilities at December 31, 2012: € 51.3 million).

### Losses arising from the settlement of accounts

Losses arising from the settlement of accounts relate to retrospective price adjustments or special conditions agreed with end customers by the consortium leader, expected cancellations by

end customers leading to loss of revenues as well as disputed amounts from contracts already invoiced between the consortium leaders and end customers, and potential reimbursement claims asserted by public-sector customers.

### Other obligations

Provisions for other obligations cover a multitude of identifiable individual risks and contingent liabilities.

### Other tax obligations

Other tax obligations relate to probable obligations in respect of trade taxes and other taxes on business operations, for which provisions have been allocated to cover payments due in 2013 and previous financial years.

Non-current other provisions developed as follows:

#### Change in non-current other provisions 2013

in € million	Balance at Jan. 1, 2013	Transferred	Utilized	Allocated	Discount reversed	Balance at Dec. 31, 2013
Warranty obligations and risks from pending losses on onerous contracts	6.8		-7.2		0.4	
Personnel obligations	14.4	-8.9	-1.0	5.7	0.3	10.5
Contingent liabilities arising from business combinations	51.3		-53.6		2.3	
Other obligations				0.1		0.1
<b>Total non-current other provisions</b>	<b>72.5</b>	<b>-8.9</b>	<b>-61.8</b>	<b>5.8</b>	<b>3.0</b>	<b>10.6</b>

The following cash outflows are expected from the carrying amounts of non-current other provisions:

#### Expected cash outflow from non-current other provisions

in € million	Carrying amount Dec. 31, 2013	Probable cash outflow / financial year	
		2014	2015
Personnel obligations	10.5		5.2
Other obligations	0.1		0.1
<b>Total expected cash outflow from non-current other provisions</b>	<b>10.6</b>		<b>5.3</b>

MTU expects that the stated personnel obligations will become due within the next five years.

Current **other provisions** developed as follows:

**Change in current other provisions 2013**

in € million	Balance at Jan. 1, 2013	Transferred	Utilized	Allocated	Translation differences	Balance at Dec. 31, 2013
Warranty obligations and risks from pending losses on onerous contracts	17.2		-8.8	10.8	-0.5	18.7
Personnel obligations	44.0	8.9	-44.3	29.0	-0.1	37.5
Losses arising from settlement of accounts	67.3		-42.0	36.4	-1.6	60.1
Other obligations	54.3		-9.3	20.9	-0.2	65.7
Other tax obligations	0.1					0.1
<b>Total current other provisions</b>	<b>182.9</b>	<b>8.9</b>	<b>-104.4</b>	<b>97.1</b>	<b>-2.4</b>	<b>182.1</b>

The cash outflows resulting from the carrying amounts of current other provisions are expected to be realized in the calendar year following the reporting period.

## 28. FINANCIAL LIABILITIES

**Financial liabilities**

in € million	Total		Non-current		Current	
	Dec. 31, 2013	Dec. 31, 2012	Dec. 31, 2013	Dec. 31, 2012	Dec. 31, 2013	Dec. 31, 2012
Corporate bonds	352.3	252.5	346.3	248.5	6.0	4.0
Financial liabilities in connection with the IAE-V2500 stake increase	270.7	299.7	229.6	271.3	41.1	28.4
Liabilities to banks						
Promissory notes	12.0	12.0		11.5	12.0	0.5
Other liabilities to banks	35.8	34.9	15.7	2.3	20.1	32.6
Liabilities to related companies	4.8				4.8	
Finance lease liabilities	6.4	3.5	6.2	0.1	0.2	3.4
Other financial liabilities	3.7	16.3	2.1	5.3	1.6	11.0
<b>Total financial liabilities</b>	<b>685.7</b>	<b>618.9</b>	<b>599.9</b>	<b>539.0</b>	<b>85.8</b>	<b>79.9</b>

## Bonds

In order to finance the purchase price components of the increase in the company's stake in the IAE V2500 engine program, MTU Aero Engines AG, Munich, issued a bond for a nominal amount of € 250.0 million with effect from June 20, 2012. The bond earns an annual rate of interest of 3% from the date of issue (June 20, 2012) until the repayment date (June 20, 2017). The interest is payable in arrears on June 21 of each year. The bond was recognized at amortized cost, including transaction costs and the discount on the bond amounting to € 1.5 million.

MTU Aero Engines AG issued a registered bond on June 12, 2013 for a total nominal amount of € 100.0 million. The registered bond is repayable on June 12, 2028 and is subject to interest of 3.55% p.a. Interest is payable in arrears on June 12 of each year, for the first time on June 12, 2014. The registered bond, including transaction costs and a discount of € 2.7 million, is measured at amortized cost.

The following rules apply to both bonds in the event of a change of control: every bondholder is entitled to declare due part or all of his/her bond units for the nominal amount plus any accrued interest. This does not apply if the issuer has already called in the bonds. A change-of-control event occurs if the rating is lowered in the course of the change of control. A lowering of the rating occurs if, (1) during the change-of-control period, a rating previously granted by a rating agency to MTU or to one of its outstanding non-current liabilities is withdrawn or is changed from an investment grade rating (equivalent to or higher than Baa3 (Moody's) BBB- (Fitch or S&P or better)), or if, (2) at the time of the change of control, no investment grade rating has been awarded by a rating agency for the bonds or to MTU and no rating agency awards an investment grade rating for the bond within the change-of-control period.

### Financial liabilities in connection with the IAE-V2500 stake increase

A condition precedent included in the purchase price agreement signed by MTU in the financial year 2012 in order to increase its stake in the V2500 engine program by five percentage points to 16% made it necessary to recognize a financial liability contingent upon the number of flight hours over the next 15 years. After deduction of settlement payments and discounts, this liability amounted to € 270.7 million at December 31, 2013 (2012: € 299.7 million).

Full details concerning the IAE-V2500 stake increase are provided on page 129 of the 2012 Annual Report.

## Liabilities to banks

MTU placed four promissory notes for a nominal amount of € 65.0 million (less transaction costs of € 0.4 million) on June 3, 2009. Of this amount, promissory notes for a nominal amount of € 40.0 million were repurchased in 2010 and a further € 13.5 million repaid on maturity on June 5, 2012. One promissory note for a nominal amount of € 11.5 million remains outstanding at September 30, 2013. This note falls due for payment on June 5, 2014 and is measured at amortized cost.

The MTU group has access to a revolving credit facility of € 400.0 million (2012: € 100.0 million) with five banks which runs until October 30, 2018. Of this line of credit, a total of € 15.2 million (December 31, 2012: € 13.7 million) had been drawn down as bank guarantees in favor of third parties at December 31, 2013. Other than this, as in 2012, the group did not draw down any further funds under its revolving credit facility.

Any credit actually utilized is subject to interest at average market rates plus a margin. Unused credit facilities are subject to a loan commitment fee.

MTU has undertaken to ensure that certain financial indicators remain within defined boundaries throughout the respective terms of the revolving credit facility as follows: MTU's debt-equity ratio (consolidated net financial debt in relation to the adjusted EBITDA) at the end of each quarter shall not exceed 3.0; the times interest earned ratio (adjusted EBITDA in relation to the consolidated net interest expense) at the end of each quarter shall not fall below 4.0. These financial indicators are obtained from the quarterly interim financial reports. Similar limits apply to the promissory notes.

The other liabilities to banks amounting to € 35.8 million (2012: € 34.9 million) relate to third-party loans provided to MTU's subsidiaries.

Finance lease liabilities represent obligations under finance lease arrangements that are capitalized and amortized using the effective interest method; see Note 15. (Property, plant and equipment).

Other financial liabilities of € 3.7 million (2012: € 16.3 million) relate to changes in the fair value of forward foreign exchange contracts and currency option transactions entered into for hedging purposes.

## 29. TRADE PAYABLES

### Trade payables

in € million	Dec. 31, 2013	Dec. 31, 2012
Trade payables attributable to:		
Accounts payable to third parties	615.9	476.1
Accounts payable to related companies		
Associated companies, joint ventures and other equity investments	54.3	102.1
Non-consolidated subsidiaries	3.2	5.0
<b>Total trade payables</b>	<b>673.4</b>	<b>583.2</b>

The total amount of trade payables is due within one year.

## 30. CONSTRUCTION CONTRACT PAYABLES

Liabilities arising from construction contracts primarily concern advance payments received for construction contracts in connection with specific engine programs.

### Construction contract payables

in € million	Dec. 31, 2013	Dec. 31, 2012
Advance payments received for construction contracts	832.1	968.0
thereof offset		
Amount offset against construction contract receivables	-312.0	-364.0
<b>Total construction contract payables</b>	<b>520.1</b>	<b>604.0</b>

Advance payments received for construction contracts are offset against construction contract receivables, and any excess amount due in more than 12 months is measured at fair value by application of a discount rate.

## 31. OTHER LIABILITIES

### Other liabilities

in € million	Total		Non-current		Current	
	Dec. 31, 2013	Dec. 31, 2012	Dec. 31, 2013	Dec. 31, 2012	Dec. 31, 2013	Dec. 31, 2012
Personnel-related liabilities						
Social security	2.5	2.2			2.5	2.2
Pre-retirement part-time working arrangements	15.5	17.2	12.1	13.2	3.4	4.0
Other personnel-related liabilities	45.5	45.2	4.5	3.9	41.0	41.3
Accrued interest expense	10.3	14.0	10.3	14.0		
Outstanding maintenance work on lease engines	1.9	3.4	1.9	3.4		
Repayment of grants toward development costs	57.3	58.0	49.9	53.3	7.4	4.7
Sundry other liabilities	159.0	120.3	69.4	42.6	89.6	77.7
Other tax liabilities	7.7	6.9			7.7	6.9
<b>Total other liabilities</b>	<b>299.7</b>	<b>267.2</b>	<b>148.1</b>	<b>130.4</b>	<b>151.6</b>	<b>136.8</b>

### Personnel-related liabilities

Amounts due for social security principally comprise contributions to social insurance against occupational accidents amounting to € 0.7 million (2012: € 0.6 million) and amounts due to health insurers totaling € 1.8 million (2012: € 1.6 million).

Within the scope of the agreed terms for pre-retirement part-time working arrangements, agreements on top-up and severance payments were concluded with employees at the level of the group's German companies. At December 31, 2013, these liabilities amounted to € 15.5 million (December 31, 2012: € 17.2 million).

Other personnel-related liabilities are composed primarily of unclaimed vacation entitlements and flexitime credits. This item also includes liabilities to group employees under the MAP employee stock option program. In the financial year 2013, the Executive Board of MTU Aero Engines AG, Munich, again invited group employees to purchase shares under the MAP employee stock option program, which runs for a period of two years in each case. Under this program, MTU offers to match each

participant's investment at the end of a two-year vesting period with a taxable cash payment corresponding to 50% of the amount invested by the employee in MTU shares at the beginning of the program.

The number of shares sold to group employees under the terms of the MAP employee stock option program in the financial years 2013 and 2012 is as follows:

#### MAP employee stock option program

Issue date	Number of shares sold	Average cost of acquisition in € million	Total proceeds of sale in € million	Selling price per share in €
June 2013	115,796	2.6	8.3	71.81
June 2012	107,145	2.6	5.9	55.33

The total expense for the matching exercise in connection with the MAP employee stock option program in the financial year 2013 amounted to € 4.0 million (2012: € 3.2 million) and was recognized in the income statement on a pro rata basis over the duration of the respective tranche. At December 31, 2013, the liability amounted to € 4.6 million (2012: € 4.3 million).

The purchase price for the MTU shares allocated in the financial year 2013 amounted to € 71.81 per share. The shares transferred to the employees, valued at the average acquisition cost, were removed from the equity item "treasury shares." The difference between the proceeds of the sale and the original acquisition cost amounted to € 5.7 million and was allocated to capital reserves (2012: € 3.3 million).

#### Accrued interest expense

Long-term advance payments received for construction contracts are discounted at the prevailing market rate over the duration of financing and recognized under "Other liabilities" until the engine is delivered to the customer. The interest expense relates to advance payments received for long-term military construction contracts amounting to € 10.3 million (2012: € 14.0 million).

#### Outstanding maintenance work on lease engines

These liabilities mainly relate to outstanding maintenance work on the present fleet of four lease engines.

#### Repayment of grants toward development costs

In the financial years from 1976 to 1991, MTU received grants from the German Federal Ministry of Economics and Technology toward the internally generated costs of developing the PW2000 engine, which were recognized in the income statement. Once the contractually agreed sales volume of PW2000 production engines has been reached, MTU is obliged to pay back the grants within a timeframe of ten years. In the financial years 2011 and 2012, a total amount of € 3.4 million was repaid and in 2013 a further € 4.7 million.

#### Sundry other liabilities

Sundry other liabilities amount to € 159.0 million (December 31, 2012: € 120.3 million) and mainly comprise acquired program shares and/or development costs in connection with the following engine programs: the PW1524G for the CSeries regional jet, amounting to € 13.7 million (2012: € 21.4 million), the PW1217G for the MRJ, amounting to € 14.5 million (2012: € 15.2 million), the PW1133G for the A320neo amounting to € 54.9 million (2012: € 52.7 million) and the PW1700G for the Embraer E-Jet E175 and the PW1900G for the Embraer E-Jet E190/E195 amounting to € 49.9 million (2012: € 0.0 million). Sundry other liabilities also include a multitude of minor individual obligations.

#### Other tax liabilities

Other tax liabilities amounting to € 7.7 million (2012: € 6.9 million) mainly comprise unpaid income taxes and church tax.

## 32. ADDITIONAL DISCLOSURES RELATING TO FINANCIAL INSTRUMENTS

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

In the following tables, the carrying amounts of financial instruments are aggregated by category, irrespective of whether or

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

#### Disclosures relating to financial instruments:

#### Carrying amounts, measurement/recognition methods and fair value aggregated by category 2013

in € million	Category as defined in IAS 39 / other categories	Carrying amount Dec. 31, 2013	Cash reserve
			Nominal value
<b>ASSETS</b>			
<b>Other assets</b>			
Loans and receivables	LaR	42.5	
Held-to-maturity investments	HtM		
Available-for-sale financial assets	AfS	39.9	
Financial assets held for trading	FAHT		
<b>Trade receivables</b>	LaR	600.1	
<b>Construction contract receivables</b>	LaR	535.4	
<b>Derivative financial assets</b>			
Derivatives without hedging relationship	FAHT	26.1	
Derivatives with hedging relationship	n. a.	43.2	
<b>Cash and cash equivalents</b>	Cash reserve	163.9	163.9
<b>EQUITY AND LIABILITIES</b>			
<b>Trade payables</b>	FLAC	673.4	
<b>Corporate bonds</b>	FLAC	352.3	
<b>Liabilities to banks</b>	FLAC	47.8	
<b>Financial liabilities in connection with IAE-V2500 stake increase</b>	FLtPL	270.7	
<b>Other interest-bearing liabilities</b>	FLAC	140.3	
<b>Other interest-free liabilities</b>	FLAC/n. a.	121.7	
<b>Derivative financial liabilities</b>			
Derivatives without hedging relationship	FLHFT	3.5	
Derivatives with hedging relationship	n. a.	0.2	
<b>OTHER DISCLOSURES</b>			
Loan commitments (engine and aircraft financing agreements)	Financial guarantees	593.2	
Guarantees	Financial guarantees	39.4	
<b>Thereof aggregated by category as defined in IAS 39</b>			
Loans and receivables	LaR	1,178.0	
Held-to-maturity investments	HtM		
Available-for-sale financial assets	AfS	39.9	
Financial assets held for trading	FAHT	26.1	
Financial liabilities measured at fair value through profit or loss	FLtPL	270.7	
Financial liabilities measured at amortized cost	FLAC	1,335.5	
Financial liabilities held for trading	FLHFT	3.5	
<b>Finance lease liabilities</b>	n. a.	6.4	
<b>Financial instruments not within the scope of IFRS 7 (IFRS 7 B2b) or IAS 39:</b>		<b>759.1</b>	

Abbreviations:

LaR = Loans and Receivables  
 HtM = Held-to-Maturity  
 AfS = Available-for-Sale Financial Assets  
 FAHFT = Financial Assets Held for Trading  
 FLAC = Financial Liabilities Measured at Amortised Cost  
 FLHFT = Financial Liabilities Held for Trading  
 FLtPL = Financial liabilities measured at fair value through profit or loss

Note: All financial assets and liabilities for which a fair value is disclosed in the Notes but are not measured at fair value in the balance sheet are categorized within level 3 of the fair value hierarchy (as defined in IFRS 13), with exception of the corporate bonds, which are categorized within level 1.

Amount carried in balance sheet in accordance with IAS 39				Amount carried in balance sheet IAS 17	Financial instruments not within the scope of IAS 39 or IFRS 7	Total	Fair value Dec. 31, 2013
Measured at amortized cost	Measured at cost	Fair value recognized in equity	Fair value recognized in income statement				
	42.5					42.5	42.5
		9.9	30.0			39.9	39.9
	600.1					600.1	600.1
	535.4					535.4	535.4
						26.1	26.1
			43.2			43.2	43.2
						163.9	163.9
	673.4					673.4	673.4
	352.3					352.3	360.9
	47.8					47.8	47.8
						270.7	270.7
	140.3					140.3	140.3
	119.8			1.9		121.7	121.7
						3.5	3.5
			0.2			0.2	0.2
						593.2	593.2
						39.4	39.4
	1,178.0					1,178.0	1,178.0
		9.9	30.0			39.9	39.9
						26.1	26.1
						270.7	270.7
	1,333.6			1.9		1,335.5	1,344.1
						3.5	3.5
						6.4	6.4
						759.1	759.1



Financial instruments not within the scope of either IFRS 7 or IAS 39 mainly comprise pension provisions or plan assets and other liabilities arising from employee benefits accounted for in accordance with IAS 19.

The table below provides comparative information on the carrying amounts, measurement/recognition methods and fair values aggregated by category for the financial year 2012:

#### Disclosures relating to financial instruments

##### Carrying amounts, measurement/recognition methods and fair value aggregated by category 2012

in € million	Category as defined in IAS 39 / other categories	Carrying amount Dec. 31, 2012	Cash reserve
			Nominal value
<b>ASSETS</b>			
<b>Other assets</b>			
Loans and receivables	LaR	16.9	
Held-to-maturity investments	HtM		
Available-for-sale financial assets	AfS	30.5	
Financial assets held for trading	FAHT		
<b>Trade receivables</b>	LaR	568.5	
<b>Construction contract receivables</b>	LaR	547.0	
<b>Derivative financial assets</b>			
Derivatives without hedging relationship	FAHT	14.8	
Derivatives with hedging relationship	n. a.	26.6	
<b>Cash and cash equivalents</b>	Cash reserve	161.2	161.2
<b>EQUITY AND LIABILITIES</b>			
<b>Trade payables</b>	FLAC	583.2	
<b>Corporate bonds</b>	FLAC	252.5	
<b>Liabilities to banks</b>	FLAC	46.9	
<b>Financial liabilities in connection with IAE-V2500 stake increase</b>	FLtPL	299.7	
<b>Other interest-bearing liabilities</b>	FLAC	118.9	
<b>Other interest-free liabilities</b>	FLAC/n. a.	96.0	
<b>Derivative financial liabilities</b>			
Derivatives without hedging relationship	FLHFT	5.4	
Derivatives with hedging relationship	n. a.	10.9	
<b>OTHER DISCLOSURES</b>			
Loan commitments (engine and aircraft financing agreements)	Financial guarantees	143.3	
Guarantees	Financial guarantees	45.8	
<b>Thereof aggregated by category as defined in IAS 39</b>			
Loans and receivables	LaR	1,132.4	
Held-to-maturity investments	HtM		
Available-for-sale financial assets	AfS	30.5	
Financial assets held for trading	FAHT	14.8	
Financial liabilities measured at fair value through profit or loss	FLtPL	299.7	
Financial liabilities measured at amortized cost	FLAC	1,097.5	
Financial liabilities held for trading	FLHFT	5.4	
<b>Finance lease liabilities</b>	n. a.	3.5	
<b>Financial instruments not within the scope of IFRS 7 (IFRS 7 B2b) or IAS 39:</b>		<b>762.6</b>	

Abbreviations:

LaR = Loans and Receivables

HtM = Held-to-Maturity

AfS = Available-for-Sale Financial Assets

FAHfT = Financial Assets Held for Trading

FLAC = Financial Liabilities Measured at Amortised Cost

FLHfT = Financial Liabilities Held for Trading

FLtPL = Financial liabilities measured at fair value through profit or loss

Amount carried in balance sheet in accordance with IAS 39				Amount carried in balance sheet IAS 17	Financial instruments not within the scope of IAS 39 or IFRS 7	Total	Fair value Dec. 31, 2012
Measured at amortized cost	Measured at cost	Fair value recognized in equity	Fair value recognized in income statement				
16.9						16.9	16.9
	5.5	25.0				30.5	30.5
568.5						568.5	568.5
547.0						547.0	547.0
			14.8			14.8	14.8
		26.6				26.6	26.6
						161.2	161.2
583.2						583.2	583.2
252.5						252.5	261.5
46.9						46.9	46.9
			299.7			299.7	299.7
118.9						118.9	118.9
92.6				3.4		96.0	96.0
			5.4			5.4	5.4
		10.9				10.9	10.9
						143.3	143.3
						45.8	45.8
1,132.4						1,132.4	1,132.4
	5.5	25.0				30.5	30.5
			14.8			14.8	14.8
			299.7			299.7	299.7
1,094.1				3.4		1,097.5	1,106.5
			5.4			5.4	5.4
				3.5		3.5	3.5
					762.6	762.6	762.6

Cash and cash equivalents, trade receivables and construction contract receivables are generally due within a relatively short time. The carrying amounts of these assets therefore correspond approximately to their fair value at the reporting date.

As a rule, trade payables and construction contract payables are due within a relatively short time. The carrying amounts of these liabilities therefore correspond approximately to their fair value at the reporting date.

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

In order to evaluate the significance of the factors used as input when measuring financial assets and liabilities at their fair value, MTU assigns these assets and liabilities to three levels of a fair value hierarchy.

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

- Level 1 Quoted prices in active markets for identical assets or liabilities (unadjusted input)
- Level 2 Prices of assets and 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 2013 and 2012:

#### Allocation of financial assets and liabilities to the fair value hierarchy for the financial year 2013

in € million	Level 1	Level 2	Level 3	Total
<b>Financial assets measured at fair value</b>				
Derivative financial instruments		69.3		69.3
Available-for-sale financial assets	30.0			30.0
<b>Total financial assets</b>	<b>30.0</b>	<b>69.3</b>		<b>99.3</b>
<b>Financial liabilities measured at fair value</b>				
Derivative financial instruments		3.7		3.7
Financial liabilities measured at fair value through profit or loss			270.7	270.7
<b>Total financial liabilities</b>		<b>3.7</b>	<b>270.7</b>	<b>274.4</b>

#### Allocation of financial assets and liabilities to the fair value hierarchy for the financial year 2012

in € million	Level 1	Level 2	Level 3	Total
<b>Financial assets measured at fair value</b>				
Derivative financial instruments		41.4		41.4
Available-for-sale financial assets	25.0			25.0
<b>Total financial assets</b>	<b>25.0</b>	<b>41.4</b>		<b>66.4</b>
<b>Financial liabilities measured at fair value</b>				
Derivative financial instruments		16.3		16.3
Financial liabilities measured at fair value through profit or loss			299.7	299.7
<b>Total financial liabilities</b>		<b>16.3</b>	<b>299.7</b>	<b>316.0</b>

The financial liabilities measured at fair value assigned to level 3 relate exclusively to liabilities arising from the IAE-V2500 stake increase. A valuation technique was employed in which market data (interest rates, U.S. dollar exchange rates) were collected to obtain the relevant observable inputs and in which

the unobservable inputs (expected future number of flight hours) were developed using the company's own best available information and updated where necessary. A factor with a significant impact on the carrying amount of the financial liability, which is measured using the discounted cash flow method, is the number of flight hours on which deferred payments are based. A sensitivity analysis revealed that if the expected number of flight hours were to change by 10%, the corresponding change in fair value would be around € 27 million (2012: around € 30 million).

### Payment cash flows for financial liabilities

The following tables list the contractually agreed, discounted payments of interest and principal on the non-derivative financial liabilities and derivative financial instruments held by MTU, measured at fair value through profit or loss.

#### Payment cash flows for financial liabilities 2013

in € million	Carrying amount Dec. 31, 2013	Cash flows 2014			Cash flows 2015			Cash flows 2016			Cash flows 2017 ff.		
		Fixed interest	Variable interest	Principle	Fixed interest	Variable interest	Principle	Fixed interest	Variable interest	Principle	Fixed interest	Variable interest	Principle
Trade payables	673.4			673.4									
Bonds	352.3	11.0			11.0			11.0			49.5		350.0
Liabilities to banks	47.8	0.9	0.7	31.6		0.4	3.7		0.1	12.0			
Financial liabilities in connection with IAE-V2500 stake increase	270.7			42.1			42.9			42.0			209.2
Other interest-bearing liabilities	140.3 <sup>2)</sup>			4.8			26.5			36.8			64.6
Other interest-free liabilities	121.7			119.8			1.9						
Derivative financial liabilities													
Derivatives without hedging relationship	3.5			1.4									2.1
Derivatives with hedging relationship	0.2			0.2									
Other Disclosures													
Loan commitments (engine and aircraft financing agreements)	593.2			156.0			101.7			208.5			126.9
Guarantees	39.4			39.4									
Finance lease liabilities	6.4			0.2			0.3			0.3			5.6
Other financial liabilities not within the scope of IFRS 7 or IAS 39:	729.0 <sup>1)</sup>			106.6			29.6			28.4			195.3

<sup>1)</sup> Cash flows from pension provisions known only for the period to 2023, as stated in the expert assessment.

<sup>2)</sup> Including discounted cash flow valuation of interest expense.

## Payment cash flows for financial liabilities 2012

in € million	Carrying amount Dec. 31, 2012	Cash flows 2013			Cash flows 2014			Cash flows 2015			Cash flows 2016 ff.		
		Fixed inter- est	Vari- able inter- est	Prin- ciple	Fixed inter- est	Vari- able inter- est	Prin- ciple	Fixed inter- est	Vari- able inter- est	Prin- ciple	Fixed inter- est	Vari- able inter- est	Prin- ciple
Trade payables	583.2			583.2									
Bonds	252.5	7.5			7.5			7.5			15.0		250.0
Liabilities to banks	46.9	0.9	0.7	32.6	0.9	0.1	11.5		0.1	2.3			
Financial liabilities in connection with the IAE-V2500 stake increase	299.7			44.0			44.7			45.4			306.1
Other interest-bearing liabilities	118.9 <sup>2)</sup>						27.2			18.4			64.6
Other interest-free liabilities	96.0			92.6			2.9			0.4			0.1
Derivative financial liabilities													
Derivatives without hedging relationship	5.4			2.6			0.8			2.0			
Derivatives with hedging relationship	10.9			8.5			2.4						
Other Disclosures													
Loan commitments (engine and aircraft financing agreements)	143.3			143.3									
Guarantees	45.8			45.8									
Finance lease liabilities	3.5			3.4			0.1						
Other financial liabilities not within the scope of IFRS 7 or IAS 39:	<b>731.4<sup>1)</sup></b>			113.7			29.4			28.1			194.2

<sup>1)</sup> Cash flows from pension provisions known only for the period to 2023, as stated in the expert assessment.

<sup>2)</sup> Including discounted cash flow valuation of interest expense.

The statement includes all instruments in the portfolio at December 31, 2013 for which payment terms had been contractually agreed. Amounts denominated in a foreign currency are translated at the exchange rate prevailing on the respective reporting date. The variable rate interest payments on the financial instruments are based on the most recent interest rate fixed prior to December 31, 2013. Financial liabilities and loan commitments with no fixed repayment date are always assigned to cash flows on the basis of the earliest likely repayment dates. For further information concerning the stated carrying amounts, please refer to Note 37. (Contingent liabilities and other financial obligations).

Within the scope of its partnerships in engine programs, MTU is a party to aircraft financing agreements for the purpose of promoting sales. These agreements are offered in two basic forms: predelivery payment (PDP) financing and backstop commitments. In both cases, any funds made available to the purchaser are transferred directly to the aircraft manufacturer.

MTU classifies the offered loan commitments as part of its gross risk, according to the requirements of IFRS 7. However, based on experience, it is estimated very unlikely that these notional loan amounts will actually be utilized to their full extent. In the event that loan commitments are utilized, MTU considers the associated liquidity and credit risks to be manageable.

There are several reasons for this. Firstly, the proposed financing agreement does not become effective until it is taken up in contractual form. The conditions of the loan are adapted to the specific market and in the case of backstop commitments are cost-prohibitive. In the case of PDP financing, the consortium has collateral rights to the aircraft while it is still in production and thus in the possession of the aircraft manufacturer – in the case of backstop commitments, the consortium retains direct ownership of the asset up to the delivery date. After delivery the lender retains a security interest in the aircraft. It is probable that other lenders will become third parties to any loans that are established, particularly in view of the offered modes of financing. Another factor that will tend to limit credit risks is the incorporation of supplementary restrictive clauses in the proposed agreements, which require the aircraft purchaser to provide evidence that their financial means are sufficient before the loan contract is signed.

With respect to the impact on MTU's liquidity of the notional loan amounts of the proposed financing agreements, the company's existing lines of credit (see Note 28. (Financial liabilities)) provide adequate liquidity reserves, even in the unlikely case that all offers of financing agreements are taken up at the same time.

### Explanatory comments relating to net gain / loss on financial instruments by category

The tables below show the gains / losses arising from transactions involving financial instruments, aggregated by category, for 2013 and 2012. Interest income and expense in connection with financial assets and liabilities that are measured at fair value through profit or loss are not included here:

#### Net gain / loss on financial instruments by category 2013

Aggregated by category as defined in IAS 39	from interest	from investments	from remeasurement			from disposal	Net gain/loss 2013
			at fair value recognized	currency translation	valuation allowances		
in € million			in equity				
Loans and receivables (LaR)	4.3			-11.6	-0.5		-7.8
Held-to-maturity investments (HtM)							
Available-for-sale financial assets (AFS)	0.1	2.1					2.2
Financial assets held for trading (FAHFT)			18.6				18.6
Financial liabilities measured at amortized cost (FLAC)	-17.5		-5.0	6.8			-15.7
Financial liabilities held for trading (FLHFT)			-7.2				-7.2
Financial liabilities measured at fair value through profit or loss (FLtPL)			-22.2				-22.2
Financial instruments not within the scope of IFRS 7 or IAS 39:	0.5	1.7		-4.8			-2.6
<b>Total</b>	<b>-12.6</b>	<b>3.8</b>	<b>-15.8</b>	<b>-9.6</b>	<b>-0.5</b>		<b>-34.7</b>

**Net gain / loss on financial instruments by category 2012**

Aggregated by category as defined in IAS 39	from interest	from investments	from remeasurement			from disposal	Net gain/ loss 2012
			at fair value recognized	currency translation	valuation allowances		
in € million			in equity				
Loans and receivables (LaR)	2.2			-19.3	-3.0		-20.1
Held-to-maturity investments (HtM)							
Available-for-sale financial assets (AFS)	0.3	2.4					2.7
Financial assets held for trading (FAHfT)			40.4				40.4
Financial liabilities measured at amortized cost (FLAC)	-6.4		-6.2	20.4			7.8
Financial liabilities held for trading (FLHfT)			-22.2				-22.2
Financial liabilities measured at fair value through profit or loss (FLtPL)			-5.9				-5.9
Financial instruments not within the scope of IFRS 7 or IAS 39:	1.1	11.6		-1.2			11.5
<b>Total</b>	<b>-2.8</b>	<b>14.0</b>	<b>6.1</b>	<b>-0.1</b>	<b>-3.0</b>		<b>14.2</b>

The interest component of financial instruments is recognized under net interest expense (see Note 8. Interest result). Other components of net income or loss are recorded in MTU's financial statements in the financial result on other items (Note 9. Financial result on other items), with the exception of the expense for valuation allowances on trade receivables, which comes under the category of loans and receivables and is recognized under selling expenses. Gains/losses arising from translation differences on trade receivables and payables are recognized under revenues or cost of sales respectively.

#### Explanatory comments relating to net interest expense

The net interest expense on financial liabilities classified as financial liabilities measured at amortized cost, amounting to € 17.5 million (2012: € 6.4 million), mainly comprises interest expenses attributable to the corporate bonds, credit agreements with banks, and finance lease liabilities.

#### Explanatory comments relating to measurement subsequent to initial recognition

The net gain/loss on financial instruments measured at fair value mainly comprises exchange rate gains and losses arising from the measurement of derivatives. The item "Financial

liabilities measured at amortized cost' contains changes in the discount rate applied in the measurement of this category of liabilities and provisions.

Losses from the currency translation of financial assets classified as loans and receivables amounting to € 11.6 million (2012: € 19.3 million) are mainly attributable to the measurement of trade receivables. These losses are offset by currency translation gains amounting to € 6.8 million (2012: € 20.4 million) on trade payables, which are classified as financial liabilities measured at amortized cost.

### 33. DEFERRED TAX ASSETS AND LIABILITIES

Deferred taxes arise on temporary differences between the tax bases of assets and liabilities of the individual group companies and their carrying amounts in the consolidated balance sheet. Deferred tax assets and liabilities were created for assets and liabilities as well as for actuarial gains and losses on plan assets and pension obligations and for derivative financial instruments. Income tax assets were also recognized for tax credits and losses available for carry-forward.

**tax assets and liabilities**

In € million	Dec. 31, 2013		Dec. 31, 2012		2013	
	Deferred tax assets recognized in the balance sheet	Deferred tax liabilities recognized in the balance sheet	Deferred tax assets recognized in the balance sheet	Deferred tax liabilities recognized in the balance sheet	Tax income / expense (-) in income statement	recognized in equity
<b>Assets</b>						
Intangible assets	0.3	174.9	0.5	176.7	1.6	
Property, plant and equipment	1.1	59.0	3.6	60.2	-1.2	-0.1
Financial assets						
Inventories	5.6	21.3	5.1	16.4	-4.4	
Receivables and other assets	1.8	16.4	3.9	19.3	1.9	-1.1
<b>Total assets</b>	<b>8.8</b>	<b>271.6</b>	<b>13.1</b>	<b>272.6</b>	<b>-2.1</b>	<b>-1.2</b>
<b>Equity</b>						
Assets and liabilities designated as hedging instruments (netted)		20.1		10.7		-9.4
Actuarial gains and losses on plan assets and pension obligations	45.3		47.5			-2.2
<b>Total equity</b>	<b>45.3</b>	<b>20.1</b>	<b>47.5</b>	<b>10.7</b>		<b>-11.6</b>
<b>Liabilities</b>						
Pension provisions	9.5	2.5	12.3	2.2	-3.1	
Other provisions	12.3	0.5	11.2	24.9	26.0	-0.5
Liabilities	17.1		29.7	0.5	-12.1	
<b>Total liabilities</b>	<b>38.9</b>	<b>3.0</b>	<b>53.2</b>	<b>27.6</b>	<b>10.8</b>	<b>-0.5</b>
<b>Deferred tax on assets and liabilities</b>	<b>93.0</b>	<b>294.7</b>	<b>113.8</b>	<b>310.9</b>	<b>8.7</b>	<b>-13.3</b>
<b>Tax credits and tax losses available for carry-forward</b>						
Tax credits available for carry-forward	37.2		49.1		-11.0	-0.9
Tax losses available for carry-forward	16.5		7.0		8.8	0.7
<b>Valuation allowances and unrecognized recoverable tax payments</b>						
Valuation allowance on tax credits	-6.6		-42.5		35.1	0.8
Valuation allowance on tax losses carried forward	-16.5		-7.0		-8.8	-0.7
Temporary differences for which no deferred tax assets were recognized	-0.2		-1.3			1.1
<b>Tax credits and losses carried forward</b>	<b>30.4</b>		<b>5.3</b>		<b>24.1</b>	<b>1.0</b>
<b>Deferred tax assets/liabilities before offset</b>	<b>123.4</b>	<b>294.7</b>	<b>119.1</b>	<b>310.9</b>	<b>32.8</b>	<b>-12.3</b>
Offset	-90.4	-90.4	-103.5	-103.5		
<b>Net deferred tax assets/liabilities</b>	<b>33.0</b>	<b>204.3</b>	<b>15.6</b>	<b>207.4</b>	<b>32.8</b>	<b>-12.3</b>

Reference is made to Note 10. (Income taxes) for further information relating to current and deferred tax assets and liabilities resulting from the balance sheet and other items listed above and to the reconciliation between expected and actual tax expense.

Deferred tax assets and liabilities are offset only if the balances relate to the same type of tax with similar maturities levied by the same taxation authority.

Deferred tax assets were recognized for deferred tax losses/credits available for carry-forward in the case of the following group companies:



**Deferred tax assets recognized for tax losses/credits available for carry-forward at December 31**

in € million	U.S. 2013	Poland 2013	Total 2013	Total 2012
Unused tax losses	18.3	49.0	67.3	18.0
Tax credits available for carry-forward		37.2	37.2	49.1
<b>Potential tax impact of tax losses / credits available for carry-forward</b>	<b>7.2</b>	<b>46.5</b>	<b>-53.7</b>	<b>-56.1</b>
Valuation allowance on tax losses carried forward	-7.2	-9.3	-16.5	-7.0
Valuation allowance on tax credits		-6.6	-6.6	-42.5
<b>Balance sheet effect of deferred tax assets on tax losses / credits available for carry-forward</b>		<b>30.6</b>	<b>30.6</b>	<b>6.6</b>

**United States**

The unused tax losses totaling € 18.3 million incurred by MTU Aero Engines North America Inc., Rocky Hill, U.S. and Vericor Power Systems LLC., Alpharetta, U.S. were fully written down through valuation allowances, as in previous years. Therefore, no deferred tax assets were recognized for these companies. In the United States, tax losses can be carried forward for 20 years.

Temporary differences for which no deferred tax assets were recognized totaled € 0.4 million in the financial year 2013 (2012: € 2.6 million) and related to MTU Aero Engines North America Inc., Rocky Hill, U.S. The resulting potential tax impact of € 0.2 million (2012: € 1.3 million) was not taken into account in the computation of income tax expense.

**Poland**

MTU Aero Engines Polska Sp. z.o.o. receives government support in the context of Poland's economic development program by virtue of its location in a special economic zone. Because its business investments help to create jobs, the company has been awarded tax credits in respect of the profits it expects to achieve through its production activities, with separate amounts being accorded for the periods extending through to 2017 and 2026 respectively. The investments necessary to obtain the maximum possible level of government assistance have for the most part already been made, and further investment activities are nearing completion, as

planned. Tax credits amounting to € 30.6 million (2012: € 6.6 million) were recognized as deferred tax assets in respect of the company's expected earnings over the above-mentioned periods. These assets were recognized as the result of the introduction of modified tax structures in the reporting period.

In addition to the activities for which tax advantages are granted, the company also provides services that are subject to normal taxation. In the financial years 2012 and 2013, this area of business resulted in tax losses totaling € 49.0 million. These losses can only be carried forward over a limited number of years and a ceiling is imposed on the amount carried forward. A valuation allowance corresponding to the maximum amount of allowable deferred tax assets was therefore recognized in the balance sheet.

**Deferred tax liabilities for taxable temporary differences arising from investments in subsidiaries and joint ventures**

In accordance with IAS 12, no deferred tax liabilities were recognized for temporary differences amounting to € 68.2 million (2012: € 191.8 million) that arose in connection with investments in subsidiaries and joint ventures. If these differences were to lead to the creation of deferred tax liabilities, they would result in a tax liability amounting to € 5.0 million (2012: € 6.2 million), based on the current provisions of Section 8b of the German Corporate Income Tax Law (KStG).

## IV. OTHER DISCLOSURES

### 34. MEASUREMENT OF THE RECOVERABLE AMOUNT OF OPERATING SEGMENTS TO WHICH GOODWILL HAS BEEN ATTRIBUTED

The group tests the goodwill of the cash-generating units for impairment annually. At MTU, the two operating segments – OEM (commercial and military engine business) and MRO (commercial maintenance business) – are viewed as cash-generating units. The value in use of each of the two operating segments at June 30, 2013, was calculated in order to determine their respective recoverable amounts. In the period between the reporting date and the impairment testing date, no new information came to our knowledge that might affect goodwill measurement. The recoverable amount determined for each operating segment was compared with the corresponding carrying amount. The calculations are based on the following assumptions:

- The calculations are based on the planned EBIT for each of the two operating segments, from which the future free cash flows are derived (cash inflows and outflows are planned without reference to financing activities or taxation).
- The variables that enter into the calculation of weighted average cost of capital (WACC) before tax are:
  - risk-free base interest rate
  - risk premium of the company, i.e. the market risk premium multiplied by the beta coefficient calculated on the basis of a peer group analysis
  - perpetuity divided by discount rate less growth rate
  - costs of debt capital, and
  - the group's capital structure.

The WACC is taken as a basis for the discount rate before tax, and is measured as a function of the cost of capital, averaged to account for both debt capital and equity capital. The cost of equity capital is first calculated after tax. For this purpose, MTU in 2013 used a risk-free base interest rate of 2.25%, a market risk premium of 6.5% and a beta coefficient of 1.23 based on peer group analysis. The cost of debt capital was 2.19% after tax. A growth rate of 1.0% was subtracted from the above discount rate to determine the present value of the perpetuity. The assumptions for the value in use included an average long-term growth rate of 6.4% per annum (2012: 11.1% per annum), EBITDA margins of 9.4% to 15.4% (2012: 10.6% to 11.1%) and a discount rate of 10.1% (2012: 10.4%) for the OEM segment (commercial and military engine business). The corresponding assumptions for the MRO segment (commercial maintenance

business) were based on an average long-term growth rate of 5.8% per annum (2012: 9.1% per annum), EBITDA margins of 10.5% to 12.0% (2012: 10.6% to 11.1%) and a discount rate of 10.3% (2012: 10.3%).

The carrying amount of goodwill in the OEM segment (commercial and military engine business) was unchanged compared with 2012, at € 304.4 million (2012: € 304.4 million), and the carrying amount for goodwill in the MRO segment (commercial maintenance business) was € 101.5 million (2012: € 101.9 million). The detailed forecasting period for the projected EBIT and cash flow figures used to determine the value in use of the two operating segments is five years. The value in use of the OEM segment is € 2,967.2 million, and that of the MRO segment is € 1,564.7 million.

The calculations present no indications at the present time that could lead MTU to the conclusion that an impairment loss on goodwill for either of the operating segments is necessary.

### 35. SENSITIVITY ANALYSIS OF GOODWILL

Sensitivity analyses were carried out to determine the possible impact that a sustained reduction in planned earnings before interest and tax (EBIT) might have on the goodwill amounts allocated to each of the two operating segments. This analysis included sensitivity factors affecting the calculation of the weighted average cost of capital.

Assuming an unchanged weighted average cost of capital (WACC), the sensitivity analyses concluded that there would be no necessity to recognize an impairment loss on goodwill either in the OEM or MRO operating segment, even in the event of a sustained reduction in EBIT ranging to 20% below the earnings forecast established by management. This similarly applies in the hypothetical case in which EBIT in both segments remains unchanged while the weighted average cost of capital rises by 20%.

### 36. FINANCIAL RISK

In the course of its ordinary business activities, MTU is exposed to credit risks, liquidity risks and market risks. The objective of financial risk management is to minimize the risks arising from operating activities and the resulting financing requirements through the use of selected derivative and non-derivative hedging instruments.

Risks in connection with the procurement, financing and sale of MTU's products and services are described in detail in the group management report. MTU counters financial risks by means of an implemented risk management system, which is monitored by the Supervisory Board. The principles aim at rapidly identifying, analysing and communicating risks and taking countermeasures. Market risks, particularly commodity price risks, currency risks, and interest risks, are analysed in respect of their potential impact on earnings before interest and tax (EBIT) and on the interest result.

### 36.1. CREDIT RISK

With regard to financial instruments, MTU is exposed to a default risk which arises from the possible non-performance of a contract partner; the maximum risk exposure thus amounts to the fair value gain of the financial instrument concerned. To minimize the default risk, transactions are only conducted within defined limits and with partners with a very good credit rating. To enable efficient risk management, market risks are managed by a central unit within the group. The conclusion and execution of transactions are carried out in compliance with internal guidelines and are subject to controls, taking account of the separation of functions.

In the case of derivative financial instruments, e.g. forward foreign exchange contracts, the group is also exposed to a credit risk which arises as a result of contract partners not fulfilling contractual agreements. In the context of financing activities, this credit risk is diminished by ensuring that business is conducted only with partners with a credit rating of at least investment grade (IG). For this reason, the general credit risk resulting from the use of derivative financial instruments is not considered to be significant.

There are no indications of any concentrations of default risk arising from business relations with individual debtors or groups of debtors.

The maximum default risk is represented by the carrying amounts of the financial assets recognized in the balance sheet. No material agreements exist at the reporting date which could reduce the maximum credit risk. Furthermore, MTU is exposed to a liability risk and hence potential default risk as a result of obligations assumed under partnerships and the associated contingent liabilities. At the reporting date, MTU's proportionate share of these contingent liabilities

totalled a nominal amount of € 12.8 million (2012: € 16.9 million). In addition to these contingent liabilities, the group also held guarantees issued for group companies amounting to € 39.4 million (2012: € 45.8 million). For a detailed description, please refer to Note 37.1. (Contingent liabilities).

MTU is a party to engine and aircraft financing agreements. A detailed description of these loan commitments is provided in Note 32. (Additional disclosures relating to financial instruments).

### 36.2. MARKET RISKS

#### 36.2.1. Currency risk

More than 80% of MTU's revenues are generated in U.S. dollars. Approximately half of this currency risk is offset in the normal course of business by costs incurred likewise in U.S. dollars. Most other costs are incurred in euros and in Chinese yuan renminbi, and to a lesser extent in Canadian dollars and Polish zloty. Changes in currency exchange rates in the unhedged portion of the portfolio thus have a direct impact on EBIT and cash flow.

#### Hedging strategy

MTU uses a hedging model to protect certain portions of its expected net foreign currency portfolio in order to minimize the effects of the volatility of the U.S. dollar exchange rate on the company's EBIT and cash flow.

Translation differences resulting from the translation of annual financial statements into the group's functional currency are not included.

#### Forward foreign exchange contracts / Hedging instruments designated as cash flow hedges

At December 31, 2013, MTU held forward foreign exchange contracts for a contractual period up to March 2016 to sell a nominal volume of U.S. \$ 975.0 million (which translates to € 707.0 million at the exchange rate prevailing at the reporting date). Changes in the fair value of the forward foreign exchange contracts amounted to a gain of € 27.3 million in 2013 (2012: € 36.7 million). At December 31, 2012, MTU had hedged cash flows amounting to U.S. \$ 1,550.0 million (which translates to € 1,174.8 million at the exchange rate prevailing at December 31, 2012) for the financial years 2013–2015.

Out of the total nominal volume of forward foreign exchange contracts, the following amounts are expected to be used in the subsequent financial years:

#### Forward foreign exchange contracts

in U.S. \$ million	2013	2012
2013		785.0
2014	565.0	535.0
2015	350.0	230.0
2016	60.0	
<b>Total in U.S. \$ million</b>	<b>975.0</b>	<b>1,550.0</b>
<b>Translated into € million at the exchange rate prevailing on the reporting date</b>	<b>707.0</b>	<b>1,174.8</b>

In the financial year 2013, a gain of € 4.4 million (2012: a loss of € 13.2 million) was realized from effective forward foreign exchange contracts and recycled from equity to revenues. The company also holds other financial instruments designated as cash flow hedges covering periods extending to 2027 and representing a nominal amount of U.S. \$ 463.7 million (2012: U.S. \$ 526.9 million), which translates to € 336.2 million (2012: € 399.3 million) at the exchange rate prevailing at the reporting date. The ineffective portion of the realized forward foreign exchange contracts in 2013, amounting to a gain of € 1.0 million, was recognized as income (2012: a loss of € 0.8 million was recognized as an expense) in the financial result on other items. At December 31, 2013, net of deferred taxes, fair value gains on forward foreign exchange contracts amounting to € 29.0 million (2012: € 10.6 million) were recognized directly in equity.

There were no forecast transactions for which cash flow hedges were recognized in prior periods that are not expected to occur.

As a further element of its risk management strategy, MTU employs derivative financial instruments that do not form part of a hedging relationship as defined by IAS 39:

#### Currency option transactions

Simple option transactions enable MTU to sell a defined quantity of U.S. dollars at agreed euro exchange rates at a specific time. The risk of financial loss from these transactions is limited to the premiums that have already been paid. At

December 31, 2013, MTU held out-of-the-money currency options amounting to U.S. \$ 70.0 million (2012: U.S. \$ 90.0 million) and in-the-money currency options amounting to U.S. \$ 50.0 million (2012: U.S. \$ 70.0 million).

In addition to these simple options, MTU also holds short-position options which were concluded in order to reduce the amount paid in premiums. Losses can be incurred if the exchange rate falls since MTU is obliged to sell U.S. dollars at a previously agreed euro/U.S. dollar exchange rate.

#### Currency swaps

During the financial year 2013, U.S. dollar holdings were sold at the daily rate and repurchased after a short time using a swap. As the selling and purchase prices differ marginally, these swaps are immaterial in terms of risk. The purpose of this transaction was to optimize the hedging of currency risk. At December 31, 2013, a currency swap line was in place covering a total amount of U.S. \$ 90.0 million (2012: U.S. \$ 0.0 million), with a maturity date of January 7, 2014.

#### Collective forward transactions

In the period up to December 2013, MTU concluded collective forward foreign exchange contracts for a nominal amount of U.S. \$ 280.0 million. The contract-specific hedging rates lie between 1.1720 and 1.2690 U.S. dollars to the euro for terms between 2014 and 2016. If the effective daily rate of the U.S. dollar lies within the corridor specified in a given contract, a fixed volume of U.S. dollars is hedged. If the rate is above the corridor, no volume is hedged; if it is below the corridor, the volume is doubled. The corridors in the contracts are generally between 1.172 and 1.55 U.S. dollars to the euro. The fair value gain on these contracts amounted to € 23.1 million at the reporting date (2012: € 12.0 million). This gain was recognized in the balance sheet under financial assets, while the change in the amount compared with the prior period was recognized in the income statement under financial result on other items.

#### Exchange rate sensitivity analysis

The sensitivity analysis showing the effects of hypothetical changes in exchange rates on the earnings after tax and equity is related to the holdings of the respective balance sheet items at the reporting date. In the process, it is assumed that the holding at the reporting date is representative of the whole year.

A large proportion of trade receivables and payables, and of finance lease liabilities, are invoiced in U.S. dollars, and are therefore exposed to exchange rate fluctuations. All other non-derivative financial instruments are already denominated in the functional currency and are hence not included in the exchange rate sensitivity analysis. The equity instruments held by the group are not of a monetary nature, and so consequently do not present a currency risk as defined by IFRS 7.

If it is assumed that the exchange rate of the euro to the U.S. dollar at December 31, 2013, or at the prior year's reporting date had been 10% higher or lower than the actual closing rate, this would have produced the following hypothetical effects on earnings after tax (EAT) and equity:

<b>Exchange rate sensitivity (€/U.S.\$)</b>				
in € million	2013		2012	
	-10%	+10%	-10%	+10%
Closing exchange rate Dec. 31, 2013: 1.3791 (Dec. 31, 2012: 1.3194)	1.24	1.52	1.19	1.45
<b>Earnings after tax</b>	<b>-21.7</b>	<b>12.7</b>	<b>-23.6</b>	<b>12.7</b>
<b>Equity<sup>1)</sup></b>	<b>-33.3</b>	<b>31.2</b>	<b>-71.4</b>	<b>62.9</b>
of which: hedge reserve (fair value) <sup>1)</sup>	-52.9	43.3	-87.5	71.6

<sup>1)</sup> after tax.

### 36.2.2. Interest rate risk

MTU is exposed to interest rate risk principally in the euro zone, and to a lesser extent in Canada, China, Poland and the United States. MTU's interest risks are mainly related to financial liabilities.

#### Interest rate sensitivity analysis

IFRS 7 requires the presentation of interest rate risk in the form of a sensitivity analysis. This demonstrates the effects of changes in market interest rates on interest payments, interest income and expense, other income statement items, earnings after tax, and equity. The interest rate sensitivity analysis is based on the following assumptions:

Changes in the market interest rate of non-derivative financial instruments bearing interest at a fixed, normal rate have an effect on earnings after tax and equity only if these financial instruments are classified as "at fair value through profit or loss" or were so designated at initial recognition. Consequently, all fixed-interest financial instruments measured at amortized cost have no effects on earnings after tax and equity that must be accounted for.

Changes in the market interest rate of financial instruments that have been designated as hedging instruments for the purposes of a cash flow hedge to reduce exposure to variations in payment due to interest rates have an impact on the hedge reserve in equity and are therefore included in the sensitivity analysis. Consequently, financial instruments that do not form part of a hedging relationship as defined by IAS 39 have an effect on the "financial result on other items" (adjustment of fair value of derivative instruments). These effects are taken into account in the income-related sensitivity analysis.

In the financial year 2013, the bonds and the remaining promissory note were subject to interest at a fixed rate. A change in the market interest rate has an impact on the remaining financial liabilities, such as IAE V2500 financial liability and on other liabilities which are discounted as they fall due in the future.

If the market interest rate at December 31, 2013, had been 100 basis points lower or higher, based on the assumption that all the interest rates were variable, this would have produced the following hypothetical effects on earnings after tax for the year:

<b>Interest rate sensitivity</b>				
in € million	2013		2012	
	-100	+100	-100	+100
<b>Interest rate sensitivity in basis points</b>	<b>-7.9</b>	<b>7.7</b>	<b>-10.7</b>	<b>9.9</b>

### 36.2.3. Price risk

#### Commodity price risk

As a basic principle, there is a risk of commodity price increases. This risk is minimized mainly through commodity sales contracts with appropriate price agreements and only to a small extent through derivative financial instruments for forward commodity sales contracts for nickel.

At December 31, 2013, MTU had concluded forward commodity sales contracts with financial institutions for a volume of 100 metric tons of nickel (2012: 350 metric tons) for 2014 and contracted fixed prices for nickel between U.S. \$ 19,300 and 21,500 per metric ton (2012: U.S. \$ 19,300 – 24,500 dollars per metric ton).

If the market price for nickel on the respective due date exceeds the agreed fixed price, MTU will receive a payment for the difference from the bank. In the opposite case, MTU is obligated to compensate the bank. No effective hedging relationship as defined in IAS 39 has been established for these transactions. The fair value losses of € 0.7 million (2012: € 0.7 million) arising from these forward commodity sales contracts are recognized in the financial result on other items (see Note 9. "Financial result on other items").

If it is assumed that the market price of forward commodity sales contracts for nickel had been 10% higher or lower, earnings after tax would have been € 0.1 million higher or lower, respectively (2012: € 0.5 million).

### 36.3. LIQUIDITY RISK

MTU's liquidity risk consists in non-compliance with payment obligations on account of insufficient cash or cash equivalents. In order to ensure the solvency and financial flexibility of MTU at all times, long-term credit lines and liquid funds are held available based on multi-year financial planning and rolling monthly liquidity planning.

MTU has concluded long-term syndicated loans and bilateral credit agreements with a number of banks. For further details, please see Note 28. (Financial liabilities). The lines of credit established in 2013 are considered sufficient to meet potential obligations arising from aircraft financing agreements in the years to come.

## 37. CONTINGENT LIABILITIES AND OTHER FINANCIAL OBLIGATIONS

### 37.1. CONTINGENT LIABILITIES

#### Contingent liabilities

in € million	Dec. 31, 2013	Dec. 31, 2012
I. Contingent liabilities arising from risk- and revenue-sharing partnerships with:		
IAE International Aero Engines AG	3.9	4.1
Pratt & Whitney Aircraft Company	8.2	9.7
General Electric Company	0.7	3.1
<b>Total contingencies</b>	<b>12.8</b>	<b>16.9</b>
II. Guarantees and other contingent liabilities	39.4	45.8
<b>Total contingent liabilities</b>	<b>52.2</b>	<b>62.7</b>

No provisions were allocated for contingent liabilities in 2013, as the risk of their being utilized is considered very unlikely.

When MTU enters into risk- and revenue-sharing agreements, the company assumes obligations with respect to sales financing. The contingent liabilities under the partnership with IAE include liabilities relating to the indirect shareholding via PWAEI. The engine financing agreements recognized in 2012 were remeasured in the financial year 2013 and classified as financial instruments within the scope of IFRS 7, together with the loan commitments arising from aircraft financing agreements. The prior-year amounts were adjusted accordingly. For detailed information on this subject, please refer to Note 32. (Additional disclosures relating to financial instruments).

Guarantees and other contingent liabilities relate primarily to service agreements for gas turbine maintenance and guarantee obligations arising from maintenance agreements amounting to € 15.7 million (2012: € 19.8 million), and investment grants amounting to € 20.7 million (2012: € 20.7 million).

Proceedings are pending before the tax courts contesting land transfer tax assessments in connection with mergers. In view of these proceedings, processing of the land transfer tax statements in connection with the merger of MTU Aero Engines GmbH into MTU Aero Engines Holding AG has been deferred by the tax authorities. In MTU's estimation, there is no associated material tax risk.



In the financial year 2013, a letter of comfort was issued by MTU and Sagem in favor of AES Aerospace Embedded Solutions GmbH, Munich, providing a guarantee of € 3.0 million. MTU's share of this guarantee is € 1.5 million.

## 37.2. OTHER FINANCIAL OBLIGATIONS

### 37.2.1. Obligations arising from operating lease arrangements

The rental and lease contracts for buildings, machines, tools, office and other equipment have terms of one to ten years and in certain cases contain extension and purchase options and/or price adjustment clauses. With regard to rental and lease agreements, payments of € 24.0 million (2012: € 18.3 million) were expensed in the financial year 2013.

The nominal total of future minimum lease payments arising from non-terminable operating lease agreements is as follows (based on due payment dates):

#### Nominal total of future minimum lease payments

in € million	Dec. 31, 2013	Dec. 31, 2012
Due in less than one year	10.8	12.2
Due in more than one and less than five years	29.5	24.4
Due in more than five years	7.3	10.2
<b>Total future minimum lease payments</b>	<b>47.6</b>	<b>46.8</b>

In arithmetical terms, 85% of the leasing contracts were due to expire within 5 years at December 31, 2013. 15% are valid for more than 5 years, while a small number of leasing contracts have no definite expiry date.

The nominal total of future minimum lease payments, which amounted to € 47.6 million at December 31, 2013, is on a level with the previous year's amount of € 46.8 million.

The main individual obligations are as follows:

- Engine leasing at MTU Maintenance Hannover GmbH, Langenhagen, MTU Maintenance Berlin-Brandenburg GmbH, Ludwigsfelde, and MTU Maintenance Lease Services B.V., Amsterdam, Netherlands
- Rent for the office building occupied by MTU Maintenance Canada Ltd., Richmond, Canada
- Lease payments for offices occupied by MTU Aero Engines AG, Munich

- Lease payments for the building at the air base in Erding made available as part of a cooperative arrangement with the German Air Force
- Rental payments for industrial trucks.

### 37.2.2. Future income and expenses arising from rental agreements for sublet property

At December 31, 2013 the future minimum income from property subletting agreements amounted to € 3.9 million (2012: € 1.9 million). The total future minimum expenses associated with property subletting agreements amounted to € 3.9 million (2012: € 1.9 million).

### 37.2.3. Order commitments for financial obligations

At December 31, 2013, other financial obligations comprised order commitments for the purchase of intangible assets, totaling € 0.3 million (2012: € 0.3 million), and financial obligations for the purchase of property, plant and equipment, totaling € 19.8 million (2012: € 28.0 million). These financial obligations were thus within normal limits.

## 38. RELATIONSHIPS WITH RELATED COMPANIES AND PERSONS

### 38.1. RELATED COMPANIES

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

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

#### 38.1.1. Business with related companies

During the course of the financial year, companies within the group conducted transactions among themselves (intragroup sales). The current receivables and liabilities that represent the outstanding balance of business transactions carried out with non-consolidated related companies in the financial years 2013 and 2012 are presented in the following tables:

## Receivables due from related companies:

**Receivables due from related companies**

in € million	Outstanding balance		Value of business transactions			
	Receivables		Revenues/income/sales		Expenses/purchases	
	Dec. 31, 2013	Dec. 31, 2012	2013	2012	2013	2012
Eurojet Turbo GmbH, Munich	11.7	8.5	282.1	203.1	-0.9	-1.0
EPI Europrop International GmbH, Munich	12.0		83.8		-8.0	
MTU Turbomeca Rolls-Royce ITP GmbH, Hallbergmoos	2.6	1.3	16.5	9.6	-0.3	-0.1
Pratt & Whitney Canada Customer Service Centre Europe GmbH, Ludwigsfelde	1.9	1.1	39.5	37.7	-0.3	-0.2
Ceramic Coating Center S.A.S., Paris, France	0.1	0.2			-2.7	-2.8
Turbo Union Ltd., Bristol, England	2.5	7.5	72.2	49.9		
MTU Maintenance Zhuhai Co. Ltd., Zhuhai, China	1.4		3.9		-28.5	
Airfoil Services Sdn. Bhd., Kota Damansara, Malaysia	1.2	2.0	0.4	0.3	-6.8	-5.9
Middle East Propulsion Company Ltd., Riad, Saudi Arabia	0.8		0.4	0.1	-0.6	
Gesellschaft zur Entsorgung von Sondermüll in Bayern GmbH, Munich					-0.2	-0.2
MTU Maintenance Service Centre Australia Pty. Ltd., Perth, Australia			0.1			
AES Aerospace Embedded Solutions GmbH, Munich	0.8		8.2		-27.5	
MTU Maintenance Dallas Inc., Grapevine, U.S.	0.4		0.1		-0.7	
MTU Maintenance Service Center Ayutthaya Ltd., Ayutthaya, Thailand	0.2	0.6	0.3	0.1	-0.4	-0.4
<b>Total receivables</b>	<b>35.6</b>	<b>21.2</b>	<b>507.5</b>	<b>300.8</b>	<b>-76.9</b>	<b>-10.6</b>

## Liabilities to related companies:

**Liabilities to related companies**

in € million	Outstanding balance		Value of business transactions			
	Receivables		Revenues/income/sales		Expenses/purchases	
	Dec. 31, 2013	Dec. 31, 2012	2013	2012	2013	2012
IAE International Aero Engines AG, Zürich, Switzerland	54.0	88.0	676.7	602.0	-564.1	-510.9
MTU Turbomeca Rolls-Royce GmbH, Hallbergmoos	0.3	0.7	4.2	5.8	-0.5	-0.1
MTU Versicherungsvermittlungs- und Wirtschaftsdienst GmbH, Munich					-9.4	-9.8
EPI Europrop International GmbH, Munich		4.5		19.3		-19.6
MTU Maintenance Zhuhai Co. Ltd., Zhuhai, China		8.9		1.9		-25.7
MTU München Unterstützungskasse GmbH, Munich	3.2	5.0				-0.1
MTU Maintenance Dallas Inc., Grapevine, U.S.				1.7		-1.7
MTU Maintenance IGT Service do Brasil Ltda., São Paulo, Brazil					-0.4	-0.1
<b>Total</b>	<b>57.5</b>	<b>107.1</b>	<b>680.9</b>	<b>630.7</b>	<b>-574.4</b>	<b>-568.0</b>



### 38.1.2. Major shareholdings

The list of major shareholdings shows MTU's capital share in each company together with the equity that this represents at December 31, 2013, and the profit or loss generated by each company in the financial year 2013:

#### Major shareholdings

Name and registered office of entity	Consolidation method <sup>8)</sup>	Shareholding in % Dec. 31, 2013	Equity in € 000 Dec. 31, 2013	Profit/loss in € 000 2013
<b>I. Investments in subsidiaries</b>				
MTU Maintenance Hannover GmbH, Langenhagen	full	100.00	65,470	<sup>2)</sup>
MTU Maintenance Berlin-Brandenburg GmbH, Ludwigsfelde	full	100.00	88,620	<sup>2)</sup>
MTU Aero Engines North America Inc., Rocky Hill, U.S.	full	100.00	6,893 <sup>3)</sup>	1,351 <sup>5)</sup>
MTU Maintenance Canada Ltd., Richmond, Canada	full	100.00	26,085 <sup>3)</sup>	13,866 <sup>5)</sup>
Vericor Power Systems LLC., Alpharetta, U.S. <sup>10)</sup>	full	100.00	27,720 <sup>3)</sup>	4,005 <sup>5)</sup>
RSZ Beteiligungs- und Verwaltungs GmbH, Munich	full	100.00	13,430	-1
MTU Aero Engines Polska Sp. z o.o., Rzeszów, Poland	full	100.00	223,925 <sup>3)</sup>	-30,786 <sup>5)</sup>
MTU Versicherungsvermittlungs- und Wirtschaftsdienst GmbH, Munich	at cost	100.00	26	<sup>2)</sup>
MTU München Unterstützungskasse GmbH, Munich	<sup>9)</sup>	100.00	3,271	-1,765
MTU Maintenance Service Center Ayutthaya Ltd., Ayutthaya, Thailand	at cost	100.00	239 <sup>1/6)</sup>	170 <sup>1/7)</sup>
MTU Maintenance Dallas Inc., Grapevine, U.S.	at cost	75.00	201 <sup>3)</sup>	-43 <sup>5)</sup>
MTU Maintenance IGT Service do Brasil Ltda., São Paulo, Brazil	at cost	100.00	88 <sup>1/6)</sup>	-92 <sup>1/7)</sup>
MTU Maintenance Lease Services B.V., Amsterdam, Netherlands <sup>10)</sup>	full	100.00	-9	-10
MTU Maintenance Service Centre Australia Pty.Ltd., Perth, Australia	at cost	100.00	<sup>4)</sup>	<sup>4)</sup>
MTU Aero Engines Shanghai Ltd., Shanghai, China	at cost	100.00	<sup>4)</sup>	<sup>4)</sup>
MTU Aero Engines Finance B.V., Amsterdam, Netherlands i.L.	at cost	100.00	4,297	-7
<b>II. Investments in associated companies</b>				
Turbo Union Ltd., Bristol, England	at cost	39.98	301 <sup>1)</sup>	7 <sup>1)</sup>
EUROJET Turbo GmbH, Hallbergmoos	at cost	33.00	1,897 <sup>1)</sup>	602 <sup>1)</sup>
EPI Europrop International GmbH, Munich	at cost	28.00	562 <sup>1)</sup>	502 <sup>1)</sup>
MTU Turbomeca Rolls-Royce GmbH, Hallbergmoos	at cost	33.33	73 <sup>1)</sup>	34 <sup>1)</sup>
MTU Turbomeca Rolls-Royce ITP GmbH, Hallbergmoos	at cost	25.00	69 <sup>1)</sup>	42 <sup>1)</sup>
IAE International Aero Engines AG, Zürich, Switzerland	at equity	25.25	56,330 <sup>3)</sup>	3,729 <sup>5)</sup>
<b>III. Equity investments in joint ventures</b>				
MTU Maintenance Zhuhai Co, Ltd., Zhuhai, China	proportionate	50.00	130,099 <sup>3)</sup>	31,250 <sup>5)</sup>
MTU Maintenance Hong Kong Ltd., Hongkong, China <sup>10)</sup>	at cost	50.00	21 <sup>3)</sup>	3 <sup>5)</sup>
Pratt & Whitney Canada Customer Service Centre Europe GmbH, Ludwigsfelde <sup>10)</sup>	at equity	50.00	3,800	1,090
Ceramic Coating Center S.A.S., Paris, France	at equity	50.00	6,901	1,046
Airfoil Services Sdn. Bhd., Kota Damansara, Malaysia	at equity	50.00	14,689 <sup>3)</sup>	3,851 <sup>5)</sup>
AES Aerospace Embedded Solutions GmbH, Munich	at equity	50.00	-209	-2,165
<b>IV. Other equity investments</b>				
Middle East Propulsion Company Ltd., Riad, Saudi Arabia	at cost	19.30	23,965 <sup>1/6)</sup>	-2,945 <sup>1/7)</sup>

<sup>1)</sup> Data for previous year, actuals not available.

<sup>2)</sup> Profit/loss for German GAAP purposes transferred under profit and loss transfer agreement 2013.

<sup>3)</sup> Translated at closing exchange rate, Dec. 31, 2013.

<sup>4)</sup> Data not yet available.

<sup>5)</sup> Translated at annual average exchange rate for 2013.

<sup>6)</sup> Translated at closing exchange rate, Dec. 31, 2012.

<sup>7)</sup> Translated at annual average exchange rate for 2012.

<sup>8)</sup> - full = fully consolidated.

- at cost = measured at acquisition cost, because fair value cannot be reliably determined.

- at equity = carrying amount of investment increased or reduced to reflect changes in equity of group's percentage interest.

- proportionate = consolidated in the same proportion as the group's interest.

<sup>9)</sup> Plan assets according to IAS 19.

<sup>10)</sup> Indirect shareholding.

## 38.2. RELATED PERSONS

No group company has conducted any business subject to disclosure requirements with members of the group's Executive Board or Supervisory Board or with any other individuals holding key management positions, or with companies in which these persons hold a seat on the managing or supervisory board, with the exception of the transactions presented in Note 38.2.4. (Other related party transactions). This is also applicable for close family members of this group of persons.

### 38.2.1. Executive Board

At December 31, 2013, the Executive Board of MTU Aero Engines AG, Munich, comprised the following members:

#### Executive Board

<b>Egon Behle (until December 31, 2013)</b> Chief Executive Officer	Munich
<b>Dr. Rainer Martens</b> Chief Operating Officer	Munich
<b>Dr. Stefan Weingartner</b> President MTU Maintenance	Munich
<b>Reiner Winkler</b> Chief Financial Officer	Munich
<b>Michael Schreyögg (since July 1, 2013)</b> Chief Program Officer	Munich

### 38.2.2. Executive Board compensation

More detailed information on the compensation system for MTU's Executive Board, including the effects of the company pension contracts, is provided in the management compensation report in the Corporate Governance section of this Annual Report.

The members of the Executive Board were awarded total compensation amounting to € 9.5 million (2012: € 7.5 million) in the financial year 2013 for their services as board members. This total amount can be broken down into the following components:

#### Executive Board compensation

	2013		2012	
	in € million	in %	in € million	in %
<b>Short-term employee benefits</b>				
Non-performance-related components	2.5		2.4	
Performance-related components without long-term incentive effect	0.9		1.2	
Performance-related components with long-term incentive effect	1.2		1.7	
<b>Total short-term employee benefits</b>	<b>4.6</b>	<b>48.4</b>	<b>5.3</b>	<b>70.7</b>
<b>Post-employment benefits</b>				
Service cost / past service cost	3.4		0.8	
<b>Total post-employment benefits</b>	<b>3.4</b>	<b>35.8</b>	<b>0.8</b>	<b>10.7</b>
<b>Share-based payment benefits</b>				
Performance-related components with long-term incentive effect	1.5		1.4	
<b>Total share-based payment benefits</b>	<b>1.5</b>	<b>15.8</b>	<b>1.4</b>	<b>18.6</b>
<b>Total compensation</b>	<b>9.5</b>	<b>100.0</b>	<b>7.5</b>	<b>100.0</b>

The amount stated for share-based payment benefits corresponds to their fair value at the grant date. The total expense for share-based payments recognized in the financial year 2013 amounted to € 2.6 million (2012: € 2.2 million).

Members of the Executive Board did not receive any compensation for mandates on boards of the group's own companies.

At December 31, 2013, as in the previous year, no loan facilities or advances were granted to members of the Executive Board. Similarly, as in the previous year, no contingent liabilities were assumed by the company in favor of members of the Executive Board.

At December 31, 2013, the provisions for current and future pension obligations toward former members of the Executive Board amounted to € 5.9 million (2012: € 6.1 million).

### 38.2.3. Members of the Supervisory Board

As in the previous year, the members of the Supervisory Board did not receive any additional compensation for supervisory board mandates over and above that received for their supervisory board mandate with MTU Aero Engines AG, Munich. Compensation for active members of the Supervisory Board amounted to € 1.0 million (2012: € 0.7 million).

In the financial year 2013, the MTU employees who held seats as employee representatives on the Supervisory Board of MTU Aero Engines AG received salaries (excluding Supervisory Board compensation) totaling € 0.6 million (2012: € 0.5 million). This amount represents the sum of the respective gross salaries awarded to these employee representatives by MTU Aero Engines AG in the reporting year.

At December 31, 2013, as in the previous year, no loan facilities or advances were granted to members of the Supervisory Board. Similarly, as in the previous year, no contingent liabilities were assumed by the company in favor of members of the Supervisory Board.

For details of the compensation awarded to individual members of the Supervisory Board, and other related information, please refer to the management compensation report in the Corporate Governance section of this Annual Report.

### 38.2.4. Other related party transactions

As in the previous year, MTU shares and options bought or sold by members of the Executive Board and the Supervisory Board in the financial year 2013 were bought or sold under normal market conditions. The transactions were published in the commercial registry and posted on the MTU website at [www.mtu.de/en](http://www.mtu.de/en) under Investor Relations > Corporate Governance > Directors' Dealings.

### 38.2.5. Shareholders

Pursuant to Section 160 (1) item 8 of the German Stock Corporation Act (AktG), information must be provided on the existence of shareholdings which have been notified to the company pursuant to Section 21 (1) or (1a) of the German Securities Trading Act (WpHG). For detailed information, please refer to the chapter "The MTU share".

## V. SEGMENT INFORMATION

### 39. SEGMENT REPORTING

MTU reports on two operating segments: the OEM segment (commercial and military engine business) and the MRO segment (commercial maintenance business). Segmentation is based on classifications used in the internal organizational structure and reporting system, and takes into account the risks and returns to which the segments are subject. A detailed description of the operating segments is provided in Part I. of these Notes (Accounting Policies and Principles).

#### Commercial and military engine business (OEM)

In the commercial and military engine business, the group develops, manufactures, assembles and delivers commercial and military engines and components. The maintenance, repair and overhaul of military engines is also included in this segment.

#### Commercial maintenance business (MRO)

In the commercial maintenance business, the group maintains, repairs and overhauls aircraft engines and industrial gas turbines. In addition to full engine maintenance and repair, this includes the complete overhaul of engine modules and special repairs.

#### Profit / loss of companies accounted for using the equity method

The carrying amount and the share in profit/loss of consolidated group companies accounted for using the equity method are included in reporting by operating segment if such companies can be directly allocated to an operating segment.

#### Segment assets and segment liabilities

Segment assets comprise all assets that can be allocated to specific operating activities and whose positive or negative

operating results have an impact on earnings before interest and tax (EBIT / adjusted EBIT). Assets and liabilities are allocated to the operating segment in which they are used to generate business. The consolidation / reconciliation amount of € 522.3 million (2012: € 1,527.4 million) in the segment assets line relates to the consolidation of the carrying amount of subsidiaries and of accounts receivable from intersegment sales and to segment liabilities of € 183.7 million. In 2012, the liabilities amount of € 465.5 million in the “consolidation / reconciliation” column relates to internal liabilities of the group companies that were reconciled with financial liabilities of the holding company.

#### Segment capital expenditure

Segment capital expenditure relates to additions to intangible assets and to property, plant and equipment.

#### Consolidation / reconciliation column

The amounts in the “consolidation / reconciliation” column for earnings before interest and tax (EBIT / adjusted EBIT) are used to eliminate revenues from intersegment sales from group revenues.

#### Segment information by geographical area

External revenues, capital expenditure on intangible assets and property, plant and equipment, and for non-current assets are divided into the following regions: Germany, Europe (excluding Germany), North America, Asia and other regions.

Revenues from business with third parties are allocated to the geographical areas of the customer. Capital expenditure on intangible assets and property, plant and equipment, and non-current assets are allocated to the geographical areas according to the location of the asset in question.

## VI. EVENTS AFTER THE REPORTING DATE

No other events of material importance with any significant impact on the financial situation, net assets or operating

results of the MTU group occurred after the end of the reporting period.

## VII. DETERMINATION OF THE NET PROFIT AVAILABLE FOR DISTRIBUTION ON THE BASIS OF THE GERMAN GAAP ANNUAL FINANCIAL STATEMENTS

Unlike the consolidated financial statements, which are based on the IFRSs issued by the IASB, the annual financial statements of MTU Aero Engines AG, Munich, are prepared in accordance with the German Commercial Code (HGB) and German Stock Cooperation Act (AktG). The IFRS rules are also applied in the separate annual financial statements where it is permissible and fitting to do so. In numerous cases, the accounting policies applied in the annual financial statements of MTU Aero Engines AG, Munich, and those of the German subsidiaries differ from the accounting policies applied in the consolidated financial statements.

### Effects of the merger of MTU Aero Engines GmbH, Munich, into MTU Aero Engines Holding AG, Munich, on the annual financial statements for 2013

At the Supervisory Board meetings of MTU Aero Engines Holding AG, Munich, and MTU Aero Engines GmbH, Munich, held on December 13, 2012, it was resolved to merge MTU Aero Engines GmbH into MTU Aero Engines Holding AG,

Munich. The merger agreement was certified by notary on April 23, 2013. For tax and financial reporting purposes, the merger applies retroactively as from January 1, 2013. In addition, a resolution was passed by the Annual General Meeting on May 3, 2013, to change the name of the company from MTU Aero Engines Holding AG to MTU Aero Engines AG.

As a result of the merger, the operating activities of MTU Aero Engines GmbH, Munich, are accounted for directly in the financial statements of MTU Aero Engines AG, Munich.

Due to the transfer of assets, the 2013 annual financial statements of MTU Aero Engines AG, Munich, are not directly comparable with the annual financial statements of MTU Aero Engines Holding AG, Munich, for the year ending December 31, 2012. Exceptionally, in order to facilitate comparison, opening statements are presented in this Annual Report showing the key financial data for MTU Aero Engines GmbH, Munich, at January 1, 2013.

### Income statement

#### Income statement

in € million	Change 2013-2012		2013	Comparative amount 2012	Other entities 2012
	in € million	in %	in € million	in € million	in € million
Revenues	252.7	12.8	2,224.7	1,972.0	24.2
Cost of sales	-81.2	-4.6	-1,865.4	-1,784.2	
<b>Gross profit</b>	<b>171.5</b>	<b>91.3</b>	<b>359.3</b>	<b>187.8</b>	<b>24.2</b>
Selling costs	-7.3	-15.3	-55.0	-47.7	
General administrative costs	8.7	23.3	-28.6	-37.3	-26.9
Balance of other operating income and expenses	21.6	>100	41.8	20.2	5.2
<b>Financial result</b>	<b>-41.0</b>	<b>-53.4</b>	<b>35.8</b>	<b>76.8</b>	<b>174.4</b>
<b>Earnings from normal operating activities</b>	<b>153.5</b>	<b>76.8</b>	<b>353.3</b>	<b>199.8</b>	<b>176.9</b>
<b>Non-recurring earnings</b>	<b>34.2</b>		<b>34.2</b>		
Tax expense	-65.3	<-100	-123.8	-58.5	-56.6
<b>Net profit for the year</b>	<b>122.4</b>	<b>86.6</b>	<b>263.7</b>	<b>141.3</b>	<b>120.3</b>
Allocation to revenue reserves					
- allocations to other reserves	-59.9	-83.2	-131.9	-72.0	-51.0
<b>Net profit available for distribution</b>	<b>62.5</b>	<b>90.2</b>	<b>131.8</b>	<b>69.3</b>	<b>69.3</b>

#### Allocation to revenue reserves

In accordance with Section 58 (2) of the German Stock Corporation Act (AktG), a total of € 131.9 million of the 2013 net profit was allocated to other reserves by the Board of Management and the Supervisory Board of MTU Aero Engines AG (2012: € 72.0 million).

#### Proposed profit distribution

At the Annual General Meeting on May 8, 2014, the Executive Board and the Supervisory Board of MTU Aero Engines AG, Munich, intend to recommend that a dividend of € 1.35 (2012: € 1.35) per share be distributed for the financial year 2013 after transfers to other reserves. On the condition that this proposal is accepted by the Annual General Meeting, the total dividend payment for the 50,855,626 shares entitled to a dividend will amount to € 68.7 million. Based on the quoted share price at the close of 2013 of € 71.39 (2012: € 68.80), this is equivalent to a dividend yield of 1.9% (2012: 2.0%).

Pending approval by the Annual General Meeting, the dividend for the financial year 2013 is to be paid on May 9, 2014.

#### Federal Gazette (Bundesanzeiger)

The annual financial statements of MTU Aero Engines AG, Munich, which were granted an unqualified audit certificate by Deloitte & Touche GmbH, Wirtschaftsprüfungsgesellschaft, Munich, are published in the Electronic Federal Gazette (elektronischer Bundesanzeiger). Print copies can be obtained on request from MTU Aero Engines AG, 80995 Munich, Germany.

#### Declaration of conformity with the German Corporate Governance Code

The declaration of conformity by the Executive Board and Supervisory Board of MTU Aero Engines AG pursuant to Section 161 of the German Stock Corporation Act (AktG) is published in the MTU Annual Report 2013 and also permanently available to shareholders on the MTU website at [www.mtu.de](http://www.mtu.de).

### STATEMENT BY THE LEGAL REPRESENTATIVE

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

Munich, February 7, 2014



**Reiner Winkler**

Chief Executive  
Officer



**Dr. Rainer Martens**

Chief Operating  
Officer



**Dr. Stefan Weingartner**

President MTU  
Maintenance



**Michael Schreyögg**

Chief Program  
Officer

## INDEPENDENT AUDITOR'S REPORT

We have audited the consolidated financial statements prepared by MTU Aero Engines AG, Munich, comprising Consolidated Income Statement and Consolidated Statement of Comprehensive Income, Consolidated Balance Sheet, Consolidated Statement of Changes in Equity, Consolidated Cash Flow Statement, Group segment reporting and Notes to the Consolidated Financial Statements, together with the Group Management Report for the business year from January 1 to December 31, 2013. The preparation of the consolidated financial statements and the group management report in accordance with IFRSs as adopted by the EU, and the additional requirements of German commercial law pursuant to § 315a (1) HGB, are the responsibility of the company's Executive Board. Our responsibility is to express an opinion on the consolidated financial statements and on the group management report based on our audit.

We conducted our audit of the consolidated financial statements in accordance with § 317 HGB and generally accepted standards for the audit of financial statements promulgated by the Institute of Public Auditors in Germany (Institut der Wirtschaftsprüfer). Those standards require that we plan and perform the audit such that misstatements materially affecting the presentation of the net assets, financial position and results of operations in the consolidated financial statements in accordance with the applicable financial reporting framework and in the group management report are detected with reasonable assurance. Knowledge of the business activities and the economic and legal environment of the Group and expectations as to possible misstatements are taken into account in the determination of audit procedures. The effectiveness of the accounting-related internal control system and the evidence supporting the disclosures in the consolidated financial statements and the group management report are examined

primarily on a test basis within the framework of the audit. The audit includes assessing the annual financial statements of those entities included in consolidation, the determination of entities to be included in consolidation, the accounting and consolidation principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements and the group management report. We believe that our audit provides a reasonable basis for our opinion.

Our audit has not led to any reservations.

In our opinion, based on the findings of our audit, the consolidated financial statements of MTU Aero Engines AG, Munich, comply with IFRSs as adopted by the EU, the additional requirements of German commercial law pursuant to § 315a (1) HGB and give a true and fair view of the net assets, financial position and results of operations of the Group in accordance with these requirements. The group management report is consistent with the consolidated financial statements and as a whole provides a suitable view of the Group's position and suitably presents the opportunities and risks of future development.

Munich, February 27, 2014

Deloitte & Touche GmbH  
Wirtschaftsprüfungsgesellschaft

(Prosig)  
German Public Auditor

(Pinckernelle)  
German Public Auditor

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## GLOSSARY OF ENGINE TERMS

### ACARE 2020

The Advisory Council for Aeronautical Research in Europe (ACARE) has published a new Strategic Research and Innovation Agenda (SRIA) which sets ambitious targets that the aviation industry aims to achieve in the coming years. It is based on the existing ACARE 2020 and Flightpath 2050 goals, and adds a further stage to be achieved by 2035.

Key data: Aircraft fuel consumption per passenger-kilometer is to be reduced by 43% by the year 2020, resulting in a reduction of CO<sub>2</sub> and NO<sub>x</sub> emissions by 43% and 80% respectively. For engine manufacturers this means improving fuel economy by 20%. The target for 2035 is to reduce fuel consumption per passenger-kilometer still further, in order to reach even lower emission levels: a reduction of 60% in the case of CO<sub>2</sub>, 84% in the case of NO<sub>x</sub>, and 55% in the case of perceived noise levels. The ultimate goal for 2050 is to reduce fuel consumption and CO<sub>2</sub> emissions by 75%, NO<sub>x</sub> emissions by 90%, and perceived noise levels by 65%. The baseline year for each of these targets is 2000.

### COMBUSTOR

A combustor or combustion chamber consists of an outer casing and a flame tube or “can” in which the actual combustion takes place. Inside, the compressed air flowing into the chamber is mixed with fuel, which is then ignited and burns at a temperature of over 2,000 degrees Celsius. Due to the high temperatures involved, combustors require special thermal barrier coatings.

### COMPRESSOR

The task of the compressor is to ingest air and compress it before it is fed into the combustor. Compressors consist of bladed disks (rotors) that rotate at very high speed between stationary guide vanes (stators). In order to achieve a compression ratio of over 40:1, which is standard in all modern two-shaft engines, it is necessary to use multi-stage low-pressure and high-pressure compressors rotating at different speeds on dual concentric shafts. These are driven by the corresponding turbines.

### FAN

The first rotor of the low-pressure compressor is called the fan. It accelerates the bypass stream flowing aftward and provides the engine’s main thrust. It is driven by the low-pressure turbine via the low-pressure shaft.

### GEARED TURBOFAN

Geared turbofan engines consume far less fuel and generate significantly less noise than today’s engine types. They therefore have every chance of becoming the standard type for use in future aircraft. Normally, an engine’s fan, low-pressure compressor and low-pressure turbine are all rigidly connected to one shaft. In contrast, the geared fan is “decoupled” from the low-pressure section by means of a reduction gear unit. This enables the low-pressure turbine and the low-pressure compressor to run at their optimum high speeds, while the fan rotates at a much lower speed (in a ratio of approx. 3:1). This results in significantly improved overall engine efficiency and greatly reduced noise levels.

### INDUSTRIAL GAS TURBINES

The operating principle of an industrial gas turbine is essentially the same as that of an aero engine. However, instead of the customary low-pressure turbine used in aircraft, industrial gas turbines have a power turbine. This turbine delivers the power, either directly or via a gear unit, to an additional attached power unit such as a pump or generator. Nearly all industrial gas turbines of the lower and intermediate power classes are aero-engine derivatives.

### MRO BUSINESS

MRO stands for maintenance, repair and overhaul. At MTU, the term “MRO business” is also used more specifically to designate one of the company’s two business segments, where it refers to maintenance services for commercial engines, or commercial MRO.

**OEM BUSINESS**

OEM stands for original equipment manufacturer. At MTU, the term “OEM business” is used to designate one of the company’s two operating segments, where it refers to the development, manufacture and assembly of (new) commercial and military engines. Spare parts for (in-service) commercial and military engines and maintenance services for military engines are also included in this operating segment.

**RISK- AND REVENUE-SHARING PARTNERSHIP**

In a risk- and revenue-sharing partnership, each partner contributes a certain share of the resources needed for a specific engine program (work capacity and funding), thus bearing part of the risk. In return, each partner is entitled to a corresponding percentage of the overall sales revenue from that program.

**SUBSYSTEM**

A complete aircraft engine is made up of a number of subsystems. These include the high-pressure and low-pressure compressors, the combustor, the high-pressure and low-pressure turbines and the engine control system.

**THRUST CLASS**

Jet engines are generally grouped into three thrust classes: engines with a thrust of between 2,500 and around 20,000 pounds (around 10 – around 90 kN), engines with a thrust of between 20,000 and approximately 50,000 pounds (around 90 – around 225 kN), and engines with a thrust ranging from 50,000 to more than 100,000 pounds (around 225 – around 450 kN).

**TURBINE**

In a turbine, the energy contained in the gases emerging at high pressure and velocity from the combustor is converted into mechanical energy. Like the compressor, the turbine is subdivided into a high-pressure and a low-pressure section, each of which is directly connected to the corresponding compressor via the respective shaft. The turbine has to withstand much higher stresses than the compressor, as it has to deal not only with the high gas temperatures but also with extreme centrifugal forces of several tons acting on the outer rim of its disks.

**TURBINE CENTER FRAME**

The turbine center frame connects the high-pressure to the low-pressure turbine. It has to be able to withstand high mechanical and thermal loads. The center frame includes struts to support the shaft bearings, clad with an aerodynamic fairing, and the air and oil supply lines.

**TURBOFAN ENGINE**

The turbofan is an advancement of the turbojet principle, the main difference being its enlarged first compressor stage, the fan. While in turbojet engines, all of the ingested air flows consecutively through the compressor, the combustor and the turbine, turbofans separate the air stream behind the fan. A fraction of the air reaches the combustor via a number of further compressor stages and is burned. The rest, however – which constitutes a much larger fraction – is channeled around the inner components. The ratio between these two airflows is known as the bypass ratio. In modern commercial engines, this ratio can be higher than 10:1. The greater the bypass ratio, the more economical, environmentally compatible and silent the engine. Turbofans are far more fuel-efficient than turbojets.

**TURBOPROP ENGINE**

The most noticeable external feature of a turboprop is its propeller. Inside, however, the engine differs only slightly from the turbojet and the turbofan. The turbine is larger, and drives not only the compressor but also the propeller, the latter via a gear unit. Consequently, more energy has to be drawn from the exhaust gas stream in the turbine of a turboprop than in that of other engine types. Over 90 percent of the energy is required for the compressor and the propeller. Turboprop airplanes can achieve flight speeds of up to 800 km/h. They are thus slower than turbojets or turbofans, but they do have the advantage of consuming far less fuel. This predestines them for use in roles where speed is less important, such as on short-haul routes or for air freight.

**TURBOSHAFT ENGINE**

Turboshaft engines are used in helicopters and are similar to turboprops.

## OVERVIEW OF ENGINES

### COMMERCIAL ENGINES

Type	Thrust range	Application
GE90Growth*	490 – 512 kN	Boeing 777-200LR, 777-200F, 777-300ER
PW4000Growth	340 – 440 kN	Boeing 777
GP7000	315 – 380 kN	Airbus A380
GEnx	235 – 333 kN	Boeing 787, 747-8
CF6	180 – 320 kN	Airbus A300, A310, A330, Boeing 747, 767, DC-10, MD-11
PW2000	170 – 190 kN	Boeing 757, C-17
CFM56*	82 – 154 kN	Boeing 737, Airbus A318 – A321
V2500	100 – 150 kN	Airbus A319, A320, A321, Boeing MD-90
PW1000G	67 – 146 kN	Airbus A320neo, Bombardier CSeries, Mitsubishi Regional Jet, Embraer E-170/E-190, Irkut MS-21
PW800		long-range business jets, regional airliners, single-aisle aircraft
PW6000	98 – 106 kN	Airbus A318
JT8D-200	90 – 100 kN	Boeing MD-80-series
CF34*	41 – 91 kN	business and regional jets
PW300	18 – 30 kN	medium-weight business and regional jets
PW500	13 – 20 kN	light and medium-weight business jets
PT6A*	500 – 2,000 shp	business and cargo props
PW200*	500 – 1,000 shp	light-to-medium weight twin-engined helicopters

\*MRO only

### INDUSTRIAL GAS TURBINES

Type	Original engine; Thrust	Application
LM6000	CF6-80; up to 44,000 kW	Electrical power stations
LM5000	CF6-50; up to 34,000 kW	Electrical power stations, mechanical power systems, oil and gas industry
LM2500/LM2500+	CF6-6; to 22,000/30,500 kW	Electrical power stations, mechanical power systems, oil and gas industry, power systems for ships
ASE8/40/50, TF40/50, ETF40	up to 4,200 kW	Electrical power systems, power systems for ships, mechanical power systems, generator sets

### MILITARY ENGINES

Type	Description; Thrust	Application
F110	Two-spool turbofan engine with afterburner; 122 – 145 kN	Lockheed F-16, Boeing F-15K
F404/F414	Two-spool turbofan engine with afterburner; 80 – 97 kN	Boeing F/A-18 Hornet, amongst others
EJ200	Two-spool turbofan engine with afterburner; 90 kN	Eurofighter
RB199	Three-spool turbofan engine with afterburner and thrust reverser; 70 – 80 kN	Panavia Tornado
Larzac04	Two-spool turbofan engine; 14 kN	Alpha Jet
TP400-D6	Three-spool engine; 8,000 kW	Airbus A400M
GE38	Turboprop engine; 5,500 kW	Sikorsky CH-53K
Tyne	Turboprop engine; 3,955 kW power range	Breguet Atlantic and Transall C-160
T64	Turboshaft engine; 3,000 kW	Sikorsky CH-53G
MTR390/MTR390 Enhanced	Enhanced Turboshaft engine; 950 kW	Eurocopter Tiger
RR250-MTU-C20B	Turboshaft engine; 310 – 340 kW	PAH1, Bo105 and others

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## FINANCIAL CALENDAR

April 29, 2014	Interim Report as at March 31, 2014
	Conference call with analysts and investors
May 8, 2014	Annual General Meeting
July 24, 2014	Interim Report as at June 30, 2014
	Conference calls with journalists, analysts and investors
October 23, 2014	Interim Report as at September 30, 2014
	Conference calls with journalists, analysts and investors
November 25, 2014	MTU Investor and Analyst Day

## MTU SHARE DATA

Number of shares	52 million shares of no par stock
Type of share	Registered shares
Equity capital	€ 52 million
Voting rights	One vote per share
German Securities Identification Number WKN	A0D9PT
ISIN	DE000A0D9PT0
Stock exchange symbol	MTX
Trading segment	Prime Standard
Stock market segment	MDAX
Financial year	Identical with calendar year
Accounting rules	IFRS
Designated sponsor	Goldman Sachs
Official notices	Electronic version of the Federal Gazette (Bundesanzeiger)

## CONTACT

### MTU Aero Engines AG

Dachauer Strasse 665  
80995 Munich, Germany  
Telephone: +49 89 1489-0  
Fax: +49 89 1489-5500  
E-mail: [info@mtu.de](mailto:info@mtu.de)  
[www.mtu.de](http://www.mtu.de)

### Eckhard Zanger

Senior Vice President Corporate Communications  
and Public Affairs  
Telephone: +49 89 1489-9113  
Fax: +49 89 1489-9140  
E-mail: [Eckhard.Zanger@mtu.de](mailto:Eckhard.Zanger@mtu.de)

### Peter Kameritsch

Vice President Investor Relations  
Telephone: +49 89 1489-5714  
Fax: +49 89 1489-99155  
E-mail: [Peter.Kameritsch@mtu.de](mailto:Peter.Kameritsch@mtu.de)

The addresses of MTU's affiliates, joint ventures and program management and coordination companies in Germany and abroad can be found on the Internet at [www.mtu.de](http://www.mtu.de)

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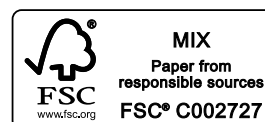
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### Translation

The German version takes precedence.



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