Boarding for the future

SUSTAINABILITY REPORT
MTU AERO ENGINES AG
FISCAL YEAR 2023

23

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FOREWORD BY THE CEO

LARS WAGNER
CEO AND
CHIEF SUSTAINABILITY OFFICER
OF MTU AERO ENGINES AG

Boarding for the future

Dear readers,

At MTU, accepting challenges and finding new approaches is one of our strengths. Standing still means going backwards; for us, innovation is the norm. Demand for air travel is back, passenger numbers are returning to pre-pandemic levels, and forecasts predict strong growth in air travel over the next few decades. As an engine manufacturer, we face a particularly tough challenge: air traffic is growing, but emissions must fall.

We want to shape the future of aviation and enable climate-neutral flying–and we've set out how we'll do it in our ambitious Claire (Clean Air Engine) technology roadmap. The EU Green Deal, which aims to achieve climate neutrality by 2050, is key to our objectives. This ambition is, in turn, derived from the Paris 1.5 degree target. As a result, the innovations we're working on are more comprehensive and far-reaching than many might imagine.

Today, every aircraft is fueled by kerosene. Tomorrow, there will no longer be just this one option, as the propulsion technology used will depend on the application. That's why we're working on various approaches within Claire–ranging from evolutionary developments to revolutionary concepts. One of these is the fuel cell, which could deliver fully electric flight with virtually zero emissions. Initially, this technology will carry smaller aircraft into the skies; starting in 2050, it will power short- and medium-haul aircraft as well. As a key building block for this, we acquired the electric motor specialist eMoSys in 2023.

For aircraft with 150 to 200 seats, meanwhile, we're pursuing an evolutionary development of current engine types, in particular the geared turbofan (GTF). The GTF Advantage, soon to be available on the market, is a technologically improved variant with reduced CO_2 emissions. A second GTF generation is to follow later. Work on this is already in progress. At the same time, we're driving forward revolutionary gas turbine concepts. We introduced an idea known as the Water-Enhanced Turbofan (WET concept) into the SWITCH project as part of the EU's Clean Aviation research program.

For widebody aircraft with more than 250 seats, one viable solution may be to power gas turbines with sustainable aviation fuels (SAFs) or hydrogen. The great advantage of such alternative fuels is that they can be used drop-in, meaning without any changes to the infrastructure at the airport or to the engine. SAFs immediately make aviation more climate neutral. In the long term, they are a must for long-haul flights.

Another important cornerstone of our climate commitment, and another way we are helping attain the Paris Agreement target, is our ecoRoadmap: an operational climate strategy that will allow us to achieve a 60 percent reduction in the carbon footprint of our sites by 2030. In the long term, we're aiming to make both production and maintenance climate neutral. In 2023, we reached a special milestone on the road to that goal when we started deep drilling for our geothermal project at our headquarters in Munich. This project sees us venturing into unknown depths for an aviation company—and we're making a success of it. As I said, challenges are what drive us, especially when they hold out such promise. Starting in mid-2025, we want to meet around 80 percent of our heating requirements at the site with CO_2-free energy from beneath the ground.

The only way we can make progress on all these fronts is with a strong, committed team. Recent times have been characterized by many uncertainties and crises, but MTU has proven its strength. We're proud of how our employees do everything they can to implement our sustainability strategy across all areas; working day in, day out to drive forward the transformation of aviation together. To make sure we achieve this, we actively live by a culture of tolerance, diversity, and respect—together and every day. We're convinced that equality of opportunity and inclusion are essential for our high level of innovation and our long-term success. It's only with a wide range of ideas, perspectives, and experience that we can rise to the many challenges we face.

A further key concern for us is the protection of human rights along our value chain. We fulfill our duty of care as an employer of more than 12,000 employees worldwide and as a customer in global supply chains. We firmly believe that economic growth and social responsibility must go hand in hand. We have strengthened the principles of responsible corporate governance with a Policy Statement on the Protection of Human Rights and by enhancing our risk process for our human rights due diligence.

At MTU, sustainability is a matter for the Executive Board. All members of the Executive Board are committed to making decisions, directing investments, and implementing measures in all areas of sustainability. To underpin our continuous progress, we have made climate action and social sustainability targets relevant to compensation for the Executive Board and for managers. In addition, we created a central Corporate Sustainability Management & Reporting unit effective May 1, 2024. This enables us to meet the growing demands for transparency and control. As Chief Sustainability Officer, I look forward to working with this team and the entire community within MTU.

Together, we will keep our goals firmly in sight and tackle challenges with the motivation to find effective solutions, even in the knowledge that these will certainly not always be straightforward. It will take courage, determination, confidence, and cohesion.

And you will find all of this in this sustainability report. Join us on our journey toward climate-neutral flying. Let's work together to shape a future worth living for generations to come!

I hope you enjoy reading the report.

Lars Wagner
CEO and Chief Sustainability Officer of MTU Aero Engines AG

GRI: 2-22

MTU Aero Engines AG

Three letters stand for world-class technology in aviation: MTU. We are experts in the design, development, manufacture, and maintenance of commercial and military aircraft engines in all thrust and power categories as well as stationary gas turbines. With our innovative engines, high-tech solutions, and comprehensive services, we make aviation safer, more efficient, and more sustainable.

MTU Aero Engines AG is Germany's leading engine manufacturer. The company is a technological leader in low-pressure turbines, high-pressure compressors, turbine center frames, as well as manufacturing processes and repair techniques. In the commercial OEM business, the company plays a key role in the development, manufacturing, and marketing of high-tech components together with international partners. Around one-third of all aircraft in service worldwide today have MTU components on board.

In the commercial maintenance sector, the company ranks among the world’s top three service providers for aircraft engines and industrial gas turbines. The activities are combined under the roof of MTU Maintenance. In the military arena, MTU Aero Engines is Germany’s industrial lead company for practically all engines operated by the country’s military. MTU operates a network of sites around the globe; Munich is home to its corporate headquarters.

MTU's 2023 at a glance

€ 5.4 bn

12,170
employees
worldwide

18 locations
in important markets
and regions

MTU Aero Engines AG employs more than 12,000 people and is present in all key regions and markets through its subsidiaries and joint ventures. Over the next few years, the company intends to concentrate on its core business, participate in new engine programs, and expand its service portfolio.

MTU's OEM segment covers new commercial engines, including spare parts, and the whole of the military sector. The MRO (maintenance, repair, and overhaul) segment comprises all commercial maintenance activities.

WWW.MTU.DE

MTU Aero Engines worldwide

15 MTU Maintenance Canada
16 MTU Maintenance Dallas
17 MTU Aero Engines North America
18 MTU Maintenance do Brasil

01 MTU Aero Engines, Headquarters
02 MTU Maintenance Hannover
03 MTU Maintenance Berlin-Brandenburg
04 MTU Aero Engines Polska
05 EME Aero

06 eMoSys GmbH
07 MTU Maintenance Serbia
08 Aerospace Embedded Solutions
09 MTU Maintenance Lease Services
10 Ceramic Coating Center

11 P&WC Customer Service Centre Europe GmbH
12 MTU Maintenance Zhuhai
13 Airfoil Services
14 MTU Maintenance Service Centre Australia

Locations fully consolidated:

OEM business:
MTU Aero Engines Munich
MTU Aero Engines Polska
MTU Aero Engines North America

MRO business:
MTU Maintenance Hannover
MTU Maintenance Berlin-Brandenburg
MTU Maintenance Lease Services
MTU Maintenance Serbia
MTU Maintenance Canada

Revenue* 2023
OEM business: € 1,249 million
MRO business: € 4,225 million

Employees 2023
OEM business: 7,544
MRO business: 4,626

This report covers all of MTU's sites that are treated as fully consolidated in the company's financial reporting. The company has a presence in global markets through other subsidiaries and maintains joint ventures with partners in Asia; for example, MTU Maintenance Zhuhai's joint maintenance shop with China Southern Air or Airfoil Services in Malaysia, a joint venture with Lufthansa Technik for airfoil repair. (*Revenue by business segment before consolidation)

MORE ABOUT OUR GLOBAL SITE NETWORK

The challenges of the 2023 financial year

MTU aims to continue growing despite exceptional burden

For MTU, 2023 was a year of contradictions. The enormous burdens from the geared turbofan fleet management plan announced in September led to the reported earnings figures being negative for the first time in MTU's 90-year history. On the other hand, the adjusted results once again demonstrate MTU's operational strength and meet the company's ambitious targets. This means that without the exceptional burden described, MTU would have been able to announce record figures for the 2023 financial year.

The key figures were negatively impacted in particular by the geared turbofan fleet management plan, which was adjusted as an extraordinary effect for reasons of comparability. In 2023, MTU generated adjusted revenue (adjusted for the burden from the geared turbofan fleet management plan) of EUR 6.3 billion, 19% more than in 2022 (2022: EUR 5.3 billion). Adjusted EBIT (earnings before interest and taxes, calculated on a like-for-like basis—especially adjusted for the burden from the geared turbofan fleet management plan) increased by 25% in 2023, from EUR 655 million to EUR 818 million. The adjusted EBIT margin rose from 12.3% in 2022 to 12.9% in 2023. Adjusted earnings after tax (calculated on a like-for-like basis—especially adjusted for the burden from the geared turbofan fleet management plan) increased by 25% to EUR 594 million (2022: EUR 476 million). The reported key figures reflect the costs of the geared turbofan fleet management plan, which amount to a burden of around EUR 1 billion. For MTU 2023, this resulted in reported revenue of EUR 5.4 billion, reported EBIT of EUR −161 million, and reported earnings after tax of EUR −97 million.

By contrast, the order backlog amounted to EUR 24.4 billion at the end of 2023, with most of the orders for the geared turbofan engines of the PW1000G family, in particular the PW1100G-JM, and for the V2500 engine program. In purely mathematical terms, this corresponds to capacity utilization of more than three years and underscores MTU's good market position.

Key financial data (in EUR m)
> GRI 201-1

	2023	2022	2021
Revenue adjusted*	6,326	5,330	4,188
Revenue reported	5,363	5,330	4,188
Earnings before interest and tax (EBIT, adjusted)	818	655	468
Earnings before interest and tax (EBIT, reported)	– 161	508	355
Tax expense	108	130	84
Net income (reported)	– 97	333	231
Net income (adjusted)	594	476	342
Capital expenditure on property, plant and equipment and intangible assets	511	447	384

*adjusted as of 2023

MTU remains a highly efficient company with extremely positive prospects. We want to continue to grow in 2024 and are holding to our medium-term goals: 8 – 1 – 25, meaning: EUR 8 billion in revenue and EUR 1 billion in operating profit in 2025.

We add value to society

Our commercial success generates added value for our stakeholders and contributes to society's prosperity and the economic development of the communities where our business activities are located. We offer interesting and future-proof jobs in a high-tech industry and professional training as part of Germany's dual-track system. At the end of 2023, the MTU Group employed 12,170 people at fully consolidated sites around the world, and there were 318 young people in apprenticeships. We are a major employer in the region at all our network's major sites and are exporting the successful German training model: in Serbia, our new repair site, we provide specialist aviation training based on the dual-track system. In 2023, MTU Maintenance Canada opened a new training academy in collaboration with the British Columbia Institute of Technology, combining theoretical knowledge with practical experience in engine maintenance. Moreover, we pay our employees attractive salaries and offer a broad range of perks.

As a local investor and patron, we promote education and the academic landscape, for example by maintaining close ties to universities and colleges. We invest in our locations and our new repair site in Serbia started operations in 2023. We create jobs in upstream supply chains and work with some 7,300 suppliers around the world. Most of our suppliers are located in Germany or Europe. We have defined mandatory sustainability standards for our cooperation with our suppliers and enshrined these in a Code of Conduct.

Responsible tax policy

We act as a responsible global corporate taxpayer and comply with applicable tax laws and regulations, enabling us to make a significant contribution to society at our sites in Germany and elsewhere. A binding Code of Conduct supports systematic compliance with legal and regulatory requirements throughout the Group. We promote ethical and transparent business practices and, in particular, do not use tax avoidance measures, such as the establishment of companies solely for this purpose. We have adopted a Group tax policy that establishes our principles, tax strategy, and tax risk management in the company and defines our responsibilities. We report regularly in accordance with applicable regulations and requirements (e.g. IFRS, CbCR), thereby transparently disclosing our tax position.

Value added (in EUR m)
> GRI 201-1

	2023	2022	2021
Gross value added	5,494	5,385	4,271
Cost of material/ other expenses	4,380	3,702	2,901
Depreciation	282	301	302
Net value added	832	1,382	1,068
Employee wages and benefit	1,063	954	856
Payment to lenders	44	32	34
Payment to public authorities	156	192	64
Payment to shareholders	171	112	67

Gross value added = revenue and other income, dividend payment to shareholders in 2023 financial year for 2022

The value-added statement shows that MTU's corporate performance amounts to a gross value added of EUR 5.494 billion. After deducting the cost of materials, depreciation, amortization, and other expenses, net value added came to EUR 832 million. In 2023, our employees again received substantial compensation in the form of wages, salaries, and other benefits. In the reporting year, we distributed a dividend of EUR 3.20 per share to shareholders for the 2022 financial year. Our employees continue to have the opportunity to share in MTU's success on attractive terms through the company's annual employee share program.

GRI: 2-1, 2-6, 207-1, 207-2

Sustainability strategy and organization

We shape the future of aviation. In doing so, we drive growth, prosperity, and global progress. Sustainability is an integral part of our business. In the interests of sustainable development, we have defined important areas of action and clear objectives.

As an engine manufacturer and key player in the sector, we want to actively shape the transformation of aviation. Our efforts are focused on climate action and our vision of emissions-free flight. In addition, as a manufacturing company and employer of more than 12,000 people, we embrace the principle of bringing sustainability, economics, ecology, and social responsibility into harmony. Our commitment is based on the observance of statutory regulations and internal standards—essentially, on those enshrined in the MTU Code of Conduct and in our Policy Statement on the Protection of Human Rights. Our guiding principle "We shape the future of aviation" reflects our sustainable approach.

UN Global Compact and Sustainable Development Goals

The UN Global Compact is a unique multi-stakeholder initiative that we joined in 2011. As a member, we are committed to upholding the ten principles for respecting human rights, ensuring fair working conditions, protecting the environment, and preventing corruption. We consider them important guidelines for responsible corporate governance, and we also pass them on to the supply chain by means of a Code of Conduct.

As a member of the UN Global Compact and the local Global Compact networks in Germany and Serbia, we also want to contribute to the UN's 2030 Agenda. At the core of the agenda are 17 goals for sustainable development, or SDGs for short, which address three dimensions —economy, environment, and society. We support the implementation of the SDGs and have identified eight for MTU to focus on.

→ Learn more about our contribution to the UN's 2030 Agenda here

External standards and guidelines that we follow:

- UN Universal Declaration of Human Rights
- Principles of the UN Global Compact
- The UN's 2030 Agenda and Sustainable Development Goals (SDGs)
- Core labor standards of the International Labour Organization (ILO)
- German Corporate Governance Code

The fields of action and goals of our Sustainability Strategy 2025+

Our claim

As a technology leader, we are shaping the future of sustainable aviation through innovative propulsion solutions. Emissions-free flight is our vision. In doing so, we stand for responsible and environmentally friendly production, maintenance, and procurement and offer a safe and attractive working environment.

Corporate governance

- Comprehensive sustainability management
- Ensure the security of information and systems
- Protect personal data in all areas of the company
- Compliance as part of the corporate culture
- Active commitment to combating corruption in all business areas
- Ensure compliance with embargo and export guidelines
- Regular and open dialogue with all stakeholder groups

Employees

- Ensure compliance with human rights at our own sites
- Provide active and targeted employee development at all hierarchical levels
- Continuously promote diversity and equality of opportunity in the workforce
- Enable a healthy work-life balance for all employees
- Ensure a high level of health and safety in the workplace
- Promote mutual employer/employee dialogue
- Continuously increase external and internal employer attractiveness
- Provide trust-based leadership
- Ensure a high level of employee satisfaction

Product

- Make product quality and flight safety top priority
- Compile the MTU Group's Scope 3 activities
- Reduce the climate impact of products during operation
- Reduce the energy consumption of products during operation
- Minimize the health effects of product use (exhaust and noise emissions)

Production & maintenance

- Reduce CO_2 emissions at all production sites (Scope 1–3)
- Continuously improve resource efficiency
- Efficient management processes have been established
- Advanced procedures in site and plant operations
- Raise employee awareness of environmental protection in production

Procurement

- Human and employee rights are central components of our business relationships
- In our cooperation with suppliers, we pay attention to a resource- and environment-friendly value chain
- CSR is embedded in our contracts and sourcing decisions. In this way, we safeguard social and ecological standards
- Responsible handling of conflict minerals is ensured
- A Scope 3 upstream carbon footprint is compiled

Society

- Research collaborations for joint knowledge building
- Corporate citizenship: MTU as part of society and a good neighbor
- Employees use the knowledge they have acquired at MTU to play a responsible role in society

OUR GOALS IN THE FIELDS OF ACTION: THE MTU SUSTAINABILITY PROGRAM 2025+

On the path to climate neutrality

MTU is committed to the goal of limiting global warming preferably to 1.5 degrees Celsius, as set out in the Paris Agreement. We are pursuing our long-term vision of emissions-free flight through our Clean Air Engine (Claire) technology agenda. With Claire, we are working to develop innovative propulsion concepts that are intended to meet the high safety standards of aviation, greatly reduce impact on the climate, and fulfill all future noise emissions limits. We firmly believe that taking this approach to our business will allow us to remain competitive and successful in the long term. More information about aligning our product stewardship with the Paris Agreement in the chapter Climate impact of aircraft engines

Our value creation should be more sustainable as well. We are implementing concepts to reduce the carbon footprint of our own operations in production and maintenance at our sites, and strive for carbon neutrality in the long term. More information under Climate action at our sites

Our human rights due diligence

The protection of human rights is an important concern for MTU and is a fundamental component of responsible corporate governance. MTU has established a risk management system for potential human rights violations in its supply chain and in its own business operations. To further strengthen respect for human rights, we introduced new due diligence processes in 2023. As a high-tech company, we are generally exposed to a lower risk of human rights violations than other industries. More information about Respect for human rights within MTU and Responsible management of global supply chains

Control-relevant targets for measurable progress

Sustainability topics are an integral part of MTU's strategy and selected control variables from sustainability management are relevant to compensation for the Executive Board and senior managers. This will strengthen sustainability in the Group and make progress more measurable. For the 2023 financial year, the environmental, social, and governance (ESG) goals came from the areas of climate action in site operations and employee training.

For climate action, annual progress is taken from the company's climate strategy, the ecoRoadmap. In 2023, the ESG-relevant performance indicator CO_2 as a component of variable compensation was tied to the goal attainment of all the Group's production and maintenance sites for the first time. Detailed presentation of the ecoRoadmap and goal attainment in 2023

In the area of employees, the ESG goal under the leadership value "We empower" will be determined from employees' qualifications and training. This process takes into account the average number of training days per employee at the German sites.

Sustainability embedded in the Group

Chief Sustainability Officer (CSO) on the Executive Board

We have integrated sustainability into organizational structures and established sustainability management throughout the MTU Group. Through the corporate sustainability (CS) management system, we monitor our sustainability strategy, performance, and goals.

A Corporate Sustainability Board (CS Board) is responsible for the implementation of CS management on behalf of the Executive Board. At the Executive Board level, CEO Lars Wagner is also Chief Sustainability Officer (CSO), making him MTU's first representative for sustainability. He is primarily responsible for defining the company's positioning and its sustainability strategy and objectives, advised by the CS Board. In this way, sustainability is integrated into our corporate decision-making processes. Moreover, the CSO, with the support of the CS Board, monitors goal attainment and ensures that the CS organization is suitably aligned with the requirements and successfully embedded in the company. In carrying out these responsibilities, the CSO works closely together with the CS Board.

Corporate Sustainability Board as a central body

The CSO has mandated the CS Board as an advisory and decision-making body. The CS Board draws its members from the tier-1 senior management team in corporate functions relevant to sustainability. It is responsible for driving sustainability forward at MTU, controlling CS activities on behalf of the CSO, and adopting CS actions and initiatives. The CS Board reports directly to the CSO as well as reporting regularly to the Executive Board and the Supervisory Board.

The CS Board meets regularly and as required. If necessary, representatives from further operational functions are invited to the meetings. A central CS department was set up in 2024 to support the CS Board and its executive tasks. This manages Group-wide sustainability activities as well as the overarching CS management and ensures the Group's regulated sustainability reporting. The new unit is part of the Finance department and therefore within the sphere of responsibility of the Chief Financial Officer (CFO).

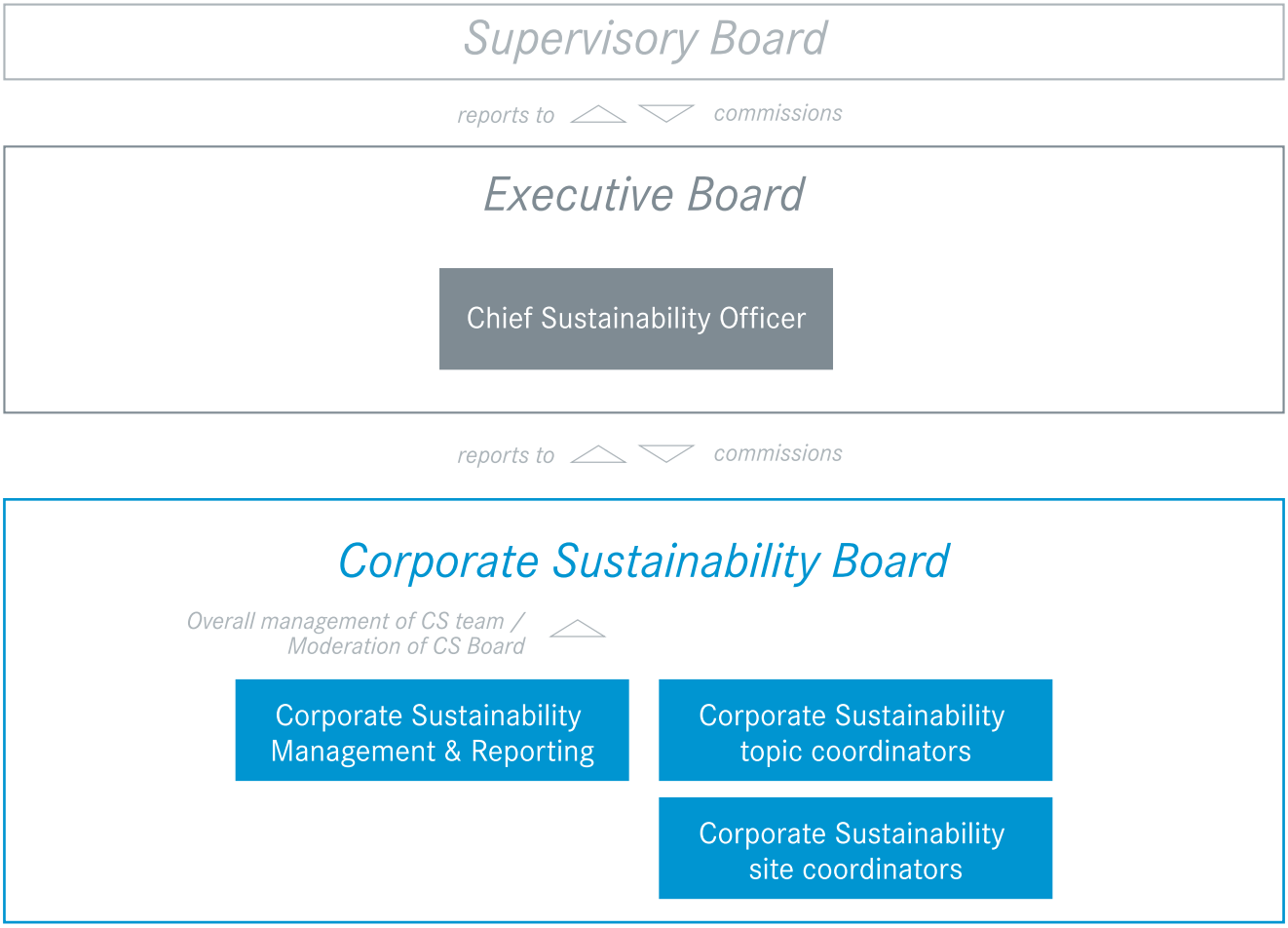
Mission Statement of the MTU Corporate Sustainability Board

We take responsibility for social and environmental issues in accordance with economic imperatives.

We actively expand our Group-wide sustainability strategy.
We promote interdisciplinary cooperation on CS projects within the company and in CS networks beyond the company gates.
To this end, we work with the Executive Board and further decision-makers to devise measurable objectives for realizing the MTU sustainability strategy.

At the heart of the interdisciplinary CS team are the divisional coordinators and site coordinators for sustainability. They play an important part in operational implementation, working with experts in their disciplines to develop goals and measures, implement them, and take responsibility for monitoring their progress. In collaboration with the representatives in the business areas, the divisional coordinators are heavily involved in shaping the strategic focus of their respective goals and developing these goals over time. CS coordinators at the sites support the CS divisional coordinators and the central Corporate Sustainability Management & Reporting department. The CS team also jointly conducts the annual materiality analysis for the sustainability topics. By implementing this organizational structure, we ensure that sustainability is embedded throughout the entire company for all relevant topics.

Corporate Sustainability Management at MTU



We steer our sustainability strategy through the CS management system, while the CS Board acts as the decision-making body in conjunction with the Chief Sustainability Officer. A central CS department, under the direction of the Chief Financial Officer, is responsible for the further development of sustainability management within the MTU Group and for sustainability reporting. CS divisional and site coordinators are responsible for the goals and measures in their disciplines.

Risk management for non-financial issues

We integrate sustainability risks into our internal control system, and map and evaluate them using defined processes. MTU has established a Group-wide integrated risk management and control system, based on the leading international COSO II ERM Framework standard, with which it manages risks and opportunities for its business. The system also takes into account non-financial risks. For the topic of compliance, MTU has established a separate risk assessment and a separate reporting line, which the Compliance Officer coordinates.

Potential risks for the environment, society, and employees that arise from MTU's business activities are identified and assessed on a quarterly basis by those responsible in the technical areas and by the CS Board. This is done in line with the existing opportunity and risk process, taking into account the respective probability of occurrence and the impact of the risk. The risk inventory is also reviewed for new material issues or aspects. Should substantial sustainability risks be identified for third parties, the CS Board passes the report on to the risk management team (risk board) and, if appropriate, to the Executive Board.

The risk assessment for the 2023 financial year identified no material risks in relation to the topics of our CS strategy. Material risks are those that are highly likely and have a severe negative impact.

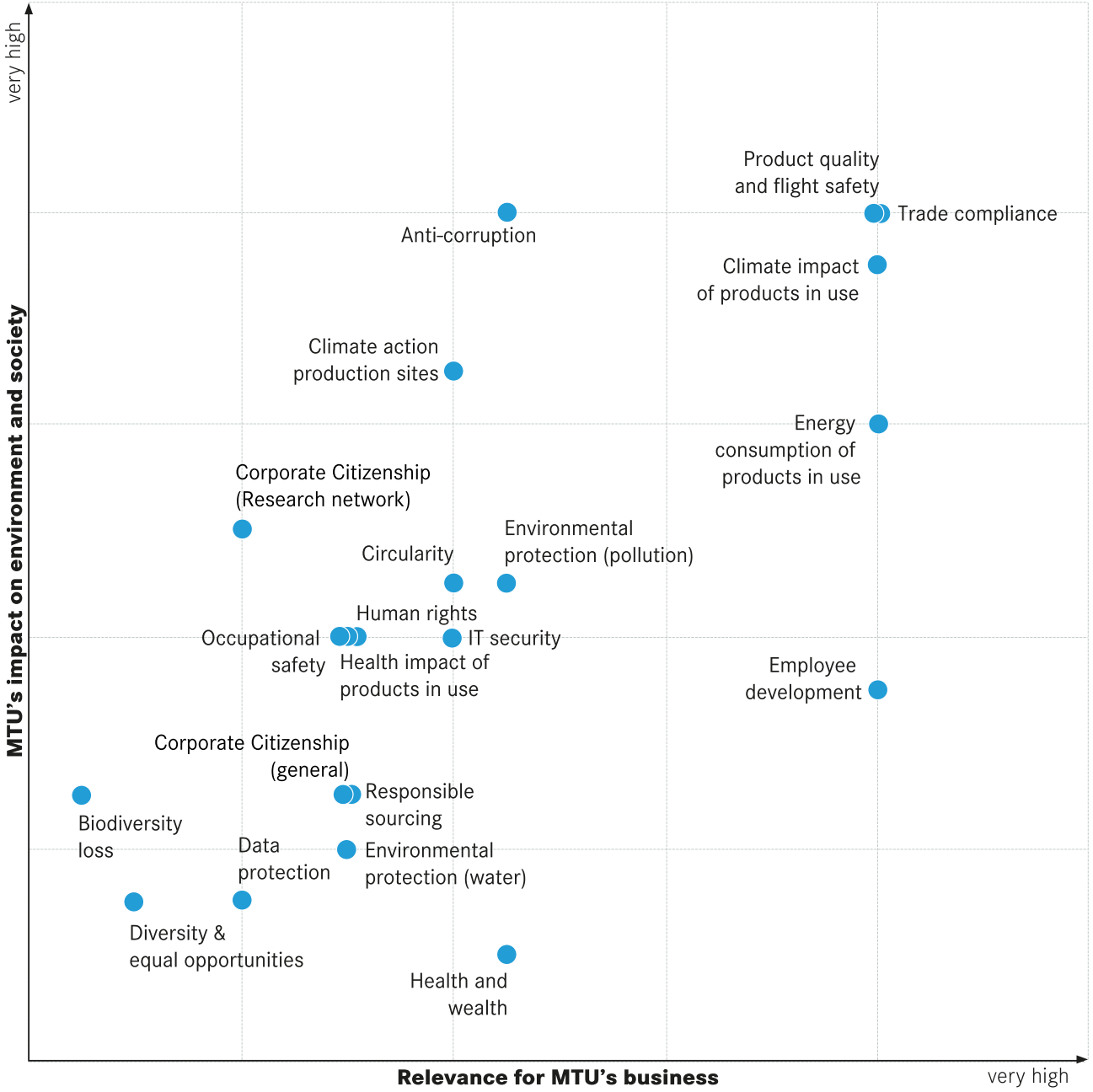
RISKS AND OPPORTUNITIES FOR MTU IN THE 2023 ANNUAL REPORT

Materiality analysis: Significant topics along two dimensions

We review our sustainability strategy annually to reflect recent changes and developments, refining our priorities in the process. The Group-wide corporate sustainability strategy is the starting point for an annual materiality process that MTU uses to identify key issues for the company and its stakeholders. For 2023, this materiality analysis was already based on the new European Sustainability Reporting Standard (ESRS, as of November 2022), which will become mandatory for the first time for the 2024 financial year. The topics were assessed along two dimensions: in terms of the social and environmental impact of MTU's business activities (impact materiality); and in terms of their business relevance for the company (financial materiality). Financial materiality refers to opportunities and risks for MTU, measured in terms of probability of occurrence and extent. Impacts on the environment and the society are estimated on the basis of their scale (low/high), scope (individual/global) and remediability (irreversible/reversible) along the entire value chain for the time dimensions short-, mid- and long-term. The materiality is based on a gross assessment.

The analysis covers all our key business areas and fully consolidated sites as well as information gathered from our dialogue with internal and external stakeholders. → More about Stakeholder dialogue We map the results in a materiality matrix.

Materiality matrix: Important sustainability topics and their weighting



GRI 3-2 Evaluation of topics for the 2023 financial year adopts the materiality concept in accordance with the legal implementation of CSR guidelines in Germany (CSR-RUG) and based on the new European Sustainability Reporting Standard (ESRS)

Sustainable investment

The European Commission has set itself the goal of climate neutrality by 2050 with the European Green Deal. Furthermore, through the EU taxonomy established as part of the action plan on financing sustainable growth, the European Commission calls on companies to classify their business activities according to sustainability criteria. The taxonomy provisions apply to six environmental targets in the areas of climate change, water and marine resources, circular economy, pollution, and biodiversity. In addition, companies must demonstrate observance of minimum social standards in order to claim green revenue, capex, and opex shares. MTU's approaches and EU taxonomy information can be found in the non-financial statement of the 2023 Annual Report (p. 112ff.)

As demand for ESG-focused investment opportunities increases, frameworks and requirements on sustainability reporting are on the rise, too. With the EU's Corporate Sustainability Reporting Directive (CSRD), an extended framework for companies' non-financial statements will apply for the first time for the 2024 financial year. External reporting on ESG issues is thus becoming more and more demanding and complex. MTU is preparing to implement the CSRD requirements by setting up a separate department for regulated sustainability reporting in the area of finance.

Outstanding performance: MTU ratings & rankings

MTU's performance in relation to non-financial indicators is regularly assessed by capital-market analysts and independent experts. Two leading rating agencies confirmed the company's above-average sustainability performance in January 2024: ISS ESG Corporate Rating awarded MTU the prime label for industry leaders, while EcoVadis awarded MTU the silver medal.

"Every year, we undergo ratings and assessments to get a good idea of where we stand with our sustainability performance. The ratings also give us valuable information on how we can improve further." LARS WAGNER, CEO and Chief Sustainability Officer of MTU.

Important indices and rankings in which MTU is currently represented:

ISS ESG

MTU Aero Engines is rated Prime Status (C+) in the overall rating.

www.oekom-research.com

CDP

In this global carbon accounting of the annual climate footprint, we received a score of B in 2023.

www.cdp.net

EcoVadis

MTU received a silver medal in this holistic corporate responsibility rating.

https://ecovadis.com

MSCI

MTU Aero Engines is rated AA.

www.msci.com/esg-ratings

GRI: 2-13, 2-14, 2-16, 2-25, 3-1 - 3-3

Our goals 2025+

MTU's sustainability program

Corporate governance

	Goals 2025
Comprehensive sustainability management	MTU's forward-looking corporate responsibility strategy is implemented in the MTU strategy, and the fields of action are synchronized across all departments, with the goals integrated into MTU's processes.
	A Group-wide climate strategy has been adopted.
	Change mindset sustainability in the Group is being strengthened.
	MTU is perceived as a company that operates sustainably and carries out impressive sustainability activities.
Ensuring the security of information and systems **Protecting personal data in all areas of the company** **Compliance as part of the corporate culture** **Active commitment to combating corruption in all business areas** **Ensuring adherence to embargo and export guidelines**	Consistent refinements to existing processes and regulations continue to ensure ongoing compliance with applicable legal requirements and the security of our data, information and systems in all areas of the company.
	These take into account regulatory changes as well as technical developments.
	MTU's Code of Conduct, the rules and regulations derived from them, and the "Tone from the Top" continue to help anchor compliance as part of MTU's corporate culture.
	Raising employee awareness through MTU's training program, reviewing relevant business processes through regular audits, and a zero-tolerance policy will continue to complement this compliance approach at MTU in the future.
Regular and open dialogue with all stakeholder groups	More transparent reporting and improvement in ratings and stakeholder dialogue through a material increase in sustainability management.
	MTU is taking up current formats for the sustainability dialogue with its employees and stakeholders.

Product

	Goals 2025		
Highest priority for product quality and flight safety	Our vision is “Zero Defects.” In this, we stand for future-oriented quality management: Implementation of innovative and at the same time recognized standards Commitment to refining state-of-the-art standards High degree of employee training and support with current enablers such as digitalization Recognized and standardized methods for systematic defect prevention, analysis and sustainable remediation		
Compile the MTU Group’s key Scope 3 activities	Goals 2030		
	Compile, analyze and evaluate the MTU Group’s key Scope 3 activities		
Reduce the climate impact of products	Goals 2025	Goals 2035	Goals 2050
	up to -60%* climate impact with current generation of turbofans	up to -65%* climate impact with the next generation of turbofan up to -80%* climate impact with the WET concept up to -95%* climate impact with the flying Fuel Cell	up to -70%* climate impact with the subsequent generation of turbofans up to -85%* climate impact with the WET concept up to -95%* climate impact with the flying Fuel Cell
Reduce the energy consumption of products during operation	Goals 2025	Goals 2035	Goals 2050
	up to −17%* energy consumption with current generation of turbofans	up to −25%* energy consumption with the next generation of turbofans up to −35%* energy consumption with the WET concept up to −5%* energy consumption with the flying fuel cell	up to −30%* energy consumption with the subsequent generation of turbofans up to −40%* energy consumption with the WET concept up to −10%* energy consumption with the flying fuel cell
Minimize the health effects of product use (exhaust and noise emissions)	Goals 2025	Goals 2035	Goals 2050

	up to –10 EPNdB noise (cumulative) with the current generation of turbofans compared to predecessor products reduction in particulate emissions through the use of sustainable aviation fuels	further reduction in noise through the next generation of turbofans and the flying fuel cell up to –80%* NOx emissions through the WET concept avoid CO, UHC and particulate emissions by using hydrogen in the flying fuel cell and potentially in turbofans significantly reduce particulate emissions through the use of sustainable aviation fuel and the WET concept	further reduction in noise through the subsequent generation of turbofans and the flying fuel cell avoid CO, UHC and particulate emissions by using hydrogen in the flying fuel cell and potentially in turbofans and in the WET concept in additional application

*gegenüber einem Triebwerk aus dem Jahr 2000

Procurement

	Goals 2025
Human and employee rights are central components of our business relationships. **In our cooperation with suppliers, we pay attention to a resource- and environment-friendly value chain**	The new CR requirements for the supply chain resulting from Germany's Due Diligence Act are consistently implemented
	The Code of Conduct reflects the contents of the Due Diligence Act, is a binding part of the contract, and compliance with it is regularly reviewed.
	Risk management is implemented in our processes.
	Supporting IT systems are implemented.
CR is embedded in our contracts and sourcing decisions. **In this way, we ensure social and ecological standards**	CR assessments of suppliers are incorporated into sourcing decisions.
	Our employees have been trained in CR and suppliers' awareness has been raised.
Responsible handling of conflict minerals is ensured.	Automated queries ensure compliance with and verification of contractual requirements.
A balance sheet of CO_2 emissions scope 3 upstream is prepared	Recording, analysis and evaluation of the main Scope 3 activities

Production & maintenance

	Goals 2025	Goals 2030	Goals 2045
Reduce CO_2 emissions at the fully consolidated sites (Scope 1-3)	Reduction of CO_2 emissions at all production sites (Scope 1&2) based on the Paris Agreement Compile, analyze and evaluate the MTU Group's main Scope 3 activities upstream and downstream	Reduce CO_2 emissions (Scope 1&2) at all production sites, based on the Paris Agreement Evaluate and manage all Scope 3 activities at fully consolidated sites	The long term goal is carbon-neutral production (Scope 1&2) at all sites
Continuously improve resource efficiency	Continuous improvement of resource efficiency (e.g. energy, water, raw materials, and consumables and supplies), specifications by site managers		
Efficient management processes have been established.	Efficient management processes have been established at the sites to reduce adverse environmental impact		
Advanced procedures in site and plant operations.	Improvements in climate protection achieved through advanced procedures in site and plant operations.		
Raising employee awareness of climate protection in production	Regular external and internal communication as well as raising of employees' awareness		

Employees

	Goals 2025
Ensure compliance with human rights at our own sites	Human rights continue to be fully respected at all of our own sites
Provide active and targeted employee development at at all hierarchical levels	Employees find a framework in which they can develop and contribute in a meaningful way.
Promote ongoing diversity & equality of opportunity for the workforce	Diversity and equality of opportunity are perceived as added value and promoted.
Enable a work-life balance for all employees	It is possible for all employees to achieve a work-life balance.
Ensure a high level of health and safety in the workplace	Accident figures are well below the industry average, awareness-raising measures are in place, and the TOP principle is applied.
Promote mutual employer/employee dialogue	The dialogue between employees and employers is open and constructive.
Continuously increase internal and external employer attractiveness	The working environment (rooms, tools, job security, ergonomics) and conditions (remuneration, social benefits, working time flexibility, participation, personal responsibility) are oriented to the needs of the employees and are attractive.
Trust-based leadership	Leadership is valued for its confident handling of new forms of collaboration and employee diversity.
Ensure a high level of employee satisfaction	Employees are highly committed due to their high level of satisfaction.

Society

	Goals 2025
Research collaborations for joint knowledge building	Our research collaborations play a significant part in the further development of technology for aviation and beyond.
	MTU uses its collaborations to promote young scientists.
	Through research collaborations and participation in European research programs, we are shaping propulsion technologies in line with the goals of the Paris Agreement on climate action.
Corporate citizenship: MTU is part of society and a good neighbor	MTU enters into targeted partnerships within the industry and at its locations in order to jointly achieve further sustainability goals.
	MTU's established donations policy provides targeted support for sustainability projects with a local connection or thematic link to its business.
Employees use the knowledge they have acquired at MTU to play a responsible role in society	MTU raises its employees' awareness of sustainability issues beyond the boundaries of the plant.

Compliance

MTU sets great store by compliance and integrity. They form the foundation for our business activities. A compliance management system and a corporate culture based on ethical principles provide orientation in day-to-day business and create trust in the collaboration with our stakeholders.

MTU's long-term success is founded on compliance with laws, regulations, and internal guidelines. The company condemns corruption of any kind as well as all other forms of white-collar crime. A Group-wide framework of compliance rules obliges employees and management to act with responsibility and integrity. These obligations include adhering to statutory requirements and internal regulations. The overarching MTU Principles help the company to act consistently, reliably, and with integrity. Other regulations, such as the MTU standard on donations, sponsorship, and customer events, contain detailed requirements and also serve to prevent corruption.

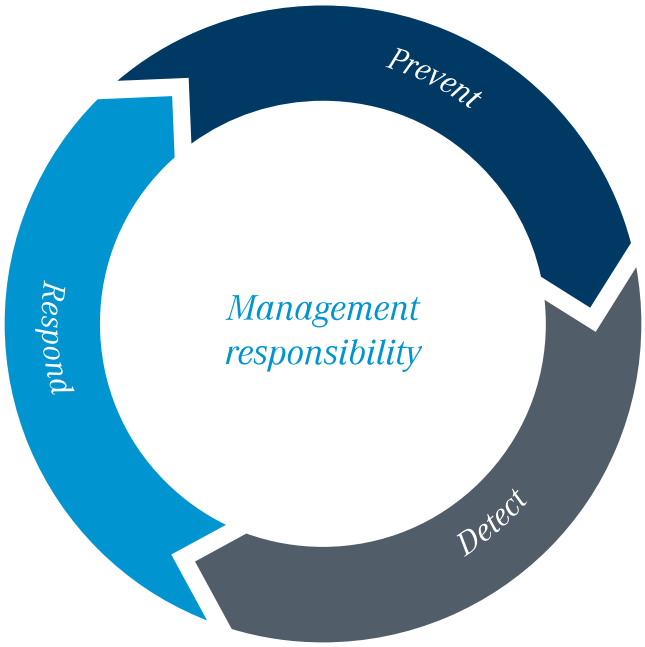
"MTU stands for integrity and responsible conduct. Indeed, we are convinced that this is the only way to transition to sustainable aviation and secure our company's long-term success. By setting out a clear set of requirements, our Code of Conduct provides orientation in all of our working and business relationships."

Lars Wagner, CEO and Chief Sustainability Officer of MTU Aero Engines AG

Our commitments in the area of compliance

We have committed to the principles of the UN Global Compact (UNGC), one of which is preventing corruption within our company → Principle 10 of the UNGC. In the interests of maintaining sustainable corporate leadership, we take our lead from the German Corporate Governance Code, whose requirements we comply with fully (MTU's Declaration of Conformity for 2023), and from international compliance standards, such as the Good Practice Guidance on Internal Controls, Ethics, and Compliance issued by the Organization for Economic Cooperation and Development (OECD). Our commitment to fighting corruption extends beyond the company as well; we are also a member of the TRACE International anti-corruption initiative. Through the German Aerospace Industries Association (BDLI), we are represented in the Aerospace and Defense Industries Association of Europe (ASD), and we are a signatory to their standards against corruption and bribery and in support of equal and fair competition.

MTU’s compliance system and its principles

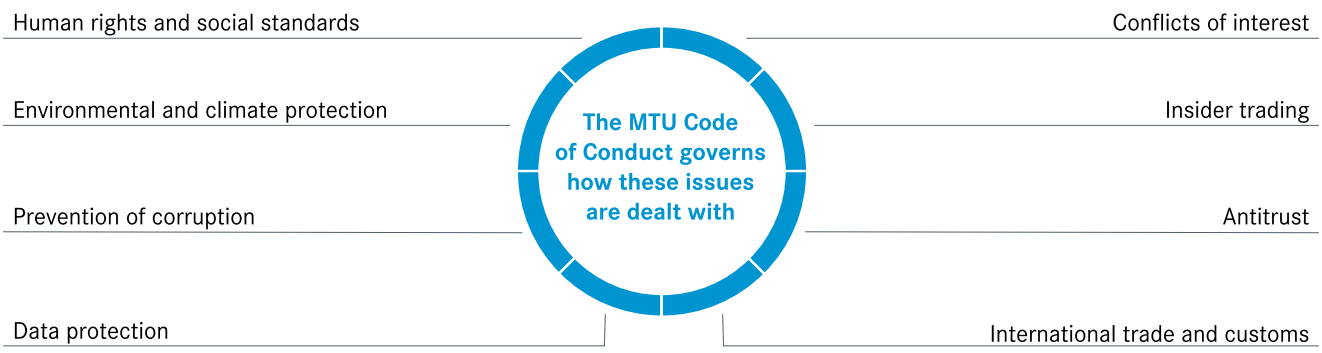


MTU’s compliance system is based on three pillars: prevention, recognition, and response. Instruments and actions have been implemented for each of these pillars. Taking an integrated approach ensures, for instance, that insights from processing and resolving cases of suspected corruption (respond) also flow into prevention efforts. The focus of our activities is on prevention.

Code of Conduct for clear standards and rules

Integrity and responsible conduct are core values of our corporate culture and are embedded in the MTU Code of Conduct, which is binding for all employees, managers, and members of the Executive Board. The Code of Conduct addresses key compliance issues such as preventing corruption or dealing with conflicts of interest. It also defines clear standards for dealing with stakeholders such as customers, suppliers, authorities, and partners.

The MTU Code of Conduct



→ MTU's Code of Conduct in multiple languages

All employees must be familiar with and comply with the legal provisions and company regulations relevant to their work. Managers have a particular responsibility to uphold these requirements and regulations and to act as role models.

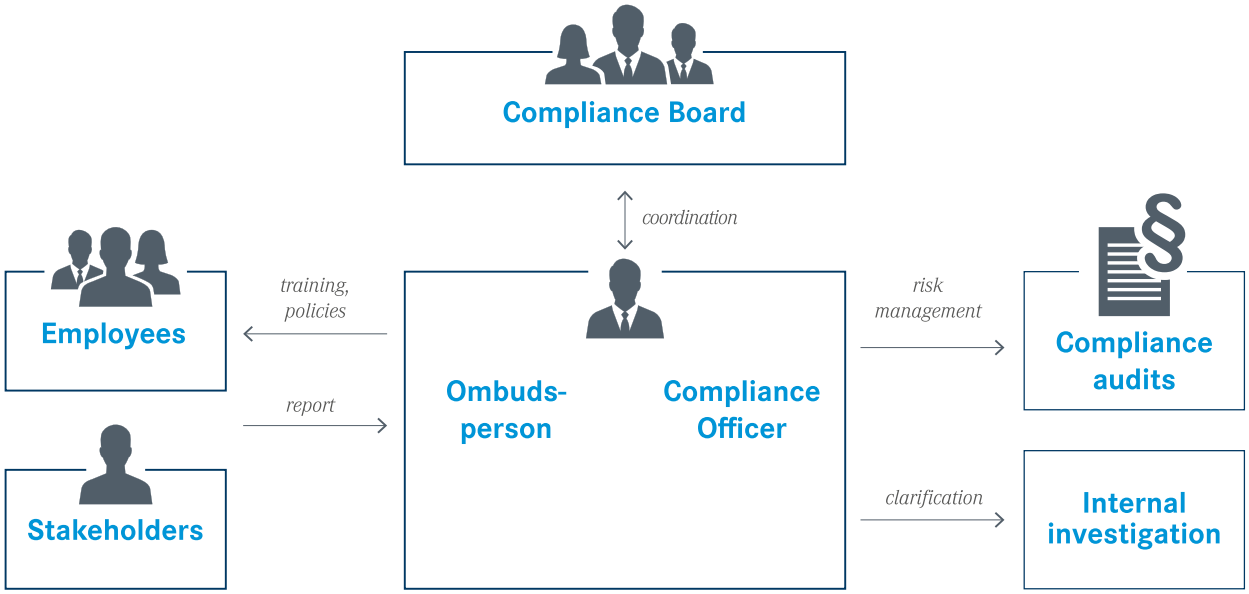
A separate Code of Conduct for MTU's suppliers

We also expect our business partners to fully comply with all applicable laws. A separate Code of Conduct applies for suppliers, which we agree on with our suppliers. → Code of Code of Conduct for Suppliers

Integrity in day-to-day business

As the final decision-making authority, the CEO holds responsibility for the company's business ethics and anti-corruption policy. The core functions responsible for ensuring ethical and correct conduct are a Group-wide Compliance Board and a Compliance Officer. The Compliance Officer is responsible primarily for the further development of MTU's compliance system with regard to the prevention of corruption. He or she works in close coordination with the Compliance Board. The Compliance Board holds regular meetings as well as meetings at the request of the Compliance Officer. The Compliance Officer provides quarterly updates to the full Executive Board and the Supervisory Board's Audit Committee, which for its part informs the plenary meetings of the Supervisory Board. The Supervisory Board's Audit Committee oversees the Executive Board's compliance activities. In addition, the Compliance Officer has a regular direct reporting line to the CEO.

MTU's Compliance organization



The core functions responsible for ensuring ethical and correct conduct at the company are a Compliance Board and a Compliance Officer.

The managing directors of the sites must ensure that all compliance-relevant provisions and regulations are adhered to within their areas of responsibility, and they must see to it that compliance is appropriately embedded in the local organization.

Effective compliance

We do not tolerate any kind of unlawful conduct. We respond to reports immediately and appropriately, and take disciplinary action in the event of detected violations. In such cases, MTU applies a principle of zero tolerance, which includes labor law measures as well as civil or criminal proceedings. There were no confirmed cases of corruption in the reporting year. As in previous years, no legal proceedings due to anti-competitive behavior or violations concerning antitrust or monopoly practices were pending in the reporting period. No significant fines or non-monetary sanctions were levied against MTU for breaches of applicable laws.

Risk-based approach

We have put various control mechanisms in place to ensure compliance throughout the company and to minimize risk. All fully consolidated sites are reviewed for corruption risks and regularly queried on compliance-relevant issues. The 2023 query identified no significant corruption risk for any site. For compliance and governance risks, see the 2023 Annual Report, p. 85 The Compliance Officer additionally inspects all sales support consulting contracts for possible corruption risks before they are placed or renewed, and found no indications of corruption in 2023. Potential sales consultants are also subject to an assessment by an independent provider of due diligence services. The contracts with the sales consultants require them to stipulate that the ASD anti-corruption standards are binding. The Corporate Audit unit reviews the effectiveness, efficiency, and appropriateness of MTU's internal control system as part of the audits it conducts.

In addition, our dialogue with the political sphere is governed by certain rules. More about our exchange with policymakers in the chapter Stakeholder dialogue

Safe, secure, and confidential: MTU's global whistleblower system

Our global whistleblower system allows employees and external stakeholders to report suspected instances of unlawful conduct to the Compliance Officer. Tips can also be submitted anonymously via the web-based iTrust reporting system, which is available in several languages. → iTrust The Compliance Officer reviews all submitted reports. If any are found to be credible, the Compliance Officer initiates the investigative steps necessary. The ways we have established for reporting non-compliance are communicated to employees through internal media channels and explained to external stakeholders in writing or on our website.

We treat the identity of the whistleblower and the information they impart as confidential–even if the suspicion turns out to be unfounded. This is ensured by means of an internal regulation. We wish to make it clear that whistleblowers acting in good faith shall not be penalized or disadvantaged by the company in any way–this is also ensured by means of an internal regulation. In addition, employees can confide in their superiors, the legal department or HR. The reporting channels and procedures are described in detail on our website.

In 2023, various tips regarding suspected misconduct were reported to the Compliance Officer via the reporting channels offered. However, in applicable cases–i.e. where misconduct could be proven–a qualitative examination of each violation revealed that none was severe enough to be material to the company.

To raise awareness and inform: Our compliance training courses

To ensure a functional compliance culture, MTU puts a high priority on investigating possible forms of misconduct as well as communicating and raising awareness of compliance issues among employees. When new employees are taken on, we inform them about our Code of Conduct and require them to sign a declaration to uphold it. We regularly train our employees and managers across all hierarchies on the Code of Conduct and on specific compliance-relevant topics, such as antitrust law.

One way MTU chooses to raise awareness is with a training document on the Code of Conduct for all employees. The training courses for teaching the content of the Code of Conduct were continued in 2023; a total of 2,523 employees at the fully consolidated sites took part in them during the reporting period. These courses have now been added to the regular training portfolio and employees can participate on a voluntary basis.

In addition, we continuously provide information about and raise awareness of individual compliance issues, such as data protection, in a way suitable for each target group. The Compliance Officer and the legal department can also advise employees and managers as needed.

GLOBAL TRAINING COURSES FOR EMPLOYEES

2,523

employees were trained on the Code of Conduct alone in 2023. Communication, education, and raising awareness form the basis of our compliance culture.

Customs law and export control

Another key compliance topic for us is observance of international trade law, also known as trade compliance. Customs and export control laws govern which products, services and technical data we are permitted to sell or provide and to where, to whom and for what purpose. This regulatory framework is binding for all the company's divisions, affiliates, and employees worldwide. The need to comply with the applicable regulations is also specified in the MTU Code of Conduct. → Export control law is outlined in the non-financial statement in the 2023 Annual Report (p. 112ff.)

MTU has its own organizational unit dedicated to ensuring effective trade compliance: the international trade compliance department provides the internal framework for implementing uniform process standards throughout the company. These include a review of existing approval requirements, e.g. before shipping documents, software, or components, as well as controls relating to bidding procedures vis-à-vis sensitive countries. The international trade compliance department has cross-divisional authority to issue certain directions, which extends to the right to stop deliveries. In addition, the department's head reports directly to the person in charge of exports at MTU (CEO).

Mandatory training for all employees affected by export control regulations continued during the reporting year with an established concept. Called the Internal Compliance Program, this concept was adapted in line with the legal framework applicable for the reporting year.

Responsible handling of data

MTU takes care to provide comprehensive data protection in its business activities. The protection of personal data in accordance with applicable statutory regulations is covered in our Code of Conduct and internal guidelines on data protection and is binding.

We have established a management system for data protection and expect all employees to comply with its regulations, a requirement that is also set out in the Code of Conduct. The Group's data protection guidelines ensure a uniform level with a standard that applies worldwide. We have appointed data protection officers or coordinators in all our Group companies, and they are informed of all relevant regulations. The aim is to achieve uniform data protection and data security standards for the handling of personal data throughout the Group that meet the requirements both of the EU General Data Protection Regulation (GDPR) and of the national legislation applicable at each site, such as the German Federal Data Protection Act (BDSG). The Executive Board is briefed on data protection once a month. Regular audits and checks are carried out on workflows that process personal information, especially in the course of processing orders. In addition, data protection is part of our ongoing information and training offers for employees, targeted to the needs of different groups.

Once again for 2023, we have no reportable violations.

Protecting IT systems

Given that all of MTU's key business processes have a highly advanced level of digitalization, ensuring the high availability and integrity of IT systems is a prerequisite for seamless business operations. MTU generates, maintains, and processes large amounts of data with special confidentiality requirements–especially for but not limited to military business.

MTU has an IT security management system based on ISO 27001 and implements appropriate protective measures on a technical and organizational level to ensure its IT systems are stable and secure. The aim is to minimize damage caused by cyberattacks on the company and to safeguard corporate data and expertise. In addition, it is important to protect data and systems when collaborating and networking with business partners.

Global and local regulations lay out binding rules for all employees and managers governing the confidentiality of operational and business secrets, the protection of electronic data, and how to work with IT systems and data media.

A dedicated central team is responsible for IT security, serving as point of contact within the Group. IT security officers in the centers and in legally independent associations act as local contacts for IT issues and implement IT security guidelines and requirements on-site. The MTU Executive Board receives regular reports from the IT security officers regarding the company's external situation, current developments, and current and future defensive measures.

We invest heavily and continuously in technological and organizational actions to ensure the availability, confidentiality, and integrity of the IT systems that we use and operate. We continuously reassess the risks associated with IT. The two risks deemed most critical are, first, system failures due to technical error and, second, cyberattacks that result in the non-availability of systems, unauthorized publication of information, or the permanent loss of data. MTU's IT security management covers technical and organizational actions to limit the negative effects of such occurrences for the company. During the reporting period, there were no cyberattacks and no failures that resulted in significant or severe consequences for MTU.

GRI: 2-23 - 2-27, 3-3, 205-2, 205-3, 206-1, 412-2, 418-1

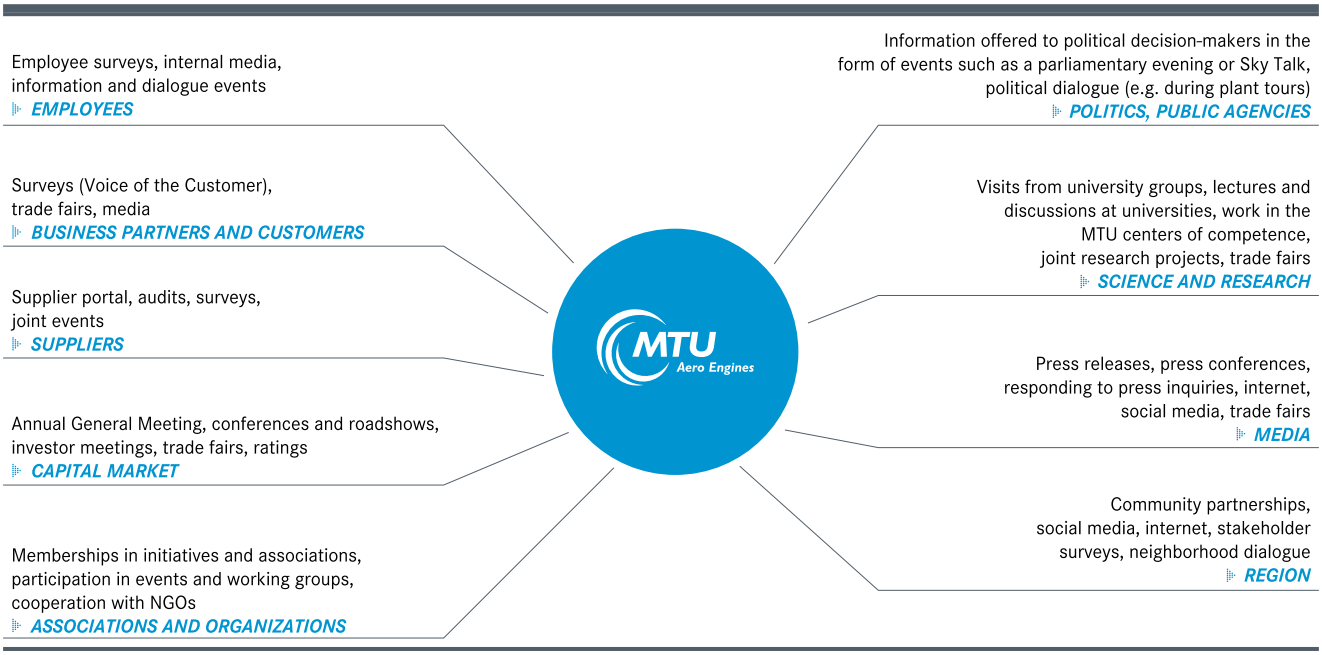
Stakeholder dialogue

We are in continuous dialogue with key stakeholder groups. Our dialogue takes the form of knowledge sharing, networking, and collaboration. Together with our partners, we are working on future-oriented solutions for more sustainable aviation.

Knowledge sharing, networking, and collaboration are more important than ever in view of the complex challenges currently facing society, the economy, and companies like MTU. That is why we are in active dialogue with our global stakeholders. Our stakeholder engagement is characterized by a continuous and open exchange that addresses our business activities and their impact on the environment and society. This lets us identify suggestions, expectations, or new topics with a potential impact on our value creation and incorporate them into our business activities. The results and findings of our stakeholder engagement are primarily incorporated into the materiality process for determining the key topics of MTU's sustainability strategy. → Materiality analysis

The Executive Board and Supervisory Board as well as MTU's Corporate Sustainability Board are involved in the materiality process for determining the impacts, risks, and opportunities of sustainability aspects. In addition, the Executive Board receives information on stakeholder feedback and positions via various channels, for example at Executive Board meetings, in collaboration with the Corporate Sustainability Board, or through direct communication with stakeholder groups such as investors or policymakers.

Stakeholder groups and forms of dialogue



We take a cross-media approach to our sustainability communication, regularly communicating with our stakeholders via various different channels and platforms. This dialogue is mostly tailored to the target group or a specific topic. The choice of format and frequency depends on the communication and information requirements or the respective platform. Stakeholder dialogue allows us to include relevant interests and take on board feedback. It also gives us the opportunity for a direct exchange with company representatives–for example, for local communities, the neighborhood, or other interest groups that could be affected by the potential impact of our business activities on the immediate environment. How we involve our employees with the opportunity for feedback and participation is presented under Collaboration & leadership.

We use stakeholder mapping to identify relevant stakeholder groups whose interests we affect directly or indirectly. We will expand on this mapping in 2024 as part of our preparations for the new reporting obligation under the EU's Corporate Sustainability Reporting Directive (CSRD).

Key topics

In 2023, the decarbonization of aviation was once again a central topic in our stakeholder dialogue, through which MTU provides information on challenges, developments, and technologies relating to more sustainable aviation. It focuses on our vision of achieving zero-emission aviation in the long term. As sustainable aviation fuels play an important role in reducing carbon emissions, we are continuously driving this topic forward with relevant stakeholders. Our climate strategy for production and maintenance at our plants, such as our geothermal energy project at the Munich site, are also topics in the climate dialogue. We also provide information on social issues, with a focus on aspects of corporate culture and diversity.

Online survey about sustainability

We present our sustainability management and our goals for evaluation and discussion. The results are incorporated into our annual assessment of the key issues.

HOW DO YOU RATE SUSTAINABILITY AT MTU?

Reliable information for the capital market

We aim to provide comprehensive and reliable information about MTU as an investment opportunity. To this end, our investor relations team is in regular dialogue with investors and analysts, for example at the annual Capital Markets Day, roadshows, and the Annual General Meeting. ESG (environmental, social, and governance) issues play a major role in this exchange as well. We also offer insight into our sustainability strategy and performance; for example, as these relate to climate action, via the CDP rating, or by means of regular holistic measurements of our performance, done via the ESG assessment tool EcoVadis.

Two leading rating agencies confirmed MTU's above-average sustainability performance in January 2024: ISS ESG Corporate Rating awarded MTU the prime label for industry leaders in the Aerospace & Defense industry sector, while EcoVadis awarded MTU the silver medal.

OVERVIEW OF ALL SUSTAINABILITY RATINGS AND AWARDS

Political dialogue: Centrally coordinated representation of interests

MTU takes no party political position as a matter of principle. We purposely cultivate relationships with parties and factions on certain topics, as aviation is affected to no small degree by political decision-making, especially at the national and European levels. MTU's lobbying activities aim to provide political stakeholders with background information, views, and concerns relating to core business issues, so that these can be taken into account in the political decision-making process.

Our key points of contact include elected representatives and decision-makers from ministries at the state, federal, and EU levels as well as from subordinate authorities and the German Armed Forces. To ensure transparency and adherence to external and internal regulations, MTU's political dialogue is managed centrally by the Group Representation Office of the Corporate Communications department. We pursue our industry-specific interests through memberships in various professional associations. → Overview of our memberships in the GRI index under Organizational profile

We do not make any financial or in-kind donations to political parties. All interactions in the political arena are carried out in compliance with the applicable legal and regulatory requirements and with our Code of Conduct, and must be granted central approval. Donations to political parties or party-affiliated organizations are generally subject to approval by the Supervisory Board. Mandatory requirements are stipulated in our compliance management system and Code of Conduct, including those relating to donations, sponsorship, customer events, in-house events, hospitality, and corporate gifts. Compliance with these rules and regulations is the responsibility of the relevant manager in each case and is ensured by means of an internal monitoring system.

We publish contacts with politicians on an ad hoc basis, e.g. on the occasion of site visits. These days, many politicians themselves also report on visits and contacts. MTU has instituted a self-imposed "quiet period" of six weeks prior to elections, during which visits from or events with elected representatives or candidates are prohibited so as not to offer them a public platform.

Germany's Lobbying Register Act (LobbyRG) stipulates that all organizations and companies that lobby the German parliament and federal government for representation of interests must be registered in the Lobbying Register. We believe that transparency is a prerequisite for trust when it comes to representation for interests and the political process. MTU appears on the Register under entry number R02076. We also follow this approach at the European level and can be found in the European Union's Transparency Register with all relevant information.

We support our employees' right to pursue voluntary or political causes as private citizens. However, our employees are bound by the rules relating to conflict of interest laid out in our Code of Conduct. When it comes to private voluntary or political causes, we in no way pursue MTU's corporate interests. → Donations & sponsorship → Compliance

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GRI: 2-12, 2-25, 2-26, 2-29, 415-1

Product quality and flight safety

Safety first—for us, safe flight operation is way more than just a legal requirement. In aviation, it is the highest priority, period. That's why we place high demands on safety and quality—for reliable and high-quality products made by MTU.

Product quality and flight safety are very important to MTU. High quality together with product safety and reliability are enshrined in the MTU Principles as key corporate objectives. MTU's quality vision for 2025 also aims at error-free quality and product safety in flight, as well as high customer satisfaction. Our vision is Zero Defects; in this, we stand for sustainable quality management.

A high level of product quality and safety is crucial for customer satisfaction and our competitiveness. "We increase the satisfaction of our stakeholders" is therefore one of our overarching corporate objectives. The secondary objectives for 2023 were defined in more concrete terms, with the aim of underscoring MTU's attractiveness as a partner through the high performance and quality of its products and services.

A model management system for quality

Conditions in the aviation industry are strictly regulated, and the company must comply with the legal requirements imposed upon it as an organization that develops, manufactures, and maintains products, parts, and equipment for the aviation industry. A Group-wide integrated management system (IMS) ensures compliance with laws and internal regulations and clearly assigns responsibilities within the company. One principle of the IMS policy is that "safety takes priority in what we do." The quality framework is enshrined in a management manual that is binding for all employees and managers across the Group. The company's dedicated quality department, Corporate Quality, is directly subordinate to Executive Board member Dr. Silke Maurer, Chief Operating Officer (COO), and reports quarterly to the full Executive Board on quality aspects and flight-related incidents. MTU Safety Management in accordance with the International Civil Aviation Organization (ICAO) standard is part of the IMS and defines how to handle safety-related incidents in MTU facilities and in air traffic. Appropriate organizational structures and responsibilities, such as a Flight Safety Board and a Flight Safety Manager, have also been established.

IMS, our certified integrated management system, supports us in ensuring customer satisfaction, process orientation, and continuous improvement in all phases of development, production, and maintenance. IMS takes into account, for example, the requirements of the standards ISO 9001, EN/AS9100, ISO 14001/EMAS, and ISO 45001, and serves as a model approach in the aviation industry.

And complying with legal requirements concerning safety is subject to strict monitoring by the relevant authorities. These include aviation-authority licenses, approvals, and certifications as well as safety and environmental requirements as legally mandated by regulatory authorities. Through stringent quality standards, we ensure that these are implemented across the Group and at all levels of the value chain in accordance with the law. We have customers and authorities conduct regular internal and external audits of quality issues to ensure that the uniformly high standards within the company comply with regulatory requirements.

Safety throughout the lifecycle

We examine our engine modules for their impact on the environment, health, and safety throughout their development, production, and operation lifecycles. Accordingly, we cover all major stages of a product's service life. The key to continuous progress is the development phase. We take into account all safety and environmental requirements of regulatory authorities in the early stages of developing new engines for later use, and compliance must be documented as part of the certification process. We employ a comprehensive testing program involving test rigs and test series to validate the safe flight operation of our products. This includes being able to ensure safe operation during a hailstorm or a bird strike (following a bird ingestion event) and complying with strict limits on pollutants and noise emissions. MTU components frequently exceed aviation authority requirements, because our customers demand high standards when it comes to fail-safe operation and eco-efficiency.

ENGINE VALIDATION AND CERTIFICATION

→ More in MTU Aeroreport

Certifying and validating an engine is a rigorous process that takes years. It concerns flight safety as well as energy consumption and maintenance intervals.

We use only fault-free and clearly identified components that have been approved by the appropriate aviation authority, are based on approved development documentation, and have been produced or maintained in compliance with aviation regulatory processes by a company officially authorized to do so.

The aviation sector has strict rules governing documentation in order to verify the airworthiness of components and engines. There must be no gaps in documentation for the product's entire service life. We hold our suppliers to the same standards and audit them regularly to ensure compliance. To ensure quality and safety requirements are upheld, we have implemented comprehensive monitoring and testing processes along the entire value chain. Safety-critical components (engine components are categorized into various safety classes) are subjected to particularly rigorous testing to verify their technical quality. Strict requirements also apply to materials. Since fail-safe materials are a basic prerequisite for aviation safety, all engine components, including all materials we use, must be approved by the aviation authorities after undergoing extensive test series.

The reporting year again saw a positive result in that there were no breaches of statutory regulations regarding compliance in connection with the purchase or operation of our products that resulted in a fine, sanction or warning for MTU.

Continuous monitoring of quality

We set great store by customer complaints as an indicator of our customers' satisfaction with the quality of MTU products. We follow up and analyze all customer complaints submitted to us relating to products delivered in substandard quality. Appropriate measures are then defined and implemented so as to permanently eliminate the cause of the defects. Success of these measures is closely monitored. Customer complaints are assessed at the site level. At most of our sites, the number of customer complaints fell or remained constant in the reporting year.

Geared turbofan fleet management plan

In the course of 2023, it emerged that the service life of components in the share handled by program partner Pratt & Whitney may be limited under certain circumstances. The reason for this is a rare condition of the powder metal used in the production process. As a result, there was a need for a comprehensive inspection program for PW1100G-JM geared turbofan engines. In the coming years, an additional 600 to 700 shop visits will be necessary to inspect the relevant components and replace them if necessary as a preventive measure.

Further development of safety management system underway

At MTU, we develop and refine our quality system together with our standards and regulations on an ongoing basis. This involves applying the ideas that emerge, for example, from collaboration in the Aero Engine Supplier Quality Group (AESQ) or from regular exchanges of experience and information among our quality managers in the aviation industry. Continuous development primarily concerns MTU's body of rules and regulations and its internal quality reporting system.

We include all our employees in our high quality standards: managers and employees receive site-specific training on quality issues, and all employees receive IMS training. In addition, we are committed to a positive no-blame culture at MTU, characterized by openness and collaboration, and raise awareness about and provide ongoing training on this subject.

In the reporting year, MTU began further developing its safety management system in light of new regulatory requirements from the European aviation authority. A new training concept with mandatory online training for all employees and in-depth training for MTU safety personnel was rolled out for the German sites as a first step. In addition, Quality Day 2023 was dedicated to the topic of flight safety and the safety management system as part of the Passion for Quality initiative. The implementation of the new industry-wide AS13100 standard, which was jointly developed in the AESQ, also made further progress in 2023. This standard must be incorporated into MTU's body of rules and regulations and find practical application with MTU and its suppliers. MTU is also working on a new edition of the standard, which will incorporate initial lessons learned.

GRI: 3-3, 301-2, 416-1, 416-2

Climate impact of aircraft engines

With innovative propulsion products, MTU is often a technology pacesetter. We are also hard at work on new generations of propulsion systems that will be even more sustainable. With our Claire agenda, we have more forward-looking concepts than ever before.

Zero emissions–this is MTU's vision and overall goal when it comes to reducing the climate impact of propulsion systems in flight operations. By taking on responsibility for climate action, we want to help achieve the goals laid out in the Paris Agreement, which serves as a focal point in our technology development. We base our own objectives on the EU Green Deal, which is derived from the Paris target of a 1.5 degree increase and aims to achieve climate neutrality by 2050. In our **Claire (Clean Air Engine) technology agenda**, we have formulated possible solutions for aircraft engines and ways they can reduce climate impact and energy consumption. We aim to achieve these goals in three stages. Our efforts here no longer focus solely on carbon emissions, but on the overall climate impact of air traffic. In addition to CO_2 emissions, this also includes non-CO_2 effects, triggered mainly by the emission of nitrogen oxides and the formation of contrails. MTU realigned its Claire agenda in 2022 to reflect this paradigm shift.

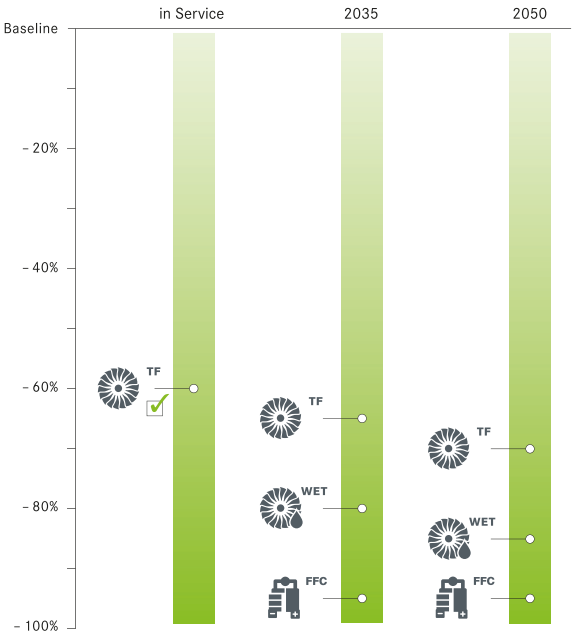
"We are transforming aviation with innovative concepts, great enthusiasm, and a vision of emissions-free flight. For this major aviation goal, we are investing in the development of new and alternative propulsion technologies. Turning visions into reality has always been our way."

Dr. Stefan Weber,
SVP Engineering & Technology and member of the Corporate Sustainability Board of MTU Aero Engines AG

Because of the longer product cycles in aviation, climate goals for propulsion systems take a long-term perspective and are established in memoranda of understanding by stakeholders (airlines, aviation industry, research, aviation authorities), such as Fly the Green Deal, Europe's vision for climate-neutral aviation. To be effective across the board in 2050 and help in achieving climate neutrality, products that enable climate-neutral flight must be brought to market well before then. That is why we are ramping up the development of completely new propulsion concepts that go above and beyond the conventional gas turbine. For these revolutionary engine architectures, we collaborate with partners from industry, academia, and research, such as Bauhaus Luftfahrt or the German Aerospace Center. In parallel, MTU is working to enhance existing propulsion systems, such as the highly efficient geared turbofan (GTF) together with our partner Pratt & Whitney, and to couple these with sustainable fuels.

Three stages toward emissions-free flight with Claire

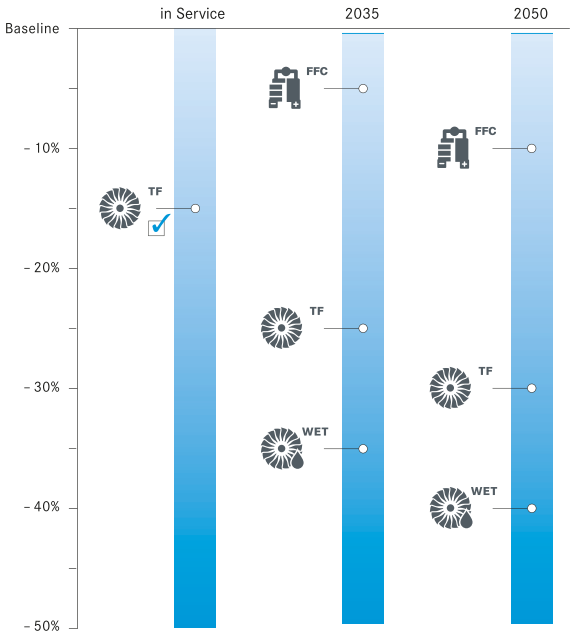
Climate impact



Reducing climate impact*
(Global WarmingPotential)
Climate impact is a result of **CO_2 and NO_x emissions** and of **contrail formation**

Reducing energy consumption*
Energy consumption refers to the **energy required** for a standard mission

Energy consumption



Alternative fuels
All concepts run on **100% SAF** or **hydrogen** from **100% green energy**

Noise reduction
All concepts meet future **noise emission limits**

TF = Turbofan WET = Water-enhanced turbofan FFC = Flying fuel cell
* compared to a kerosene-powered gas turbine from the year 2000

Evolutionary refinement based on the geared turbofan

Together with Pratt & Whitney, MTU offers a highly efficient propulsion concept: the GTF™ engine family used in modern narrowbody aircraft–the Airbus A320neo and A220 as well as the Embraer E-Jet E2 family. Per flight, engines from the GTF family reduce energy consumption and CO_2 emissions by up to 20% compared to the previous generation. Since its entry into service, the GTF™ engine family has logged 26 million flight hours, saving 14 million metric tons of CO_2 (according to Pratt & Whitney as of the end of 2023). It has also achieved significant improvements regarding nitrogen oxides (NO_x), with 50% fewer emissions than the previous model.

Fast facts: Geared turbofan

IN THE AIR

26
million flight hours and 900 million passengers on board

LESS IN THE TANK

5
billion liters less kerosene consumed

GOOD FOR THE CLIMATE

14
million metric tons of CO_2 saved

Compared to the previous engine generation, as of the end of 2023, according to information from Pratt & Whitney

The GTF Advantage, a technologically improved version for the A320neo family, is currently undergoing trials. It has also already been successfully tested with 100% sustainable aviation fuel (SAF). Entry into service is planned in the next few years. To exploit the GTF's full potential, MTU is working with Pratt & Whitney to prepare the next generation of the product. Many of the technologies required for this are being developed as part of the German Federal Aviation Research Program (LuFo). MTU is concentrating on its GTF components, namely, the high-pressure compressor and the high-speed low-pressure turbine.

Sustainable aviation fuel

Alternative fuels from renewable energy

SAFs (sustainable aviation fuels) are sustainably produced alternatives that can be used as drop-in fuels, i.e. without major adjustments. They are playing a major role on the way to climate-neutral aviation. MTU maintains an ongoing dialogue with relevant stakeholders and participates in studies to support the introduction of SAF; for example, through its membership in the Aviation Initiative for Renewable Energy in Germany (aireg e.V.), an association of airlines, manufacturers, and research institutions. An aireg study on sustainable fuels conducted with the involvement of MTU highlighted the great potential of SAF.

V2500 ENGINE ON 100% SUSTAINABLE AVIATION FUEL SUCCESSFULLY TESTED

→ Press Release

IAE International Aero Engines AG (IAE) announced it has successfully tested the V2500 engine with 100% sustainable aviation fuel (SAF) at MTU Maintenance Hannover, Germany. IAE is a multinational consortium comprised of Pratt & Whitney, an RTX business, Pratt & Whitney Aero Engines International GmbH, Japanese Aero Engines Corporation and MTU Aero Engines AG.

In addition, in the reporting year MTU signed a letter of intent to initiate a research collaboration for power-to-liquid aviation fuels (PtL). The endeavor will involve representatives from MTU, Lufthansa, DLR, Airbus, and Munich Airport. PtL represents the next generation of SAFs and is particularly promising from an environmental and scaling perspective. The collaboration will pool the strengths of leading aviation companies and science to accelerate the technology selection, market introduction, and industrial scaling of PtL aviation fuels in Germany. It will also address other issues, such as the effect on local air quality, maintenance requirements, and the use of pure PtLs, i.e. those without the addition of fossil kerosene.

In the long term, hydrogen will serve as the basis for climate-neutral propulsion of the future. We see three application possibilities: it can be burned directly in a gas turbine engine, converted into an SAF, or converted into electrical energy by means of a fuel cell. MTU, aircraft manufacturers, and industry are working on bringing climate-friendly hydrogen technologies to aviation and building up the requisite infrastructure.

MTU DEVELOPS FUEL SYSTEM FOR LIQUID HYDROGEN WITH PARTNER

→ To the press release

MTU is partnering with the company MT Aerospace to jointly develop a complete liquid hydrogen fuel system. The first application is to be MTU's Flying Fuel Cell™ (FFC). Joint development work on the LH_2 fuel system for commercial aviation applications began more than three years ago. In terms of system technology, this fuel system could, with slight modifications, also be used for direct hydrogen combustion in aircraft gas turbines.

Achieving climate neutrality with revolutionary propulsion concepts

Wet combustion is better for the climate: Our WET concept

Evolutionary technological development will not be enough to achieve climate neutrality by 2050. Revolutionary propulsion concepts are needed. MTU's favored technology is the Water-Enhanced Turbofan (WET). Utilizing thermal energy from the exhaust gas stream, the WET concept uses a heat exchanger to vaporize water, which is then injected into the combustor. The water for this purpose is extracted from the exhaust gas by means of a condenser. "Wet" combustion of this kind massively reduces nitrogen oxide emissions, while also substantially decreasing fuel consumption, CO_2 emissions, and the formation of contrails. As part of SWITCH, one of the largest technology projects to emerge from the first call issued by the European Commission's Clean Aviation research program, both innovative WET and hybrid-electric technologies are being developed. SWITCH was launched in 2023. Within three years, the project aims to ground-test a hybrid-electric gas turbine engine based on the geared turbofan, and to bring the WET concept to a level of technological maturity that includes successful component validation in the laboratory. Within the framework of SWITCH, an international consortium is working together under the leadership of MTU. The industry partners are Airbus, Pratt & Whitney, Collins Aerospace and GKN Aerospace; further partners include DLR and universities.

Virtually emissions-free in the air: Flying Fuel Cell™

Another revolutionary propulsion concept in aviation is the full electrification of the powertrain. MTU calls its version of this the Flying Fuel Cell. It will initially be used on shorter routes in the feeder and regional aircraft sector starting in 2035. As its efficiency improves, the Flying Fuel Cell will expand to short- and medium-haul routes, further reducing the climate impact of commercial aviation. This propulsion system does not produce any emissions of CO_2, NO_x, or particulates. The Flying Fuel Cell scored points in the second Clean Aviation call in 2023 and was accepted as a funded project under the title Hydrogen-Electric Zero Emission Propulsion System (HEROPS).

MTU ACQUIRES ELECTRIC MOTOR DEVELOPER EMOSYS GMBH

eMoSys GmbH

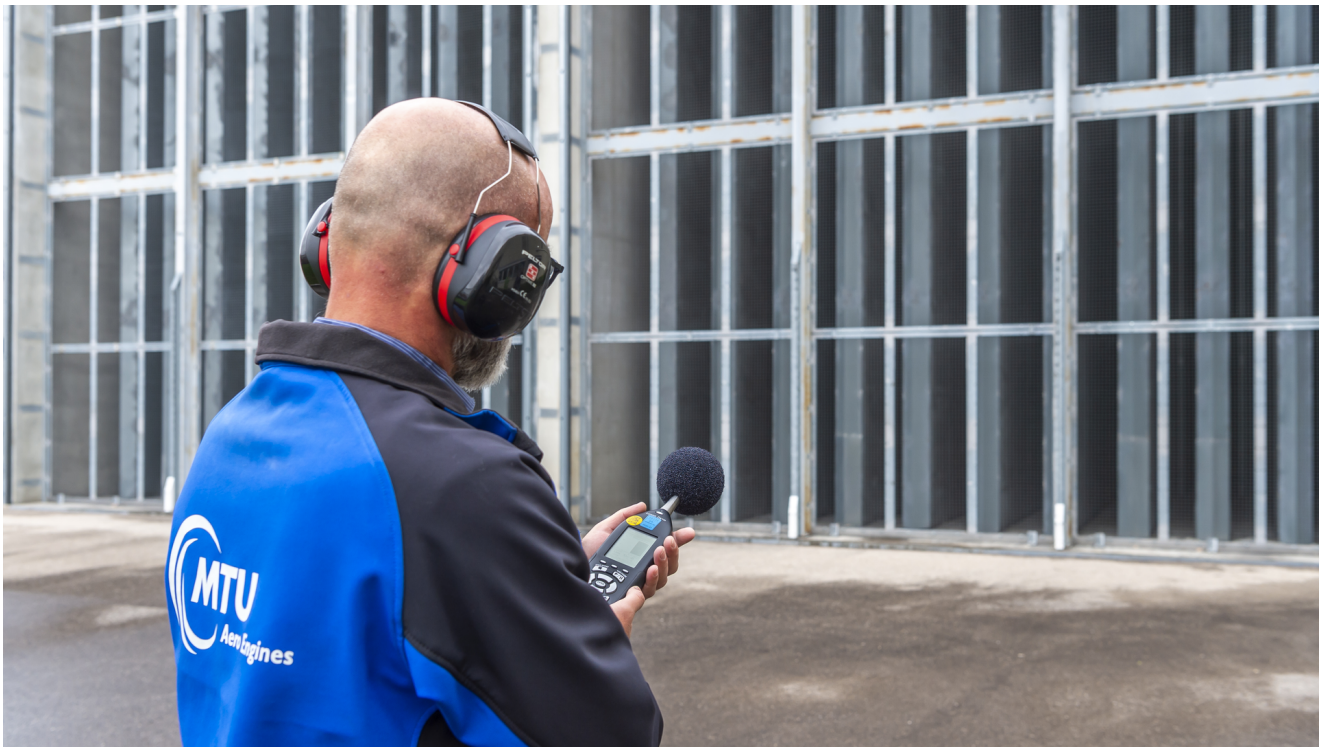
→ To the press release

MTU is acquiring eMoSys GmbH, a company specializing in electric motors and located in Starnberg, Germany. With this step, MTU is expanding its expertise and activities in the field of propulsion system electrification. “We need highly efficient and absolutely reliable electric motors for our Flying Fuel Cell, and eMoSys motors offer the highest power density known today,” says Lars Wagner, MTU CEO, about the acquisition.

GRI: 3-3, 201-2, 302-5, 305-3

Health impact of aircraft engines

Our product development team is working to make aviation considerably quieter and cleaner. Reducing aircraft noise and exhaust emissions are declared goals of our Clean Air Engine technology agenda. Our revolutionary propulsion concepts open up completely new possibilities.



We are committed to active and integrated environmental protection that takes account of the significant impact our products have on the environment and society. Our efforts here take our commitment beyond climate action: with concepts for quieter and cleaner engines, we can improve the situation for residents living near and around airports in terms of noise pollution and local air quality. As with our approach to climate action, we have established several pillars to anchor the issue of aircraft noise in the company. In our global Code of Conduct, we commit to environmental protection and explicitly to reducing noise and exhaust emissions from aircraft engines. We want to set standards in this area, and we have formulated our goal accordingly. The MTU Principles also include the requirement to create products with lower noise and pollutant emissions under the heading “Environment & society.”

To receive certification from aviation authorities both aircraft and engines must meet noise and emissions limits set by the International Civil Aviation Organization (ICAO); in the past, these limits have been successively tightened. National aviation authorities are responsible for certification. Furthermore, at almost every airport in the world, the fees charged for takeoff and landing are dependent on the noise emissions of the aircraft model.

In the certification of new aircraft models, noise is measured using a standardized process at three defined points and then cumulated. Aircraft noise has decreased continuously since the 1960s, by a total of about 17 EPNdB (effective perceived noise decibels; a specific unit for measuring the relative noisiness of aircraft) or about 70%.

How is aircraft noise generated?

Aircraft noise is caused by both the engine and the aircraft itself. Noise during takeoff is largely due to the engine's fan and nozzles; during landing, the aircraft also adds to noise as a result of turbulence around the fuselage, wings, and landing gear. The core engine accounts for a relatively small proportion of aircraft noise. www.fluglaerm-portal.de

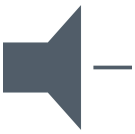
We support the noise targets of the European aviation industry

With our Clean Air Engine (Claire) technology agenda, we are pursuing not only climate action targets → Climate impact of aircraft engines, but also targets for reducing aircraft noise emissions. Achieving future noise limits is one of the agenda's core elements. MTU's acoustics experts are involved in our projects at every stage of product development, from technology management to subsequent propulsion system design and optimization.

When developing future propulsion systems, we support the goals of the European aviation industry and research sector's Strategic Research and Innovation Agenda (SRIA), which calls to reduce noise to 65% of its 2000 levels by 2050. With the first-generation geared turbofan, which we offer together with our partner Pratt & Whitney, we have already significantly reduced aircraft noise emissions as part of Claire Stage 1. They are on average 15–20 EPNdB (cumulated over the three ICAO measuring points) below the current legally stipulated noise emission class, ICAO Stage 4.

Fast facts: Geared turbofan

LESS AIRCRAFT NOISE



– 75 %
smaller noise footprint

QUIETER FLIGHTS

26
million flight hours

CLEANER FLIGHTS

50 %
lower NO_x emissions

Noise footprint describes the spread of aircraft noise in the sensitive area around airports, improvements based on 75 dB noise contour and in comparison to its predecessor

The geared turbofan from Claire Stage 1 has an architecture that harbors vast potential for further reducing noise compared to conventional turbofans. By making improvements to the latest generation, we want to achieve the goal of a 50% reduction in aircraft and engine noise emissions by 2035 (base year 2000).

According to the SRIA, new engine architectures are even to achieve a 65% drop in noise emissions by 2050 (base year 2000). Our efforts here include our new propulsion concept, the (hydrogen-powered) Flying Fuel Cell™, which can achieve massive reductions in noise because the fan is the powertrain's sole source of noise. Starting it 2035, it could initially be used on shorter routes in the feeder and regional aircraft sector, and later also fly on short- and medium-haul routes.

We want to reduce pollutants to zero

In addition to contributing to climate effects and generating noise, air traffic also has an impact on local air quality at airports and in surrounding areas. The combustion process in engines produces pollutants in the form of nitrogen oxides (NO_x), carbon monoxide (CO), unburned hydrocarbons (UHC), and soot/particulate matter. In terms of the impact these have on health, NO_x, and particulate matter emissions are the most significant. To obtain type certification, aircraft and propulsion systems must meet ICAO environmental standards. ICAO has defined limits for the levels of NO_x, CO, UHC, and soot emitted by aircraft engines. All of the engines in which MTU holds a workshare meet the ICAO certification standards. Engines are also certified with regard to compliance with ultra-fine particle emissions. Unlike with noise emissions, we have less scope to influence NO_x and particulate matter emissions and the health effects because the combustor is not part of our portfolio for commercial engine programs. We can make a difference here only indirectly by improving the efficiency of the engine. For example, with the geared turbofan we have succeeded in significantly reducing NO_x emissions, which are 50% lower than those of its predecessor. Sustainable fuels can also make a big difference in this regard. In initial tests, the German Aerospace Center (DLR) has shown that particulate emissions from combustion are significantly lower with sustainable aviation fuels (SAFs) than with conventional aviation fuels. Using hydrogen as a fuel reduces them even further. More about SAF in the chapter Climate impact of aircraft engines

Our development of revolutionary propulsion concepts, which is part of our climate action activities, also holds great potential for reducing pollutant emissions. Our Water-Enhanced Turbofan (WET) and Flying Fuel Cell (FFC) concepts can significantly reduce pollutant emissions or even avoid them altogether. WET works by injecting water into the combustor, which, based on what we know so far, can cut NO_x emissions by over 80%. Hydrogen-powered fuel cells would actually emit nothing but water.

GRI: 3-3

Research & development

We are a technology leader in aviation, drawing our immense innovative strength from extensive research and development work aimed at transforming aviation with pioneering ideas and concepts.

The Paris Agreement triggered a paradigm shift in aviation. While previous targets focused on direct CO_2 effects on the climate, in the future, targets will take into account aviation's total climate impact. This also includes non-CO_2 effects; for example, the impact on the climate caused by nitrogen oxides and water emissions and by contrails and the resulting cloud formation. Fly the Green Deal, the vision of the Advisory Council for Aviation Research and Innovation for sustainable aviation in Europe, has taken up this approach. The European Green Deal defines a 55% reduction in greenhouse gas emissions by 2030 and climate neutrality by 2050 as intermediate steps on the way to the climate targets of the Paris Agreement. With its Fit for 55 package, the European Commission has presented measures to help achieve these goals. Such measures include adapting the European emissions trading system and introducing a minimum quota for the use of sustainable aviation fuel. However, in addition to these steps, the situation calls for innovative solutions for aircraft and propulsion systems–precisely what MTU is working on.

EUROPE EXPLORES PATHS TO CLIMATE-NEUTRAL AIR TRAVEL

→ More in the Aeroreport of MTU

Achieving climate-neutral air travel by 2050 would mean we can continue to fly with a clear conscience. Researchers are working hard to make this happen.

Robust innovation and technology processes at MTU

MTU manages technology development for future products using a multistage process. And over the long term, pilot concepts are developed with the help of a technology radar, and the development of enabling technologies initiated. Pilot concepts currently include the next generation of the geared turbofan (Gen2 GTF), the Water-Enhanced Turbofan (WET), and the Flying Fuel Cell™ (FFC). In the medium term, advanced product designs are created and technology requirements derived from them. One example of an advanced product design that has already been fleshed out is the next-generation geared turbofan. An Innovation Board regularly discusses all topics related to technology and innovation and initiates technology projects and studies. → More on this under Climate impact of aircraft engines

The basis of this technology process is our culture of innovation, which we cultivate with a variety of initiatives. These include a Group-wide innovation management concept; the Inno Lab, our creative think tank; and Ideation Challenges through which we gather and evaluate ideas from employees related to a specific field of innovation, such as our partner network featuring centers of competence.

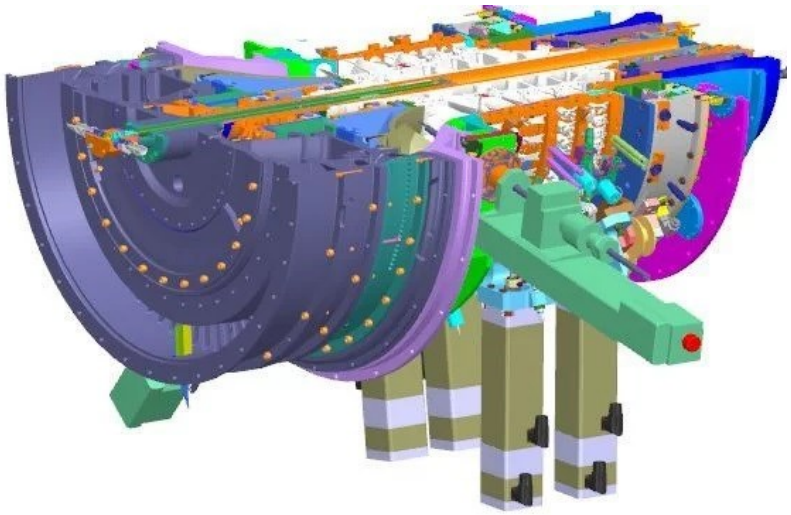
We are engine experts!

Our employees have top qualifications in fields as diverse as acoustics, fuel cells, 3D printing, and bionics. A total of around 1,100 engineers work at MTU, collaborating with seven centers of competence and numerous elite university institutes to create new and innovative solutions for the future. We also achieve our excellent position by patenting our work; in 2023, MTU's patent portfolio contained 2,542 individual patents.

Trend and technology radar

What will be the global trends affecting our core business in 2040? What opportunities do these developments offer and how should we as a company respond to them? Companies today have to know what scenarios are possible if they want to be best prepared for the future. As part of its Disruption Aviation 2040 project, MTU assembled an interdisciplinary team to investigate these questions and identify trends and technologies that are relevant for MTU and its environment. Sustainability was put on the radar as a trend area with several relevant topics in the areas of carbon footprint and circular economy and recycling identified, e.g. sustainable supply chains, climate regulations, and carbon capture. As MTU is already very well positioned in the field of future technologies, particularly with regard to alternative propulsion systems, other questions have been included. The various trends and developments identified in the course of the project are now being monitored further, and some of the topics have also been incorporated into Innoverse, MTU's innovation management platform.

CLEAN SKY 2: MTU IS WORKING ON DEMONSTRATORS



→ To the press release

As part of the European Clean Sky 2 research program, MTU is further optimizing its low-pressure turbine (LPT) and high-pressure compressor (HPC) components and building two demonstrators. One is EMVAL (Engine Material VALidation), to validate new LPT technologies, and the other is a twin-shaft compressor rig for new compressor technologies.

"Even in challenging times, we're consistently investing in our future with an eye to remaining at the forefront of technology. Our goal is clear: we want to make aviation of the future emissions-free. At the same time, we're also investing in comprehensive measures to make our sites climate-neutral."

Lars Wagner, CEO and Chief Sustainability Officer of MTU Aero Engines AG

Research and development budget increased

In 2023, MTU again invested heavily in sustainable innovation and technologies: our investment in research and development (R&D) in 2023 was 15% higher than the previous year, for a total of EUR 306 million (2022: EUR 265 million); as a proportion of revenue, it amounted to 5.7% (2022: 5.0%). With our R&D activities, we are actively promoting sustainable, zero-emission aviation while investing in MTU's future at the same time. R&D activities in 2023 focused on performance improvements in the geared turbofan programs, technology studies for future generations of propulsion systems–with an emphasis on the next-generation geared turbofan, the Water-Enhanced Turbofan, and the Flying Fuel Cell–and the expansion of capabilities in the area of virtual engines.

PIONEERING INVESTMENTS

306 million €

is how much we invested in R&D in 2023 with one clear goal: the decarbonization of aviation.

Global network of around 100 partners

To sustain MTU's technological expertise, it is important to be adequately plugged into the research landscape. We maintain a network of some 100 universities, research institutions, and companies around the world. → MTU's research network MTU is involved in major research programs in Germany (the Federal Aviation Research Program, or LuFo) and Europe (such as Horizon Europe, Clean Aviation, and Clean Hydrogen) that push the development of ecologically efficient propulsion technologies for aviation. These programs bring together researchers from a wide range of manufacturers, universities, and major research institutions.

One cutting-edge technology program is the SWITCH project, which combines MTU's Water-Enhanced Turbofan with hybrid-electric propulsion elements based on the geared turbofan. Our Flying Fuel Cell™ scored points in the second Clean Aviation call in 2023 and was accepted as a funded project under the acronym HEROPS.

KICKOFF FOR THE HEROPS TECHNOLOGY PROGRAM

→ To the press release

And we're off: the new HEROPS (Hydrogen-Electric Zero Emission Propulsion System) technology program for clean aviation was launched in mid-January. Around 30 representatives of the partners from industry, research, and academia came to MTU in Munich for the kickoff.

In addition, MTU is a founding member of Bauhaus Luftfahrt: a visionary think tank with an international dimension that pursues novel, unconventional, holistic, and interdisciplinary research. It brings industry and science together under one roof, focusing primarily on exploring the socioeconomic, political, and ecological aspects of aviation, designing visionary aircraft and propulsion concepts, unearthing promising technologies for the future, and devising knowledge management strategies.

GRI: 3-3

Environmental management

Environmental protection is a maxim guiding how we do business. We want to be efficient in our use of energy and resources, minimize emissions, and avoid environmental risks. We are continuously reducing carbon emissions by following our ecoRoadmap climate strategy for site operations.

SUSTAINABLE DEVELOPMENT GOALS

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

13 CLIMATE ACTION

Operational environmental protection at our production and maintenance sites is an important principle guiding our behavior and is implemented in our business processes. It is also enshrined in the global Code of Conduct for all employees as well as in our Policy Statement on the Protection of Human Rights as environmental due diligence in site operations. We have also laid down our environmental responsibility in the MTU Principles in the section entitled “Environment and society.”

We are looking to pull together

We also pursue environmental protection and climate action through joint initiatives. Besides its commitment to the **UN Global Compact**, whose ten principles include environmental sustainability, MTU is also involved in several local initiatives. These include the **Unternehmensnetzwerk Klimaschutz** corporate climate action network (MTU Maintenance), the **dekarbN** company network, the **Munich Business Climate Pact**, and the **Bavarian Environmental and Climate Pact**.

Standards are applied through a management system that defines processes, responsibilities, and targets at the site level. Environmental protection is part of MTU's integrated management system (IMS). The environmental criteria apply to all divisions and processes and are laid down in documented process flows and special company standards. Minimum operating standards for our machines and facilities, such as engine test cells, are laid down by national legislation and subordinate regulations.

In addition, MTU's mandatory Code of Conduct commits suppliers to act in an environmentally conscious way.

The Executive Board holds responsibility for company-wide environmental protection and climate action. As part of our governance structure, the Executive Board and management are regularly informed about the ecoRoadmap climate strategy for site operations (MTU Green Global expansion stage). The Executive Board receives a report on the energy consumption of the production and maintenance sites (measured in terms of production hours) via the quarterly IMS reporting. In addition, regular reports on CO_2 reduction in site operations are submitted to the Executive Board and senior management (Corporate Sustainability Board) as well as to the Green Global Board. More about the ecoRoadmap under Climate action at our sites

Environmental management is not centralized, with the environmental departments at all production sites assuming responsibility for the local implementation of relevant rules and regulations. Individual site managers are directly responsible for environmental protection; they receive advice and support from the in-house specialists. The technical departments regularly share their innovations and best practices with each other. The German sites are certified to ISO 14001, the international standard for environmental management systems, and/or to the EU Eco-Management and Audit Scheme (EMAS).

WE INVEST IN ENVIRONMENTAL PROTECTION

17 million €

was spent on investments and ongoing expenses for environmental protection and climate action at our production and maintenance facilities in Germany in 2023. The development of geothermal energy at our Munich site is an investment in a climate-neutral energy supply.

Every contribution to environmental protection counts

We get our employees involved in active environmental protection via information campaigns and training courses–for instance, to motivate them to increase energy efficiency at work. This takes place as part of initial training for new employees, an eco action day for apprentices, and via web-based training on environmental protection. The Code of Conduct stipulates measures to support employees in acting in an eco- and climate-conscious way.

We are in dialogue with our stakeholders about the environmental impact of site operations. Through their environmental statements, the MTU sites in Munich, Hannover, and Ludwigsfelde inform the public annually. We provide information on the geothermal energy project at the Munich site on our website in the form of a project diary. Environmental officers are the point of contact for questions and comment. → More about Stakeholder dialogue Stakeholders can also provide feedback on sustainability issues via an online survey on the MTU website, or they can use the available reporting channels to submit complaints and report grievances, which we investigate immediately. This applies to employees, suppliers, residents, and other stakeholders.

ENVIRONMENTAL STATEMENTS FOR PRODUCTION SITES (GERMAN VERSION ONLY)

Emergency management plans have been prepared to deal with operational disruptions with a negative environmental impact, and a crisis committee has been set up. We also hold regular staff drills and provide instructions on what to do in the event of an emergency.

GRI: 3-3

Climate action at our sites

We aim to use our ecoRoadmap climate strategy to permanently reduce our use of fossil fuels and emission of greenhouse gases in production and maintenance. Important pillars here are the use of more green energy and CO_2 avoidance. The long-term goal is to achieve climate-neutral site operations from 2045 onward.

MTU continuously reduces the greenhouse gas emissions resulting from production and maintenance at its facilities as a contribution to global climate action derived from the objectives of the Paris Agreement. Launched at the main site in Munich in 2021, the ecoRoadmap climate strategy completed its first expansion stage (called Green Europe) and was then extended to all fully consolidated production and maintenance sites (Munich, Hannover, Ludwigsfelde, Rzeszów, Nova Pazova, Vancouver) in the reporting year to become Green Global. Its goal is to reduce MTU's CO_2e footprint (measured in terms of significant emissions from Scope 1 and 2) 60% by 2030 compared to the base year of 2019. This effort will involve energy-saving measures and sustainability measures, such as the expansion of our own emissions-free power generation and the increased use of green energy through purchases of green electricity. We offset any unavoidable CO_2 emissions that arise through operations at the Munich site, such that this location has operated on a climate-neutral basis since 2021. Green Global's long-term goal is to achieve climate-neutral production and maintenance by 2045.

Fast facts: #GreenMTU

FOOTPRINT

60 %

Scope 1 & 2 carbon emissions at the production and maintenance sites are to be significantly reduced by 20230 compared to the base year.

DEEP GEOTHERMAL ENERGY

80 %

We want to largely meet our heating needs at the Munich site using thermal water from beneath the ground.

GREEN ELECTRICITY

85 %

MTU's electricity consumption already comes mainly from renewable sources.

More green energy for MTU

Local teams develop sustainable measures for the respective location as part of the ecoRoadmap climate strategy and implement these together with the technical departments. Examples in 2023 include optimizing ventilation systems or improving engine test processes. One important pillar on the path to carbon neutrality at the sites is the transition to green energy. These include the company's own generation of green electricity through photovoltaic (PV) systems and the use of sustainable aviation fuels (SAFs) for engine tests on the test stands. The operation of PV systems for self-supply of electricity was expanded at the Rzeszów site in 2023. For the Munich site, MTU continues to advance deep geothermal energy. In the reporting year, construction work began on the site and the drilling rig was erected. By using thermal water from the ground to supply heat, the site could become largely independent of fossil fuels in the years ahead. MTU wants to play its part in plans to make the city of Munich climate neutral by 2035 and is once again a member of the city's Climate Pact initiative, which continued in 2023. We are also focusing on the increased procurement of green electricity: for example, electricity consumption at our sites in Poland and Serbia is already completely emissions-free.

In addition, the production and maintenance sites have been implementing local environmental programs that predate the ecoRoadmap. For instance, the Eco Facility 2025 project at the site in Rzeszów, Poland, aims to reduce environmental impacts and to promote environmentally conscious behavior among the workforce.

Energy consumption in 2023

CO_2 emissions in production and maintenance (Scope 1 and 2) essentially result from the energy consumption required for site operations. Regarding non-renewable primary energy, we use natural gas and the aviation fuel kerosene as well as fuels for mobility, which make up a very small proportion of the total. We intend to use more photovoltaic energy in the future, and we have commissioned our first photovoltaic systems at the Munich and Rzeszów sites. In addition, the Hannover site makes use of solar energy with the aid of a solar thermal power plant and also employs a cogeneration plant comprising three micro gas turbines for generating electricity and heat. A heat pump for combined heating and cooling is also in operation. We also achieve greater energy efficiency by having the sites use waste heat from compressed air generation as thermal energy (combination principle).

Scope 1 and 2 energy demand was 326.3 gigawatt-hours (GWh) in 2023, which was higher than the previous year's level (306.7 GWh). The increase in energy consumption is due to higher capacity utilization and the first-time inclusion of our new site in Serbia in the period under review. Our **energy demand for Scope 1 (direct energy consumption)** was also higher than in the previous year. Scope 1 primarily concerns the energy sources natural gas and kerosene. Natural gas is used primarily for heating, in production, and, to a lesser extent, for test stand operation. Kerosene is used as a fuel for testing engines on the test stand, so consumption depends on how extensive the tests are, how many are performed, and on engine size. MTU has no direct influence on the type and duration of test runs. All newly maintained or manufactured engines must complete a test run prior to delivery for safety reasons and to demonstrate their performance. The use of simulations in development and manufacturing reduces the amount of development testing for new engines. We are able to run our test stands in Hannover and Berlin on sustainable aviation fuels (SAF). SAFs are a pillar of our ecoRoadmap climate strategy, which is why we want to continue to drive their use on our test stands.

In 2023, we procured a total of 147.6 GWh (2022: 136.0 GWh) of **external energy (Scope 2)**. Here too, the higher electricity consumption is due to higher capacity utilization and the new site in Serbia. This purchased electricity is drawn from renewable sources in varying proportions. At the sites in Poland and Serbia, for example, it was completely emissions-free. MTU Maintenance Canada gets a large portion of its electricity from hydroelectric power stations, which are a renewable resource. As part of our ecoRoadmap, in the future we aim to successively increase the purchase of green electricity generated exclusively from renewable sources.

Energy consumption
Scope 1 and 2 (in GWh)
GRI 302-1

	2023	2022	2021
Total	**326.3**	**306.7**	**331.3**
Direct energy consumption, natural gas, kerosene, mobility = Scope 1	178.7	170.7	201.2
Indirect energy consumption, electricity, district heating = Scope 2	147.6	136.0	130.1

MTU's Scope 1 energy demand results from consumption of the direct energy sources kerosene, natural gas, and fuels for mobility. MTU's Scope 2 energy demand results from the consumption of bought-in energy (electricity and district heating). Other energy consumption (e.g. other fuels) is not reported, as its contribution to total Group consumption is immaterial. The Nova Pazova production site in Serbia reported for the first time in 2023.

Electromobility at MTU

Fleet and company cars: An unbroken trend toward electromobility has been visible in our fleet for several years. In Germany, we have a total of 56 all-electric and 38 plug-in hybrid vehicles in use, meaning we have electrified 50% of our whole fleet. By the end of 2027, we want to electrify our vehicle fleet entirely.

Deutschlandticket national rail pass: We promote sustainable commuting practices among our workforce, through a special discounted "job ticket" for the local public transportation network or web portals for carpooling.

Our carbon footprint for 2023

In the reporting year, MTU generated 49,300 metric tons of CO_2e emissions at its production and maintenance sites from its use of major energy sources (2022: 47,600 metric tons). Here, too, the increase in capacity utilization and the new site in Serbia contributed to the increase in emissions, although the emissions from electricity consumption in Serbia (Scope 2) were offset in nominal terms via the purchase of certificates. MTU offset the remaining Scope 1 and 2 CO_2e emissions for operations at Munich, such that this site achieved net-zero status in 2023.

CO_2 emissions (in t CO_2 equivalents)
Scope 1 and 2
GRI 305-1, 305-2

	2023	2022	2021
Total	**49,300**	**47,600**	**54,800**
Scope 1	39,600	38,000	44,400
Scope 2	9,700	9,600	10,400

MTU's Scope 1 CO_2e emissions result from consumption of the direct energy sources kerosene, natural gas, and fuels for mobility. MTU's Scope 2 CO_2e emissions result from the consumption of bought-in energy (electricity and district heating). The calculation of Scope 2 emissions uses emission factors from energy suppliers (market-based method). Other sources of CO_2e such as refrigerants or other fuels are not reported as their contribution to Group emissions is immaterial. The Nova Pazova production site in Serbia reported for the first time in 2023.

CO_2 reduction as a compensation-relevant corporate ESG objective

Due to the high priority of climate action at MTU, the reduction of carbon emissions is also an important environmental, social, and governance (ESG) goal. This is an ESG-relevant KPI that factors into the variable compensation of the Executive Board and senior managers. The goal is attained on the basis of the ecoRoadmap climate action strategy for emissions from MTU's global production and maintenance facilities in Munich, Hannover, Ludwigsfelde, Rzeszów, Vancouver, and Nova Pazova. It is measured in terms of residual CO_2 emissions as "maximum residual CO_2 emissions in absolute kilotonnes" and in terms of achieved "CO_2 savings through sustainable measures in absolute kilotonnes" compared to the base year 2019 (excluding the site in Serbia, since this was not yet operational in 2019). A twelve-month period that deviates from the reporting year is considered the performance period for this purpose (Dec. 1, 2022 to Nov. 30, 2023). The targets were achieved and in some cases even exceeded. More about this in the management compensation report, Annual Report 2023, p. 24ff.

To make our company's climate impact still more transparent, we take part in the annual assessment by the international non-profit organization **CDP**, which collects data on companies' greenhouse gas emissions, climate risks and climate strategies on an annual basis. For 2023, we improved in many areas and achieved a rating of B on a scale from D- to A+. The rating is carried out at the request of the companies and is publicly available on the CDP website.

Scope 3 accounting started

CO_2 emissions that do not result from energy use in site operations on MTU's part fall under Scope 3. These include, for example, upstream value creation at suppliers, emissions from investments, and downstream product use. MTU included its intention to perform Scope 3 accounting in its sustainability strategy and is currently implementing it. We aim to record and evaluate all upstream and downstream activities and to report on and reduce significant categories. Scope 3 emissions from business trips in the Notes

MTU's reforestation projects

We run reforestation projects together with our partner Deutim to create a regional CO_2 reservoir. We will pursue reforestation in Bavaria and Germany together with Deutim until 2025 to ensure climate-stable mixed forests are created for future generations.

CO_2 STORAGE

14,000 t

This is how much CO_2 storage we have already created through reforestation in German forests (as of spring 2024).

GRI: 3-3, 302-1, 302-4, 302-5, 305-1, 305-2, 305-3, 305-5

Conservation of resources

We use resources responsibly. That includes the use of primary resources, a high degree of material efficiency, and the careful handling of water, in addition to waste management and recycling. Our environmental management goals include low resource consumption and a circular approach for products and processes insofar as possible.

MTU is reliant upon raw materials for manufacturing and maintenance at its facilities. In addition to the use of renewable and non-renewable energy, there is also the use of water and the consumption of various materials. Our environmental management system at our sites controls our demand for and use of raw materials with the aim of obtaining high levels of efficiency in manufacturing and maintenance. This means low resource consumption and a circular approach for products and processes insofar as possible. We have set out the responsible use of resources as a guideline for all employees in our Code of Conduct and our MTU Principles. The efficient and sustainable use of natural resources such as water, energy, and raw materials as well as the avoidance or minimization of risks to human rights are defined as environmental due diligence obligations for the protection of human rights in our Policy Statement on the Protection of Human Rights and comply with the requirements of Germany's Act on Corporate Due Diligence Obligations in Supply Chains.

MTU employees are committed to the environment

Volunteers from MTU Maintenance Canada cleaned up the shoreline along the Boundary Bay Dyke Trail in Delta, British Columbia. In 2023, MTU volunteers also took part in Rama Dama, the spring clean-up of the Karlsfeld community adjacent to MTU's headquarters in Munich. In a forest initiative organized by MTU Aero Engines Polska, employees cleared the forest of garbage and planted trees. The MTU Maintenance Serbia management team collected waste on the Tara River during a visit to one of the nature reserves in western Serbia. (clockwise)

Water management

We use water responsibly as a natural resource, and we have set up a local water management system for water protection at the production and maintenance sites. In keeping with the precautionary principle, we treat wastewater properly and in accordance with the applicable legal requirements. Our water consumption depends on production and maintenance volumes. Targets for the protection of the resource are formulated at the local level.

Our fully consolidated production and maintenance sites are situated in Germany, Poland, Serbia, and Canada, none of which are water-stressed regions as determined by the World Resources Institute's Aqueduct Water Risk Atlas (water risk for those countries: low or low/medium). Water-stressed regions are regions in which water is a scarce resource. We monitor the development of water availability in the regions in which we operate, which allows us to make decisions about additional measures to take, if required.

Our water consumption

We use drinking water for production and maintenance processes, in sanitary facilities, and in company restaurants. At the Munich site, we also use well water for cooling processes in machinery. As a result of higher capacity utilization, water withdrawal in the reporting year amounted to 9.1 million m^3 (2022: 8.5 million m^3). We use large amounts of Quaternary groundwater from our own wells for cooling at the Munich site. In other words, the water used by the MTU Group in 2023 was 98% groundwater and only 2% came from the municipal drinking water supply. Using well water contributes to environmental protection and climate action, as it eliminates the need for energy-intensive cooling processes such as compressor cooling systems. MTU is required by the authorities to constantly release a small amount of well water into the Schwabenbächl river near the site. This water is regularly tested for pollution to ensure stable conditions for the river's wildlife.

We use recirculated water as much as possible in chemical process baths for applying protective coatings to blades and also for the process water in installations for testing component damage. Thanks to this recirculation, we have to treat only a small amount of wastewater before discharging it into the municipal sewers. We also use recycled water for the chemical cleaning of engine parts. Our sustainable water management also includes systematic inspection and renovation of the well water and sewer networks.

Water withdrawal (in 1,000 m^3)
GRI 303-3

		2023	2022	2021
	Total	**9,095.4**	**8,538.5**	**8,079.6**
Withdrawal	Municipal water	184.6	183.4	159.9
	Groundwater	8,910.8	8,355.1	7,919.7

No water abstraction in water-stressed regions; KPIs on water recycling and consumption in accordance with GRI 303-4 and 303-5 are shown in the Notes.

Water quality

We treat wastewater in suitable sewage systems according to the type and extent of pollution. After treatment, the quality of the discharged wastewater complies with the official requirements for the respective sites. We carry out strict monitoring at the sites to ensure that legal limits are observed and comply with all local authority requirements. Neither water sources nor water surfaces were negatively impacted or polluted by our operating activities. This applies in particular to our site in Canada, which is situated in direct proximity to the ocean.

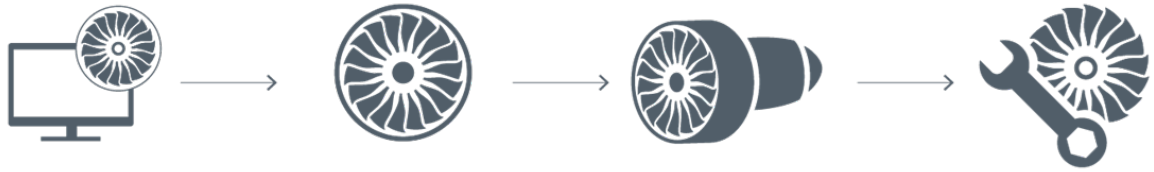
Jump start for more biodiversity

Our ecological responsibility also includes promoting local biodiversity: During a planting day together with the Hannover Environmental Center, 40 MTU employees redesigned part of the outdoor area at the facility. The campaign is part of the Environmental Center's Natural Outpost – Bringing More Nature to Company Premises project. MTU wants the redesign to help achieve greater biodiversity. The company is committed to implementing ongoing measures to preserve and increase biodiversity at MTU sites, including the establishment of bee colonies and the design of green spaces.

Circular economy

What we mean by circular economy is a lifecycle approach for our products that takes into account all phases of an engine, including the design of products and processes according to closed-loop principles. This includes the responsible use of primary resources, improved material efficiency, and the use of secondary materials without impairing the quality or safety of our products. And responsible waste management and recycling are also part of the MTU approach. In addition, we are working on extending the service life of products; and we can prevent the use of new parts by means of customized repairs in particular.

Sustainability over the lifecycle of an engine



1. Development

Clean Air Engine (Claire)

New technologies for improved sustainability and longer product service lives

2. Production

Environmental management (mostly compliant with EMAS and/or ISO 14001)

ecoRoadmap company climate action strategy

Production processes that conserve resources, such as additive manufacturing

Sustainability standards for suppliers

3. Service life

MTU-developed Engine Trend Monitoring

MTU repairs, such as ERCOAT^{eco} (patented erosion protection for compressor blades)

4. Recycling

Solutions tailored to older engines for disassembling and recycling components, such as SAVE^{Plus} and VALUE^{Plus}, for effective end-of-life management

Engine materials such as titanium, nickel, and alloying elements such as platinum or rhenium are of high value, and this explains why aircraft engines have very high recycling rates. As a vendor, we have no direct influence over the scrapping of engines, which is carried out by specialist companies.

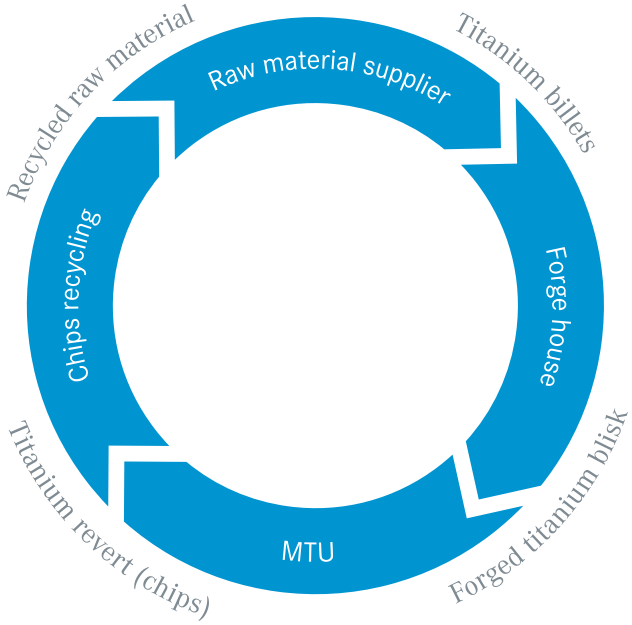
Product development and design

In product development, designs must comply with all safety requirements and aim to create highly robust engines with a long service life. As a rule, aircraft engines spend 30 years in service before they are decommissioned. And since climate impact and energy consumption are a focus of product design, conserving resources is an integral part of the products' lifecycle. In addition, designs ensure that the product can undergo multiple repairs throughout its service life, as repairing existing parts conserves more energy and resources than fitting new ones. At the end of an engine's lifecycle, the metallic properties of all its constituent materials (e.g. titanium, nickel) means that they are almost entirely recyclable.

Use of materials in production and maintenance

The long service life of our products and the continuous improvement of our maintenance processes ensure our demand for raw materials is reduced. In all of our production methods, we pay attention to efficiency in the use of materials and seek to avoid waste. We develop our own production and repair methods that are characterized by their high material efficiency. The use of new repair techniques and targeted maintenance programs increases the service life of engines.

Circular economy: The example of valuable titanium chips



By returning chips from alloys to the supply chain, we are building a sustainable path to supply security, doing our bit to handle resources carefully, and reducing CO_2 emissions by using recycled materials in the value creation process.

We achieve greater material efficiency in the production of new parts through the use of additive processes such as the 3D printing of metals. This manufacturing technology enables the rapid 3D production of highly complex components and allows for more freedom in designing them. Components are laser-melted directly from a powder bed according to CAD data–with just 5–10% of the powder ending up as excess material that cannot be used. We plan to employ this particularly resource-conserving method more and more as time goes on.

Our area of expertise: Engine repairs

With its “repair beats replacement” philosophy, MTU Maintenance achieves a truly impressive depth in aircraft engine repair. Using special techniques we have developed in-house, we repair engine components that in other maintenance shops would have to be replaced with new parts. For example, we manage to give around 70% of all engine blades a second, third, or even fourth lease on life. We are gradually expanding this product recycling approach to include new processes with an eye to achieving even longer service lives and thus greater material efficiency. For instance, in the case of life-limited parts, we have succeeded in repairing integrally manufactured engine blades and disks, known as “blisks.” This is important because the number of blisks being installed in engines is increasing. MTU is one of the world’s leading companies in the field of blisk production and repair. On top of that, efficient and eco-friendly processes are used for repairs. One example is the use of water jets to remove coatings from components, which avoids the need for environmentally harmful chemical processes.

In addition, we offer repairs and various other measures to improve the operating behavior of components and engines. Special coatings in particular are able to increase the performance capability and durability of components, while targeted individual repairs of components can also help lower engine emissions and improve operating behavior.

Repairs to engine components not only avoid the energy- and resource-intensive manufacture of spare parts, but also offer further opportunities in the context of the circular economy for the usage and recycling phase–for example, through the targeted use of customized repair scopes, components can be repaired not just once but multiple times.

We collect all metal parts and components for targeted recycling, especially the highly valuable materials nickel, titanium and rhenium.

Material consumption in 2023

Our material consumption mostly occurs in production. The value our facilities add depends on production materials (alloys, spray powder) as well as on consumables and supplies. In 2023, our total material consumption amounted to 9,600 metric tons, about 11% of which came from renewable materials.

Material consumption (in metric tons)
GRI 301-1

	2023	2022	2021
Total	**9,600**	**8,740**	**8,230**
Production material	4,440	3,690	2,840
Consumables and supplies	4,090	4,200	3,770
Other materials (renewable)	1,070	850	1,620

Externally sourced material for production sites; production material comprises titanium and nickel alloys and spray powder; consumables and supplies include oils, cooling lubricants, chemicals, lubricants, gases and kerosene and diesel used as fuel; the other material comprises paper, cardboard packaging and wooden pallets and boxes. For engine parts, MTU uses returnable packaging that can be reused several times.

Our products require the use of materials that are classified as conflict minerals due to their possible origin in Central Africa and can be problematic with regard to human rights violations. As we do not procure these mineral raw materials directly, we have implemented appropriate processes in our supplier management in order to comply with our due diligence obligations for the protection of human rights.
→ For more information about this and how MTU is implementing Germany's Act on Corporate Due Diligence Obligations in Supply Chains, see Human rights in the supply chain

Chemicals according to the REACh regulation

Wherever possible, we avoid using materials that are hazardous to the environment or to human health in our manufacturing processes and products. According to the European REACh (Registration, Evaluation, Authorisation, and Restriction of Chemicals) regulation, certain substances of very high concern (SVHCs) containing chromium(VI) are subject to authorization. We implement all provisions of the EU regulation for protecting employees and the environment. Our use of REACh-listed materials includes chromium trioxide for wear and corrosion protection at the Munich site. The European Chemicals Agency ECHA authorized MTU to continue its use in several of our processes until 2029 on the basis of the extremely safe workplace standards in our surface coating activities. We have applied to extend the permit for 2024.

At the same time, we are pushing ahead with the long-term elimination of SVHCs that require authorization. Through technology projects, we are searching for substitutes for chromic acid / chromium(VI). We oblige our suppliers to comply with the EU's legal requirements (registration, authorization, etc.) via our General Terms and Conditions of Purchase if they use REACh substances in their auxiliary or operating materials.

Our waste management

MTU practices sustainable waste management with the safe disposal of waste sorted according to waste type and recycling process. First and foremost, we try to avoid waste, reuse leftover materials, and use waste either for its materials or as energy; if recycling is not possible, waste is disposed of properly. In this way, we seek to minimize material consumption and waste disposal volumes so we can achieve high recycling rates.

BACK INTO CIRCULATION

72.7 %

Once again in 2023, we were able to recycle the majority of our waste

Total waste generation in 2023 rose slightly to 8,320 metric tons due to capacity utilization (2022: 7,950). The proportion of hazardous waste was 43.1% (2022: 43%). Measured against that total, the MTU Group achieved an overall recycling rate of 72.7%. The amount of waste produced and of recyclables utilized depend primarily on production capacity utilization.

Waste footprint (in metric tons)
GRI 306-3, 306-4, 306-5

	2023	2022	2021
Total waste	**8,320**	**7,950**	**6,800**
Recycled	6,050	5,680	5,310
Disposed of	2,270	2,270	1,490
Share of hazardous waste	**3,590**	**3,420**	**2,760**
Recycled	1,490	1,300	1,380
Disposed of	2,100	2,120	1,380

Excludes construction; no data for the new site in Serbia.

GRI: 3-3, 301-1, 301-2, 301-3, 303-1, 303-2, 303-3, 303-4, 303-5, 306-2, 306-3, 417-1

Supplier management

We work with numerous suppliers around the globe. As a basis for this collaboration, we hold them to the environmental and social criteria that are important to us.

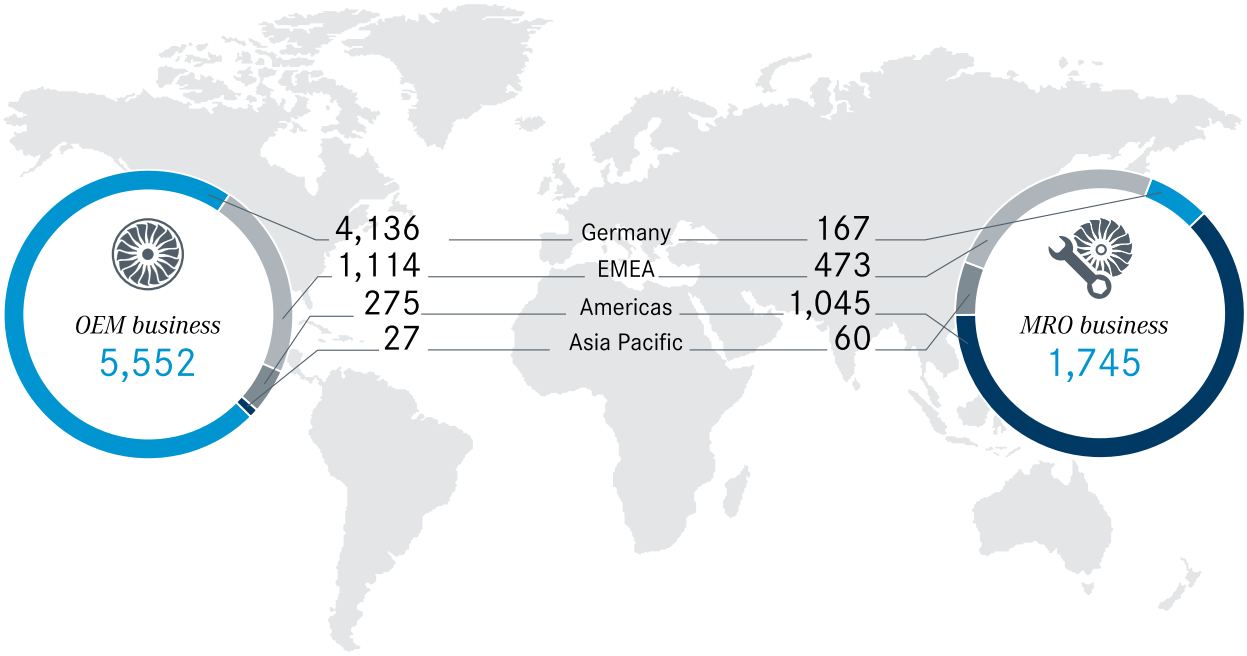
The value added by an MTU product includes important pre-production stages at external suppliers. We seek to create reliable relationships with those suppliers based on mutual trust. In keeping with our claim of sustainable value creation and the expectations of our stakeholders, we uphold certain standards in purchasing. For us, the pursuit of supplier management that aligns with sustainability criteria (responsible sourcing) encompasses environmental and social aspects as well as transparency along the supply chain. We place the same standards as regards sustainability on the collaboration with our suppliers that we do on our own business activities. To a large extent, the same standards apply to both of MTU's business segments: new and spare parts (original equipment manufacturer: OEM) and commercial maintenance (maintenance, repair and overhaul: MRO). However, they each have their own organizational units for sourcing production material.

Because today's supply chains are so global, extensive, and complex, we concentrate our efforts regarding sustainability aspects above all on the supply step immediately upstream (tier 1). Our direct suppliers are contractually obliged to ensure that their subcontractors also abide by our defined standards.

Our global supply chains

In 2023, our sites worked with 7,297 suppliers around the world (2022: 6,243). Our supplier base expanded due to growth in the MRO business, including the new repair site in Serbia. Europe is home to 80.7% of all MTU's suppliers, with 73.1% of the total located in Germany.

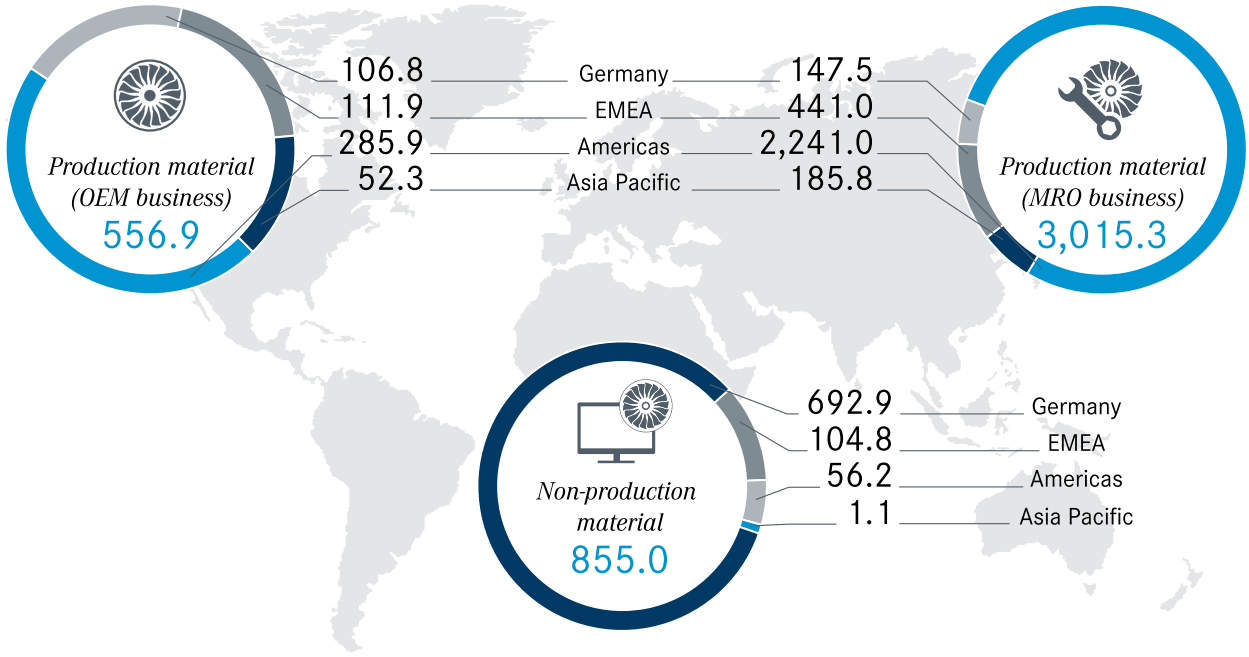
MTU suppliers in 2023 by region



GRI 2-6: Supplier base for production material and non-production material for OEM (new and spare parts) and MRO (commercial maintenance) segments: EMEA = Europe (excluding Germany), the Middle East, and Africa; Americas = North, Central, and South America plus the Caribbean; Asia Pacific = East Asia, Southeast Asia, Australia, and Oceania

Purchasing volume totaled some EUR 556.9 million for production materials in the OEM business. Due to production activities, this was above the previous year's (2022: EUR 448 million). In the MRO business the purchasing volume for production materials was at a total of EUR 3 billion (2022: EUR 2.7 billion). Non-production material expenses amounted to EUR 855 million for the OEM and MRO businesses (2022: 656.8 million), including data for the sites in Canada and Serbia for the first time. Aside from meeting aviation-specific requirements, we were able to source production and non-production material for the OEM business by and large at our own discretion. By contrast, MRO purchasing volume for spare parts and repair work is subject to strict requirements imposed by the relevant OEMs. As a result, MTU Maintenance has less room for maneuver in selecting suppliers. The sole exception is MTU Maintenance Lease Services (MLS) in Amsterdam.

Purchasing volume in 2023 by region (in EUR m)



GRI 2-6: Purchasing volume for OEM (new and spare parts) and MRO (commercial maintenance) segments. EMEA = Europe (excluding Germany), the Middle East, and Africa; Americas = North, Central, and South America plus the Caribbean; Asia Pacific = East Asia, Southeast Asia, Australia, and Oceania

Measured by purchasing volume, the Western Europe and North American markets, which are so important generally for the aviation industry, account for the lion's share of MTU's procurement. In the business for new and spare parts, we procure a wide range of blanks and finished parts. We always source castings and forgings externally, and the same goes for special materials for which MTU has not built up manufacturing expertise, such as electronic control systems. If possible, we source our supplies directly from the manufacturers of blanks or finished parts, whereby the company procures raw materials itself only to a small extent → More information about the measures we take regarding conflict minerals in raw material purchasing. For commercial engine modules, the average proportion of sourced parts lies between 49% for Poland and 66% for Germany (in the military sector, the figure is some 64%).

Local value creation is particularly important when purchasing non-production material and services, as is the wide variety of goods and services. We procure many of our non-production materials in the countries in which we operate. The local proportion of the purchasing budget for non-production material, for instance, was around 84% in Germany and about 54% in Poland.

Sustainable standards in procurement

We have established a binding Code of Conduct for suppliers that is a fixed component of the contracts. The Code of Conduct is informed by the ten principles of the UN Global Compact and sets out social and environmental standards, respect for human rights, and integrity in business conduct with a ban on corruption and bribery. Each contract signed by a supplier includes the commitment to abide by these principles and to communicate them to subcontractors. The Code of Conduct applies to suppliers of the manufacturing and maintenance sites in Europe and Canada, meaning it covers 92% of the entire purchasing volume for 2023. For more information about the Supplier Code of Conduct, see Human rights in the supply chain

Moreover, MTU's General Terms and Conditions of Purchase contain a clause on compliance with the Supplier Code of Conduct. In our General Terms and Conditions of Purchase for our European sites, we also insist on compliance with the EU's REACh chemicals regulation.

Focus on human rights

When managing our suppliers, we place a particularly strong focus on safeguarding the respect of human rights. Our approach and measures, and how they have developed, are presented in detail under → Human rights and conflict minerals in the supply chain.

No violations of the Code of Conduct

Suspicions that the Supplier Code of Conduct may have been breached can be reported confidentially to MTU's Compliance Officer. Reports can also be submitted anonymously via the web-based iTrust system, which is available in several languages. Should a supplier be implicated in serious violations, such as corruption, extortion, the granting of undue advantage, or the use of child labor in the execution of a contract for MTU, the company reserves its contractually guaranteed right to terminate the collaboration agreement without notice. In the event of a violation, the supplier must demonstrate that suitable corrective measures have been implemented and must guarantee this in writing. MTU reserves the right to carry out on-site audits to verify compliance with the Code of Conduct. No accusations of possible breaches of the Code of Conduct were reported or registered during the reporting period. Nor were there any complaints about suppliers. Therefore, as in previous years, no supplier partnership was terminated because of sustainability violations, confirmed cases of corruption or other complaints. This also applies to human rights aspects → Human rights in the supply chain.

To raise awareness of sustainability standards in the supply chain, we regularly provide purchasers with training on professional compliance matters and on the MTU Code of Conduct, which applies to all the company's employees and prohibits corruption, bribery, the granting of undue advantage, and anti-competitive behavior. Our purchasers are also trained on the Supplier Code of Conduct. In addition, we offer special corporate responsibility training, including bespoke training for purchasing departments.

Revised risk process in place

We believe partnerships based on trust are key to sustainable supplier management. For this reason, we seek out long-term relationships with our suppliers. In the OEM business unit for aircraft engines, for example, most of the materials and services are based on contracts with a typical term of two or more years. Contractually agreed buffer inventories allow us to respond quickly to fluctuations in demand. In the reporting year, MTU worked with 1,631 new suppliers (2022: 1,388), or 22.4% of the total (2022: 22.2%). All suppliers are vetted before being accepted into MTU's supply chain. This process includes a binding supplier disclosure and contractual undertaking to comply with the Code of Conduct. MTU's engine leasing business, Amsterdam-based MLS, has its own separate but similar process. To cover environmental aspects, we request proof of certification to standards such as ISO 14001. Using periodic evaluations, we regularly review existing suppliers, including with respect to their ISO 14001 certification. Once approved, suppliers must regularly demonstrate their ISO 9001 compliance for quality management via recertifications. In connection with the establishment of MTU Maintenance Serbia, a process was defined for screening new suppliers there with regard to corruption risks, and has been in continuous use since then. Reviews during the reporting period did not reveal any indications of corrupting behavior. We present our analysis of risks relating to human rights in the supply chain in this report under → Human rights in the supply chain.

We have strengthened our risk management system for human rights in the supply chain and, as of the 2023 reporting year, we will be using an enhanced process. We are currently taking a closer look at other aspects of sustainability in the supply chain. As part of an initial Scope 3 assessment, our experts analyzed the supply chain in terms of its CO_2 emissions. An initial accounting of greenhouse gas emissions across the value chain is in progress. For more information on the Scope 3 project, see Climate action at our sites.

GRI: 102-9, 102-10, 3-3, 204-1, 205-3, 308-1, 308-2, 407-1, 408-1, 409-1, 414-1, 414-2

Human rights in the supply chain

We respect human rights and are committed to seeing that they are also upheld in upstream value creation activities. Our aim is to prevent the violation of human rights in the supply chain.

We are conscious of our responsibility as a company with global operations, and aim to carry out our due diligence with regard to human rights. MTU fully respects the internationally proclaimed human rights set out in the United Nations' Universal Declaration of Human Rights and applies that to the supply chain as well. Our goal is to enforce compliance with human rights and fair working conditions. In the Policy Statement on the Protection of Human Rights it adopted in 2023, MTU commits to its human rights due diligence in the supply chain.

Supplier Code of Conduct

The Supplier Code of Conduct applies to upstream value creation activities. Our suppliers must commit to compliance with the Code of Conduct, which is based on the ten principles of the UN Global Compact, which in turn are derived from international initiatives and conventions for the protection of human rights. MTU itself is a member of the UN Global Compact. The Code of Conduct requires suppliers to observe and uphold human rights and to ensure that they are not complicit in any human rights violations. That includes compliance with labor standards regarding the freedom of association, the right to collective bargaining, the prohibition of forced and child labor, the equality of remuneration regardless of gender, and equal treatment of employees. MTU's revised Supplier Code of Conduct has been in force starting in 2023. On the topic of human rights, this also formulates requirements for appropriate payment, occupational health and safety, and environment-related topics such as the handling of hazardous substances and waste, as well as expectations regarding environmental protection and climate action. And finally, we require our suppliers to apply the Code to their subcontractors and reserve the right to terminate, without prior notice, any contract with a supplier who takes no appropriate countermeasures in the event of violations. Our Code of Conduct is included in the General Terms and Conditions and in contract templates for suppliers. → The MTU Supplier Code of Conduct

Established reporting procedures are in place to ensure that we can systematically follow up on all complaints or reports of human rights infringements. Employees and external stakeholders can make reports to the Compliance Officer as a confidential contact point in the Group, or anonymously via the web-based iTrust reporting system, available in multiple languages. This applies to all human rights concerns. → See Compliance for information about handling reports

In the reporting period, no reports of suppliers violating the Code of Conduct regarding human rights were submitted. Furthermore, no supplier relationships were terminated due to sustainability shortcomings with regard to human rights.

Risk analysis and monitoring of sustainability performance

MTU carries out an annual risk analysis for direct suppliers of the fully consolidated Group companies using a standardized tool, taking into account the probability of occurrence and extent of damage. The analysis is based on defined environmental, social, and governance (ESG) criteria such as product groups and the countries they are sourced from. We have integrated our risk analysis into our existing risk process for suppliers, and we also include key suppliers in an assessment of compliance with sustainability aspects. This is done by means of a scorecard within the ESG assessment tool. Our risk management approach includes preventive and, if necessary, corrective measures. MTU Maintenance also conducts a structured supplier evaluation twice a year for suppliers of the German sites.

For the findings of the risk assessment of suppliers with regard to child, forced, or compulsory labor or with regard to the freedom of association or the right to collective bargaining, please see MTU's 2023 report to the German Federal Office for Economic Affairs and Export Control (German version only).

In the reporting year, an interdisciplinary project team completed the implementation of the requirements imposed by Germany's Act on Corporate Due Diligence Obligations in Supply Chains (LkSG) on the management of supply chains with regard to the protection of human rights. MTU has appointed human rights coordinators for the supply chains in its OEM and MRO businesses. The coordinators are responsible for risk analysis and report to the Group's Human Rights Officer.

Conflict minerals: Transparency about raw materials used

We take various steps to safeguard the respect of human rights in the supply chain. This applies especially to the procurement of certain raw materials known as conflict minerals: for example, tantalum, tin, tungsten and gold, which can be found in some of our engine components. These minerals can cause problems in procurement because they are sometimes mined in Central African countries, where the profits are used to finance armed conflicts that commit human rights violations. MTU strives for a sustainable and transparent value chain that excludes the use of conflict minerals. The company never deliberately purchases conflict minerals, but they can find their way into production or pre-production at the various levels of the global supply chain. The General Terms and Conditions and contract provisions require suppliers to provide information about the source of minerals in accordance with the EICC/GeSi Conflict Minerals Reporting Template. Every year, MTU requires its suppliers who deliver components containing minerals declared in the Dodd-Frank Act to declare the origin of the minerals or to source materials solely from certified mines and primary-alloy producers (Conformant smelter and refiner lists) in order to achieve a value chain with conflict-free raw materials. In turn, MTU demands that its relevant suppliers should specify the origin of such minerals, in order to ensure that the value chain contains only conflict-free raw materials.

When MTU requested information from suppliers in 2023, it discovered nothing to indicate that MTU components contain conflict minerals.

GRI: 3-3, 407-1, 408-1, 409-1, 414-1, 414-2

Collaboration and leadership

Every day, we work closely together with international partners to advance aviation and thus global progress. Our industry operates on a global scale. This makes MTU a global player with core values of openness to other cultures, diversity, and tolerance.

SUSTAINABLE DEVELOPMENT GOALS

4 QUALITY EDUCATION

5 GENDER EQUALITY

8 DECENT WORK AND ECONOMIC GROWTH

Good cooperation and reliable leadership are important pillars of our success. We rely on a culture that is open to change, relies on the decision-making authority of employees (empowerment), and promotes entrepreneurial action and a digital mindset. At MTU, the further development of our corporate culture is an overarching goal. We measure our progress using an annual maturity index in defined focus areas, the results of which validate our path for 2023. We ensure MTU's innovative strength and success through our willingness to change and through cooperation based on trust. Moreover, the forward-looking, intensive training of our workforce, the promotion of diversity, and a safe and inclusive working environment pave the way for each and every employee to develop to the best of their abilities and keep MTU on the path to success. Thanks to strong teamwork between centers, departments, and across locations and countries, we once again achieved top performance in 2023.

MTU's roadmap for the further development of its corporate culture highlights the following priorities for the coming years: strengthening diversity and internationality, entrepreneurial action at all levels, digital thinking, networking and collaboration, as well as a focus on hybrid working.

Fast facts: #MTUfamily

GLOBAL PLAYER

12,170
employees work at our locations worldwide.

HIGH LEVEL OF CONFIDENCE

88 %
of employees firmly believe in MTU's future.

STRONG BOND

4.4 %
is a turnover rate that indicates solid cohesion.

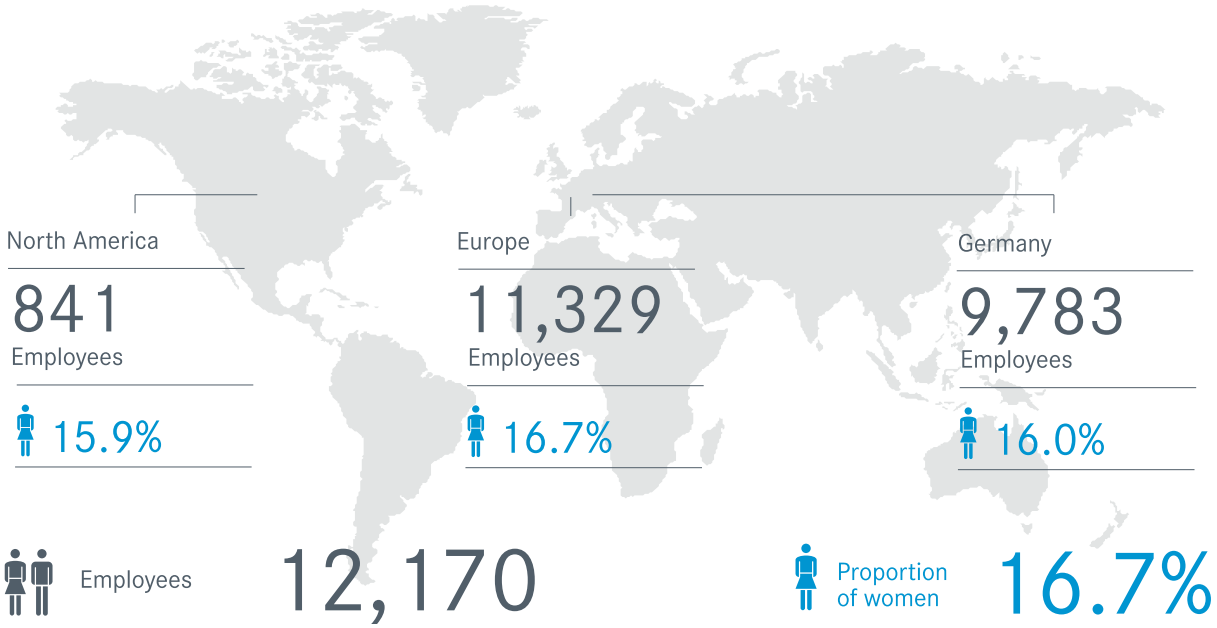
Connected teams in a creative environment

As the Director of Labor Relations, the CEO is responsible for employment matters. MTU's human resources department sets policy in line with our corporate strategy. It also assists in efforts to achieve our long-term corporate and growth targets. The full Executive Board receives regular reports on human resources policy. Responsibility for successful implementation lies with local human resources departments and the respective technical departments and managers.

The HR strategy, which was updated in 2023, comprises six core components that are intended to secure MTU's profitable growth course: strategic HR planning, talent management, management development, employer attractiveness, adaptation of the HR organization, and adaptation of the IT systems. The continuous development of leadership values, innovation management, and an innovative corporate culture underpins the company's overarching vision: "We shape the future of aviation."

Our global team

Employees by region



GRI 2-7: Total workforce of fully consolidated sites as at the end of 2023; proportion of female employees measured against active workforce. For composition of workforce sizes and scope of consolidation, see the GRI Index.

In the 2023 financial year, MTU had 12,170 employees worldwide, 8% more than in the previous year (11,273 employees). The MTU team has grown in all regions and at all fully consolidated sites. At 93.1%, the majority of MTU's total workforce continued to be located primarily in Germany (80.4% of the total workforce); 6.9% of the workforce was employed in North America. We emphasize long-term employment relationships, and the proportion of permanent employment contracts is traditionally very high (2023: 94.2%).

MTU's strong cohesion is reflected in its low turnover rate. In 2023, it was 4.4%. The degree of loyalty to our company remains high, with an average length of service of around 14.5 years (Germany, measured in terms of active workforce).

Staff turnover
GRI 401-1

	2023	2022	2021
No. of employees that left the company	451	540	609
Turnover rate (%)	4.4	5.8	6.8

Turnover rate measured as a proportion of core workforce, annual average, figures include retirements; data broken down by age group is not available. We report on new hires in the chapter on Diversity & inclusion Figures on staff turnover by region in accordance with GRI are presented in the Notes.

Social and labor standards guaranteed

As an employer, we show responsibility toward our employees, protect their rights and requirements, and create long-term, secure employment on the basis of corporate social responsibility. Our social and labor standards are embedded in various instruments: a Group-wide Code of Conduct includes the following principles under “Human rights and cooperation”:

- Freedom from discrimination
- Equality of opportunity in the workplace
- Constructive collaboration with employee representatives and labor unions
- Entitlement to appropriate and performance-based remuneration

→ MTU Code of Conduct

Reporting procedures in the event of suspected breaches of our Code of Conduct, statutory requirements, plus our internal company guidelines and our principle of zero tolerance are described under → Compliance and → Human rights. Details of the anti-discrimination measures we take can be found under Human rights. As a member of the UN Global Compact, we are committed to observing its principles of respect for human rights and equal treatment in the workplace. We are also committed to fair working conditions in accordance with the International Labour Organization’s (ILO’s) core labor standards.

At the beginning of 2023, MTU adopted a Policy Statement on the Protection of Human Rights. This sets out the cornerstones of the company’s human rights due diligence obligations as an employer.

MTU protects employees’ rights and safeguards their freedom of association through the Policy Statement on the Protection of Human Rights. When drafting employment contracts, we observe national statutory requirements, collective agreements such as collective bargaining agreements, as well as internal company agreements and notice periods as laid down by law. Managers ensure that company agreements are implemented and observed on a day-to-day basis in their areas of responsibility. In 2023, 90.4% of the people employed by the company in Germany were covered by collective agreements (e.g. collective bargaining agreements), a figure that stood at 76.2% worldwide in the same year.

The relationships we form with our employees are based on respect and trust and we take their concerns into account: in accordance with the German Works Constitution Act (*Betriebsverfassungsgesetz*), MTU’s sites in Germany have works councils that maintain regular, open and trust-based dialogue with management. The German sites also have a Group works council that handles Group-related issues. At the company’s sites in Poland and Canada, elected employee representatives support the interests of the workforce in dealings with management. In addition, the interests of employees are represented on the Supervisory Board, where seats are filled on the basis of parity.

Revised feedback landscape

One important yardstick for successful collaboration and leadership is regular feedback from employees. Last year, we transformed the previous employee survey (PulseCheck) into an integrated feedback landscape with surveys related to target groups and certain topics. We added further instruments as well. The new feedback landscape includes:

- PulseChecks: Mood in the company regarding satisfaction, commitment, and strategy
- Leadership feedback: 180-degree feedback for managers at all levels, focused on the individual manager and their impact in terms of leadership values.
- Team feedback: Mood regarding cooperation and promoting dialogue within the team about improvements (starting in 2024)
- Readiness index: Assessment of the current maturity level of the corporate culture

We also conduct regular surveys at our sites outside Germany, such as MTU Aero Engines Polska. Moreover, further employee involvement forums are established at our sites around the world. These range from works meetings in Germany and townhall meetings in the United States to special instruments.

We use our idea management system to obtain and evaluate improvement suggestions from employees. In addition, we regularly initiate in-house "Ideation Challenges" on predefined tasks in order to utilize the ideas of our employees. The ideas and concepts submitted are evaluated by a jury. We take particularly promising suggestions and test their potential and feasibility in projects in our Inno Lab, an in-house MTU innovation hub.

We have established a consistent methodology for feedback and for evaluating performance at all levels of the hierarchy, from senior managers to employees included in collective bargaining agreements. The performance criteria are based on corporate, center, or departmental objectives and are designed to measure how employees and managers contribute to reaching these objectives. Goal attainment is discussed during the year in milestone meetings and at year-end in goal attainment meetings. All managers undergo performance reviews to evaluate achievement of their personal targets. In 2023, 97.4% of MTU employees received an appraisal of their performance (at least once a year is required).

Fair working conditions and attractive benefits

For us, fair wages are part of an appreciative and respectful approach. Our employees' right to appropriate remuneration is enshrined as a pillar of MTU's Code of Conduct. Employee wages at all our sites are above the legally stipulated local minimum wage. We reexamine our remuneration structures regularly.

MTU ensures that employees receive competitive remuneration that reflects their performance, regardless of gender or other characteristics that can be a basis of discrimination. This is also set out in the Group's Policy Statement on the Protection of Human Rights as an essential working condition. The remuneration of pay-scale employees in Germany is based on collective bargaining agreements. Variable compensation for senior managers is tied to MTU's long-term performance.

We offer a broad range of additional perquisites. In addition to the statutory obligations, in Germany these include profit-sharing, family-related services, mobility benefits, a healthcare service, and training opportunities. In addition to the employer's contributions, all employees can make a personal contribution to the company pension plan. At our international sites we offer a range of benefits such as private life insurance, health insurance, and retirement planning support.

SOCIAL BENEFITS IN 2023

161 million €

In addition to their salary, we offer our employees a wide range of social benefits such as a company pension scheme and support measures.

We enable our employees to share in the company's success. Each site does this using different regulations and programs. For our German sites, we offer an annual employee share program (participation rate in 2023: 45.9%), with which we aim to strengthen the entrepreneurship of our employees and their loyalty to MTU. Some locations outside Germany have their own programs, such as the Long-Term Bonus Program in Rzeszów, Poland, which takes effect after one year of employment, or benefits are offered after a defined period of employment (e.g. at the location in Vancouver, Canada).

MTU maintains a social fund that provides support to MTU employees who find themselves in financial difficulties through no fault of their own, as well as to humanitarian causes outside the company. For more information about this, see Corporate social responsibility

Achieving a better work-life balance

We recognize the specific needs and various life phases of our employees and offer various options for individuals to shape their working hours and how their work is organized. These include, for example, a range of part-time models, mobile working, and sabbaticals. This way, we create attractive conditions and help our employees achieve a better work-life balance.

Alternative working arrangements (Germany)
GRI 2-7, 401-3

	2023	2022	2021
Part-time employees (in %)	8.5	8.1	7.4
Employees on parental leave	570	537	478

The right to parental leave in Germany is governed by the German Parental Allowances and Parental Leave Act, which applies to the entire workforce. The legislation stipulates that any employee has a right to time off–regardless of their gender. Given discrepancies between national legal considerations, we do not consider it useful to consolidate these figures at the Group level. Figures on part-time work and parental leave by gender in accordance with GRI are presented in the Notes.

Offerings to promote work-life balance

- Flexible working hours and flextime accounts
- Wide variety of part-time working arrangements
- Educational leave
- Mobile working
- Teleworking
- Sabbaticals
- Part-time work for older employees
- Parental leave
- Job sharing
- Support for families (advice on arranging childcare, care services)
- Collectively agreed leave to look after children and relatives in need of care
- Collectively agreed time off for special personal occasions (e.g. wedding, change of residence, deaths in the family)

GRI: 2-7, 3-3, 201-3, 401-1, 401-2, 401-3, 404-3, 405-2

Human rights

We respect the human rights of our employees and have enshrined this in our company by means of various instruments. In addition to this voluntary commitment, we follow a zero-tolerance principle.

MTU respects the internationally proclaimed human rights set out in the United Nations' Universal Declaration of Human Rights. The company has anchored human rights in its corporate culture through various instruments in order to respect and promote them. In particular, MTU pursues the goal of preventing human rights violations that could affect employees (zero-tolerance principle).

MTU is committed to respecting the individuality and dignity of every person, maintaining equality of opportunity in the workplace, and preventing discrimination. The protection of human rights, the right to appropriate remuneration, as well as recognition of regulations governing employee and union representation under labor and works constitution law, are implemented Group-wide through the Code of Conduct. As an employer, MTU aims to create fair working conditions based on legally binding employment contracts with appropriate remuneration. This includes the right to unionize and to adopt collective agreements. Compliance with the Code of Conduct and ethical principles is enshrined in the MTU Principles. In addition, MTU is committed to respecting human rights through a Policy Statement that the Executive Board members signed at the beginning of 2023. It sets out principles on human rights and working conditions as well as responsibilities for the protection of human rights.

We view the respecting of human rights principles as a Group-wide issue that goes beyond social labor standards and basic labor rights for employees to include sustainable supplier management, trade compliance standards for responsible international trade, and environmental due diligence at our sites.

In Germany, MTU is bound by the General Act on Equal Treatment (AGG), which prohibits discrimination against employees and job applicants. For employees in Germany, we also adopted internal guidelines in agreement with employee representatives on fair and cooperative conduct that are designed to prevent bullying, sexual harassment, and discrimination. The guidelines stipulate a systematic process for handling complaints.

When they join the company, new employees are informed about the regulations laid down in the Code of Conduct and–in Germany–in the General Act on Equal Treatment (AGG), and they undertake to comply with these requirements. In addition, we provide regular training on the Code of Conduct at all the company's sites and across all hierarchical levels. → For more information about MTU's Code of Conduct and associated training, see Compliance

Human rights risk management revised

We strive to avoid negative impacts of our business activities on human rights as far as possible. We continuously review our business activities for human rights risks in order to define and implement preventive measures at an early stage. We classify human rights risks under various elements of the risk inventory of our corporate risk management process. Regarding its methodology, approach, and assessment, our human rights risk analysis is based on MTU's corporate risk analysis. Our risk management system creates structures that minimize the risk of human rights violations.

MTU's own business activities are conducted mainly in Germany, the EU, and North America. This lowers the probability of occurrence for significant violations of human rights in our own business area, as these regions have regulations set by the respective legislators and a commitment to human rights that is rooted in society. In addition, the aviation sector has its own specific regulations and regulatory oversight.

MTU has further developed its risk management system for the protection of human rights; for instance, it appointed a Human Rights Officer in the reporting year. This officer monitors internal risk management with regard to human rights risks and reports directly to the Chief Sustainability Officer on the Executive Board. In addition, human rights coordinators are appointed at the site level and in the relevant departments (supply chain, human resources, environmental and occupational safety, and corporate sustainability). The most important task for the human rights coordinators is to issue regular risk assessments for human rights violations and environmental due diligence at our locations and at direct suppliers.

This risk analysis is carried out for all fully consolidated Group companies both annually and as required and is coordinated by the Human Rights Officer. The extent and severity of human rights-related risks are determined according to a standardized procedure. A risk assessment is then carried out using a risk matrix that correlates the probability of a risk's occurrence with its severity. A threshold for materiality is defined both for the consolidated risk assessment at the Group level and for the site. The Human Rights Officer also reviews the effectiveness of risk management, particularly with regard to preventive action and countermeasures.

We have identified no MTU business location that we must consider at significant risk of child, forced, or compulsory labor, or at which the freedom of association and right to collective bargaining could be compromised.

If we identify a violation of obligations relating to human rights, we will immediately take appropriate measures to end this violation, prevent it in the future, or minimize its extent.

Reporting channels have been set up

Reporting procedures have been established to ensure that we can systematically follow up on all complaints or reports of human rights infringements. Employees and external stakeholders can make reports to the Compliance Officer as a confidential contact point in the Group, or anonymously via the web-based iTrust reporting system, available in multiple languages. This applies to all human rights concerns. → See Compliance for information about handling reports

In addition, points of contact for employees have been set up at each site, about which we provide information on-site. For example, in compliance with statutory regulations such as the AGG in Germany, trained personnel at each site are identified as the contact points for complaints regarding discrimination. At MTU Maintenance Canada, employees can file a formal complaint with human resources management in cases of discrimination. They also have the right to go beyond the company and make a formal complaint to the BC Human Rights Tribunal. At MTU Aero Engines Polska, this function is carried out by a person elected by the employees. What's more, employees can also report grievances to managers, the works council, or the head of human resources. The Executive Board is informed about infringements depending on the severity of their impact. If a violation of obligations relating to human rights is identified, we will immediately take appropriate measures to end this violation, prevent it in the future, or minimize its extent.

Across the entire Group, three substantiated complaints were submitted in 2023 as defined by the anti-discrimination legislation applicable to the sites in question. The complaints were investigated, appropriate action was taken, and the incidents were closed.

GRI: 2-16, 2-23 - 2-25, 3-3, 406-1, 407-1, 408-1, 409-1

Occupational health and safety

At MTU, our employees should have a safe and healthy environment in which to work. This is in line with our social responsibility and is expressed in strict occupational safety standards, company health management, and a preventive approach.

SUSTAINABLE DEVELOPMENT GOALS

8 DECENT WORK AND ECONOMIC GROWTH

MTU places great importance on the safety of its employees. Their occupational health and safety is thus anchored in the Policy Statement on the Protection of Human Rights: “The health of our employees is a top priority for MTU.” The Policy Statement also stipulates that workplaces must be set up in accordance with statutory and generally recognized occupational health and safety regulations. In addition, we have established an internal standard that lays down parameters, rules, and KPI definitions applicable across all sites. A Group report on workplace accidents is submitted to the Executive Board each quarter. Our occupational safety approach is not centralized; local implementation addresses the requirements at each site. At the individual production sites, occupational safety is the responsibility of the site managers; occupational safety officers are appointed at the management level. Local technical departments take action on occupational safety issues on site and report regularly to site management. The workforce at the company’s production sites in Germany, Poland, and Canada is represented in locally organized occupational safety committees, the composition of which includes employee representatives.

MTU MAINTENANCE SERBIA HONORED WITH NATIONAL AWARD

→ More information

April 28 is not only the World Day for Safety and Health at Work. In Serbia, it also marks National Occupational Safety Day. In addition, the Serbian Ministry of Labor confers a prestigious award for outstanding achievements in occupational health and safety. MTU Maintenance Serbia took third place in the category for organizations with more than 250 employees.

Occupational safety forms part of our integrated management system (IMS) policy and is regularly reviewed and improved. At the European production sites, workplace regulations that are mandatory for all employees contain important safety rules pertaining to accident prevention, fire protection and what to do in the event of workplace or commuting accidents.

Certified occupational safety management

The occupational safety management systems in place at the German sites are certified externally in accordance with the ISO 45001 international standard for occupational health and safety management systems. → MTU's current certifications. All workspaces in the company are part of our IMS based on the principle that "safety takes priority in what we do." This includes the workspaces occupied by temporary workers, who are included in occupational safety measures in the same way as permanent employees. A management system based on the ISO 45001 standard has been established at the new production site in Serbia.

We strive to prevent health and safety risks to our employees and third parties. Workplaces are regularly assessed for any risks and hazards they present for employees. If potential burdens or hazards are identified, we take measures to eliminate them or reduce them to a minimum.

With the aim of permanently reducing the number of accidents and reaching a level of safety that aspires to prevent any accidents whatsoever, the local occupational safety officers record all accidents according to uniform categories (categories 1–5, near miss to fatal accident) and investigate them together with the affected employees / temporary workers and their manager. Should the assessment reveal specific aspects pertaining to the cause of accidents, we will take further steps to increase safety precautions. In the same way, near misses are recorded and evaluated. We strongly encourage the workforce to report unsafe situations. Safety training at least once a year is mandatory for all employees throughout the Group; for production employees, it is sometimes held monthly. We train all employees and temporary workers on health and safety matters when they first start working at MTU. In addition, managers receive repeated mandatory training on occupational safety. First-aiders are appointed and obligated to attend a refresher course every two years. Additional functions are fire safety assistants and safety officers. The local technical departments carry out ongoing prevention work at the company's sites through training sessions or information campaigns.

WORKING SAFELY

4.0

lost-time accidents per 1,000 employees also mean a high level of safety at MTU for 2023. By comparison, the industry average was 30.4 accidents*.

*Category 4 accidents with more than 3 days lost, German metalworking industry, 2022 data

Accident-free and low-stress workspaces form part of our IMS policy. We define annual tolerance thresholds for workplace accidents at our production and maintenance sites. This cumulative value for lost-time accidents represents a tolerable accident rate at the site. The threshold ranged from 0 to 16 for 2023, depending on the site, and was met at three of six sites. For the MTU Group as a whole, 50 lost-time accidents (category 3 and 4 accidents involving at least one day lost, excluding commuting accidents) were recorded in the reporting year. This means that the number of accidents is down on the previous year's figure of 63; this is primarily due to a sharp decline at the Munich site from 23 accidents in the previous year to 11 in the reporting year. As a result, the Group-wide accident rate per 1,000 employees also improved from 5.4 in 2022 to 4.0 in the reporting period. The accident rate is thus low overall and below the industry average for the German metalworking industry (30.4 accidents per 1,000 employees for reportable accidents entailing more than three days lost [category 4], as recorded by Wood and Metal Trade Association–BG Holz und Metall in the data for 2022). In contrast, the total number of days lost increased to 676 days in 2023 due to the occurrence of isolated accidents with long periods of lost time. As in previous years, there were no fatal workplace accidents.

Workplace accidents and days lost
GRI 403-9

	2023	2022	2021
Workplace accidents with absence (categories 3 and 4)	50	63	67
Fatal workplace accidents (category 5)	0	0	0
Accident rate per 1,000 employees (categories 3 and 4)	4.0	5.4	6.2
Days lost (after accidents categories 3 and 4)	676	470	820

The accident statistics (excluding commuting accidents) relate to the total workforce, including trainees/apprentices, interns, school and university students, and employees on fixed-term contracts, as well as temporary workers. Contractor accidents are excluded. Workplace accidents during mobile working are recorded as soon as a work-related connection is made.

Prevention is paramount in occupational safety

Occupational health and safety is implemented on a site-specific basis: an overarching exchange between the technical departments promotes mutual learning and standardization within MTU. The occupational safety specialists on-site derive proactive measures from regularly updated risk assessments, routine inspections of workstations, and audits in production and administration. Findings from such analyses and from the evaluation of existing workstations are also used for the ergonomic and safe design of new workspaces.

All accidents are recorded and evaluated; the analyses of accidents show that, overall, MTU has a very high level of technical and organizational safety with regard to its machines and equipment. The accidents that do occur are frequently related to behavior and less so to the operation of machines and equipment. The measures were also aimed at promoting safety-oriented behavior and further developing the safety culture. One focus was on high standards in ergonomic workplace design, which is always considered during inspections and audits. In this regard, measures are implemented on a site-specific basis. Measures in 2023 included:

- Health day with occupational safety aspects (Munich, Hannover, Ludwigsfelde sites)
- Action day on hazardous substances and explosion protection, raising awareness of behavior on the site (Munich site as part of the Safety First campaign)
- Monthly inspections for cleanliness, order, and safety as well as monthly occupational safety and alarm instructions in the shop, instructions on occupational safety in the office area every quarter (Hannover site)
- Regular inspections for cleanliness, order, and safety as well as inspections of all areas by safety specialists, emergency drills in cleaning and electroplating (Ludwigsfelde site)
- Installation of safety mirrors in the toilets to remind employees of their own responsibility for safety at work, launch of the “Go home safe” awareness campaign on safe behavior and wearing personal protective equipment (Nova Pazova site)
- Launch of the “Safety starts with us!” campaign with workshops on safety culture, special training courses, e.g. for forklift drivers, and posters showing safe work steps, as well as new laser safety markings on forklifts and component cranes (Rzeszów site)

Health management at the company

Health management includes a service at the German sites that covers occupational health and–at sites with a company doctor– emergency medicine and is responsible for general preventive measures. This service is available to all employees and temporary workers.

Health rate

	2023	2022	2021
Germany	94.2%	93.5%	94.9%

Counseling services offer employees and temporary workers support with maintaining their overall work performance as well as for mental health issues. In addition, all of our German sites offer supplementary in-house and external services. This includes in-house case managers, who provide advice for employees returning to work following a long absence, as a result of sickness or an accident for instance, to ensure that they get the best possible support with their reintegration. External providers offer a comprehensive support package for family-related matters. Additional benefits offered by MTU include fitness centers, which are run either in-house or by external partners, as well as on-site physiotherapy and ergonomics training.

New offerings at the Polish site

The new health offerings at the Rzeszów site—Pink October and Blue November—were well received by employees. The campaign days served to raise awareness for regular cancer prevention combined with specific offers for on-site screening.

Our employees outside of Germany can also take advantage of permanent health services. In Vancouver, Canada, employees have access to programs for either short-term or long-term disability in the event that they need a longer period of time to recover from an illness. MTU Aero Engines North America supports its employees by offering, for example, health insurance policies for short- or long-term disability or individual workplace reintegration after a long period off work. At our site in Rzeszów, Poland, the basic medical services on offer include a doctor who is on-site once a week as well as psychological support as needed. In addition, the “Together for Health” online project was continued with various webinars in 2023.

Pink October and Blue November were the first health campaigns for employees at the MTU Aero Engines Polska site. They included health checks (blood tests, mammograms) for cancer in women (Pink October) and blood tests for cancer prevention in men (Blue November). Both campaigns also set out to raise awareness of regular health checks for men and women.

If employees experience financial hardship as a result of personal illness or illness in the family, they can draw on assistance from MTU’s social fund, which pools funds from managers, the Executive Board, and the Supervisory Board. The social fund is open to all Group employees.

GRI: 3-3, 403-1, 403-2, 403-3, 403-4, 403-5, 403-6, 403-8, 403-9

Employee development

Innovative strength and competitiveness are key factors for success in our industry. We provide our employees with support and training in specific important future fields so that we may actively shape the transformation of aviation.

We are convinced that continuous, intensive employee development is essential for our long-term success. This is why MTU is investing specifically in the training and development of talented employees. In times of change, the company is expanding its leadership skills to include forward-looking management concepts in order to support change, reinforce personal responsibility and the ability to act, and convey trust and stability. Continuous personal and professional development of our employees also makes us an attractive employer for new hires and our own talented individuals. “We empower” is one of our global leadership values.

Fast facts: #PropelledByLearning

INVESTING MORE IN THE FUTURE

8.5
million euros is how much we invested in training our employees.

MORE TIME FOR EDUCATION

3.3
days is how long our employees spent in training on average.

NEW ON BOARD

105
apprentices started their careers at MTU.

All figures as at the end of 2023; the figures for 2022: EUR 5.4 million invested in training, 2.6 training days on average

In addition to industry-specific vocational training and dual work-study programs aimed at building up knowledge over the long term, we support and promote the development of all our employees—this is enshrined in MTU's Policy Statement on the Protection of Human Rights. In many areas of our business activities, aviation authorities prescribe additional qualification measures, such as mandatory training on human factors (failure through human error). Promoting training and development as well as avenues for personal development for employees and managers is also enshrined in the MTU Principles and in our HR strategy. In addition, starting in 2023, a target has been set for average training days per employee, which will be included in the variable compensation of Executive Board members and managers. This ESG (environmental, social, and governance) goal underlines how we see training our employees as a success factor for MTU's future.

The head of People & Culture is responsible for the training and development of employees Group-wide. Every year, the Executive Board discusses training KPIs (annual education and training report), prioritizes and decides on selected training and development initiatives, and commissions their implementation.

Strengthening employee qualifications as a success factor for the future

MTU's commitment to training its employees is reflected in a differentiated training and development program and in extensive offerings and investments that meet with a high demand for knowledge and skills acquisition among employees. This is based on our Group-wide works agreement in Germany, which guarantees access to training for all employees and requires management to conduct an interview with each employee once a year to discuss their development opportunities (training interview). At our sites in Germany, the works council is also involved in employee training in accordance with the German Works Constitution Act (Betriebsverfassungsgesetz) and has a say in the annual training and development program. International sites have their own regulations; at MTU Aero Engines North America, for example, an annual development plan is agreed with all employees.

We support our employees with a wide range of offerings through which to continuously develop their skills in the spirit of lifelong learning. Training needs are determined annually in a regular process in an interview between manager and employee or via departmental/company interviews by the in-house training team. A training history documents completed training and development courses. Training officers are on hand to answer questions relating to needs-focused training.

A multilingual online learning portal is the cornerstone for expanding multimedia and self-organized learning. Increased use of digital and hybrid learning formats should ensure and flexibly support the training of specialists at all levels. The training team relies on a rolling training program in order to be able to respond each year in a targeted way to changing needs within the company as well as to outside requirements.

Employee training
GRI 404-1

	2023	2022	2021
Training days (total)	40,920	29,613	21,141
Training days per employee (Group-wide)	3.3	2.6	2.0
Training days according to employee category per manager	5.1	2.9	2.4
Training days per employee category per employee	3.1	2.6	2.0
Proportion of women in training courses	19.2%	18.2%	16.0%

Data on training days for 2022 exclude the Rzeszów site in Poland due to a lack of data availability following an IT system changeover.

Further training as a compensation-relevant corporate objective

MTU's leadership value "We empower" is reflected in a high level of training. Employees completed a total of 40,920 training days in 2023; the average number of training days per employee across the Group was 3.3, which was higher than in previous years.

As of 2023, the social ESG goal has been assigned to the leadership value "We empower" and is determined from employees' qualifications and training. The average number of training days per employee at the German locations (Munich, Hannover, Ludwigsfelde) is included in the variable compensation of Executive Board members. The average number of training days per employee in 2023 was 3.6, which is above the target value of 2.5 days. For more information about this, see the compensation report, 2023 Annual Report, p. 25

In addition to the time that employees are given for training, the company promotes the lifelong learning model with extensive investments in the area of employee development. We invested EUR 8.5 million in training schemes Group-wide (2022: EUR 5.4 million; costs for internal and external training, excluding vocational training). This increase correlates with the target of average training days per employee and is due in part to the Business Challenge training initiative for all managers.

Leadership and collaboration are key factors in MTU's development

MTU is pushing ahead with developing its managers so they become companions and drivers in change situations in order to strengthen the company's future performance. In this process, the MTU leadership values ("We transform," "We empower," "We create trust") take on even more relevance as a shared basis for managers' values and conduct. The values are intended to provide orientation and formulate expectations for leadership behavior.

The human resources and organizational development team assists managers on-site in implementing changes for them, both personally and in their work situations, and supports company-wide change processes such as the Turnaround project at the Hannover site or the Excellence made in Berlin-Brandenburg project at the Ludwigsfelde site. The Business Challenge, a cross-site training initiative for all managers, aims to strengthen independent, entrepreneurial thinking and action. It was launched in 2023 with a focus on collaboration between the OEM and MRO segments. The training program integrates pioneering learning technologies such as virtual reality. A competency model in the area of digitalization is also being developed for managers, which will form the basis for future training measures.

MTU also offers development opportunities and programs across all levels in order to identify and best cultivate new talent, while supporting our existing managers in their professional development. The core instrument is a personal assessment, e.g. through participation in a development center. A full 95% of new managers with leadership responsibilities at a German site who were promoted from within in 2023 had participated in development center activities. MTU offers new as well as more experienced managers support from coaches regarding a change in leadership or function as well as for the purposes of reflection and sparring ("pit stop" coaching).

Our programs

We have numerous Group-wide initiatives that we use to develop our managers and support them both professionally and personally:

- Development centers
- Management transition coaching
- First Leadership Program
- Building on Talent / International Building on Talent
- International Leadership Program

There are also site-specific offerings for managers, such as the Coaching Culture@MTU program for new managers at the Poland site and the Leadership Essentials program at the Serbia site. Both programs were launched in 2023.

A boost for newcomers

At our MTU Aero Engines North America site, we have a rotation program for entry-level graduates that takes them through a variety of departments focusing on different areas of engineering. Moreover, we cover a certain portion of tuition fees for employees there who return to university to obtain a master's degree as part of their development plan. In Germany, we offer an 18-month junior entry and trainee program called JET, which provides comprehensive insights into MTU and its structures and processes, and prepares trainees for their future position.

Our new apprentices start their careers

Sound vocational training based on the dual-track system

For us, vocational training is a central component of securing promising young employees. In Germany, we offer a solid grounding in ten different trades as part of a dual work-study approach, while the places we offer for students taking dual-track courses of study offer different specializations. We pursue a holistic approach that goes beyond specialist topics to also cover social and ecological aspects, for instance through health, occupational safety, and environment days or through corporate social responsibility → For examples, see the section on Corporate social responsibility. Our German locations welcomed 105 young people who started apprenticeships in 2023. That year, apprentices accounted for 2.6% of the total workforce; in Germany, where most of our apprenticeships take place, the share was 3.2%.

BUDDING AVIATION EXPERTS

318

was the number of apprentices we had on board at the end of 2023. They complete a two-to-three-year apprenticeship based on Germany's dual-track system or an 18-month on-the-job training course at our site in Canada.

In addition to apprenticeships, MTU also collaborates with German vocational academies in Stuttgart, Ravensburg, and Berlin as well as with Baden-Wuerttemberg Cooperative State University to offer practical courses of study in business administration, information technology, mechanical engineering, and business engineering. What's more, we participate in numerous educational projects and initiatives for children and young people. → Corporate social responsibility

MTU MAINTENANCE CANADA OPENS TRAINING ACADEMY

→ To the press release

“We believe in our skills, our workforce, and our region. To this end, we are also delighted to be opening our new training academy,” explained Uwe Zachau, CEO and Managing Director of MTU Maintenance Canada, on the occasion of the new training programme.

For MTU Maintenance Serbia, the company has established a training concept based on the dual system used in Germany in collaboration with the Aviation Academy Belgrade. In the reporting year, it also entered into an agreement with the Serbian Office for Dual Education to further promote dual-track training and business-minded learning. MTU Maintenance Canada has opened a new on-site training academy in collaboration with the British Columbia Institute of Technology, combining theoretical knowledge with practical experience in engine maintenance. The training program is designed for 36 participants, who can then go on to deepen their specialist knowledge at MTU.

GRI: 3-3, 404-1, 404-2

Diversity, equity, and inclusion

Different ideas and experiences broaden our horizons and make MTU more flexible and innovative. That's why we promote diversity, equity, and inclusion through an appreciative and inclusive corporate culture.

We are firmly convinced that diversity in its various facets plays a key role in the future viability of our company, promotes innovation and competitiveness, strengthens our resilience to market changes, enhances our performance, and supports our attractiveness as an employer for new talent and the retention of highly qualified employees. Diversity is part of our social responsibility and at the same time opens up huge potential for us as a commercial enterprise.

As part of our diversity, equity, and inclusion (DE&I) management system, we shape the topic globally together with colleagues from our sites and continuously drive forward DE&I aspects via short-, medium-, and long-term measures for MTU and society. DE&I is not a buzzword for us, but a business case embedded within social sustainability. New structures are being planned, taking the lead from approaches outlined by the Diversity Charter, the international standard for diversity management (ISO 30415), and the Global Diversity, Equity & Inclusion Benchmark.

"MTU is committed to **diversity and equality of opportunity**. Aviation is an international industry that connects cultures and people. We firmly believe that a diverse workforce bolsters our **innovatiove capabilities and collaborative culture**, which in turn ensures our **competitiveness**. We take a clear stand **against discrimination** in the workplace. **Equality of opportunity** regardless of gender, ethnic origin, age, religion, disability, or sexual orientation is the foundation for a respectful corporate culture."

Lars Wagner, CEO and Chief Sustainability Officer of MTU Aero Engines AG

Promoting diversity is a key component of our corporate culture and is enshrined in the MTU Principles. To ensure an inclusive working environment within the company, MTU embraces a corporate culture based on respect and appreciation that promotes fair and cooperative conduct. MTU is actively committed to equality of opportunity and equal treatment of all employees and takes a clear stand against discrimination in the workplace. We have laid down these principles in our globally applicable Code of Conduct. We want to assign employees to positions in accordance with their skills, abilities, and performance. All our employees are given the same opportunities regardless of their gender, ethnic origin, age, religion, disability, or sexual orientation or identity. → Code of Conduct We have processes in place that allow breaches of the Code of Conduct or of internal guidelines to be reported to designated points of contact. → These are laid out in detail in the chapter Human rights. What's more, as a signatory to the UN Global Compact sustainability initiative, MTU has committed to preventing discrimination in the workplace.

Fast facts: #WeAreMore

WOMEN ON BOARD

16.7%

of our employees are women—and we want to expand gender diversity further at all levels.

FROM ALL OVER THE WORLD

88

nationalities are represented in our workforce. That's a lot of different cultural backgrounds.

YOUNG AND OLD

4

generations work hand in hand at MTU, from baby boomers to Gen Z. That means new ideas paired with a lot of experience.

MTU's commitment to diversity and equality of opportunity is also demonstrated by its status as a signatory to the Diversity Charta and as a partner company of the Impact of Diversity. MTU supports the Impact of Diversity because it breaks through traditional behavior patterns and stereotypes to open people up to new ideas. We have also once again sponsored the Women in STEM/MINT category for the Impact of Diversity Award 2023, which recognizes companies, initiatives, and projects that are particularly successful in attracting and inspiring a relatively high number of girls and women to the STEM (science, technology, engineering, and mathematics) fields and promoting the added value of gender diversity in their organization. In addition, we are in constant contact with experts, organizations, and networks on topics relating to diversity, equality of opportunity, and inclusion.

charta der vielfalt UNTERZEICHNET

IMPACT OF DIVERSITY

Diversity has many facets

Our DE&I approach takes into account various aspects such as gender, cultural background, age and experience, disability, social background, and sexual orientation and identity. A diversity manager is responsible for DE&I matters throughout the Group and reports directly to the head of People & Culture. The diversity manager works closely with HR policy/strategy and is in continuous communication with local HR departments. The aim is to actively develop and strengthen DE&I within MTU. We provide regular updates on diversity and inclusion in our internal media and via our social media channels. We use training courses and presentations to draw the attention of employees and managers to the positive effects of diversity and an inclusive working environment at MTU, and to raise awareness of unconscious bias and for a work environment free of discrimination.

We support employee resource groups (ERGs), i.e., self-organized networks and groups of employees that promote a diverse, inclusive work atmosphere. These networks offer employees a way to make their concerns visible and provide impetus for collaboration within the company. This helps us better incorporate diverse experiences and perspectives from the workforce into our decision-making. These include the Network of Engine Women (NEW) under the patronage of CEO Lars Wagner and the AeroPride queer network, founded in 2023 under the patronage of Dr. Silke Maurer, Chief Operating Officer.

Commitment to gender diversity

Aviation has always offered numerous career opportunities of a technical nature and is still dominated by men. We choose to drive change, actively promote gender diversity, and set ourselves binding targets. The Executive Board has set a new target of 15% women for the first management level and 20% women for the second management level below the Executive Board by June 30, 2027. By the end of 2023, we had achieved a share of 10.5% women for the first management level and 19.8% women for the second management level. This has already enabled us to realize some potential, although not yet evenly distributed across all areas of the company. We expect the various initiatives we have launched to have a greater impact in the medium term. The development center plays a role in the personal assessment portion of the process for tapping employee potential. In 2023, 35.8% of the center's positions, i.e. just over one-third, were held by women, which makes us confident that we will be able to further increase the proportion of women in management in the future.

WOMEN OF THE YEAR: COO DR. SILKE MAURER

→ To the Beyond Gender Agenda campaign

The external diversity network Beyond Gender Agenda recognized 101 outstanding women from the German economy as Women of the Year in 2024—and one of them is an MTU Executive Board member. This is a strong signal for women in leadership and underlines the importance of diversity for companies.

With the appointment of Dr. Silke Maurer as Chief Operating Officer as of February 1, 2023, one of the four members of the Executive Board is a woman. The Supervisory Board has two female members on the employee side and three on the shareholder side. This means the proportion of women on the Supervisory Board increased to 41.7% in 2023. More information available in MTU's corporate governance report for 2023 (p. 130)

Proportion of women
GRI 2-7, 405-1

	2023	2022	2021
Workforce	16.7%	16.4%	15.6%
Managers	15.5%	12.9%	11.8%
Apprentices	16.0%	15.8%	14.9%
New hires	20.1%	21.7%	20.5%

Share of women in the workforce and in management positions as a proportion of the active workforce for trainees/apprentices, relating to total workforce; recorded at the end of each year; we do not have figures on the proportion of women by employee group. The proportion of women among new hires by region is shown in the Notes.

When it comes to the proportion of women in the workforce, we see an ongoing upswing over recent years. The current share is 16.7%. We succeeded in increasing the Group-wide proportion of women across all management levels to 15.5% by the end of 2023. We actively consider diversity, equity, and inclusion when filling positions and selecting new employees. Women made up 20.1% of new hires across all hierarchical levels, which is higher than the current proportion of women in the company. Of the employees completing an apprenticeship at MTU, 16% were women.

The Executive Board is kept regularly informed about the measures that have been initiated to promote equality of opportunity as well as gender diversity. In addition, it presents a report on equality at the works meeting at the German sites once a year. In Germany, the works council is involved in decisions subject to co-determination, such as flexible working time rules.

The principal focus of our initiatives is to secure more female employees for the company, identify and promote female talent, and offer female employees greater support throughout their careers. To this end, we participate in mentoring programs, such as the cross-mentoring programs in Munich and Berlin-Brandenburg.

The Women's Career Index (FKI) honors employers who have made a special contribution to diversity and inclusion projects on a national and international level. We are delighted that we have again been selected as one of the top 10 award-winning companies in 2023– even as we recognize that we still have much to do.

In addition, we are involved in educational initiatives aimed specifically at young female talent. For instance, we are a member of MINTvernetzt, a German STEM initiative that strives to inspire more women to pursue qualifications and careers in the fields of science, technology, engineering, and mathematics. Since 2023, MTU has also been a partner organization of the Klischeefrei initiative, which advocates for career and study choices free from gender stereotypes.

Programs and initiatives (in-house and external)

- Network of Engine Women
- Member of MINTvernetzt
- Partner organization to the Klischeefrei Initiative
- Cross-Mentoring Program in Munich and Berlin-Brandenburg
- The MTU “Studienstiftung” foundation for female students in scientific and technical fields
- Girls’ Day
- Niedersachsen Technikum
- Munich Memorandum for Women in Management

LGBTQ+ community at MTU

As an early signatory to the Charter of Diversity, since 2010 MTU has been committed to creating a working environment that is free from prejudice, one that recognizes and supports people’s diverse potential. We want to be a positive example of diversity and inclusion, to create a culture of impartiality, and to ensure all employees have equality of opportunity in the workplace. This integrative approach includes employees who feel they belong to the LGBTQ+ community (LGBTQ+ stands for lesbian, gay, bisexual, transgender, queer, with the + representing others such as intersexual, pansexual, and asexual as well as allies, i.e. supporters and friends. We also use the term “queer” as a shorthand for this diversity). Any person at MTU around the world should be able to openly declare their sexual orientation or gender identity without experiencing any disadvantages as a result.

Individual talent should be able to unfold within a respectful and appreciative environment with an emphasis on solid performance and personal commitment. We support public initiatives to prevent bullying and discrimination, for instance by participating regularly in Pink Shirt Day in Canada and observing Pride Month to combat homophobia. We also express our appreciation for our employees in inclusive language, which we use in our internal and external corporate communications. We support AeroPride, the queer employee network that creates safe spaces for queer issues within MTU, e.g. via elected persons of trust, and offers opportunities for dialogue and education via Ask Me Anything events.

Inclusion of people with disabilities

MTU is committed to diversity in all its dimensions. Our open corporate culture, characterized by appreciation, is based on integration and cohesion. As part of our inclusion efforts as an employer, we recognize the importance of integrating employees with disabilities. At our sites in Germany, we have elected representatives for employees with severe disabilities as well as dedicated inclusion officers who act as points of contact for issues relating to disability. They are committed to issues relating to inclusion and set up important structures to this end. Our sites, and especially new buildings, are designed with accessibility in mind. For deaf colleagues, we offer sign-language interpreters for communication in the work environment. In addition, we view it as a matter of course for us to live up to our social responsibility by explicitly encouraging people with disabilities to apply for a job with us. If requested, we can ask a trusted member of the representative body for employees with severe disabilities to be involved in the application and recruitment process. We plan to expand the scope of our inclusion efforts in the future.

In 2023, the proportion of our employees in Germany with disabilities was 4.6%. We have been able to recruit many new employees for MTU in recent years, but we still see potential to attract even more candidates and thus comply with the statutory quota of 5% employees with severe disabilities.

Cultural diversity

As a globally active company, we consider internationalization to be a key dimension of DE&I. Our engine business has a global outlook, and having an intercultural workforce helps us to succeed in different markets. We promote internationality and intercultural understanding, e.g. through intercultural training, cross-site dialogue formats, and postings to sites abroad. Secondments to our international sites form an important part of our HR policy for promoting intercultural skills. Apprentices are also given the opportunity to gain international professional experience.

DIVERSE CULTURAL BACKGROUNDS

88

is the number of nationalities represented by our workforce, their unique cultural backgrounds making our teamwork successful.

We have strong roots in Germany, but our character draws on a variety of cultural backgrounds: In 2023, our employees represented 88 different nationalities. We take an active stand against xenophobia and discrimination and in favor of diversity and equality of opportunity, for instance as part of the International Day for the Elimination of Racial Discrimination.

Cross-generational collaboration

Cross-generational collaboration makes it possible to combine valuable experience and new impetus in a productive way. We believe in good relations between young and old, and we take age diversity into consideration in our company. At our company, four generations work hand in hand–from baby boomers to Gen Z, the youngest generation to enter the job market. We are meeting certain challenges such as knowledge management that are associated with our aging workforce in Germany and the fact that people are working longer from career entry to retirement. To secure the long-term performance of our employees, we operate a company health management system (→ Occupational health and safety). Employees in every age group receive equal access to training and development. We offer a variety of career opportunities geared toward younger generations: apprenticeships, dual work-study programs, trainee programs, and development programs for high-potential employees (→ Employee development). The interests and needs of young employees in particular are also represented by an elected youth and apprenticeship council. New recruits and young talent can exchange information via the informal in-house “Young Professionals” network.

Age groups
GRI 405-1

	2023	2022	2021
< 30 years	17.5%	17.3%	16.2%
30 – 50 years	57.1%	55.8%	55.1%
> 50 years	25.4%	26.9%	28.6%

Measured in terms of active workforce, at year-end in each case; for composition of workforce sizes, see the GRI Index

GRI: 2-7, 3-3, 401-1, 405-1

Corporate social responsibility

Our contribution to social development is focused primarily on research, education, and training. In addition, we support social projects that have a local impact close to our locations.

Corporate social responsibility is an integral part of the MTU Principles, which state: “MTU takes its responsibility for the environment and society seriously.” We are a major employer in the regions in which we operate, offering a wide range of jobs in a high-tech environment and providing training in Germany in a variety of professions under the dual-track system. Our approach to employment takes the long-term view as a matter of course and places strong emphasis on the intensive training and development of our employees. MTU invests in the expansion of its global network; the new repair site in Serbia began operations in 2023. These investments strengthen the local economy and job market, and in turn have a positive effect on social aspects such as infrastructure and prosperity. We also contribute to society through the income tax we pay. → How we add value through our economic output

We are committed to educating the next generation of scientists

As we drive aviation technology forward, we rely on a new generation of skilled employees and an innovative business environment. Therefore, our concept of corporate citizenship revolves around science and engineering initiatives. We seek out interaction and collaboration with the world of science and research and foster dialogue with young people and new talent.

We have built up a strong technology network together with partners from industry, research, and teaching, in a bid to foster links between universities and industry and to safeguard our capacity for innovation.

MORE ABOUT OUR STRATEGIC ALLIANCES

We run a series of sponsorship schemes at the University of Stuttgart and the German Aerospace Center (DLR) that support young researchers for a number of years after they finish their degrees. We also provide financial backing for a Deutschlandstipendium, or “Germany Scholarship,” at Leibniz Universität Hannover. Together with Technische Universität Braunschweig, we operate what is known as a maintenance laboratory to enable students to experience engine maintenance on our premises as part of their master’s studies. In cooperation with the Business4School project, an initiative that aims to foster business skills in schoolchildren, managers at MTU Maintenance Hannover give insights into their work at local schools. MTU Aero Engines Polska has established alliances with the Lezajsk Technical School and the Rzeszów University of Technology and regularly supports them in various activities (e.g. student teams in the national Xchallenge robotics championship or as part of Global Entrepreneurship Week).

THE MTU STUDIEN-STIFTUNG

→ https://www.mtu-studien-stiftung.org/

One long-term program that we sponsor is the MTU Studien-Stiftung, a foundation through which we support highly talented young women studying scientific and technical disciplines. As well as providing financial grants, the foundation offers personal advice and mentoring to help students get started with their careers. MTU employees volunteer their time to the foundation.

MTU research experts give regular presentations and guest lectures at universities, and we have endowed a chair for aircraft engine structural mechanics at the University of Stuttgart as well. We offer trainee programs, dual vocational training, work placements for high school students, work experience for students, and opportunities for writing bachelor's/master's/doctoral theses at our European sites. These are key factors on the labor market. In 2023, there were 580 students working with us in a wide variety of areas as part of their undergraduate or postgraduate program, or working during school vacations.

Each year, MTU confers the Wolfgang Heilmann Science Award for outstanding achievements by talented young students performing research in the field of aircraft engines at the Karlsruhe Institute of Technology. In addition, we are an industry sponsor of a prestigious German award for aerospace journalism.

For several years, MTU Maintenance Hannover has supported its local "Jugend forscht", a regional contest designed to get young people interested in STEM subjects. Under the 2023 theme of "Make ideas big," 94 participants developed creative solutions and ideas on a wide range of topics, from which a jury selected regional winners to qualify for the national competition. Special prizes were also awarded in conjunction with a day for the whole class to get a taste of life at MTU.

Further educational initiatives in which MTU participates:

- Komm, mach MINT! (a German STEM initiative)
- Research Camp for Girls
- Girls' Day
- Teachers in Industry
- IdeenExpo science exhibition in Hannover

ECO CHALLENGE AT MTU IN POLAND

MTU Aero Engines Polska's annual Summer Eco Challenge aims to raise employee awareness of responsible approaches to the environment and healthy lifestyles. In 2023, the sports kilometers collected by employees were converted into a sum of money and donated to selected aid organizations. The 180 employees that took part covered over 122,000 "good" kilometers, which resulted in a donation of 20,000 Polish zlotys to charity.

Support for local charities

We support various social institutions. These are generally charitable organizations, preferably with a social focus, but there are also on-site environmental protection initiatives to which we provide assistance in the form of financial or in-kind donations. A key factor in selecting recipients is a local/regional connection or a thematic link to MTU. We prioritize support for specific projects over general institutional funding. The subsidiaries concerned select these projects and participate in them on their own initiative, following careful research and consideration. Internal guidelines govern the granting of donations and sponsorship, and a centrally managed clearance and approval process ensures that the rules are adhered to.

In the reporting year, we supported more than 100 projects, institutions, and organizations. We also work with partners near our locations; for example, our commitment to the Munich Business Climate Pact. We provide the TurBienchen daycare center, a parent-led initiative situated close to the company gates in Munich, with ongoing support in the form of financial and in-kind donations. The new site in Serbia opened a daycare center near the plant in 2023, which is also open to parents outside of MTU, and MTU Aero Engines Polska supports local schools and universities with IT equipment and furniture.

We also maintain a social fund that was originally established in connection with the Covid-19 pandemic with funds from executives, the Executive Board, and the Supervisory Board. Since then, the funds have been donated to MTU employees who find themselves in financial difficulties through no fault of their own, and to humanitarian causes outside the company. The latter includes charitable projects and organizations near the sites as well as aid organizations for acute disaster relief, such as following the devastating earthquake in Turkey last year.

Further institutions that we supported in 2023

- Luftfahrt ohne Grenzen (Wings of Help) e.V.
- Franziskuswerk Schönbrunn
- Münchner Tafel e.V. and Langenhagener Tafel e.V., which provide food to those in need
- Obdachlosenhilfe Hannover e.V.
- Kältebus München
- Mukoviszidose LV Berlin-Brandenburg e.V
- Children's Day at the school of Hospital No. 2, Rzeszów
- Arche Potsdam
- Heart Day, Rzeszów
- Hospital for Special Care Foundation, Connecticut

Employee volunteer work at our locations

We welcome our employees' voluntary efforts to support good causes. This is covered by an internal company agreement. In Germany, the company allows staff to undertake projects with the German Federal Agency for Technical Relief or the volunteer fire department during their paid workday, and offers the services of lay justices for labor tribunals and social justice courts and of examiners for the Chamber of Industry and Commerce.

Every year at Christmas, employees donate food and toiletries to the Münchner Tafel food bank via a collection point in the company restaurant. MTU's apprentices then take care of bringing the items to the local helpers.

In 2023, employees from Germany and Poland cycled 940 km from the Ludwigsfelde site in Germany to MTU Aero Engines Polska in Rzeszów as part of the "Plant to Plant" bike tour and donated 10 cents per kilometer to various aid organizations.

MTU Maintenance Lease Services has launched a special charity project combining support for social organizations with motivation for a sporty lifestyle. The total number of sports hours that employees collect per month using an app is converted into a sum of money and donated to charity.

For many years, MTU Maintenance Berlin-Brandenburg has been supporting Die Arche with an annual donation for children and youth welfare. Another tradition is an end-of-year meeting with the organization's director (pictured left with Managing Director André Sinanian), who reports on how Die Arche is doing and which projects have been implemented—thanks in part to MTU's support.

Every year in February, colleagues in Canada take a stand against bullying and discrimination by donning pink clothing on Pink Shirt Day.

Since 2019, apprentices at MTU Maintenance Hannover have taken part in the city's annual "Hannover ist putzmunter" clean-up day, collecting trash in the neighborhood around the site.

GRI: 3-3, 201-1

GRI Index

The MTU Aero Engines 2023 Sustainability Report was drawn up in compliance with the Global Reporting Initiative (GRI) and meets the GRI standards. The GRI Index contains cross-references of the GRI disclosures to the individual chapters in the report. The Sustainability Report also documents our commitment to and progress on the ten principles of the UN Global Compact.

General disclosures

Organizational profile (2-1 – 2-5)

GRI standard		**Reference/Comment**
2-1	Organizational profile	MTU Aero Engines AG
2-2	Consolidation scope	About this report
2-3	Reporting period, frequency and contact point	About this report
2-4	Restatements of information	About this report
2-5	External assurance	About this report

Activities and workers (2-6 - 2-8)

GRI standard		Reference/Comment
2-6	Activities, value chain and orther business relationships	MTU Aero Engines AG Supplier management Markets served are presented in the 2023 Annual Report: T67, P. 167
2-7	Employees	Collaboration and leadership *Total workforce at fully consolidated sites including apprentices, interns, thesis students and doctoral candidates, students and holiday staff, temporary part-time employees on parental leave, and marginal workers, but excluding temporary workers and inactive employment contracts; as at December 31 each year. Active workforce: employees with permanent or fixed-term contracts, temporary part-time employees on parental leave, excluding students, interns, trainees/apprentices, short-term holiday workers, temporary workers and employees from external companies. Figures on part-time employees are only available for Germany due to available data.* KPIs according to GRI *For employees with permanent/fixed contracts broken down by gender and region*
2-8	Workers who are not employees	KPIs according to GRI *MTU employs a small number of temporary workers.*

Governance (2-9 - 2-21)

GRI standard		Reference/Comment
2-9	Governance structure and composition	2023 Annual Report: The Executive Board, p. 7ff.
2-10	Nomination and selection of the highest governance body	2023 Annual Report: The Executive Board, p. 7ff.
2-11	Chair of the highest governance body	2023 Annual Report: The Executive Board, p. 7ff.
2-13	Delegation of responsibility for managing impacts	Sustainability strategy and organisation
2-14	Role of the highest governance body in sustainability reporting	Sustainability strategy and organisation
2-15	Conflicts of interest	2023 Annual Report: Report of the Supervisory Board, p. 11, Corporate governance statement, p. 128
2-16	Communication of critital concerns	Sustainability strategy and organisation Human Rights *Well-founded complaints relating to discrimination*
2-17	Collective knowledge of the highest governance body	2023 Annual Report: Corporate governance statement, p. 128-129
2-18	Evaluation of the performance of the highest governance body	2023 Annual Report: Corporate governance statement, p. 128-129
2-19	Remuneration policies	2023 Annual Report: Management Compensation Report, p. 19ff.
2-20	Process to determine remuneration	2023 Annual Report: Management Compensation Report, p. 19ff.
2-21	Annual total compensation ratio	2023 Annual Report: Management Compensation Report, p. 19ff.

Strategy, policies, and practices (2-22 - 2-28)

GRI standard		Reference/Comment
2-22	Statement on sustainable development strategy	Foreword by the CEO
2-23, 2-24	Policy commitments and their embedding	Compliance
		Supply chain management
		Human rights
		Human rights in the supply chain
2-25	Processes to remediate negative impacts	Sustainability strategy and organisation
		Stakeholder dialogue
		Compliance
		Human rights
		Human rights in the supply chain
2-26	Mechanism for seeking advice and raising concerns	Compliance
		Stakeholder dialogue
2-27	Compliance with laws and regulations	Compliance
2-28	Memberships	Selection: • Aviation Initiative for Renewable Energy in Germany e.V. (aireg) • Bauhaus Luftfahrt e.V. • Bavarian Employers' Associations for the Metalworking and Electrical Industries (bayme) • bavAIRia e.V. • Bund der Freunde TU München • German Aerospace Industries Association (BDLI) • Federation of German Security and Defence Industries (BDSV) • Deutsche Gesellschaft für Luft- und Raumfahrt – Lilienthal-Oberth e.V. (DGLR) • Friends and Sponsors of the Deutsches Museum • Deutsches Verkehrsforum e.V.

- German Aerospace Center (DLR)
- Enterprise for Health
- European Aerospace Quality Group
- Forum Luft- und Raumfahrt e.V.
- Gesellschaft für Datenschutz und Datensicherheit e.V.
- Hydrogen Europe
- IATA Strategic Partnerships
- Chamber of Commerce and Industry for Munich and Upper Bavaria (IHK)
- MINT-Campus Dachau
- Münchener Bildungsforum gem. n.e.V. (Munich-based network for employee training and HR development)
- Stifterverband für die Deutsche Wissenschaft (sponsors' association for German science)
- Trace International, Inc.
- Bavarian Industry Association
- Bavarian Employers' Associations for the Metalworking and Electrical Industries (vbm)
- UN Global Compact (signatory)
- Unternehmer TUM Solutions GmbH
- Association of German Engineers (VDI)

Stakeholder engagement (2-29 – 2-30)

GRI standard		Reference/Comment
2-29	Approach to stakeholder engagement	Stakeholder dialogue
2-30	Collective bargaining agreements	Collaboration and leadership

Material topics

Data on material topics (3-1 – 3-3)

GRI standard		Reference/Comment
3-1	Process to determine material topics	Sustainability strategy and organization
3-2	List of material topics	Sustainability strategy and organization
3-3	Management of material topics	Sustainability strategy and organization *The management of the material topics, their impact, measures and effectiveness are presented on the respective topic page.*

Topic-specific standards

Economic standards (201-1 – 207-2)

GRI standard		Reference/Comment
	Economic performance	
3-3	Management approach	Sustainability strategy and organization
		Corporate social responsibility
		Climate impact of aircraft engines
201-1	Value generated and distributed	MTU Aero Engines *Key figures are not broken down by market or region*
		Corporate social responsibility

201-2	Financial implications and risks due to climate change	Climate impact of aircraft engines 2023 Annual Report: Risk and opportunity report, p. 76ff.
201-3	Defined benefit plan and retirement plans	2023 Annual Report: Pension provisions, p. 194ff. (Consolidated financial statements)
	Procurement practices	
3-3	Management approach	Supplier management
204-1	Proportion of spending on local suppliers	Supplier management
	Anti-corruption	
3-3	Management approach	Compliance
205-1	Operations assessed for risks related to corruption	Compliance
205-2	Information and training about anti-corruption	Compliance
205-3	Confirmed incidents of corruption and actions taken	Compliance
	Anti-competitive behavior	
3-3	Management approach	Compliance
206-1	Legal actions for anti-competitive behavior, anti-trust and monopoly practices	Compliance
	Taxes (2019)	
13-3	Management approach	MTU Aero Engines
207-1	Approach to tax	MTU Aero Engines
207-2	Tax governance, control and risk management	MTU Aero Engines

GRI Standards 2016, unless otherwise stated

Environmental standards (301-1 –308-2)

GRI standard		Reference/Comment
	Materials	
3-3	Management approach	Environmental management
		Conservation of resources
301-1	Materials used by weight or volume	Conservation of resources
301-2	Recycled input materials used	Conservation of resources
301-3	Recycled products and their packaging materials	Conservation of resources
	Energy	
3-3	Management approach	Climate action at our sites
302-1	Energy consumption within the organization	Climate action at our sites
302-4	Reduction of energy consumption	Climate action at our sites
302-5	Reductions in energy requirements of products and services	Climate impact of aircraft engines
	Water and effluents (GRI 2018)	
3-3	Management approach	Environmental management
		Conservation of resources
303-1	Interactions with water as a shared resource	Conservation of resources
303-3	Water withdrawal	Conservation of resources
303-4	Water discharge	Conservation of resources
303-5	Water consumption	Conservation of resources

	Emissions	
3-3	Management approach	Environmental management Climate action at our sites
305-1	Direct (Scope 1) greenhouse gas emissions	Climate action at our sites
305-2	Energy indirect (Scope 2) greenhouse gas emissions	Climate action at our sites
305-3	Other indirect (Scope 3) greenhouse gas emissions	Nonfinancial KPIs *CO2 emissions that do not result from the use of energy by MTU in its on-site operations fall under Scope 3. These include upstream value creation at suppliers, downstream product use, and employee travel to and from MTU. We are not yet able to present Scope 3 in full. We have included a Scope 3 accounting project in our sustainability strategy. The aim is to record and evaluate significant upstream and downstream activities and to establish a corresponding management system at the fully consolidated locations.* Climate impact of aircraft engines
305-4	Intensity of greenhouse gas emissions	Climate action at our sites
305-5	Reduction of greenhouse gas emissions	Climate action at our sites
305-7	Significant airborne emissions	Nonfinancial KPIs *To evaluate emissions, we use the emission factors from the German Environment Agency's ProBas database. Where we deviate from this: for sulfur dioxide we use emission factors from our own measurements for kerosene; for nitrogen oxide and carbon monoxide from the operation of engines we use MTU-specific factors (average values from NOx and CO emissions according to the ICAO database for all engines tested by us for the climb out operating point). For indirect emissions we use specific, locally adjusted emission factors based on ProBas.*
	Waste (GRI 2020)	
3-3, 306-2	Management approach	Environmental management

		Conservation of resources
306-1, 306-3	Waste generated	Conservation of resources
306-4	Waste for recycling	
306-5	Waste for disposal	Conservation of resources
	Supplier environmental assessment	
3-3	Management approach	Supplier management
308-1	New suppliers that were screened using environmental criteria	Supplier management
308-2	Negative environmental impacts in the supply chain	Supplier management

GRI Standards 2016, unless otherwise stated

Social standards (401-1 – 419-1)

GRI standard		**Reference/Comment**
	Employment	
3-3	Management approach	Collaboration and leadership
401-1	Employee turnover	Collaboration and leadership
		Nonfinancial KPIs
		Diversity, equity and inclusion
401-2	Benefits provided to full-time employees	Collaboration and leadership
401-3	Parental leave	Collaboration and leadership
		Nonfinancial KPIs

	Labor/management relations	
3-3	Management approach	Collaboration and leadership
402-1	Minimum notice periods regarding operational changes	*Germany: Agreements between the employer and the works council that are governed by collective agreements can be terminated with three months' notice under Section 77 of the German Works Council Constitution Act (Betriebsverfassungsgesetz). As a rule, this is also laid down in the collective agreements. In cases in which the arbitration body's decision can overrule an agreement between the works council and employer, the regulations governing the notice period remain valid until replaced. Also laid down in the collective agreements are the notice periods for the assertion of claims for employers as well as employees. Poland: In accordance with Polish law Indefinite and fix-term employment contract – 2 weeks up to 6 months; 1 month up to 3 years of employment; 3 months after 3 years of employment. Serbia: 4 weeks. Netherlands: 1 month. Canada: The standard notice period is two weeks. If the numbers of employees is greater than 10, consideration must be given and determination if 60 days notice to be given. USA: 60 days for reduction of 50% or more of the workforce under federal WARN Act.*
	Occupational health and safety (GRI 2018)	
3-3	Management approach	Occupational health and safety
403-1	Occupational health and safety management system	Occupational health and safety
403-2	Hazard identification, risk assessment and investigation of incidents	Occupational health and safety
403-3	Occupational health services	Occupational health and safety
403-4	Worker participation, consultation, and communication	Occupational health and safety *The entire workforce of all our production sites is fully represented in the locally organized occupational safety committees, the composition of which reflects the legal requirements for employer and employee representation in the respective countries .*
403-5	Worker training	Occupational health and safety

403-6	Promotion of worker health	Occupational health and safety
403-8	Workers covered by occupational health and safety management system	Occupational health and safety
403-9	Work-related ill health	Occupational health and safety
	Training and education	
3-3	Management approach	Employee development
404-1	Average hours of training per year per employee	Employee development
404-2	Lifelong learning	Employee development
404-3	Percentage of employees receiving regular performance reviews	Collaboration and leadership
	Diversity and equality of opportunity	
3-3	Management approach	Diversity, equity and inclusion
405-1	Diversity of governance bodies and employees	Diversity, equity and inclusion *Active workforce: employees with permanent or fixed-term contracts, temporary part-time employees on parental leave, excluding students, interns, trainees/apprentices, short-term holiday workers, temporary workers and employees from external companies. Nationalities: We don't track Nationalities on the US, but rather state-mandated diversity metrics based on ethnicity. Number of nationalities for the MTU Group therefore excludes MTU Aero Engines North America.*
405-2	Ratio of basic salary and remuneration of women to men	Collaboration and leadership
	Non-discrimination	
3-3	Management approach	Human rights
406-1	Cases of discrimination and corrective actions taken	Human rights
	Freedom of association and collective bargaining	

3-3	Management approach	Human rights
407-1	Operations and suppliers for which the right to freedom of association and collective bargaining may be at risk	Human rights
		Human rights in the supply chain
	Child labor	
3-3	Management approach	Human rights
408-1	Operations and suppliers at significant risk for incidents of child labor	Human rights
		Human rights in the supply chain
	Forced or compulsory labor	
3-3	Management approach	Human rights
		Human rights in the supply chain
409-1	Operations and suppliers with significant risk for incidents of forced and compulsory labor	Human rights
		Human rights in the supply chain
	Supplier social assessment	
3-3	Management approach	Supplier management
414-1	New suppliers that were screened using social criteria	Human rights in the supply chain
		Supplier management
414-2	Negative social impacts in the supply chain and actions taken	Human rights in the supply chain
		Supplier management
	Public policy	
3-3	Management approach	Stakeholder dialogue
415-1	Political contributions	Stakeholder dialogue
	Customer health and safety	

3-3	Management approach	Product quality and flight safety
416-1	Products and services for which health and safety impacts were assessed	Product quality and flight safety
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	Product quality and flight safety
	Marketing and labeling	
3-3	Management approach	Product quality and flight safety
417-1	Requirements for product labelling and information	Product quality and flight safety
417-2	Incidents of non-compliance concerning product labeling and information	Product quality and flight safety
417-3	Incidents of non-compliance concerning marketing communications	In the reporting period, there were no incidents of non-compliance with the regulations.
	Customer privacy	
3-3	Management approach	Compliance
418-1	Substantiated complaints concerning breaches of data protection	Compliance

GRI Standards 2016, unless otherwise stated

More information about:

The GRI standards for sustainability reporting

The ten principles of the UN Global Compact

About this report

Each year, MTU Aero Engines AG compiles a sustainability report to comprehensively inform its stakeholders about corporate sustainability (CS) of an economic, environmental, or social nature within the company. The report provides information about our strategy, objectives, and performance in the area of sustainability and also describes the priorities and progress made in 2023, building on the previous report as well as the non-financial statement in the Annual Report.

Reporting period and cycle

The reporting period covers financial year 2023 (January 1 to December 31). To better organize how information is presented and provide explanatory context for readers, activities from outside the reporting period are also cited in some cases. The report is published annually in German and English and will be available as an online report at → sustainability.mtu.de in May 2024. It is possible to obtain a → PDF download of the report. The non-financial statement is included in the Group management report of the Annual Report.

Scope of validity

The report covers all of the MTU Group sites that are treated as fully consolidated in the company's financial reporting. This includes the following:

- MTU Aero Engines, Munich, Germany (headquarters)
- MTU Maintenance Hannover, Hannover, Germany
- MTU Maintenance Berlin-Brandenburg, Ludwigsfelde, Germany
- MTU Aero Engines Polska, Rzeszów, Poland
- MTU Maintenance Serbia, Nova Pazova, Serbia
- MTU Maintenance Lease Services B.V., Amsterdam, Netherlands
- MTU Maintenance Canada, Vancouver, Canada
- MTU Aero Engines North America, Rocky Hill, United States

All fully consolidated production and maintenance sites of the MTU Group worldwide (Munich, Hannover, Ludwigsfelde, Rzeszów, Nova Pazova, and Vancouver) are included in our environmental reporting for this Sustainability Report under "Production & maintenance." Smaller sites are not relevant for our environmental impact and are therefore not included. The information and key performance indicators refer to the specified Group reporting entity for each field of action, unless otherwise indicated.

Reporting structure and topics

The topics we have identified as relevant to our sustainability strategy are covered in this report. They are cross-referenced to the six sustainability fields of action at MTU into which this report is structured: Corporate governance – Products – Production & maintenance – Employees – Procurement – Society.

Reporting standards

Global Reporting Initiative (GRI)

This report was drawn up in compliance with the standards of the Global Reporting Initiative (2021). We provide a GRI index for cross-referencing the report's contents with the GRI standards. Tables and graphics with statements relevant to GRI have been appropriately marked. The relevant GRI standards are listed at the end of each page.

A materiality matrix presents the sustainability topics that are significant for the MTU Group and shows how they are weighted from an internal (X-axis) and external (Y-axis) perspective. It is checked and updated every year as part of a materiality analysis, and serves as the basis for selecting the key topics and performance indicators for this report.
→ Sustainability strategy and organization

UN Global Compact and Sustainable Development Goals

MTU is a member of the UN Global Compact. The 2023 Sustainability Report documents our commitment to its ten principles and our annual progress. As a member of the UN Global Compact, we support the Sustainable Development Goals for 2030 and do what we can to help achieve them. The SDGs to which we can contribute on a certain subject are shown at the bottom of each page. The SDGs we can support overall are found at → Sustainability strategy and organization.

Key figures and collection methods

All data and information for the reporting period was collected by the relevant departments using representative methods. Environmental KPIs are collected via the environmental management systems at the individual sites and then consolidated centrally in the CS database according to agreed criteria. The HR KPIs are collected and evaluated centrally at the headquarters in Munich for Germany, and locally for all non-German sites. Once the data is evaluated, it is sent to the CS database. All other data is requested from the CS coordinators in the relevant departments and compiled centrally in the CS database. Financial KPIs are collected and published in accordance with the International Financial Reporting Standards (IFRS).

Supplementary information and previous reports

MTU regularly informs its stakeholders about sustainability issues. You can find supplementary information, more detailed analyses, and older publications online:
→ Corporate responsibility at MTU
→ Compliance at MTU
→ MTU Annual Reports

In addition, we regularly report on important and/or current sustainability topics in central MTU publications and through various communication channels, including our social media platforms.
→ News and media

External validation of the report

The CS reporting for this sustainability report was not subject to external auditing or validation. The majority of corporate processes that underlie data collection for CS reporting are certified. We have already reported selected key figures for topics of very high importance in our non-financial statement. These have been verified by auditors as part of a limited or, in some cases, a reasonable assurance engagement.

Contact

Please address questions about the report to corporateresponsibility@mtu.de

Forward-looking statements

This report contains forward-looking statements. These statements reflect the current understanding, expectations, and assumptions of MTU Aero Engines and are based on the information available to management at the present time. Forward-looking statements provide no guarantee that certain results and developments will actually occur in the future, and they entail risk and uncertainty. Consequently, for a variety of reasons, the actual future results of MTU Aero Engines may deviate substantially from the expectations and assumptions expressed here. MTU Aero Engines assumes no obligation to update the statements contained in this communication.

Wording

We have opted for gender-neutral language in MTU's communications, so this Sustainability Report is written in an inclusive way. To ensure readability and consistency, we follow rules that we have established for inclusive language@MTU.

GRI: 2-2 - 2-5

MTU's nonfinancial KPIs

Field of action: Production & maintenance

Energy consumption
Scope 1 and 2 (in GWh)
GRI 302-1

	2023	2022	2021
Total	**326.3**	**306.7**	**331.3**
Direct energy consumption, natural gas, kerosene, mobility = Scope 1	178.7	170.7	201.2
Indirect energy consumption, electricity, district heating = Scope 2	147.6	136.0	130.1

MTU's Scope 1 energy demand results from consumption of the direct energy sources kerosene, natural gas, and fuels for mobility. MTU's Scope 2 energy demand results from the consumption of bought-in energy (electricity and district heating). Other energy consumption (e.g. other fuels) is not reported, as its contribution to total Group consumption is immaterial. The Nova Pazova production site in Serbia reported for the first time in 2023.

CO_2 emissions (in t CO_2 equivalents)
Scope 1 and 2
GRI 305-1, 305-2

	2023	2022	2021
Total	**49,300**	**47,600**	**54,800**
Scope 1	39,600	38,000	44,400
Scope 2	9,700	9,600	10,400

MTU's Scope 1 CO_2e emissions result from consumption of the direct energy sources kerosene, natural gas, and fuels for mobility. MTU's Scope 2 CO_2e emissions result from the consumption of bought-in energy (electricity and district heating). The calculation of Scope 2 emissions uses emission factors from energy suppliers (market-based method). Other sources of CO_2e such as refrigerants or other fuels are not reported as their contribution to Group emissions is immaterial. The Nova Pazova production site in Serbia reported for the first time in 2023.

CO_2 emissions (in t CO_2 equivalents)
Scope 3
GRI 305-3

	2023	2022	2021
Business Travel	6,300	4,300	1,130

For Scope 3 we have so far compiled only CO_2 emissions from business travel (air and rail travel and hire cars), data collected for the MTU sites in Germany and Canada (2023 and 2022), Germany and Serbia (2021), emission factors according to GHG Protocol

Airborne emissions (in metric tons)
Scope 1 and 2
GRI 305-7

	2023	2022	2021
Carbon monoxide (CO)	13	18	20
Nitrogen oxide (NO_X listed as NO_2)	131	139	148
Sulfur dioxide (SO_X listed as SO_2)	11	16	17
Particulates (dust)	1	2	2

Improvements in the footprint due to the use of sustainable aviation fuels are not taken into account analogous to CO_2 accounting.

Water balance (in 1.000 m^3)
GRI 303-3, 303-4, 303-5

		2023	2022	2021
	Total	**9,095.4**	**8,538.5**	**8,079.6**
Withdrawal	Municipal water	184.6	183.4	159.9
	Groundwater	8,910.8	8,355.1	7,919.7
	Total	**9,217.8**	**8,795.1**	**8,592.2**
Discharge	Sewer system	154.5	141.3	121.1
	Surface water	1,522.5	386.1	719.8
	Groundwater	7,540.8	8,267.7	7,751.3
Consumption	**Municipal water**	**30.1**	**42.1**	**38.8**
	Groundwater	-152,5	– 298.8	– 551.4

Water footprint for production and maintenance sites (excluding site in Serbia); no water withdrawal or discharge in water-stressed regions; data presented in line with official wastewater and well reports and may deviate from previous publications. At the Munich site, a proportion of the well water and some of the rainwater collected from the roofs is discharged as surface water via the Schwabenbächl stream. Rainwater is discharged into the municipal sewer system only in the event of heavy rainfall. As a result, the sum of the volume discharged into groundwater and surface water may not correspond to the volume withdrawn. Consumption is the difference between water withdrawal and return. For the reasons mentioned above, the return rate for groundwater is higher and is therefore shown as negative.

Material consumption (in metric tons)
GRI 301-1

	2023	2022	2021
Total	**9,600**	**8,740**	**8,230**
Production material	4,440	3,690	2,840
Consumables and supplies	4,090	4,200	3,770
Other materials (renewable)	1,070	850	1,620

Externally sourced material for production and maintenance sites (excluding site in Serbia); production material comprises titanium and nickel alloys and spray powder; consumables and supplies include oils, cooling lubricants, chemicals, lubricants, gases and kerosene and diesel used as fuel; the other material comprises paper, cardboard packaging and wooden pallets and boxes. For engine parts, MTU uses returnable packaging that can be reused several times.

Waste footprint (in metric tons)
GRI 306-3, 306-4, 306-5

	2023	2022	2021
Total waste	**8,320**	**7,950**	**6,800**
Recycled	6,050	5,680	5,310
Disposed of	2,270	2,270	1,490
Share of hazardous waste	**3,590**	**3,420**	**2,760**
Recycled	1,490	1,300	1,380
Disposed of	2,100	2,120	1,380

Waste balance excluding construction waste, for production and maintenance sites (excluding site in Serbia)

Field of action: Employees

Workforce figures
GRI 2-7

	2023	2022	2021
Total workforce	12,170	11,273	10,508
Active workforce	11,272	10,434	9,761
White collar workers	52.7%	53.2%	52.7%
Blue collar workers	47.3%	46.8%	47.3%
Temporary agency staff	231	310	287

Total workforce at fully consolidated sites including apprentices, interns, thesis students and doctoral candidates, students and vacation staff, temporary part-time employees on parental leave, and marginal workers, but excluding temporary workers and inactive employment contracts; as at December 31 each year. Active workforce: employees with permanent or fixed-term contracts, temporary part-time employees on parental leave, excluding apprentices, students, interns, vacation staff, temporary workers, and contractors.

Staff turnover by region

GRI 401-1

	2023	2022	2021
No. of employees that left the company	**451**	**540**	**609**
Germany	305	370	460
Rest of Europe	81	102	77
North America	65	68	72
Turnover rate (%)	**4.4**	**5.8**	**6.8**
Germany	3.7	4.9	6.2
Rest of Europe	6.6	9.9	8.6
North America	8.4	9.7	11.3

Turnover rate measured as a proportion of core workforce, annual average, figures include retirements

Proportion of women

GRI 2-7, 405-1

	2023	2022	2021
Workforce	16.7%	16.4%	15.6%
Managers	15.5%	12.9%	11.8%
Apprentices	16.0%	15.8%	14.9%
New hires	20.1%	21.7%	20.5%

Share of women in the workforce and in management positions as a proportion of the active workforce for trainees/apprentices, relating to total workforce; recorded at the end of each year; we do not have figures on the proportion of women by employee group.

New hires
GRI 401-1

	2023	2022	2021
New hires, total	**1,255**	**1,191**	**752**
New hires, Germany	848	675	380
New hires, Rest of Europe	313	368	239
New hires, North America	94	148	133
Share of women in new hires, total	**20.1%**	**21.7%**	**20.5%**
Share of women in new hires, Germany	17.2%	21.0%	22.9%
Share of women in new hires, Rest of Europe	27.2%	23.4%	22.2%
Share of women in new hires, North America	22.3%	20.3%	10.5%

New hires measured in terms of active workforce

Age groups
GRI 405-1

	2023	2022	2021
< 30 years	17.5%	17.3%	16.2%
30 – 50 years	57.1%	55.8%	55.1%
> 50 years	25.4%	26.9%	28.6%

Measured in terms of active workforce, at year-end in each case; for composition of workforce sizes, see the GRI Index

Employees on temporary contracts
GRI 2-7

	2023	2022	2021
Employees on temporary contracts	706	734	664
Germany	477	505	518
Rest of Europe	218	222	140
North America	11	7	6
Female employees on temporary contracts	149	143	112

Alternative working arrangements (Germany)
GRI 102-8, 401-3

	2023	2022	2021
Part-time employees total	759	680	596
Part-time employees, female	371	357	322
Part-time employees, male	388	323	274
Employees on parental leave, female	204	188	190
Employees on parental leave, male	366	349	288

Workplace accidents and days lost

GRI 403-9

	2023	2022	2021
Workplace accidents with absence (categories 3 and 4)	50	63	67
Fatal workplace accidents (category 5)	0	0	0
Accident rate per 1,000 employees (categories 3 and 4)	4.0	5.4	6.2
Days lost (after accidents categories 3 and 4)	676	470	820

The accident statistics (excluding commuting accidents) relate to the total workforce, including trainees/apprentices, interns, school and university students, and employees on fixed-term contracts, as well as temporary workers. Contractor accidents are excluded. Workplace accidents during mobile working are recorded as soon as a work-related connection is made. For composition of workforce sizes, see the GRI Index

Health rate

	2023	2022	2021
Germany	94.2%	93.5%	94.9%

Employee training
GRI 404-1

	2023	2022	2021
Training days (total)	40,920	29,613	21,141
Training days per employee (Group-wide)	3.3	2.6	2.0
Training days according to employee category per manager	5.1	2.9	2.4
Training days per employee category per employee	3.1	2.6	2.0
Proportion of women in training courses	19.2%	18.2%	16.0%

Data on training days for 2022 exclude the Rzeszów site in Poland due to a lack of data availability in the IT system; the site is included again starting in 2023.

GRI: 2-7, 2-8, 301-1, 302-1, 303-3, 303-4, 303-5, 305-1, 305-2, 305-3, 305-7, 306-3, 306-4, 306-5, 401-1, 401-3, 403-9, 405-1

Masthead

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