Engine programs
In the aviation industry, three simple letters stand for top-notch engine technology: MTU has been providing propulsion systems to power aircraft for decades now, keeping a variety of fixed-wing and rotary-wing aircraft in the air with its innovative technologies, products and services.

MTU has a long tradition of success, the company’s roots reaching back to the dawn of aviation more than a hundred years ago. Predecessor companies Rapp Motorenwerke, Daimler and Benz equipped the first powered airplanes. In 1934, BMW Flugmotorenbau GmbH, MTU Aero Engines’ legal predecessor, was founded.

MTU Aero Engines designs, develops, manufactures, markets and supports commercial and military aircraft engines and industrial gas turbines. With its products, it has content in all engine thrust and power categories and on all major components and subsystems that go into an engine. MTU is Germany’s leading, and in fact the country’s only independent engine manufacturer. Moreover, the company has established itself as a major player in the global engine industry.

The key to continued success are the engines to power tomorrow’s aircraft which have to be fuel-thriftier, cleaner and quieter. MTU is pressing ahead with their development in close cooperation with all of the big engine manufacturers and partners from research and science. The company is involved in all major technology programs and time and again provides new impetus with its advanced products, manufacturing and repair techniques. Its innovative power makes it a must-have partner and technology leader that actively shapes the future of aviation. Low-pressure turbines, high-pressure compressors, turbine center frames as well as manufacturing and repair techniques “made by MTU” rank among the finest to be found in the marketplace. With its global network of maintenance shops and its unique repair expertise MTU Maintenance has established itself as one of the world’s leading providers of commercial engine maintenance services.

In the military arena, MTU is Germany’s industrial lead company for practically all engines flown by the German Armed Forces. Within the framework of its cooperation with the German Armed Forces the company closely collaborates with the national customer. The Munich-based engine manufacturer also has stakes in U.S. military engines.
## Commercial engines

### CF6
- **Two-spool 178–320-kN turbofan.** The popular engine is among the best-selling in its class. It powers medium- and long-range widebodies.
  - **Airbus** • A300 • A310 • A330
  - **Boeing** • 747 • 767 • DC-10/KC-10 • MD-11

### PW4000 Growth
- **Two-spool 352–450-kN turbofan.** The PW4000 Growth ranks among the world’s most powerful engines. Its sevenstage low-pressure turbine is the largest ever developed by MTU.
  - **Boeing 777**

### GE9X
- **The two-spool turbofan engine will exclusively power the Boeing 777X.** MTU is responsible for the design, development and production of the turbine center frame.

### JT8D-200
- **Two-spool 82–97-kN turbofan.** The JT8D-200 is among the world’s most-sold jet engines.
  - **Boeing 787X**
  - **Boeing MD-80**

### GEnx
- **Two-spool 237–339-kN turbofan.** MTU manufactures the engine’s turbine center frame for which the company also has assumed design responsibility.
  - **Boeing 787 Dreamliner**
  - **Boeing 747-8I**
  - **Boeing 747-8F**

### PW1000G
- **Twin-shaft turbofan engine in the 67–156-kN thrust range.** The Pratt & Whitney GTF engine family reduces fuel burn and CO₂ emissions by 16 percent and cuts noise footprint levels by 75 percent.
  - **Airbus A320neo**
  - **Mitsubishi Regional Jet**
  - **Bombardier C Series**
  - **Irkut MC-21**
  - **Embraer E-Jets Gen 2**

### PW2000
- **Two-spool 167–191-kN turbofan.** It was on the PW2000 that in a first for the company, MTU tackled the development of a commercial low-pressure turbine.
  - **Boeing 757**
  - **Boeing C-17 military transport aircraft**
PW6000

Two-spool 80–107-kN turbofan. This was the first time MTU could launch a high-pressure compressor of its own on a commercial engine. The compressor is a six-stage transonic configuration.

PW500


V2500

Two-spool 98–146-kN turbofan. MTU develops and manufactures the V2500 engine in cooperation with Pratt & Whitney and Japanese Aero Engines Corporation.

PW800

Two-spool 44–89-kN turbofan. MTU contributes its flagship products, the high-pressure compressor and the low-pressure turbine, to this commercial engine. The engine powers business jets.

PW300

Two-spool 21–31-kN turbofan. The engine is in demand especially for midsize business jets and regional aircraft.
**Military engines**

**EJ200**
- **Fighter aircraft**
  - Eurofighter/Typhoon

Two-spool reheated 90-kN turbofan. Starting with its Tranche 2, the engine control and monitoring functions are combined into a single DECMU. MTU is responsible for the repair and overhaul of the engine under the cooperation with the German Armed Forces.

**RB199**
- **Transport aircraft**
  - Panavia Tornado

Three-spool, reheated 70–75-kN turbofan. The RB199 is the world’s only engine sporting an integrated thrust reverser. The Tornado engines are maintained at MTU under the cooperation with the German Armed Forces.

**F110**
- **Fighter aircraft**
  - Lockheed Martin F-16
  - Boeing F-15

Afterburning turbofan engine rated at 120–142-kN of thrust. GE Aviation’s engine, which has been in service since 1986, is among the most successful propulsion systems in its class.

**F414**
- **For example**
  - Boeing F/A-18E/F Super Hornet
  - Boeing EA-18G Growler
  - Saab Gripen Next Generation

Twin-shaft afterburning turbofan engine rated at 98-kN. MTU produces the high-pressure and low-pressure turbine shroud hangers for the powerhouse.

**TP400-D6**
- **Airbus A400M**

Three-spool 8,200-kW turboprop. The Western world’s most powerful turboprop engine excels in tactical and strategic missions through its robustness, efficiency and moderate life-cycle costs. MTU has exclusive final assembly responsibility for the engines to power the Airbus A400M.

**Tyne**
- **Transall C-160**
  - Breguet Atlantic

4,226-kW turboprop. Dating back to the 1960s, the engine powers the Transall C-160 and Breguet Atlantic to this day.

**Larzac 04**
- **Dornier-Dassault Alpha Jet**

Two-spool 14-kN turbofan. MTU’s stake in the production of the Larzac 04 primarily includes the hot section—from the combustor inlet to the turbine exit.
Helicopters

MTR390

MTR390 is a turboshaft engine available in two power ratings. The MTR390-2C basic version has a takeoff power of 958 kW. Delivering 14 percent more power, the MTR390 Enhanced has a takeoff power of 1,094 kW. Both versions have a 21-percent contingency rating. MTU is responsible for the repair and overhaul of the engine under the cooperation with the German Armed Forces.

T408

T408 is a turboshaft engine delivering a power output of around 5,600 kW. The first application for the T408 is the triple engine CH-53K heavy-lift transport helicopter.

T64

T64 is a turboshaft engine with a maximum power of 3,229 kW for applications on medium-size transport helicopters. A comprehensive modification program to upgrade the T64-7 to the more powerful T64-100 standard was completed in 2014.