Engine test beds
The company

MTU Aero Engines is Germany’s leading manufacturer of aircraft engine modules and components and also assembles entire aircraft engines.

The company designs, develops, manufactures, assembles, markets and supports commercial and military engines, as well as industrial gas turbines. Through cooperations with the world’s largest engine makers, MTU has been involved in major engine programs for decades and has a presence in all major markets.
Our competences

The center of competence for test facilities within MTU supplies test facilities for all types of commercial and military aircraft engines. The highly professional staff with its wide range of experience gained over the years ensure solutions specifically tailored to suit the customer’s needs.

MTU test solutions include:

• Engine, components and accessory testing
• Test bed systems, test bed equipment
• Special test bed equipment for
  – ingestion (hail, sand, bird, ice)
  – missile firing
• Test bed upgrades

MTU Aero Engines’ advanced technology and unprecedented flexibility provide optimum solutions that meet the most exacting requirements.

Anytime, anywhere – we care.
Our competences

**Test bed mechanical engineering**
- System concept and development
- Hardware design for mechanical test facilities
- Engine adaptation
- Test bed infrastructure and support systems
- Procurement, hardware management and installation of facilities
- Aerodynamic/stress analyses, consulting and documentation
- Maintenance and support of the systems

**Data acquisition systems (hardware & software)**
- System concept and development
- Hardware design for measurement techniques, IT and facility control
- Software specification, design, coding and verification
- Procurement, manufacture, installation and configuration of systems & facilities
- Uncertainty analysis, consulting, documentation and standardization
- Maintenance and support of the systems

**MTU test facility systems**
- Test bed and equipment calibration
- Cross calibration
- Test analysis and documentation
- Maintenance
- Upgrades
Test beds – military engines

**EJ200/RB199**

*Development test bed*

MTU Aero Engines, Munich

- Test bed adaptation for EJ200 and RB199 operation (1980-1990s)
- Facility and system maintenance and support
- Data acquisition system (DAS) modernization (2006)
- Special development testing (hail/bird/sand/ice ingestion, missile firing)

**EJ200/RB199/J79**

*Production test bed*

MTU Aero Engines, Munich

- Test bed adaptation for EJ200 and RB199 operation
- Facility and system maintenance and support
- Capability to operate various military jet engines (RB199, EJ200, J79)

**TP400-D6**

*Test bed*

MTU Maintenance Berlin-Brandenburg, Ludwigsfelde

- New test facility for TP400 development and production testing (2005)
- proDAS data acquisition system

**MTR390**

*Development test bed*

MTU Aero Engines, Munich

- Test bed adaptation for MTR390 operation
- Facility and system maintenance and support

**MTR390/T64**

*Production test bed*

MTU Aero Engines, Munich

- Adaptation of T64 helicopter engine test bed to additionally accommodate the MTR 390 engine
- New adaption system, engine quick change system, waterbrakes and test bed equipment (2006)
- Data acquisition system adaptation and modernization (2007)
Compressor development test bed (2 off) (EJ200, RB199, TP400, PW6000, technology)
MTU Aero Engines, Munich
- Compressor test facility for development and technology testing
- Concept, design, installation and facility management
- Facility adaptation for various test items
- Data acquisition system modernization (proDAS, 2007)

Altitude test facility
Stuttgart University
(partner in a center of competence)
- Testbed interface adaptation for MTU test items (RB199, EJ200, technology and development turbine rigs)
- Data acquisition system (DAS) adaptation and interface to MTU’s IT infrastructure
- Special development testing (missile firing)

Test beds – commercial engines

PW6000
Development test bed I
MTU Aero Engines, Munich
- Adaptation and modernization of commercial engine development test bed for various engine types
- System maintenance and support
- Data acquisition system modernization (proDAS, 2006)

GP7000, V2500, PW2000
Development test bed III
MTU Aero Engines, Munich
Upgrade of test bed for testing of the GP7000
MTU concept and management for:
- Inlet and exhaust duct
- Test cell structure and aerodynamic modifications
- Engine transportation system
- Thrust measurement system
- Air inlet heater (MTU design)
- Data acquisition system modernization (proDAS, 2008)

Our competences

- Almost one century of experience in the design, construction and operation of engine test facilities
- In-house competence dedicated to provide ultimate availability and accuracy of engine and component test equipment
- Continued support ensuring state-of-the-art upgrades

Anytime, anywhere – we care.