About DLR

DLR is the Federal Republic of Germany’s research centre for aeronautics and space. We conduct research and development activities in the fields of aeronautics, space, energy, transport, security and digitalisation. The German Space Agency at DLR plans and implements the national space programme on behalf of the federal government. Two DLR project management agencies oversee funding programmes and support knowledge transfer.

Climate, mobility and technology are changing globally. DLR uses the expertise of its 54 research institutes and facilities to develop solutions to these challenges. Our 10,000 employees share a mission – to explore Earth and space and develop technologies for a sustainable future. In doing so, DLR contributes to strengthening Germany’s position as a prime location for research and industry.

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With the National Experimental Test Center for Unmanned Aircraft Systems, a test facility is being created where capabilities and expertise for the development of Unmanned Aerial Systems (UAS) are combined. The test centre enables the networking of research and industry for the further development of UAS technologies and puts the main emphases on:

• Test and validation
• Certification
• Demonstration
• Training
• Services and consulting

Additional complexity requires more cooperation

The use of UAS at an economically viable scale and their joint operation in airspace with crewed aircraft poses new challenges for researchers, manufacturers and users, as well as for legislators. Purely technical aspects, as well as complex legal and procedural issues, need to be investigated and new regulations created. The vehicles, flight guidance procedures and legal regulations must be investigated, tested, validated and certified in combination. For this, most helpful facilities and overall conditions are available at the test centre.

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Communications/navigation systems and data links
• S-band data link
• telemetry data links (433 MHz/2.4 GHz)
• First-person view system
• Experimental GBAS ground station
• LTE, 5G tracking (planned)
• MLAT system
• FLARM
• Visual flight path measurement (cinetheodolites)

Calibration and testing systems
• GPS repeater and simulator in the various test preparation areas
• Mobile hardware-in-the-loop system
• Calibration systems (for aviation technology components, camera systems, GPS, etc.)

Ground station and mission control centres
• Stationary: up to 8 workstations in the main building
• Mobile: up to 4 workstations in the container and van
• Documentation systems (video and camera technology, chase platform)
• Flight termination datalink
• Radio network for test operations
• Security facilities for ground station teams

Airport-specific infrastructure
• Runway and landing strip 2.5 km tarmac, 800 m grass
• ATC infrastructure (tower)
• Cat MET 2/3 weather system

UAS workshop
• Parking and hangar areas
• Individual project areas
• Metal and plastics processing
• Electronics workshop
• Meeting room

Overview of Experimental Test Center site and infrastructure