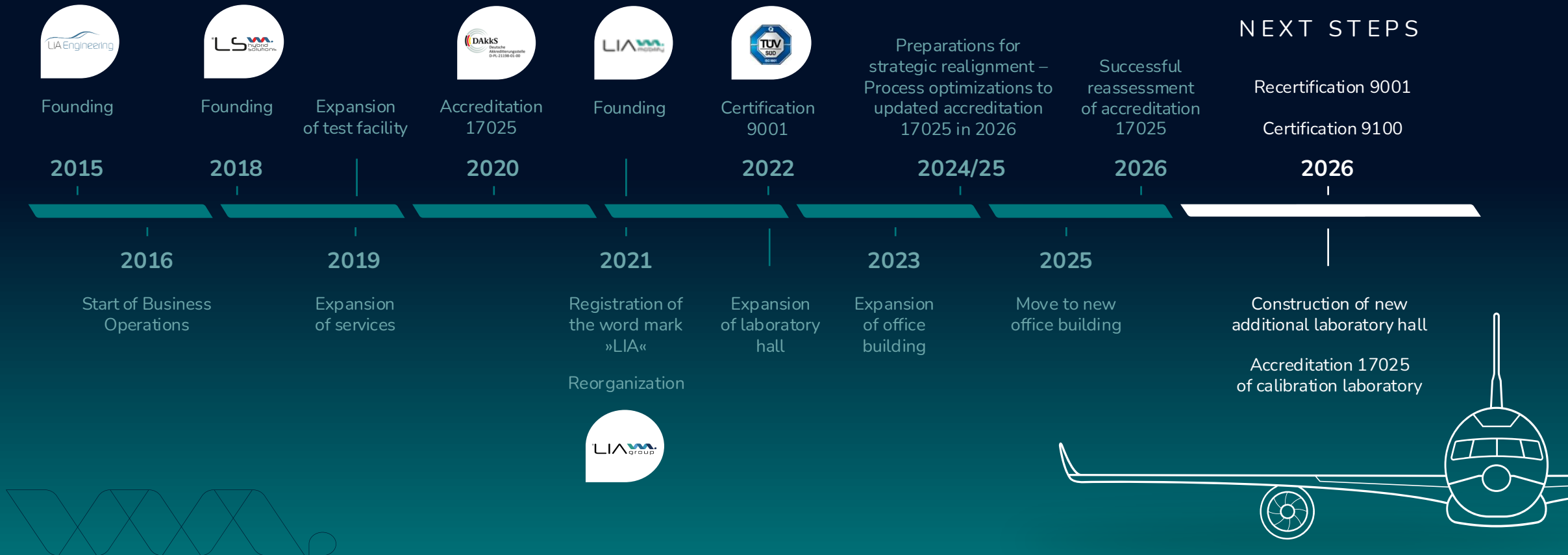


Testing at every Altitude

Precision is part of our DNA



Historic roots and creation of LIA



At LIA Group, we specialize in qualification testing for complex systems and components.

We combine advanced testing expertise with certified quality standards to support aerospace innovation & push performance to new limits.



Functional & Structural Testing

Strength, fatigue & endurance across the full flight life and all environmental conditions



Characterization

Characterizing materials across loads, environments, and lifetimes

Hydraulic Pressure Tests

Hydraulic Pressure & Leak Testing under defined load conditions



Wheel Assembly Tests

Testing the complete wheel assembly under real-world road loads

Analysis

Analyzing materials at the microstructural level



Simulation

Advanced FEA modeling to compute strength, fatigue, and structural behavior

Structural Testing

LIA validates the structural integrity from initial load capability to long-term durability under realistic aerospace conditions.

Our capabilities include:

- Strength testing to verify ultimate and limit load capability
- Fatigue testing under representative load spectra and cycle counts
- Endurance testing to assess long-term structural performance
- Combined mechanical and environmental loading
- Damage tolerance and life assessment support

Your benefit:

- Confidence in flight-critical structural performance
- Reliable data for design validation, certification, and in-service decisions

Competence in
landing gear
system
qualification



Environmental Testing

LIA validates the functional integrity under combined, high-severity environments.

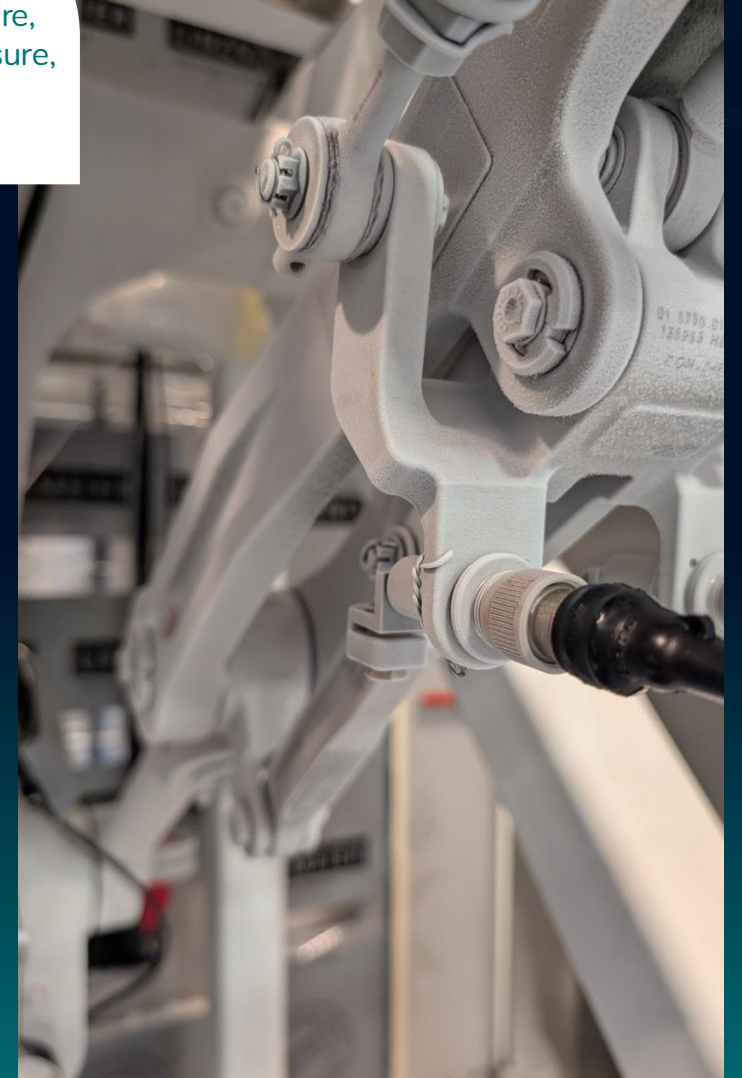
Our capabilities include:

- Verify the functional Integrity during extreme environmental exposure
- Simulation of severe vibration, mechanical shock, and acceleration
- Resistance testing against salt spray, chemicals, and hazardous fluids
- Simultaneous thermal, climatic, and mechanical stress profiles
- Damage tolerance and life assessment support

Your benefit:

- Confidence in flight-critical environmental performance
- Reliable data for design validation, certification, and in-service decisions

Full-range testing
for temperature,
humidity, pressure,
shock, and
vibration



Landing Gear Acceptance Tests

LIA validates the functional integrity of landing gears, including associated actuation systems and dampers

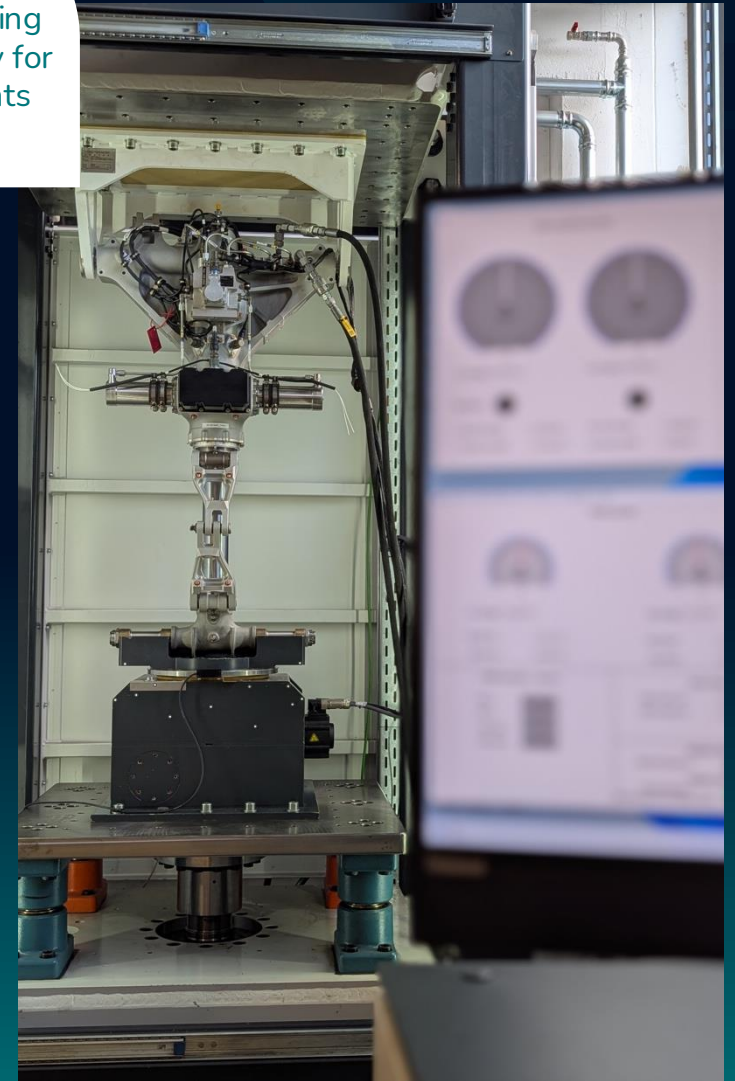
Our capabilities include:

- High-capacity load application up to 750 kN
- Displacement up to 400 mm
- Pressure application up to 650 bar
- Fluid conditioning between -40 °C and 130 °C
- Sophisticated multi-level safety control system

Your benefit:

- Fast and reliable EOL testing
- Risk-free verification of manufacturing and assembly quality

Uncompromising
product quality for
flawless flights



Wheel Assembly Tests

LIA validates the functional integrity of the Wheel assembly, subjected to measured load data and environmental media.

Our capabilities include:

- High-capacity load application up to 150 kN
- High-speed testing capabilities up to 4,000 rpm
- Integrated component cooling and thermal conditioning
- Corrosive media exposure, including saltwater spraying
- High-precision acceleration measurement

Your benefit:

- Realistic combination of force, speed, cooling, and corrosion testing
- Reduced development cycles through highly dynamic, multi-environmental simulation

Realistic conditions
to eliminate testing
abstractions



Hydraulic Pressure Tests

LIA validates the functional integrity of hydraulic powered systems.

Our capabilities include:

- Pressure application up to 650 bar
- Fluid conditioning between -40 °C and 130 °C
- Sophisticated multi-level safety control system
- Testing with any medium, including Skydrol, AeroShell 41, or HLP 46

Your benefit:

- Validate your component under real-world fluid and SAE pressure conditions

Extensive
Experience with
SAE Pressure
Profiles



Characterization

LIA provides aerospace-grade material characterization to reliably define material behavior under representative mechanical and environmental conditions.

Our capabilities include:

- Mechanical property characterization across relevant loads and modes
- Fatigue and durability testing under cyclic and long-term loading
- Analyzing materials at the microstructural level
- Environmental testing (temperature, humidity, corrosion, fluids)
- Characterization of metals, composites, polymers, and joints

Your benefit:

- Reliable material data for flight-critical design
- Reduced uncertainty in lifetime and durability assessments

Across Loads,
Environments, and
Lifetimes



Simulation

High-fidelity
simulation tailored
for experimental
prototypes and
certified series

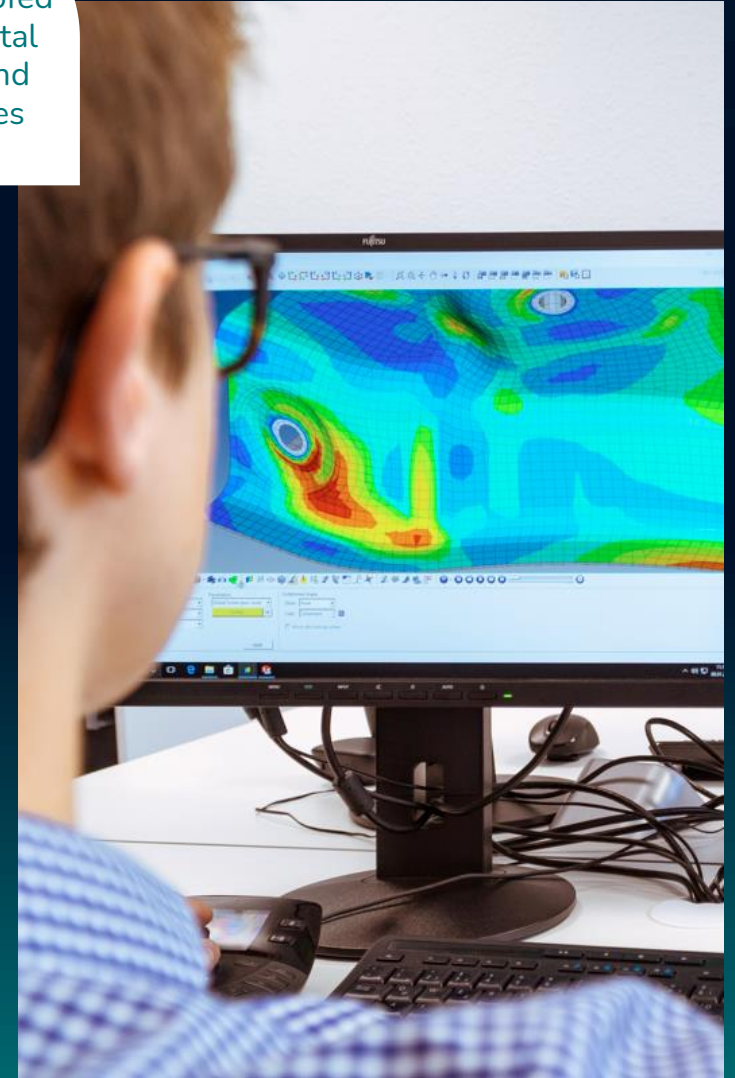
LIA provides simulation-driven insights to optimize and validate physical structural testing.

Our capabilities include:

- Combination of predictive structural simulations with physical mechanical testing
- Advanced FEA modeling of stress, deformation, and fatigue under operational loads
- Simulation and testing of cyclic, long-term loading to assess structural performance
- Early digital identification of structural weak points and material behavior

Your benefit:

- Reduced time-to-market through early virtual insights and optimized test setups
- Absolute confidence in flight-critical performance under harsh operational loads



Predictive simulation. Certified performance. Zero surprises.

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