

FUTURE SPACE TRANSPORTATION FLPP AUTUMN SESSION 2025



OPTIMISED UPPER STAGE COMET

MT AEROSPACE



Location: Augsburg, Germany

Founded: 1969

Employees: 600

Mission: MT Aerospace is a leading international aerospace company. More than 600 employees develop, manufacture and test components for space and defence programs. We create commercial competitive products that combine maximum performance at minimum weight.

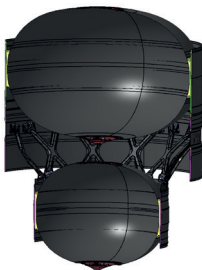
ESA FLPP NEO

Project Name: ComET

Objective: Develop a liner less CFRP LH2 tank with of the shelf materials

Applications:

- A6 ULPM Evolution → ICARUS
- LH2 Tanks for mini launchers
- LH2 tanks for Maritime application



GET IN TOUCH

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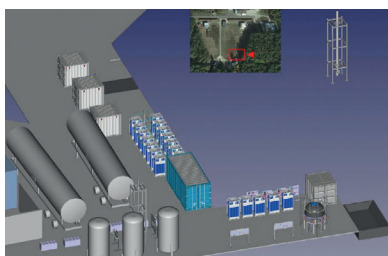
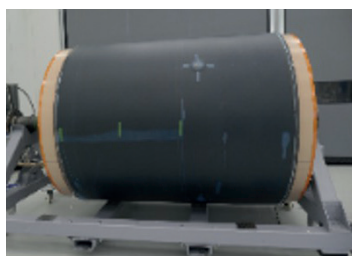
Instagram: @mtaerospace_

TECHNOLOGY AND INNOVATION

What we developed: A half scale, liner less CFRP LH2 tank for A6 ULPM application using "off the shelf" AFP material

Unique feature: LH2 tightness, crack resistance, high quality manufacturing

- Dismountable CFRP mandrel
- Metallic boss & cover
- AFP for special cryo suitable CFRP in std and thin ply area weight
- Cryogenic leakage measurement
- Concept for CFRP boss & cover incl suitable bolted connection
- Concept for tank to skirt connection
- Development of low TRL verification element: D400 Bottle



KEY RESULTS

- Successful implementation of a LH2 leakage criterium for FE Sizing
- Definition and realisation of the CFRP pressure vessel
- Setup of a LH2 measurement system for testing
- Completion of the tank via covers, and skirts is ongoing

NEXT STEPS AND MARKET READINESS

- **Roadmap:** Test of 2m LH2 tank with LH2 in Trauen with ArianeGroup, Upscaling to full scale
- **Opportunities:** looking for direct application in 2m class, e.g., mini launchers or maritime applications
- **Target Launch:** LH2 Test @AGG Trauen in Q2/2026