

iFACT-MP in a nutshell

The **iFACT-MP project** has made significant strides in advancing iodine-based electric propulsion for future space missions. Through innovative technologies and successful system validation, the project is paving the way for more sustainable, efficient, and autonomous European space propulsion.

Hybrid Thruster

Developed and validated a 3 kW multi-propellant thruster (iodine, krypton, xenon, and potential argon compatibility). Successfully completed firing campaigns and environmental testing.

Power Processing Unit

Designed and validated an advanced PPU Breadboard. **Demonstrated successful** integration with propulsion and fluidic systems.

Iodine Test Facility

Commissioned one of Europe's first large-scale iodine propulsion vacuum test facilities. **Enabled remote operation** with advanced plasma diagnostics and thrust measurements.

Advanced Electron Emitters

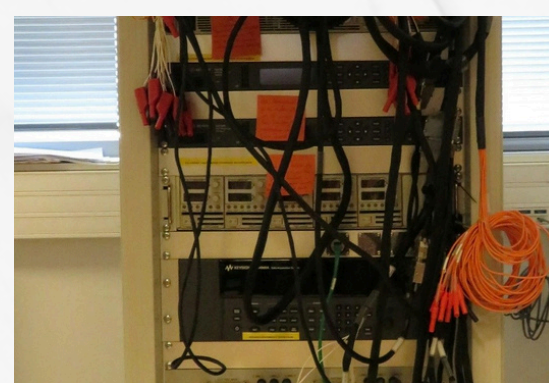
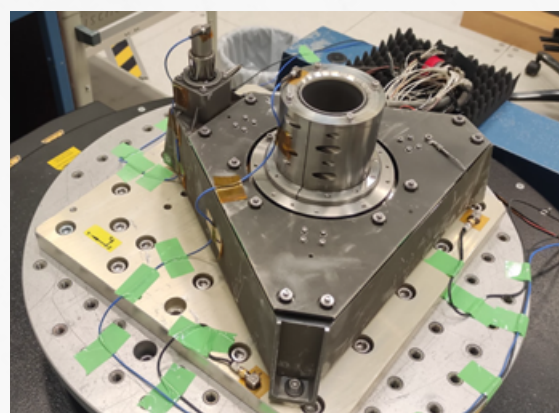
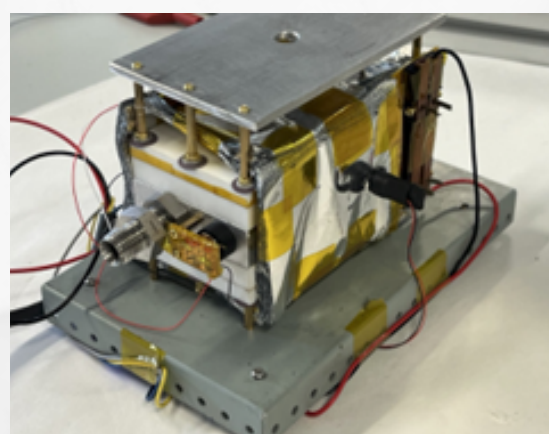
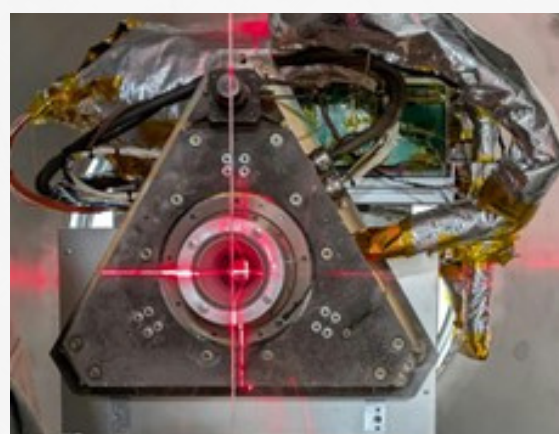
Developed enhanced C12A7:e⁻ ceramic electron emitters with improved thermal stability and performance.

Real-Time Iodine Monitoring

Designed and validated a laser-based iodine mass flow meter for real-time propellant monitoring.

Iodine Fluidic Chain

Developed and validated the components and control schemes needed for the iodine fluidic chain, including the tank, heated pipework, and regulator.



“Fueling Space Differently

Project Impact

Demonstrated the feasibility of iodine-based electric propulsion.

Reduced dependence on critical noble gas propellants.

Strengthened European expertise in advanced electric propulsion technologies.

Enabled more sustainable, autonomous, and cost-efficient space missions.

Fostered collaboration between leading European industries, research centres, and universities.

Our Team

AIRBUS



Fraunhofer



UNIVERSITÀ DI PISA

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CONNECT WITH US:



Grant Agreement: 101134963



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