

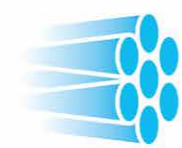
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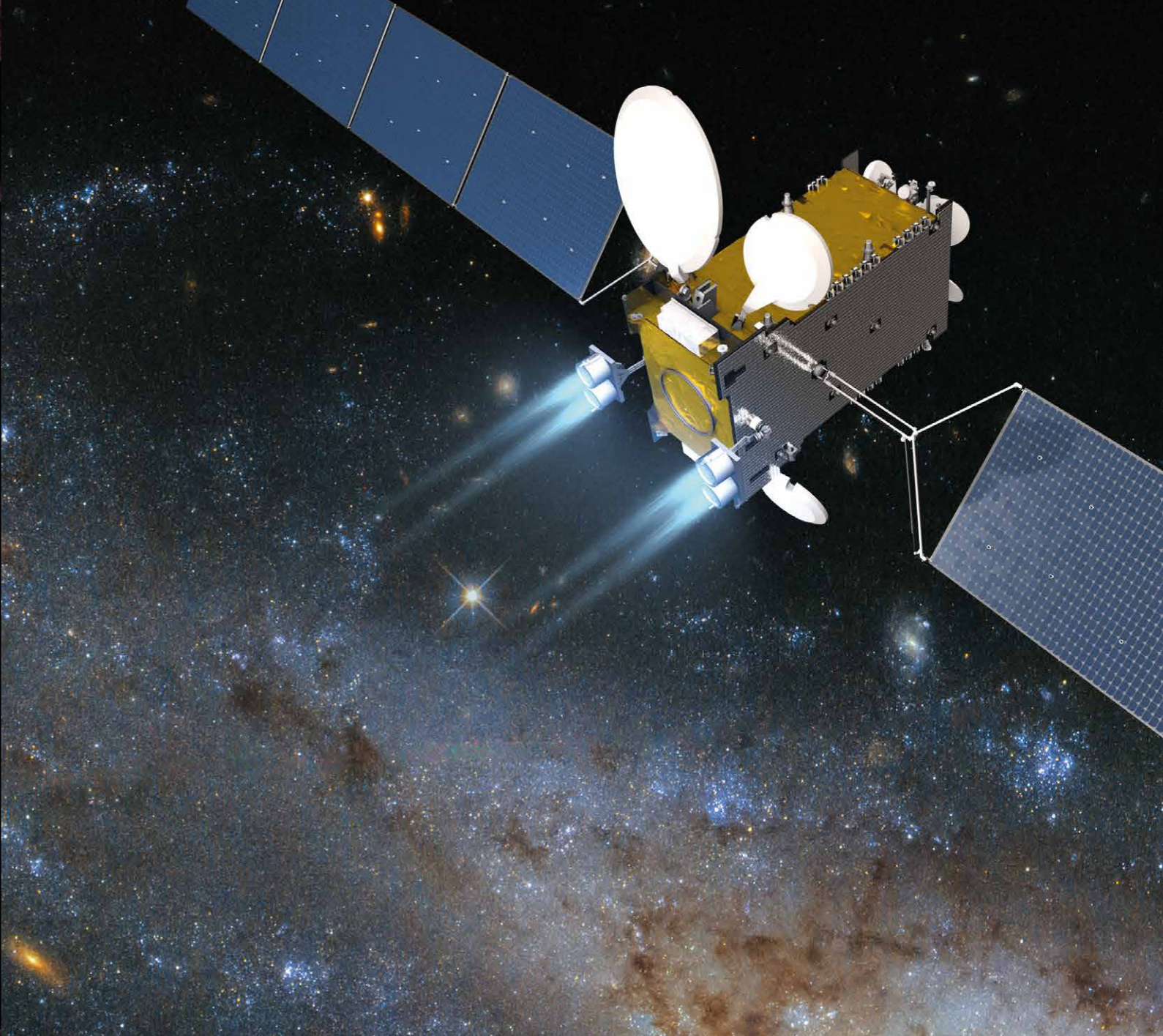


The GIESEPP project is supported by
the European Union's Horizon 2020
research and innovation programme.



GIESEPP

GRIDDED ION ENGINE STANDARDISED
ELECTRIC PROPULSION PLATFORMS



GIESEPP OVERVIEW

The GIESEPP target is to develop, build and qualify Europe's first standardized cost and commercial competitive electric propulsion system(s) for Grided Ion Engine Standardised Electric Propulsion Platform(s), whereby the missions to be considered are segmented in different categories.

- › LEO, 500W - configuration
- › GEO, 5kW - configuration
- › Exploration Space Transportation, 20kW

GIESEPP PARTNERS

Roles and Responsibilities

 <p>System Engineering, Thrusters & Testing</p>	 <p>System Engineering, Thrusters & Testing</p>	 <p>Satellite System Requirements</p>	 <p>Power Processing Unit</p>
 <p>Analytical Design and Test Support</p>	 <p>Propellant Control</p>	 <p>Alternative Propellants</p>	



Key Point 1 Meeting of GIESEPP Partners

GIESEPP PROGRESS

- › Elaboration and assessment of high level requirements
- › Analysis of market segmentation and mission categories
- › Assessment of different electric propulsion system concepts from a technical, programmatic and risk management point of view.
- › Establishment of a product breakdown



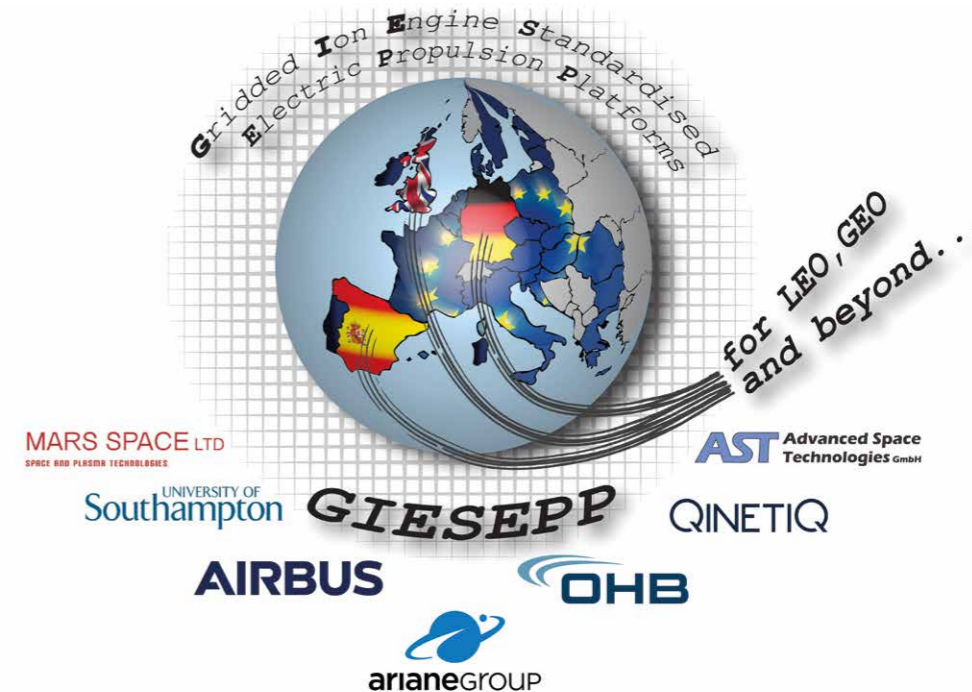
The project has an overall duration of 48 months and is subdivided in 5 Phases.

- › **Phase 1 (months 1-7)**
Mission Scenarios, Platforms, Requirements and Gap Identification
- › **Phase 2 (months 7-16)**
Electric Propulsion System Definition
- › **Phase 3 (months 16-24)**
Electric Propulsion System Development and Cost Optimization
- › **Phase 4 (months 24-36)**
Build, Procure, Assemble and Prepare Standardised Tests
- › **Phase 5 (months 36-48)**
Test and Analysis

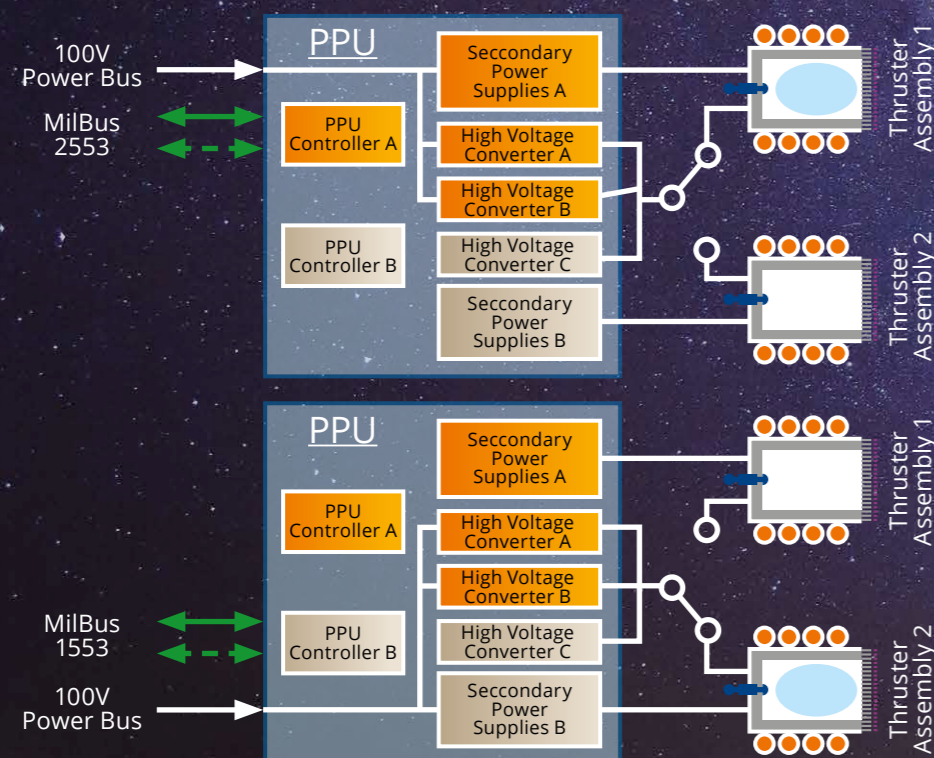
ADVANTAGES OF THE GIESEPP APPROACH

- › One system with two gridded ion engine technologies
- › Modular assembly to cover wide range of power levels and missions
- › Implementation of early procurement to reduce critical component lead time
- › Use of alternative verification methods
- › Dual mode functionality for high thrust modes when it is needed for EOR and maintaining the high Isp for NSSK by the same thruster.

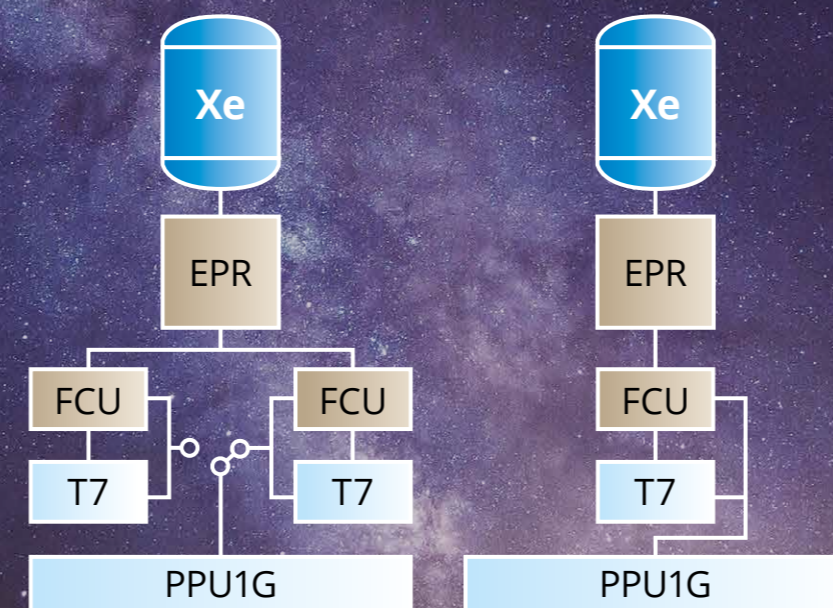
All these advantages leading to a worldwide competitive electric propulsion solution.



PROPULSION SYSTEM CONCEPT WITH ARIANEGROUP RIT Use of Thruster Redundancy in High Power Mode



PROPULSION SYSTEM CONCEPT WITH QINETIQS T7



POWER PROCESSING UNIT INTERFACES

