FUTURE SPACE TRANSPORTATION FLPP SPRING SESSION 2026

PERMATHRUST: PREPARATION OF MULTI-MISSION IN-SPACE CRYOGENIC PROPULSION

COMPANY INFORMATION

Company: Pangea Propulsion – Prime & System Authority

Location: Spain and France

Founded: 2018

Mission: Pangea Propulsion delivers high efficiency, sustainable, and cost optimised chemical propulsion systems for space. With a team of 90+ experts across Barcelona and Toulouse, we specialise in High Test Peroxide (HTP) and methalox propulsion, offering solutions from Newton to Meganewton class for both launch vehicles and in-space mobility. The next development stage will be carried out with partners or direct customers whose mission needs will define the final solution configuration and shape the qualification roadmap, ensuring full compliance with relevant operational conditions.

Consortium:

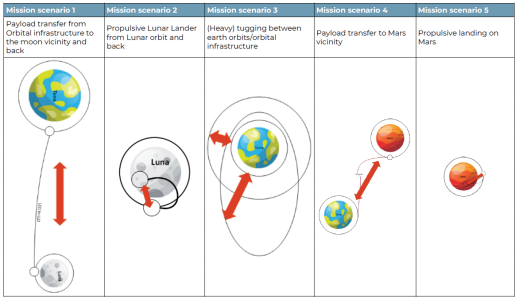
OHB S.E
Use-cases & Mission Analysis

deltaVision GmbH
Feed system & Avionics

ACTIVITY

Project name: ACE: Advanced Cryogenic Engine

Objective: Conceptual design of a 30kN main propulsion system and integrated 500 N thrusters working with the same propellant couple. The conceptual design involves use-cases, technical implementation roadmap, de-risking activities, business and industrialisation plans.



Applications:

- Launcher upper stage
- In-space tug
- Planetary lander

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TECHNOLOGY AND INNOVATION

What we developed: The initial design of a deeply throttleable cryogenic engine for in-space missions and landers named Cryox.

Unique features: Cryox integrates a high-efficiency closed-cycle e-pump methalox engine, integrated thrusters, and autogenous pressurisation into a unified propulsion system designed to serve both commercial space missions and institutional space exploration programmes.

KEY RESULTS

- Holistic design of the propulsion system
- Development and commercialisation strategy

NEXT STEPS AND MARKET READINESS

Roadmap:

- System and subsystem development: 2026
- Subsystems testing and maturation activities: 2027
- System integration & qualification: 2028

Opportunities: The next development stage will be carried out with partners whose mission needs will define the final configuration and roadmap to qualification.

Target Launch: NET Q4 2028

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