D-Orbit to Perform In-Orbit Validation of Pale Blue's Water-Based Propulsion System

The contract marks a new milestone in sustainable space propulsion technology development

Fino Mornasco, Italy, January 8th, 2025: **D-Orbit**, a market leader in the space logistics and transportation services industry, today announced the signing of a Launch Service Contract with **Pale Blue Inc.**, a Japanese space propulsion company specializing in water-based propulsion systems suited for a wide variety of missions for spacecraft ranging from 3U CubeSats to 700 kg satellites. Under the agreement, D-Orbit will conduct an in-orbit validation mission of Pale Blue's **innovative water ion thrusters** using its orbital transfer vehicle (OTV), ION Satellite Carrier.

The contract covers the integration of two propulsion systems on D-Orbit's OTV and includes the operations period. The missions are scheduled for launch in June and October 2025.

"*Water-based propulsion technology perfectly aligns with D-Orbit's commitment to sustainable space operations,*" commented **Renato Panesi, co-founder and CCO at D-Orbit**. "*Drawing on our extensive experience in successful in-orbit demonstrations and the proven versatility of ION Satellite Carrier, we are happy to support Pale Blue in advancing their innovative propulsion solution.*"

The mission will validate two propulsion systems from Pale Blue. **These water-based propulsion systems offer a safe, cost-effective, and environmentally conscious alternative to traditional spacecraft thrusters**, requiring no high-pressure storage while maintaining high performance levels.

"We are incredibly excited to conduct the in-orbit demonstration of the world's first water-based ion thruster, an innovative and sustainable propulsion solution for the space industry", said **Jun Asakawa, Co-founder and CEO at Pale Blue**. *"By partnering with D-Orbit, we are taking a significant step forward in validating the performance and reliability of our propulsion technology. This collaboration will enable us to meet the growing demand, while contributing to space sustainability. We are confident that our water-based propulsion system will redefine the future of satellite missions and open up new possibilities for space exploration."*

Founded in 2020 by propulsion specialists from the University of Tokyo, Pale Blue has developed a patented miniaturized ECR (Electron Cyclotron Resonance) technology that enables their thrusters to maximize the benefits of water as a propellant while achieving high performance. Their systems are designed to serve spacecraft ranging from 3U CubeSats to 700 kg satellites.

The mission will leverage D-Orbit's **ION Satellite Carrier, a space vehicle that has demonstrated its versatility through 14 successful missions** that performed multiple satellite deployment, hosted payload operations, and in-orbit demonstrations.

"*This contract with Pale Blue marks an exciting first step in D-Orbit's journey into the Japanese market, and we are thrilled to support the validation of such a pioneering propulsion technology,*" said **Ash Takao, Sales Development Manager for D-Orbit and member of Marubeni Corporation**, one of D-Orbit's main investors. "*As our first collaboration with a Japanese company, this contract highlights our commitment to strengthening ties within Japan's advanced space sector and expanding D-Orbit's reach in the Asia-Pacific region*."

About D-Orbit

D-Orbit is a market leader in the space logistics and transportation services industry with a track record of space-proven services, technologies, and successful missions.

Founded in 2011, D-Orbit is the first company addressing the logistics needs of the space market. ION Satellite Carrier, for example, is a space vehicle that can transport satellites in orbit and release them individually into distinct orbital slots, reducing the time from launch to operations by up to 85% and the launch costs of an entire satellite constellation by up to 40%. ION can also accommodate multiple third-party payloads like innovative technologies developed by startups, experiments from research entities, and instruments from traditional space companies requiring a test in orbit. The whole, fully redundant ION can be rented for edge computing applications and space cloud services to provide satellite operators with storage capacity and advanced computing capabilities in orbit.

D-Orbit's roadmap includes becoming a relevant player in the in-orbit servicing market, which is forecasted to become one of the largest, growing markets within the space sector.

D-Orbit has offices in Italy, Portugal, the UK, and the US; its commitment to pursuing business models that are profitable, friendly for the environment, and socially beneficial, led D-Orbit S.p.A. to become the first certified B-Corp space company in the world.

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About Pale Blue

Pale Blue offers water-based propulsion systems suited for a wide variety of missions for spacecraft ranging from 3U CubeSats to 700 kg satellites. Founded at the University of Tokyo, renowned for its expertise in electric propulsion, Pale Blue has quickly gained global recognition, working with companies and universities worldwide to accelerate satellite operations. Through its innovative propulsion technologies, Pale Blue enables in-space mobility that is core to the space industry.