

D-Orbit Launches Two Orbital Transportation Missions with ION Satellite Carrier Aboard SpaceX's Transporter-14

The two OTVs carry satellites and hosted payloads for commercial, scientific, and technological applications

Fino Mornasco, Italy, June 24, 2025 – On June 23, 2025, [D-Orbit](#), a global leader in space logistics and orbital transportation, launched **Space Bound** and **Skytrail**, the **18th and 19th commercial missions** of **ION Satellite Carrier (ION)**, its orbital transfer vehicle (OTV), aboard **SpaceX's Transporter-14 mission**.

The two IONs were launched from **Space Launch Complex 4E (SLC-4E)** at **Vandenberg Space Force Base** in California at **02:25:00 PM PT (09:25:00 PM UTC)**. Following liftoff, the OTVs, **ION SCV Charismatic Carlus** and **ION SCV Passionate Paula**, were released into a Sun-synchronous Orbit at an altitude of approximately 590 km and 510 respectively.

"The launch of these two new missions further validates our ability to deliver timely, precise, and reliable orbital transportation services," said Renato Panesi, co-founder and Chief Commercial Officer at D-Orbit. "We continue to expand our capabilities to meet the evolving needs of our customers, and these missions mark another step forward in our long-term vision for space infrastructure."

ION Satellite Carrier is a versatile space vehicle capable of **transporting and releasing satellites into distinct orbital slots**. It can also accommodate third-party payloads, including innovative technologies, research experiments, and instruments requiring **in-orbit testing**. Additionally, ION can support **edge computing and space cloud services**, providing satellite operators with advanced storage and computational capabilities in orbit.

D-Orbit's mission control team is now conducting the **Launch and Early Orbit Phase (LEOP)**, setting the stage for the upcoming operational phase.

Collaborating with new and recurring passengers

The two ION vehicles are carrying payloads from a diverse range of commercial, institutional, and research entities. These include:

- **Two LEMUR 4U satellites** by [Spire Global](#): the satellites combine a Spire-built platform, and a Lacuna-built IoT gateway, expanding [Lacuna Space's](#) IoT constellation, which is designed to deliver low-cost, reliable global connections to sensors and mobile equipment in remote locations. The constellation supports IoT services across agriculture, environmental monitoring, smart metering, and the blue economy— with use cases ranging from measuring soil moisture to improve crop yields in remote regions to tracking the movement of critical assets.
- **Early Test Payload** by [Constellation Technologies & Operations](#): a regenerative 5G mmWave payload enabling low-latency, high-speed connectivity

from Very Low Earth Orbit (VLEO), with initial testing and validation for future satellite operations.

- **PBI (Water Ion Thruster)** by [Pale Blue](#): a miniaturized gridded ion thruster delivering best-in-class total impulse per unit. Its no-high-pressure and propellant-preloaded design eliminates the need for fueling work at launch site. Fully integrated and clusterable, PBI supports a wide range of nanosats and microsats with missions that require high efficiency and reliability.
- **Rogue Thrusters** by [Magdrive](#): the company's first In Orbit Demonstration of their Rogue thruster. Compact, powerful, and radically efficient, Rogue uses solid metal as its propellant, turning it into plasma to generate bursts of thrust far beyond what traditional electric systems can manage. It delivers up to 10 mN of force, enough to shift satellites with precision, last minute collision avoidance, and tackle deep-space maneuvers. Built with internal energy storage, it's not just fast, it's sustainable.
- **ROQuET - Reconfigurable lower Orbit Quantum Computer for Earth observation Technology** by [University of Vienna](#) (Austria) in collaboration with [CNR](#) Milano (Italy) and the support of the [German Aerospace Center](#) in Berlin, Munich and Trauen: a compact, energy-efficient photonic quantum computer designed to operate reliably in the harsh environment of space missions. Sized like a shoebox, it withstands thermal and mechanical shocks without the need for the controlled conditions typical of terrestrial quantum computers. This mission aims to explore the potential of quantum technologies in the context of space operations, especially for Earth observation scopes.
- **DNAV (Deep Space Navigation)** by [Telepix](#): an onboard processor with deep space navigation algorithm. It is a system designed for satellites to autonomously navigate and determine their position in deep space, far from Earth, independent of ground station communication. It combines a wide-angle, high-resolution camera and advanced image processing algorithms to track celestial bodies like stars and planets, thereby enabling precise calculation of the satellite's position and velocity. To handle the data processing for this image-based navigation, the system is also equipped with TelePIX's TetraPLEX, a high-performance onboard AI processor that was successfully space-qualified last year.
- **AIX-1**: A project by [Planetek](#), in collaboration with D-Orbit and [AIKO](#), and co-funded by [ESA Φ-lab](#)'s InCubed programme, AIX-1 follows the successful launch of AI-eXpress 1 Precursor (AIX-1p) in January. The project leverages cutting-edge technologies such as Artificial Intelligence (AI) and Blockchain in Space to enhance satellite capabilities in terms of reactivity, responsiveness, and low-latency data delivery. Building on the in-orbit validation of AIX-1p, AIX-1 expands the functionalities of a hybrid edge/cloud ecosystem hosted on a Low Earth Orbit (LEO) platform. The system integrates Earth observation payloads, deployable CubeSats, and a modular software framework that dynamically manages on-board sensors and computing resources. This mission marks a further step toward the development of the "satellite-as-a-service" model, bringing us closer

to a fully operational space “App Store”, a new frontier for accessing, managing, and monetizing space infrastructure.

On two additional ports of the Transporter-14 mission, D-Orbit is also launching four satellites from [Plan-S Satellite and Space Technologies](#) (Connecta IOT-9, -10, -11, -12), deployed via two [NPC Spacemind](#) CubeSat deployers.

With this launch, D-Orbit has now deployed **190** payloads in orbit since the inaugural ION mission in 2020.

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 space companies requiring a test in orbit. Finally, ION can also 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.

In April 2025, the company announced a strategic business combination with the Planetek group to integrate new capabilities in cloud-based space applications, AI-powered data processing in orbit, and near real-time data services.

With offices in Italy, Portugal, Greece, the UK, and an experienced US team focused on bus design, manufacturing, and commercialization, D-Orbit is the world's first certified B-Corp space company and a registered benefit corporation.

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