



D-Orbit Successfully Completes Deployment Phase of Ongoing PULSE Mission, Deploys 20 Satellites In-Orbit, and Executes Orbital Maneuvers

ION Satellite Carrier successfully deployed 20 satellites and performed orbit-changing maneuvers, marking an important shift from precise deployment to orbital transportation. The mission will proceed with the in-orbit demonstration of two hosted payloads.

Fino Mornasco, Italy, May 18th, 2021: [D-Orbit](#), a space logistics and transportation company, today announced that it **has successfully completed the deployment phase of its ongoing PULSE mission**. As part of this phase, **D-Orbit's ION Satellite Carrier (ION)**, the company's proprietary space transportation vehicle, **successfully deployed all 20 satellites hosted inside, including eight SuperDoves** from returning customer [Planet](#), the US-based Earth imaging company. In addition to the deployment of customer satellites, **ION also executed several orbital maneuvers**.

The **PULSE mission began on January 14** with the launch of ION aboard a SpaceX Falcon 9 launch vehicle from the Space Launch Complex 40 (SLC-40) at Cape Canaveral, Florida. The deployment phase was completed on May 11, when the remaining satellites onboard were released. Over the weeks leading to the conclusion of the deployment phase, **D-Orbit's operations team fired six Dawn Aerospace's B20 thrusters**, validated attitude and orbit control strategies and algorithms, analyzed post-firing changes of orbital parameters, and performed flight dynamics processes.

The resulting orbit-changing maneuvers succeeded in changing the altitude by up to 10km, while also demonstrating ION's ability to change the local time of the ascending node (LTAN).

"When we realized that we achieved this new milestone and successfully execute a series of orbit-changing maneuvers, we felt an incredible surge of pride," said Renato Panesi, CCO of D-Orbit. "Pride for our technical team, for our operations team, and every single individual in our company who has contributed to this mission."

These tests, which barely scratched the surface of what ION can do, qualified the **platform as a full-fledged space transportation vehicle with the ability to deploy satellites in multiple orbits different from the one which ION itself was originally released** by the launcher. This milestone marks **an important shift from precise deployment** – already a proven company capability – **to orbital transportation**. While the mission continues, the operations team will perform additional tests on ION to push the performance envelope further.

"This is yet another validation of our approach to spacecraft deployment," said Luca Rossetini, CEO of D-Orbit. "While we celebrate this milestone and the people who made it possible, we keep looking to the future for ways to build on our technology. We



want to contribute to the creation of a solid space logistics infrastructure that will truly enable the sustainable exploration of space and its resources. This is just the beginning.”

PULSE is the second flight of **ION Satellite Carrier, an orbital transportation vehicle designed, manufactured, and operated by D-Orbit to ferry a batch of satellites in space and deploy each one individually into its own distinct orbit.** The vehicle used in this mission, called ION SCV Laurentius, is an upgraded version of the one used in the ORIGIN mission launched in September 2020, with enhanced maneuvering capabilities and larger cargo capacity. In the case of satellite constellations, the ability to precisely deploy each spacecraft, combined with a careful mission analysis and design, can lead to deployment strategies that accelerate the time from launch to operations by up to 85% while reducing the launch costs of the entire constellation by up to 40%.

ION SCV Laurentius also features an **innovative plug-and-play system for hosted payloads**, streamlining the integration of instruments and experiments developed independently by third parties. The mission has entered the in-orbit demonstration (IOD) phase, consisting of a series of experiments on ARGO 1.0, a fully autonomous star tracker developed by EICAS Automazione, and DRAGO, a shortwave infrared space camera for Earth observation developed by the Instituto de Astrofísica de Canarias (IAC).

While the PULSE mission proceeds, **D-Orbit is debriefing the deployment phase of the mission in preparation for its next mission, called WILD RIDE, which is scheduled for June 2021.**

About D-Orbit

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

Founded in 2011, before the dawn of the New Space market, 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 company successfully delivered 44 commercial payloads into space while developing advanced products and services for the needs of tomorrow.

D-Orbit is a space infrastructure pioneer with offices in Italy, Portugal, UK, and the US; its commitment to pursuing business models that are profitable, friendly for the environment, and socially beneficial, led to D-Orbit becoming the first certified B-Corp space company in the world.



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