D-ORBIT

CLESTIAL BLISS

MISSION BOOKLET

Mission name: **Celestial Bliss**
Carrier name: **ION SCV Magnificent Monica**

D-Orbit, an industry leader in space logistics and orbital transportation, successfully launched its 14th commercial mission today, Celestial Bliss, using its cutting-edge Orbital Transfer Vehicle (OTV) ION Satellite Carrier (ION).

The OTV lifted off on **August 16th, 2024, at 11:56 PDT** (18:56 UTC) aboard a Falcon 9 rocket from the Space Launch Complex 4 East (SLC-4E) at Vandenberg Space Force Base in California, and was successfully deployed **2h:35m** after liftoff into an approximately 597 km Sun-Synchronous Orbit.

During the mission, ION will carry several satellites and third-party hosted payloads, including four Lemur satellites from Spire Global, a high-performance AI processor from TelePix, as well as additional satellites and payloads from various undisclosed clients.

D-Orbit launched its first ION in September 2020 aboard an Arianespace VEGA launcher. With this launch, the Company will have transported to space more than 140 payloads collectively.


Photo credits: SpaceX

A note about the name of the satellite carrier

The name of the satellite carrier is “ION Magnificent Monica”, a combination of the acronym “ION”, which stands for “InOrbit NOW”, and the satellite’s first name. This format follows the naming conventions of naval vessels used in navies around the World. The name “Monica” was drawn at random from a bowl containing the names of all D-Orbit’s employees. The company will continue to follow this procedure in the future to honor the skills, energy, passion, and commitment to its people.


ION SCV Magnificent Monica and team

Name of payloads: Lemur 2 Lloyd, Lemur 2 Sierrini, Lemur 2 Squirrelcomm, Lemur 2 Ahmed-Asrar

Form factor: 4x 3U

POC: Kristing Spychalski
kristina.spychalski@spire.com

Sarah Freeman
sarah.freeman@spire.com

The onboard payloads collect maritime (AIS) data and GNSS data for weather applications.

COMPANY PROFILE

Website: www.spire.com

Spire Global, Inc. is a global provider of space-based data, analytics and space services, offering unique datasets and powerful insights about Earth so that organizations can make decisions with confidence in a rapidly changing world. Spire builds, owns, and operates a fully deployed satellite constellation that observes the Earth in real time using radio frequency technology. The data acquired by Spire's satellites provides global weather intelligence, ship and plane movements, and spoofing and jamming detection to better predict how their patterns impact economies, global security, business operations, and the environment. Spire also offers Space as a Service solutions that empower customers to leverage its established infrastructure to put their business in space.

Photo credits: Spire

Name of payload: TetraPLEX

Type of payload: High-performance AI processor

POC: Jaeeun Yang
jaeeun.yang@telepix.net

TetraPLEX is a high-performance AI processor designed specifically for satellites. Boasting an impressive 10 trillion operations per second of processing capability, TetraPLEX marks a monumental leap forward in satellite technology. Functioning as an on-board processor (OBP), TetraPLEX facilitates in-space AI processing and edge computing, revolutionizing the way satellite data is handled. Developed in collaboration with NVIDIA, TetraPLEX enables efficient, on-the-spot data analysis directly within the satellite, dramatically reducing both the time and cost associated with traditional ground-based processing. TetraPLEX will be a game-changer for real-time analysis of large datasets in space, particularly for tasks like greenhouse gas monitoring. It paves the way for the "Spaceborne ESG AI Cloud Edge Computing Solution," a pioneering cloud-based AI platform for satellites created by TelePIX.

COMPANY PROFILE

Website: www.telepix.net

Founded in 2019, TelePIX is a South Korean Space Tech company, emerging as a leader in satellite development and satellite imagery data analytics solutions, democratizing access to space and tis valuable data. TelePIX's advanced technologies unlock a universe of possibilities, from Earth observation and satellite imagery big data analysis to on-orbit AI. On the Upstream, TelePIX provides optical payloads for satellites of various sizes, with the focus on 100 kg microsatellites. These state-of-the-art EO payload systems are based on off-axis TMA design, producing very high-resolution imagery with a wide field of view (WFOV). TelePIX also provides On-Board Processor (OBP) for customers looking for edge computing capability in space. On the Downstream, TelePIX provides satellite imagery processing and data analytics services. With key know-how in asset detection and spectral analysis, TelePIX provides customized products for various sectors including environment, maritime, infrastructure, agriculture, and defense.

Photo credits: TelePIX

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