ION HOSTED PAYLOAD SERVICES

ION Satellite Carrier offers a plug-and-play mechanical, electrical, and data interface to quickly integrate experiments and instruments onboard and operate them from the ground as subsystems of ION itself. Experiments and instruments are integrated inside structures ranging from 1U up to 16U in volume, connected to the main spacecraft bus, so they can be managed directly by D-Orbit's mission controllers. Possible applications range from in-orbit demonstration (IOD) missions of 1U experiments, to month-long missions using massive optical or radar instruments.

YOU PROVIDE THE PAYLOAD. WE PROVIDE THE SATELLITE PLATFORM.

The encapsulation of a payload inside a CubeSat structure that communicates through standard, well-defined interfaces greatly simplifies the development and testing of onboard experiments. Guest payloads receive power, telecommunication, and thermal control from the main bus of the hosting spacecraft. The ability to control the hosting spacecraft's orientation enables payload operators to perform tests and experiments under different conditions of light and darkness, or by pointing it to different areas of the globe over multiple orbits. Launch and operation cost are bundled in standard service packages, with a predictable pricing scheme free from non-recurring costs that lowers the barrier of entry required to operate a payload in orbit.

Having D-Orbit as a single contractual partner enables payload operators to externalize lengthy, unpredictable, and costly processes connected to frequency licensing, launch authorization, and flight readiness certification.

ADVANTAGES:

- **Standard, well defined interfaces**: Plug-and-play CubeSat mechanical interface, Standard 5/12/28V electrical interface
- **Access to host resources**: Uplink, downlink, memory, and more
- **Wide coverage**: A network of ground stations provides multiple daily access opportunities
- **Attitude control**: Ability to point the platform to perform your tasks with optimal exposure to sun, darkness, Earth, and horizon
- **Launch flexibility**: Multiple launch options in LEO, SSO, and GEO every year, with possibility to switch launch in case of delay
- **Multi-orbit**: Repeat your experiment at different altitude and planes
- **Flexible pricing**: Pay what you use

ION PLATFORM SPECIFICATIONS

ATTITUDE CONTROL
- Architecture: Three-Axis Control (Wheels, Magnetorquers)
- Pointing Knowledge/Control: 100 arcsec
- Agility: > 1 deg/s

COMMUNICATION
- Omnidirectional S-Band Up/Down (500 Kbps)
- Omnidirectional UHF Up/Down (Backup)
- Directional X-Band Down (> 50 Mbps)

MISSION CAPABILITIES
- Compatible Orbit Range: All inclination and Beta angles
    Without propulsion: 450 to 750 km
    With propulsion 400 to 2000 km
- Optional propulsion capabilities for station keeping and delta-v capabilities up to 1 km/s
- Launchers: Vega, Ariane6, PSLV, Falcon 9, Long March 11, Long March 4B
- Lifetime: LEO > 3 years

PLATFORM CAPABILITIES
- Mass: Up to 128 kg in extended CubeSat-sized slots (2kg per unit) up to 160 kg of generic payload
- Electrical Interface: 5/12/28 V regulated and protected
- Data Interface:
    Ethernet
    UART/USB
    SPI
    I2C
- Onboard data handling system:
    Data storage: up to 128 Gb
    Possibility to update your software on orbit
- External Field of View: unrestricted on five sides
- Thermal Interface: 10 to 20 degC thermal sink
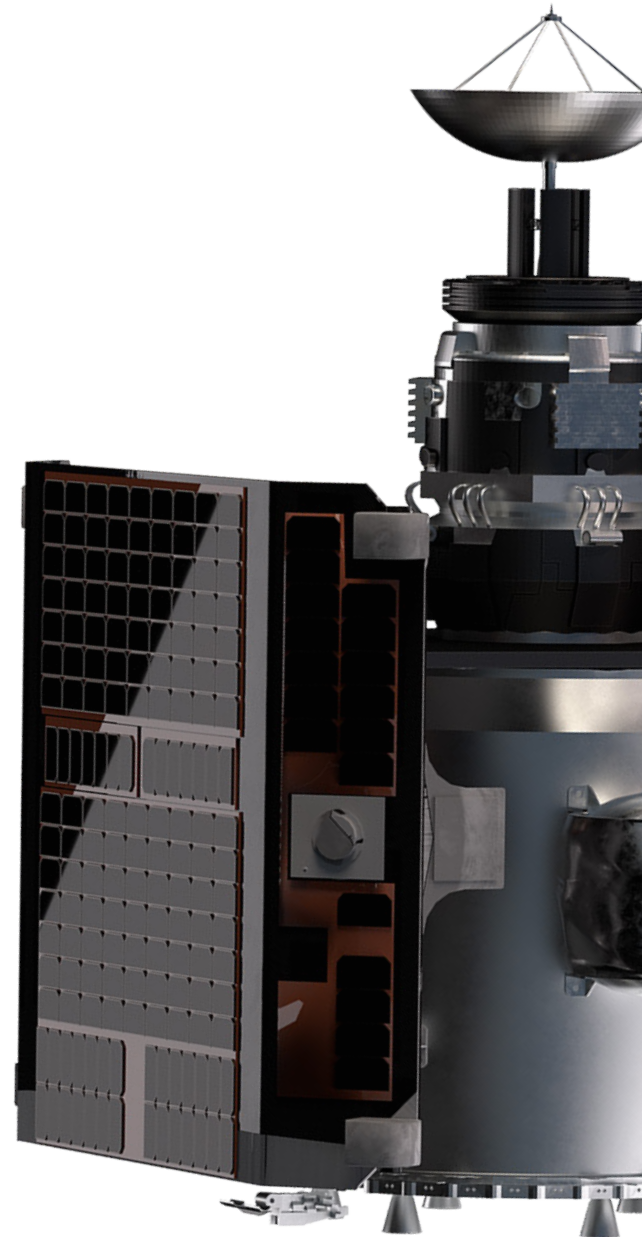
APPLICATIONS

SCIENCE: Take your sensors to orbit, make experiments, and collect data.
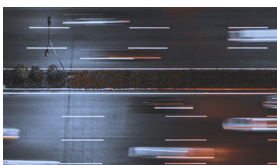
MARKETING: Take your brand to space and become the coolest, the fastest, and the highest in your industry.

TECHNOLOGY: Fly and operate hardware components and subsystems to collect performance data and validate use cases.