

NEWSPACE MARKET · COMPANY PROFILE



Aphelion Orbitals

United States · founded 2017 · aphelionorbitals.com

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as of 20 August 2026



Aphelion Orbitals

Aphelion Orbitals is a New Jersey-based aerospace company founded in 2017 with the mission of providing reliable, low-cost, and frequent access to orbit for small satellite operators. The company is developing the Helios launch vehicle — a small, mass-produced nanosatellite launcher designed to deliver payloads up to 20 kg to sun-synchronous orbit on a regular, scheduled basis. Unlike rideshare missions that require customers to fit within large constellation launch schedules, Aphelion's model emphasizes dedicated, on-demand launch windows for nanosatellite operators. The Trailblazer system targets even smaller payload classes, extending the company's reach into the picosatellite and femtosatellite markets. Aphelion also develops nanosatellite buses and integrated spacecraft systems for commercial customers, positioning itself as an end-to-end provider for the rapidly growing small satellite segment. The company was established to address the growing launch backlog faced by nanosatellite developers seeking timely orbital access.

This profile is generated from the live NewSpace Market catalogue. Specifications are as published by the manufacturer; every product links to a page where a request for quotation reaches the company directly.

SERVICES

Services

Orbital Delivery Services

Aphelion Orbitals provides high-cadence, on-demand orbital delivery services for nanosatellites.

Product catalogue



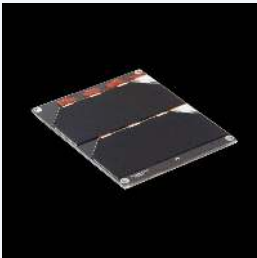
APHELION ORBITALS

1U Cubesat Structure

The Aphelion 1U structure is an open frame, lightweight CubeSat structure made from 7075 aluminum, designed for easy configuration and access during development.

Height	113.5mm
Width	100mm
Depth	100mm
Material	7075-T651
Mass	92g
Max PCB Width	96mm
Max PCB Length	96mm

price on request



APHELION ORBITALS

1U Solar Panel

The Aphelion Cubesat solar panels utilize flight-proven, high efficiency 30.5% triple junction solar cells and a reliable bonding technique.

Cell Efficiency	30.5% triple junction
Output Power	up to 150W
Output Voltage	up to 22V

price on request datasheet



APHELION ORBITALS

Cubesat UHF/VHF Radio

The Aphelion UHF/VHF radio is a lightweight and highly configurable telemetry, tracking, and command (TT&C) system designed for Cubesat missions, supporting multiple data rates

Mass	72g
Supported Protocols	AX.25, HDLC
Modulation Types	OOK, FSK, GFSK
Uplink Frequency	143-146 MHz
Downlink Frequency	430-438 MHz
Connectors	50 Ohm MMCX

price on request datasheet



APHELION ORBITALS

Helios and Trailblazer Launch Vehicles

Helios and Trailblazer are responsive, dedicated launch and suborbital access solutions designed for high cadence and mass production, providing regular, scheduled orbital access f

Payload to SSO	20 kg
Target Orbit	Sun-Synchronous Orbit (SSO)
Launch Cadence	Regular scheduled launches
Configuration	Dedicated nanosatellite launcher

price on request



APHELION ORBITALS

Integrated EPS/OBC Bus Module

The Aphelion Cubesat Bus Module is an integrated electrical power system and on-board computer solution designed for mission-critical, volume constrained environments.

MPPT inputs	5 with 40W input capacity
Output rails	7 independently controlled and monitored
Output capacity (5V)	3A
Output capacity (3.3V)	4A
Deployment mechanism channels	4 dedicated for high current
OBC processor	ARM Cortex M4 with EEPROM, SD card slot, and integrated MEMS accelerometer/gyroscope
PCB	6-layer

price on request



APHELION ORBITALS

Orbital Debris Removal and Satellite Servicing

Aphelion Orbitals' in-space satellite servicing vehicles and technology for orbital debris removal, life extension, and satellite inspection missions.

Services	Refueling (life extension), debris removal, inspection, repositioning
Target Orbits	LEO (debris) and GEO (commercial life extension)
Technology	Autonomous RPO (rendezvous and proximity operations), docking mechanisms
Market	Competing with Northrop MEV, Astroscale, D-Orbit in servicing sector
Mission Stage	Development / demonstration phase

price on request

Contact Aphelion Orbitals

Open the company profile on NewSpace Market to see full specifications and datasheets, and to send a request for quotation that reaches the manufacturer directly.

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<https://www.aphelionorbitals.com>

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