

NEWSPACE MARKET · COMPANY PROFILE



Orion Space Solutions

United States · founded 2006 · orion.arcfield.com

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as of 20 August 2026



Orion Space Solutions

Orion Space Solutions, now part of Arcfield, is a Louisville, Colorado-based company of scientists, engineers and mission specialists who turn space science into actionable data intelligence. For nearly two decades the company has developed spacecraft, sensors and predictive models supporting national security, federal civilian and commercial space customers, with more than 65 systems deployed globally and in space across 200+ completed programs. Orion's product lines span multi-spectral optical payloads (SPECTRE), ionospheric and space-weather sensors (TRIDENT, OSIRIS, RIO), and space-environment modeling software (Dragster, M3SDA, OrbitIQ) that support orbit determination, conjunction assessment and space domain awareness. The company is also pioneering very low Earth orbit (VLEO) operations through advanced drag-reduction and orbit-prediction technology for defense and commercial customers. Orion's missions include the EWS RROCI cloud-characterization prototype (launched March 2024), the Tetra multi-spacecraft satellite-servicing/refueling demonstration for the U.S. Space Force, the DARPA Ouija VLEO space-weather sensing cubesat (slated for 2026), and the NASA ACMES thermal-imaging mission (2027). Orion was acquired by and now operates as a subsidiary of Arcfield.

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SERVICES

Services

Science and data analytics

Orion's team of scientists uses their deep understanding of atmospheric and space physics to interpret data and model output, delivering new insights and discoveries for customers.

Product catalogue



ORION SPACE SOLUTIONS

Dragster Atmospheric Drag Model

Assimilative atmospheric drag-modeling framework for high-fidelity LEO object tracking.

Product type	Assimilative atmospheric drag modeling software
Objects tracked (US Space Force LEO catalog)	>29,000 (as of dataset)
Primary application	Space object tracking, orbit prediction in contested LEO

price on request [datasheet](#)



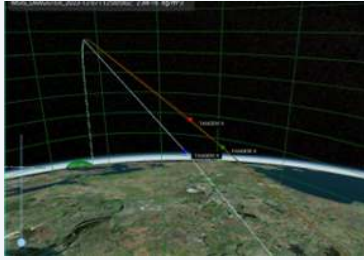
ORION SPACE SOLUTIONS

IONOSPHERIC SENSORS (TRIDENT, OSIRIS, RIO)

Orion's ionospheric sensors provide advanced monitoring and analysis of the ionosphere, delivering real-time data for satellite communications, navigation, and scientific research.

Receiver type	Software-based, dual-frequency GPS receiver
Primary application	Ionospheric disturbance / space weather characterization
Impact areas monitored	Power grids, GPS position/timing accuracy, tactical communications

price on request [datasheet](#)



ORION SPACE SOLUTIONS

OrbitIQ

OrbitIQ is a cloud-native orbital modeling platform that improves space domain awareness by reducing orbital uncertainty and false collision alarms for satellite operators.

Orbital uncertainty reduction	From 50 km to less than 5 km per object
Daily collision warnings processed	10,000+ potential collision warnings, ~90% false alarms
Architecture	Cloud-native, built on AWS
Export/classification status	First unclassified, export-authorized space domain awareness solution
Core components	Dragster (real-time physics-based drag modeling), AstroLabe (cloud-native covariance engine)
Environment modeling	Digital twin modeling thermosphere, ionosphere, and satellite interactions

[price on request](#) [datasheet](#)

ORION SPACE SOLUTIONS

SPECTRE

SPECTRE is a next-generation, multi-spectral optical payload delivering high-resolution weather monitoring and Earth observation performance in a compact, small-SWaP configuration.

Payload type	Multi-spectral EO/IR optical payload
Design focus	Small-SWaP (size, weight, power) miniaturized configuration
Primary applications	High-resolution Earth observation, climate/environmental monitoring, defense weather monit

[price on request](#) [datasheet](#)



ORION SPACE SOLUTIONS

SPACE ENVIRONMENT MODELS

A suite of advanced software solutions providing space environment intelligence, including atmospheric drag modeling (Dragster), ionospheric modeling (M3SDA), and high-fidelity orb

Product type	Modular ionospheric modeling and forecasting software framework
Primary application	Space weather forecasting, space domain awareness

[price on request](#) [datasheet](#)



ORION SPACE SOLUTIONS

TRIDENT Doppler Radar Ionospheric Sensor

Doppler radar system that measures traveling ionospheric disturbances (TIDs) in near-real-time.

Sensor type	Doppler radar, ground-based synchronized receiver network
Measurement target	Traveling ionospheric disturbances (TIDs), gravity waves
Key use cases	Hypersonic object detection, scientific research, surveillance

[price on request](#)

Contact Orion Space Solutions

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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