

Space Logistics Services

Extending the Lives of In-Orbit Satellites

FACT SHEET



Space Logistics LLC, a wholly owned subsidiary of Orbital ATK, provides cooperative in-orbit satellite life extension and maneuvering services to geosynchronous satellite operators using its Mission Extension Vehicle (MEV). The MEV docks with customers' existing satellites providing the propulsion and attitude control needed to extend their lives.

The MEV is capable of docking with virtually all-geosynchronous satellites with minimal interruption to operations. It will enable satellite operators to significantly extend satellite mission life, activate new markets, drive asset value and protect their franchises. Space Logistics LLC delivers life extension services that are flexible, scalable, capital-efficient and low-risk.

Our breakthrough innovation provides satellite operators unprecedented flexibility in asset deployment, enabling game-changing advances in financial and operating flexibility, and risk mitigation.

About Orbital ATK

Orbital ATK is a premier provider of space logistics services and engineering, and the manufacturer of a family of agile, reliable spacecraft. Orbital ATK brings heritage with more than 30 years of satellite system experience and an outstanding on-orbit satellite mission success record.

FACTS AT A GLANCE

Services Include:

- Long-term station-keeping and attitude control of customer satellites
- Transitioning customer satellites into the GEO graveyard orbit
- Relocation of customer satellites to different orbital slots or to different orbits
- Inclination reduction
- Rescuing satellites stranded in incorrect orbits
- Rendezvous, inspection and external imagery assessment
- Significant and flexible hosted payload accommodations

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How It Works

Our Mission Extension Vehicle (MEV) is based on the GEOStar 3 bus that is modified to safely rendezvous and dock with an orbiting satellite in the geosynchronous orbit. To do so, a suite of integrated proximity sensors is used to reliably and safely rendezvous with the client satellite. The MEV then utilizes a simple mechanical docking system that attaches to existing features on the client satellite creating a firm connection between the MEV and the client satellite. This docking system is compatible with an estimated 80% of all geosynchronous satellites on orbit today.

Once docked, the MEV will take over the attitude and orbit maintenance of the combined vehicle stack to meet the pointing and station keeping needs of the customer. When the customer no longer requires the service, the MEV will undock and move away to begin service for the next customer.

The MEV provides a 15-year design life and sufficient fuel to enable well in excess of 15 years of station kept life while docked with a typical 2000 kg geosynchronous satellite. The rendezvous, proximity and docking systems of the MEV allow for numerous dockings and undockings during the life of the MEV.

Benefits

Our Space Logistics Services are specifically designed to fit customers' business models, as well as their technical requirements. The simplicity and cost-effectiveness of the service provides customers with access to new markets and new opportunities — and protects asset value. Space Logistics Services provide operators with opportunities to improve financial performance, better manage cash flows, break down barriers to enter new markets and reduce risks by:

- Extending satellite life to prolong revenues or defer capital expenses
- Redeploying satellites to start new orbital roles
- Creating in-orbit backup to protect revenues
- Protecting satellite revenues from procurement delays and launch failures

Future Capability

Our vision is to establish a fleet of MEV based satellite-servicing vehicles in GEO that can address most any servicing need. Orbital ATK continues to make deep investments in in-orbit servicing and is working closely with U.S. Government agencies to develop the next generation space logistics technologies. These technologies include robotics and high power solar electric propulsion to enable future services building upon our keep-it-simple approach to satellite life extension. These future services are expected to include:

- Fluid and gas replenishment
- Inspection & repair
- Replacement or enhancement of parts
- Incorporation of auxiliary propulsion, navigation, power, payloads and other functions to enhance the performance or extend the satellite's life
- In-orbit robotic assembly of space structures



More Information

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