

Kepler Connect

Delivering Data at Lightspeed

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The Kepler Network

Unlock the full potential of your mission with The Kepler Network, an operational optical data relay system delivering real-time, intelligent connectivity for space.

Kepler's constellation provides on-demand, bidirectional gigabit communications and advanced on-orbit compute, allowing spacecraft to process and deliver data in real time. Using SDA-compatible optical terminals, customers gain secure, low-latency access to a resilient network designed for modern mission demands. Leveraging our industry-leading expertise in optical communications, Kepler advises customers on selecting and integrating terminals sized and configured for their spacecraft to ensure seamless connectivity and performance.

Operating as an IP-based mesh, the network dynamically routes data between satellites, creating a scalable infrastructure that functions like the terrestrial Internet. Supported by a global ground network, two near-orthogonal planes of optically interconnected satellites are designed to provide consistent coverage for spacecraft in low Earth orbit (LEO).

Proven optical milestones include space-to-space, space-to-ground, and space-to-air demonstrations, validating Kepler's architecture and operational maturity. The network also supports hosted payloads, giving customers a faster, more cost-effective path to orbit with immediate access to optical relay and compute infrastructure.

As a scalable backbone for LEO and beyond, The Kepler Network will expand through additional tranches that add capacity with backwards-compatible 100-gigabit optical technology in development. Kepler is delivering sovereign, real-time connectivity for the growing space economy.



Secure and fully redundant
space and ground segments



Interoperable with all SDA-
compatible optical terminals



Real-time connectivity



Up to 2.5 Gbps optical links

Kepler Optical Data Relay Service

Data Rate	Up to 2.5 Gbps bidirectional
Coverage	95% availability anywhere in low Earth orbit above 400 km.
SDA-Compatible Optical User Equipment	80 mm-class SDA OCTs: 70 W / 15 kg, currently available and on orbit. Small-SWaP OCTs: 40 W / 3 kg / 3U

Technology Timeline

- Kepler's optical technology demonstrator satellites launched November 2023.
- Optical inter-satellite links successfully validated June 2024.
- Space-to-Ground and Space-to-Air optical validation 2025.
- Tranche 1 launch scheduled for Q1 2026.

