

COMMUNICATIONS SERVICES PROJECT PARTNERSHIP

NASA's Communications Services Project (CSP) is pioneering a new era of near-Earth space communications by partnering with commercial industry to enable innovative networking for future missions. CSP will leverage \$278.5 million across six commercial satellite communications companies to facilitate demonstrations, evaluate service performance, and identify future services and capabilities to meet mission needs.

Viasat Inc. has been awarded \$53.3 million to demonstrate a commercial radio frequency Ka-band relay network that can provide high and low-rate communications services to spacecraft in low-Earth orbit (LEO).

VISION

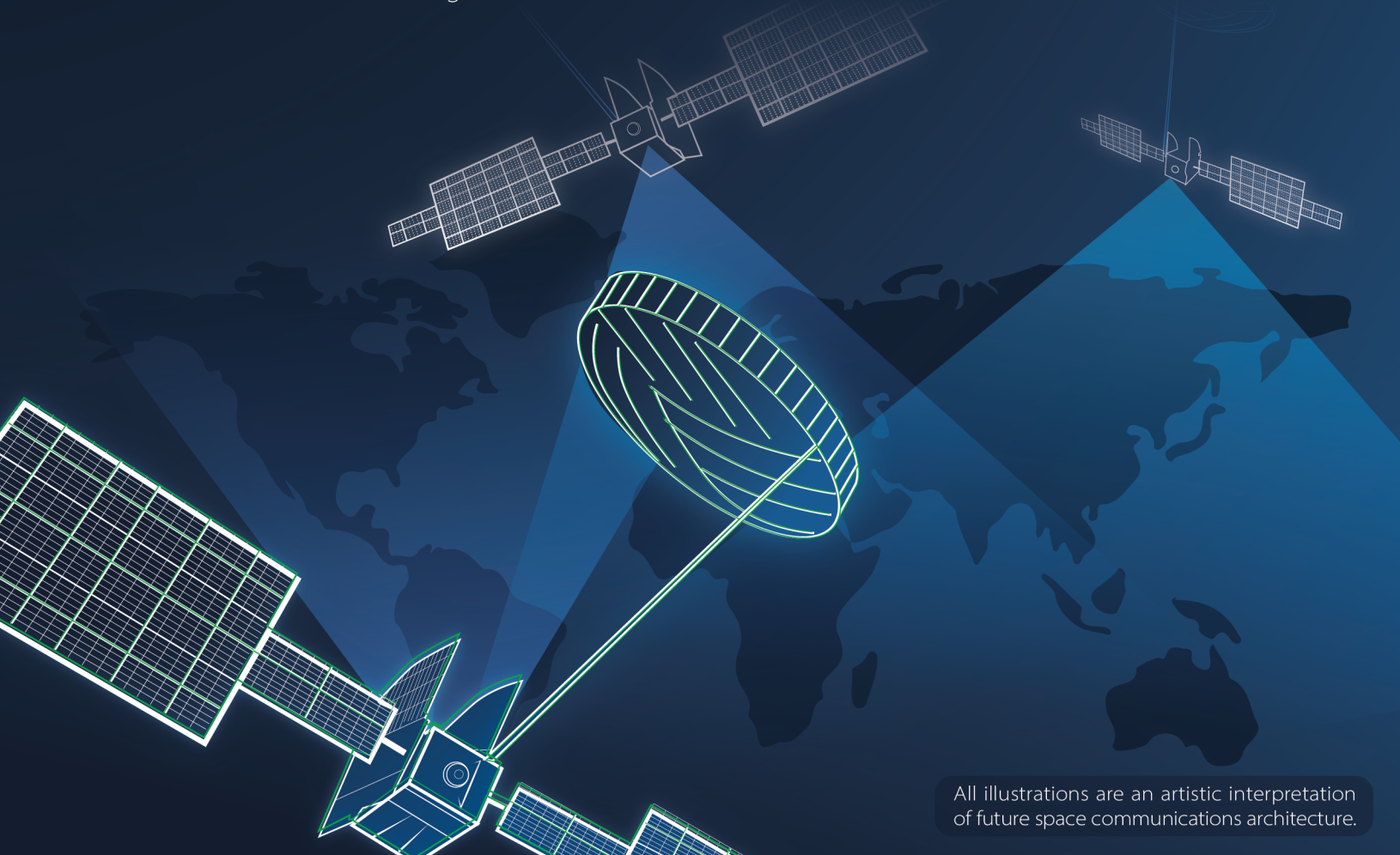
Viasat will provide a complete mission solution via the Integrated Space Access Network (ISAN). ISAN is a multi-band, multi-path, secure connectivity solution with the capacity and flexibility to serve current and future near-Earth satellites communications needs.

The ISAN architecture builds upon Viasat's global internet service provider role, integrating end-to-end active cyber defenses for secure performance. The capability will enable satellite operators to command, downlink, and rapidly distribute near earth satellite data in a timely and secure manner with real-time streaming to the end point of choice.

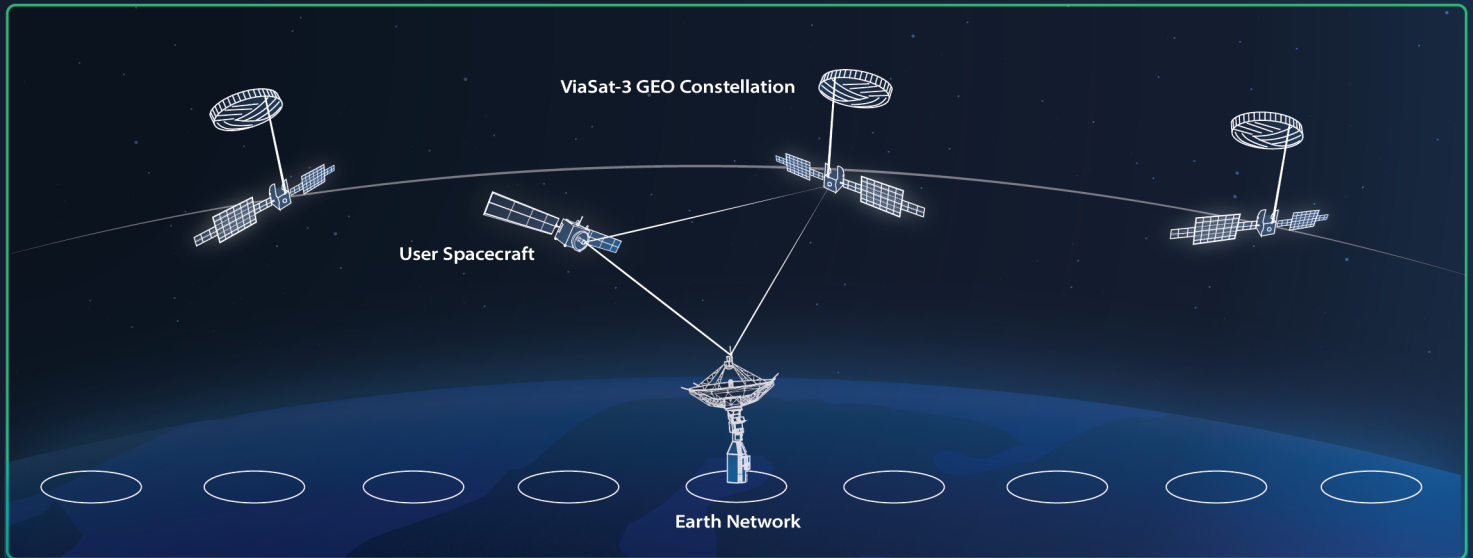
Viasat's Ka-band relay solution is designed to address network architecture challenges with real-time,

low-data latency communications. This solution consists of a Real-Time Space Relay (RTSR) space-qualified Ka-band terminal, which will operate via Viasat's Ka-band network of satellites in geostationary orbit (GEO). RTSR is designed to offer on-demand capabilities for LEO operators to downlink information – with the ability to access spacecraft at any time or any point in their global orbit.

Viasat's Real-Time Earth (RTE) turnkey, satellite-to-ground communications network completes the relay solution. RTE allows satellite operators to command, downlink, and rapidly disseminate GEO, LEO, and medium Earth orbit data in a timely and secure manner with real-time streaming.



NETWORK ARCHITECTURE



Viasat's CSP demonstration of a high data rate Ka-Band Space Terminal connected to a relay network consisting of 11 downlink stations and 3 satellites in geosynchronous orbit is expected to provide space communication services to NASA and future users by 2026.

KEY FEATURES

- New space-relay service deployment utilizes existing space and ground infrastructure
- Simplified customer experience via single interface across all transport providers
- Persistent, high-rate, high-capacity, on-demand, global capability
- End-to-end active cyber defenses for performance assurance
- Real-time data dissemination up to 50 GB/orbit

LEARN MORE

CSP is managed by NASA's Glenn Research Center in Cleveland, Ohio under the direction of the Space Communications and Navigation (SCaN) program. SCaN serves as the program office for all of NASA's space communications activities, presently enabling the success of more than 100 NASA and non-NASA missions.

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