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THE OUTERNET – A LEO CONSTELLATION PROVIDING A HIGHLY SECURE GLOBAL COMMUNICATION NETWORK IN THE SKY

Abstract

Today's global enterprise and governmental networks require solutions that extend their reach and overcome the issues of cybersecurity, latency and speed associated with the complexity and fragmentation of terrestrial infrastructure – both wired and wireless. By putting a network in space and thus creating a truly global private network, Rivada's Outernet will provide a new and revolutionary solution to today's biggest data networking challenges. By establishing a highly secure global communication backbone, the Outernet not only fortify the foundation of digital infrastructure but also set the stage for a fresh surge of innovation and create new opportunities for enterprise and governmental customers. This paper will present the high-level architecture and the specific technical features of a 600-satellite LEO constellation – backboned by a family of high-priority Ka-Band filings and inter-connected via laser-links – providing high-throughput fully duplex data services anywhere on Earth thanks to its polar orbits allowing true global coverage. Point-to-point or roof-top to roof-top connectivity having a gateway-less design will allow ultra-secure and ultra-low latency, standardized network services and data sovereignty using a private network with an MPLS core in the sky. An outlook on future applications for both enterprise and governmental customers will underpin the next generation connectivity services the Outernet will provide. Finally, an overview of the deployment plan of the constellation and the services from 2027 onwards including a dedicated demo-mission in 2026 will be provided.