

Photonics for Optical Networks

Developing technologies for tomorrow's 4D networks

DEFENCE AND SPACE

Kevin Shortt
6 July, 2026

AIRBUS

The Internet World We Live In...

Access to exabytes of
data...

Livestreaming/Real-time
data at the touch of a
button...

Connected to billions of
people...

But all this exists...



on
Earth's Surface!



But what about **BEYOND**
Earth's surface?

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- Exponential growth and new possibilities in AI market
 - **\$7-10 trillion** in economic impact in coming years
- Data-centric infrastructure -> resource sharing for RAN and AI
- DCI- and GPUaaS - Composable disaggregated infrastructure
- Data-Centric Infrastructure as a Service (DCIaaS) for:
 - generative and predictive AI
 - 5G RAN, MEC, and other functions
- Open All-photonics network for:
 - light-speed remote direct memory access to remote GPU for predictive AI
 - distributed data hub
 - data-center disaster recovery
- **Innovation for sustainability:**
 - >90% reduction in Watts/Gbps
 - 1/3 space required and material used

4 min

December 14, 2023

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Amazon's Project Kuiper completes successful tests of optical mesh network in low Earth orbit

Written by Amazon Staff

After demonstrating 100 Gbps optical links between its prototype satellites, Project Kuiper will include laser links on every satellite in its constellation to form a mesh network in space.

Space startup Aalyria demonstrates satellite mesh network

The company is working with the Defense Innovation Unit to create a “hybrid space architecture”

Sandra Erwin February 12, 2024

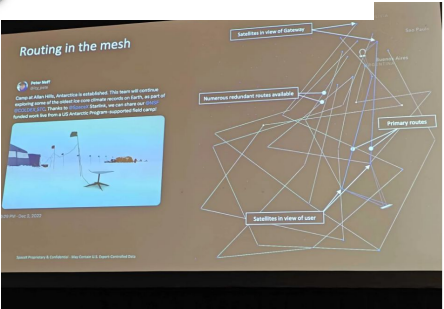
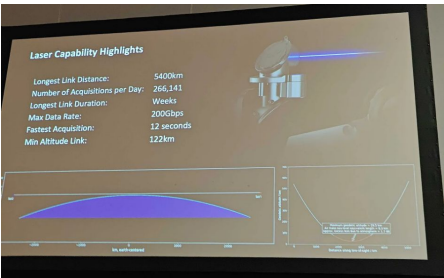
Starlink's Laser System Is Beaming 42 Million GB of Data Per Day

A SpaceX engineer details how the company is using a fleet of 9,000 lasers over the Starlink constellation to deliver high-speed internet across the globe.

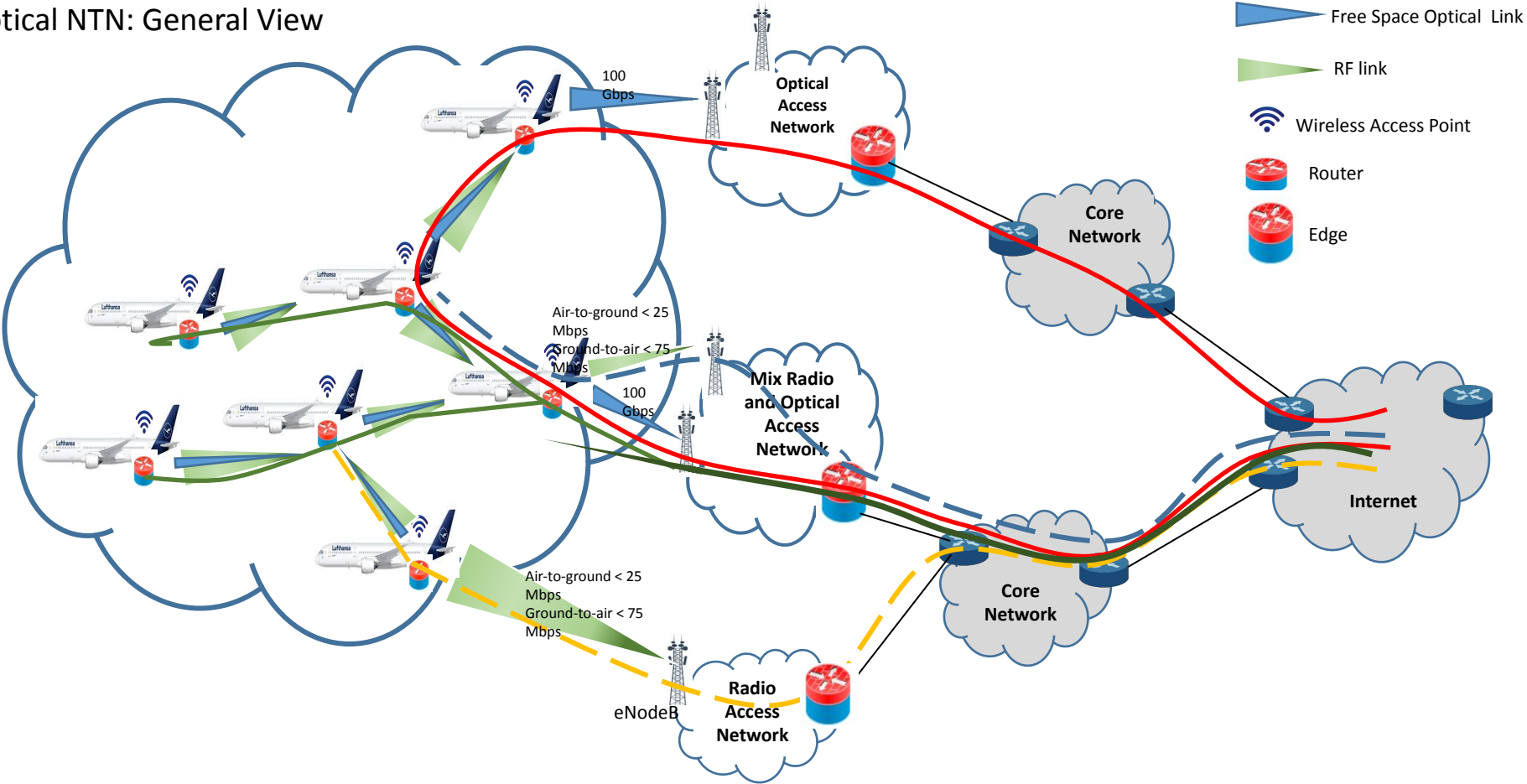


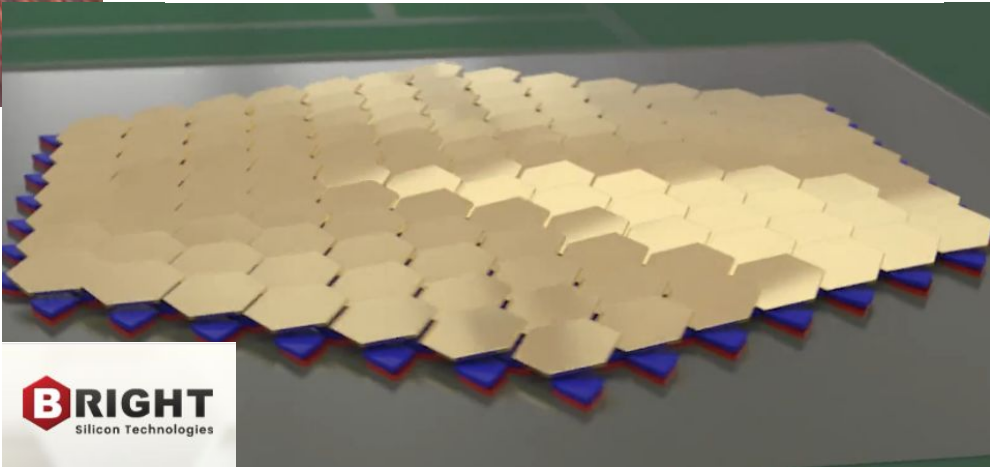
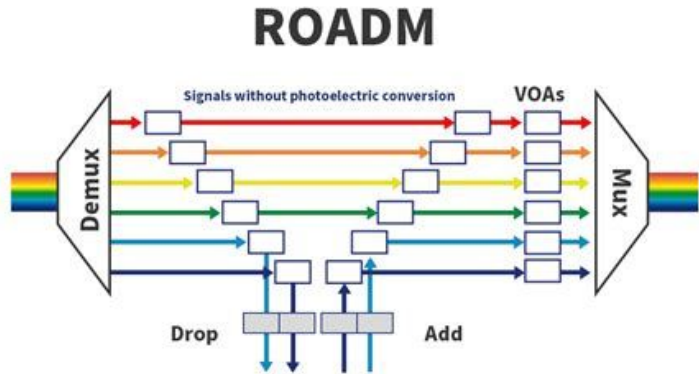
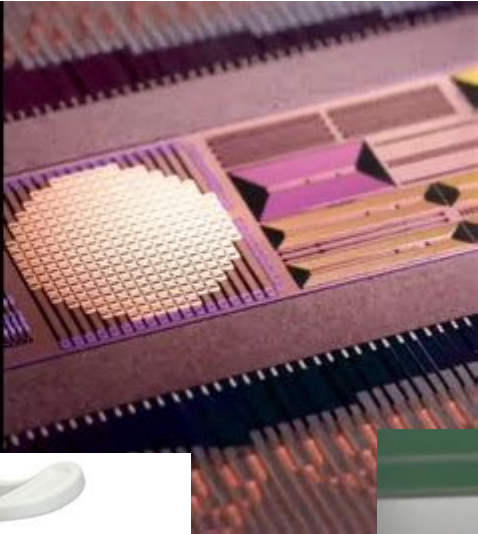
by Michael Kan Jan 30, 2024

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Optical NTN: General View





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