Defence in Space 2024

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Vice President of Sales, EMEA

Defence in Space 2024 © Rivada Space Networks GmbH

About Us

Founded in March 2022

Headquartered in Munich, Germany

Growing, international team

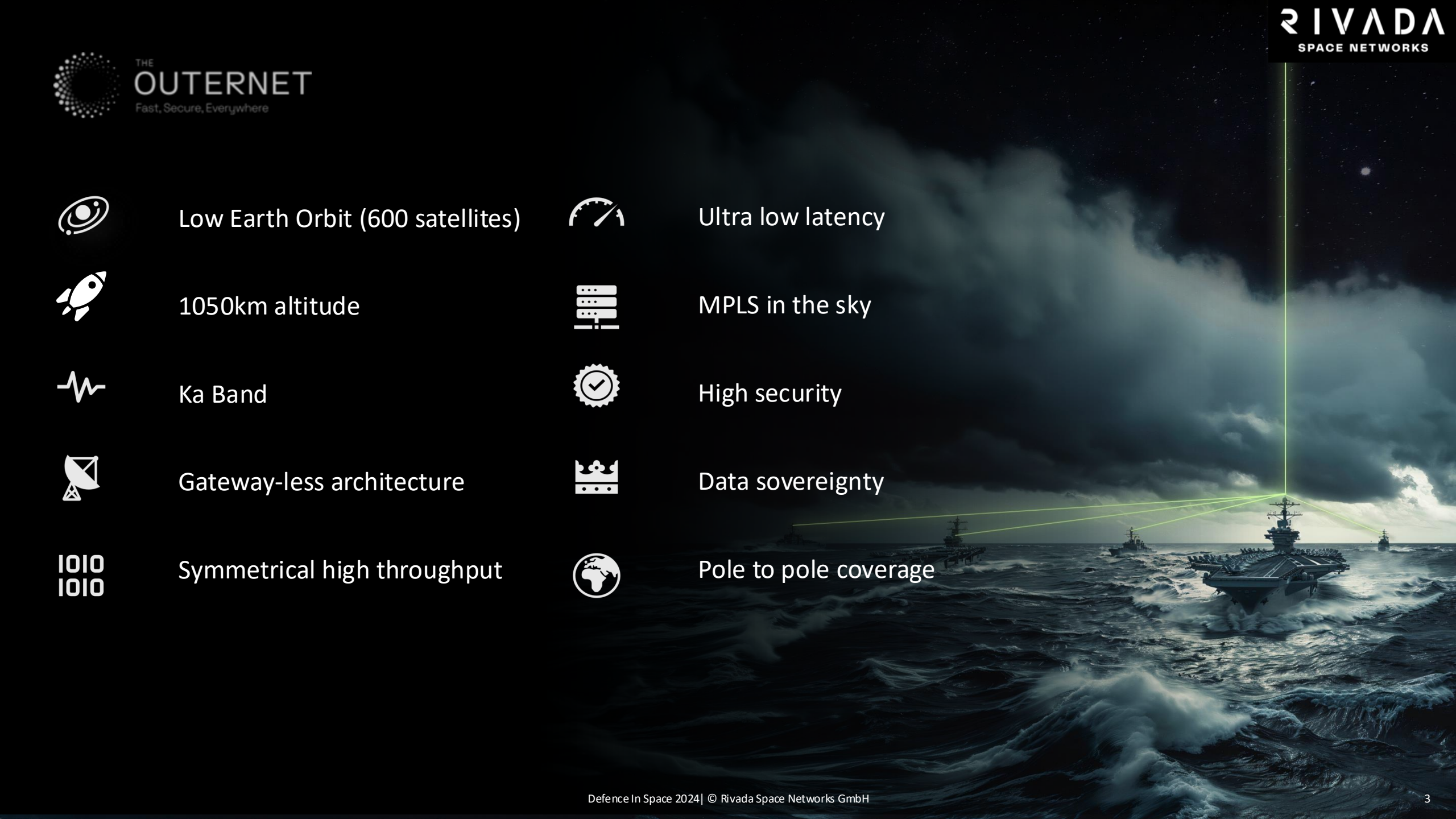
Building the Rivada outernet

Defence, Security, Enterprise, Maritime, Aviation

THE OUTERNET
Fast, Secure, Everywhere

RIVADA SPACE NETWORKS

- Low Earth Orbit (600 satellites)
- 1050km altitude
- Ka Band
- Gateway-less architecture
- Symmetrical high throughput
- Ultra low latency
- MPLS in the sky
- High security
- Data sovereignty
- Pole to pole coverage



Space Segment

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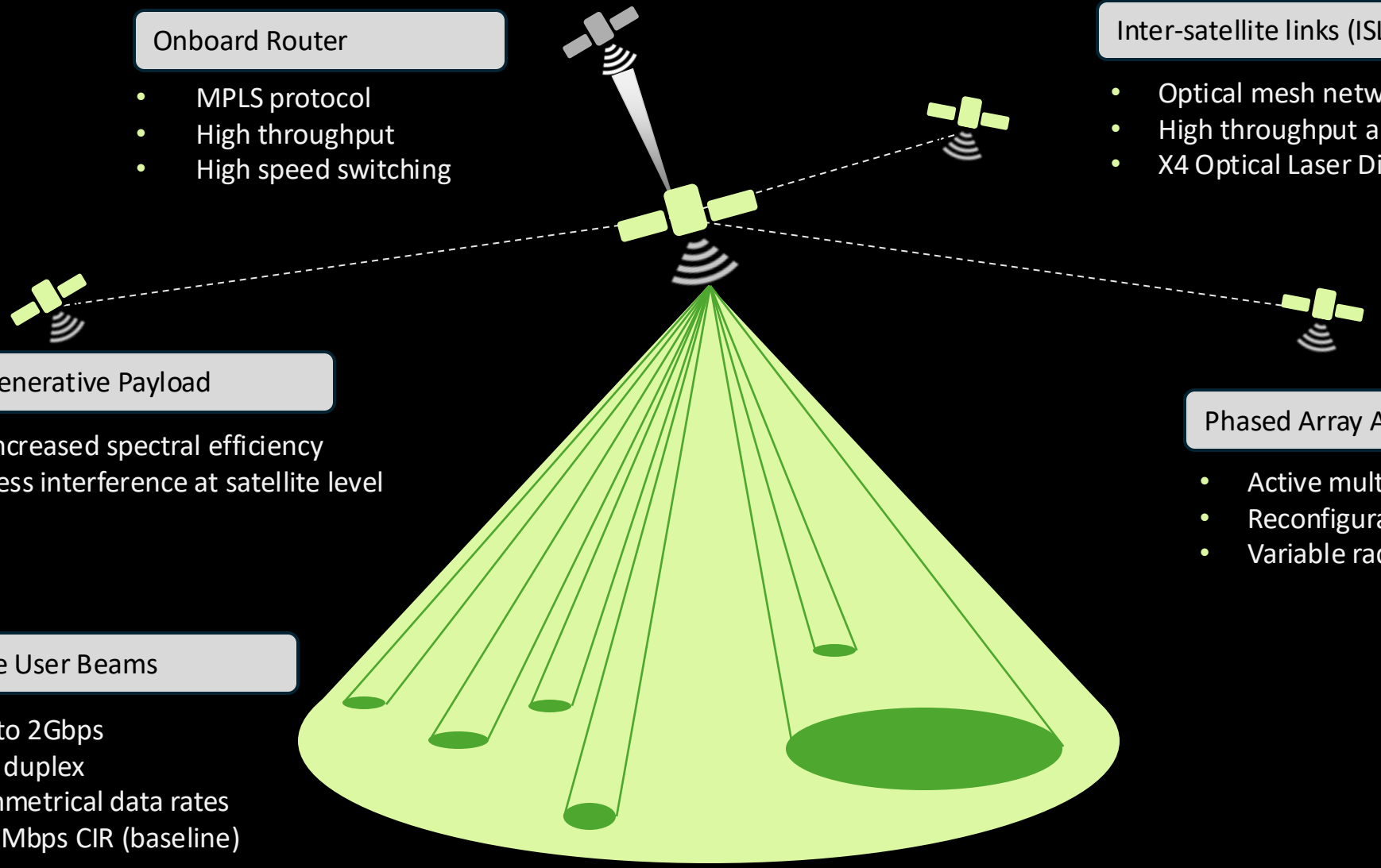
Onboard Router

- MPLS protocol
- High throughput
- High speed switching

Inter-satellite links (ISLs)

- Optical mesh network enabling high security
- High throughput and low latency in-orbit
- X4 Optical Laser Diodes per Satellite



Regenerative Payload

- Increased spectral efficiency
- Less interference at satellite level

Phased Array Antennas

- Active multi-beam management
- Reconfigurable coverage
- Variable radiated power

Flexible User Beams

- Up to 2Gbps
- Full duplex
- Symmetrical data rates
- 100Mbps CIR (baseline)

The Outernet

Market Access

- Taking ownership ahead of launch
- Licenses already in place
- Phased approach

MEF Standards

- Carrier Ethernet grade
- MEF CE3.0 certified
- Seamless integration (Common standards, API’s)

Our Gateway-less Architecture

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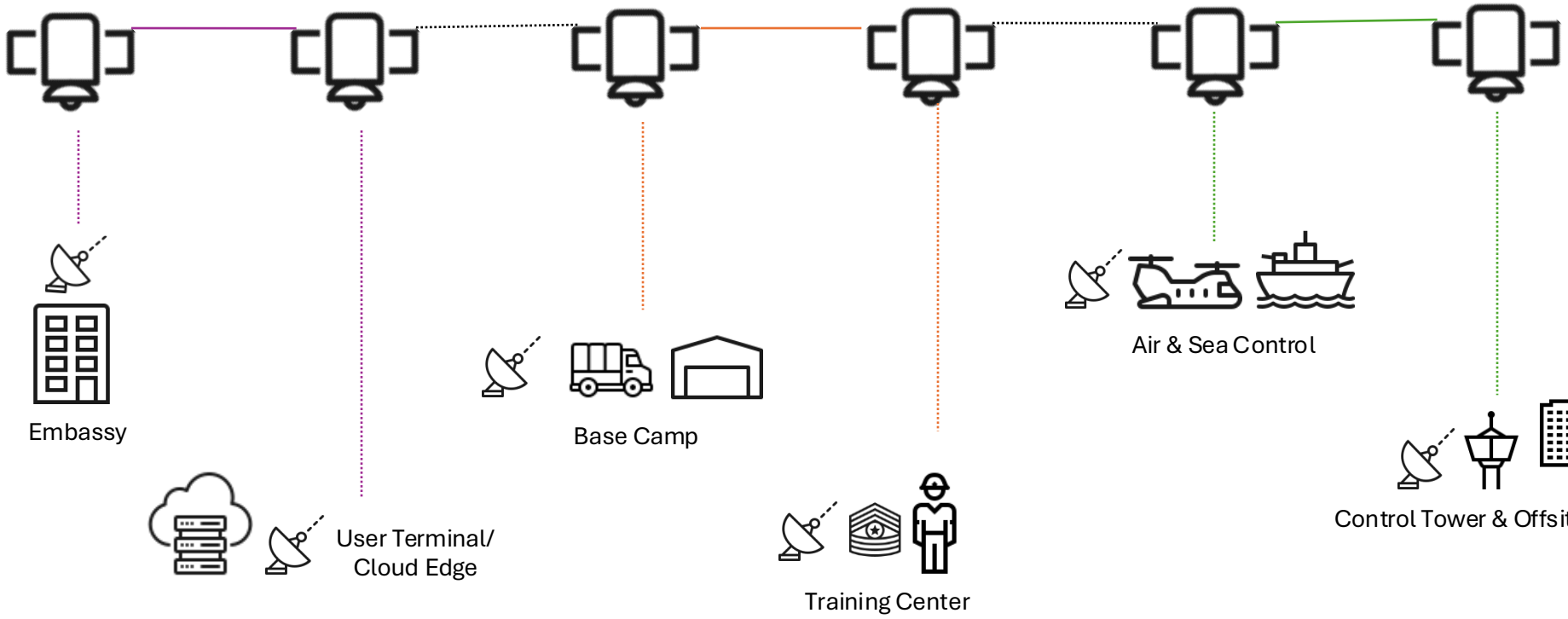
Point to Point Network
Without Gateways
(E-Line)



Gateway-less architecture
Other topologies

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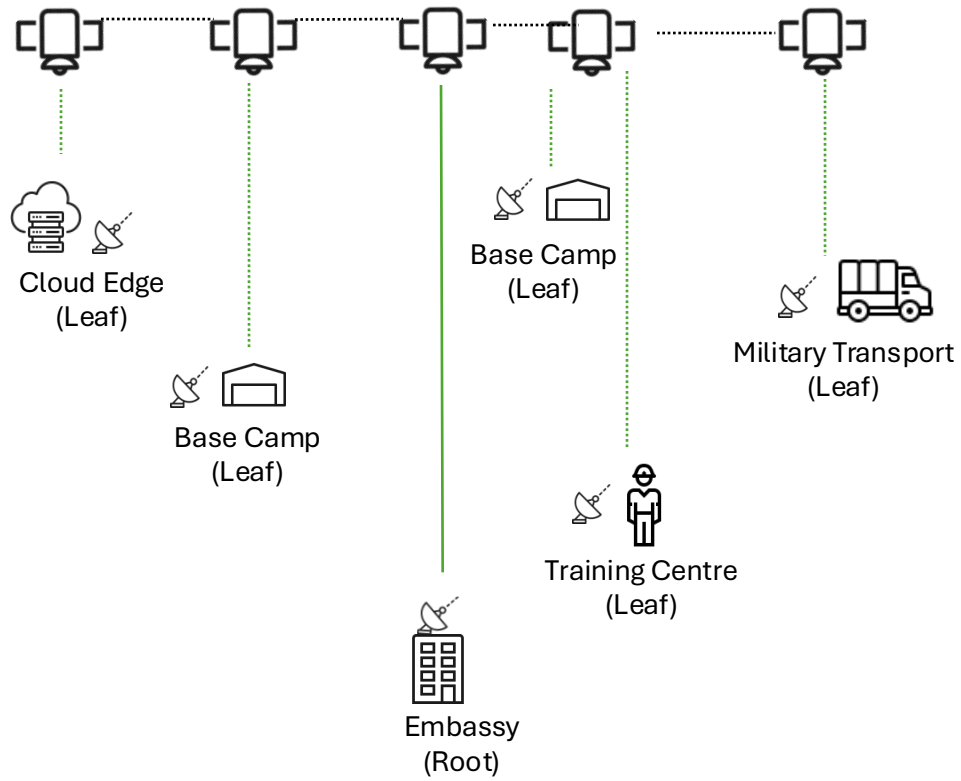
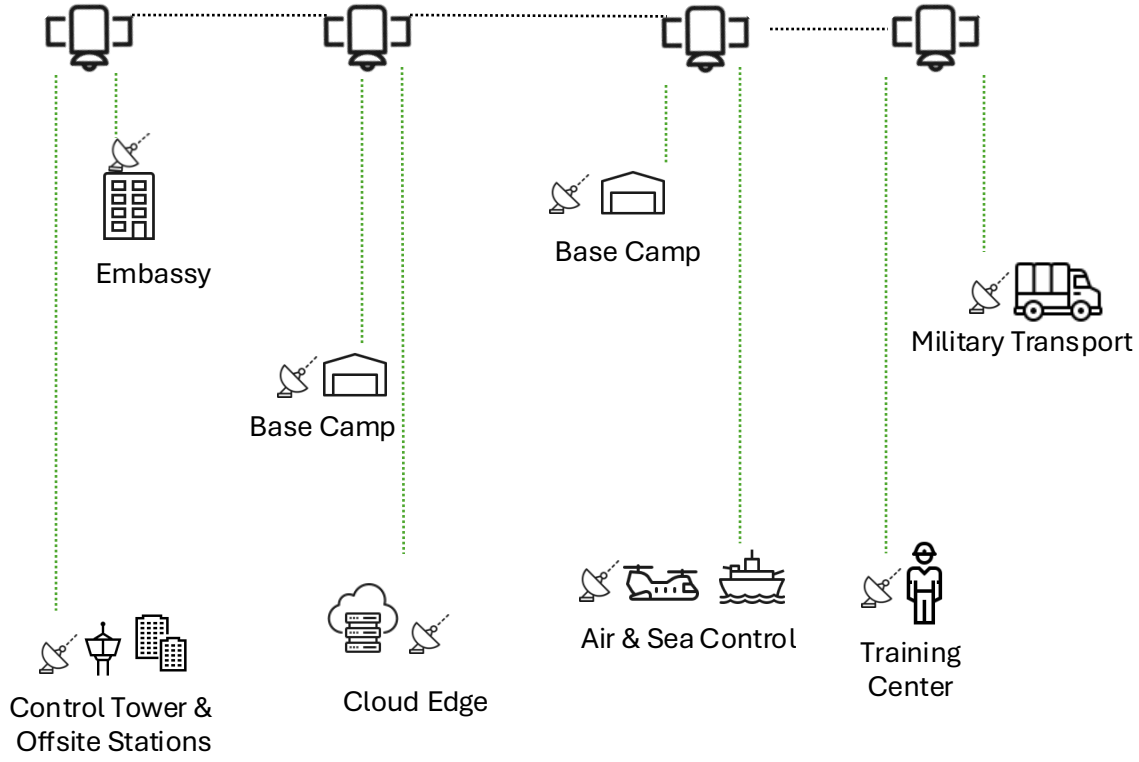
Point to Multipoint Network (E-Tree)



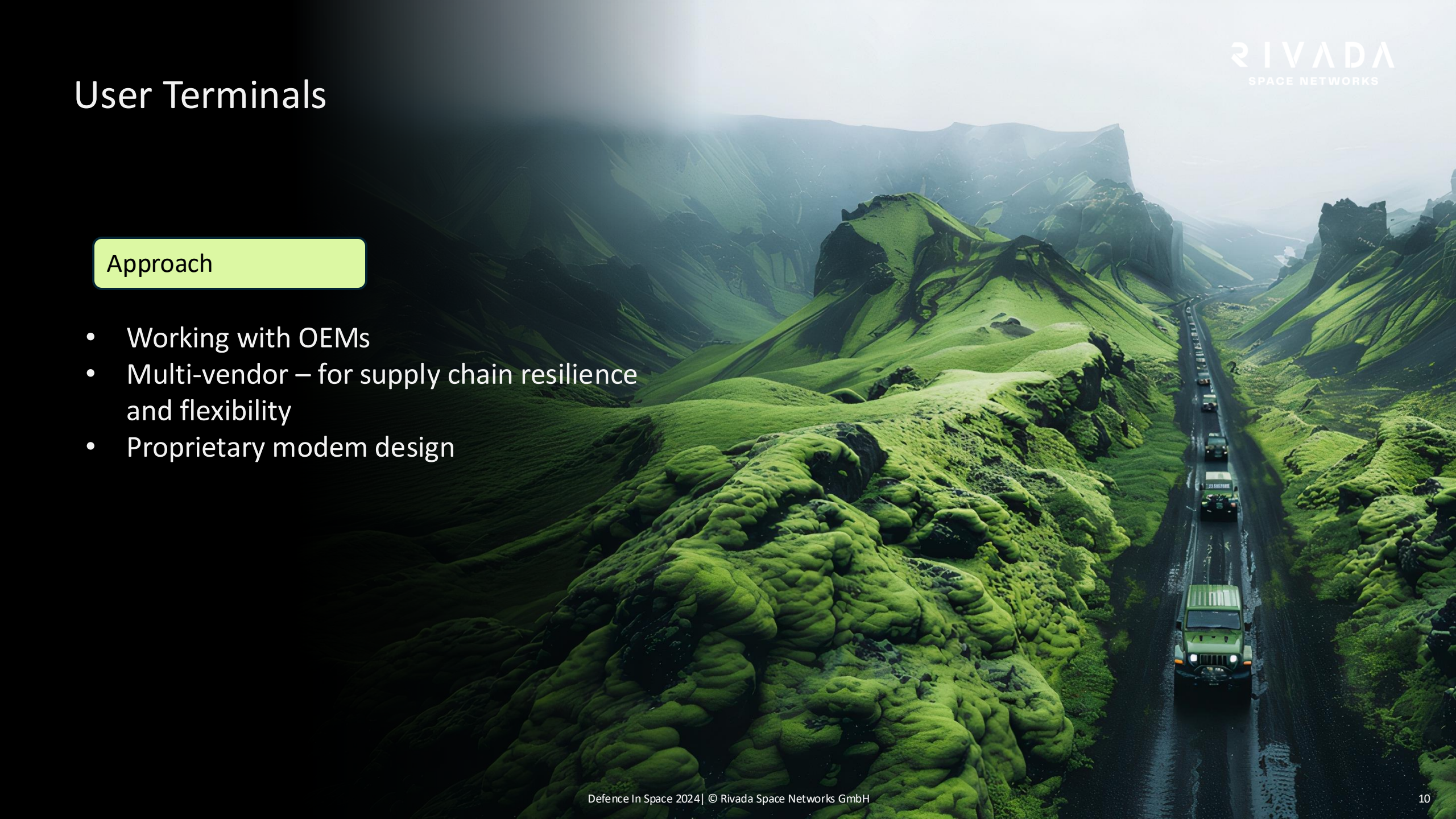
Multipoint to Multipoint Network (E-LAN)



User Terminals

Approach

- Working with OEMs
- Multi-vendor – for supply chain resilience and flexibility
- Proprietary modem design



User Terminal Approach

Early Service User Terminals

- Fixed commercial terminal applications
- ~60-70 cm ESA
- ~60-80 cm + ~1.0-1.2 m dual parabolic
- E-Line Carrier Ethernet Services (EPL and EVPL)

Roadmap to Expand Use Cases and Capabilities Over Time

- Mobility – Vehicle, Manpack, Maritime, Aero
- Higher capacity, tighter integration

Flat Panel and Parabolic Antenna for Reference Only

Pre-cursor Mission (early 2025)

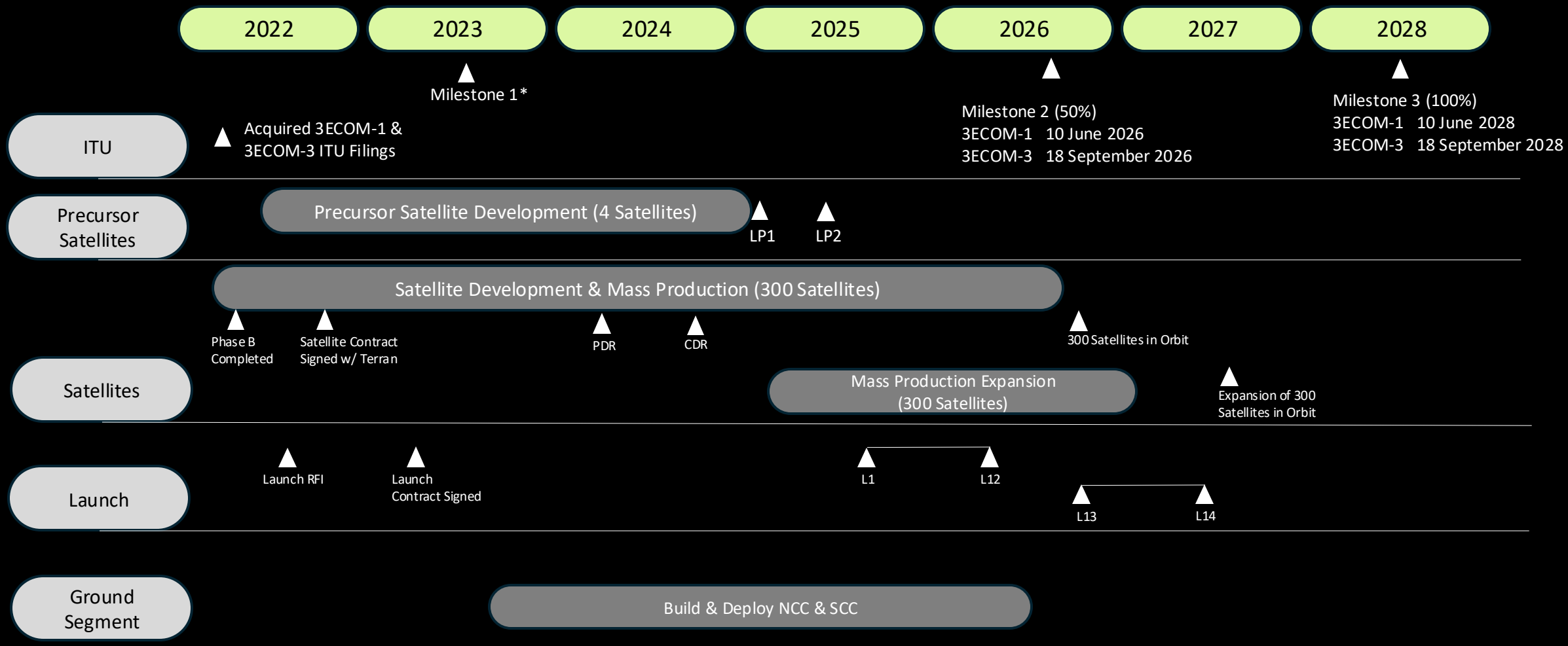
Orbital Formation

- 4 identical satellites
  - 2 satellites per plane
- 3ECOM1 3ECOM3 filings
  - 89 degrees inclination
  - 1050km altitude
- 2 adjacent orbital planes
  - 15 degrees

Satellite configuration

- Scaled down platforms
  - From Terran Orbital
- Representative RF payload
- 2 LCTs per satellite

2024 Main Milestone Achievements



* On July 5, 2023, the ITU Radio Regulations Board waived Milestone 1

Service Deployment Schedule

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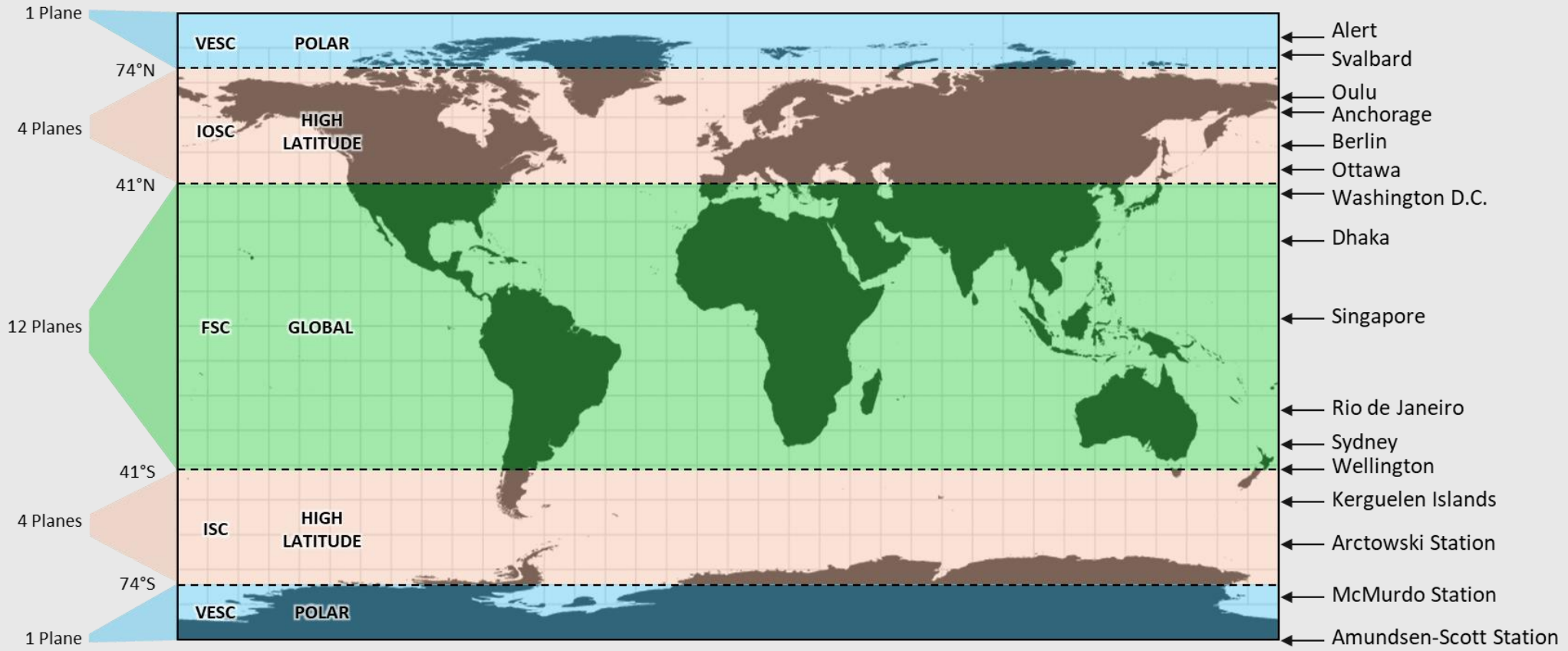

Outernet Differentiators

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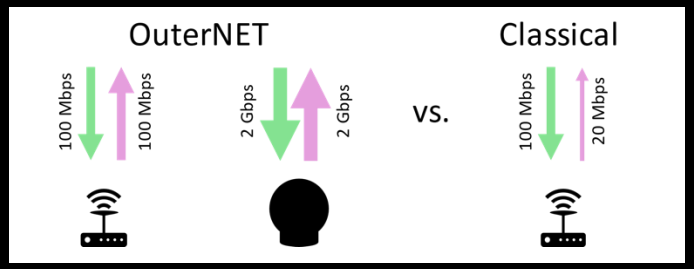
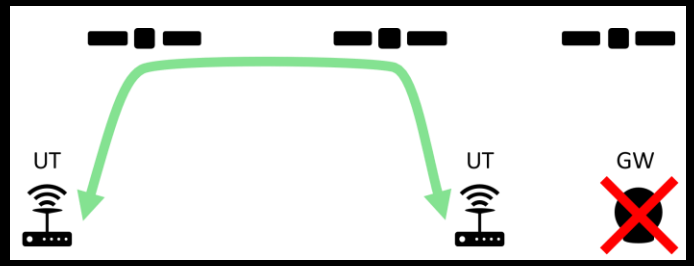
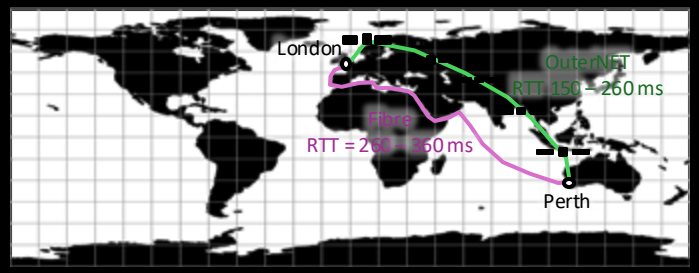


Symmetrical Down/Up Link

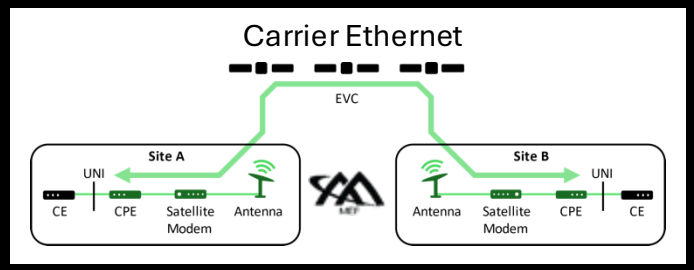


Gateway-less Architecture

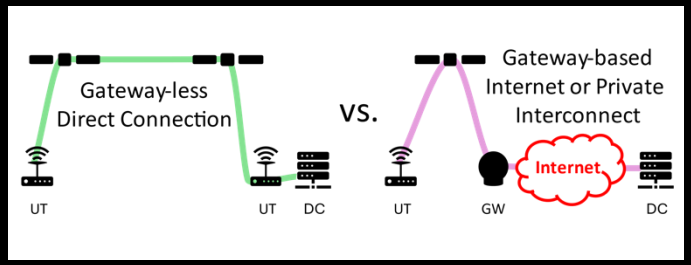
Pole to Pole Coverage



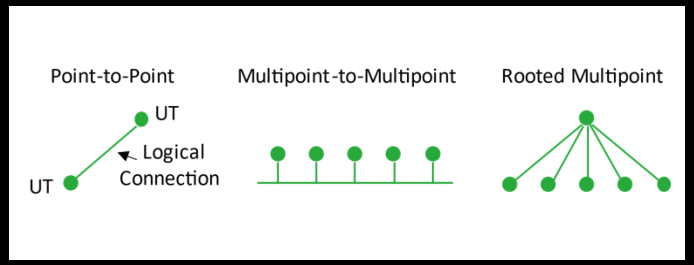
Ultra Low Latency



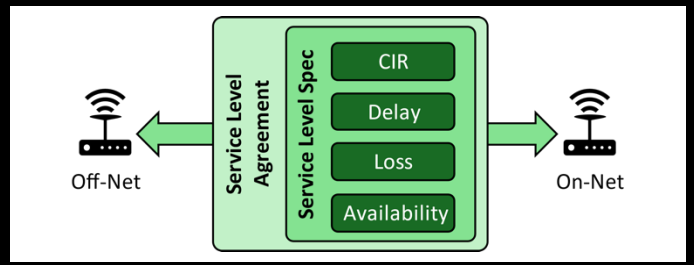
Layer 2 Connectivity



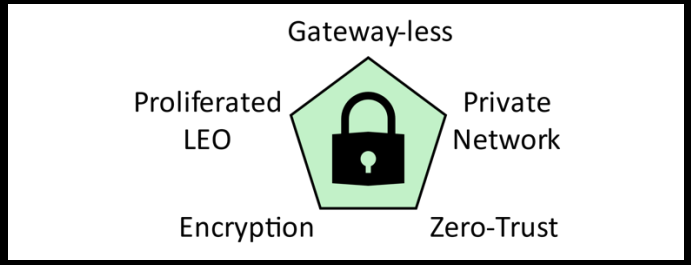
Data Sovereignty



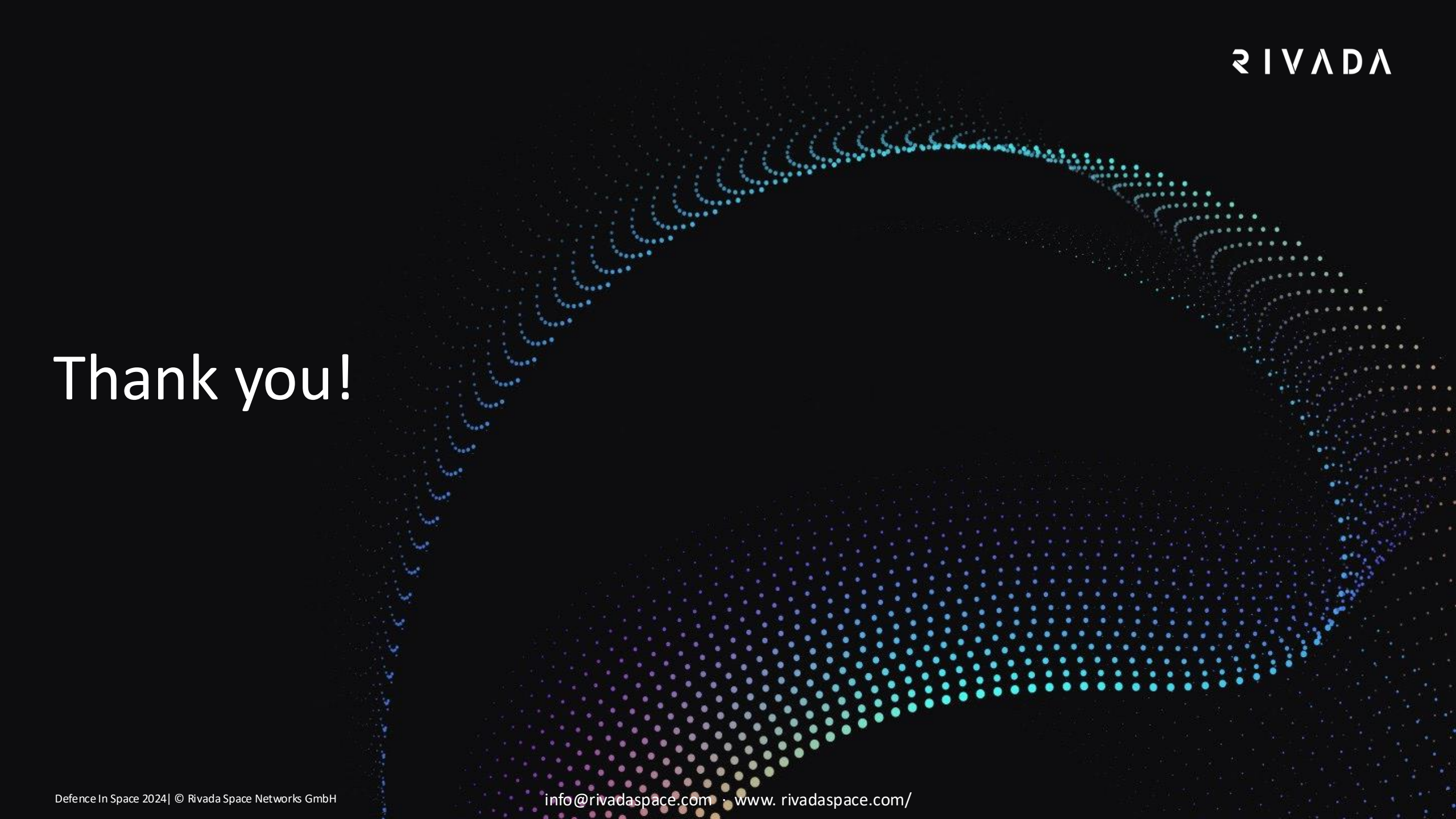
Multi Topology Options



End to End SLA



Security & Resiliency by Design



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