Connecting Alaska's General Contractors with NEW LEO & GEO HTS Space-based Broadband Technology

Presentation To:

THE ASSOCIATED GENERAL CONTRACTORS OF ALASKA

PACIFIC DATAPORT

November 2023 | Pacific Dataport, Inc. | Anchorage, Alaska

Today's Focus…

- Alaska Coverage Today vs. Tomorrow
- New Industry Innovations
- How You Can Use This New Tech
- What's Coming Soon

… But first the basics!

Building On Our Experience …

Microcom™ Communications Solutions

Created…

PACIFIC DATAPORT

Partnered with…

OneWeb

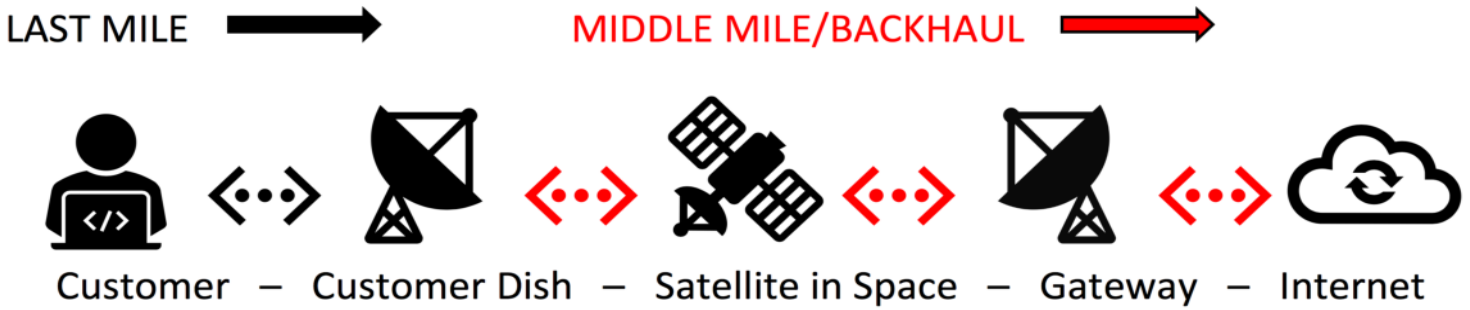
About Pacific Dataport Inc. - Pacific Dataport Inc. (PDI) is a satellite middle mile provider headquartered in Anchorage, Alaska. PDI was founded “by Alaskans, for Alaskans” to enable Internet access for everyone, everywhere in Alaska. PDI is focused on providing affordable middle mile and last mile broadband using the newest satellite technology from the Aurora and OneWeb Networks. PDI clients include telecoms (wired & wireless), non-profits, hospitals, clinics, schools, libraries, governments (Tribal, local, state & federal) and Alaska Native Corporations, Villages, Tribes and Tribal consortiums.

Last Mile Technology

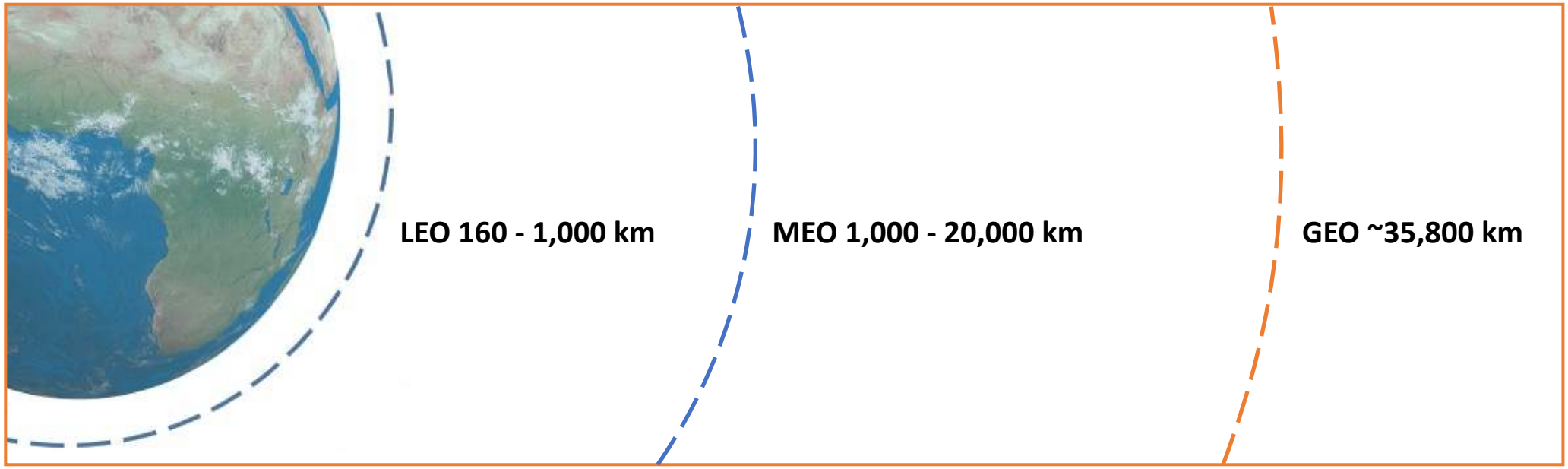
Coax, Fiber, Wireless, DTC Satellite (in the community)

Middle Mile Technology

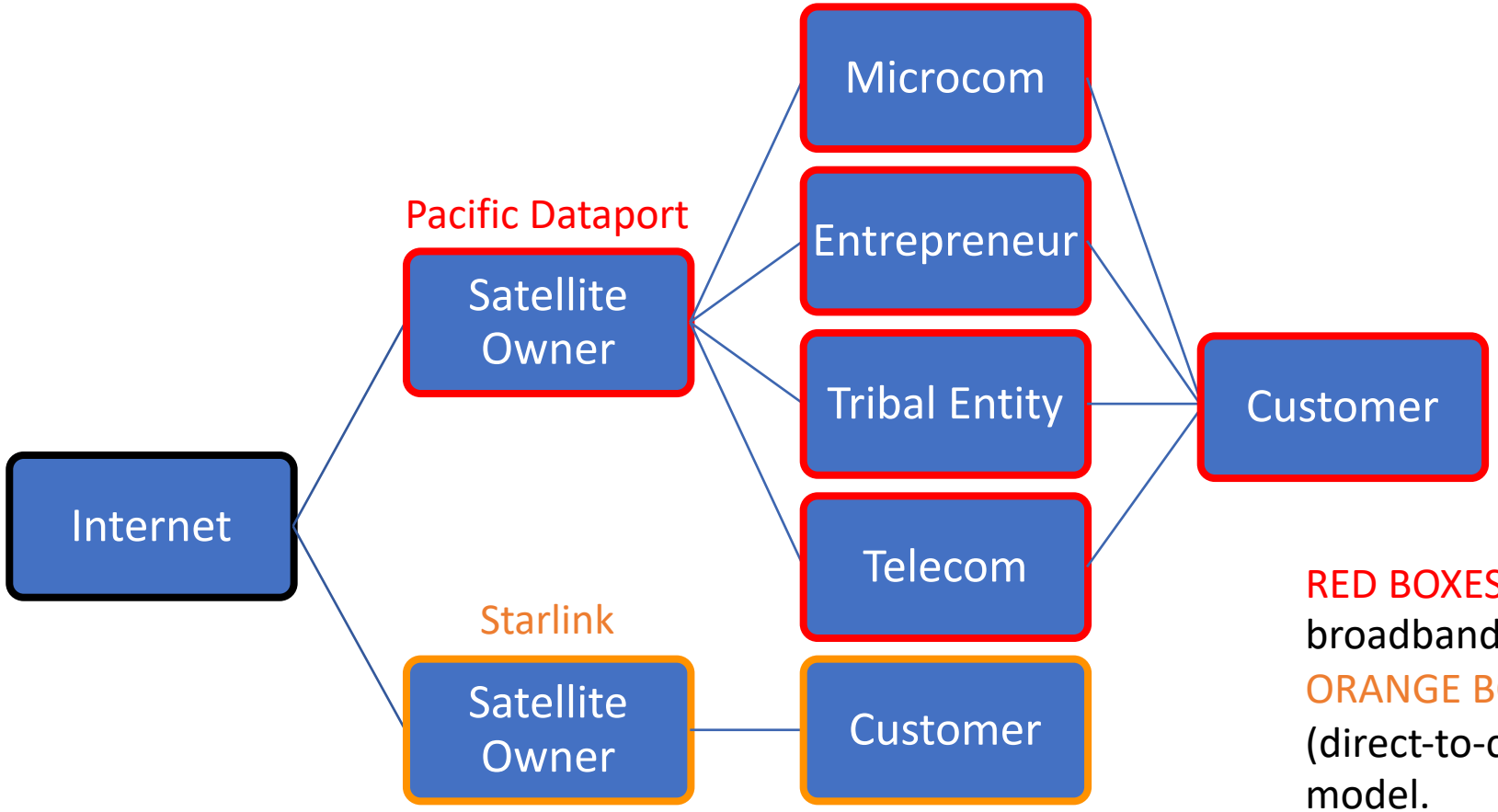
Fiber, Satellite, Microwave (on the highway)



LEO, MEO, GEO Satellites



Internet to Customer Path



RED BOXES indicate middle mile broadband business model.
ORANGE BOXES indicate DTC (direct-to-consumer) business model.

Alaska Coverage
Today vs. Tomorrow

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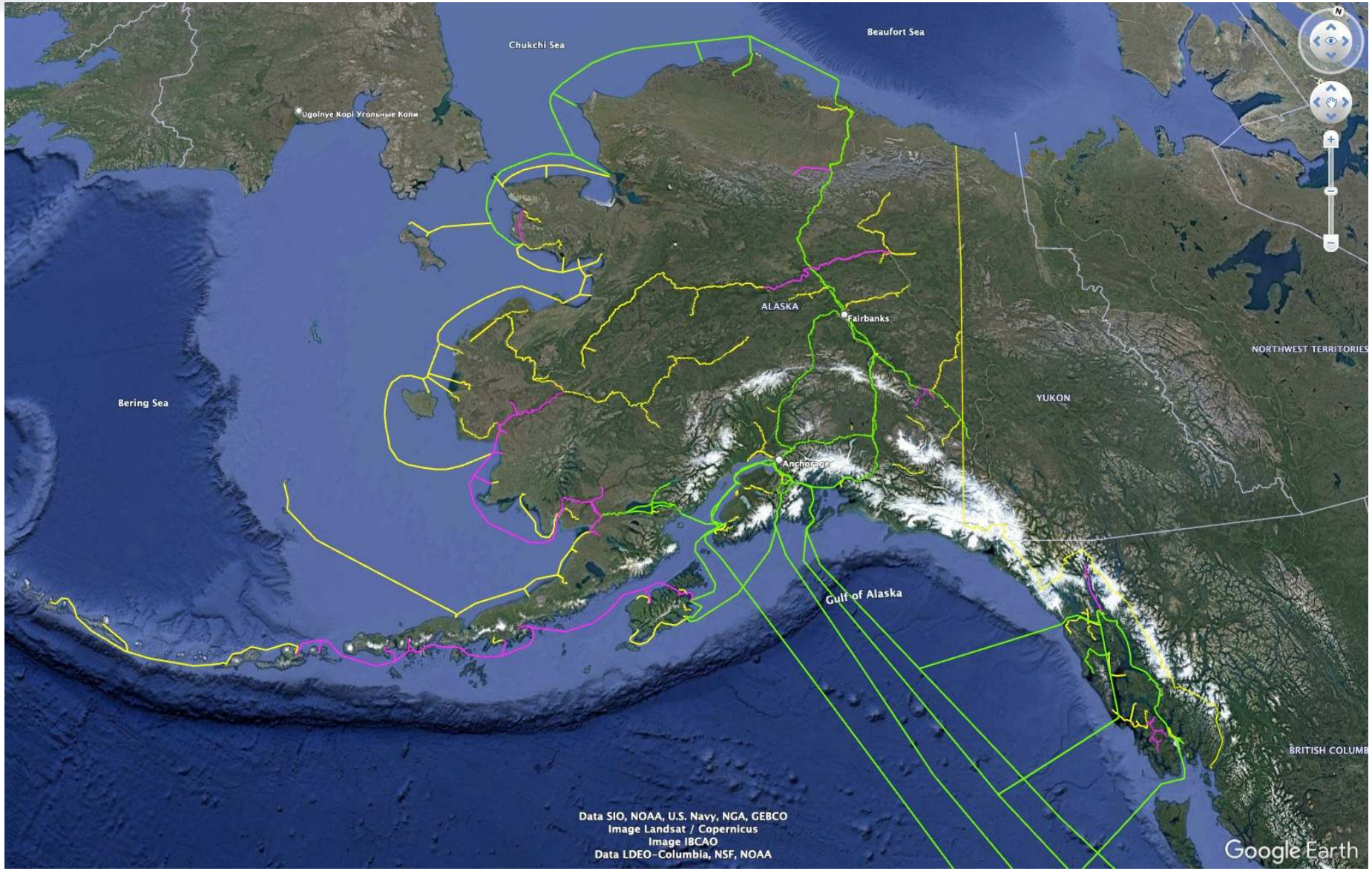
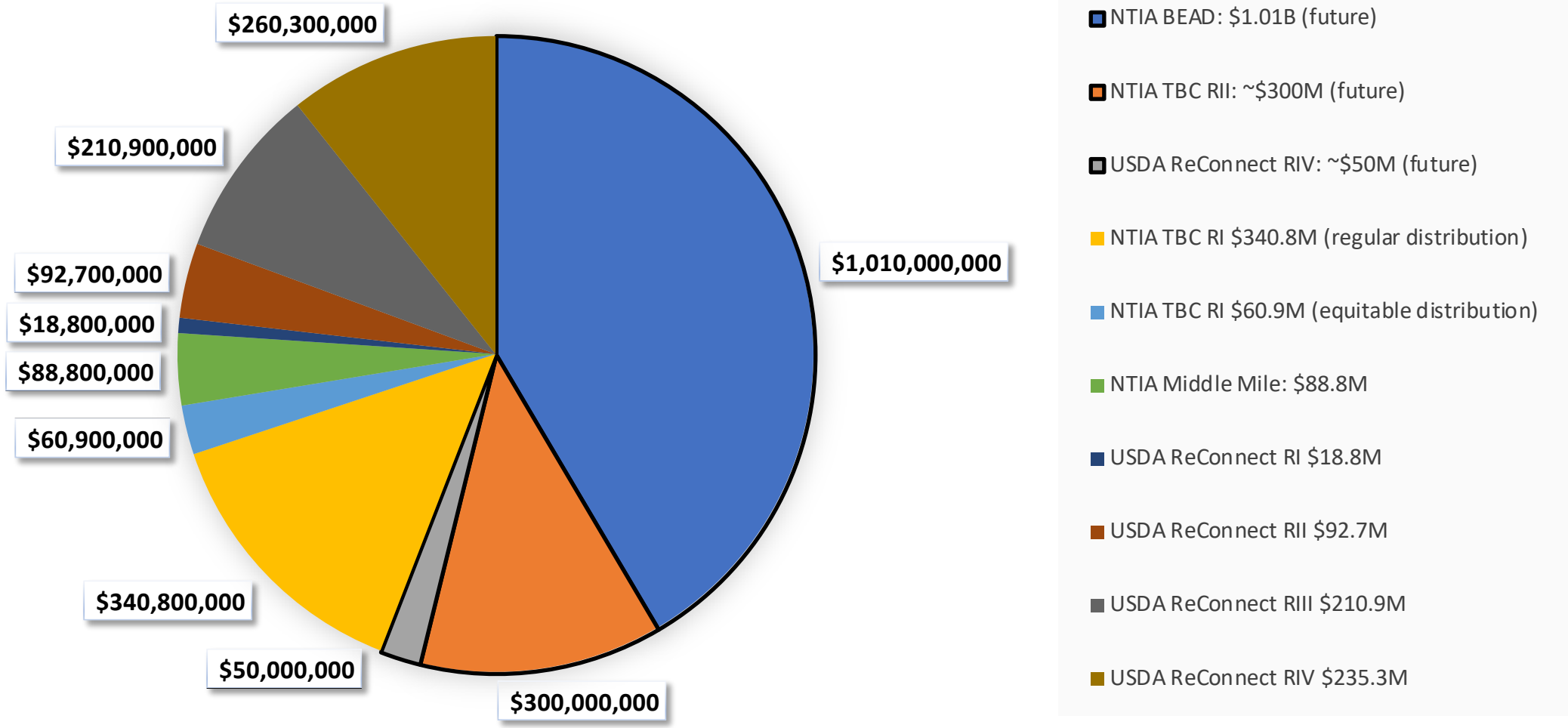
- Existing Fiber (green)
- Current Construction Fiber (pink)
- Future Fiber - Universal Broadband Network (yellow)
- Does not include GCI's Terra Microwave Network



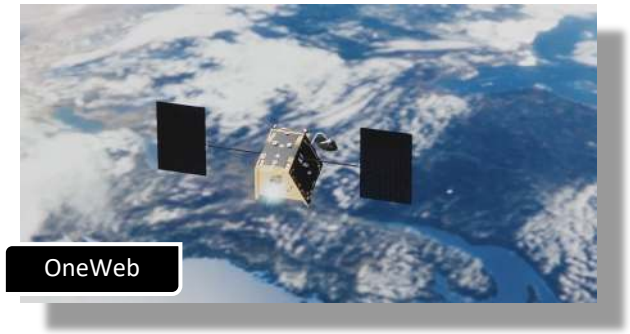
Courtesy of the Alaska Broadband Office

Alaska's $2.4B Federal Funding for Broadband



OneWeb Network

- LEO Satellite
- Statewide Coverage
- Operational Now



Aurora Phase I – Aurora 4A

- ~7.5 Gbps
- GEO HTS Satellite
- Statewide Coverage
- Operational Q2 2024

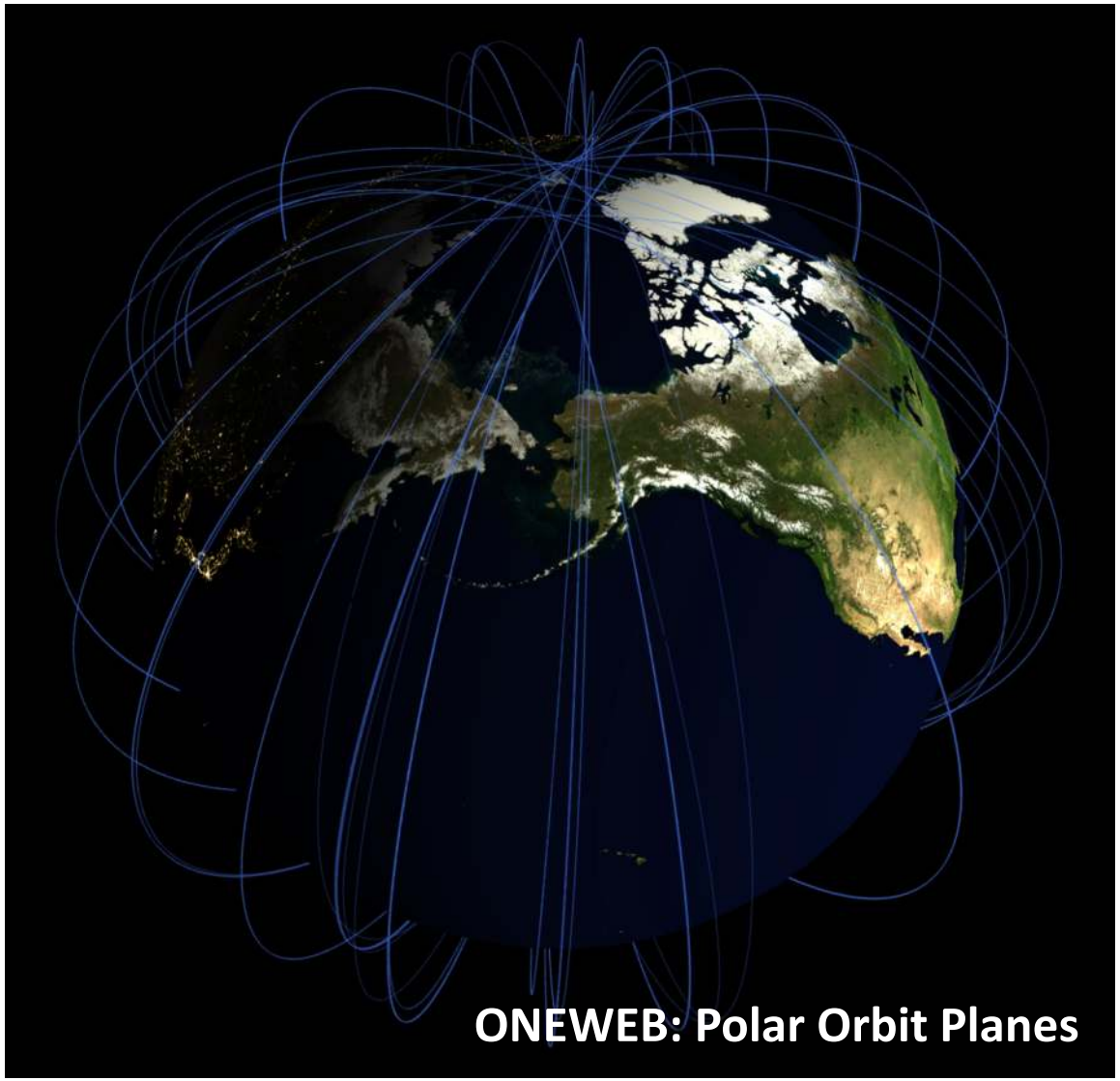
Aurora Phase 2 – Aurora IV

- ~100+ Gbps
- GEO VHTS Satellite
- Statewide Coverage
- Operational Q4 2025

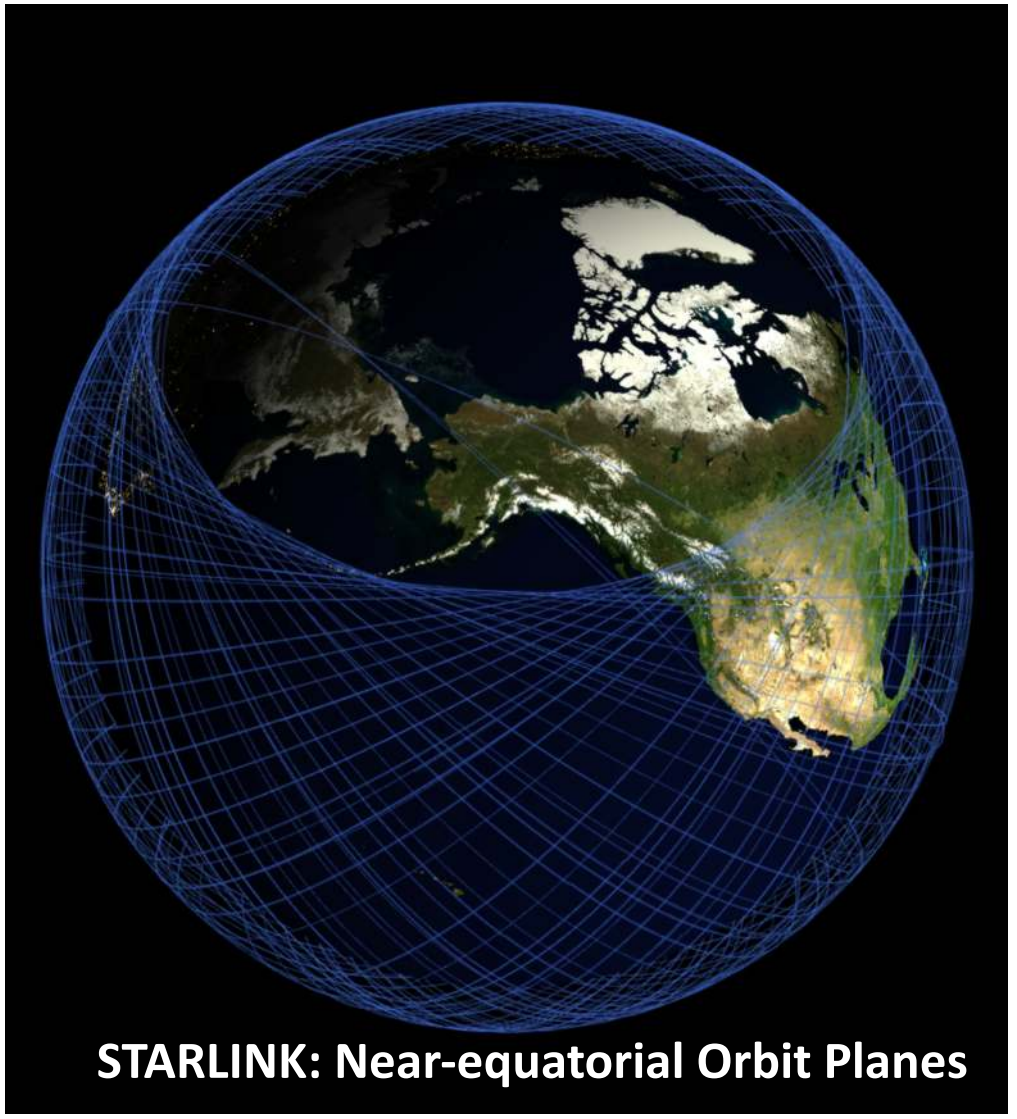
More Affordable, Faster Deployment & No Additional Subsidies Needed

New Industry Innovations

LEO Satellite Projects



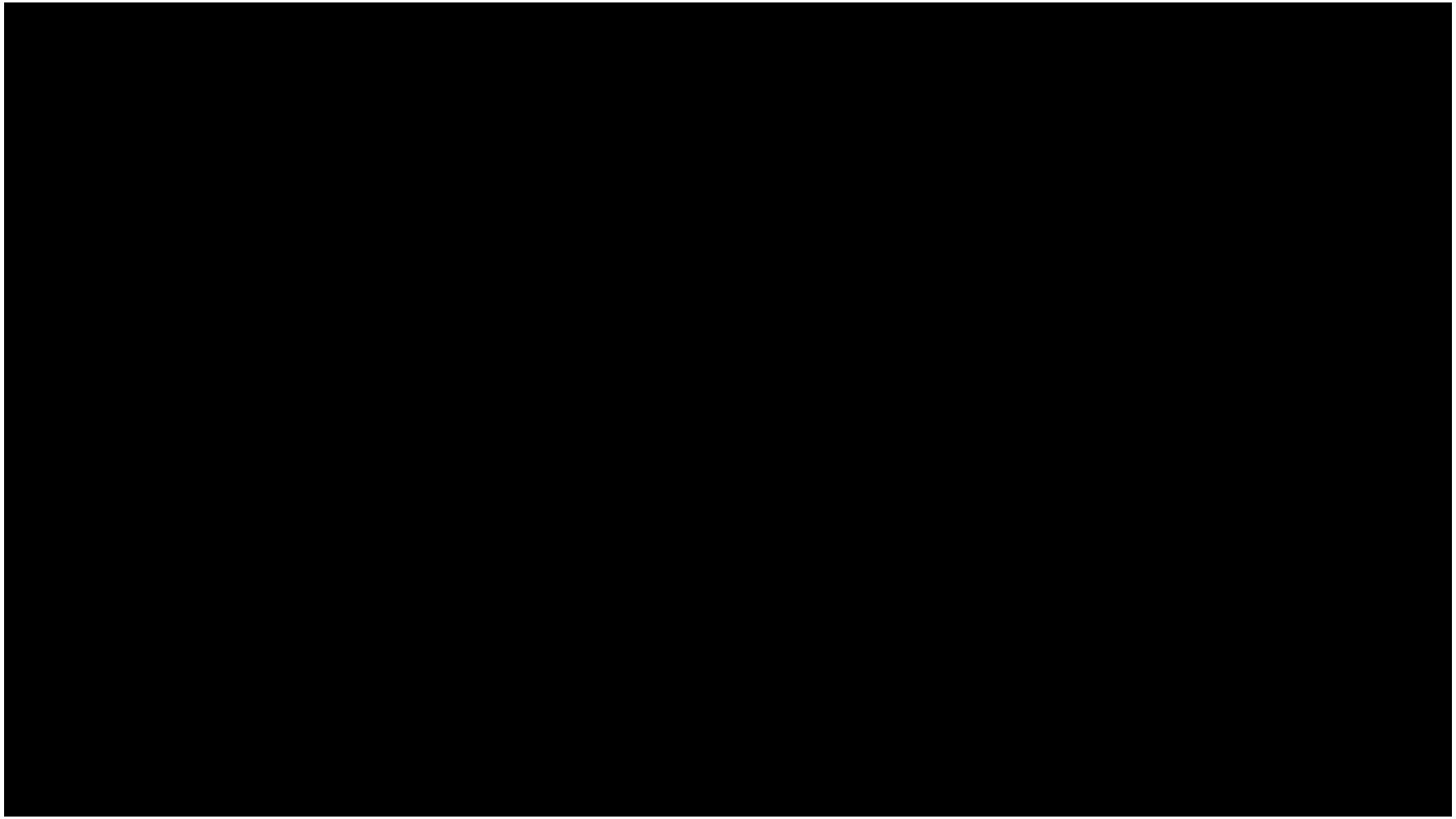
ONEWEB: Polar Orbit Planes



STARLINK: Near-equatorial Orbit Planes

VIDEO

LEO Network Structure



Starlink LEO Satellite Backhaul Projects

The first Starlink community gateway located in Unalaska, Alaska. Photo: SpaceX

OneWeb LEO Satellite Portable Terminal

Kymeta’s Hawk u8 OneWeb LEO Terminal. Photo: Kymeta

KYMETA™

Antenna Variations:

- Fixed Locations
- Moving Land Vehicles
- Moving Marine Vessels
- Moving Aircraft

OneWeb LEO Satellite Gateway

Microcom's Talkeetna Alaska Teleport / OneWeb's Gateway. Photo: Microcom

Microcom™
Communications Solutions

- 90 Acre Site
- Able to host multiple gateway clients
- OneWeb first client with 29 gateways
- Redundant fiber and power
- Space for a data center, data processing and Internet exchange

Aurora GEO Satellite Network

New Technology

- High speed and high capacity
- Direct connection to the Internet (Layer 3)
- Ka-Band, better than previous technology

Aurora Project Satellite Capacity Comparison

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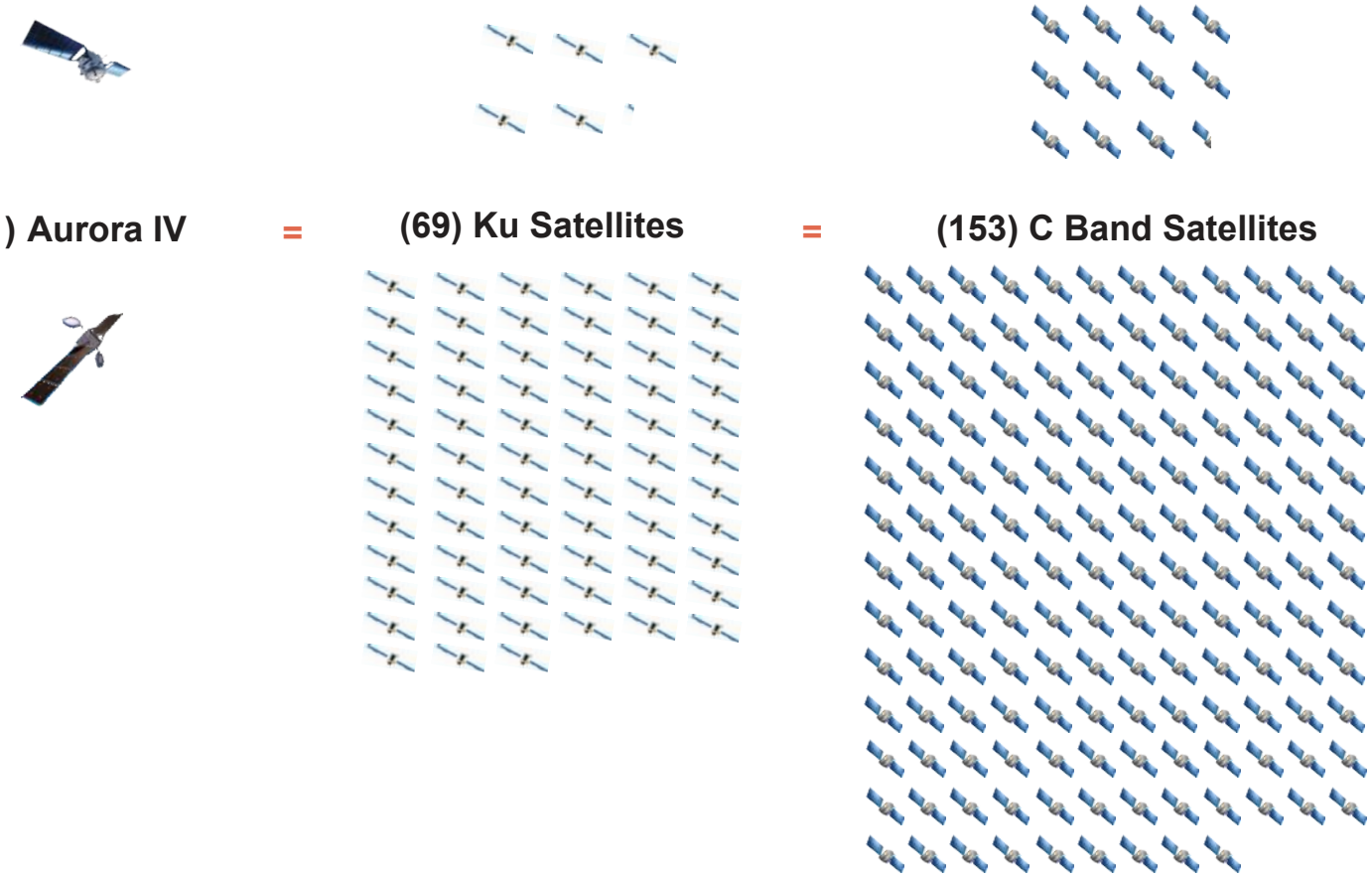
(1) Aurora 4A	=	(5.2) Ku Satellites	=	(11.5) C Band Satellites
(1) Aurora IV	=	(69) Ku Satellites	=	(153) C Band Satellites

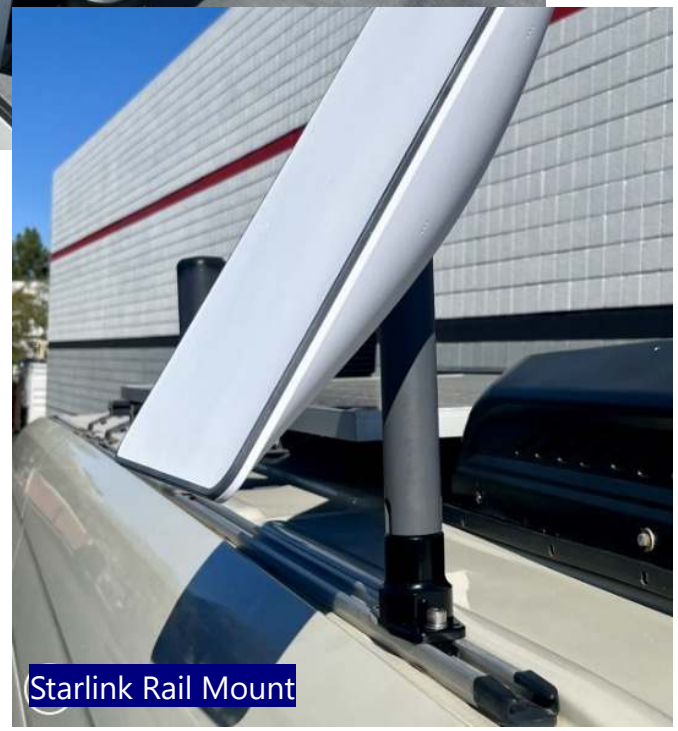


Comparison is based on the following technical capacity parameters.
Aurora 4A = 7.5 Gbps (7,500 Mbps) • Aurora IV = 100 Gbps (100,000 Mbps) • Ku Satellite = 1.448 Gbps (1,448 Mbps) • C Band Satellite = .650 Gbps (650 Mbps).

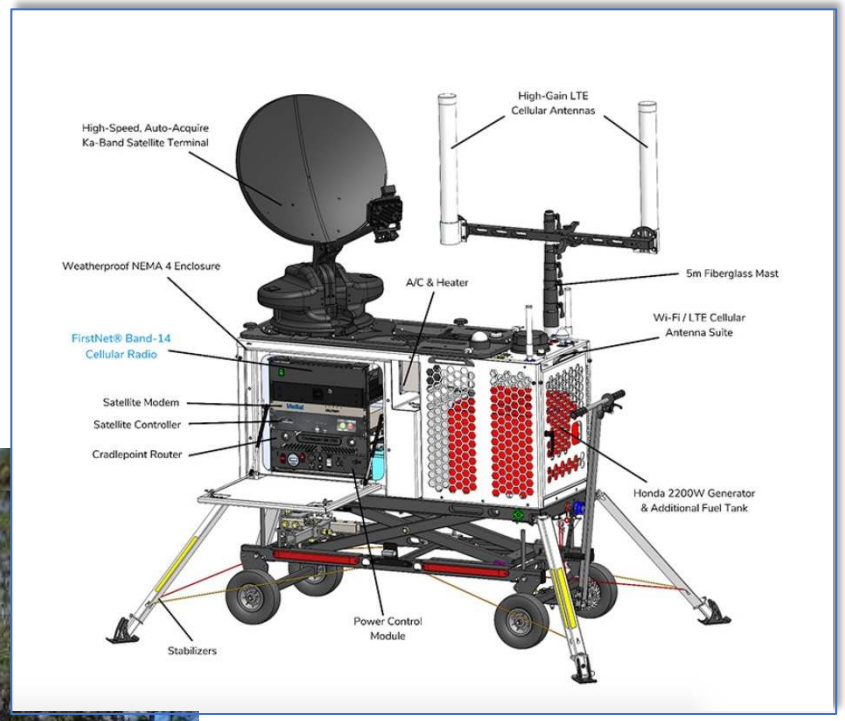
How You Can Use This New Tech

- More Efficient and Streamlined Project Management
- More Reliable Communication with Remote Teams
- Improved Emergency Response
- Improved Site Security
- Improved Employee Morale
- Integration of AI Technology (video)


Starlink In Motion Phased Array Antenna


Starlink Rail Mount

Portable Communications



Can Provide Redundant Broadband and Cellular Connectivity,
with Dual Power Sources. Good For More Than 25 Users.

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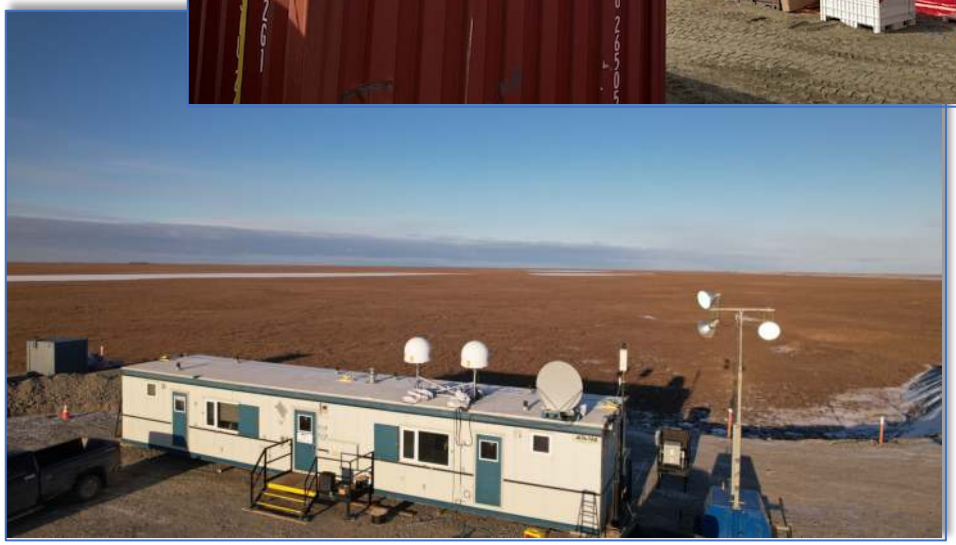
Portable Communications



VIDEO

AI & On-Site Connectivity

What's Coming Soon

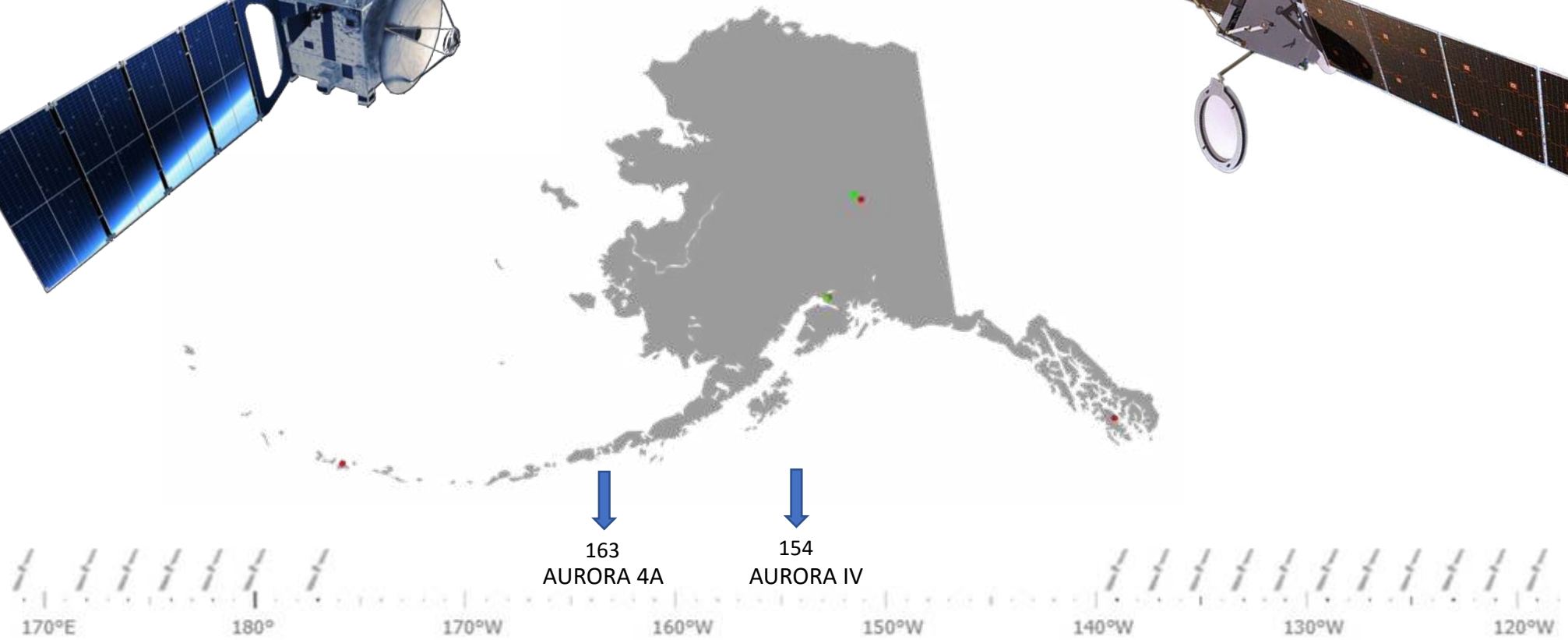
LEO OVER ALASKA

Network	Date Available	Reported Speeds	Reported Latency	Capacity Available
Eutelsat / OneWeb (mm)	Now	up to 100/20	65-200 ms	~20 Gbps
Lightspeed (Telesat, mm)	Unknown	Unknown	Unknown	Unknown
Rivada Space (Germany, mm)	2026	Unknown	Unknown	Unknown
Starlink (SpaceX, dtc)	Now	up to 196/27	63-92 ms	~20 Gbps
Kuiper (Amazon, dtc)	Unknown	Unknown	Unknown	Unknown
Galaxy Space (China, dtc)	Unknown	Unknown	Unknown	Unknown

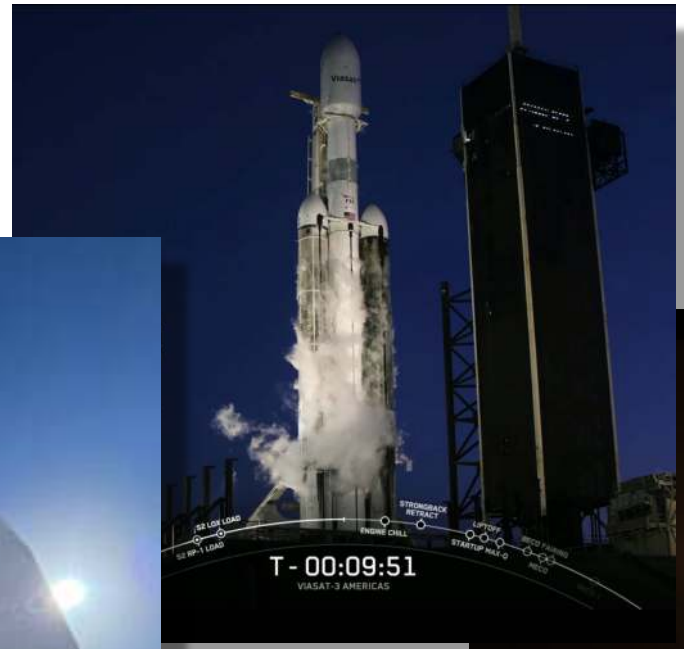
GEO HTS OVER ALASKA

Network	Date Available	Reported Speeds	Reported Latency	Capacity Available
Pacific Dataport: Aurora 4A	Q1 2024	up to 400/100	550-650 ms	~10 Gbps
Pacific Dataport: Aurora IV	Q4 2025	up to 400/100	550-650 ms	~100 Gbps
Jupiter 3 (Hughes)	Q1 2024	up to 400/100	550-650 ms	Minimal
HughesNet	Now	up to 44/4	693 ms	0
Viasat	Now	up to 34/5	784 ms	0

Aurora Network Orbital Slots

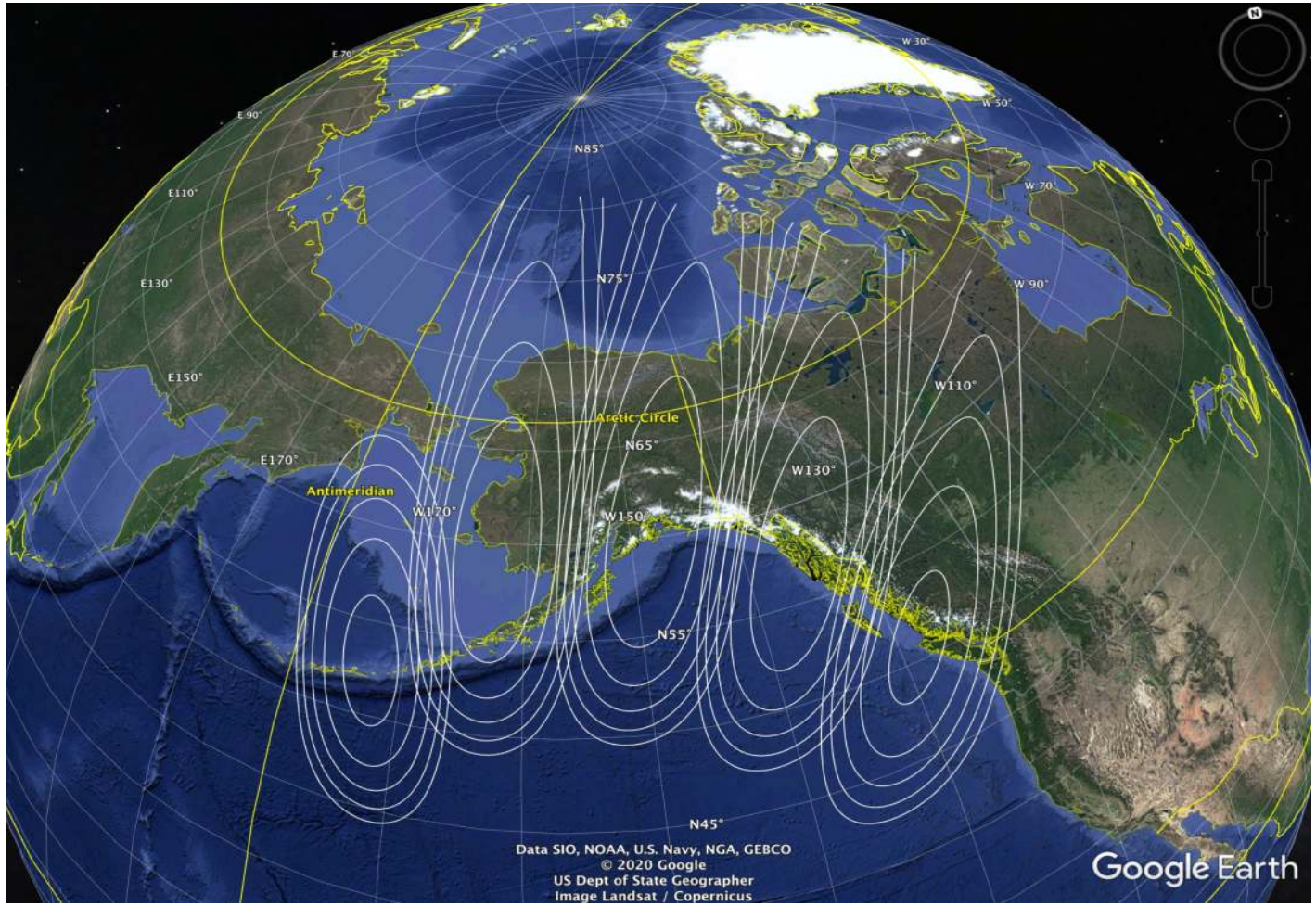


Aurora 4A Launch Expected – Q1 2024



- ✓ Satellite built in California
- ✓ Gateway built in Utah
- Launch expected Q1 2024
- Commercial service on or before Q2 2024

AURORA 4A GEO HTS Alaska Coverage



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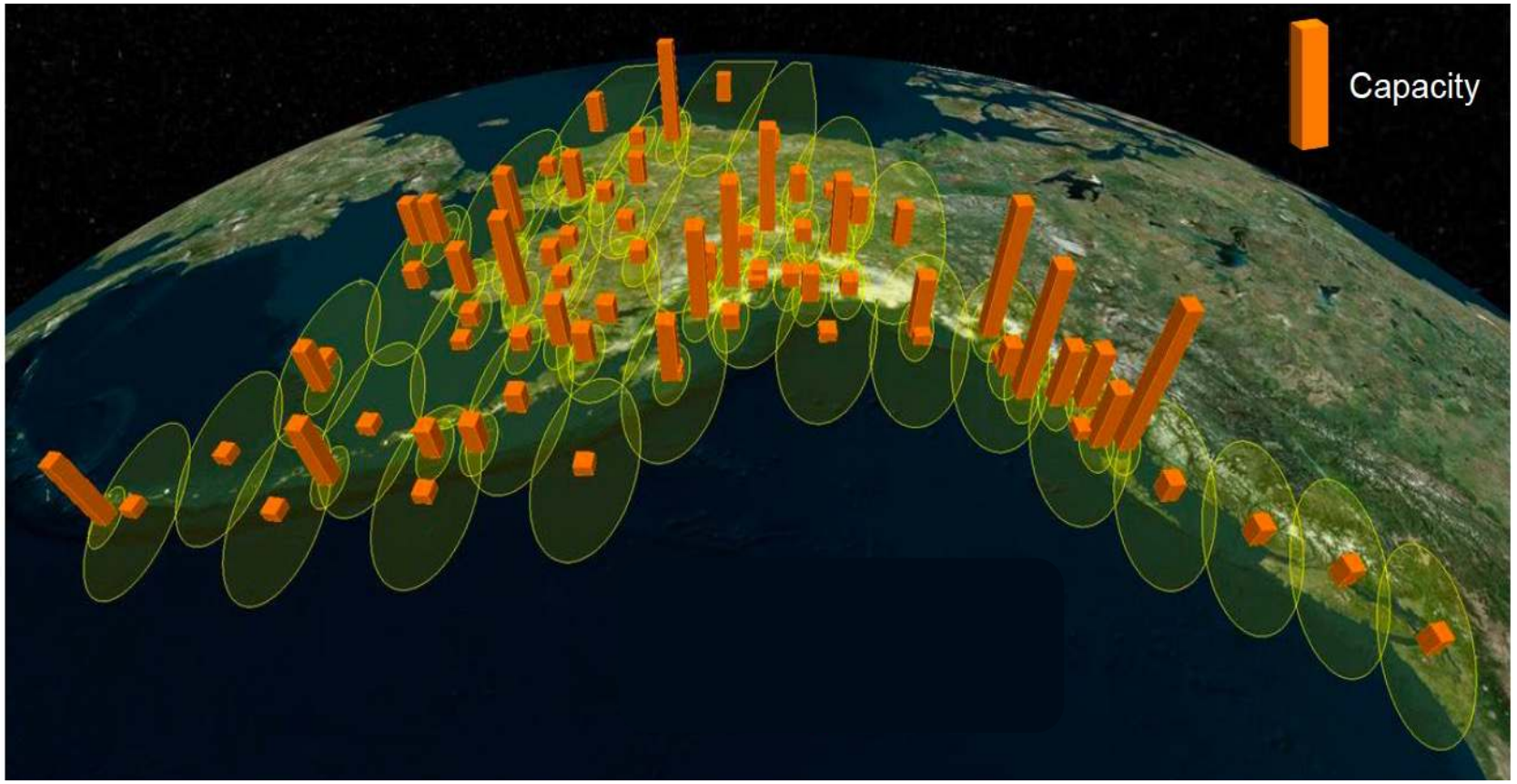
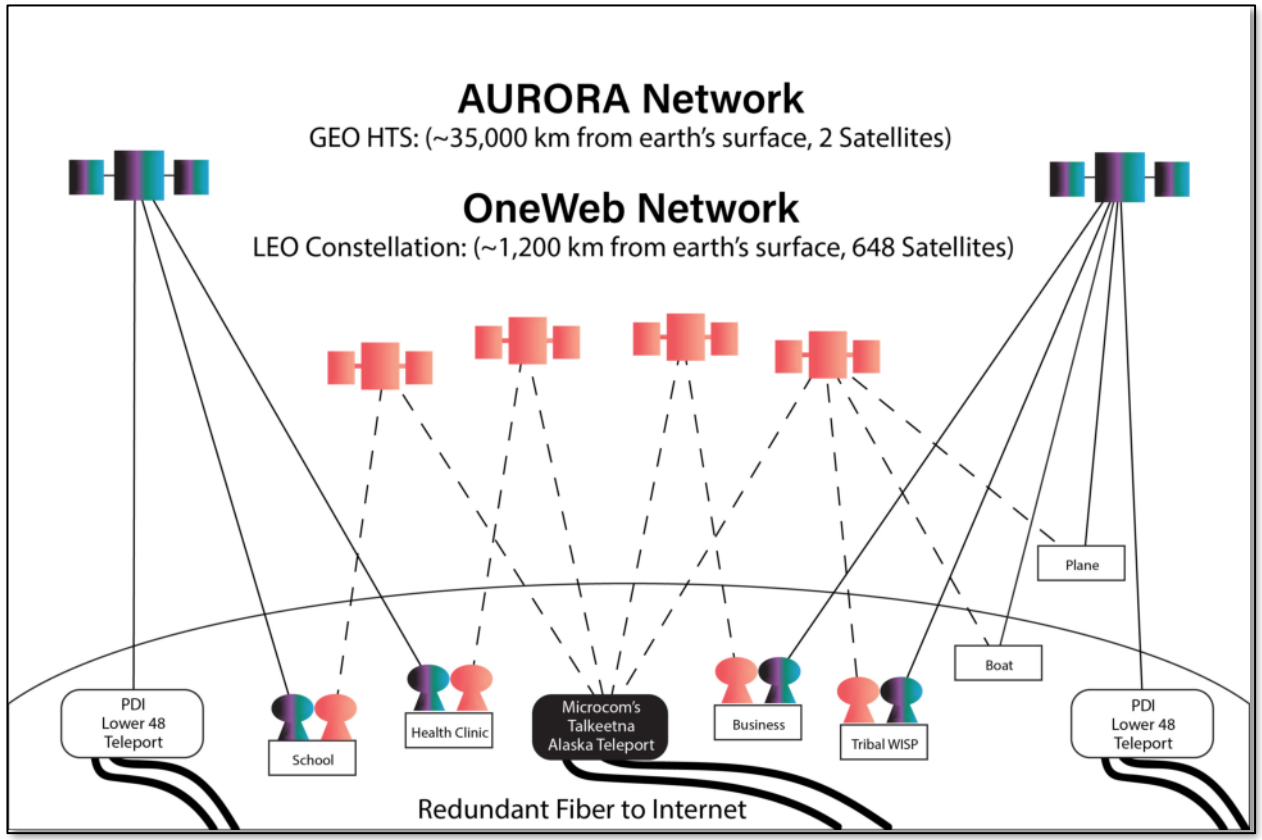
Aurora IV Optimized for Rural Alaska

- Capacity ~110+ Gbps
- Dynamic Beam Coverage
- Enables a target retail price of $99
- Multi-satellite system offers redundancy and diversity
- Expansion capacity as needed
- **STATEWIDE RESILIENCY & NETWORK REDUNDANCY**

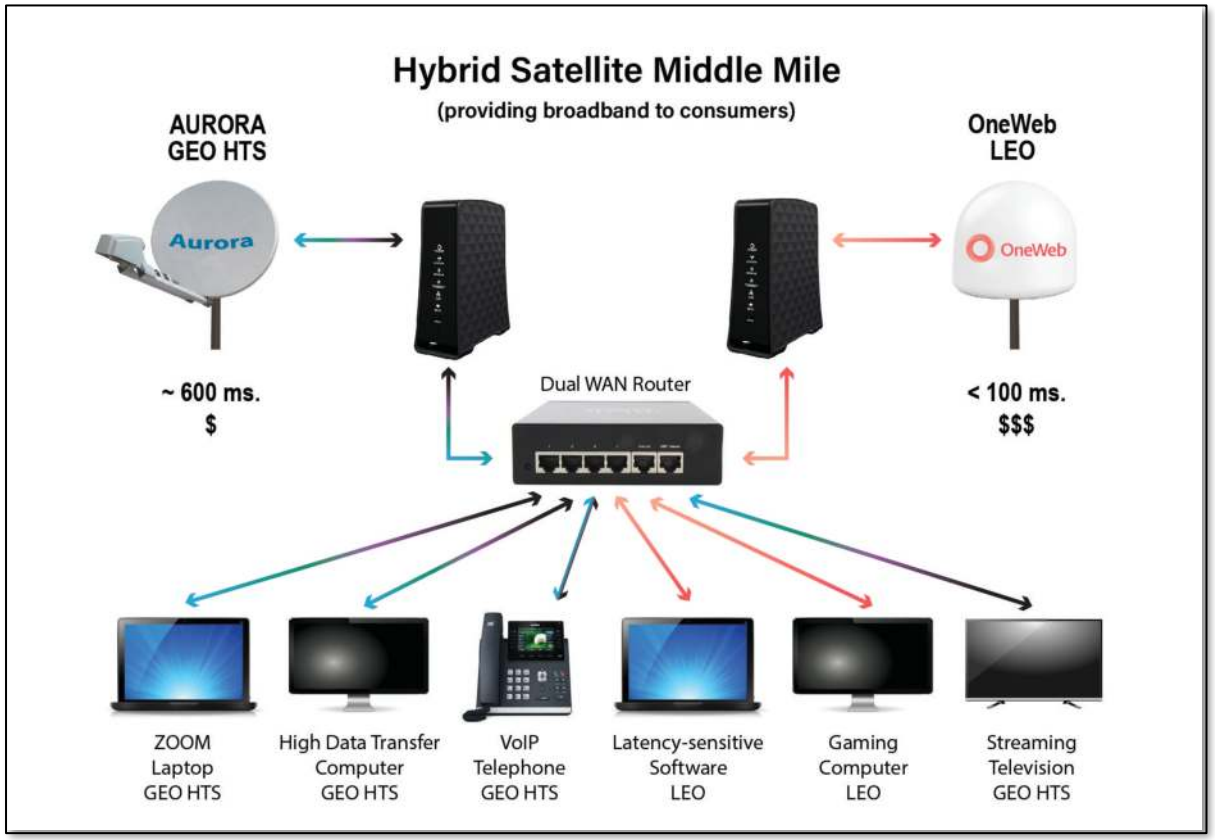


Aurora GEO HTS/ OneWeb LEO Hybrid

… from Space



… on the Ground



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Thank you!