



The Arctic Satellite Broadband Mission: Bringing Broadband to Alaska

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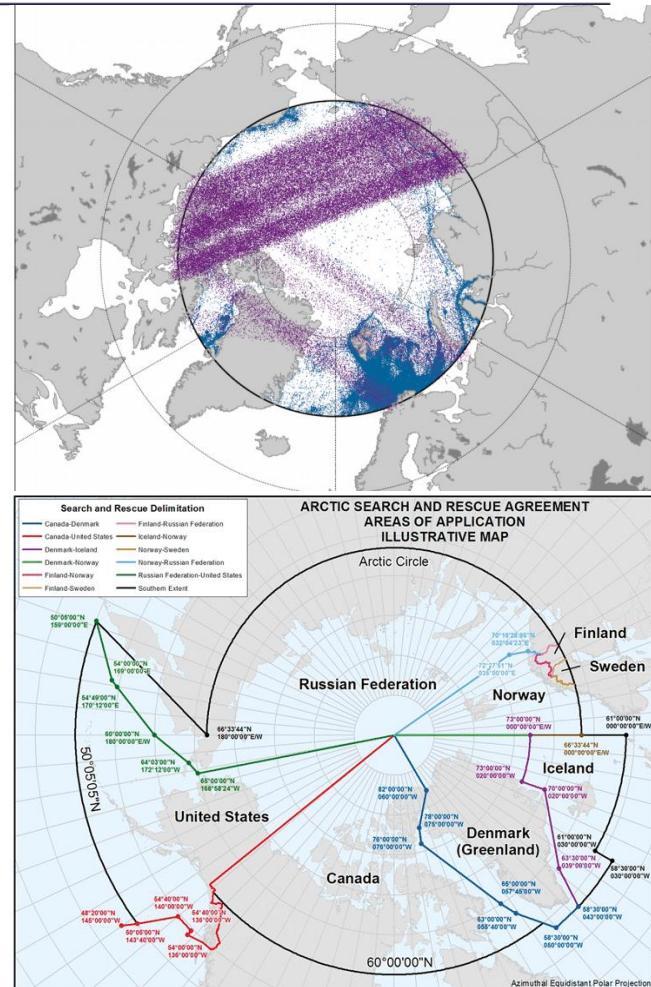
Communications in the Arctic – the Problem



- Underserved region due to:
 - Lack of coverage from today's satellites
 - Low population density - makes fiber networks impractical/expensive
 - Extreme environment
 - Per-user cost very high when service available

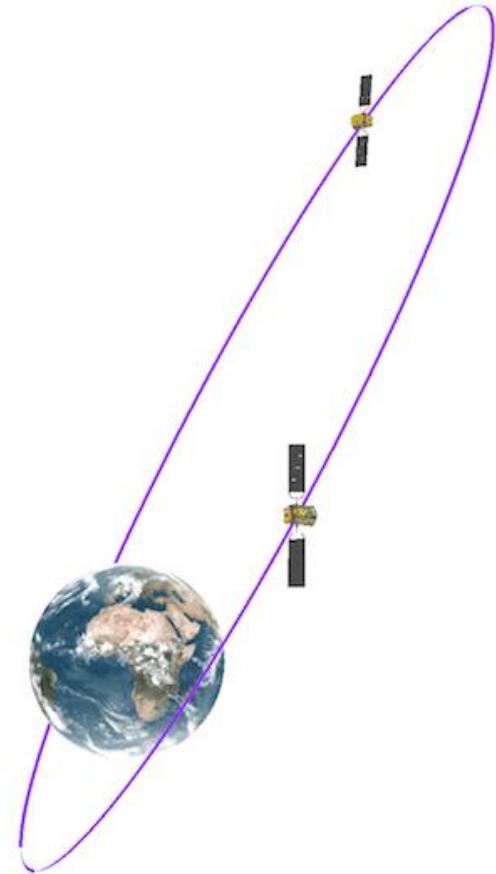
Arctic Satellite Broadband Mission: A Key Part of the Solution

- ASBM will serve users north of 55° N with high-quality satellite broadband
 - Land-based fixed and mobile applications
 - Maritime and aero services (including flight routes to/from US)
 - Service to villages and local governments in Alaska and Canada
 - Search and rescue (SAR)
 - Research/ environmental protection
- Strategically important to the United States and allied nations



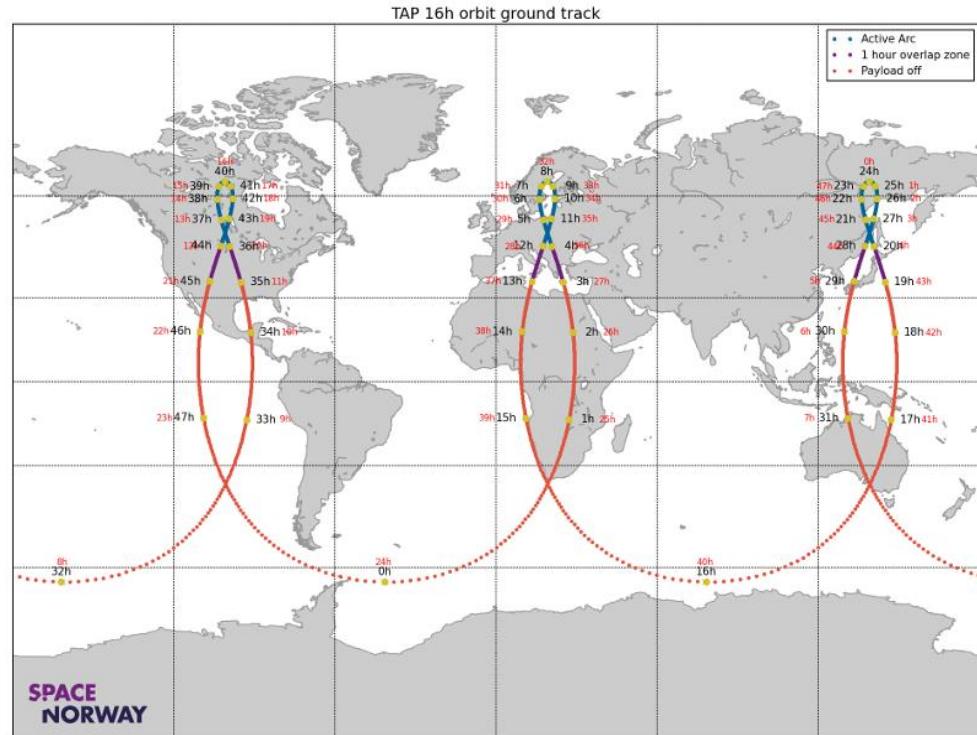
Satellite system

- Two satellites in one orbital plane
 - One active satellite at any one time (except brief handover)
- Well-proven, flight-tested technology
- 15-year nominal service life; expected launch in 2021
- Compliant with FCC/ITU rules on interference with existing satellites
- ITU spectrum filing made by Norway
- User terminals intended for conventional (GSO) satellites can be re-used for ASBM



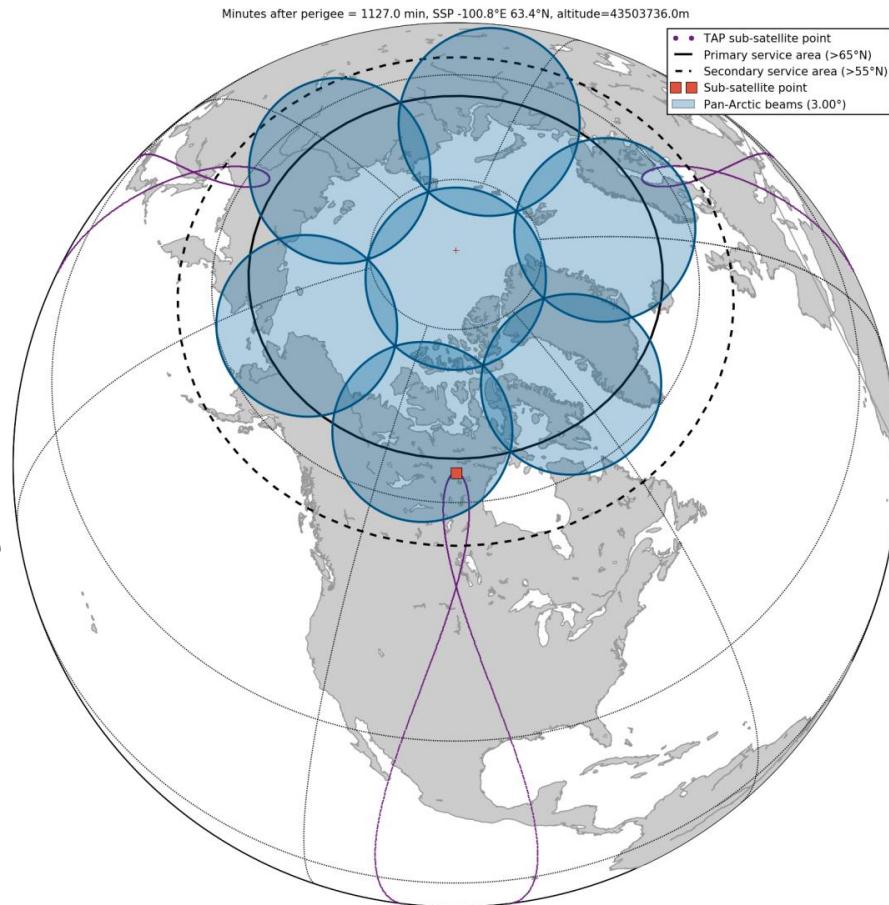
FCC Petition filed in 2016 to provide US service

- Part of an FCC “processing round” for nongeostationary orbit (NGSO) systems
- Accepting for filing by FCC in May 2017
- Can co-exist with proposed large NGSO constellations, such as OneWeb and SpaceX
- FCC decision expected in next few months



Issue in FCC Proceeding

- Primary issue for ASBM relates to sharing of spectrum with large NGSO systems
- Most efficient use of spectrum would result from protecting ASBM operations
- NGSO constellations already have to protect GSO satellites from interference
- ASBM is a small (two-satellite) regional system, can easily be protected by large NGSO systems



Conclusion

- The ASBM is an especially cost-effective way to provide broadband to unserved and underserved areas in the Arctic
 - Including Alaska
- The FCC can improve spectrum efficiency, promote competition, and lower end user prices by protecting the ASBM from interference from large NGSO constellations
- The FCC should be encouraged to give full and fair consideration to the Space Norway Petition, and to grant it promptly