Possible Arctic SBAS coverage by using High Elliptic Orbit Satellites

PNT Advisory Group 21

Arve Dimmen, Director Maritime Safety
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HEO Communication Satellites project

• Project owner: «Space Norway»
  – 100% government owned company
  – "To provide space related infrastructure in support of national user requirements"
• Project goal:
  – To provide Communication Broadband at high latitudes for government and commercial use
  – Capacity in place by 2022 / 2023
• Solution
  – Two dedicated High Elliptic Orbit (HEO) satellites
• Opportunity
  – Additional Navigational Payload?
HEO Communication Satellites project

- **Space segment**
  - 2 satellites
  - Ka – commercial coverage from approx 60°N
  - X – mil coverage from 60°N
  - Dual Launch, single orbital plane

- **Optional**
  - Ku-band
  - L-band
  - Navigation/SBAS
HEO Communication Satellites project

• Opportunity
  – Additional Navigational Payload?

• Goal:
  – Makes SBAS coverage possible at high latitudes, above 60°N
  – Improves SBAS coverage at mid-latitudes (terrain-obstruction, airframe)

• Intense work 2018:
  – Include EGNOS payload in the concept?
  – EGNOS:
    • SBAS for GPS today
    • Will include Galileo in the next version (2025)
HEO Communication Satellites project

- Service provision Area
  - Maritime use from 70°N
  - Aeronautical use from 55°N
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