# The ADS-B Webinar

ICAO
MID & EUR/NAT


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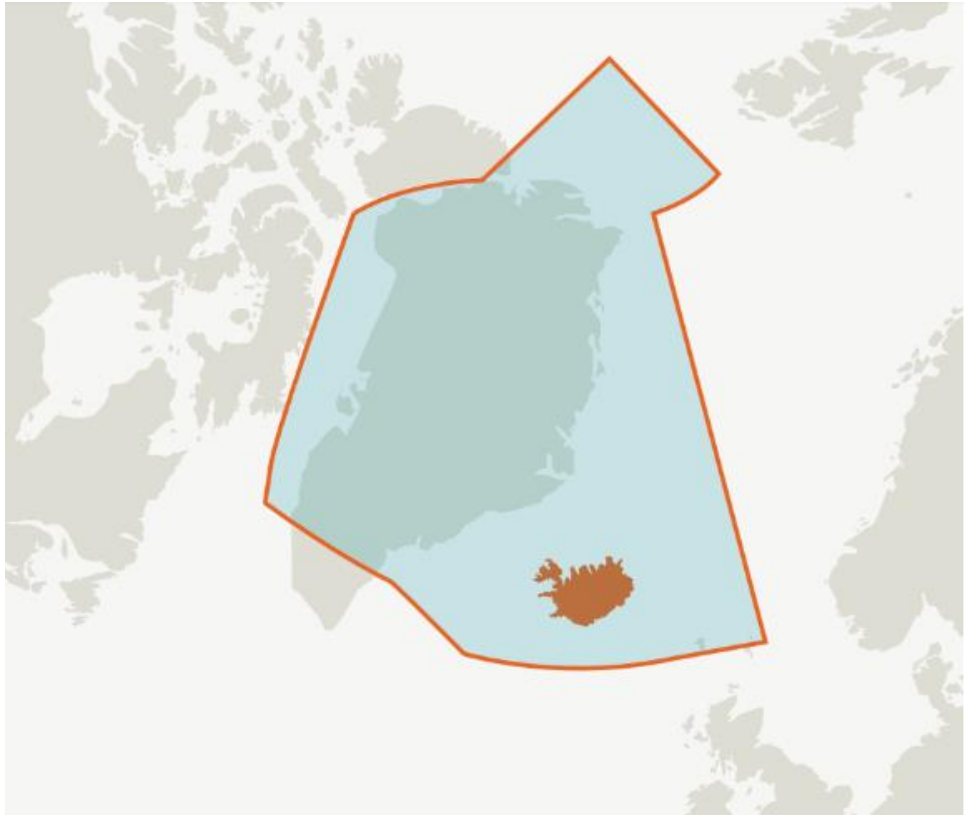
## Isavia ANS – ADS-B Implementation

# *Why ADS-B for Isavia ANS?*

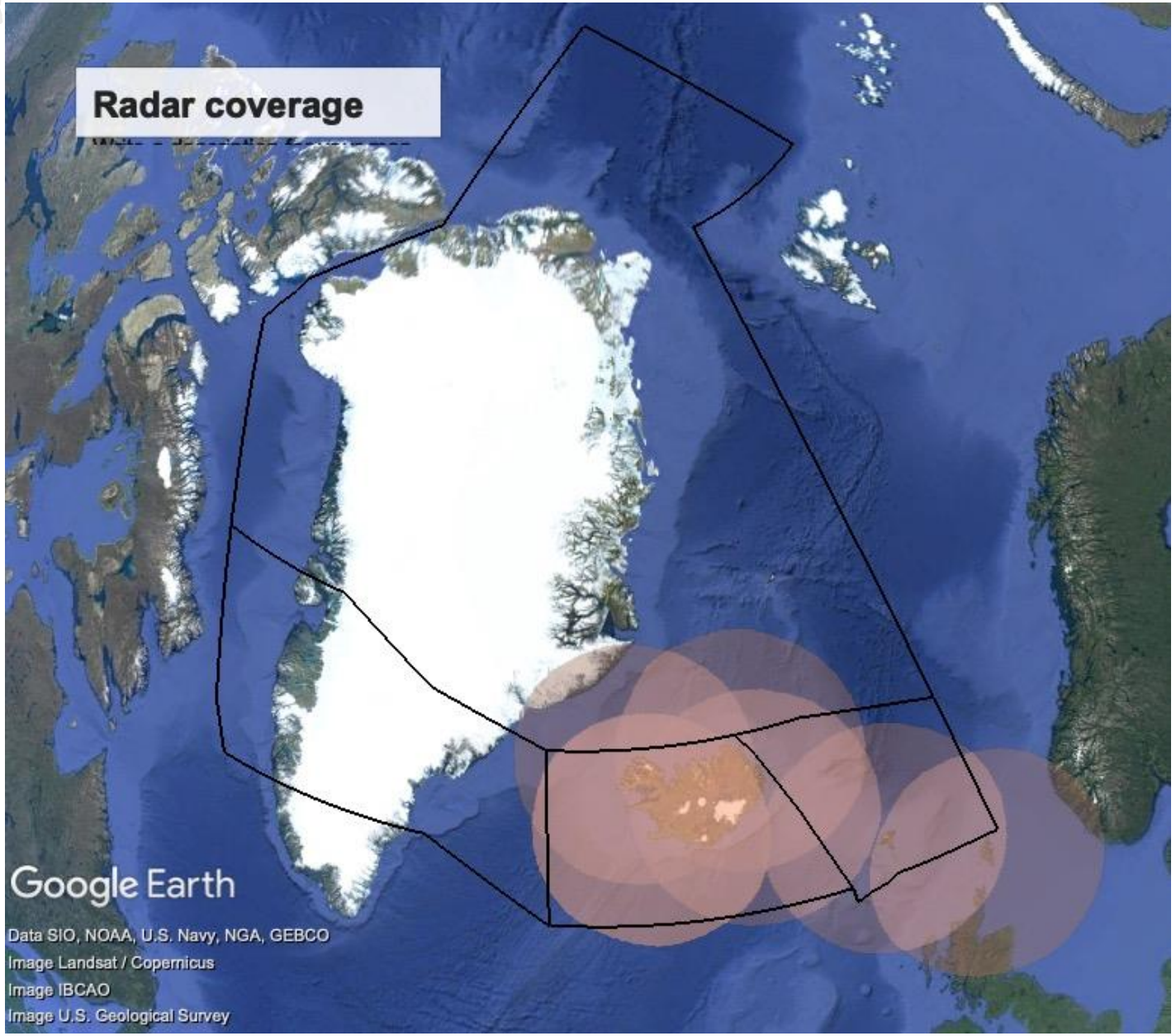
# Vast airspace over oceans and glaciers

- Isavia ANS provides Air Navigation services in the Reykjavik Control Area
- 5,4 million square kilometres
- Extends from 61° North to the North Pole and from 0°E/W to the west of Greenland
- Approximately 25-30% of  North-Atlantic air traffic passes through the area
- Flexible routing with only about 3% of traffic on pre-defined routes
- Limited radar coverage



# A/C Separation prior to ADS-B

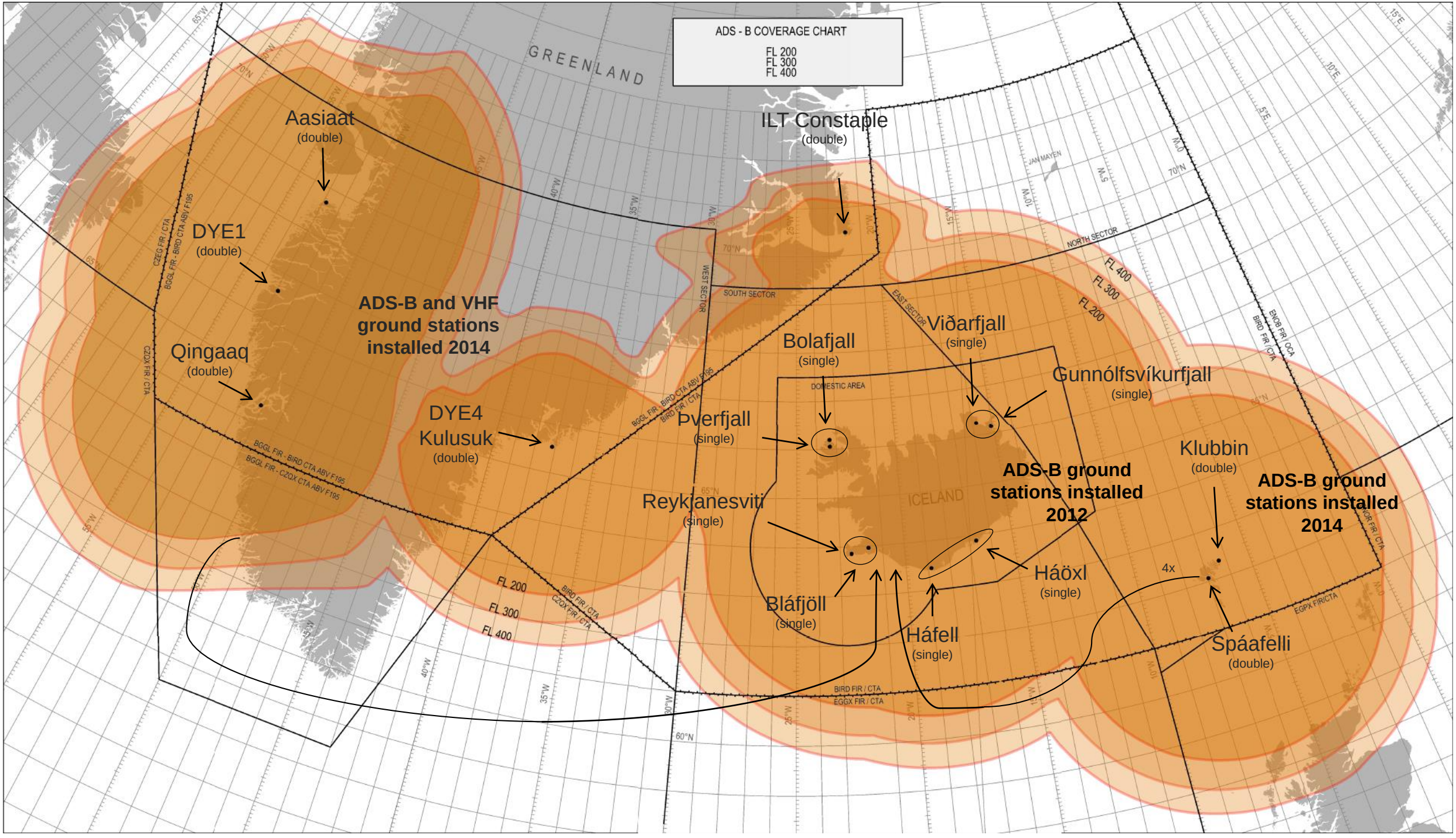
- Traditional Oceanic separation
  - 50 NM lateral and 10 – 15 minutes longitudinal for MNPS/RNAV 10
  - (Before 23 NM lateral and 5 minutes longitudinal came into effect for datalink aircraft)
- 5 NM Radar Separation
- ADS-B could improve this situation



# *Ground-based Implementation*

# Ground Based ADS-B Implementation

- Project initiated in January 2006 with two ADS-B receivers in Iceland
- Final validation projects started in 2009
- 2012 – 2014: Installations in Iceland, Greenland, and Faroe Islands
- 5 or 10 NM separation with DCPC VHF, the separation depending mostly on available redundancy


ADS - B COVERAGE CHART
FL 200
FL 300
FL 400
GREENLAND
ICELAND
Aasiaat
(double)
DYE1
(double)
Qingaaq
(double)
DYE4
Kulusuk
(double)
ILT Constable
(double)
ADS-B and VHF
ground stations
installed 2014
Bolafjall
(single)
Viðarfjall
(single)
Gunnólfsvíkurfjall
(single)
Þverfjall
(single)
Reykjanesviti
(single)
Bláfjöll
(single)
Háfell
(single)
Háöxl
(single)
ADS-B ground
stations installed
2012
Klubbin
(double)
4x
Spáafelli
(double)
ADS-B ground
stations installed
2014
DOMESTIC AREA
NORTH SECTOR
EAST SECTOR
SOUTH SECTOR
WEST SECTOR
BGGL FIR - BIRD CTA ABV F195
BGGL FIR - CZQX CTA ABV F195
BIRD FIR / CTA
CZQX FIR / CTA
EGPX FIR/CTA
ENOB FIR / OCA
JAN MAYEN
FL 200
FL 300
FL 400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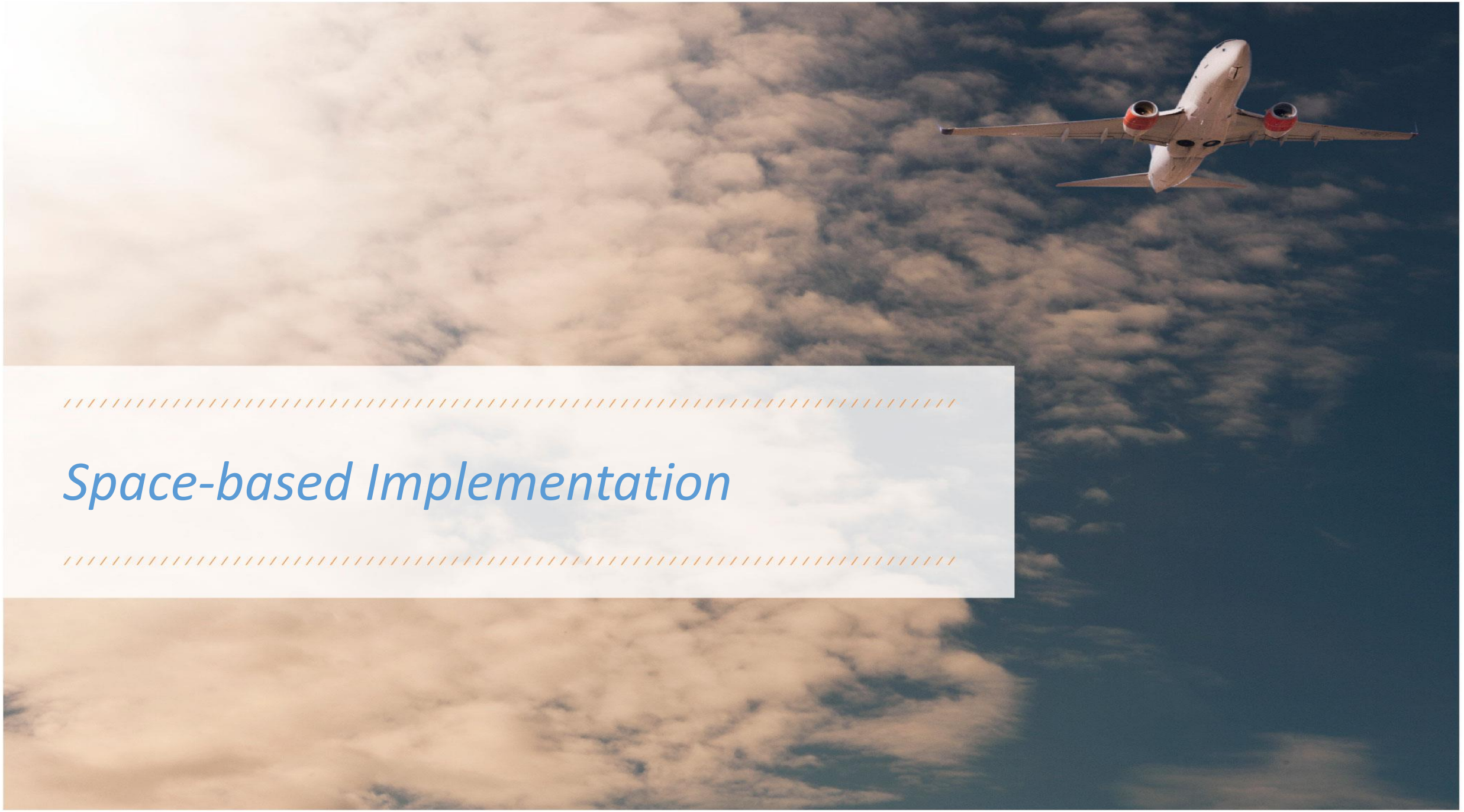
QUADRANT

# Ground Based ADS-B Implementation

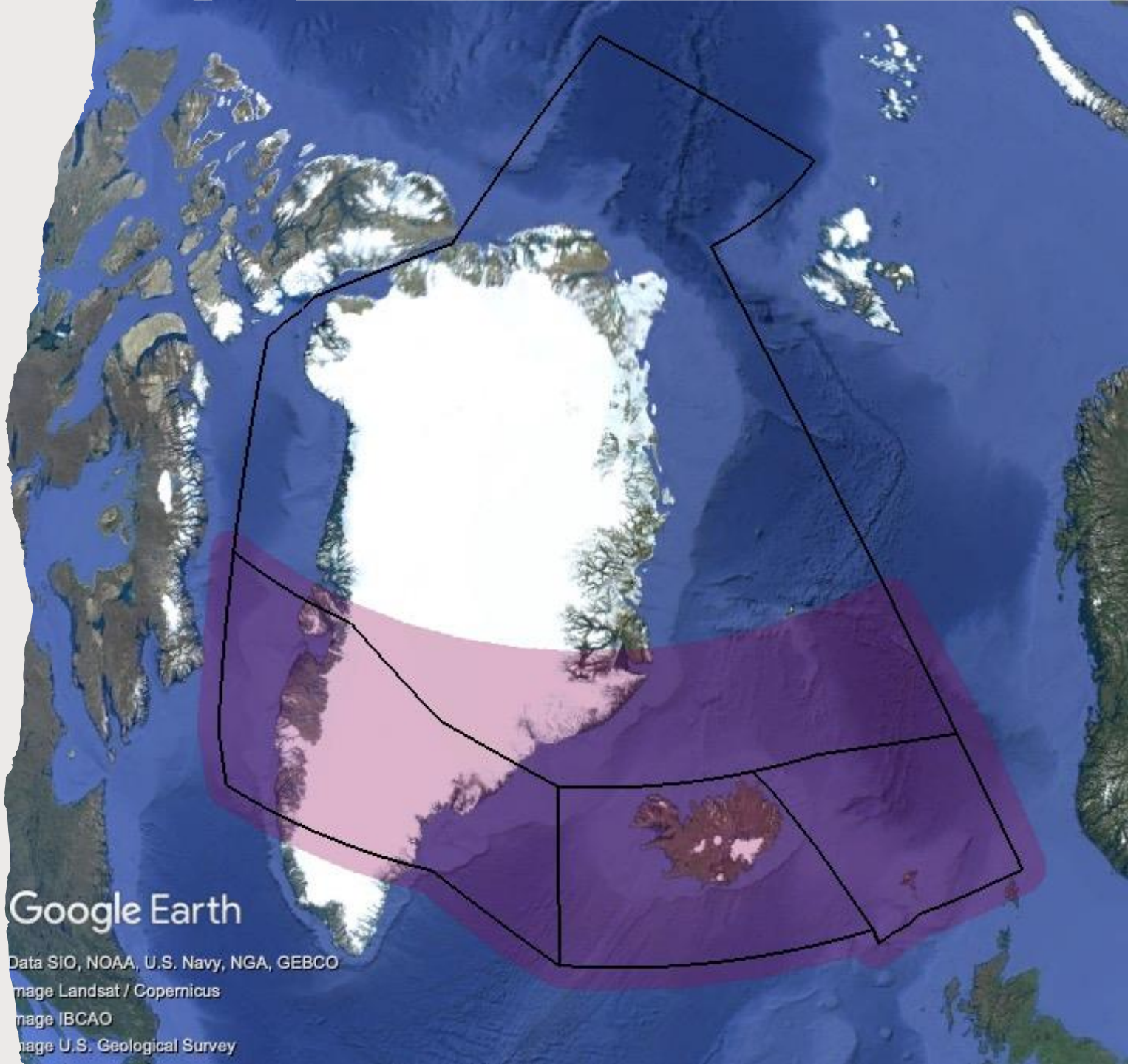
- Over 80% of flown minutes are within ground-based ADS-B coverage
- Gamechanger for ATC in the Reykjavik Control Area
- Isavia received a CANSO service provision award in 2016 for this implementation



# *Space-based Implementation*

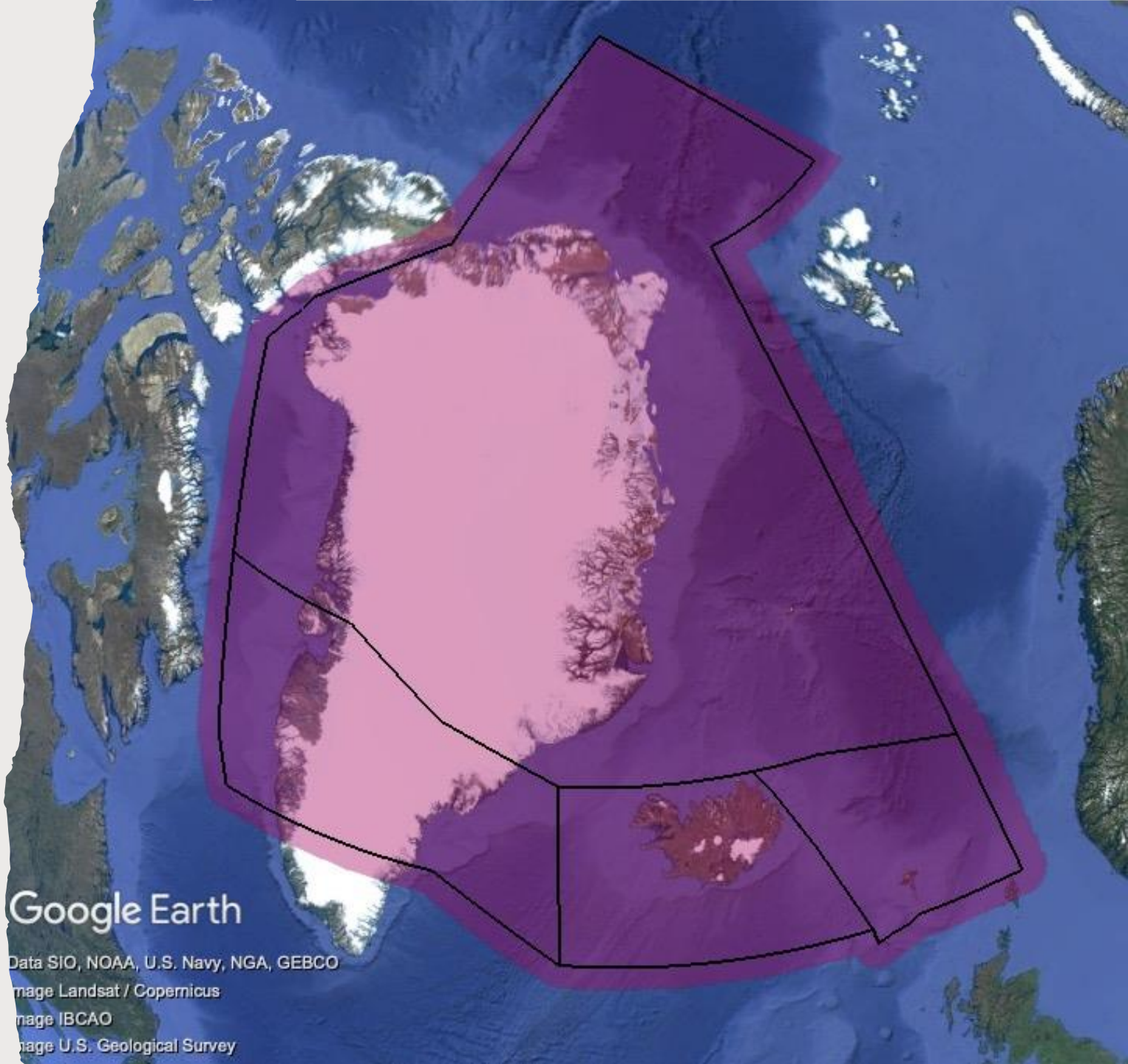
# Isavia‘s Aireon Implementation #1

- Implemented December 2020
- South of 70° North  F255 – F600
  - Additional surveillance layer
  - Important second layer over Greenland
  - Gap filling
- No reduction in separation
- (PBCS 23NM + 5 minutes became applicable in the meantime)



# Isavia‘s Aireon Implementation #2

- All of Reykjavik CTA except south of 70N below F255
- Implementation March 2022



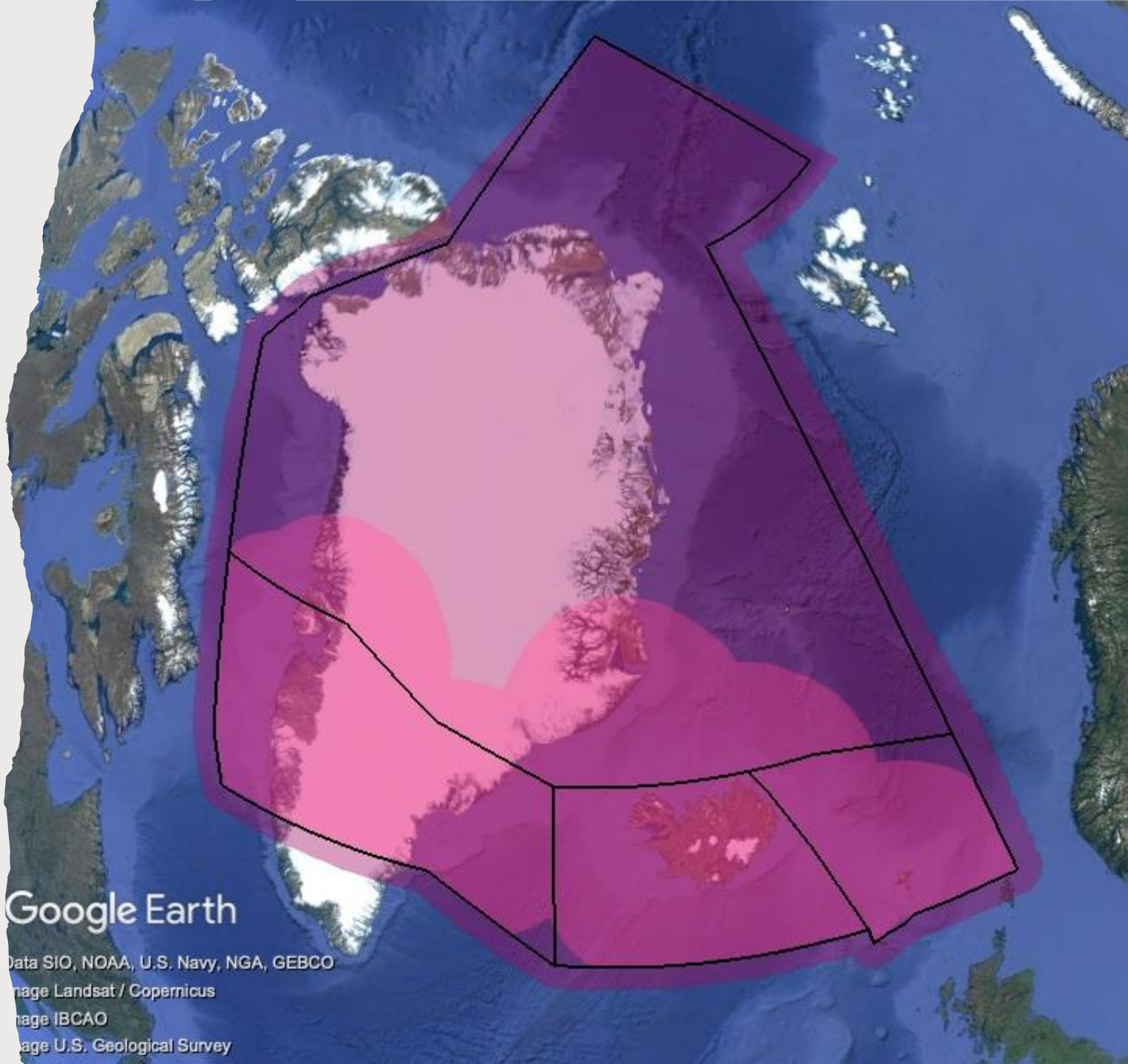
# A/C Separation plan

- 5 NM target to target
  - DCPC VHF + Radar/ADS-B
- 18 NM target to target
  - CPDLC + Radar/ADS-B

(≈95% of traffic)

- Procedural separation

(≈5% of traffic)



# THANK YOU