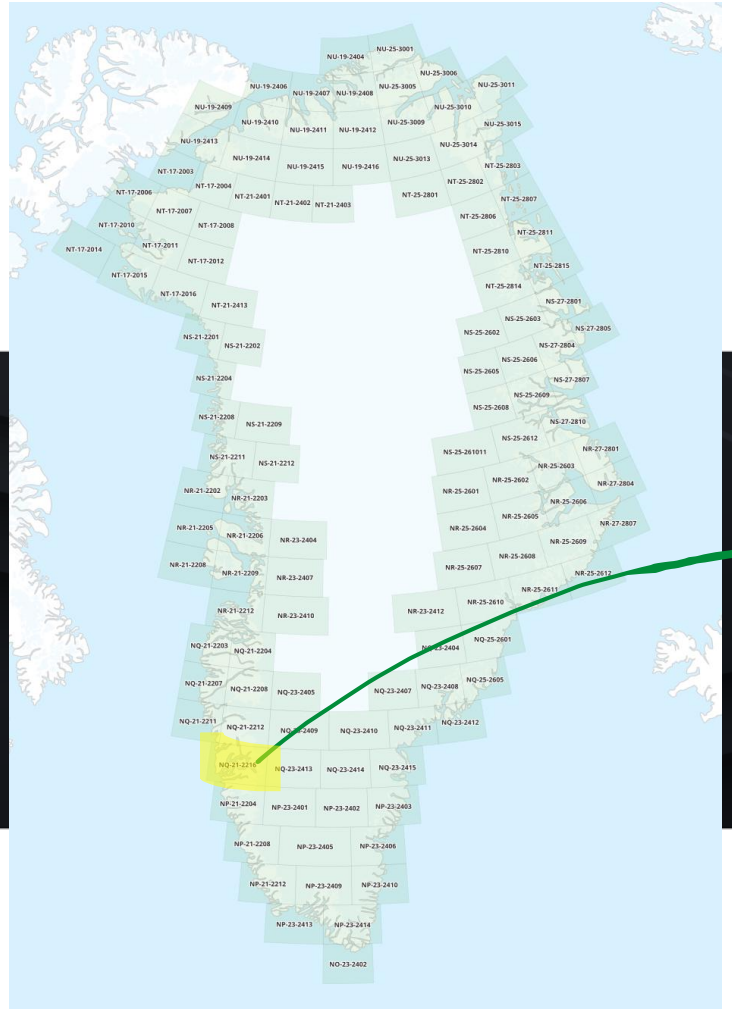
Greenlandic Aeronautical Charts

T-KARTOR

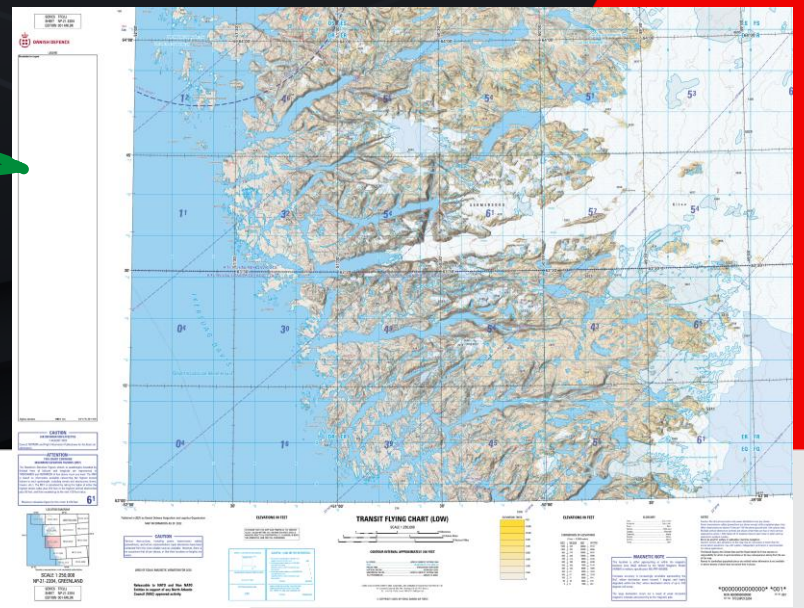
DANISH MINISTRY OF DEFENCE
ACQUISITION AND LOGISTICS ORGANISATION

DANISH DEFENCE



Transit Flying Chart – Low level (TFC-L), 1:250 00

Produced for DALO / RDAF – Edition 1, December 2025



From Blank Canvas to Flight-Ready Charts in Eight Months

Charts Before Christmas: A Holiday Tale from the Arctic

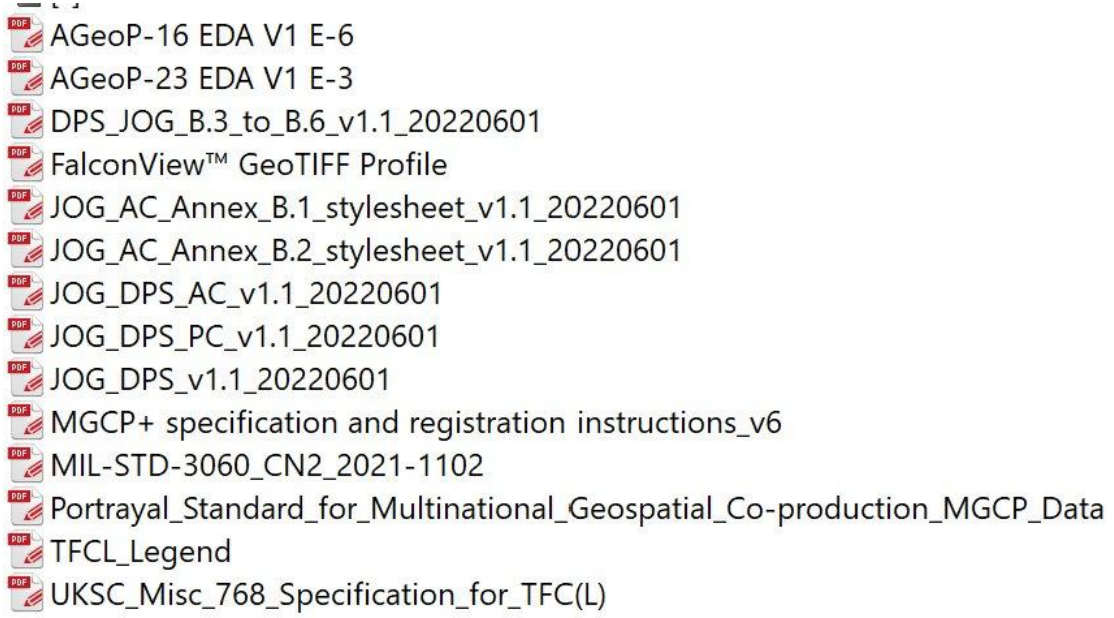
- The Danish Ministry of Defence Acquisition and Logistics Organisation (DALO) approached T-Kartor in the spring of 2025, with project start in July
- On behalf of Royal Danish Air Force (RDAF), was DALO in urgent need of aeronautical charts covering ice free parts of Greenland – with project deadline before Christmas

Project limitations and challenges

116 Maps in 8 Months

- Tight project timeline – demanding coordination, precision, and efficiency
- From scratch complete roll out in OSGeo tech (QGIS, PostgreSQL, postGIS, Python, OGR, GDAL) – completely free from proprietary tech
- Applying the following data sources according to specifications:
  - Multinational Geospatial Co-production Program (MGCP, 1:50 000 scale) → KDS
  - Aeronautical Information Exchange Model (AIXM) & Aeronautical Information Publication (AIP) → NAVIAIR
  - Obstacle DataBase (ODB - Danish obstacles & minor airfields) → KDS
  - Digital Terrain Elevation Data (DTED) → Dataforsyningen
  - Nunagis geonames → Nunagis (Grönlandsk auktoritet)

Specifications...



MGCP – Multinational Generational Co-production Program

Generalization of 1:50k to 1:250k

- Generalized and applied according to specifications
- “Skin of the earth” topological generalization
  - Generalization 68% reduction
- “Overlays” parameter driven generalization
  - Generalization 73% reduction

Topological generalized layers

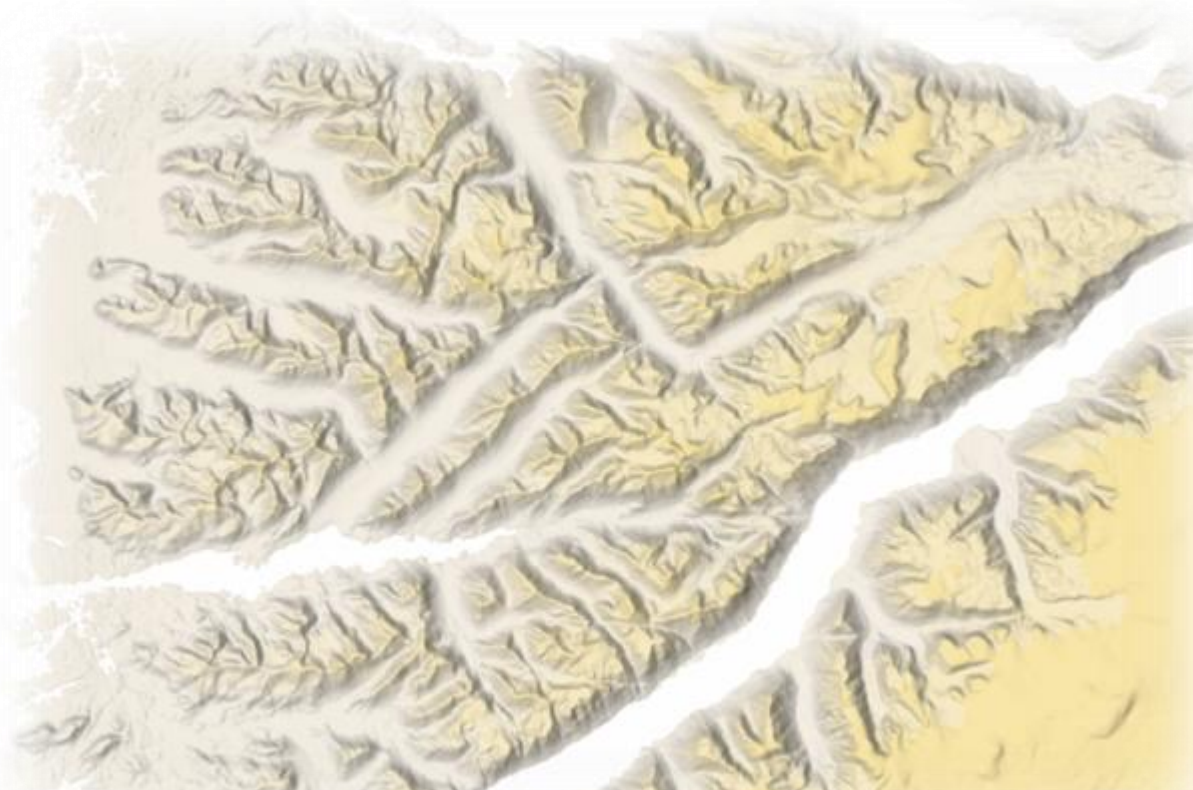
Overlay generalized layers

Combined MGCP layers

Digital Terrain Elevation Data (DTED)

Cartographic themes derived from DTED (30x30m):

- Contour lines
- Maximum Elevation Figures
- Hill shade
- Elevation tints
- Spot elevations



DTED and grid data on top of MGCP

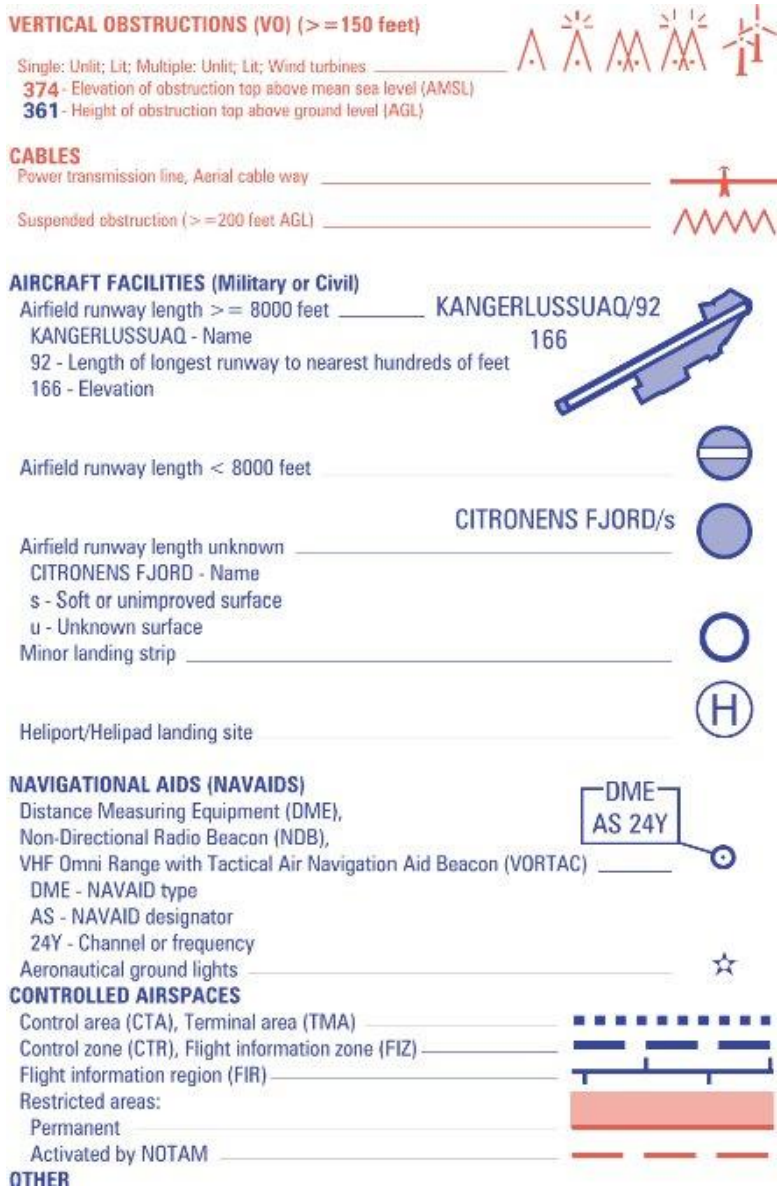
AIXM (*Aeronautical Information Exchange Model*) & ODB

All aeronautical information such as:

- Airfields, heliports, landing sites
- Airspaces
- Navigational aids

Obstacle database:

- Masts, towers, wind turbines
- Powerlines, aerial cable ways



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Final product shown in Iris

- 116 TFC-L charts as geospatial PDFs
- Map canvas GeoTIFFs
- Mission planning GeoTIFFS
- MBTiles
- Compressed Arc Digital Raster Graphics (CADRG)
- MGCP vector data as generalized to scale with documentation of process

THANK YOU!