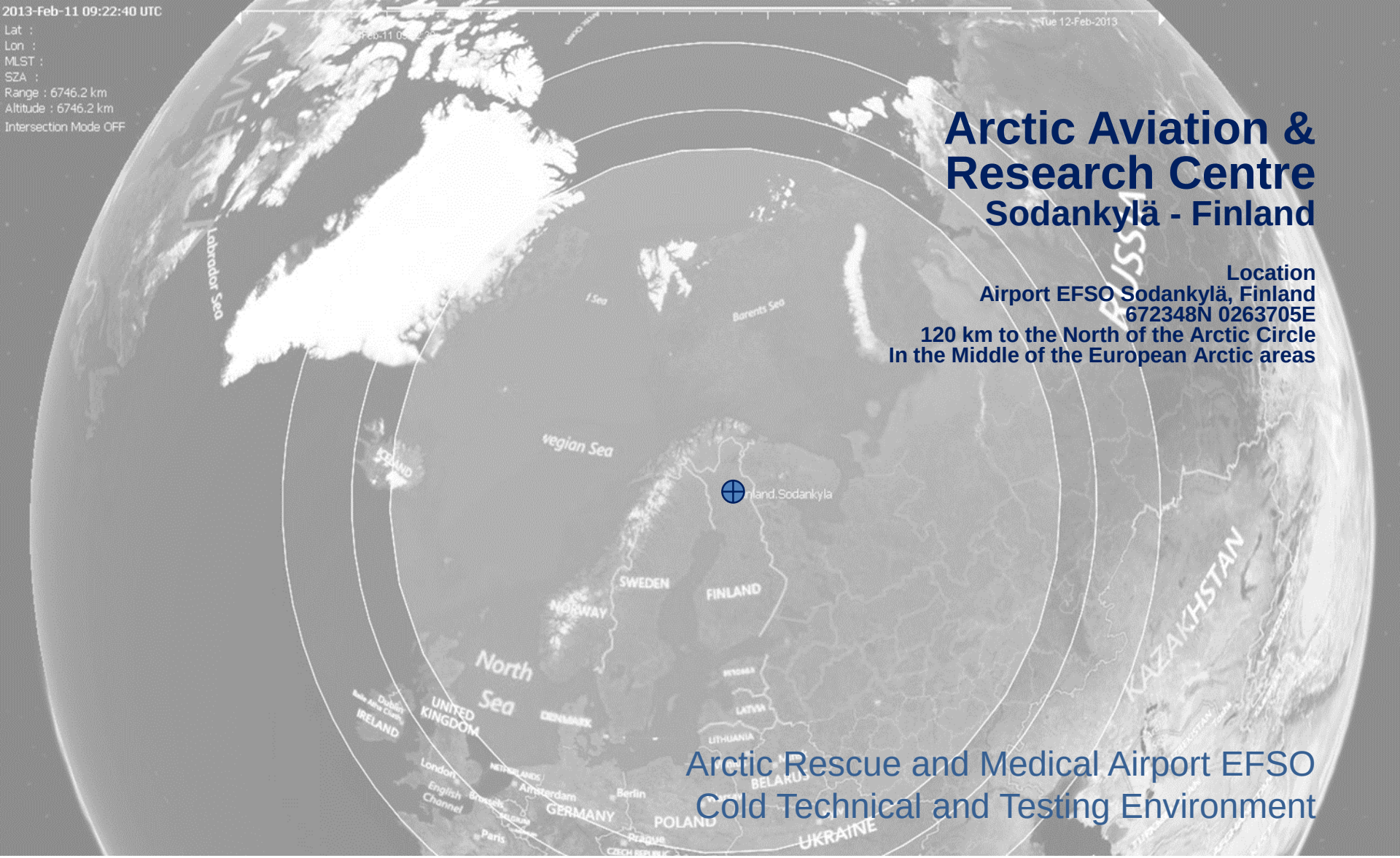
”If it works in Lapland,
it works anywhere!”

Arctic Aviation & Research Centre
Sodankylä - Finland

Location
Airport EFSO Sodankylä, Finland
672348N 0263705E
120 km to the North of the Arctic Circle
In the Middle of the European Arctic areas

Arctic Rescue and Medical Airport EFSO
Cold Technical and Testing Environment



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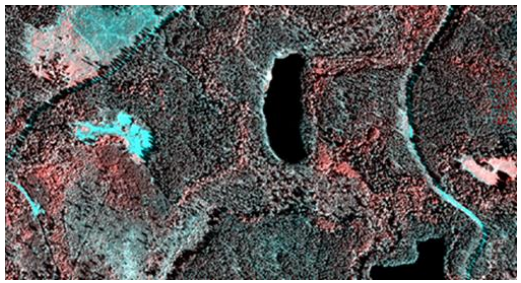
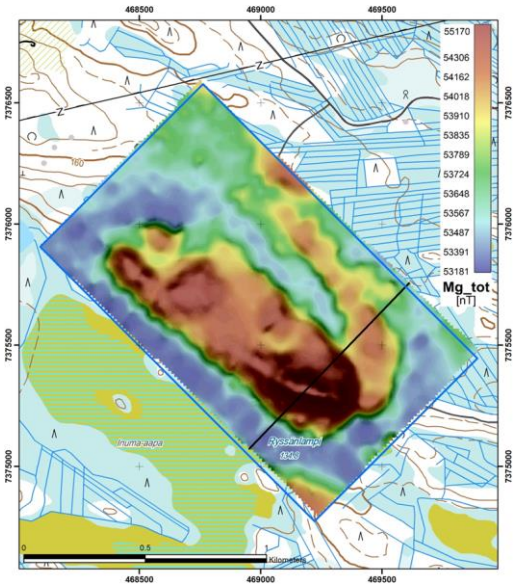
Example 1:
UAV based Hyperspectral snapshot testing and research



Example 2:
UAV in Mineral Exploration and Mining Operations

Suurikuusikko (kittilä) mine in September 2007. The circular road indicates the final extent of the open pit. View to the north.
Photo courtesy Agnico-Eagle Mines Limited.



At Your Service:
UAS - Arctic Aviation & Research Centre Sodankylä - Finland

Example 1: **UAV based hyperspectral snapshot testing and research**

Carried out by Finnish Meteorological Institute - **Arctic Research Centre**

Achievement?

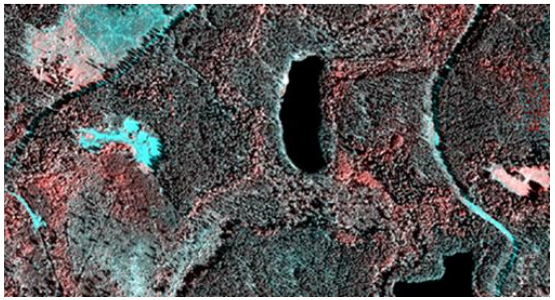
- Providing snapshot images in VIS-VNIR spectral range
- **The platform for Hyperspectral camera is unmanned helicopter**
- The snapshots in the VIS spectral range VNIR, from places which are exactly defined

Why?

- **Satellites validation and calibration !!!**
- **Cryosphere research in Arctic areas**

As a result?

- Arctic Research Centre local expertise in robust, **innovative measuring system, which will generate new research and applications** and thereby jobs and expertise in the area.



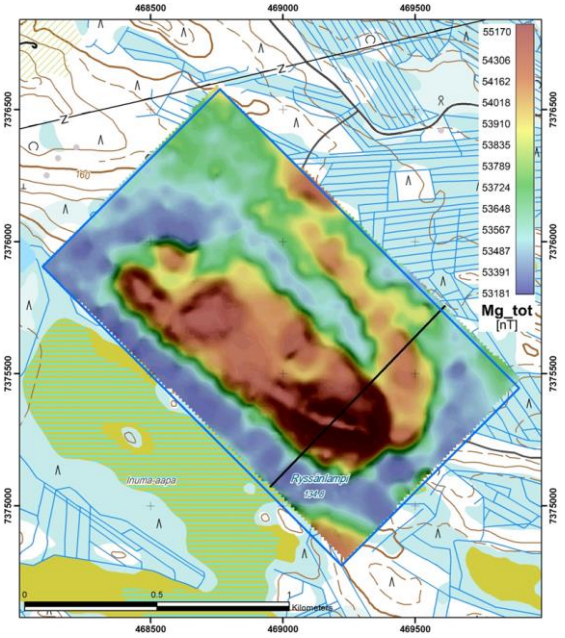
Example 2: Unmanned Aerial Vehicles in Mineral Exploration and Mining Operations in the Arctic areas of Finland **UAV MEMO project**

Possible suitable UAV survey techniques and applications for mineral exploration or mining:

- **Magnetic** -> mineral exploration
- **Electromagnetic** (under development) -> mineral exploration
- **Gamma radiation** -> mineral exploration
- **Aerial photography** -> volumes, geological mapping
- **Lidar** -> volumes of rock piles or tailings ponds, geological mapping, geomorphological studies
- **Infrared photography** -> environmental studies, monitoring tailings
- **Hyperspectral imaging** -> environmental studies, geological mapping
- Etc. ?

PLEASE NOTE: "*The results of the project will be published in a UAV-MEMO Best Practices Handbook.*"


Suurikuusikko (Kittilä) mine in September 2007. The circular road indicates the final extent of the open pit. View to the north.
Photo courtesy Agnico-Eagle Mines Limited.



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Carried out by Development of Arctic testing environment in Sodankylä (Cold Technical and Testing Environment) - DATES

All inclusive Arctic testing and research environment:

1) Testing, research and education.
   Impact: Understand technical and regulatory applicability of UAVs in Arctic operations.
2) Arctic testing environment of aviation and aerospace industry
3) ***Arctic environmental testing of unmanned aircraft and systems (RPSA, UAS, UAV, RTST)***

Our partners have several projects and innovations under testing and many innovative research process going on, **which will generate new research and develop innovative applications**.

We have **great platforms to test around Lapland in Arctic conditions.**

Arctic Aviation & Research Centre
Sodankylä - Finland

We offer new business opportunities and cooperate closely for example with the Arctic geosciences research organizations in Sodankylä, in the Middle of the Arctic Lapland.

Leverage from the EU 2014–2020

European Union
European Regional Development Fund

Project Manager Mr Heikki Heinonen
Arctic Aviation & Research Centre Sodankylä - Finland
DATES - Development of Arctic Testing environment in Sodankylä

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