

Kongsberg Satellite Services (KSAT)

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Presentation to the CEOS Plenary - 2014



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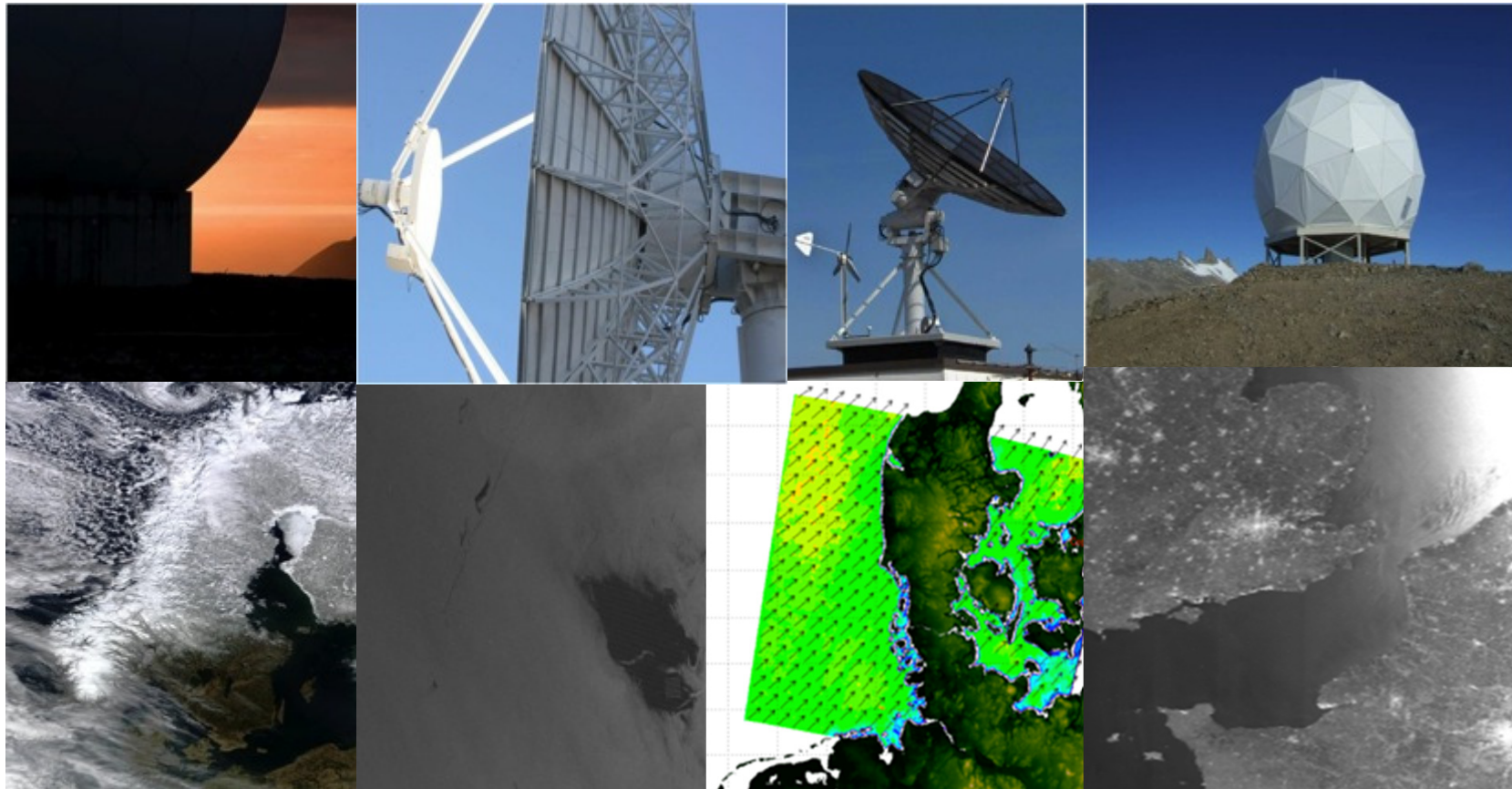
Kongsberg Satellite Services, KSAT

Making Sense of Space

SvalSat, Ground Station at 78° North

KSAT Business Idea

KSAT is a service provider dedicated to satellite operation and operational utilization of satellite data in near-real time

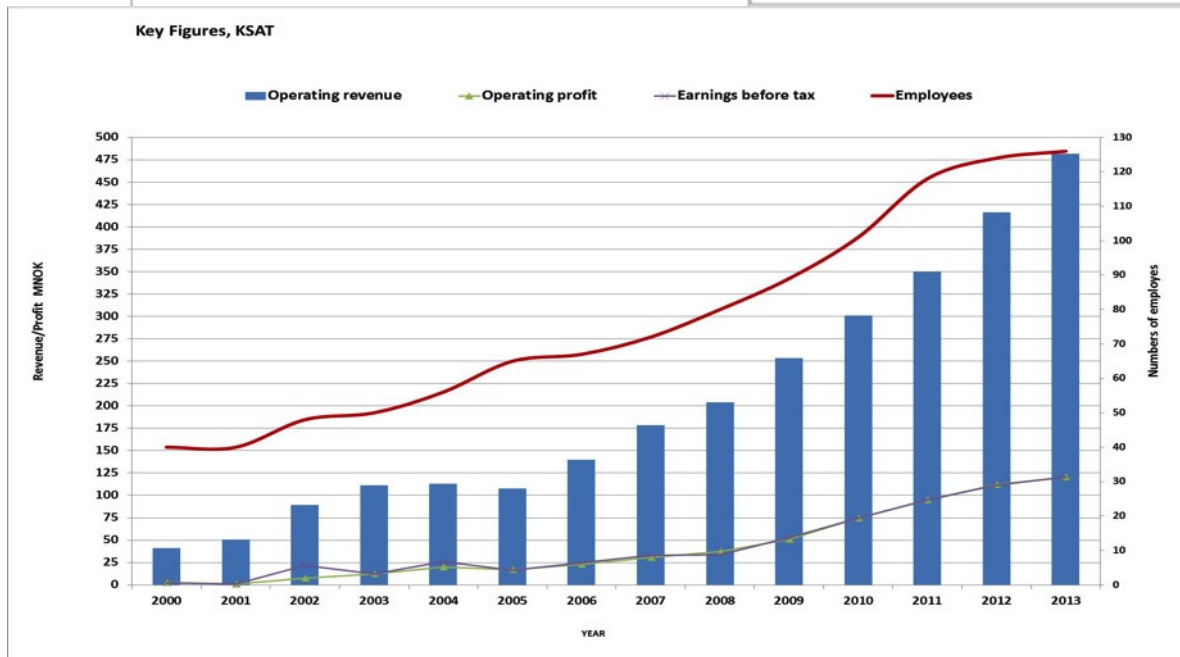
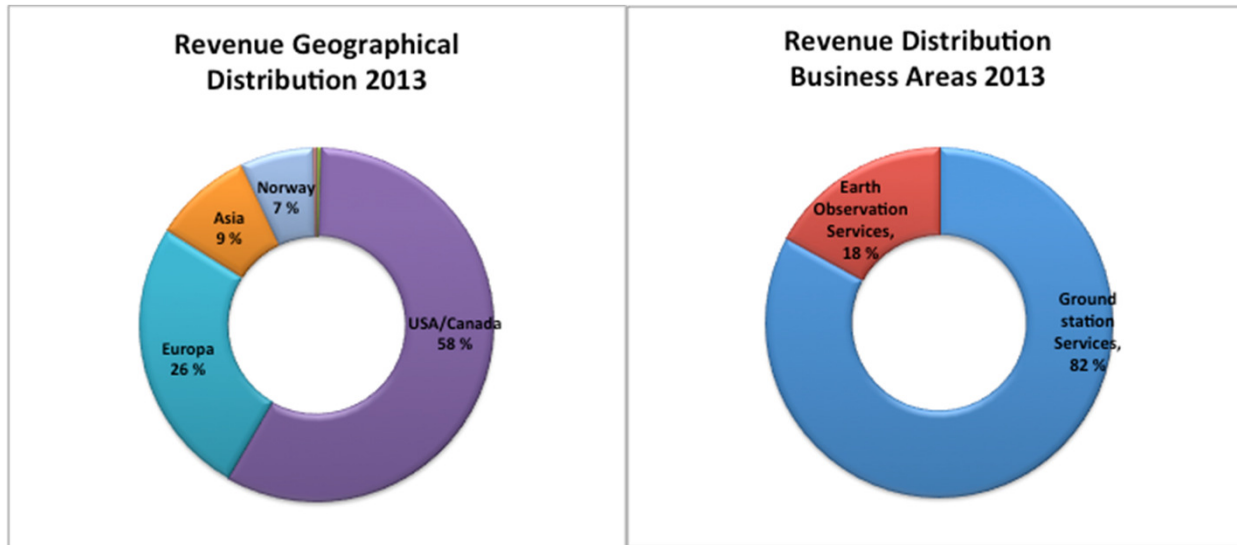


Kongsberg Satellite Services, KSAT

- Established in 1967 (as the Tromsø Telemetry station)
- Kongsberg Satellite Services since 2002
- World leading commercial satellite center
- Providing services based on data received from polar orbiting satellites
- Global operator of ground network satellite operation and control
- Leading and unbiased provider of multi-mission, near-real time services



KSAT Key figures (2013)





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KSAT two main business areas

KSAT
SATELLITE OPERATIONS



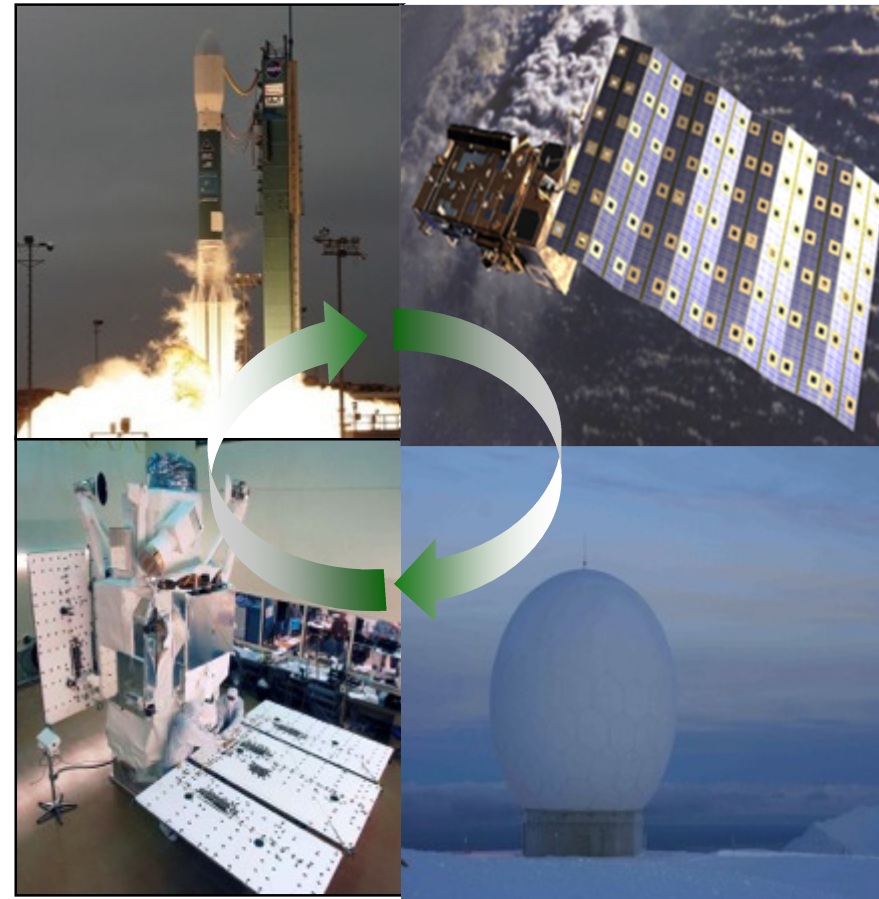
KSAT
OIL & GAS



KSAT Services

Ground network operation

- Launch and Early Orbit Support (LEOP)
 - Rocket- and satellite launches
- Payload data reception
 - Communication solution
- Ground network operation (TT&C)
 - Satellite In-orbit support
 - Telemetry, Tracking and Control
 - Housekeeping, uplink and downlink
- Hosting services and Operation and Maintenance
 - Out-sourced services, O&M support
 - Telemetry

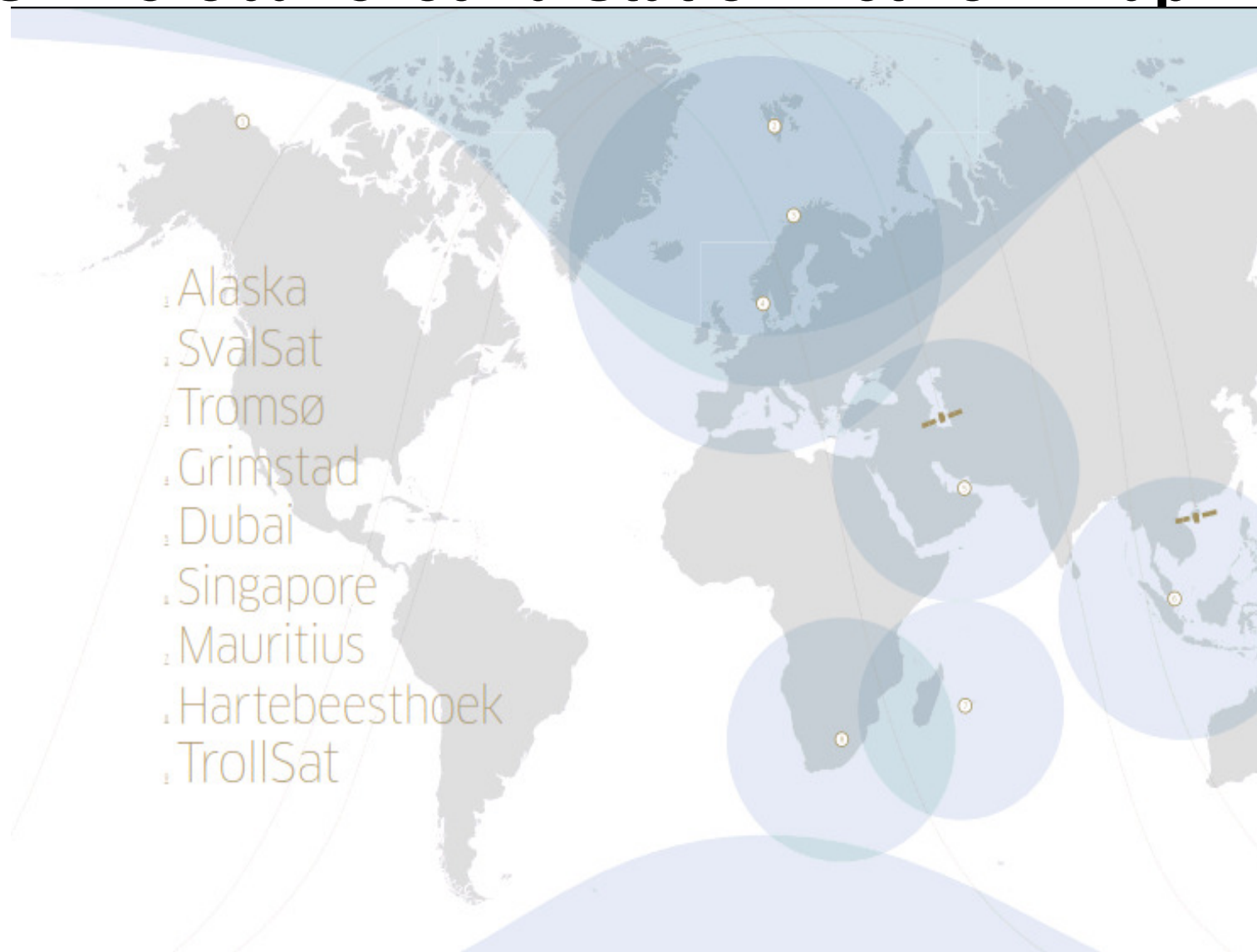


KSAT Global Ground Station Network Map



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ARCTIC
SVALSAT

PART OF KSAT GLOBAL GROUND
STATION NETWORK



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ANTARCTIC
TROLLSAT

PART OF KSAT GLOBAL GROUND
STATION NETWORK



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ARCTIC
TROMSØ

PART OF KSAT GLOBAL GROUND
STATION NETWORK



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ARCTIC
JAN MAYEN

PART OF KSAT GLOBAL GROUND
STATION NETWORK



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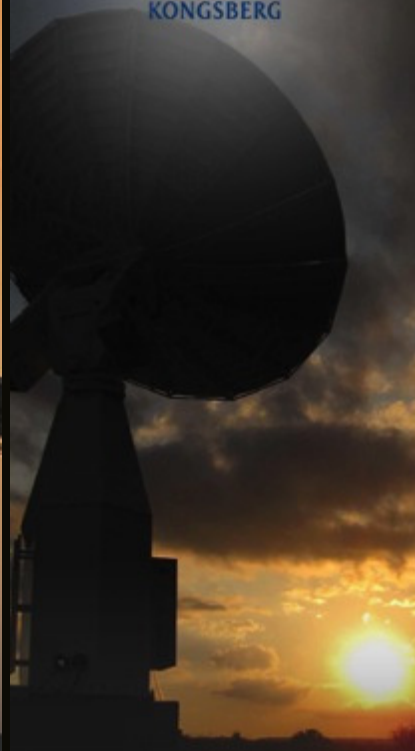


U.A.E
DUBAI

PART OF KSAT GLOBAL GROUND
STATION NETWORK



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SOUTH AFRICA
HARTEBEESTHOEK

PART OF KSAT GLOBAL GROUND
STATION NETWORK



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SINGAPORE

PART OF KSAT GLOBAL GROUND
STATION NETWORK



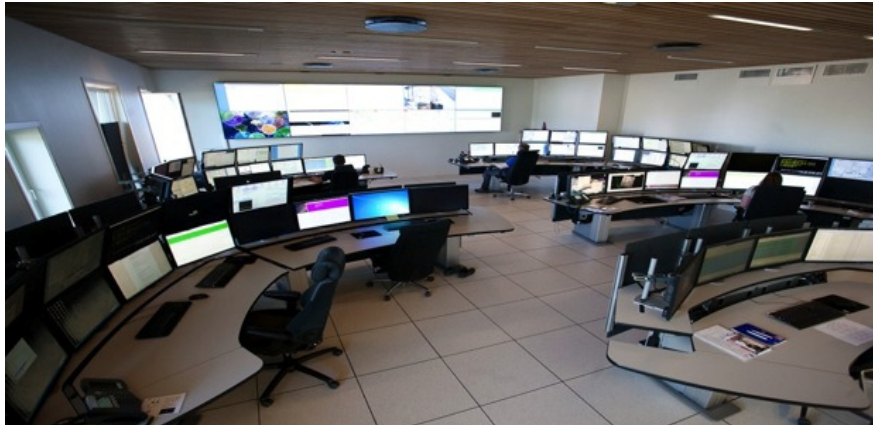
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MAURITIUS

PART OF KSAT GLOBAL GROUND
STATION NETWORK

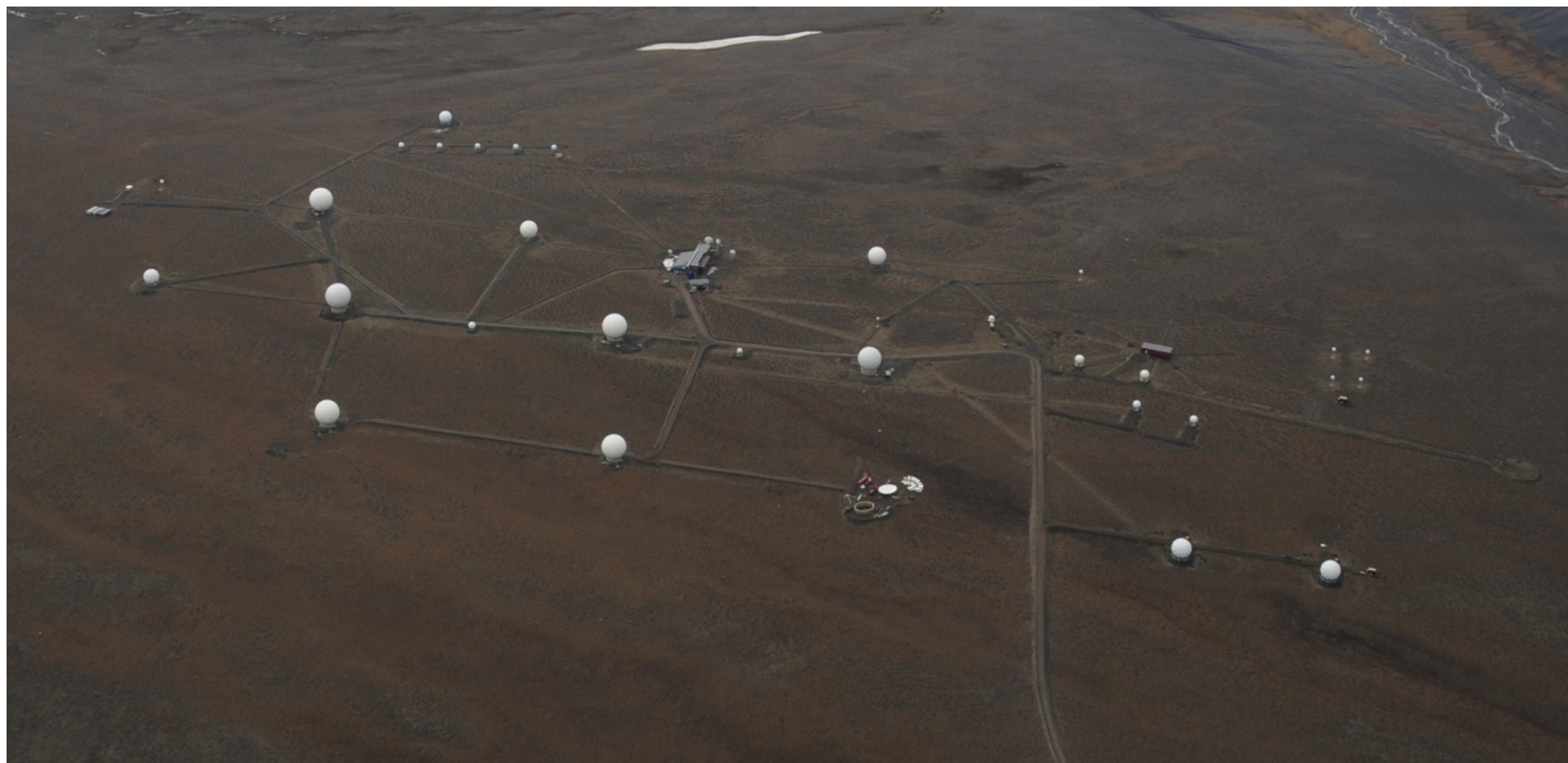
Tromsø Network Operation Center, TNOC



- 24/7 operation
- Automatic scheduling of satellite passes
- More than 60 antennas

- Backup facility at KSAT SvalSat
- More than 80 satellite missions
- 16.000 passes per month
- Proficiency 99,8%

The growth of KSA at Svalbard 1997-2014



Earth Observation Services



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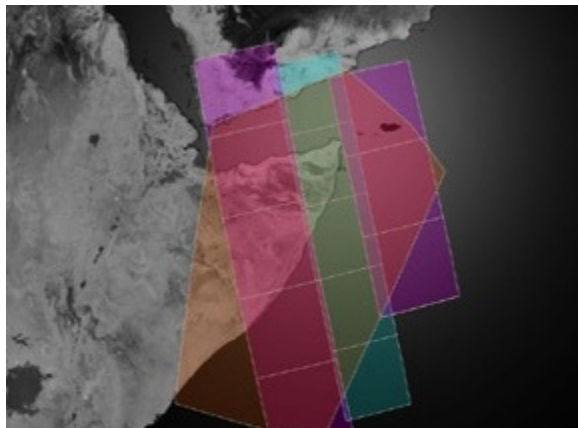
OIL SPILL DETECTION



SHIP DETECTION /
VESSEL MONITORING



FAST ACCESS – 24/7



MULTI MISSION
Near Real time
Unbiassad



SATELLITE IMAGERY

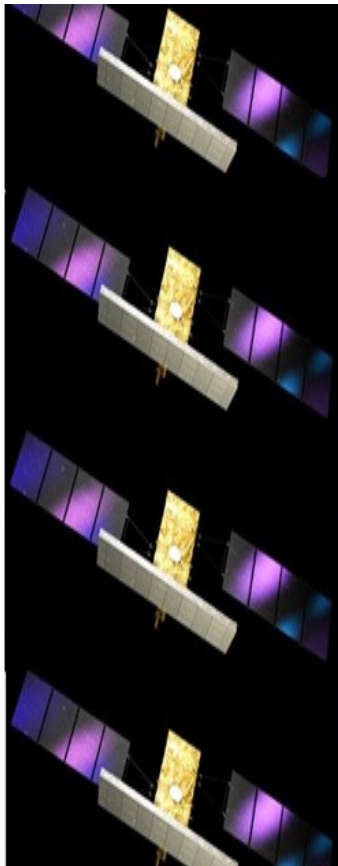


ICE MONITORING
ICEBERG TRACKING

Unbiased, Near Real Time, Multi-Mission services



RADARSAT-2
C-band SAR



COSMO-SkyMed
X-band SAR



TerraSAR-X
TandemX



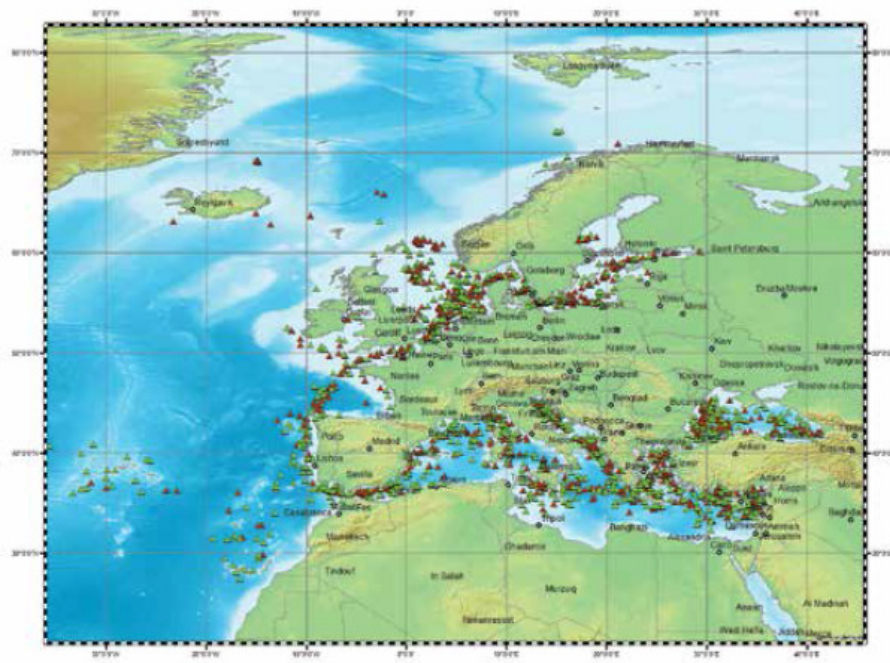
Sentinel 1A
C-Band SAR



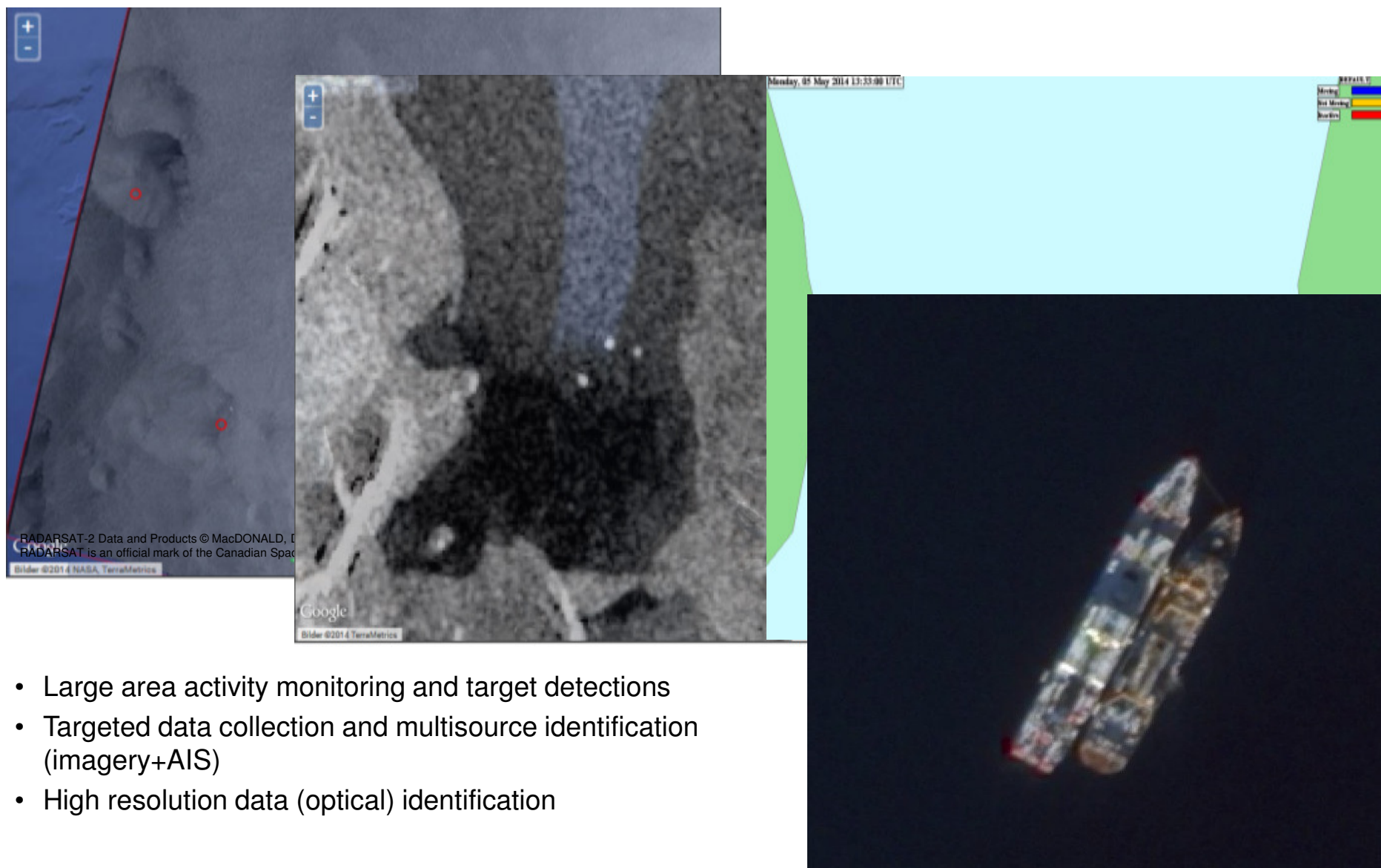
RISAT-1
C-Band SAR

Multimission oil spill detection service

- KSAT multimission oil spill detection
 - Information delivery < 15-60 minutes
 - Optimising use of other resources (aircraft)
- Pan-European EMSA service since 2006
 - KSAT ranking No.1 operational performance, cost-effective
- Operations today
 - Regional e.g. Europe + Globally
 - National authorities + offshore industry

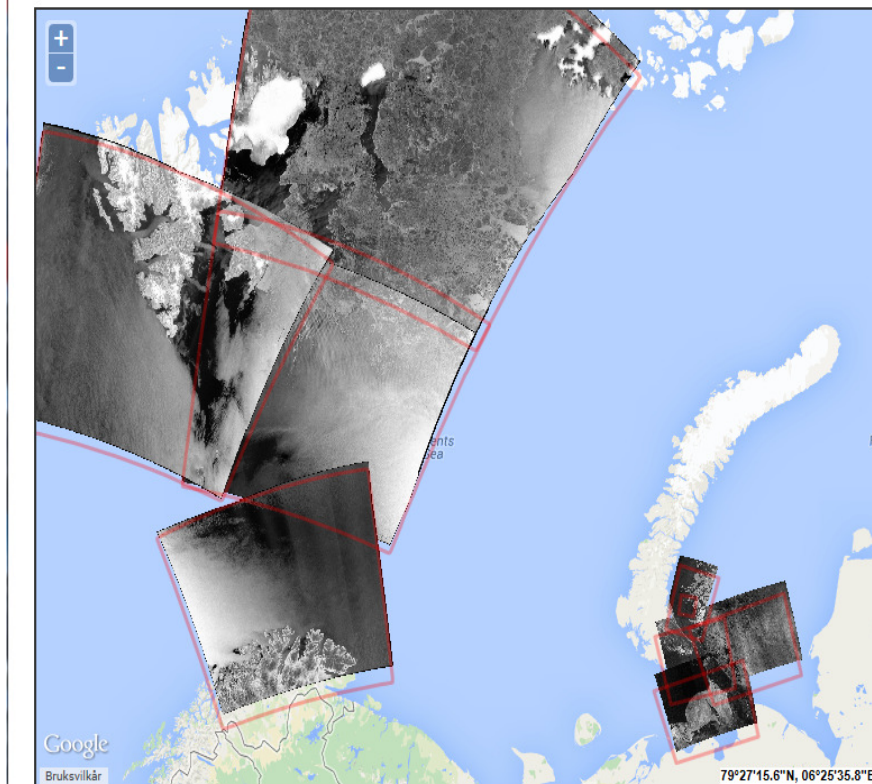
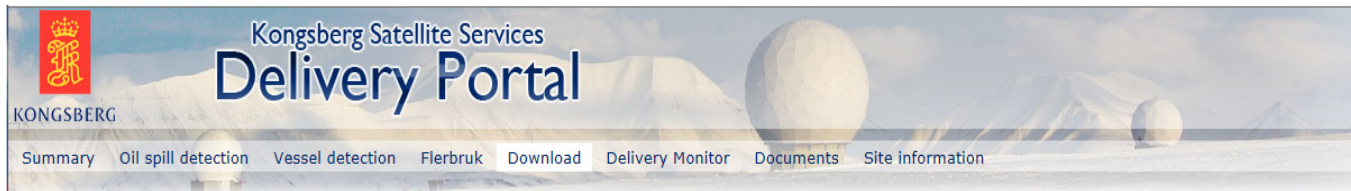


Satellite vessel detection and identification



- Large area activity monitoring and target detections
- Targeted data collection and multisource identification (imagery+AIS)
- High resolution data (optical) identification

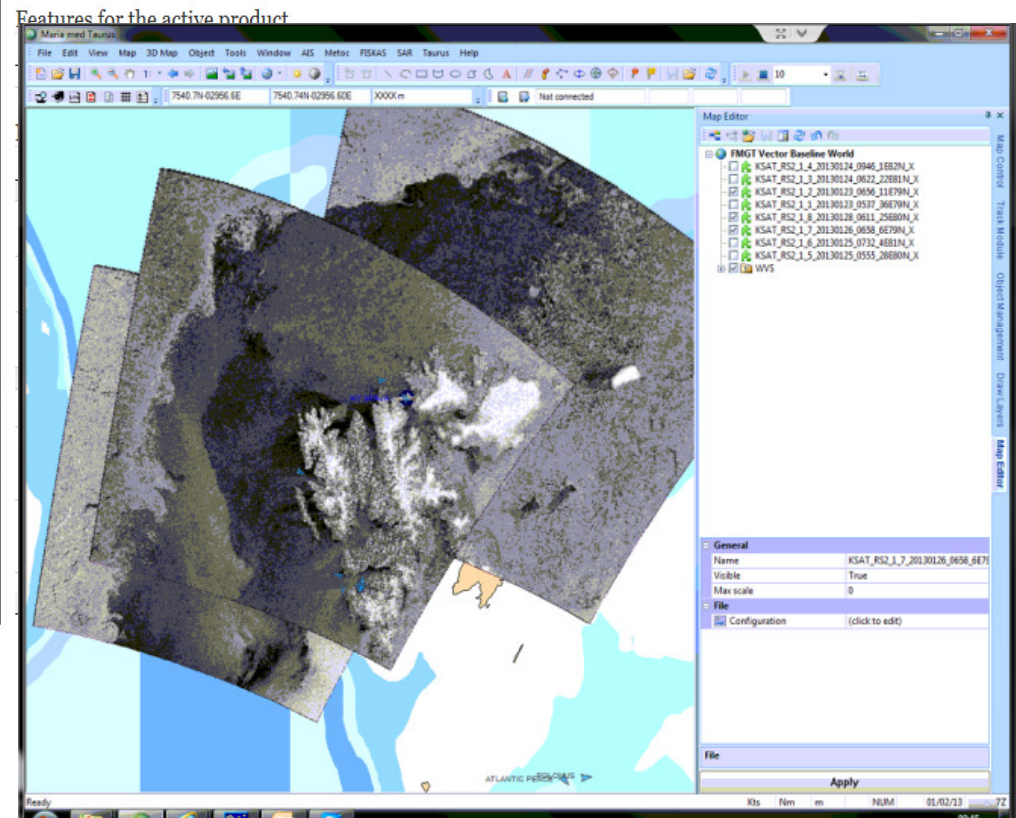
Operational use in Arctic regions



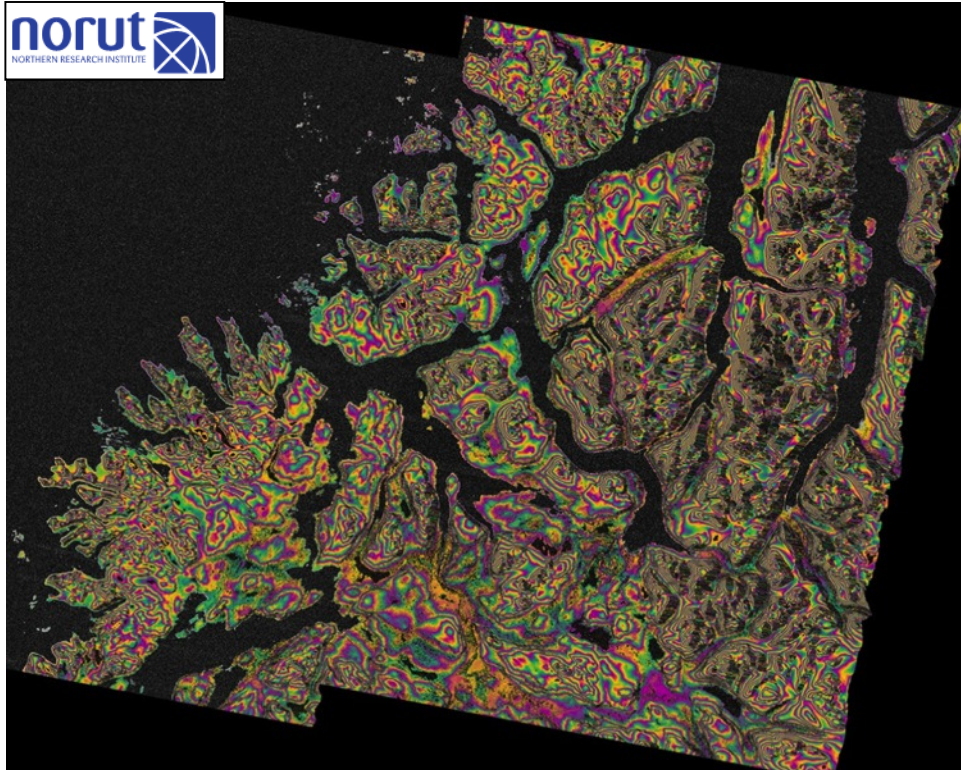
Satellite acquisition to meet operational needs in the Arctic



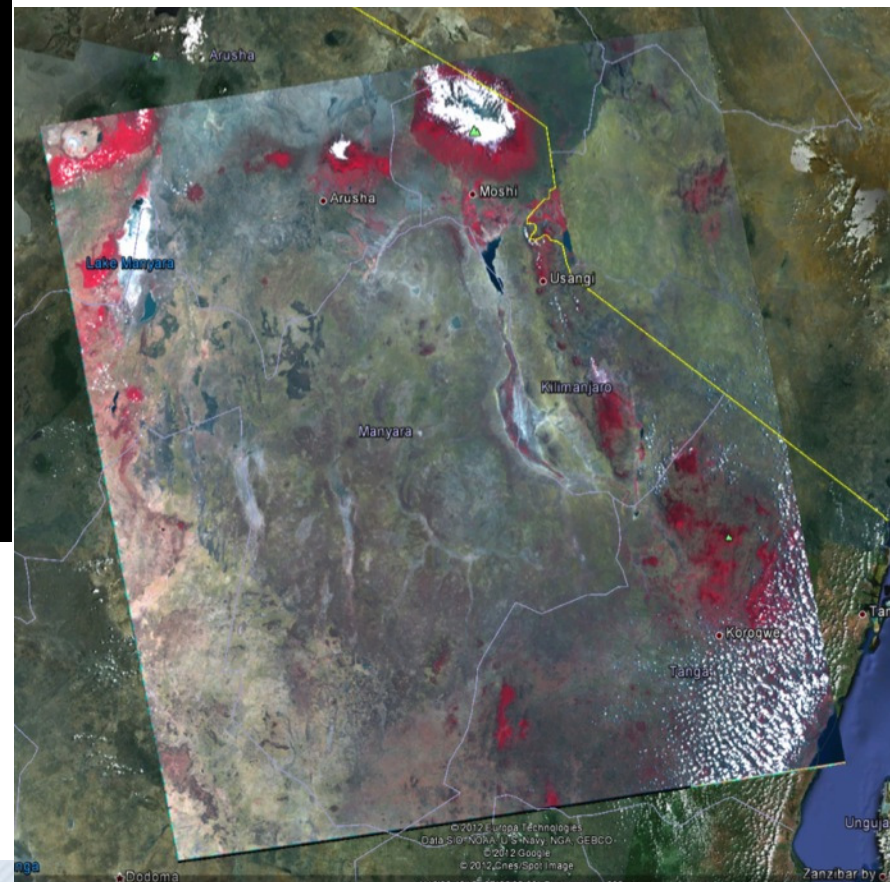
Satellite SAR data into vessel navigation system



Developing land applications



Above: Sentinel-1 interferogram, August 2014
Fringes denotes topography differences



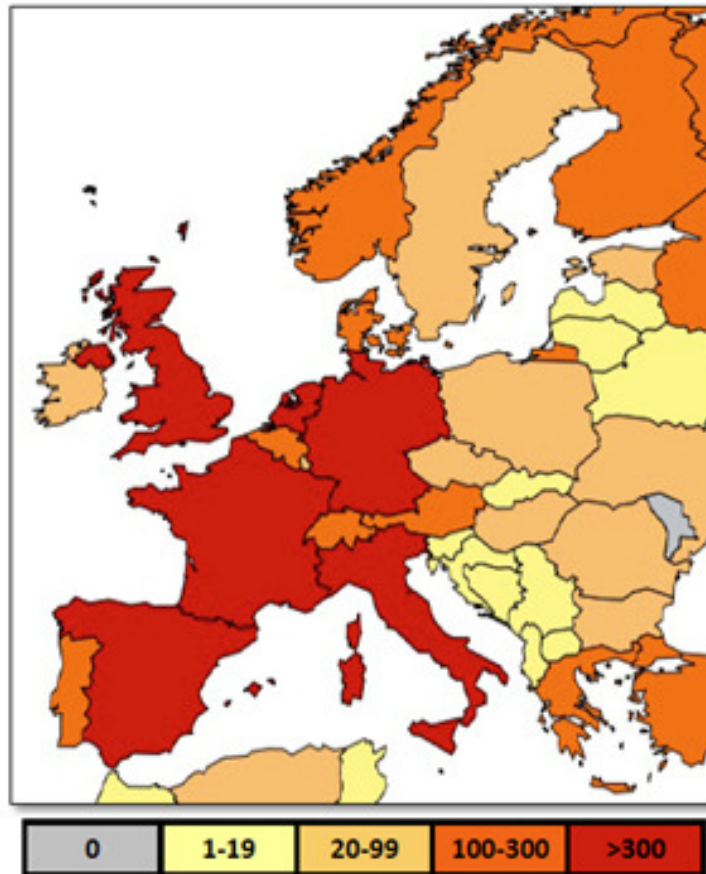
Right: Data forest mapping Tanzania, DMC 24.09.2009

Geography of EO data users

→ Europe



Number of user projects



Number of user projects w.r.t. country population



European Space Agency



Thank you for your attention



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