SPACE FOR ARCTIC

Accelerating the use of space for climate action and civil protection

2-3 July 2024

Tromsø, Norway

CONCEPT PROGRAMME

esa

in collaboration with

eurisy
ACTING COLLECTIVELY TO BRIDGE SPACE AND SOCIETY

Norsk Romsenter
Norwegian Space Agency

ABOUT THE WORKSHOP

The Arctic is warming up to four times faster than the rest of the planet. The melting of sea ice, retreating glaciers, and thawing permafrost all threaten local lives and livelihoods are serve as a stark warning to all of us. Yet, amidst these challenges, opportunities emerge for sustainable prosperity.

Space technologies offer a powerful tool to address these challenges and unlock economic growth accross the Arctic. ESA has been working for the past 40 years to monitor and protect Earth through space, including monitoring the fragile Arctic region. Together with Eurisy and the Norwegian Space Agency (NOSA), ESA is inviting you to the international workshop:

Space for Arctic: Accelerating the Use of Space for Climate Action and Civil Protection.

Join us in Tromsø, Norway, on July 2-3, 2024, for a workshop discussing how space assets benefit the Arctic and support the development new activities to tackle Arctic challenges.

08.30 REGISTRATIONS OPEN

09.00 - 09:45 WELCOME INTRODUCTION

09.00 – 09.15 Welcome address by NOSA

09.15 – 09.30 Keynote address by a Norwegian Government Official

09.30 – 09.45 Keynote message by ESA

09.45 - 10:00 INSPIRATIONAL SPEECH

10.00 - 10:30 COFFEE BREAK

10.30 - 12:00

SPACE FOR SUSTAINABLE ECONOMIC DEVELOPMENT

The Arctic faces unprecedented environmental challenges, yet it holds valuable natural resources like oil, gas, minerals, and fish, offering economic opportunities. However, resource exploitation must be approached responsibly to sustain the region's socio-economic and environmental integrity. Balancing economic development, environmental protection, and indigenous rights is crucial. Space technology offers tools for identifying resources, monitoring the environment, and supporting decision-making. This panel's aim is to explores how space technologies can promote sustainable development in the Arctic while ensuring responsible resource management and community well-being.

USE CASES:

click to explore further

Statkraft: managing hydropower production using satellite information

ARCT.ESA: Satellite Imagery To Visualise Stakeholder and Climate Risk.

Finland: All-year-round open ports due to efficient ice-breaking services

SPEAKERS:

indicative

Representatives from the Arctic Council, EU Commission, WWF Artctic Programme, Saami Association of Norway, Andøya Space

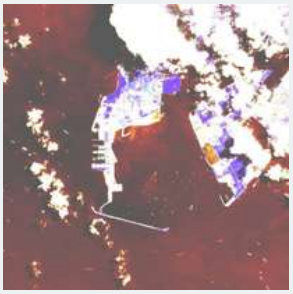
12.00 - 13:30 LUNCH BREAK

13.30 - 15:00
SPACE FOR SAFETY

The Arctic's remote and harsh conditions pose diverse safety challenges, including search and rescue, navigation safety, environmental protection, and disaster management. Early warning systems are crucial for addressing emergencies and mitigating risks associated with Arctic travel, tourism, and commercial activities. Satellites equipped with search and rescue transponders swiftly detect distress signals, while satellite-based systems track vessel movements and monitor ice conditions, reducing the risk of accidents. Remote sensing satellites provide critical environmental monitoring and aid disaster response, facilitating efficient relief operations. Collaboration between Arctic stakeholders and the space industry ensures safety and security for the region's people and environment. Additionally, the ESA's Civil Security from Space programme (CSS) supports disaster management and emergency response through various satellite technologies, enhancing the competitiveness of participating states in civil security domains. This panel's aim is to discuss how can the integration of satellite technology help deal with emergencies in the Arctic and mitigate the risks associated with travel, tourism and commercial activities, thereby ensuring the resilience and safety of the region?

USE CASES:
click to explore further

MedAssist Live: Providing medical support on the high seas thanks to satellite communications



VAKE: Improving Maritime Situational Awareness using satellite data and machine learning

Maritime safety and security: Detecting a drifting vessel

SPEAKERS:
indicative

Representatives from the EU Satetllie Centre, European Maritime Safety Agency, Arctic Coast Guard Forum, C-Core,, K-SAT, EU*Asia Institute

15.00 - 15:30 COFFEE BREAK

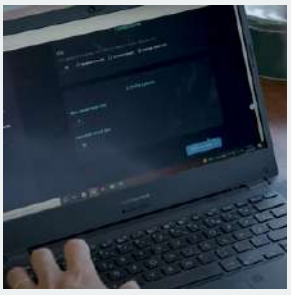
15.30 - 17:00

SPACE FOR CLIMATE AND ENVIRONMENTAL CHALLENGES

The IPCC Climate Change 2023 report highlights unprecedented global surface temperature increases since 1970, leading to rapid and significant environmental changes in the Arctic. These changes include ice melting, coastal erosion, and biodiversity depletion, impacting both indigenous inhabitants and ecosystems. While melting ice opens economic opportunities such as new shipping routes, it also poses threats like pollution and accidents. Urgent and concerted action is needed to mitigate these effects, protect the Arctic environment, and preserve life in this vital region. Space technology, exemplified by ESA's Earth observation missions like ERS, Envisat, and Copernicus Sentinel satellites, offers crucial monitoring and innovative solutions. Initiatives such as the upcoming Arctic Weather Satellite and Copernicus missions like ROSE-L and Crystal aim to enhance weather forecasting and support EU Arctic policy. Collaboration with international partners like NASA further strengthens efforts to understand and address Arctic challenges, while the development of an Arctic Digital Twin provides a valuable tool for scenario testing and validation. This panel's aim is to determine how can the integration of space technology and collaboration between regional and international actors be optimized to effectively address the urgent environmental challenges, ensuring the preservation of the Arctic environment and the well-being of its inhabitants?

USE CASES:

click to explore further



D-ICE: Helping ships to reduce their carbon footprint

COLD-ML: towards a fully automated, ML-based application for detecting the retreat of outlet glaciers using EO

HELCOM countries use satellite information to monitor oil spills in the Baltic Sea

SPEAKERS:

indicative

Representatives from the European Commission, European Environment Agency, Iceland Space Agency, ICEYE, International Arctic Research Center

09.00 - 10:45
INTRODUCTION DAY 2

Rapporteurs from Day 1 panels will share their conclusions of their panels

09.45 - 10:00
INSPIRATIONAL SPEECH

10.00 - 10:30 COFFEE BREAK

10.30 - 12:00 POLICY PANEL

The panel will explore the challenges impacting the region, the opportunities arising across the Arctic, and how space can best address them. Based on the needs collected from different users across a range of topics and challenges during the Day 1 panels, this panel will try to answer what policies and programmes exist to solve these challenges, and how they can be further developed to support local communities.

SPEAKERS:
indicative

Representatives from the European External Action Service, Arctic Council, ESA, EUSPA, Danish Government, The University of British Columbia

12.00 CLOSING REMARKS & END OF WORKSHOP

Following the workshop, participants are invited to a guided visit to local facilities. (optional)