



workshop: DRONES IN THE ARCTIC



Cold Weather Operations Conference
Hamar



Operating drones in the Arctic presents significant challenges due to environmental impact and cold weather. Low temperatures and high humidity can cause ice to form on propellers, wings, and sensors, leading to loss of lift, reduced battery performance, and even complete system failure. Ice buildup can interfere with navigation systems and camera visibility, compromising both safety and mission effectiveness.

This workshop will discuss how to overcome these challenges and how to ensure interoperability. The ability to gain a shared understanding of the cold weather environment and weather impact, and planning tools are some areas making progress for operating. What solutions are needed to operate in this challenging environment.

WORKSHOP 2 - TRACK 3

WEDNESDAY 12 NOV. / THURSDAY 13 NOV

Workshop Program

**Wednesday
12 November**

0900-1000/1100-1200: Session 2: Introduction to the workshops (Expo Hall)

In this session, the four workshop leaders will introduce the workshop and present details on the topic, findings, and the way ahead. Presentation by Nils Håheim-Saers (NORCE)

**Wednesday
12 November**

1300-1630: Session 3 (Room Briskeby 2)

In this session the workshops will gather in breakout rooms and convene industry, researchers, cold weather institutions, and military practitioners for a collaborative workshop. Participants will tackle key operational challenges, explore innovative solutions, and provide recommendations for advancing NATO's interoperability and cold weather capabilities.

Detailed programme:

1300-1430 **Short introductions to syndicate A and B** by Nils Håheim-Saers (NORCE) and Richard Hann (NTNU). Purpose: set context for syndicates

Syndicate A: Weather intelligence and flight planning procedures

Syndicate B: Platform robustness

Arctic experiences: 10 min. presentations for common inspiration:

- Nickolay Jelev (Windracers)
- Brad Guay (Meteomatics)
- Christoph Deiler (German Aerospace Center)
- Ole-Christian Spro (Ubiq Aerospace)

1430-1545 Group work in breakout rooms

Syndicate A: Weather intelligence and flight planning procedures

- How can military organisations adapt to new technology and implement it into their planned procedures?

With input from Nils Håheim-Saers (NORCE)

Syndicate B: Platform robustness

- What are the Arctic conditions that are relevant for platform development and how can technology help soldiers master them?

With input from Christian Karl (Sintef)

1545-1630 Summary of breakout group discussions

**Thursday
13 November**

0900-1000/1100-1200: Session 4: Presentation of workshops (Expo Hall)

In the final session, the four workshop leaders will present their insights, proposed solutions, and recommendations developed during the workshops. These findings will inform future initiatives and guide the approach to enhancing Alliance Cold Weather capabilities. Presentation by Nils Håheim-Saers (NORCE)

