**NATO**
**Centre of Excellence**
**for**
**Cold Weather Operations**

ENGINEER

Norwegian Army Land Warfare Centre
Engineer School

Capt Sebastien Wærstad-Campeau
Chief Instructor Geospatial Analysis

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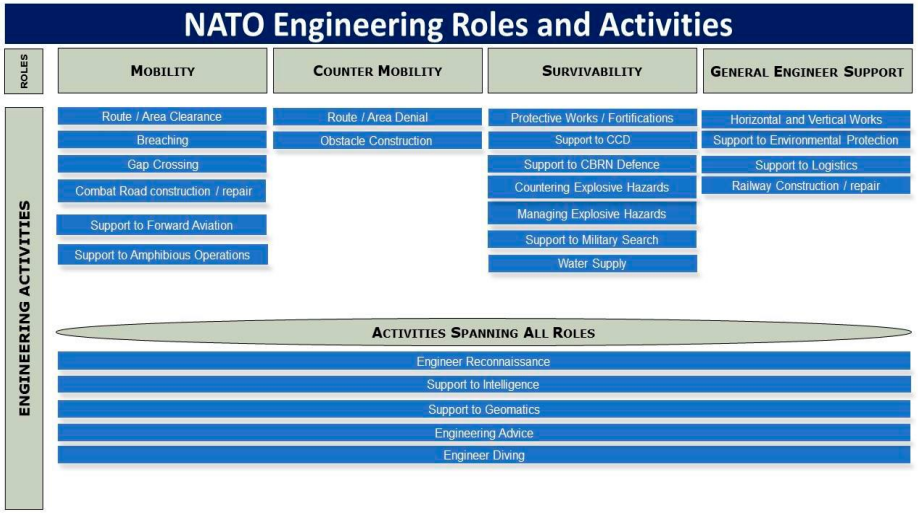
# Presentation of responibility

- Military engineers at a glance;
  - Mobility
  - Counter Mobility
  - Survivability
  - General Engineer Support
  - Activities Spanning All Roles

- “Engineers shape the battlespace”
  - As does the winter




Military engineering (MILENG) as regulated by STANAG ATP-3.12.1

# Advantages of winter conditions

- Winter opens avenues of approach
  - Thaw and freezing rivers can increase freedom of movement
  - Vehicles with high mobility on snow
- “Seasonal” obstacles
  - Anti tank wall (snow)
  - Frozen rivers can be rigged for demolition
  - Artificial avalanches
  - Camouflage
- Level of training and ability to exploit winter conditions on all levels dictates whether or not the climate will be in our favour

# Challenges of winter conditions
# Planning

General winter disclaimer: Everything takes time…

**Mobility**

- Shifting conditions make detailed planning challenging
- Can be hard to predict, i.e. ice or thaw thickness
- Wheeled units need special consideration
  - Snow clearing of AMAs, AA, LOG areas
  - Snow clearing units most likely scarce resource → state priority of effort in accordance with intent

**Counter mobility**

- Seasonal obstacles are seasonal and susceptible to melting
- How does the conditions effect your CMOB efforts
- Ground conditions affect counter mobility measures

**MDMP**

- Identify and utilize the advantages in order to create tactical advantage
- Opponents ability to exploit winter conditions

# Challenges of winter conditions
## Execution

- If possible, verify assumptions
  - Recce
  - Local reports
  - Road cameras…
- Allocate additional time and resources
  - Mobility for combat units as well as CS and CSS (snow clearance)
  - Prioritization, COM intent, flexibility
- Enemy will use the conditions in his favour
  - Defensive
  - Offensive

# Special considerations - Hazards

- Snow can hide hazards
- NO GO terrain can appear as GO.
- Winter is never only an exercise thing.
- Preparations, knowledge and experience must be emphasized within your unit.

# Challenges of winter conditions
## Summary

- Emphasis on the terrain and weather assessment during the MDMP
  - Important to separate fact, conclusion and assumptions
  - Make assumptions into facts
  - Plan robustly (in both *time* and *forces* factor)
  - Dedicate ENG units to enhance and maintain mobility

- Cold weather can be a force multiplier, if exploited correctly
  - Prepare the force thru education and training on all levels

# Questions?