

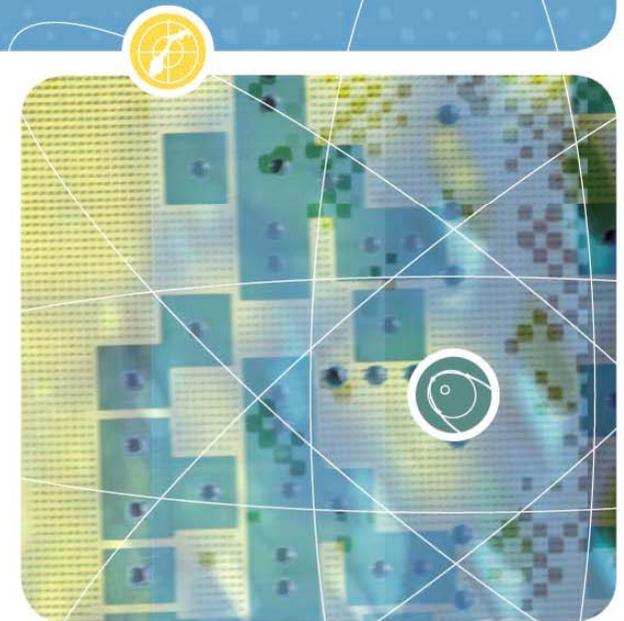
# Translating, verifying and prioritizing information

## Analysis of communication and interaction in a Norwegian NEC experiment



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Sigmund Valaker  
Tone Danielsen  
Mikael Fidjeland





# Overview

- Background and research question
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## Background and research question

- One of the biggest challenges facing contemporary military forces is to coordinate among their own units and with other organizations.
- However, there is scarce empirical work on communication and interaction in a network enabled context with military forces operating.
- We studied:
  - *What facilitate and hampers communication and interaction among units and services?*



## Method

- Qualitative inductive field study
- This approach was taken as:
  - Working inductively gives openness to what emerged as important in the context.
  - The experiment was exploratory and did not permit a rigorous testing of hypotheses



# Empirical context

- A Network Enabled Capability Experiment in Norway 2008 at the tactical level
- Test of interoperability between the various information systems and communication protocols used by:
  - The Air Force, Army, Navy, Home Guard and Special Operations Forces
- The operational ambition was increased situational awareness and connecting sensors and effectors from different systems.
- Different scenarios with tasks such as:
  - Protecting national military bases
  - Counter-terrorism



# Empirical findings

- Three aspects were particularly important to facilitate communication and interaction:
  - Translating
  - Verifying
  - Prioritizing information
- In our exposition of empirical examples we focus on the Home Guard unit, which exemplifies all of the three aspects.



## Empirical findings: Need for translation

- A perceived need to translate the professional orders to a format and language that could be comprehended by civilians
- A perceived need by the Home Guard leaders to translate the Battalions orders from English to Norwegian :
  - *“The others probably have a common language. Our challenge is that we have to start all over again in every joint exercise. The others have a focus on international operations. So it is understandable that they use English. English is the common language in international operations.”* (Home Guard Leader)



## Empirical findings: The translation process

- Conveying the orders to the home guard units:
  - Prior to the order meeting the Home Guard leaders had read through the written orders carefully
  - They listened to the Commander´s brief
  - They gathered to make clear what was essential take aways for their units
  - Finally the Home Guard leaders briefed the Home Guard units, which involved:
    - Clarifications and discussion of the meaning of the orders.
    - Explaining the orders using Norwegian and civilian terminology



## Empirical findings: Prioritizing information

- In order to convey the essence of the orders the Home Guard Leaders prioritized what information they conveyed to their units.
  - *"The orders consisted of a massive load of information."* (Home Guard Leader)
- The Home Guard leaders used the battalions map to convey the essence of the mission to the Home Guard units. They pointed at specific areas of operation:
  - *"I have never seen anything being presented so well, the intention is so clear for the whole scenario. We have to present a comprehensive understanding for our Home Guard units, and then the map is useful."* (Home Guard Leader)



## Empirical findings: Verifying information

- Personnel from the Home Guard Headquarter emphasized that the Battle Management System (BMS) was a system they were not confident in.
- Because they were not trained in the use of the system they had a need to know whether the positions in BMS reflected “real” positions.
  - In order to ensure the correctness of the positions the operators in the Home Guard headquarter spent a lot of its resources on updating the BMS system manually. They did this through calling their units via radio, which were time consuming.



## Discussion

- Need for translation often occurred ad hoc
  - Translation can be managed by “bilingual” translators and developing a common vocabulary.
  - One of the Home Guard leaders had experience from the professional battalion. He used this practical knowledge to use the map as a means of translation.
- Information sharing using novel technology did not automatically give the users information they can trust and use.
  - Voice helped verify information.
- Prioritizing information became even more important when units of different background cooperate and share information that is not familiar to them.
  - Selecting what is appropriate information for a unit was done.



## Discussion

- Translation, verifying and prioritizing helped interaction and communication in this context, but was often time consuming.
- Cultural differences in terms of language and ways of doing things hampered communication and interaction:
  - *“The biggest challenge we faced were the human aspects. When the technology works we see more clearly the underlying cultural differences among the services.”* (Officer Operational Headquarter)



## Conclusion

- There are challenges of translating, verifying and prioritizing information in a technologically networked enabled context.
  - these processes can be time consuming.
- Developing shared communication routines in new technological and operational environments is therefore needed
- Managing unforeseen communication challenges is also required
  - These challenges involves both the organizational and individual level