HANDELSHØGSKOLEN I BODØ • HHB

UNIVERSITETET I NORDLAND

Maritime activity, risks and international preparedness partnership in the High North

-results from the MARPART project

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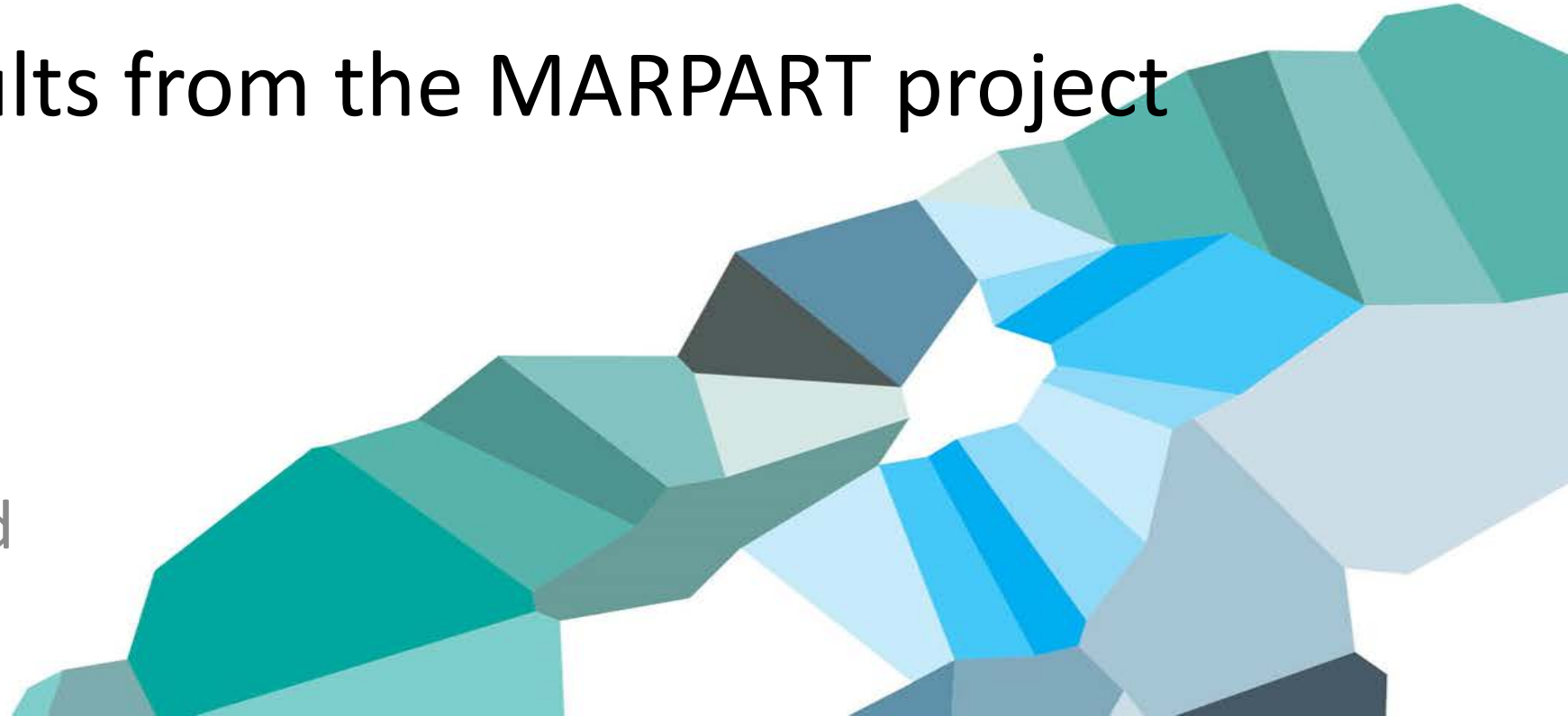


Presentation outline

1. Introduction: General description of the MARPART project
2. Increased commercial activity in the High North: estimated level up to 2025
3. Risk assessment in Norway
4. Challenges of management structures and partnership in joint maritime operations in the Arctic
5. Conclusions

1. MARPART

MARITIME INTERNATIONAL PARTNERSHIP IN THE HIGH NORTH

MARPART : main objectives

MARITIME INTERNATIONAL PARTNERSHIP IN THE HIGH NORTH

1. Increase knowledge on future maritime **activity level** in the High North and **threats**
2. Increase understanding of **future tasks and the demands** for the preparedness system
3. Provide analytical concepts for **coordination** in **cross-border**, emergency task force operations
4. Contribute with organizational concepts for
   - inter-organizational **partnership**
   - **management** of joint, cross-border operations
5. Create **competence networks**

Research group:

- Cross-disciplinary research group from four countries
- Fifteen professors plus PhD (doctoral)-students and Master-students
- Nine universities participating:
  - The University of Nordland
  - UiT-the University of Tromsø
  - UNIS-The University Center of Svalbard
  - The University of Greenland
  - The Norwegian Police University College
  - The Norwegian Defense University College
  - The University of Iceland
  - The Northern (Arctic) Federal University, Arkhangelsk, Russia
  - MSTU -The Murmansk State Technical University, Russia
- Adjoined partners:
  - World Maritime University, Malmo, Denmark and Greenland Police Academy, Norwegian Defense Research Establishment, The Norwegian Fire Academy, Royal Norwegian Naval Academy

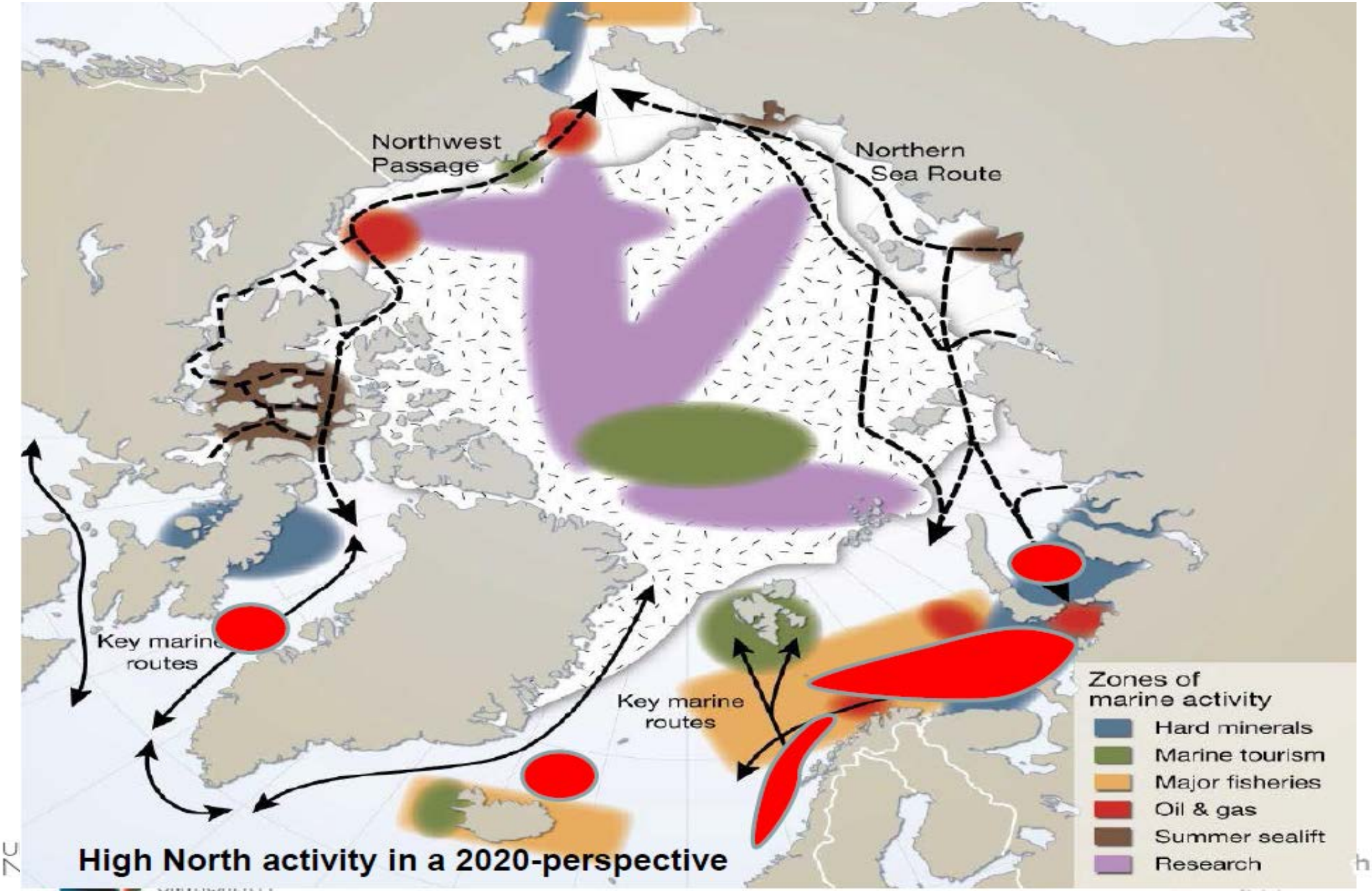
Funding

- Norwegian Ministry of Foreign Affairs
- The Nordland County Administration, Norway
- The University of Nordland
- Research partners

2. INCREASED COMMERCIAL ACTIVITY IN THE HIGH NORTH

The broad range of activities

- Coastal transport – more intra-regional and transits in all sea regions
- Intercontinental Arctic routes – stable transits, but increased interest
- Fisheries – further north along the ice ridge, engine power of fishing fleet is increasing
- Petroleum activity – further north and east(west), more installations, more pipelines, more transportation vessels
- Maritime tourism – further north and east, increased popularity of explorer tourism
- Government (research, military) – increased activity in more remote areas



High North activity in a 2020-perspective

Future activity scenarios up to 2025

HIGH SCENARIO ↑ - increase, ≡ - without significant changes LOW SCENARIO

	RUSSIA	NORWAY	ICELAND
Coastal fleet	↑	↑	↑
Intercont. routes	↑	↑	≡
Fishing	↑	↑	↑
Petroleum	↑	↑	↑
Tourism	↑	↑	↑
Research	↑	↑	↑

	RUSSIA	NORWAY	ICELAND
Coastal fleet	↑	↑	↑
Intercont. routes	≡	≡	≡
Fishing	≡	≡	↑
Petroleum	≡	↑	≡
Tourism	≡	≡	≡
Research	↑	↑	≡

3. RISK ASSESSMENTS

Dominating risk factors

- Remoteness, ice, polar lows, cold and unpredictable weather
- Reduced visibility, fog, darkness in winter
- Limited infrastructure with necessary resources
- Limited/unstable satellite communication

Norway sea areas: more than 500 accidents a year:

	Tourist/ Cruise ship	Cargo/tanker/ petroleum Rigs/floaters	Fishing
Grounding	T-G	C-G	F-G
Damage due to collision (sea ice and other)	T-I	C-I	F-I
Fire	T-F	C-F	F-F
Violence/terror	T-V	C-V	F-V
Other reasons	T-O	C-O	F-O

Environmental Risks in Coastal Norway

5 - Frequently					
4 - Relatively frequently		F-G			
3 - Occurs		F-F		C-F	C-G
2 – Very Rare			T-F		T-G
1 – Theoretically possible		F-V			T-V, C-V
	insignificant	minor	moderate	significant	Serious

Human Risks
in Coastal Norway

5 – Frequently					
4 - Relatively frequently				F-G	
3 – Occurs				C-G, C-F, F-F	T-F
2 – Very Rare					T-G
1 – Theoretically possible				C-V, F-V	T-V
	insignificant	minor	moderate	significant	serious

Environmental Risks in Svalbard area

5 - Frequently					
4 - Relatively frequently		F-G			
3 - Occurs		F-I	T-I, T-G		
2 – Very Rare		F-O, F-F	T-O,	C-O, C-I, T-F, C-F	
1 – Theoretically possible			F-V, C-V, T-V	C-G,	
	insignificant	minor	moderate	significant	serious

Human Risks in Svalbard area

5 - Frequently					
4 - Relatively frequently		F-G			
3 - Occurs		F-I		T-I, T-G	
2 – Very Rare		F-O	C-O, C-I, T-O	F-F	T-F, C-F
1 – Theoretically possible			C-G	F-V, C-V	T-V
	insignificant	minor	moderate	significant	serious

High risk and increasing activity means that the Arctic countries are in need of a very capable maritime preparedness system – cooperation and effective host nation support are crucial.

4. CHALLENGES OF COOPERATION IN JOINT MARITIME OPERATIONS IN THE ARCTIC

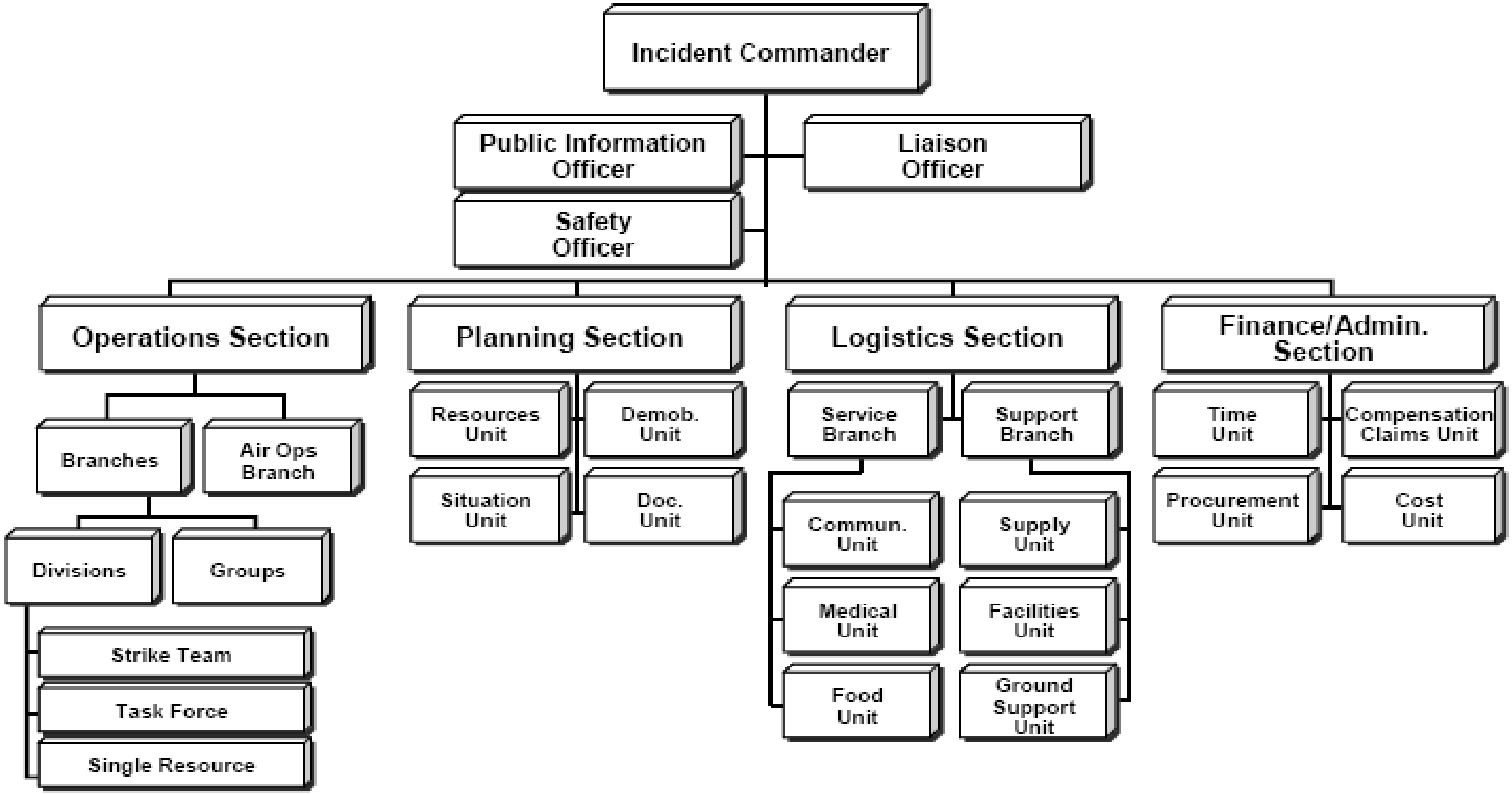
Challenges of the operational context of the Arctic

- Scarce resources: limited amount and reduced functionality;
- High volatility: difficulties with the system functionality, lack of understanding of the cause-effect relations;
- Multi-nationality: different cultures, languages and geopolitical interests; focus on cross-border relations;
- High complexity: a very complicated set of formal institutions and large number of stakeholders.

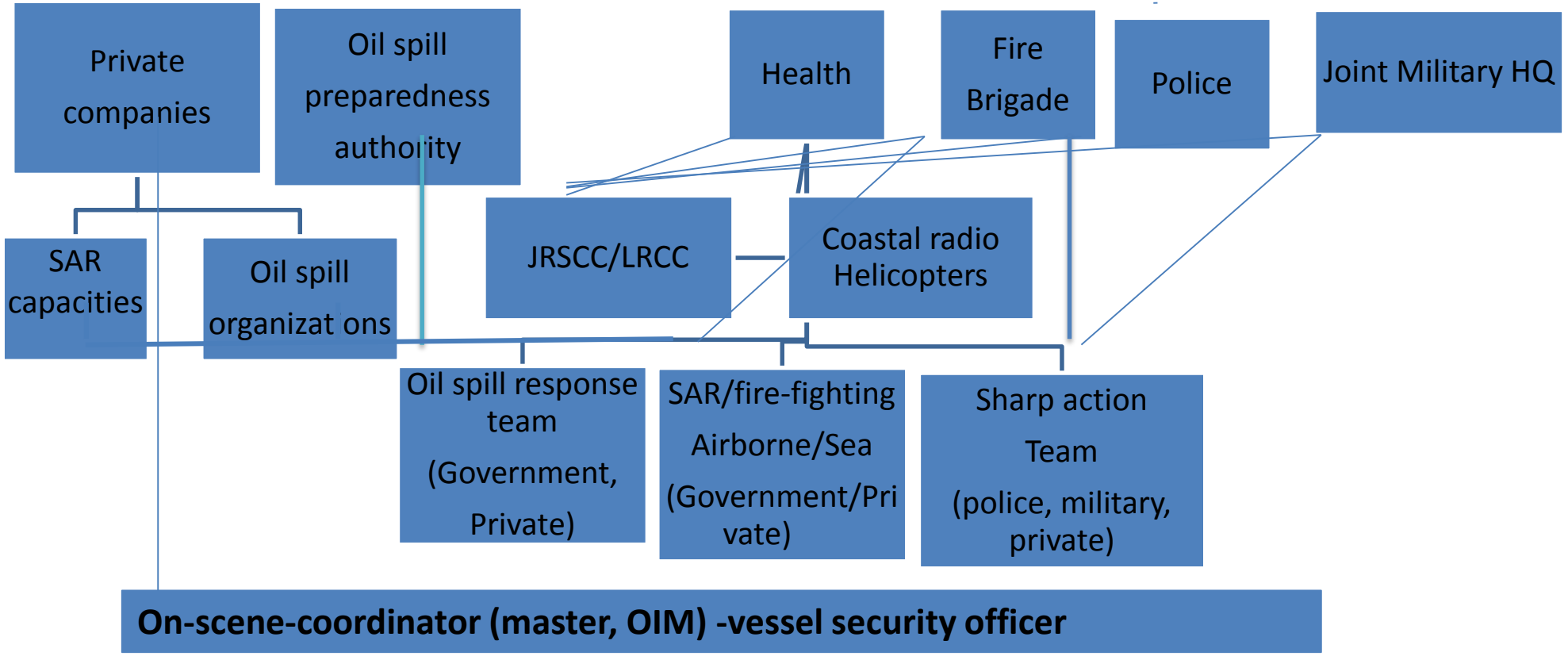
Example: Operative actors in preparedness system of Norway

	Institutional ownership:		**Preparedness area:**				
Operativ aktører:	**Ministries and owners**	**Direc-torate**	Search & Resc.	Fire fight.	Salv-age	Pollution Recovery	Terror
Joint Rescue Coordination Centres	Ministry of Justice (JD)		X	X	X		
Rescue helicopters	Ministry of Defence FD		X	X	X	X	X
Police	JD	PDir	X	x	X	x	X
Fire and rescue corps	JD	DSB					
Coastal authority	Min. of Transp. TD		X	X	X	X	
Coast Guard	FD		X	X	X	X	X
Joint Mil HQ	FD		X	X	X	X	X
Health regions	Min of Health (HD)	Hdir	X				
BarentsWatch	TD		X	X	X	X	
Municipalities	Min of mun.		X	X		X	
SAR coastal vessels	Private		X	X	X	X	
NOFO Joint oil recovery organisation	Oil companies	Ptil				X	
Oil companies	Field owners	Ptil	X	X	X	X	X

Example: ICS (Incident Command System) basic organization structure



Operational-tactical management in joint sea operations



How to deal with organizational complexity?

- A broad range of capacities and coordination resources;
- Transparent organization structure;
- Matching competence, training and equipment of different institutions involved;
- Availability and transparent procedures for use of joint resources;
- Dynamic capabilities in command structure for creativity, improvisation and innovation;
- Common language platform and cultural understanding/trust;
- Removal of institutional barriers (approval, border crossing, transport).

Challenges of standard operating procedures in turbulent environment

BENEFITS	WEAKNESSES
A standardized way to coordinate a set of organizations who may otherwise work together sporadically.	Lower coordination in situation of low pre-existing trust between agences.
Is scalable and allows overall flexibility in expertise and in range of organizations.	Weak in inter-organizational coordination and levels of government responding to disaster.
Comprehensive resource management procedures ensure visibility of all resources and their mobilization	The emphasis on formal organizations fails to recognize need for transformations of the structure and functions of the established organizations during the response.
Incident action plans reduces freelancing and ensures a coordinated response.	Many social demands produced by disasters are too complex and unexpected to be handled by the standard command system.
Uses the same pre-defined facilities nomenclature and roles description, also during large multi-func events	Lack of experience and knowledge transfer from high volatility environments like at sea and in the Arctic

5. CONCLUSIONS

Conclusions

- The maritime activity level in the High North is becoming more complex
- Need to be prepared with adequate, well-trained and well-organized cross-border emergency task forces
- Larger accidents need mobilization of resources across institution and country borders
- Preparedness and emergency capabilities have to be highlighted and balanced at all levels of management
- Turbulence has to be met with new managerial concepts

Thank You

for your attention