THE ROADMAP TO NORWAY'S ARCTIC POLICY

SARiNOR MAIN FINDINGS

Baltimore 2017 April 19th

Tor Husjord


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SEARCH AND RESCUE
IN THE HIGH NORTH
Arctic Mayday
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Nord

The Roadmap to Norway's Arctic Policy

Content:

- Why focus on Search and Rescue
- Vision and goal
- Project organization and contributors
- Main findings and recommendations
- SARiNOR 2
- SARiNOR 3 (application)

Norwegian Governmental Arctic Policy (2012)

"The Government will ensure Norway's capability to exercise SAR within own and neighbouring SAR areas by maintaining and improving the capacity to conduct search and rescue"

"All parties and their organizations have a responsibility to focus on reducing the risk for an accident and systematically handle own incidents in polar waters"

"The government want transparency about the challenges and contribute to development of knowledge and experience transfer"

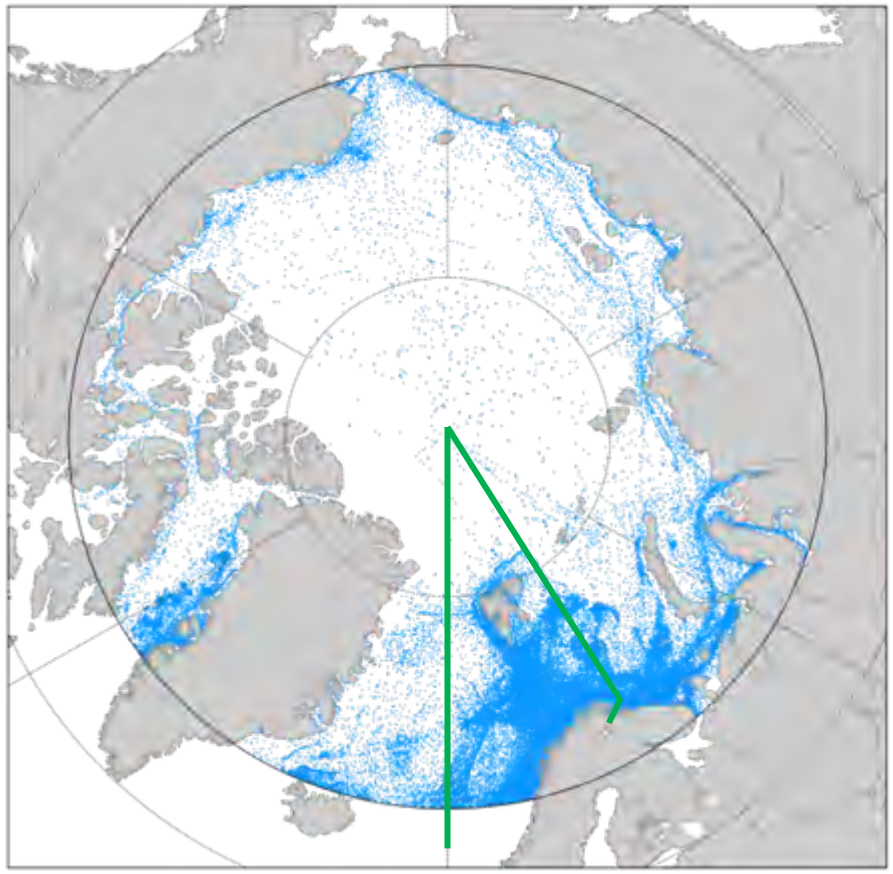
The SAR-Agreement, Arctic Council 2011

- Agreement on cooperation on aeronautical and maritime search and rescue in the arctic.

Arctic Council Member states :

- Canada,
- Denmark (including Greenland and Faroe islands),
- Finland,
- Iceland,
- Norway,
- Sweden,
- Russian Federation,
- USA

Arctic maritime activity



AIS-data 2010-2012 1 dot = 1 ship/day

- 90% of Norway's maritime zone is located in the Arctic area.
- 80% of all Arctic maritime activity takes place inside Norway's sector

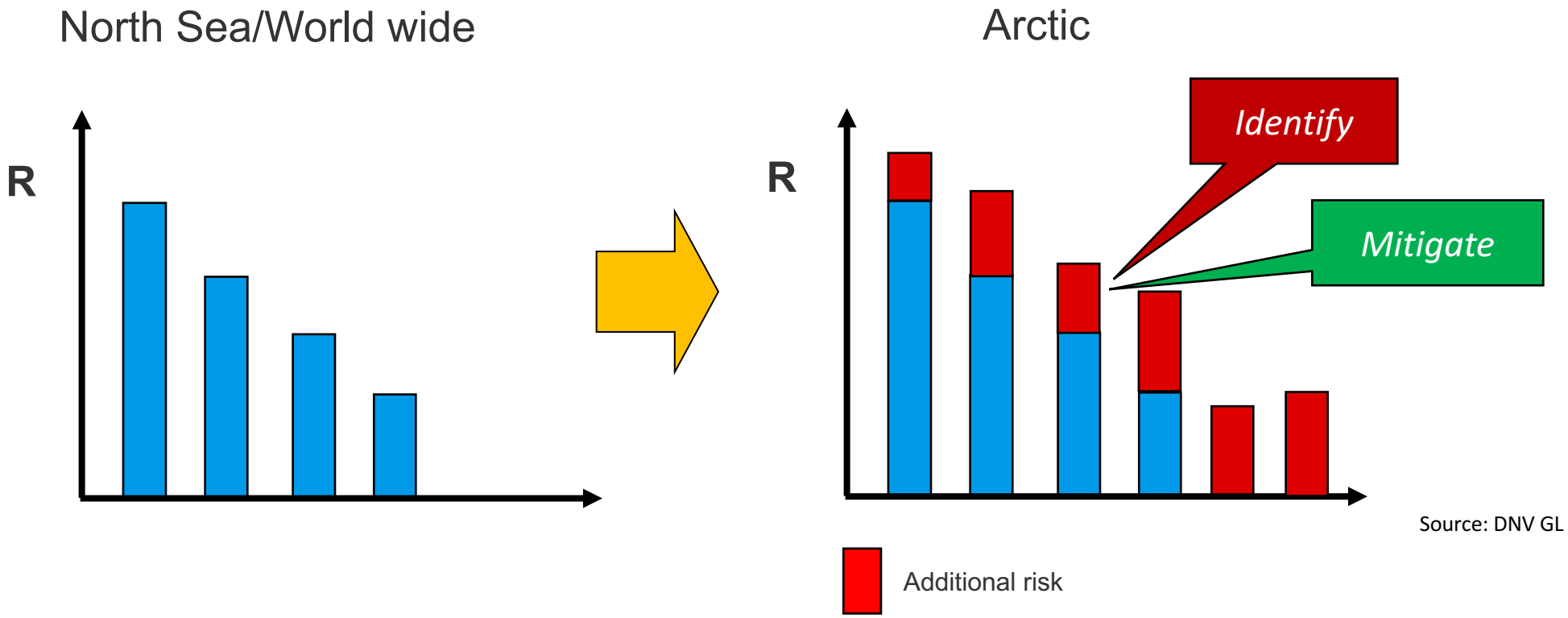
  ~ 80% of the risk
- 4,3 million people live inside the Arctic area.
  - of which 500.000 in Norway
- 2013 AIS data:
  - totally 1025 vessels representing 60 different flags

→ *An accident will occur*

The question is; *are we prepared?*

Added risk of arctic operations

Risk = Probability x Consequence



Source: DNV GL

… and the activity level is increasing

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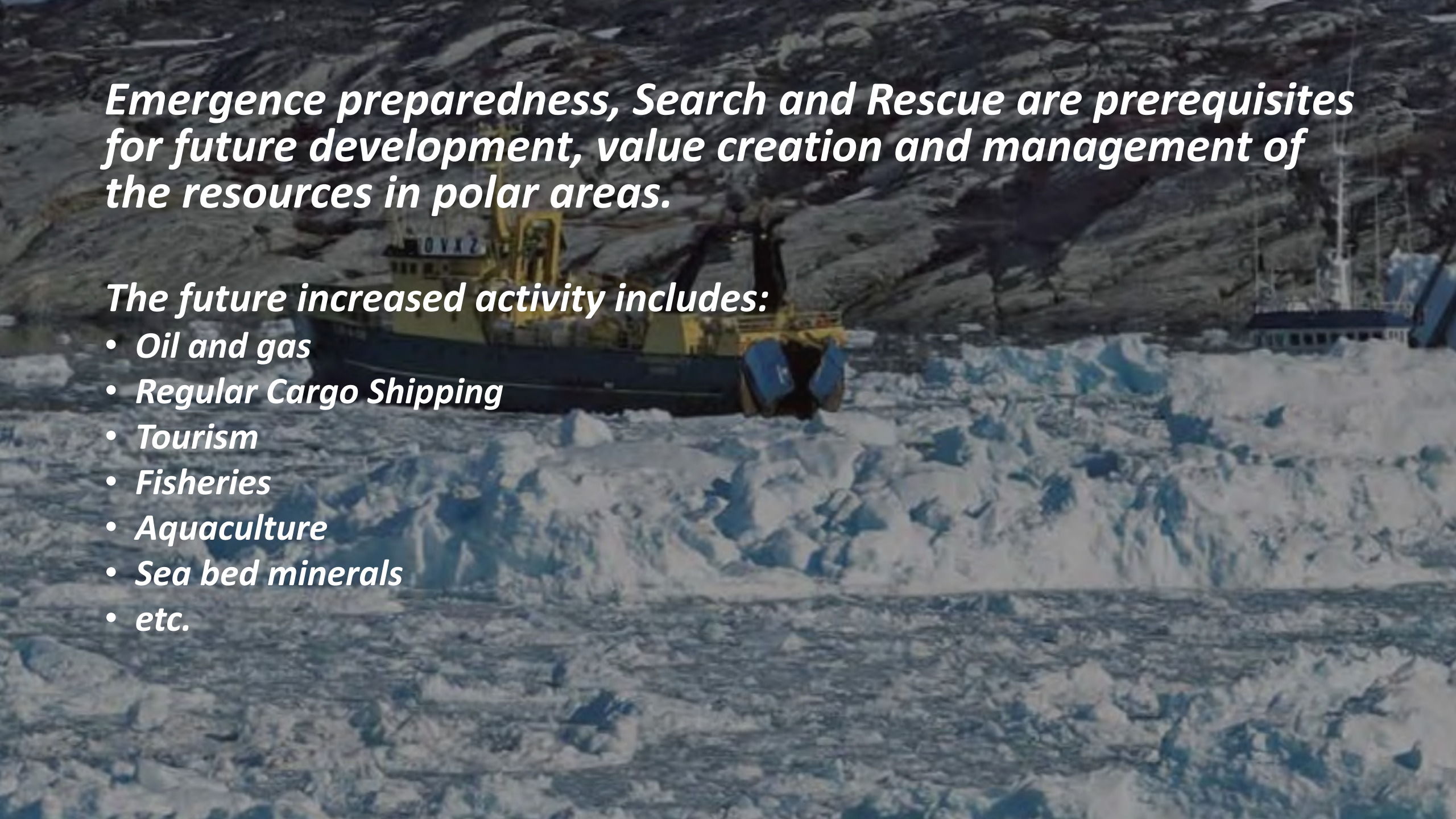


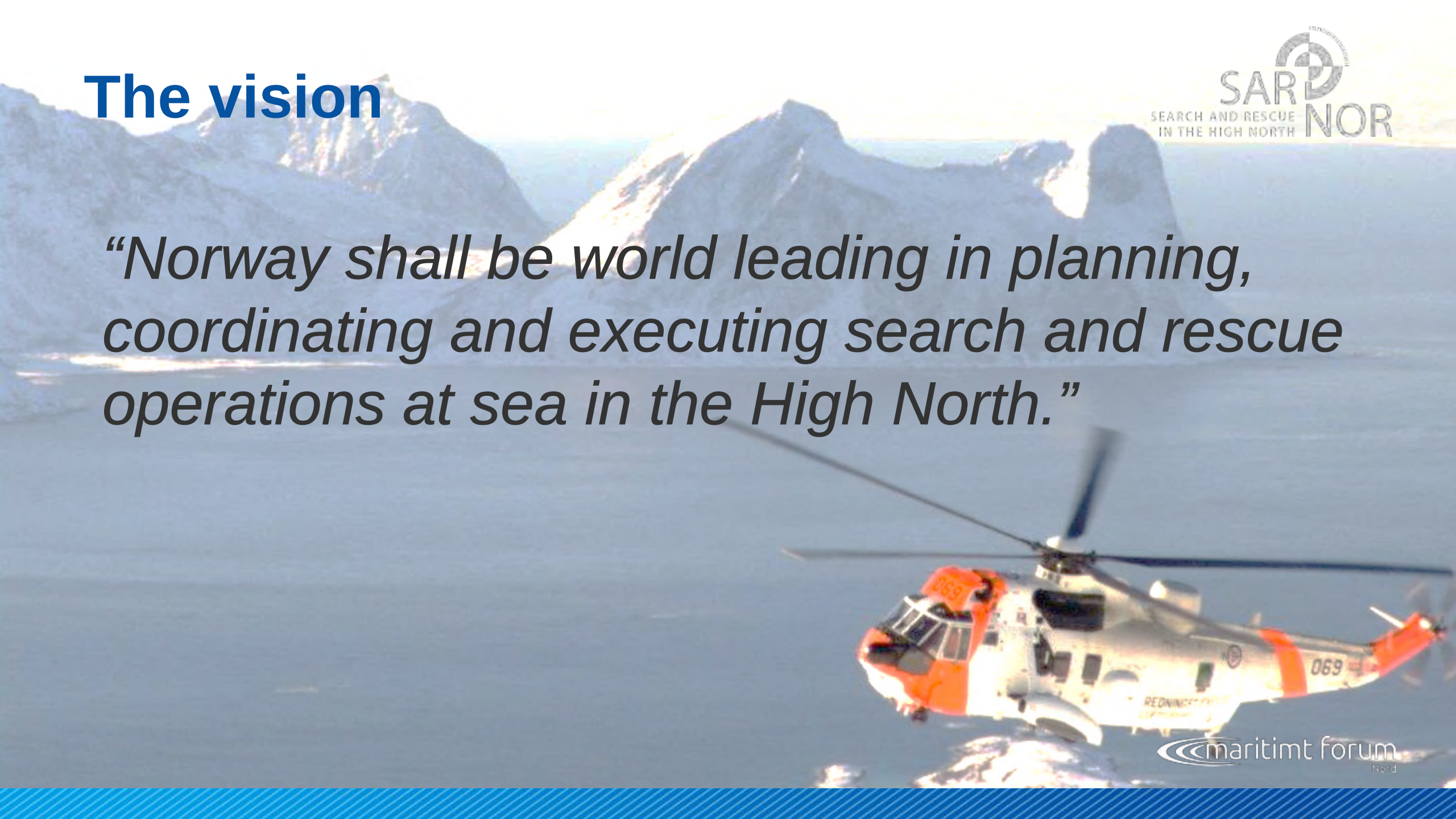
Emergence preparedness, Search and Rescue are prerequisites for future development, value creation and management of the resources in polar areas.

The future increased activity includes:

- *Oil and gas*
- *Regular Cargo Shipping*
- *Tourism*
- *Fisheries*
- *Aquaculture*
- *Sea bed minerals*
- *etc.*

The vision

“Norway shall be world leading in planning, coordinating and executing search and rescue operations at sea in the High North.”



Main goals

- Identify information, generate knowledge and new technology contributing to more efficient SAR operations in polar waters
- Create an arena for information sharing and co-operation among all relevant parties
- Contribute to the general awareness about maritime operations in polar waters in general and SAR in particular
- Update the authorities, to ensure a common understanding of the current preparedness level and influence on future implementation of new measures

Participants in the project

- Ship owners and operators
- Energy companies
- Insurance
- Research institutes
- Classification Society
- Consultants
- Authorities

- Start: Q4 2013
- Duration: 3 years
- Budget: NOK 20 mill.
- Financing: 50 % public
  50 % private

Partners

Nordland FYLKESKOMMUNE

Norges Rederiforbund
Norwegian Shipowners' Association

NORWEGIAN HULL CLUB

ConocoPhillips

DNV·GL

Lundin Norway

NSOF 1995

Norsk Sjømannsforbund

eni norge

Statoil

FHF

KYSTVERKET

NORWEGIAN MINISTRY OF FOREIGN AFFAIRS

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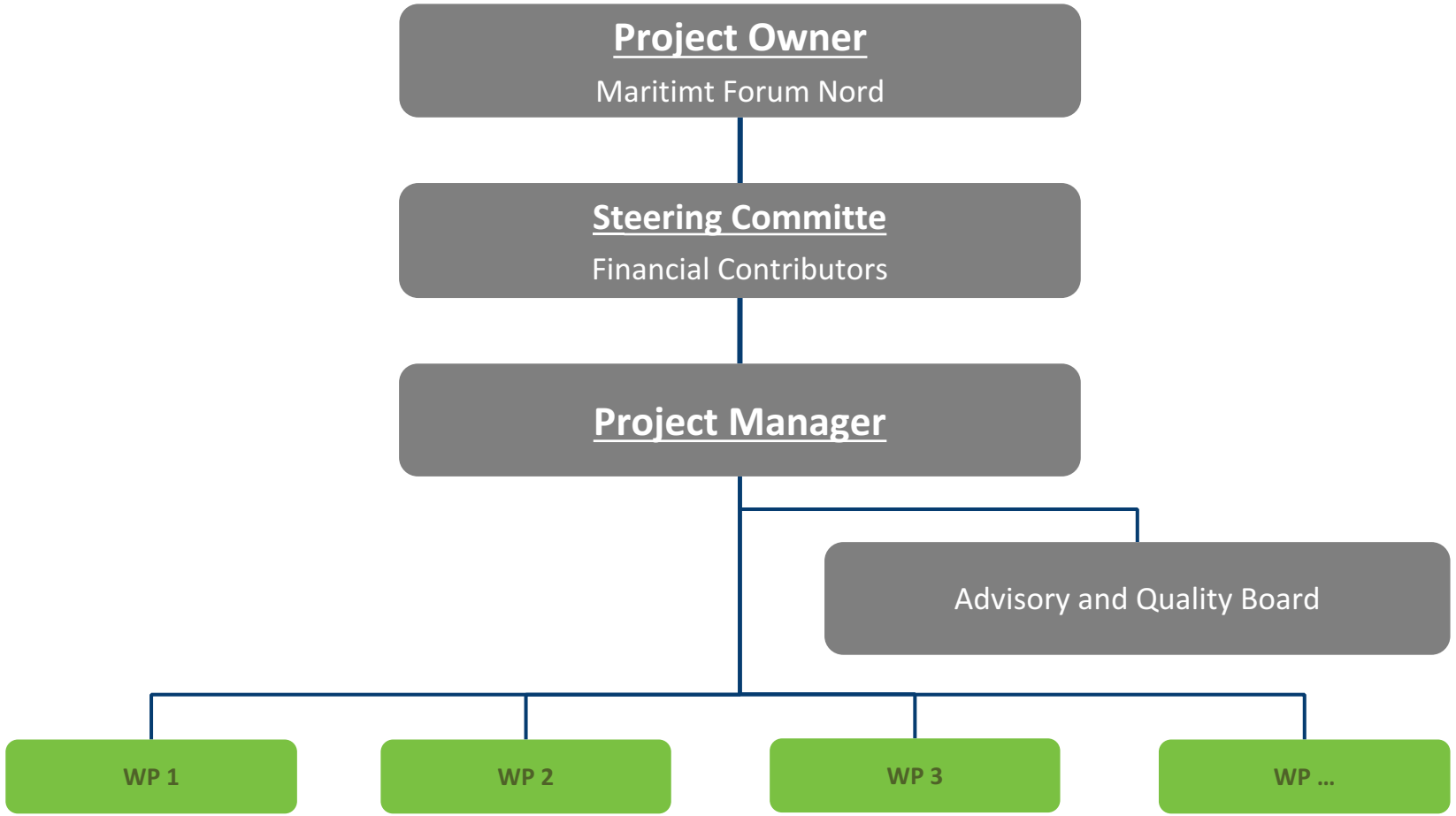
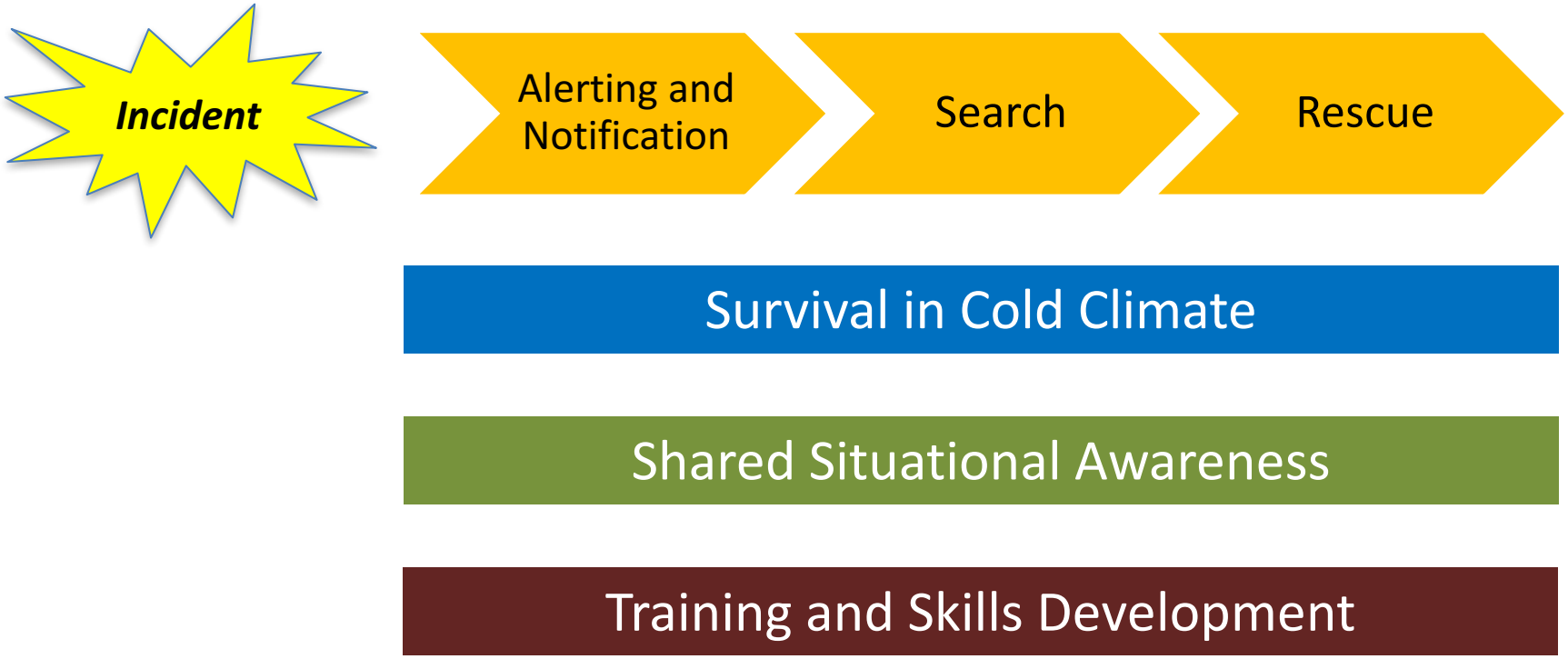
Professional and Specialist Contributors

- Admiral Makarov State University of Maritime and Inland Shipping
- Christian Michelsen Research, CMR
- GMC Maritime AS
- Handelshøgskolen UiN
- Hansen Protection
- Harding Safety
- Kystvakten
- Lufttransport
- Sintef Ocean
- Memorial University of Newfoundland
- Nord Universitet
- Nordland fylkeskommune
- Fiskeri- og Havbruksnæringens Forskningsfond (FHF)
- Norsafe
- NORUT
- Polar Safety Systems
- SINTEF
- Tromsø Skipperforening
- Universitetet i Stavanger
- Universitetet i Tromsø
- Universitetssykehuset Nord-Norge
- Viking Life-Saving Equipment
- Viking Supply
- 133 Luftving
- 330-skvadronen

Project Organization



Course of Events and Main Challenges



Alerting and Notification

Goal:

- Send and receive correct and sufficient information required for a successful SAR operation

Main Challenges:

- Communication limitation far north
- Practical design of equipment
- Culture, language and general knowledge about alerting

Main findings:

- Develop a common standard for alerting
- Improve satellite coverage
- Better sharing of available information

Search

Goal:

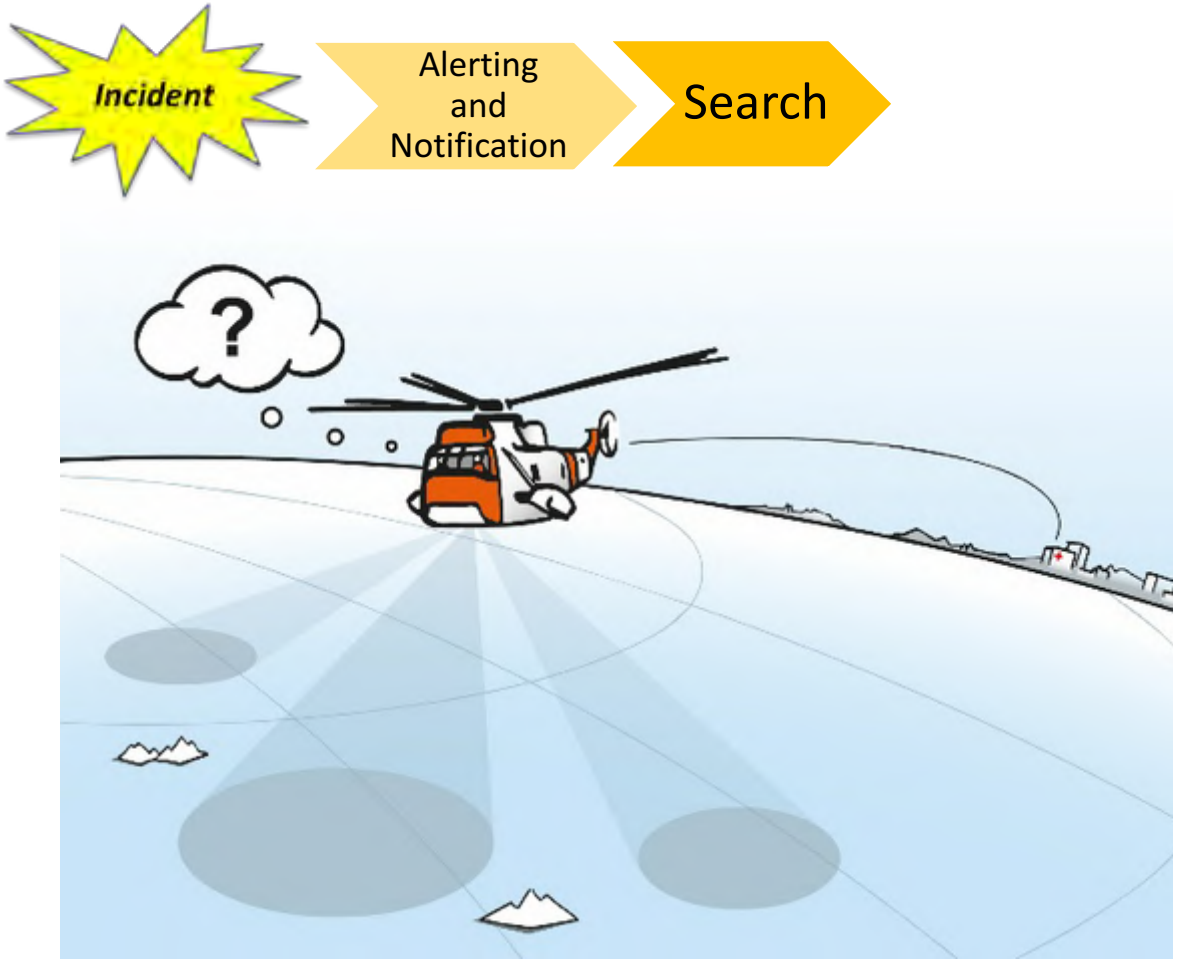
- To find the casualties asap

Main Challenges:

- Long distances and difficult polar conditions
- Long time to implement new technology
- Long way from end user to decision makers

Main Findings:

- Simplify acquisition process- more end user impact
- Implement state of art equipment
- Increase helicopter range by establishing more fuel depos



Rescue

Goal:

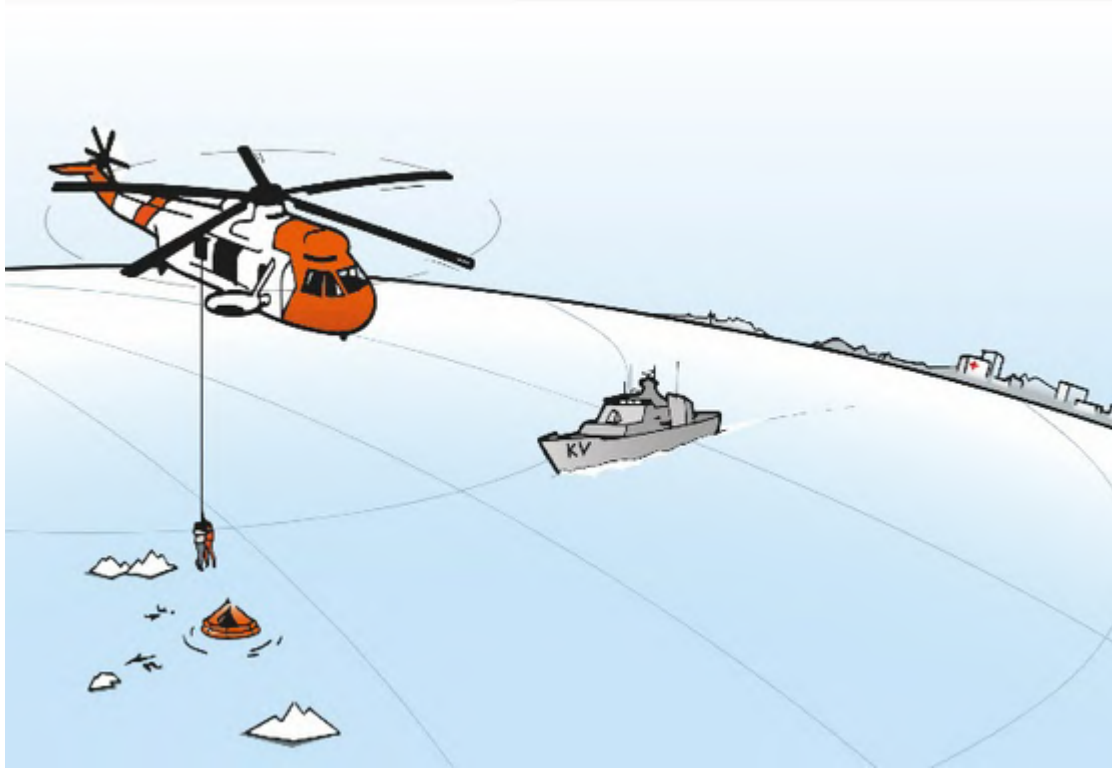
- Ensure that most of the casualties are rescued

Main Challenges:

- Climate
- Equipment are not adapted to the actual operation
- Effective utilization of available resources

Main Findings:

- Need to develop test and performance standards for polar rescue equipment
  - ✓ lifeboat, rafts, clothing, personal equip., drop-kit
- Develop more effective equipment for evacuation and rescue of personnel from vessels, sea, lifeboats etc.
- Develop training courses and accomplish practical training to ensure effective utilization of all available resources



Survival in cold climate

Goal:

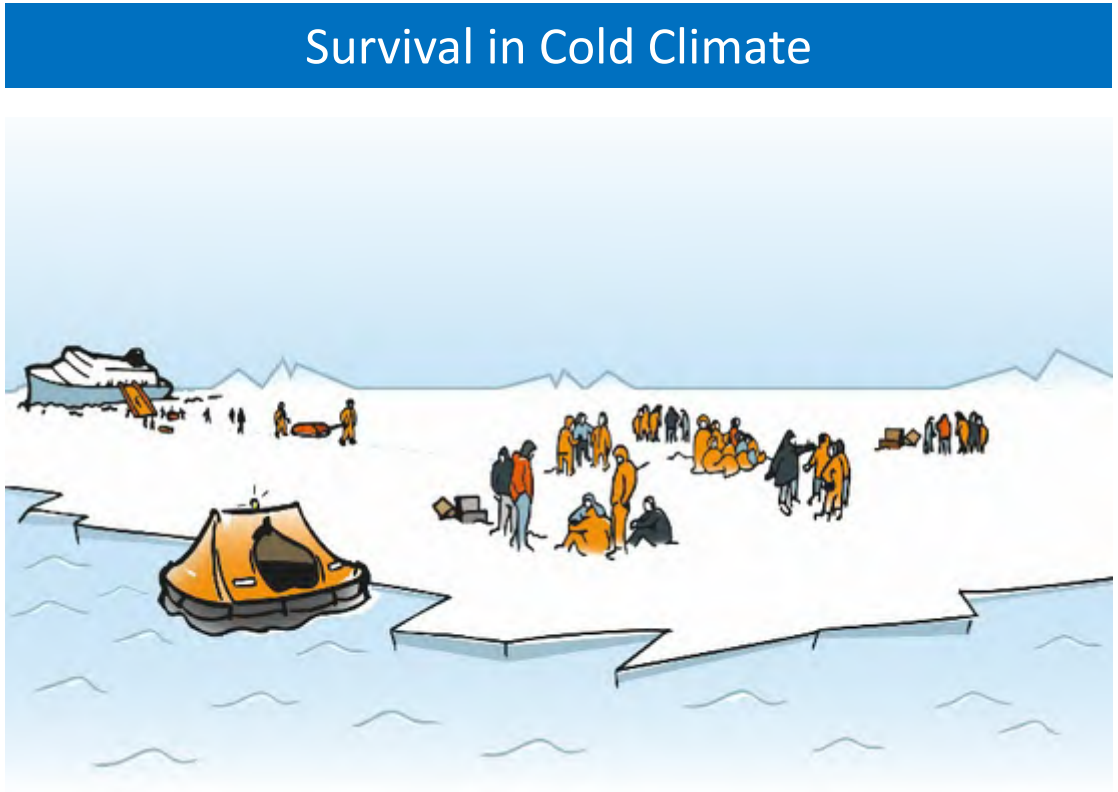
- Ensure that the casualties survive until rescue arrives

Main Challenges:

- Time
- Low temperatures (hypothermia)
- Lack of equipment

Main findings:

- Need to adapt existing equipment and procedures to polar environment
- General training must include evacuation and survival in cold climate
- Holistic approach to the total rescue chain



Shared Situational Awareness

Goal:

- Everyone involved in an incident has the same understanding of the task at hand and can thereby administer their own resources in the best possible way

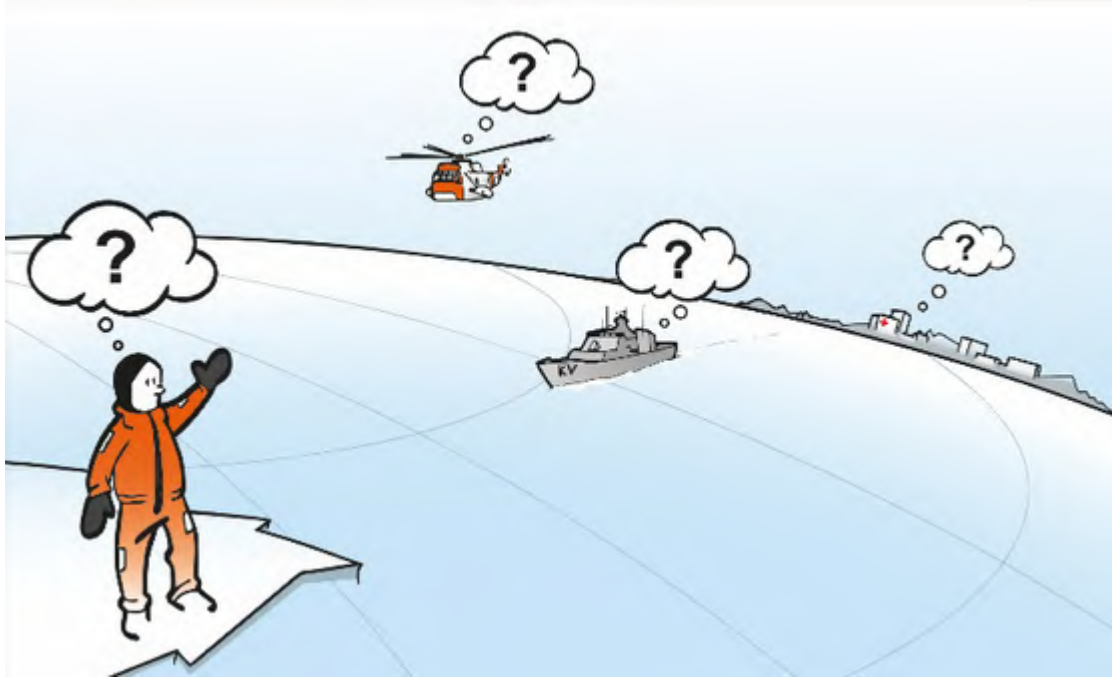
Main Challenges:

- Difficult to get access to the right information
- Different interface, - no common standard platform for sharing of information
- Today's technological potential for sharing text, images and live streaming is not fully exploited

Main Findings:

- Need for a common standard interface between the the C31 systems. (command, control, communications and information)
- Access to Broadband will expand the possibilities to sharing of data
- Drills are important for establishing and developing a shared situational awareness

Shared Situational Awareness



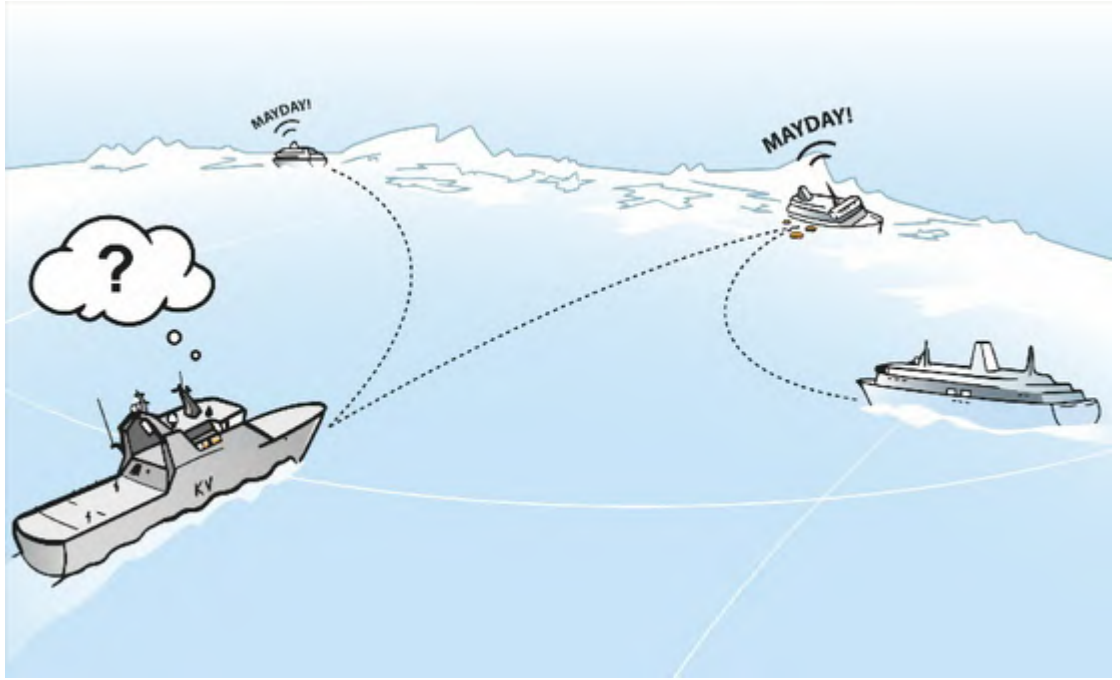
Training and Competence

Goal:
- More efficient SAR operations

Main Challenges:
- Different actors
- Different background and competence
- Different experience

Main Findings:
- Need for a common basic training
- All phases to be included:
  - ✓ Preparedness before an incident
  - ✓ Ensure a common understanding about a typical SAR operation
  - ✓ Follow up and implementation of improvements after an incident

Training and Competence



Main Findings of the SARiNOR Project

Main Finding 1:
Survival at accident site, (MF1)

Main Finding 2:
Emergency Preparedness (MF2)

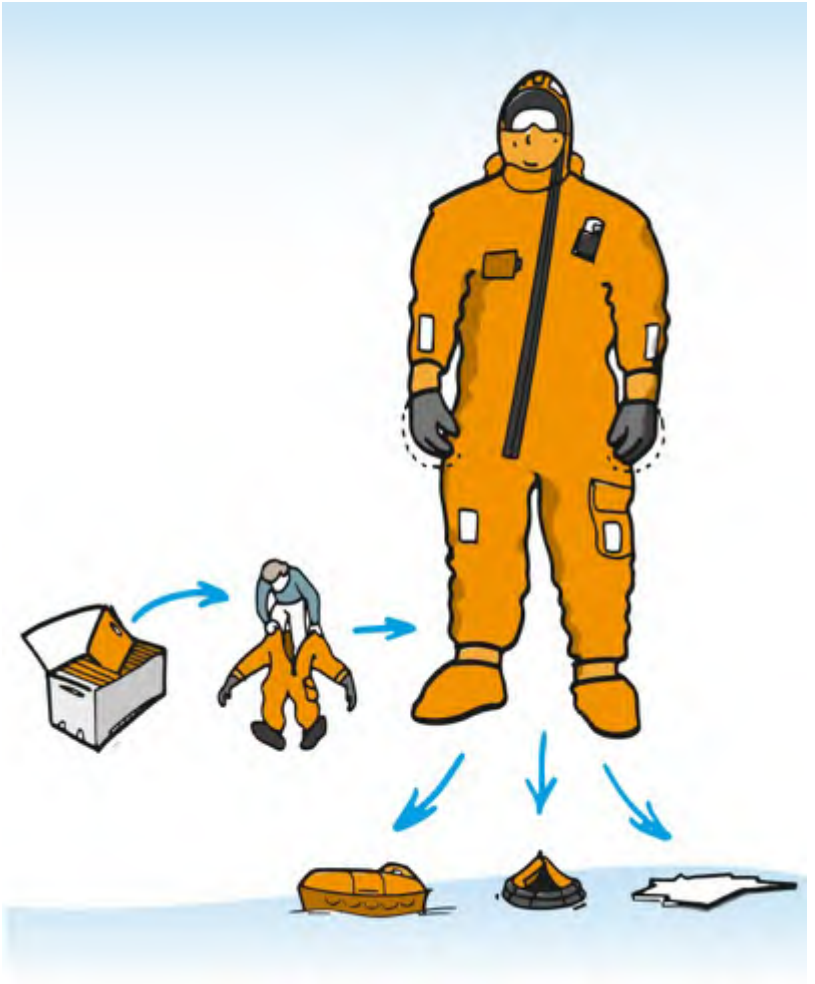
Probability to survive =
ability to survive at accident site + emergency preparedness

Main Finding 1: Survival at accident site

Factors increasing the probability to survive at accident site

Avoid hypothermia

- Further development and implementation of equipment contributing to reduced probability for hypothermia
- The physical and physiological state as well as basic competence and training
- Availability of pre-hospital treatment
- The required equipment will depend on the actual situation
- Need to improve the requirements to Life Saving equipment to comply with IMO Polar Code's 5-day requirement

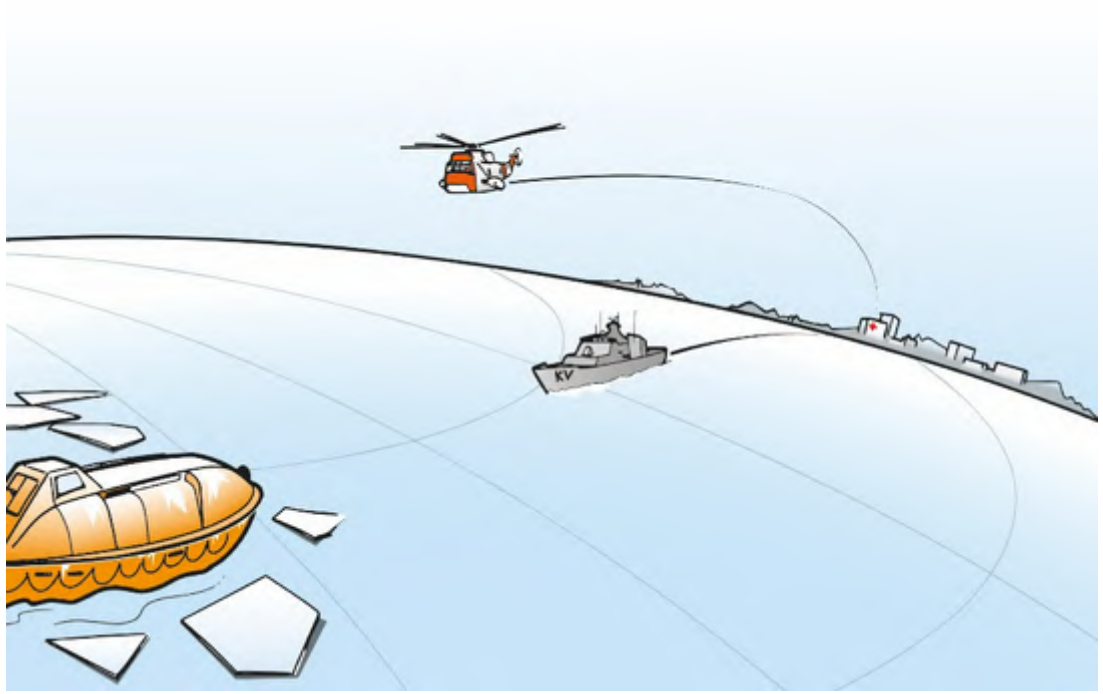


Main Finding 2: Rescue and Emergency preparedness

Response time is Crucial

Measures identified to reduce response time:

- Swift mobilisation of all actors
- Adapt equipment to polar challenges
- Establish equipment depots
- Presence in polar waters
- Immediate Access to the different resources



The next steps

More activity in polar waters will increase the probability for an accident!

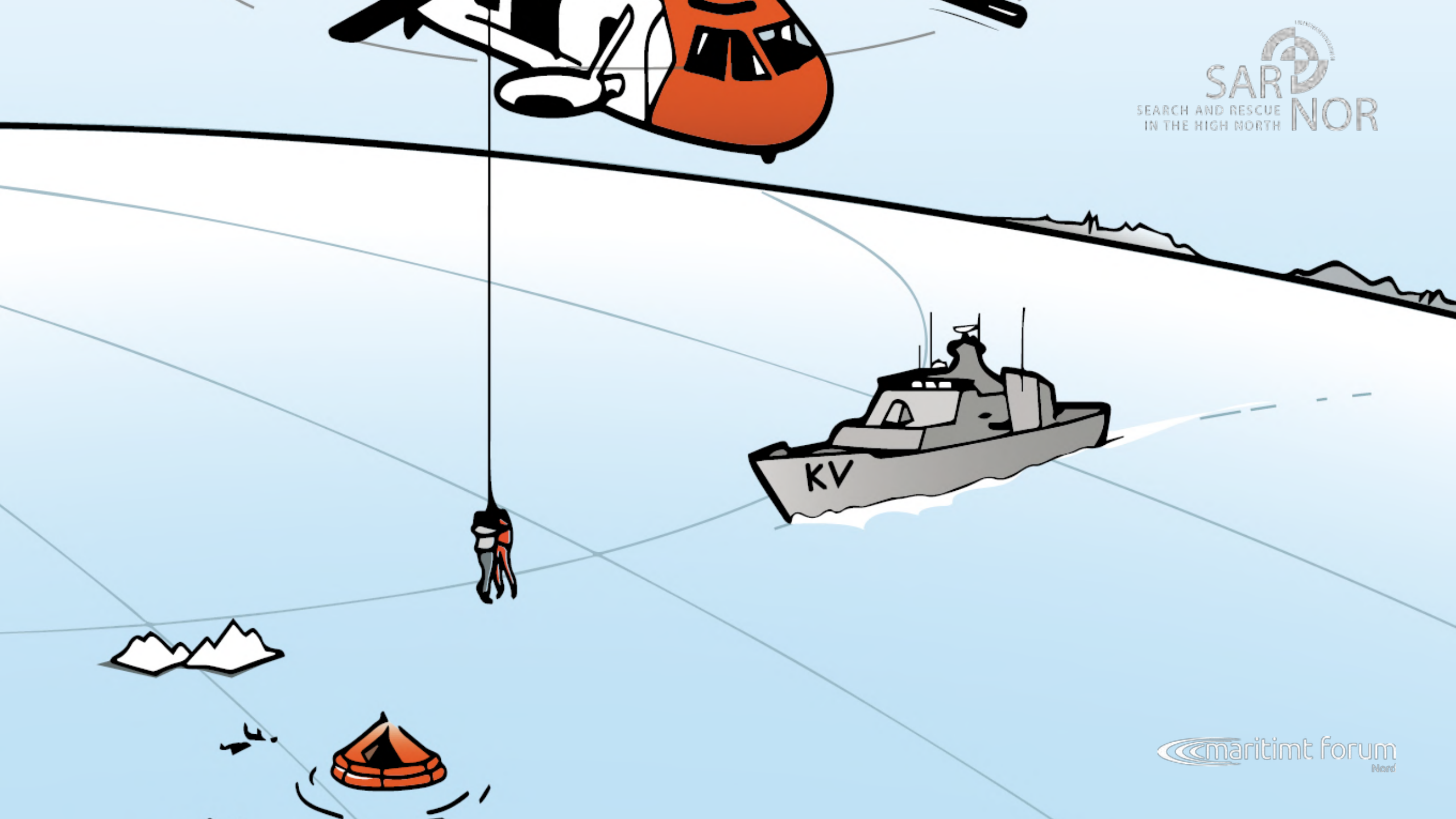
- The increased risk is not addressed in today's procedures and regulations
- Norway has a special responsibility for an acceptable rescue and emergency preparedness
- SARiNOR has revealed several gaps in today's rescue and emergency preparedness




The next steps

- Scaling and further development of rescue and emergency preparedness to be risk based
- Acquisition of equipment and infrastructure to be based on a holistic socio-economic analysis
- SAR equipment needs to be adapted to polar water conditions
- More training and common drills
- Based on the expert recommendations from SARiNOR, Maritimt Forum Nord will contribute in the further process to prioritize, develop and implement the main findings

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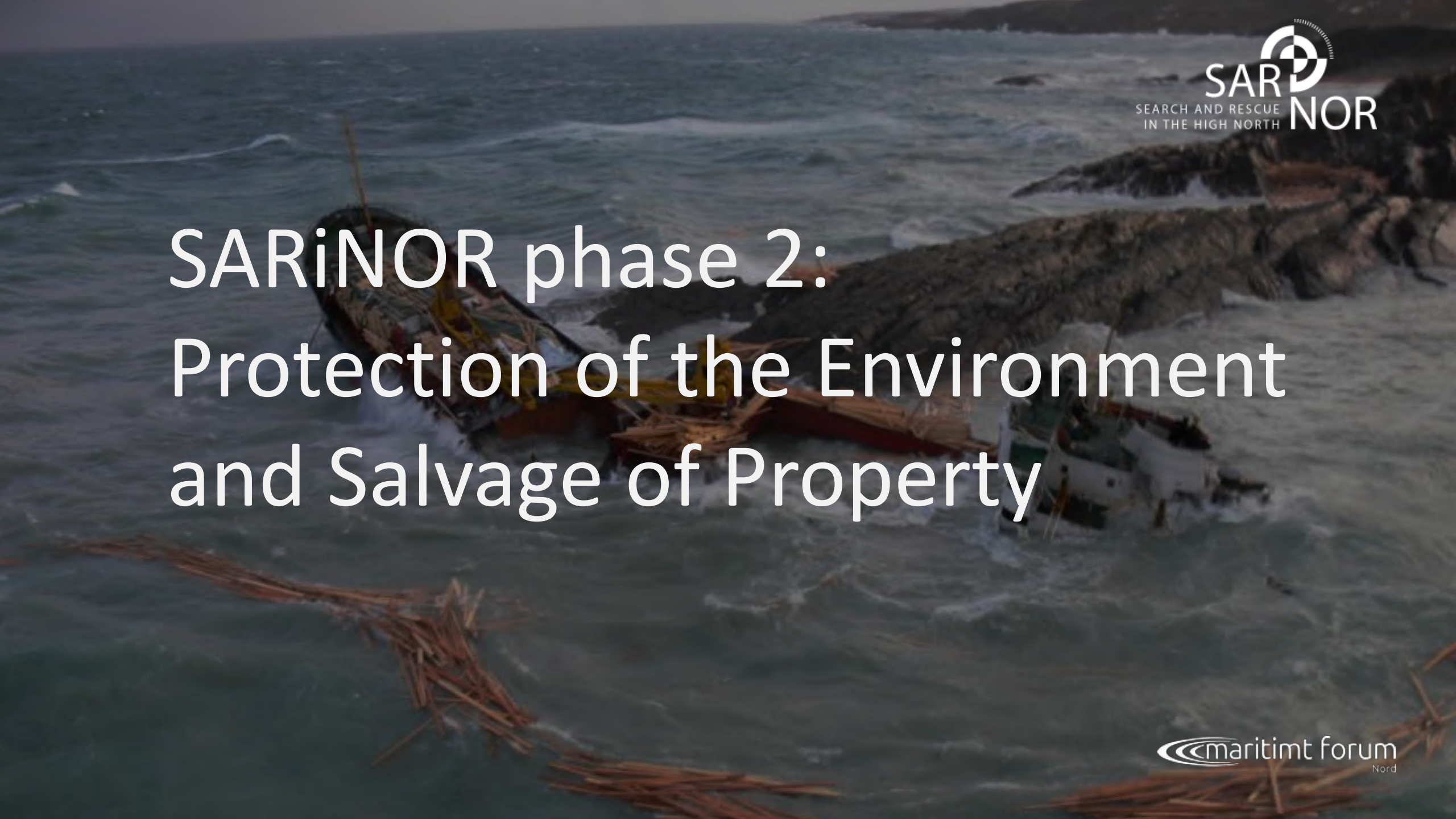


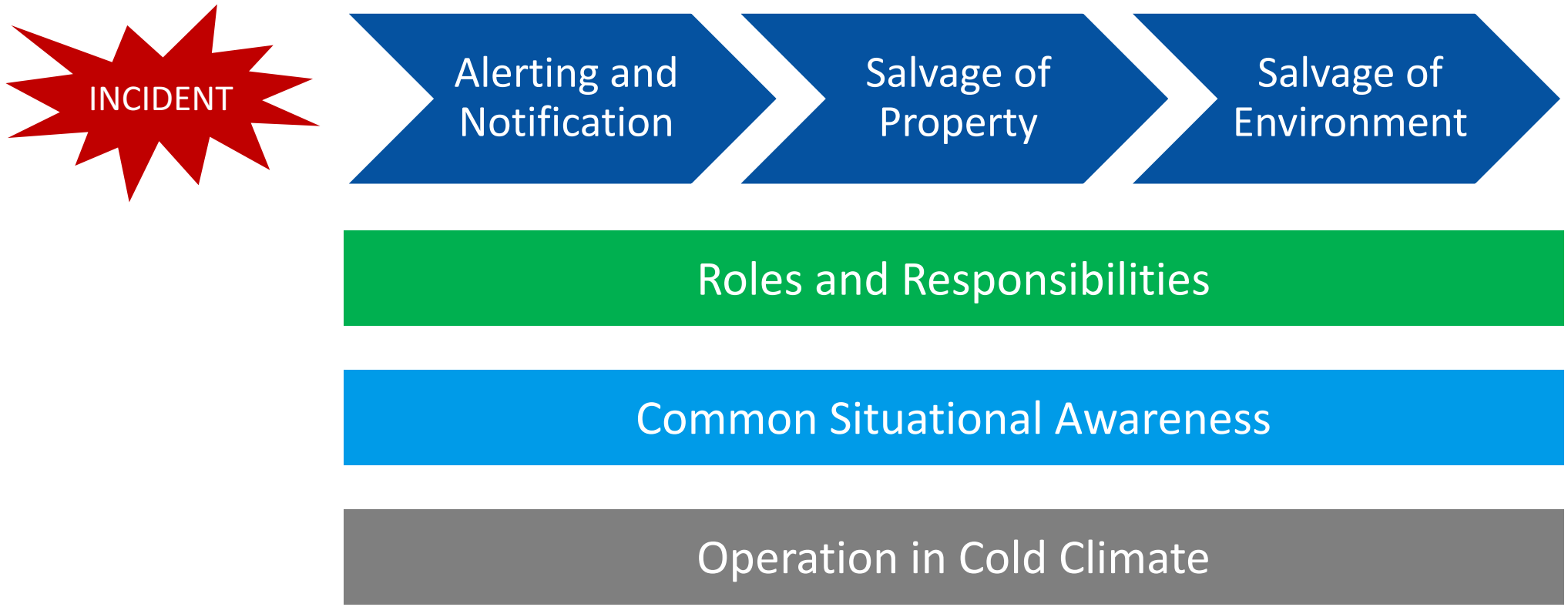
SARiNOR phase 2: Protection of the Environment and Salvage of Property

SARiNOR 2: Protection of the Environment and Salvage of Property

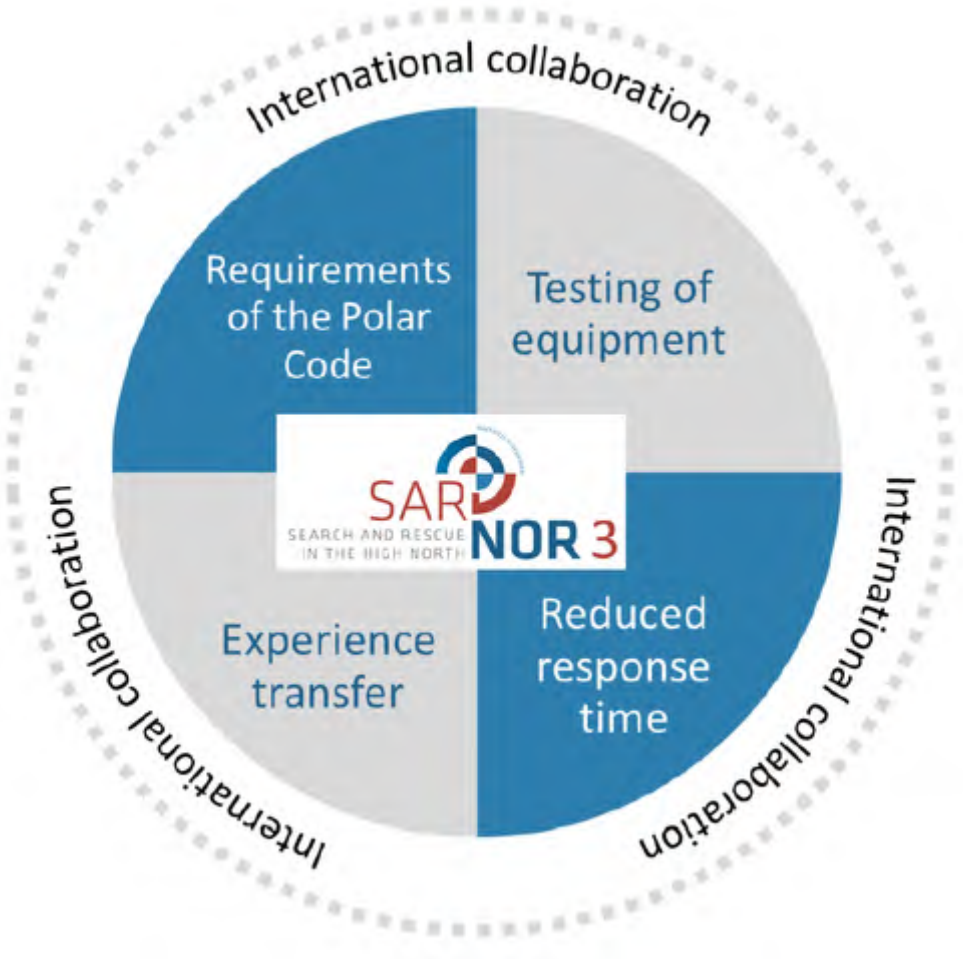
SARiNOR phase 1 and 2 will cover all phases following and accident in polar waters

Start:	Q2 2016	Budget:	NOK 18 mill.
Finish :	Q1 2018	Financing:	50 % Ministry of Foreign Aff.
			50 % Private and other public

SARiNOR 2: Salvage of Environment and Property



SARiNOR 3: Improved safety for operations in Polar Waters



- Funding applied for 2017
- Budget: 20 MNOK (50/50 private/public)

Work packages:

- **WP-1** The identification of gaps and input to standards for ensuring survival at an accident scene for at least 5 days, in accordance with the minimum requirements of the Polar Code.
- **WP-2** Testing an verification of critical equipment
- **WP-3** Further development of measures to reduce the response time
- **WP-4** International co-operation and experience sharing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A TOUGH CLIMATE FOR SAR
Preparedness by awareness
Thank you for the attention.
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