ARCSAR

Arctic and North Atlantic Security and Emergency Preparedness Network

SECOND STAKEHOLDER EVENT

ARCSAR Addresses the Arctic and North-Atlantic (ANA) region, preparing to cope with the maritime security and safety threats that will result from increased commercial activity in the region including traffic through the northern passages, cruise traffic, and offshore oil and gas activity.

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1 SEPTEMBER 2022

Svalbard

NORWAY

Summary

The ARCSAR Svalbard stakeholder event took place at Radisson Blue Polar Hotel in Longyearbyen on Thursday 1st September 2022. The the event was organised by the University of Portsmouth, in cooperation with the Joint Rescue Coordination Centre Norway.

The aim of the event is to understand and discuss the local community responses to a major SAR incident involving significant numbers of evacuees and/or casualities. The participants will be informed about emergency preparedness and response from the local community in Svalbard and participate in a roundtable discussion about capabilities and uptake of innovation.

Key Outcomes:

1) Identify capabilities that are currently available in a remote community to deal with a SAR incident involving significant number of evacuees and/or casualities.

2) Discuss new innovative products, procedures, regulations, or policies that may add value to the current capabilities. Identify barrier to uptake.

3) Explore effective means of communication between the evacuated passengers, vessel crews and owners, expedition leaders, SAR responders, and local community in a multi-linguistic SAR situation.

4) Clarification of skills, infrastructure, and training solutions at local Universities and Colleges that enhance local community capabilities.

V

VESSEL STRUCTURE & EQUIPMENT

L

LSA & SEA COLD SURVIVAL

C

COMMUNICATION

P

POLLUTION & INCIDENT CONTROL

N

NAVIGATION & VOYAGE PLANNING

T

PERSONNEL TRAINING & EDUCATION

ARCSAR PRIORITY THEMES CONSIDERED (FROM NEED MAPPING IN REFERENCE [1]*):

Enhanced sharing of results of ongoing SAR projects within ANA SAR community

(Assessed Importance 8.516, Difficulty 2.551)

Enhanced liaison with hospitals for emergency incident planning

(Assessed Importance 7.591, Difficulty 3.017)

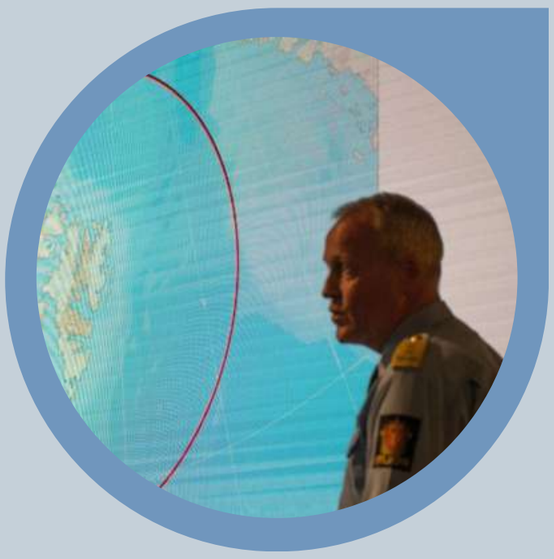
*All ARCSAR identified needs have been classified by the methodology developed in [1] into six broad categories based on the IMO Polar Code, and assigned levels of importance and difficult on a 1 to 10 scale utilising the geometric mean score of a set of relevant experts. A balanced priority set of 17 sub-needs was then found by the technique of goal programming [2], two of which are considered at this stakeholder workshop.

KEY THEMES :

Local Community Capabilities and Response to a major SAR incident

1. **Aim**: To map and develop local community responses to a major SAR incident involving significant numbers of evacuees and/or casualties.
2. **Issues/Challenges**:
    - **Community**: Preparedness and response,
    - **Communication**: Language and technology.
3. **Methodology:**
    - A set of key stakeholders described the current and future topic challenges on Svalbard.
    - A set of three facilitated focus groups discussed innovations to meet specific current and future arising challenges in Svalbard and remote location accross the ANA region.
    - A SWOT analysis was conducted for each of the three group topics and conclusions drawn.

Key Speakers



Key speaker-1: Lars Fause, Governor of Svalbard.

"Emergency preparedness and response in Svalbard"

Key Points:

- The Governor of Svalbard holds a crucial position in the administration of the Svalbard archipelago. As the head of the Svalbard Governorate, the governor is responsible for overseeing various aspects of life in the region, including administration, rescue services, and law enforcement. The governor has the authority to enforce laws and regulations in Svalbard and serves as a representative of the Norwegian government in the territory. Given the remote and challenging terrain of Svalbard, the main responsibility for the region lies with the Joint Commission and rescue coalition. The governor serves as the chief of police in this coalition, ensuring that the region is protected and its residents are safe. The police department in Svalbard has a total of 106 officers, who are supported by a Canadian helicopter service and government officers.
- To serve the population of 2547 residents of Svalbard, the police department operates 24/7, with 25 to 30 officers on duty during the summer months. These officers are authorised to carry weapons and are trained in various forms of transportation, such as snowmobiles and boats, to respond to emergencies and navigate the challenging terrain of the archipelago.
- The main focus of the police department in Svalbard is preserving the environment and staying within regulations, while also maintaining good relationships with the local community. This balance of responsibilities highlights the importance of the governor's role in ensuring that the Svalbard archipelago is protected and that its residents can thrive.

Key speaker-2: Kristin Furu Grotting, Head of Longyearbyen Hospital

“Hospital capacities in Longyearbyen”

Key Points:

- The hospital in Longyearbyen, Svalbard is a vital resource for the community, providing essential healthcare services to its residents and visitors. With a total of 24 employees, including 4 highly skilled doctors and 6 experienced nurses, the hospital is equipped to handle a wide range of medical needs. Its emergency room, open outside of regular business hours and during the night, is a critical resource for those in need of immediate medical attention. In addition to emergency care, the hospital also offers specialised services such as dental care, physiotherapy, and occupational health services.
- As Longyearbyen is a remote location, the hospital is dependent on the governor's helicopter for patients in need of medical attention outside of town. Despite this challenge, the hospital maintains strong relationships with the local government and the Red Cross, ensuring the best possible care for its patients. The hospital is staffed with one doctor and two nurses during the night.
- If has contingency plans in place for serious incidents, however there is only one doctor and two nurses available some of the time.

Key speaker-3: Elke Morgner, Longyearbyen Red Cross

“The roles and capabilities of Longyearbyen Red Cross”

Key Points:

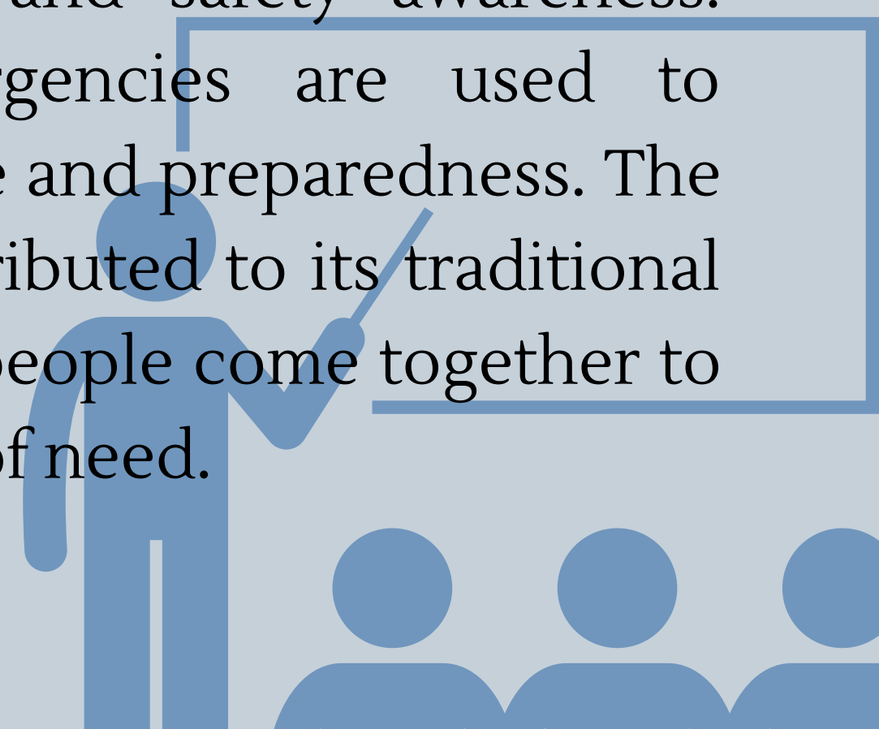
- The Longyearbyen Red Cross is a part of the Norwegian Red Cross and plays a crucial role in responding to emergency incidents in the Longyearbyen district. Their rescue services are carried out in cooperation with various government agencies, voluntary organisations, and private companies, making them an essential component of the emergency response system. With a dedicated team of three to five members who can be called out in case of an emergency, the Longyearbyen Red Cross was involved in four rescue operations in the first eight months of 2022.
- The organisation is led by a board of nine volunteer members, with two employees working in part-time positions.
- To ensure the highest level of preparedness, the Longyearbyen Red Cross has a range of essential resources and equipment, including inflatable tents, warm blankets, and field beds. They have also participated in several emergency response exercises since 2014, further honing their skills and capabilities.

Key speaker-4: Martin Indreiten,

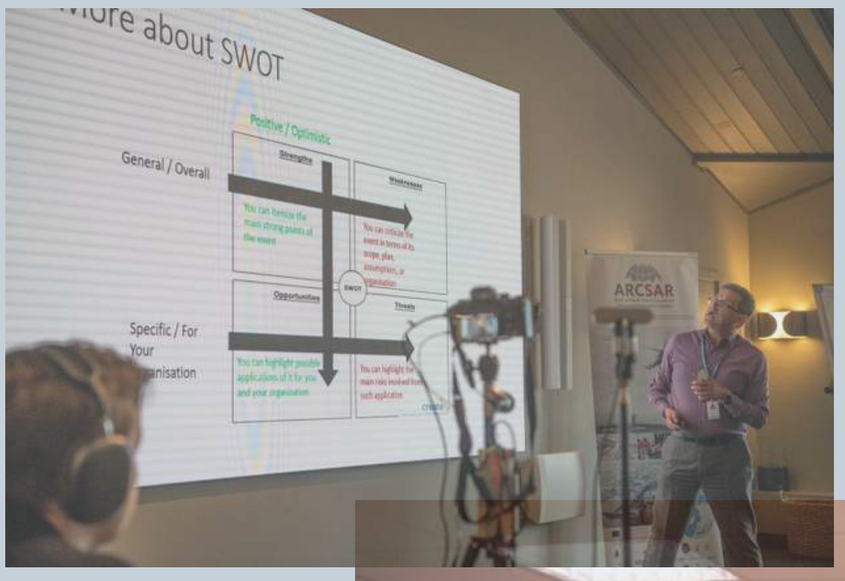
“Training and education: University centre in Svalbard, Arctic safety centre”

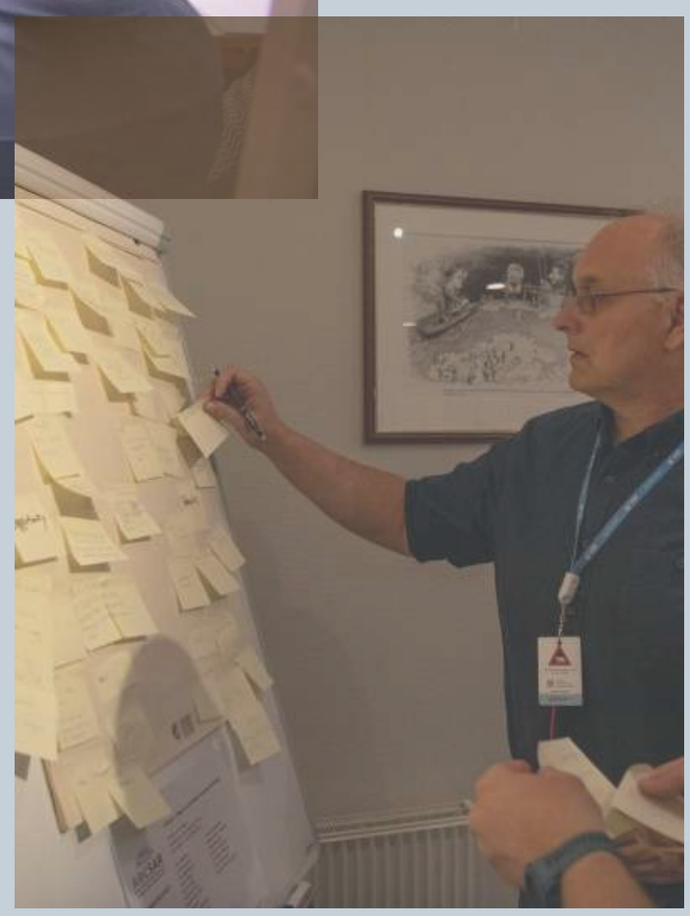
Key Points:

- The Centre has been working with universities, students, and researchers on various activities in the northeast side of the Arctic for nearly 30 years. These activities range from on-foot expeditions to icebreaker voyages and include the use of snowmobiles, belt wagons, fixed-wing aircraft, and helicopters with a base at approximately 11,000 feet. To ensure safety in this harsh environment, the centre offers approximately 110 safety courses, with a focus on familiarisation with the safety system.
- The centre provides a range of mandatory training, including practical courses and master-level courses, with a focus on the operational context. This year, the centre will offer five courses for a total of 90 students, with a focus on real-life safety management scenarios such as the local community's response to major accidents, effective communication strategies in a multilingual environment, and how to deal with hazards and the impacts of climate change. The harsh environment and lack of infrastructure present challenges, but the high level of community participation helps to overcome these challenges.
- For example, in 2015, an avalanche took out 11 buildings in the community, nine of which were occupied. Nearly the entire community participated in the rescue effort, with more than 150 people showing up to help even though they didn't have any special training. This demonstrated the importance of internal factors, such as training and education, in high emergency preparedness and safety awareness. Lessons learned from accidents and emergencies are used to continuously improve the community's response and preparedness. The quick response from the community can be attributed to its traditional culture and strong sense of community, where people come together to solve problems and support each other in times of need.



Group Discussions





Three round table subthemes

- GD1: Triage and passenger tracking
- GD2: Protocol for liaising with local community
- GD3: Communication in a multi-lingual incident

GD1-Topic 1: Triage and passenger tracking

Strengths

- Emergency communication set connecting police, avalanche, and red cross is dependable.
- Smart watch technology with live asset tracking provides real-time location data.
- Established and reliable crisis management and communication systems available.
- Local universities and colleges provides training and education for preparedness and response.
- Local community trained to provide psychological first aid and temporary housing to evacuees.

Weaknesses

- Significant challenges in handling large-scale casualties and migration in Arctic regions.
- Compatibility issues limit joint operations effectiveness with Red Cross.
- Potential privacy violations with live asset tracking using facial recognition and mobile phones.
- GDPR issues need to be addressed before fully utilising smart Garmin watch.
- Barriers to using some technologies and the need for trained personnel.

Opportunities

- Resolving GDPR issues can unlock the potential of the smart watch.
- Integrated communication systems can increase SAR efficiency and effectiveness.
- Safe and trustworthy technology can address privacy concerns while enhancing response efforts.
- Cell phones, QR code armbands, and RFID tech can enhance safety and response efforts.
- Innovative products, procedures, regulations, or policies can add value to current capabilities.

Threats

- Radio communication is unreliable in worst-case scenarios, risking miscommunication.
- Lack of coordination between crisis management systems could hinder SAR response efforts.
- Potential for dropping or losing technology, such as cell phones and QR code armbands.
- Regulatory issues with the use of drones may limit their potential use in emergency response efforts.

GD1-Topic 2: Protocols for liaising with local community

Strengths

- Formal systems have been established to contact volunteers and community through police in Norway, Svalbard, and Finland.
- Effective use of social media platforms has been demonstrated, such as in the UK.
- The "Have a friend" mechanism is common in small Arctic communities and can be faster than formal systems.
- Emergency communication practices in Scandinavian countries, including Finland's emergency contact app, Norway's use of SMS messages, and Iceland's adoption of new technologies and multiple coordination centres with effective training protocols.
- Informal interactions between actors can build trust and connections in small communities, and local communities are involved in emergency response systems with many people in the Arctic trained and prepared for emergency response.
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Weaknesses

- Limited resources and funding for community engagement and representation.
- Language barriers and limited understanding of cultural practices in local communities.
- Inadequate representation of local communities in decision-making processes.
- Lack of technology development and infrastructure improvement in some areas, leading to preparedness challenges.
- Limited access to reliable communication and transportation infrastructure in remote areas of the Arctic, and existing guidelines may not be suitable for smaller communities, causing confusion.

Opportunities

- Invest in first aid training and education to improve preparedness.
- Develop protocols for emerging technologies like drones and social media to enhance response capabilities.
- Partner with local universities for culturally sensitive training programs.
- Engage local communities in planning and decision-making.
- Leverage existing resources and provide technology and equipment to support response efforts.

Threats

- Risk of burnout and mental strain for individuals with multiple responsibilities.
- Dependence on unreliable modern communication technologies.
- Rapidly changing environmental conditions impacting response efforts.
- Potential for conflicts and tensions between responders and local communities due to differences in values and perspectives.
- Preparedness challenges due to small population and limited resources, leading to a false sense of available resources and confusion over roles and responsibilities.

GD1-Topic 3: Communications in a multi-lingual incident

Strengths

- The diversity of people in the industry and on board a vessel can be a strength, as there may be individuals with multilingual skills who can serve as translators in emergency situations.
- Universities often have a diverse student population, which can be a strength in terms of language and communication capabilities. This diversity can lead to a variety of different competencies and skills, including language translation and interpretation.
- Natural translators, such as guides or hosts, who are able to speak the language of their customers can also be a strength in a multi-lingual SAR situation. For example, on board a vessel with Chinese groups, having an international host who can speak Chinese can facilitate effective communication.

Weaknesses

- Limited translation services or very expensive and may not always be readily available in certain languages.
- Communication infrastructure is limited or non-existent, making it difficult to establish reliable communication channels.
- In a multi-lingual incident, the diversity of languages and cultures can pose a threat as misunderstandings and communication breakdowns may occur due to language barriers.
- The lack of other information signs or visual guidelines in different languages could be considered a weakness in a multilingual incident.

S W O T

Opportunities

- Opportunity to develop other languages services with technology for efficient and accurate translation.
- Opportunity to develop creative resources for communication such as videos, and signs.
- Another opportunity is to work with local communities and businesses to provide basic information in various languages, such as safety instructions or emergency procedures.
- In terms of universities, there is an opportunity to expand language programs with multi-linguistic curricula.

Threats

- Possibilities for delays in SAR operations (low productivity) due to misunderstandings.
- Communication challenges can exist on different levels, such as between passengers and crew, SAR responders and vessel owners, or between individuals from different cultural backgrounds.
- In high-pressure and emergency situations, individuals may revert to their native language, leading to further language barriers and misunderstandings.
- Different interpretations of non-verbal communication or behavior can also pose a threat, as it may not always be universally understood across cultures and languages.

Foresight and Conclusion

The stakeholder event held in Longyearbyen was a well attended gathering that took place shortly after an associated ARCSAR LIVEX event. The timing of the event was advantageous, as participants could draw on the insights and experiences gained from the LIVEX simulation exercise, although it was important to note that the scope of the LIVEX event was smaller in comparison to the main focus of the stakeholder event, which was mass casualty incidents.

The presence of keynote speakers from diverse backgrounds and levels of decision-making authority added richness to the discussions held during the small group activities. Some key strengths were identified across all discussion groups, with a common theme of a good level of awareness, training and mutual support across small and isolated communities in the Arctic and North Atlantic (ANA) region. This leads to good capabilities in dealing with smaller scale incidents effectively. However, challenges arise when dealing with larger scale incidents, mainly arising from physical and climatic factors that naturally give logistical challenges with dealing with key ARCSAR scenarios such as a large cruise ship sinking, a major oil spill or a significant radiological leakage.

Foresight and Conclusion

In this vein, as a result of the productive discussions, it was proposed to conduct another simulation exercise to test the local community's response in the case of a major Search and Rescue (SAR) incident that involves a substantial number of evacuees. This exercise would aim to assess the viability of the innovations identified during the stakeholder event and evaluate their effectiveness in real-world scenarios. The focus of the evaluation would centre on the critical issues of communication and the capabilities of the local community.

A positive sentiment was expressed with regards to emerging and future technologies for dealing with incidents, and the role this can play in assisting isolated geographical communities in dealing with larger scale incidents. This includes specific technologies for language translation, which should be seen as complementary to existing population language capabilities in communities such as Svalbard. The challenges with respect to technologies mainly focussed around regulations, with the
need to keep in step with the advancing technology levels, both on national and international levels.

References

[1] Res. MEPC.68-21. International Code for Ships Operating In Polar Waters (POLAR CODE)

[2] Jones, D., Labib, A., Willis, K., Costello, J. T., Ouelhadj, D., Ikonen, E. S., & Cainzos, M. D. (2022). Multi-criteria mapping and prioritisation of Arctic and North Atlantic maritime safety and security needs. European Journal of Operational Research.

PRESENTATION & DISCUSSION GALERY

Association of Arctic Expedition Cruise Operators AECO

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