



Report on “Developing Arctic Maritime Safety Cooperation through Enhanced Training Collaboration”

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Finnish Border Guard
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This report has been composed by Laurea University of Applied Sciences under the Arctic Maritime Safety Cooperation (SARC) project launched by the Finnish Border Guard. The project aims to develop cross-border collaboration with the maritime safety authorities representing Arctic industry and research. The project runs throughout the Finnish chairmanship of the Arctic Coast Guard Forum (ACGF) during 2017–2019. The SARC project is financed by the Finnish Ministry for Foreign Affairs. The report on *“Developing Arctic Maritime Safety Cooperation through Enhanced Training Cooperation”* has been compiled with the help of ACGF.



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Executive Summary

This report has been written by Laurea University of Applied Sciences as a part of the Finnish Border Guard's Arctic Maritime Safety Cooperation (SARC) project and compiled in cooperation with the Arctic Coast Guard Forum (ACGF). The report is part of the overall study on how to enhance collaboration between the ACGF member nations. It is a continuation of earlier research conducted by the Finnish Border Guards: *"Arctic Search and Rescue Capabilities Survey. Enhancing international cooperation"* (Ikonen 2017) and *"Arktisen meripelastuskoulutuksen toteuttamismahdollisuudet. Selvitystyö"* (Salokorpi 2017).

The primary objective of this paper is to list the reported training offerings of each nation connected to Arctic SAR at RCC, OSC, and ACO levels. An additional objective is to map out the venues for future training cooperation among the member nations. The data used in this report was collected during the Arctic Coast Guard Forum Workshop that was held on the 1st and 2nd of February 2018 in Helsinki Finland and via online surveys. The first survey asked respondents about the current Arctic SAR courses organized by the official authorities of the member states. The second assessed the will and needs for future training cooperation among the nations.

Twenty participants from seven out of the eight ACGF countries attended the workshop in Helsinki. Likewise, seven out of the eight ACGF member countries answered the surveys. Of the 15 courses reported by the member states, 10 were clearly at the RCC, OSC, and ACO level. The organizing countries stated that it is possible to open 13 out of 15 of these courses either as such or conditionally to participants from other ACGF countries. In addition, respondents from the seven countries stated that it would be possible to organize 9 out of 15 of the courses jointly as such or conditionally with other ACGF countries.

The venues for future ACGF training cooperation were divided into challenges, strengths, and opportunities primarily based on the results obtained during the workshop in Helsinki. The results were then complemented by the answers from the online surveys.

The challenges hindering future cooperation were recognized as:

1. No shared definition of Arctic SAR exists;
2. A wide national variation in Arctic SAR training;
3. Budgetary restraints on cooperation;
4. Time, distance, and language barriers.

The strengths identified were as follows:

1. Existing IAMSAR-based training structure for SAR;
2. Ongoing cooperation among the ACGF member states;
3. Shared will to deepen cooperation within the ACGF.

Numerous opportunities were identified to enhance the training cooperation recognized by the member states. These opportunities also function as recommendations of this report for developing cooperation in the ACGF:

1. Creating standards and a module for Arctic SAR training;
2. Launching a knowledge bank
3. Cooperation in research and development;
4. Enhancing joint training;
5. Train-the-trainer program;
6. Officer and instructor exchange;
7. Coordination team for Arctic SAR training.

Tiivistelmä

Tämä Laurea-ammattikorkeakoulun tekemä raportti on osa Rajavartiolaitoksen arktisen merellisen turvallisuuden yhteistyön kehittämisprojektia (SARC) ja laadittu yhteistyössä Arktisen rannikkovartiostofoorumin (ACGF) kanssa. Tutkimus on jatkumoa aiemmille SARC-hankkeen selvityksille *"Arctic Search and Rescue Capabilities Survey. Enhancing international cooperation"* (Ikonen 2017) ja *"Arktisen meripelastuskoulutuksen toteuttamismahdollisuudet. Selvitystyö"* (Salokorpi 2017). Työn tarkoitus on selvittää miten Arktisen rannikkovartiostofoorumin jäsenmaiden koulutusyhteistyötä voidaan kehittää.

Tutkimuksen ensisijainen tavoite on luetteloida arktiseen toimintaympäristöön soveltuvat lento- ja meripelastuksen koulutukset, joita Arktisen rannikkovartiostofoorumin jäsenmaat raportoivat tarjoavansa RCC-, OSC- ja ACO-tasoilla. Lisäksi tutkimus valottaa tulevaisuuden koulutusyhteistyömahdollisuuksia. Tutkimuksen aineisto on kerätty 1.-2. maaliskuuta 2018 Arktisen rannikkovartiostofoorumin työpajassa Helsingissä sekä kahdella internetkyselyllä. Ensimmäisellä kyselyllä kerättiin tietoa Arktisen rannikkovartiostofoorumin jäsenmaiden nykyisestä kurssitarjonnasta edellä mainituilla tasoilla (RCC, OSC ja ACO) ja toisella kyselyllä näkemyksiä tulevaisuuden yhteistyömahdollisuuksista erityisesti koulutusta silmällä pitäen.

Helsingin työpajassa oli läsnä 20 edustajaa seitsemästä Arktisen rannikkovartiostofoorumin kahdeksasta jäsenmaasta. Samoin seitsemän jäsenmaata vastasi verkkokyselyihin. Kyselyissä jäsenmaat ilmoittivat 15 kurssia, joista 10 oli selkeästi RCC, OSC- tai ACO-tasoa. Vastausten perusteella 13 raportoiduista kurseista oli mahdollista avata sellaisenaan tai ehdollisesti toisten jäsenmaiden osallistujille. Yhdeksän näistä kurseista oli mahdollista järjestää yhdessä toisten jäsenmaiden kanssa sellaisenaan tai ehdollisesti.

Koulutusyhteistyömahdollisuudet on jaettu haasteisiin, vahvuuksiin ja mahdollisuuksiin. Ne perustuvat pääsääntöisesti Helsingin työpajan tuloksiin ja niitä on täydennetty verkkokyselyiden vastausten perusteella.

Yhteistyön haasteiksi määriteltiin:

1. Yhteistä käsitettä arktiselle lento- ja meripelastustoiminnalle ei ole olemassa
2. Laaja kansallinen vaihtelu arktisen lento- ja meripelastustoiminnan koulutuksessa
3. Niukat resurssit yhteistyön esteenä
4. Aika, välimatkat ja byrokratia

Yhteistyön vahvuuksiksi tunnistettiin:

1. IAMSAR:iin perustuva lento- ja meripelastuskoulutus
2. Olemassa oleva Arktisen rannikkovartiostofoorumin jäsenmaiden yhteistyö
3. Jaettu halu syventää yhteistyötä

Työpajan ja kyselyiden perusteella konkretisoituneet mahdollisuudet ovat myös tämän raportin jatkotoimenpidesuosituksia Arktisen rannikkovartiostofoorumin yhteistyön parantamiseksi:

1. Standardien ja koulutusmoduulin laatiminen arktiselle lento- ja meripelastustoiminnalle
2. Tietopankin perustaminen
3. Yhteistyö tutkimus- ja kehitystoiminnassa
4. Koulutusyhteistyön tiivistäminen
5. Train the Trainer -ohjelma
6. Upseeri- ja kouluttajavaihdot
7. Työryhmän perustaminen arktisen lento- ja meripelastustoiminnan koulutuksen kehittämiseksi

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Abbreviations

ACGF	Arctic Coast Guard Forum
ACO	Aircraft Coordinator
CG	Coast guard
IAMSAR Manual	International Aeronautical and Maritime Search and Rescue Manual
IMO	International Maritime Organization
JRCC	Joint Rescue Coordination Centre
MIRG	Maritime Incident Response Group
MRCC	Maritime Rescue Coordination Centre
MRO	Mass rescue operation
OSC	On-scene Coordinator
RCC	Rescue Coordination Centre
SAR	Search and Rescue
SARC	Arctic Maritime Safety Cooperation
SMC	Search and Rescue Mission Coordinator
SOP	Standard Operation Procedure
SRU	Search and Rescue Unit
UAV	Unmanned Aerial Vehicle

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1. Introduction

1.1 Background

Finland holds the chair of the Arctic Coast Guard Forum during the years 2017–2019. As a part of the chairmanship, the Finnish Border Guard and the Finnish Ministry for Foreign Affairs launched the Arctic Maritime Safety Cooperation project to develop cross-border collaboration with Arctic coast guards as well as various other stakeholders representing Arctic industry and research.

In 2017, the Finnish Coast Guard conducted a survey (Ikonen 2017) to identify the main gaps that could be improved with international cooperation in terms of maritime and aeronautical search and the rescue capabilities of the Arctic countries. One of the identified opportunities was to improve the training collaboration among the ACGF member states (Ikonen 2017, 24, 49–50). To further develop such cooperation, the Finnish Border Guard conducted an ACGF workshop on *“Challenges, opportunities, needs and aims to develop Arctic SAR Cooperation”* on the 1st and 2nd of February in Helsinki, Finland. Laurea University of Applied Sciences, Finland’s leading university for civilian security management studies with a vast record of accomplishments in Maritime Security Research, was tasked to compile a report on *“Developing Arctic Maritime Safety Cooperation through Enhanced Training Collaboration”*.



1.2 Objectives

The objectives of this report are as follows:

1. **primarily, to list the training offerings of each nation connected to Arctic SAR at the RCC, OSC, and ACO levels;**
2. **secondarily, to map out the venues for future training cooperation among the ACGF member nations.**

The first part of the report concentrates on the current Arctic SAR training offerings of the ACGF countries, while the second part elaborates on the ideas for future training cooperation.

The data used in this report was collected during the Arctic Coast Guard Forum Workshop and via online surveys created in cooperation with the Finnish Border Guard. The first portion concerned the current Arctic SAR courses organized by the official authorities of the member states, whereas the second enquired about the desire and needs for future training cooperation among the nations.



1.3 Methods

The report relies on qualitative analysis of the workshop discussions and the two online surveys. The training catalogue of mainly RCC-, OSC-, and ACO-level Arctic SAR courses is based on the first online survey sent to the ACGF member states. The challenges, strengths, and opportunities for enhanced training cooperation were collected during the ACGF workshop and then complemented with the second online questionnaire. During the ACGF workshop, 20 participants were present from seven ACGF countries (Canada, Denmark, Finland, Iceland, Norway, Russia, and the United States).

In total, seven out of eight member states responded to the first survey on current training offerings and five out of eight responded to the second survey on future training cooperation. The surveys were open for three months. Even though the percentage of respondents was not completely representative, the results offer a valid picture of the general will of the ACGF community for training cooperation and are similar to the data collected during the ACGF workshop in Helsinki in February. Although not all data from the surveys is presented in this report, all of the responses



were provided to the Finnish Border Guards to support Finland's chairmanship and the buildup of ACGF cooperation in the future.

When collating the training catalogue, it was decided together with the Finnish Border Guard to concentrate mainly on **RCC-, OSC-, and ACO-level Arctic SAR courses offered by the official institutions in charge of the each member country's Coast Guard training**. The reasons for concentrating on these levels are that they are the levels at which most international cooperation takes place (especially in Arctic MROs), the learning objectives are already compatible since they follow the IAMSAR I-III, and an abundance of training courses are offered by different nations at the lower "crew level" for individuals.

Although the lack of a shared definition for **Arctic SAR** was one of the findings hindering training cooperation, in this report, the Arctic is understood, in Ikonen's words (2017, 4), as follows:

The key challenges for Arctic search and rescue identified in this survey include long distances, severe weather, ice and cold conditions, a poor communications network, lack of infrastructure and lack of resource presence in the region. In addition, the capacity to host patients, achieving situational awareness, and unsuitable evacuation and survival equipment pose major challenges for maritime safety and SAR in the Arctic. [In addition, the threat of polar bears was also added to these characteristics during the workshop.]

Also, as the ACGF represent the official Coast Guards of each nation, it is natural to concentrate on the training offerings of **each member states' official training institutes**.



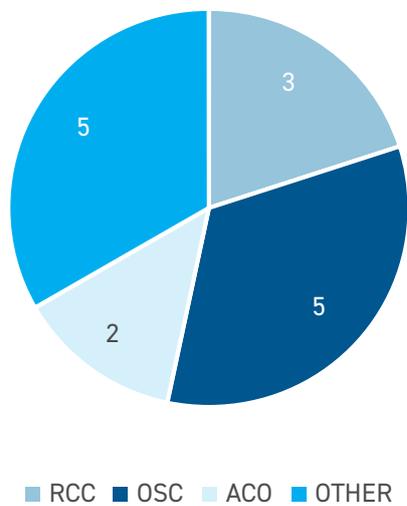
Table 1. The authorities responsible for search and rescue in the Arctic

Country	Responsible authority	Governing authority
Canada	The Canadian Coast Guard and The Royal Canadian Air Force	Fisheries and Oceans Canada and Canadian Armed Forces (Department of National Defence)
Finland	The Finnish Border Guard (MRCC, MRSC) and Air Navigation Services Finland (ARCC)	Ministry of the Interior and Finnish Transport Safety Agency
Iceland	The Icelandic Coast Guard	Ministry of Justice
Denmark Ministry of Defence	Joint Arctic Command, the Danish Defence	Ministry of Defence
Norway	JRCC North-Norway	Ministry of Justice and the Police
Sweden	Swedish Maritime Administration	Swedish Maritime Administration
Russian Federation	Federal Air Transportation Agency and the Federal Maritime and Riverine Transportation Agency (ROSMORRECHFLOT)	Ministry of Transports of the Russian Federation
The United States	The United States Coast Guard U.S.	Department of Homeland Security

2 Current training offerings

This chapter presents the RCC-, OSC-, and ACO-level Arctic SAR courses offered by the responsible authorities of each ACGF country as reported by the member states in the surveys. The ACGF members reported 15 courses, five of which could not be placed under the headings of RCC, OSC, or ACO courses (Table 1: Reported courses by the ACGF members). Nevertheless, these additional courses are also listed in the catalogue. Most of the courses are offered annually, while some are offered even more frequently, up to 15 times per year (this was the case in Sweden with many SAR training suppliers).

Chart 1: Reported Arctic SAR courses by the ACGF members



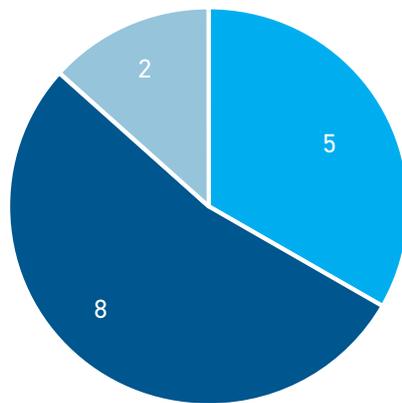
In addition to listing the RCC, OSC, and ACO courses on offer, another focus of the surveys was to enquire about the possibility of either opening up the courses to participants from other ACGF nationalities or jointly organizing the courses with the other member states. In total, representatives of the member states listed their offerings as follows:

- it would be possible for other nationalities to participate in five courses as such;
- it would be possible for other nationalities to participate in eight courses conditionally;
- it would not be possible to open up two of the courses for other nationalities;
- it would be possible to organize four courses jointly with other nationalities;
- it would be possible to organize five courses with other nationalities conditionally;
- it would not be possible to organize four of the courses jointly with the other nationalities.

The reasons given for the conditional participation or exclusion of participants from other nationalities were language or skills requirements and resource scarcity. Some courses are held in the national languages of the countries and therefore would not serve participants without a proficiency in the respected language. Others courses have pre-requirements concerning, for example, medical skills. For still other courses, additional resources would first need to be acquired before accepting extra participants from other ACGF nations.

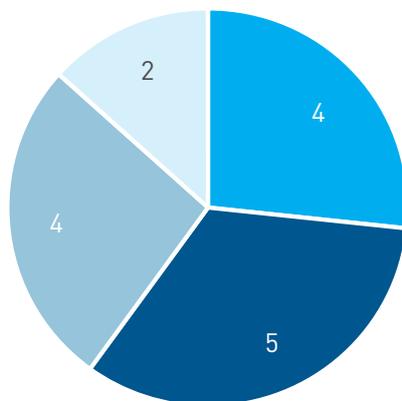
The reasons given for not being able to organize the course jointly with the other ACGF nations were that the courses are currently held in the national languages of the countries or that they are specifically aimed at certain areas or pertain to a certain national doctrine. There was doubt as to whether other nations would have the specific expertise to contribute to organizing such courses.

Chart 2: Could the training be open to other ACGF countries?



■ As such ■ Conditionally ■ No

Chart 3: Could the training be organized jointly with other ACGF countries?



■ As such ■ Conditionally ■ No ■ Unknown

Table 2: The course catalogue: Reported Arctic SAR courses by the ACGF members (note: in the case of Icelandic Education for Icelandic Coast Guard Crews and the Swedish Advanced SAR/On-Scene Coordinator Course, the same answers to question "Possibility to access by other ACGF

Name of the course	Intended training group						Length in days	Frequency	Training methodology					
	Nationality	RCC	OSC	OSC for private companies	ACO	Other			Class-room course	Online course	Tabletop exercise	Simulation exercise	Field exercise	Workshop
RCC-LEVEL														
Education for Icelandic Coast Guard crews	IS	✓					Module based	1 per 2 years	✓		✓	✓	✓	
SAR Mission Coordinator	DEN	✓	✓	✓			10	Frequently	✓			✓		
SAR Mission Coordinator	FIN	✓					10	1/year	✓			✓		
OSC-LEVEL														
On-Scene Coordination Course (OSC)	NOR		✓				OSC 4 + Ice Operations 10	Intro 1-2/year. Recertification 2-3/year	✓			✓	✓	
On-Scene Coordination Course (OSC)	NOR		✓	✓			5	1-2/year	✓			✓		
On-Scene Coordination Course (OSC)	DEN		✓				5	1-2/year	✓			✓		
On-Scene Coordination Course (OSC)	SWE		✓	✓			5	3/year	✓		✓	✓		
Advanced-SAR/On-Scene Coordinator Course (OSC)	SWE		✓				5	1/year	✓		✓		✓	
ACO														
Aircraft Coordinator Course (ACO)	FIN				✓		5	1/year	✓			✓		
JRCC Denmark Aircraft Coordinator Course (ACO)	DEN	✓			✓		4	2/year	✓		✓	✓		
OTHER														
Basic-SAR	SWE						5	5/year	✓	✓			✓	
Small Vessel Operator Proficiency	CAN				✓		5 or 7	Approx. 15/year (several suppliers in Swedish SAR organisation)	✓				✓	
Marine Advanced First Aid	CAN				✓		5	2/year	✓					
Canadian Coast Guard Rescue Specialist Training	CAN				✓		Intro 14-16, recertification 12-14	1/year	✓					
National Ice Rescue School	USA		✓		✓		5	Unknown	✓			✓	✓	

nationalities?" are not labelled similarly. The reason is that Danish, Norwegian and, to some degree, Finnish persons do understand Swedish and would be able to participate in the course, but that would not be possible in the case of the Icelandic language)

To which of the pre-identified training needs does the training address?

Could the training be open to other ACGF countries?	Could the training be organized jointly with other ACGF countries?	Ship and ice operations	Arctic policies	On-Scene Coordinator course	Aircraft Coordinator course	Search and Rescue Mission Coordinator course	Introduction to other countries' SAR equipment and resources	Inland survival training	Testing of different survival gear	Introduction to private SAR resources	Ice rescue	Ice navigation	Cold weather sea survival (inc. medical training)	Arctic environment
No, course in Icelandic	No, course is country/area specific	✓		✓		✓		✓					✓	✓
Yes, if enough resources	No, course is country/area specific					✓	✓		✓				✓	✓
No	Can not be answered					✓								
Possibly in the future	Yes, partly	✓	✓	✓			✓					✓		✓
Yes, as such	Yes, as such			✓										
Yes, if enough resources	No, course is country/area specific			✓					✓				✓	
Yes, for countries participating in OSC training exchange	Yes, as such			✓										
Yes, if Swedish proficient	No, course is country/area specific			✓		✓								
Yes, as such	Yes, as such				✓									
Yes, if enough resources	Yes, if enough resources				✓		✓							
Yes, as such	Yes, partly								✓				✓	
Yes, as such	Can not be answered						✓		✓				✓	
Yes, if the participants met the standards and guidelines for Marine First Aid	Yes, if partners have the same standards for Marine First Aid												✓	
Yes, if the participants met the standards and guidelines for Marine First Aid	Yes, if partners have the same standards for Marine First Aid												✓	
Yes, as such	Yes, as such								✓		✓		✓	

3 Venues for future training cooperation

This chapter maps out the venues for future training cooperation among the ACGF member states. It presents the challenges, strengths, and opportunities based on data collected primarily from the ACGF workshop on “Challenges, opportunities, needs and aims to develop Arctic SAR Cooperation” on the 1st and 2nd of February in Helsinki, Finland. A total of 20 people from seven ACGF countries (Canada, Denmark, Finland, Iceland, Norway, Russia, and the United States) participated in the workshop. The results from the workshop were complemented by answers to an online questionnaire provided by five out of the eight ACGF members (Canada, Finland, Iceland, Norway, and Sweden).

The shared desire of the member states, raised both during the workshop and in the survey, was to enhance the overall cooperation of personnel involved with Arctic SAR regardless of the operational level. Even though this report concentrates mainly on the RCC, OSC, and ACO levels, the SRU or crew level cannot be overlooked. Although communication and operational coordination takes place at the upper levels, it is the individual members of the crew who must know what his/her counterpart is doing in the other RUs.



Picture 1: Challenges, strengths, and opportunities for future training cooperation.



3.1 Challenges

3.1.1 No shared definition of Arctic SAR exists

Even though, the ACGF concentrates on developing Arctic SAR, there is no shared understanding of what the *Arctic* constitutes. However, “Arctic” as a geographic area with specific conditions establish certain requirements for SAR.

The characteristics of Arctic SAR as described by the ACGF workshop members are the following:

1. takes place in a maritime environment;
2. there are wide distances between the actors;
3. for the above reasons, there is a lack of supporting infrastructure;
4. the weather conditions are cold;
5. polar bears are a factor in the Arctic Sea.

Still, both the challenges to and definition of Arctic SAR will take root as ACGF cooperation advances.

3.1.2 Wide national variation in Arctic SAR training

There are no shared standards or format for Arctic SAR. Even though SAR is based on IAMSAR I-III, every country has its own national means of training for Arctic conditions connected to geographical, institutional, or cultural circumstances. In some countries, Arctic training is an integrated and a natural part of the national SAR (e.g. Norway, Russia, and Finland). In others, the approach to Arctic training is to conduct

it in specific geographical maritime areas (e.g. Canada, USA, and Denmark). Still other countries integrate Arctic knowledge as on-the-job training for ships operating in the Arctic area (e.g. Canada, USA, and Denmark). Could there still be shared and recognized standards for Arctic training that could be delivered through different training methods?

3.1.3 Budgetary restraints on cooperation

Every nation has its own limited budget for international cooperation. For example, participants agreed that it would be beneficial to build an Arctic training center of excellence that would offer training to all ACGF nations and organize shared multinational Arctic SAR courses. However, finding the right nation to handle the budgetary responsibilities would be impossible. It is also difficult to find money for sending personnel to other countries for courses if there is an existing national training course in place. This is especially true when travelling across the Atlantic.

3.1.4 Time, distance, and language barriers

Cooperation is also constrained in terms of time, distance, and bureaucracy. Besides money, participating in courses or developing Arctic SAR in workshops and seminars abroad requires time and takes away from the time spent at the daily job. Some of the courses are held partly or completely in the various national languages. It would be impossible to participate in those courses without the proper language proficiency.



3.2 Strengths

3.2.1 Existing uniform and shared training structure

Although Arctic training is unevenly incorporated within SAR (see the discussion on the wide national variation in Arctic SAR training), the contents of basic SAR training are somewhat similar in every ACGF country since the training structures are based on IAMSAR I-III. This is especially true with respect to ACO-, SCO-, and RCC-level training.

3.2.2 Ongoing cooperation among the ACGF countries

There is tested and institutional cooperation in Arctic SAR among the nations. There is a wide variety of bilateral cooperation, especially between nations that share a border, in terms of Arctic Search and Rescue Agreement Areas of Application. There is also multilateral cooperation in, for example, the ACGF forum and Arctic Security Forces Roundtable. The cooperation has taken different forms, such as officer exchanges, attending national SAR courses, and organizing joint exercises. Excellent lessons can be learned or taken advantage of based on existing cooperation.

3.2.3 Shared desire to deepen the training cooperation

There is a strong desire to deepen the training cooperation (and cooperation in general) among the ACGF nations. The desire derives from understanding the future risks presented by increasingly levels of Arctic traffic, the institutional development of ACGF, the benefits in shared knowledge and best practices, and possible budgetary savings. The positive results of opening Arctic SAR courses to other nationalities and jointly organizing those courses reflect this desire.

Table 3: What trainings would your country be willing to organize, host, or offer to other ACGF countries?

Name of the training	Nr of offers	Offered by
OSC and ACO courses	2	FIN & CAN
Currently, no trainings offered in English nor ability to provide trainings to externals	2	NOR & SWE
SMC	1	CAN
Ice Navigation	1	CAN
Small Vessel Operator Course	1	CAN
Rescue Specialist Training Course		
Ship and Ice Operations	1	CAN
The annual Joint SAR TTX	1	IS

Table 4: Which one(s) of the following courses would your country be interested in organizing jointly with other ACGF member states?

Ship and ice operations	1
Cold Weather Survival course	2
Ice Navigation	1
On-Scene Coordinator course	3
Aircraft Coordinator course	2
Search and Rescue Mission Coordinator course	3
Introduction to other countries' SAR equipment and resources	2
Testing of different survival gear	4
Ice rescue courses	2
Small Vessel Operator Course	1

Table 5: In what form should the training cooperation be organized among the ACGF countries?

	%
Jointly organized training courses designed for Arctic SAR	57
Jointly organized exercises designed to train and test Arctic SAR's capabilities	71
Jointly agreed upon training curricula to address the needs of Arctic SAR	57
Develop separate Arctic SAR-specific training modules to be added to the existing national training courses	43
Train-the-trainers training	57
Instructor exchange	71
Officer exchange	71
E-learning course	57
Workshops and seminars	71
Develop a database or calendar listing past and planned exercises, trainings, and other events available for other ACGF countries	57
Jointly conducted training needs and target audience requirement analysis	43
Something else	0

3.3. Opportunities

3.3.1 Creating standards and a module for Arctic training

By collating the best practices and lessons learned from each member country, new standards for Arctic training could be created. The next step would be to build an ideal Arctic module, perhaps as an add-on to national courses. There could be different Arctic modules for different levels of training. ACGF countries could also add their national characteristics to the learning objectives of the co-created Arctic module in order to meet the training criteria for a specific area or in relation to different national doctrines. In the future, the Arctic module could also be offered to commercial operators.

3.3.2 Launching a knowledge bank

By creating an electronic platform and database, the ACGF could share best practices, lessons learned, training material, and SOPs. The platform could also host easy access e-learning material and videos. At best, the platform would support the training both at on-land training facilities and on-board ships while at sea. One solution would be to collate and create the material as a jointly funded project so as not to overburden already stretched national Coast Guard training organizations.

3.3.3 Cooperating in research and development

Alongside the collected best practices, much national research and development is being done in terms of the equipment used in Arctic SAR (e.g. on-board Arctic rescue kits). The knowhow for what equipment to use and when could be put into better circulation. In addition, the ACGF nations could launch joint research and development projects in, for example, the fields of using automatic vessels, UAVs, and drones in Arctic SAR. Automatic vessels could be extremely useful in search and rescue operations in the vast Arctic environment.



3.3.4 Enhancing joint training

Some nations have specialized training, such as ice-piloting, ice-navigation, cold weather engineering, and topside icing, which is done in true Arctic surroundings. Access to these specific courses could benefit nations that do not have the possibility to organize such courses regularly or at all. However, the desire to send personnel to attend foreign courses may constitute a problem if a similar national course already exists and due to limited budgets for sending participants to attend foreign courses (see section on budgetary restraints on cooperation).

3.3.5 Train-the-trainer program

A practical train-the-trainer program could be an effective way to exchange best practices among the ACGF nations. The knowledge and skills the trainer acquires during the program could be transferred back to the sending nation's training institutes and then integrated within national courses. Gathering trainers together as a group instead of sending individual participants to courses could also be more a cost-effective means of dealing with the limited budgets of the various member states. A similar, but more abbreviated version of the train-the-trainer program would involve sending instructors instead of normal course participants to other nations' SAR



courses. The instructors could both support the attended course with their experience and then bring home the knowhow.

3.3.6 Officer and instructor exchange

Personnel exchanges could be applied at every level of Arctic SAR, but especially at the ACO, OSC, and RCC levels, as these operators are supposed to handle the practical cooperation in, for example, multinational mass rescue operations (MRO). The exchanges would help spread knowledge about the SOPs, command and communication systems, and other nations' SAR environments and promote the sharing of best practices.

3.3.7 Coordination team for Arctic SAR training

A coordination team of training experts could be established with the task of creating shared Arctic SAR training and fostering cooperation. They could work from their home offices and do the coordination work mainly online. The team could facilitate dialogue about fostering exchanges and collect and disseminate information on open training courses for professionals in other ACGF nations.



4 Conclusion and Recommendations

The results suggest that there is a possibility to open the reported Arctic SAR courses to, and to organize them together with, other ACGF nations. Overall, it would be possible in 13 out of the 15 existing courses for persons from other ACGF member states to either take part as such or else conditionally. In addition, it would be possible to organize 9 out of the 15 courses either jointly as such or else conditionally with other ACGF member states. The main problems hindering cooperation are language barriers, a course concentrating on a specific Arctic area, differing national doctrines, and a lack of resources.

The second part of this report concentrated on the challenges, strengths, and opportunities of future Arctic SAR training cooperation. Although not all of the listed points are tightly connected to training, they are still connected to enhancing ACGF cooperation.

The challenges hindering future cooperation were recognized as follows:

1. No shared definition of Arctic SAR exists;
2. Wide national variation in Arctic SAR training;
3. Budgetary restraints on cooperation;
4. Time, distance, and language barriers.

The identified strengths were as follows:

1. Existing IAMSAR-based training structure for SAR;
2. Ongoing cooperation among the ACGF member states;
3. Shared desire to deepen the cooperation within ACGF member states.

The participants identified numerous opportunities to enhance the training cooperation recognized by the member states. The opportunities based on the workshop results and online surveys also serve as recommendations for enhancing the training cooperation, and cooperation in general, among the ACGF member states:

1. Creating standards and a module for Arctic SAR training;
2. Launching a knowledge bank;
3. Cooperation in research and development;
4. Enhancing joint training;
5. Train-the-trainer program;
6. Officer and instructor exchanges;
7. Coordination team for Arctic SAR training.

This research clearly indicates that there is both a desire and possibilities for enhancing the training cooperation in jointly organizing Arctic SAR courses and opening them up to persons in other ACGF nations. There is also a venue for wider cooperation in terms of spreading knowledge and best practices, collaborating on research and development projects, and creating structures for training coordination.

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