



Alaska and Arctic Maritime Communications and Connectivity Analysis



Draft AAMC&CA Virtual Assessment Agenda

(As/of 17 October 2021) -Several participants are not yet confirmed for this event

26-28 October 2021, via Zoom (link below)

Tuesday, October 26·8:00am – 12:30pm

Daily, until Oct 29, 2021

[Join Zoom Meeting](#)

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Introduction

In order to support U.S. Coast Guard mission needs and increase the effectiveness of Alaskan and Arctic maritime communications, this assessment will seek to review the kinds of communications that are relevant and useful for mariners, identify new and emerging technologies, explore potential communications modernization pathways, and assess the technical communications and connectivity challenges of those operating in these regions.

This assessment also seeks to better understand the communication and connectivity limitations unique to Alaskan and the U.S. Arctic maritime regions that make communications particularly challenging. This assessment also seeks to identify key parameters of the potential solutions most valuable to a variety of Arctic mariners.

The United States Coast Guard currently provides mariners with a variety of broadcasts, notices, and other information products designed to effectively support safe maritime activities and increased domain awareness. This assessment seeks to better understand the extent at which each of those products are utilized by the maritime community, identify ways to increase the effectiveness of message content, and discuss how broadcasts may become better aligned with current and future technologies.

Modern and advanced tools, such as advanced charting and GIS displays, web-connected devices and fishing gear, unmanned and autonomous aircraft, autonomous surface and subsurface



vehicles, and advanced sensor suites provide large volumes of data that become infinitely more useful if quickly transmitted shore-side. These technologies have the ability to significantly advance marine safety and operational efficiency. However, these advancements correspondingly require modern and high-speed data connectivity, which is largely denied in the high latitudes.

As the maritime community seeks to increasingly leverage new and innovative technologies, the need for robust and adaptive communications and connectivity solutions will continue to grow. Accordingly, those operating in high latitudes will be increasingly motivated to explore modern communications and connectivity technologies to meet these demands through technological advancements for the most suitable near-term and long-range solutions.

Virtual Assessment Summary

This conference will take place virtually over three days, October 26, 27, and 28, 2021. The purpose of this virtual event is to provide alternating presentations on different challenges related to Alaska and Arctic Communications and Connectivity, introduce new and emerging technologies, and discuss USCG Communications and Connectivity needs. Assessment organizers will facilitate an overview of associated topics and frame discussions from the perspective of increasing maritime safety, better understanding the needs of Alaskan and Arctic mariners, and meeting USCG operational requirements.

This Virtual Assessment is designed to support the development of a comprehensive review of mariner communications and connectivity mission needs for the Alaska and the U.S. Arctic Exclusive Economic Zone (EEZ) and drive the development of a detailed qualitative market survey. The market survey will serve as the primary data-gathering stage of the project.

This event will be guided by the following questions:

- What are the key challenges to Alaska and Arctic Communications and Connectivity?
- How can government agencies align products to better serve the maritime community currently and in the future?
- What are the current Communications and Connectivity needs of government agencies and Arctic Stakeholders?
- Where do the greatest opportunities for improvement through new technologies exist?
- How will Communications and Connectivity requirements change in the future?
- How can the maritime community assist in effectively modernizing Alaska and Arctic Communications?

Objectives and Outcomes

The goal of this project is to create and publish a comprehensive report that will contain:

1. A review of the usage and effectiveness of current USCG broadcasts, notices, and information products.
2. A review of the current state-of-the-art Alaskan and U.S. Arctic maritime communications and connectivity technologies.



3. Recommendations and conclusions for near-term available state-of-the-art Alaskan and U.S. Arctic maritime communications and connectivity technologies suitable for USCG use.
4. Recommendations and conclusions for medium-and-long term future Alaskan and U.S. Arctic maritime communication and connectivity technologies.
5. Detailed recommendations and conclusions on Alaskan and U.S. Arctic maritime communications connectivity transition pathways (focused on Alaskan and U.S. Arctic maritime regions).

Day 1 of the assessment will be guided by the following questions:

- What are the key challenges to Alaska and Arctic Communications and Connectivity?
- How do challenges to Alaska and Arctic Communications and Connectivity differ around Alaska and across the Arctic
- How can government agencies better serve the maritime community?
- How can information be better tailored to suit the needs of the maritime community?
- What are the current communications and connectivity needs of government agencies and Arctic stakeholders?
- What are the current communications and connectivity limitations of government agencies?
- How can the maritime community assist in effectively modernizing Alaska and Arctic Communications?

Day 2 of the assessment will utilize breakout sessions, organized by topic, to address the following:

Near Term Time Horizon:

- Where do the greatest opportunities for improvement through new technologies exist?
- How can the maritime community coordinate modernization and transition?
- How much will new technologies increase demand on bandwidth available for communication and data transfer?
- How will Communications and Connectivity requirements change in the future?

Day 3 of the assessment will utilize breakout sessions, organized by topic, to address the following:

Medium and Long-Term Time Horizon:

- Where do the greatest opportunities for improvement through new technologies exist?
- How can the maritime community coordinate modernization and transition?
- How much will new technologies increase demand on connectivity?
- How will Communications and Connectivity requirements change in the future?



Agenda & Details

October 26 *Day 1 (All times listed in Alaska Time and Eastern Time)*

8:00 AM AK / 12:00 PM Eastern:

Welcome and Opening Remarks, University of Alaska

Dr. Aaron Dotson, Vice Chancellor for Research, UAA

8:10 AM AK / 12:10 PM Eastern:

Welcome and Opening Remarks, United States Coast Guard

CAPT Gregory Fuller, Chief of Staff, USCG D17 (or designated representative)

Session 1: United States Coast Guard Communications

8:20 AM AK / 12:20 PM Eastern:

Plenary 1: Communications and Connectivity challenges and modernization strategies

CDR Sam Nassar, HQ USCG CG761, Washington D.C.

CDR Nassar will provide an overview of the importance of effective communications and connectivity, outline communications challenges, and highlight efforts to improve reliability. Proposed guiding questions include: What communications challenges are specific to Alaska and the Arctic? How was the current Alaska and Arctic Communications infrastructure developed? What are the communications challenges related to infrastructure? What is the Coast Guard's programmatic approach to adopting new technologies? How can Alaska and Arctic operators best assist the Coast Guard in developing technologies that meet their needs?

8:35 AM AK / 12:35 PM Eastern:

Plenary 2: Emergency Communications and USCG Operational Challenges

LCDR Lisa Hatland, District 17 Command Center Chief

LCDR Hatland will provide an overview of Alaska and Arctic emergency communications, illustrate how effective communications reduce risk, and discuss the communications needs of responders. Proposed guiding questions include: What are the operational challenges in Alaska? How do communications challenges impact USCG Operations? What types of information should be communicated to reduce risk? What methods of communication are most valuable to Coast Guard mission coordinators? How can the maritime community best support effective maritime communications?



8:50 AM AK / 12:50 PM Eastern:

Plenary 3: USCG technical communications challenges Panel

Moderated by Phil Thorne, Arctic Program Specialist, USCG District 17

CDR Gary Mills, District 17 C4IT Division Chief

(and/or technical communications representative)

Sector Anchorage Command Center Chief

(and/or technical communications representative)

Sector Juneau Command Center Chief

(and/or technical communications representative)

This panel will discuss some of the key technical challenges and specific communications and connectivity needs at the USCG District and Sector levels. Proposed guiding questions include: What are the key granular-level technical communications challenges in your area? What are the logistical challenges that complicate maintenance and repair of communications infrastructure? What lessons have you learned through your experience with existing communications infrastructure? How can Alaskan and Arctic maritime professionals best support increased maritime safety and USCG mission success through partnerships?

9:25 AM AK / 1:25 PM Eastern:

Question and answer session with Coast Guard representatives

Moderated by Phil Thorne, Arctic Program Specialist, USCG District 17

9:40 AM AK / 1:40 PM Eastern:

AAMC&CA Project update and discussion of assessment intended outcomes

Jason Roe, Associate Director, Arctic Domain Awareness Center, UAA

9:45 AM AK / 1:45 PM Eastern:

Chat discussion / introduction to Poll

Jason Roe, Associate Director, Arctic Domain Awareness Center, UAA

Proposed Poll Questions:

- 1) What challenge to Alaskan and Arctic communications needs to be most urgently addressed?



- 2) How can government agencies better serve the maritime community with regards to communications?
- 3) What communications needs are currently not being met?
- 4) What are the most effective ways to communicate status changes in communications infrastructure?
- 5) What government-provided maritime communications are most helpful?
- 6) What changes would you make to government-provided communications?

Session 2: Maritime communications perspectives

10:00 AM AK / 2:00 PM Eastern:

Plenary 4: North Slope SAR Panel

Heather Dingman, North Slope Search and Rescue

North Slope SAR Pilot (TBD), North Slope Search and Rescue

Panelists will be respectfully asked to provide perspectives on conducting search and rescue operations in remote areas with severely limited communications options and limited support and domain awareness infrastructure. Proposed guiding questions include: What are the impacts of limited communications on risk in remote areas and harsh environments? How can improved communications and connectivity increase domain awareness? What coastal activities can be better supported by effective mobile communications?

10:25 AM AK / 2:25 PM Eastern:

Plenary 5: NOAA / NWS Communications challenges Panel

Carven Scott (or authorized representative) NWS Alaska Region

Doug Mecum (or authorized representative) NOAA Alaska Region

Panelists will be respectfully asked to provide perspectives on the importance of clear and effective communications of weather forecasts, the connectivity challenges related to weather observations and predictions in Alaska and the Arctic, and ways the maritime community can effectively support increased awareness of maritime weather and environmental model validation.

10:50 AM AK / 2:50 PM Eastern:

Plenary 6: Communications challenges related to maritime operations Panel

Willow Moore (or authorized representative) Alaska Longline Fishermen's Association

Taylor Holshouser, Bering Sea Fisherman's Association, Alaska Ocean Cluster

Alaska Marine Pilots (authorized representative)

Southwest Alaska Pilots Association (authorized representative)



Buddy Custard, Alaska Chadux Network

Port of Nome (authorized representative)

Panelists will be respectfully asked to provide perspectives on the importance of effective communications and connectivity for safe and efficient maritime operations, the key connectivity challenges associated with commercial operations in remote maritime environments, and potential future trends likely to change communications and connectivity needs in the future.

11:35 AM AK / 3:35 PM Eastern:

Plenary 7: Alaskan coastal communities perspective

Nagruk Harcharek, Ukpeaġvik Iñupiat Corporation (host and participant)

Crawford Patkotak (or authorized representative), Alaska Eskimo Whaling Commission

Vera Metcalf (or authorized representative), Eskimo Walrus Commission

Panelists will be respectfully asked to provide perspectives on the communications and connectivity challenges associated with activities in remote coastal and maritime environments, highlight ways effective communications can better support remote communities, and describe activities that rely on communications for increased safety and environmental protection.

12:05 PM AK / 4:05 PM Eastern:

Question and answer session with the maritime community

Moderated by Dr Mark Ivey, Sandia National Labs

12:20 PM AK / 4:20 PM Eastern:

Chat Questions and Polling instructions

Jason Roe, Associate Director, Arctic Domain Awareness Center, UAA

Proposed Poll Questions:

- 1) How can government agencies better coordinate with the maritime community?
- 2) What communications needs are currently not being met by government agencies or private enterprises?
- 3) What are the most effective ways to communicate status changes in communications infrastructure?

12:30 PM AK / 4:30 PM Eastern:

Adjourn for the Day, thank you!



October 27 Day 2 (All times listed in Alaska Time and Eastern Time)

8:00 AM AK / 12:00 PM Eastern:

Welcome and Review of Discussions

Jason Roe, Associate Director, Arctic Domain Awareness Center, UAA
CDR Sam Nassar, HQ USCG CG761, Washington D.C.

8:10 AM AK / 12:10 PM Eastern:

Comments from Project Stakeholders

Moderated by Jeff Libby, Executive Director, Arctic Domain Awareness Center

Session: New and Emerging Technologies presentations

Presenters will provide an overview of their maritime communications portfolio, describe their current and anticipated future customer base, and describe future communications and connectivity solutions.

8:20 AM AK / 12:20 PM Eastern:

Plenary 1: Iridium Corporation

Ken Flowers, Vice President, Government Solutions Iridium Corporation

8:40 AM AK / 12:40 PM Eastern:

Alaska Marine Exchange

CAPT Ed Page, USCG (Ret), Marine Exchange of Alaska, Juneau AK.

9:00 AM AK / 1:00 PM Eastern:

Arcticom, LLC

Bruce Hellenga, Operations Manager ARCTICOM, LLC

9:20 AM AK / 1:20 PM Eastern:

Quintillion

Ada Maduakor, Market Development Manager, Quintillion



9:40 AM AK / 1:40 PM Eastern:

Instructions for Breakout Groups

Jason Roe, Associate Director, Arctic Domain Awareness Center, UAA

Breakout Groups will free choice and determined by the number of assessment participants to obtain an optimal number per group. The assessment will contain 4 breakout groups. The breakout groups will rotate through the following subject areas during 25 min sessions:

- 1. Communications device characteristics**
- 2. Operational characteristics**
- 3. Current products and delivery methods**
- 4. Future communications needs and transition**

9:45 AM AK / 1:45 PM Eastern:

Break

10:00 AM AK / 2:00 PM Eastern:

Breakout session 1

10:25 AM AK / 2:25 PM Eastern:

Break / discussion

10:30 AM AK / 2:30 PM Eastern:

Breakout session 2

10:55 AM AK / 2:55 PM Eastern:

Break / discussion

1100: 11:00 AM AK / 3:00 PM Eastern:

Breakout session 3

1125: 11:25 AM AK / 3:25 PM Eastern:

Break / discussion



1130: 11:30 AM AK / 3:30 PM Eastern:

Breakout session 4

1155: 11:55 AM AK / 3:55 PM Eastern:

Break

12:05 PM AK / 4:05 PM Eastern:

Working groups review and discussion

Jason Roe, Associate Director, Arctic Domain Awareness Center, UAA

12:15 PM AK / 4:15 PM Eastern:

Adjourn for the Day, thank you!

October 28 Day 3 (All times listed in Alaska Time and Eastern Time)

8:00 AM AK / 12:00 PM Eastern:

Welcome and Review of Discussions

Jason Roe, Associate Director, Arctic Domain Awareness Center, UAA

CDR Sam Nassar, HQ USCG CG761, Washington D.C.

0810: 8:10 AM AK / 12:10 PM Eastern:

Comments from Project Stakeholders

Moderated by Jeff Libby, Executive Director, Arctic Domain Awareness Center

Session: Medium and Long-Term Technologies presentations

Presenters will provide an overview of their maritime communications portfolio, describe their current and anticipated future customer base, and describe future communications and connectivity solutions.

8:20 AM AK / 12:20 PM Eastern:

OneWeb Maritime

Carole Plessy, OneWeb Maritime Product Development



8:40 AM AK / 12:40 PM Eastern:

Aurora Flight Sciences

Mark Dillon, Director of Business Development

9:00 AM AK / 1:00 PM Eastern:

Kepler Communications

Vincent Marsland, Product Marketing Specialist

9:20 AM AK / 1:20 PM Eastern:

Starlink

TBD, **TBD**

9:40 AM AK / 1:40 PM Eastern:

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Breakout session 1

10:25 AM AK / 2:25 PM Eastern:

Break / discussion



10:30 AM AK / 2:30 PM Eastern:

Breakout session 2

10:55 AM AK / 2:55 PM Eastern:

Break / discussion

11:00 AM AK / 3:00 PM Eastern:

Breakout session 3

11:25 AM AK / 3:25 PM Eastern:

Break / discussion

11:30 AM AK / 3:30 PM Eastern:

Breakout session 4

11:55 AM AK / 3:55 PM Eastern:

Break

12:00 PM AK / 4:00 PM Eastern:

Breakout Group recap and discussion

Jason Roe, Associate Director, Arctic Domain Awareness Center, UAA

12:10 PM AK / 4:10 PM Eastern:

Concluding Remarks, UAA

Dr. Aaron Dotson, Vice Chancellor for Research, UAA

12:20 PM AK / 4:20 PM Eastern:

Concluding Remarks, USCG

CDR Sam Nassar, HQ USCG CG761, Washington D.C.



12:30 PM AK / 4:30 PM Eastern:

End assessment, Thank you for your participation