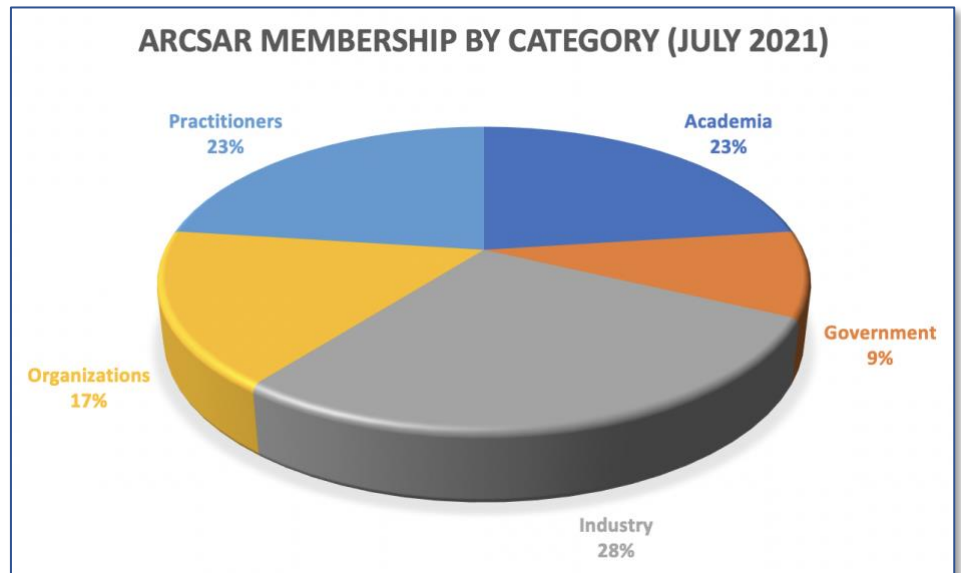# Halfway There: Taking Stock of Progress and Participation in the ARCSAR Network

The Arctic and North Atlantic Security and Emergency Preparedness Network (ARCSAR) is an ever expanding collaborative network of 99 key international partners, from 22 different countries, interested in safeguarding the ANA region from threats stemming from increased commercial shipping activity.[1] The network was designed to support practitioners involved in security and emergency response by bringing together first responders, researchers, industry, and policymakers. The ARCSAR project is funded through the EU Framework Programme for Research and Innovation Horizon2020, with the goal of establishing international best practices and innovation platforms for security and emergency response institutions in the Arctic and North Atlantic region.

The ARCSAR project is currently near the midpoint of the projected five year initial project plan. In May 2021, the network hosted its third Knowledge and Innovation Event, after which network members were surveyed as to their perceptions of network programming so far, along with their preferences for network programming moving forward. Members were also asked about their participation in the network, and any issues that preclude greater participation in network activities. Results from this survey are presented below, as well as suggestions for increasing participation in network activities and events in the second half of the project timeline.

ARCSAR MEMBERSHIP BY CATEGORY (JULY 2021)
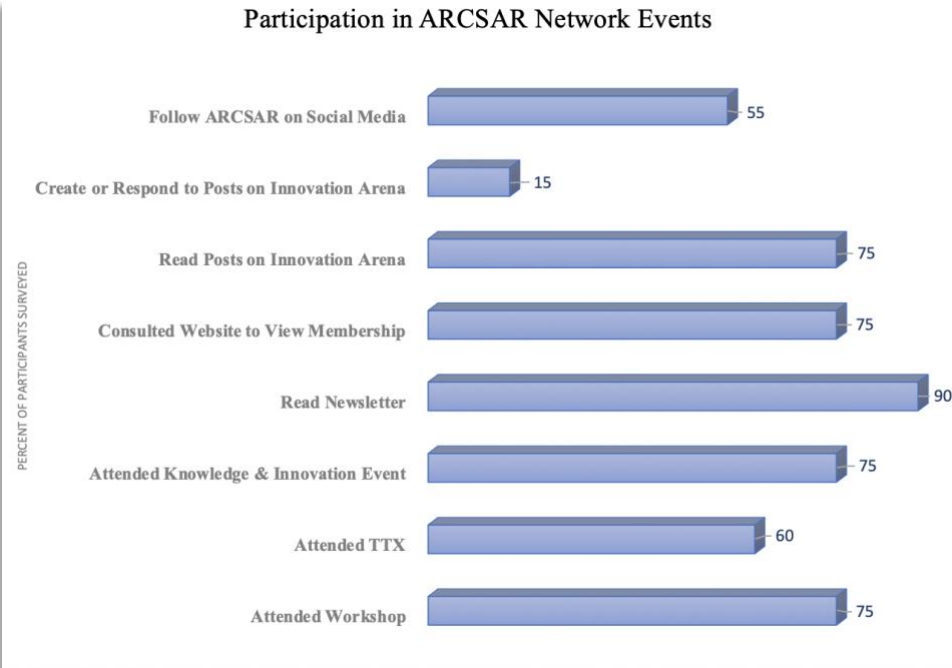Practitioners 23%
Academia 23%
Government 9%
Industry 28%
Organizations 17%

Level of Engagement

The ARCSAR network provides a number of different opportunities for engagement of its members, including workshops and events, newsletters, and websites. In terms of our survey respondents, level of participation in network activities varied widely, with a few members being involved in all network activities, and others being involved in only a few. Participation also included a mix of active and passive forms of engagement. For example, of the network members surveyed, the majority indicated that they read the newsletters (90% of members), with a somewhat smaller number reporting attendance at workshops or Knowledge and Innovation events (75% of members). The same number of respondents reported consulting the ARCSAR website, and reading posts on the Innovation Arena. Only around half of the survey participants reported attending Tabletop Exercises (TTXs) or followed ARCSAR on social media. The network offering with the lowest level of engagement was creating or responding to posts on the Innovation Arena, with only 3 network members stating that they had done so.

Participation in ARCSAR Network Events

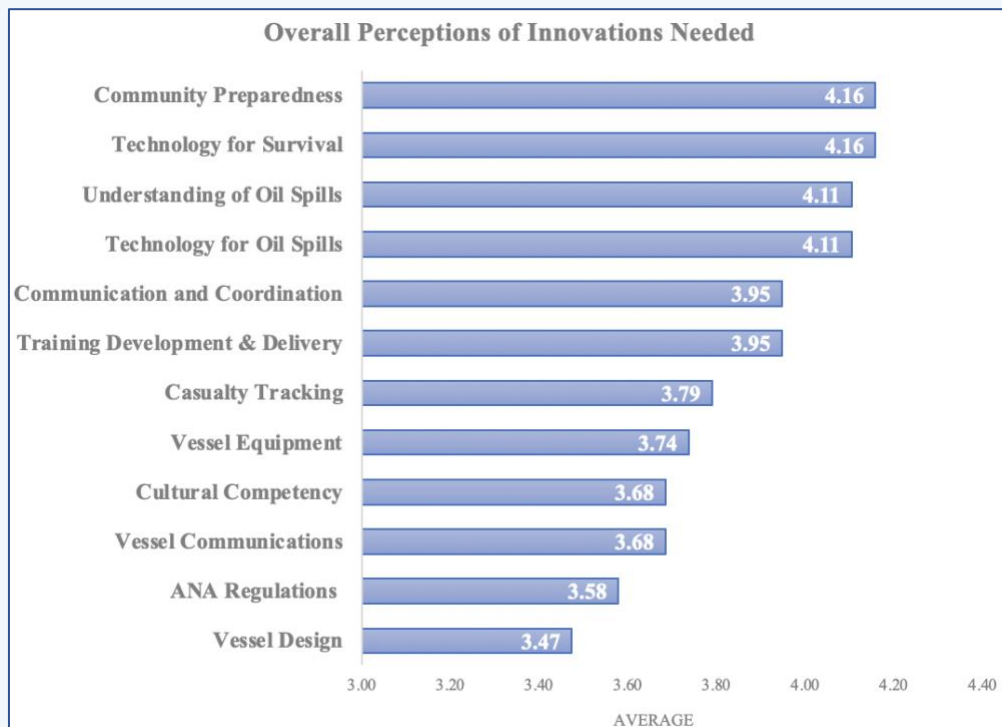| Event	Percent of Participants Surveyed
Follow ARCSAR on Social Media	55
Create or Respond to Posts on Innovation Arena	15
Read Posts on Innovation Arena	75
Consulted Website to View Membership	75
Read Newsletter	90
Attended Knowledge & Innovation Event	75
Attended TTX	60
Attended Workshop	75

When asked about their level of satisfaction with their participation in the network, a little more than half of the members surveyed indicated that they were satisfied with their current level of participation (55%), and half were looking forward to participation in future in-person events (50%). A

much smaller number of respondents felt that network participation was too time consuming (15%). When provided with the opportunity to write-in any other factors that prevented a deeper level of engagement with the network, one respondent emphasized the importance of in-person events for networking, lamenting the loss of the "*talks and friendships*" that are made during the breaks and at social events. Other issues provided here included limited funding, time, and overcommitment elsewhere.

It is notable, however that a few other options which were provided were not chosen by any of our survey respondents. These included: "*Participation is too complicated*", "*Participation is too difficult*", or "*Network events are unrelated/irrelevant to my interests*."

Innovations Needed

In addition to capturing engagement and satisfaction with participation in the network, we also wanted to assess member perceptions of network programming. First, we wanted to determine which areas were deemed most important by our members, in terms of innovations needed in order to enhance Arctic safety and security. Participants were provided a list of 12 different areas, and given a 5 point scale on which to respond, from 1 "*I do not believe innovations are needed*" to 5 "*Innovations are urgently needed in this area*". As seen in the figure below, respondents generally felt that innovations were needed in all of the areas listed, since the average response across all areas was higher than the scale midpoint. However they felt that the most pressing issues were local community preparedness and response, and enhanced technology for survival in the ANA region. These areas were followed closely by advancements in technology and understanding to protect the region from oil spills. The issue deemed least important for new innovation was vessel design.

Overall Perceptions of Innovations Needed

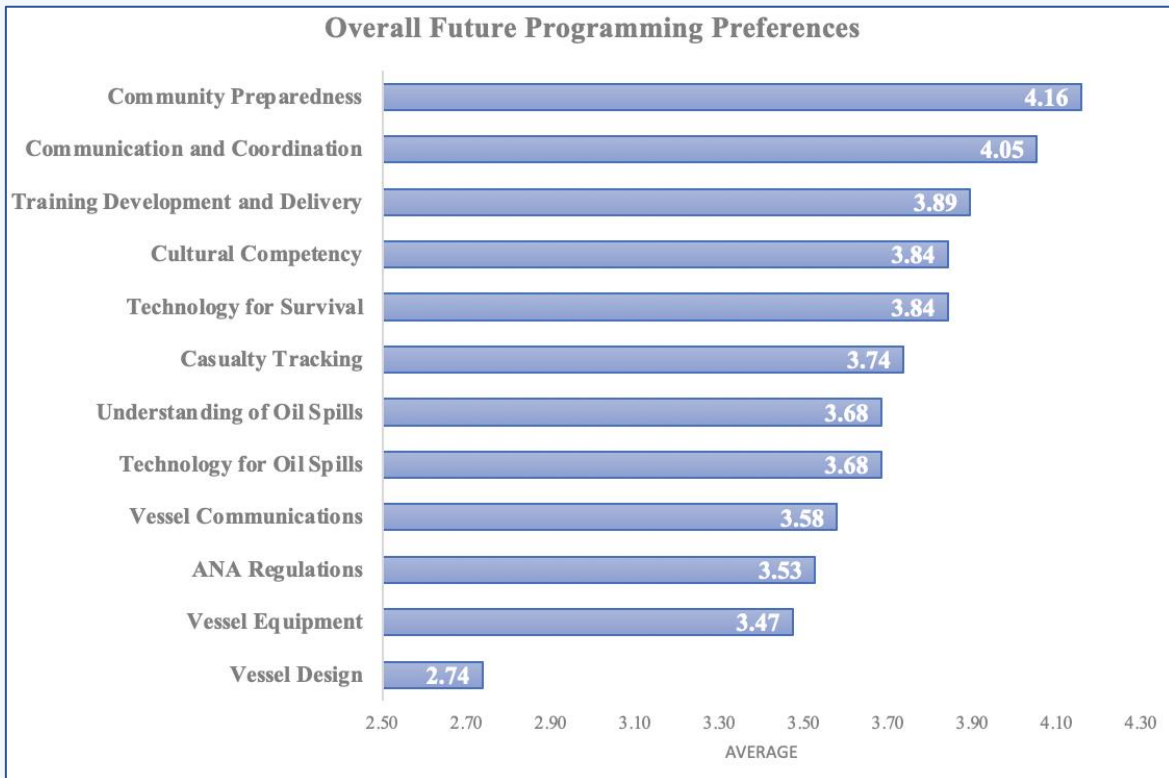| Area	Average
Community Preparedness	4.16
Technology for Survival	4.16
Understanding of Oil Spills	4.11
Technology for Oil Spills	4.11
Communication and Coordination	3.95
Training Development & Delivery	3.95
Casualty Tracking	3.79
Vessel Equipment	3.74
Cultural Competency	3.68
Vessel Communications	3.68
ANA Regulations	3.58
Vessel Design	3.47

AVERAGE

Future Programming

Finally, respondents were asked about the types of programming they would most like to see in future ARCSAR events, using a similar Likert style format. A score of 1 was associated with "*I do not believe the network needs to focus any attention on this topic*," and 5 was associated with "*I believe that this topic should be the focus of future network programming*." Here too, when averaged, responses to all 12 areas listed were above the scale midpoint, with our participants expressing interest in a wide variety of topics pertaining to the region.

Our survey respondents were most interested, however, in programming concerning local community preparedness and response, and communication and coordination among various ANA stakeholders. Once again, their least favored option for programming was in vessel design.

Respondents were also able to write in any area that was not captured in the list. Write in responses included: "*Communications and joint exercise planning*;" "*Study the experience from previous exercises and SAR cases to learn more about possible barriers to reduce the risk*;" and "*I would like for the first responders to all meet, share experiences, observe other SAR operators' exercises (Livex, not just TTX's)*."

Overall Future Programming Preferences

| Topic	Average
Community Preparedness	4.16
Communication and Coordination	4.05
Training Development and Delivery	3.89
Cultural Competency	3.84
Technology for Survival	3.84
Casualty Tracking	3.74
Understanding of Oil Spills	3.68
Technology for Oil Spills	3.68
Vessel Communications	3.58
ANA Regulations	3.53
Vessel Equipment	3.47
Vessel Design	2.74

AVERAGE

Perceptions by Stakeholder Area

Finally, because we wanted to ensure that the network was meeting the needs of all member types, we also disaggregated the data by stakeholder area. Doing so uncovered some interesting trends that provide insight into future programming needs and possible routes of expansion and engagement of the network in future.

Level of Engagement by Stakeholder Area

All stakeholders responding to our survey were more likely to attend workshops and Knowledge and Innovation events as compared to Tabletop Exercises (TTXs), but this was especially the case for Academics and Practitioners. In fact, Practitioners were more likely to participate in all possible forms of engagement across the board, with one exception, following the network on social media.

Attendance at TTXs was almost twice as likely for Practitioners as compared to Academics and Industry/Organization representatives. Academics and Industry representatives were also much less likely to create or respond to posts on the Innovation Arena. These missed opportunities for engagement of these two stakeholder types, in both the TTXs and Innovation Arena, likely limits potential applications of new advancements, or innovative solutions to real world problems in the region. Indeed, the very low rates of responding to challenges on the Innovation Arena by all member types, suggests more work is needed to reach our goal of establishing innovation platforms for response institutions in the region. Finally, both Academics and Industry/Organization members were also less likely to consult the website to view network membership than were Practitioners. When considered as a whole, these data imply that increased efforts connect and engage Academics and Industry/Organization members with Practitioners would be useful. In other words, more work could be done to build cohesion among the different types of network members.

Participation in ARCSAR Events by Stakeholder Area
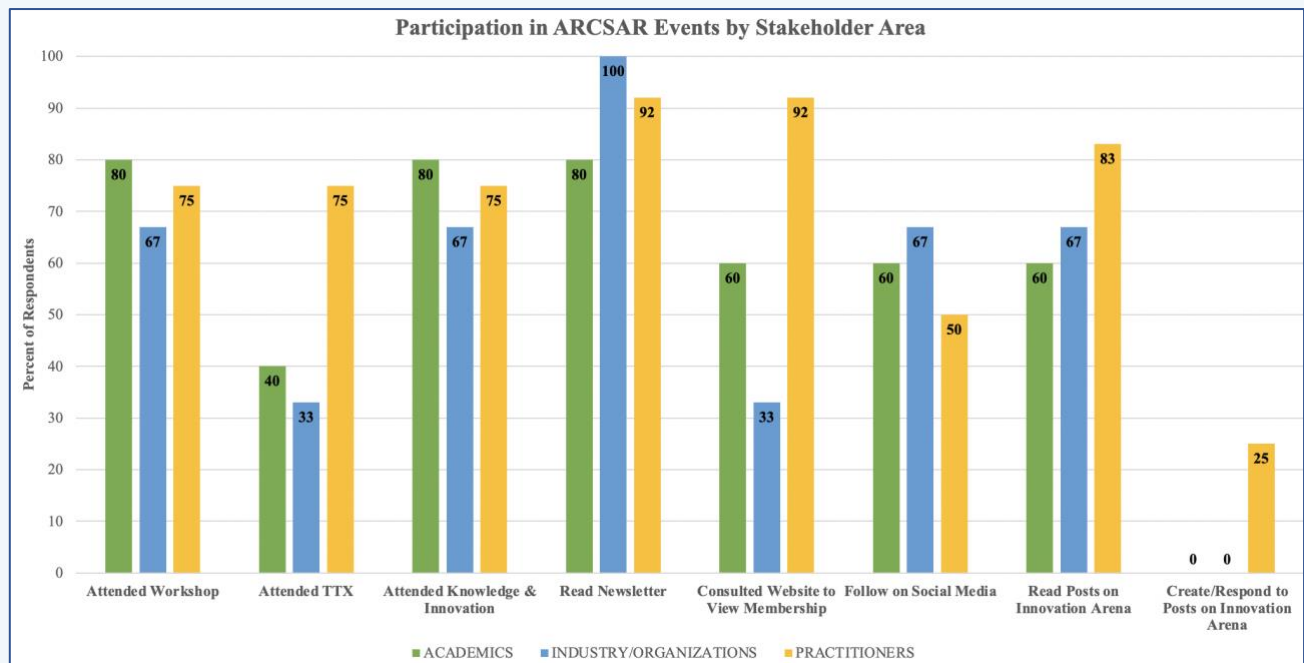
Examining possible reasons for limited engagement with the network by stakeholder type reveals however, that efforts to increase participation may not be equally successful for all stakeholder types. For example, of the three types of stakeholders, Industry/Organization respondents were the most likely to report being satisfied with their current level of participation (almost a third of all members of this type), with the same number expressing the belief that participating in the network was too time consuming. They also expressed the greatest preference for in person events, despite the fact that they were actually more likely than any other type of stakeholder to engage with the network online (e.g., reading the newsletters, following ARCSAR on social media, and reading posts in the Innovation Arena), and least likely to attend in person events.

Additionally, and as mentioned earlier, while Practitioners were the most likely to participate in almost all forms of network engagement, only a little more than half of them reported being satisfied with their current level of engagement. This is somewhat difficult to interpret, in light of the fact that only 8% of them endorsed the belief that participating in the network was too time consuming. On the other hand, given that the same number of them reported a strong desire for the return of in-person events, it's likely that their reported dissatisfaction stems from a desire for more traditional face to face programming.

Finally, Academics were the least likely to be satisfied with their current level of involvement in the network, but unlike the other two stakeholder types, this dissatisfaction was not accompanied, or perhaps explained by, a preference for in person events or the time required by network participation. Instead, responses to other questions in the survey may elucidate the reasons behind their high levels of dissatisfaction. In particular, Academics were likely to ascribe a high level of importance to improving communication and coordination among stakeholders, perhaps indicating a belief that more could be done to incorporate our Academic stakeholders into network programming.

Again, it is worth noting that none of the participants endorsed the belief that network activities were inapplicable to them, and all felt that there was a place in the network for them. In any event, there is room for improvement with regard to all member types, in terms of increasing satisfaction with network participation.
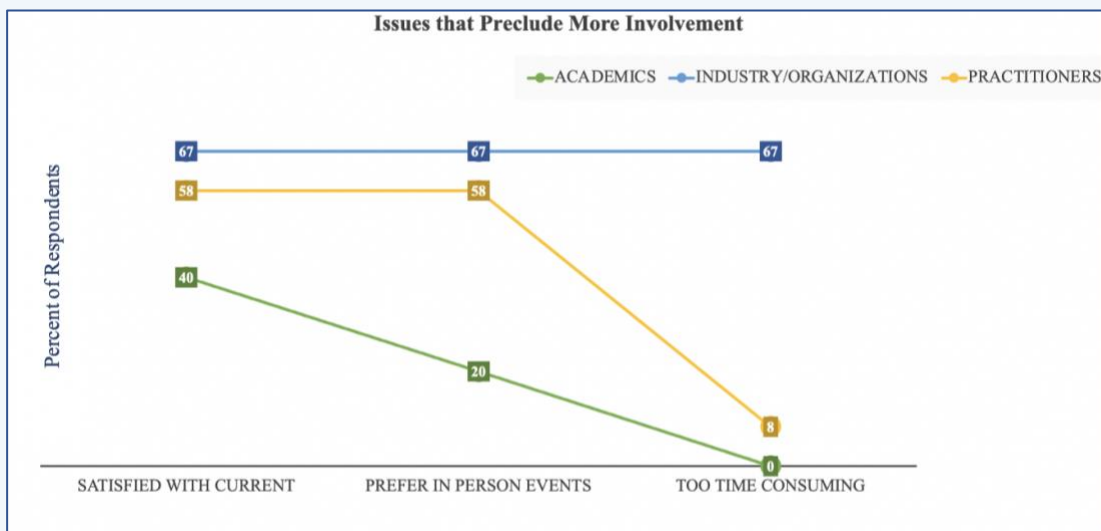
Innovations Needed by Area

As mentioned earlier, respondent perceptions of the importance of innovation in the 12 areas listed were, in almost every case, higher than the scale midpoint. However a few notable differences emerged when examining perceptions of network stakeholders by type. Some of these differences in ratings were nominal, but there were a few areas in which perceptions differed greatly ($\geq$ 1). Where they occurred, they tended to reflect differences of opinion between Industry and Organization representatives as compared to Academics and Practitioners, the latter of which in general tended to align more closely in their responses.

For example, Industry and Organization representatives were a great deal less likely to believe that new regulations for operating in the region were needed than Academics and Practitioners. They were also less likely to endorse a need for innovative solutions to casualty tracking and increasing cultural competency. On the other hand, Industry and Organization members were more likely to agree with Academics in terms of the need for improvements in coordination between ANA stakeholders, as compared to Practitioners.

In other areas, perceptions as to the importance of innovation were much more in alignment between the three stakeholder types, for example technology for survival and oil spills, understanding of oil spills, vessel equipment and training development and delivery.

While areas of agreement are helpful in identifying safety gaps in the region, it is also important to identify areas of disagreement. These disconnects highlight issues for which momentum will be difficult to establish until such time as perceptions are more closely aligned.

Perceptions of Innovations Needed by Area
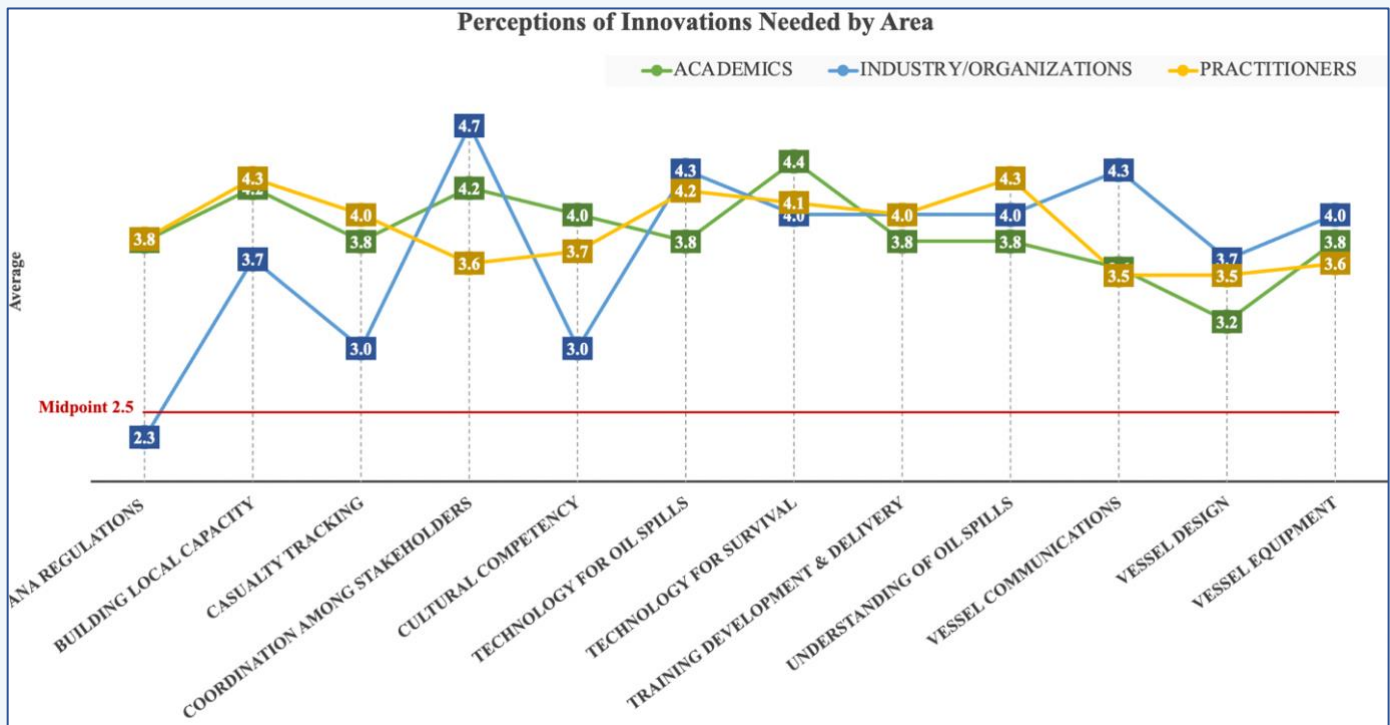
Future Programming by Area

Interests in types of programming that our network respondents would like to see in future events largely paralleled their perceptions of new innovations, with varying areas of agreement and disagreement, depending on the issue. Once again, however these disagreements may be less important when considered in light of the fact that on average, our stakeholders rated all areas higher than the midpoint of the scale (although vessel design was very close to the midpoint for all three stakeholder types). Thus, there is at least a moderate level of interest in nearly all areas listed, for all stakeholder types. On the whole, practitioners in general were more interested in all categories of programming, as compared to Industry/Organization members, who expressed lower levels of interest overall across almost all categories, except coordination among stakeholders and vessel equipment. Programming that is likely to be of interest to the greatest number of network members pertains to increasing coordination among stakeholders, training development and delivery,[2] and building local capacity.

Perceptions of Future Programming Preferences
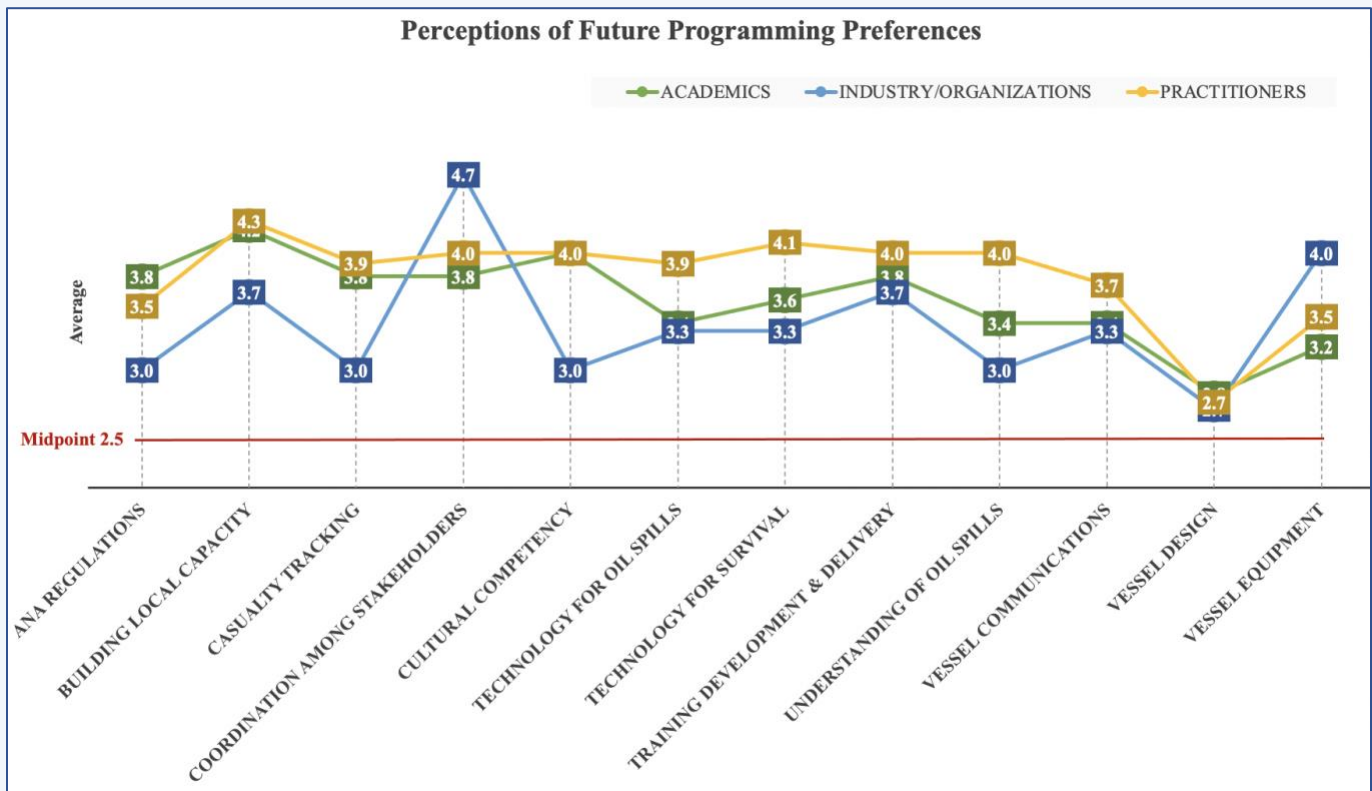
Recommendations

Responses to the survey provide guidance for network programming moving forward, in both content as well as process. Taken as a whole, the data presented above suggests that the following adjustments may be prudent at this time in the project cycle:

1. **Continue to build connections among stakeholders within the network**. One of the unique strengths of the ARCSAR network is the inclusion of stakeholders who represent a number of different interest areas. Given the results of the surveys, however, it appears that more work could be done to build connections within the network among different stakeholder groups, in particular, ensuring both Academics and Industry/Organization members feel integrated within the network.

   One way to do this might be to capitalize on the popularity of the newsletter among all stakeholder types, and consider building both awareness and inclusion via a "Member Spotlight" section. These spotlights could also be featured on Network social media sites. This will allow for increased networking to occur outside of in person events.

2. **Consider ways to increase creating or responding to posts in the Innovation Arena**. The survey questions did not inquire as to why so few stakeholders had created or responded to posts in the Innovation Arena, but did reveal that this type of engagement is low among all stakeholder types. While all stakeholders were likely to read the posts on the Arena, only a very small number had responded to them.

There may be two possible reasons why these response rates were so low. First, low response rates may be explained as a form of bystander effect, where everyone is assuming that someone else will respond. If it is a bystander effect, one way to counteract this would be to direct questions to particular members asking for their impressions of challenges, rather than waiting for individuals to volunteer to respond. 60% of our survey respondents indicated that they were willing to be listed as experts, and answer questions about their areas of expertise, so reaching out to these individuals with specific challenges may be useful.

Alternatively, it may be that requiring responses to be posted in a separate network site feels too cumbersome to some members. As it stands now, when challenges are posted to the network, members are notified via email that challenges have been posted. However responding to those challenges requires network members to sign into a separate website to respond. If this extra step is interfering with greater levels of engagement, including challenges on various social media sites may also be useful as a means to increase both visibility and response rates. An additional benefit to posting challenges on social media sites is the increased likelihood of being seen by Industry representatives, who were the most likely to follow network social media sites, and were also most likely to find network engagement too time consuming. Challenges posted to social media may also attract others to the network. The disadvantage to such an

approach would be that responses made on social media would still need to be memorialized and transferred over to the Innovation Arena. But the benefits would likely outweigh the costs since allowing stakeholders to respond in other venues might increase response rates, while also making it easier to determine why response rates are so low.

3. **Increase stakeholder engagement in TTXs**. While all stakeholder types had high levels of engagement with workshops and Knowledge and Innovation Events, participation in tabletop exercises was low for both Academics and Industry/Organization representatives. Benefits of their participation in these events is clear, in that they are most likely to be familiar with new and forthcoming innovations that could be applied to practical challenges being experienced in the region. Increasing Academic engagement in the TTXs also allows insight into research questions that would most benefit from future examination, which in turn might

positively impact their satisfaction with network participation. Increasing opportunities for engagement by Industry/Organization members also provides the opportunity to discuss new technologies at such time as their applicability to real world situations could be demonstrated, increasing coordination with other ANA stakeholders, a particular concern for these members.

4. **Meet stakeholders where they are, rather than utilizing a "one size fits all" approach**. Different types of stakeholders reported engaging with the network in different ways, so it would be useful to consider how to direct outreach and programming to each stakeholder type in the manner they most prefer. This will hopefully increase member engagement, as well as satisfaction with network participation. Finally, because budgeting constraints have been brought up by participants both here and in the past, it would be prudent to consider ways to build network cohesion outside of in person events.

Summary

Results from the mid-project surveys indicate that ARCSAR is achieving its goal of creating a network of stakeholders interested in ensuring the safety and security of the ANA region. The rapid growth of the network over the years, and the high level of participation in network events, confirm that we are on target to achieve our project objectives. Participants are generally satisfied with their participation in the network and with network programming. Looking more closely into the data, however, reveals that a few adjustments could be made to further maximize member satisfaction for all stakeholder types, and recommendations are made for to how to do so. It is also worth noting that the return to more traditional forms of face to face engagement is likely to have a large and positive impact on satisfaction with network participation. However, finding ways to deliver program content utilizing both online and face to face modalities is recommended, in order to reach the greatest number of participants and increase network engagement between events.

Moving forward, it is recommended that network administrators consider ways to increase both coordination and integration of all network stakeholder types, and to build greater levels of cohesion within the network. In this way we will be able to capitalize upon, and allow everyone the opportunity to demonstrate, their unique strengths and value to the network, thus ensuring our network objectives are met.

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[1] In the past year, the network has seen an almost 500% increase in membership, from 21 network members in January 2020, to 99 network members as of July 2021. Similarly, the countries represented in the network have also increased exponentially, from 13 in January 2020, to 22 at present (see ARCSAR network page for details on membership).

[2] Again it is important to note the potential confounding effects stemming from the fact that these surveys were distributed subsequent to the Knowledge and Innovation event which focused on training development and delivery.