"Arctic Passion" project – questionnaire on the use of sea ice information services

Introduction

The Arctic Passion project, funded by the EU Horizon 2020 program, aims at co-creating and implementing a coherent, integrated Arctic observing system: the 'Pan-Arctic Observing System of Systems' (pan-AOSS). So as to demonstrate the value potential of the aspired pan-AOSS a collection of Pilot Services is tested, including one on improved sea ice services (based on broader scoped data integration). The socioeconomic value potential of these services is evaluated in work package 5 of the project. In relation to this evaluation task we approach you for participating in a survey, which helps us to better evaluate the potential benefits and the prerequisites services for ship routing.

Scope of the survey and outcomes:

Respondents from a large variety of users spanning from ship captain to crew member, ice pilot, coast guards and routing services but also educators or people dealing with touristic activities are strongly encouraged to participate to provide information on the usefulness of various information (sea ice, communication, positioning).

Results of the study will be used in the project analysis regarding benefit potential and the summary of the results will be published in an anonymized way. We will send the summary of the results also to the participants, if they have indicated their wish to receive them (see the last question).

1. What is your role? (tick your current position or your last relevant position)

- ○ Ship captain
- ○ Chief officer or Second officer
- ○ Other crew member
- ○ Ice pilot/navigator
- ○ Employee of Coast Guard or Navy (other than crew member)
- ○ Employee of Government Agency
- ○ Marine Pilot
- ○ Employee of a port authority of an Arctic port subject to (seasonal) sea ice
- ○ Member of Scientific Community
- ○ Educator in a navigation training centre
- ○ Vessel Routing Service
- ○ Tourism Industry Advocate
- ○ Other. Please specify:

2. In case of a ship captain or officer or other crew member. On what kind of vessel have you served/are you serving, while traveling ice-covered waters/sea areas? You are allowed to indicate more than one option:

- ☐ Ice breaker
- ☐ Off-shore industry auxiliary vessel
- ☐ Coast guard
- ☐ Container
- ☐ Bulk carrier
- ☐ Passenger
- ☐ Tanker
- ☐ Fishing/Trawler
- ☐ Multi-purpose
- ☐ Navy/Military
- ☐ Research
- ☐ Other, please specify:

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3. In case of a ship captain, officer or crew member. What is the vessel's ice class (equivalents to the Swedish-Finnish ice classes) you served on in ice covered waters (sea areas)?

- ☐ No Ice Class
- ☐ 1A
- ☐ 1B, 1C
- ☐ 1A Super, PC7
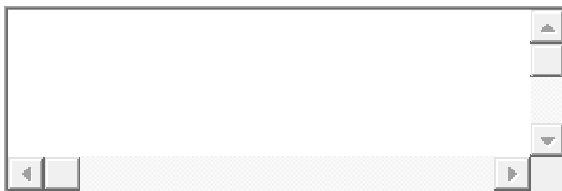- ☐ PC5, PC6
- ☐ PC3, PC4
- ☐ PC1, PC2

4. What geographical region(s) do you navigate ?

☐ South-Atlantic (Chilean & Argentina)

☐ North Atlantic

☐ Barents Sea

☐ Arctic ocean

☐ Canadian Arctic

☐ Weddell Sea/ Antarctic Peninsula

☐ Other Antarctic waters

☐ Alaska including Bering Sea, Sea of Japan, Sea of Othotsk

☐ The Baltic Sea

☐ Russian Arctic

☐ Gulf of St. Lawrence/River

☐ South Georgia, Norway Fjords, Chilean coast

☐ North America Great Lakes

5. Please rate (between 1 and 10, where 1 is not at all important and 10 is very important) the importance of benefits of *nowcasting* sea ice observation data for :

Safety	1	2	3	4	5	6	7	8	9	10
Time saving	1	2	3	4	5	6	7	8	9	10
Fuel saving	1	2	3	4	5	6	7	8	9	10
Optimal routing (optimal mix of time saving and fuel saving)	1	2	3	4	5	6	7	8	9	10
Other savings	1	2	3	4	5	6	7	8	9	10

Please specify other savings here:

6. Please rate (between 1 and 10) the importance of benefits of *forecasting* sea ice observation data for :

Safety	1 2 3 4 5 6 7 8 9 10
Time saving	1 2 3 4 5 6 7 8 9 10
Fuel saving	1 2 3 4 5 6 7 8 9 10
Optimal routing (optimal mix of time saving and fuel saving)	1 2 3 4 5 6 7 8 9 10
Other savings	1 2 3 4 5 6 7 8 9 10

Please specify other savings here:

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7. Please rate (between 1 and 10) the importance of benefits of *historical* sea ice observation data for :

Safety	1 2 3 4 5 6 7 8 9 10
Time saving	1 2 3 4 5 6 7 8 9 10
Fuel saving	1 2 3 4 5 6 7 8 9 10
Designing new vessels ice class	1 2 3 4 5 6 7 8 9 10
Planning of operations in the polar seas	1 2 3 4 5 6 7 8 9 10
Other savings	1 2 3 4 5 6 7 8 9 10

Please specify other savings here:

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8. Please rate (between 1 and 10) the importance of benefits coming from GNSS (Global Navigation Satellite System) data for :

Safety   1   2   3   4   5   6   7   8   9   10

Time saving   1   2   3   4   5   6   7   8   9   10

Fuel saving   1   2   3   4   5   6   7   8   9   10

Other savings   1   2   3   4   5   6   7   8   9   10

Please specify other savings here:

9. Please rate (between 1 and 10) the importance of benefits coming from Telecommunications satellites for:

Safety   1   2   3   4   5   6   7   8   9   10

Time saving   1   2   3   4   5   6   7   8   9   10
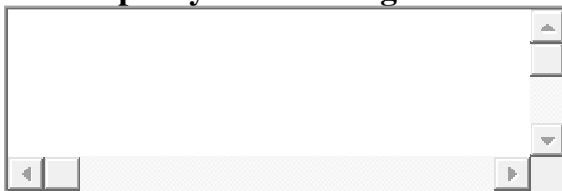
Fuel saving   1   2   3   4   5   6   7   8   9   10

Other savings   1   2   3   4   5   6   7   8   9   10

Please specify other savings here:

10. Please rate (from 1 to 10) the importance of what feature should be developed to improve the benefits of sea ice observational data :

Improve the quality of the observations and forecast data (accuracy, frequency, spatial resolution)
                                                    1   2   3   4   5   6   7   8   9   10

Improve latency in communication between the data providers and the users, e.g. better visualisation
                                                    1   2   3   4   5   6   7   8   9   10

Improve the integration with GNSS data   1   2   3   4   5   6   7   8   9   10

User friendliness of the products   1   2   3   4   5   6   7   8   9   10

11. Are you *always* using sea ice services (on routes with sea ice)?

☐ YES

☐ NO, not always. What factors trigger the use?

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12. What are the underlying drivers for use? (tick most relevant option in your opinion):

○ a. good seamanship / responsible navigation

○ b. case wise judgement of captain and senior officers

○ c. mandatory policy / strict guideline of the shipping company

13. The use of ice services on the ship is (tick the best fitting option):

○ a. as much as possible from one preferred public source

○ b. from several public sources, depending on the sea area

○ c. from private providers, as part of a broader package

○ d. other, namely

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14. Do you want to receive the summary of the results?

☐ YES, please give your email here:

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☐ NO

After distributing the summary, we will remove your email from our systems.