



## Ship Routing questionnaire

Dear user,

This questionnaire on the DSS ship-routing is aimed to collect your valuable suggestions and requirements.

Please, do not hesitate to ask us if in doubt concerning any of the following questions.

Thanks for your collaboration!

### User identification:

Surname \_\_\_\_\_  
 Name \_\_\_\_\_  
 Organization \_\_\_\_\_  
 Email \_\_\_\_\_  
 Tel \_\_\_\_\_

- 1. What is the ship category of your interest? Please describe more than one category if needed by filling multiple columns in table below. (Some free rows are left e.g. for sailboats-specific parameters)**

<i>Parameter</i>	<i>units</i>	<i>Ship cat.1</i>	<i>Ship cat.2</i>	<i>Ship cat.3</i>
Ship category name	-			
Length	m			
Beam	m			
Forward Draft	m			
Aft draft	m			
Service speed	kn			
Natural rolling period	s			
Metacentric height	m			

Deadweight tonnage	tons			
Max continuous rating	kW			

**2. What is the typical length and duration of the routes sailed by the ships of your interest?**

	<i>Ship cat.1</i>	<i>Ship cat.2</i>	<i>Ship cat.3</i>
Length (nmi)			
Duration (hours)			

**3. For the geographical areas of operation of the ship categories of your interest, could you please indicate the most severe meteo-marine conditions encountered?**

<i>Parameter</i>	<i>units</i>	<i>Ship cat.1</i>	<i>Ship cat.2</i>	<i>Ship cat.3</i>
Wave height	ft			
Wave period	s			
Wave direction	-			
Surface currents	m/s			
Wind	m/s			

**4. Do you already use any ship routing system?**

a. If yes, fill the following table:

	<i>Ship cat.1</i>	<i>Ship cat.2</i>	<i>Ship cat.3</i>
Traffic routing system used?			
Weather routing system used?			
Both traffic and weather routing used?			
Is there an automatic optimization or it is left to the master or to any shore-based organization?			
Which ship parameters are relevant to provide an optimized route?			

b. If not, what kind of optimization would be useful?

	<i>Ship cat.1</i>	<i>Ship cat.2</i>	<i>Ship cat.3</i>
Navigational safety			
Total enroute time			
Precise ETA (Estimated Time of Arrival)			
Fuel consumption			
CO <sub>2</sub> emissions			
Minimum pollution hazard in the event of casualty			
Other: _____			

**5. What are the typical dangerous situations for your area of operation?**

- Traffic related dangers
- Sea-state (waves) related dangers
- Sea currents related dangers
- Meteo related dangers

*Other*

[ ]

**6. What kind of device (VHF Radio, Internet, onboard instruments, other) do you use for gathering information on the meteo-marine parameters listed in the table below?**

*Please, also specify the kind of information used (Observations or Model data) by filling into the appropriate column*

	Observations	Model data
Sea-state (significant wave height, wave period, wave direction)		
Marine currents		
wind		

**7. Are the ships of your interest equipped for collecting and broadcasting in-situ meteorological and/or oceanographic information?**

*If yes, please specify which parameters are measured*

<i>Ship cat.1</i>	<i>Ship cat.2</i>	<i>Ship cat.3</i>

**8. What action can a ship master undertake for avoiding a dangerous meteorological marine situation?**

	<i>Ship cat.1</i>	<i>Ship cat.2</i>	<i>Ship cat.3</i>
Voluntary reduce ship speed			
Change ship course			
Stop ship amidst sea			
Delay port leaving time			
Other _____			

**9. Are there prescribed routes (“maritime corridors”)? If yes, can you say how they have been set? Which parameters have been taken into consideration for determining such routes?**

	<i>Ship cat.1</i>	<i>Ship cat.2</i>	<i>Ship cat.3</i>
Depth and other geographical features			
Typical ship traffic situation			
Climatological meteorological marine conditions			
Other _____			

**10. How should a Decision Support System (DSS) for ship-routing look like for being useful to you?**

	<i>Ship cat.1</i>	<i>Ship cat.2</i>	<i>Ship cat.3</i>
As simple as possible: few parameters, just one route in output			

As detailed as possible: eventually an entire set of optimal routes in output			
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**11. Would it be useful to integrate the ship routing DSS with other information systems, such as:**

- Traffic information (AIS)
- Meteo-marine conditions
- Satellite imagery

*Other*

**12. The ship-routing DSS will provide the optimal route as a set of waypoints, i.e. points where optimal speed and course are made available.**

*For the typical route of each of the categories of your interest, please specify what should be the distance (both in space and time) between such waypoints:*

	<i>Ship cat.1</i>	<i>Ship cat.2</i>	<i>Ship cat.3</i>
Space (nmi)			
Time (hours)			

**13. How many days/hours in advance are ship routes usually planned?**

<i>Ship cat.1</i>	<i>Ship cat.2</i>	<i>Ship cat.3</i>

**14. Do you have any further suggestions?**

- What issues/critical aspects do you envision for the ship-routing DSS?
- Is there any recommendation to be taken into consideration by IONIO?