

STATEMENT OF WORK

Charter of a fully equipped and staffed Research Vessel for a multi-stop marine expedition on the Adriatic Sea and the Ionian Sea

1. Scope

This Statement of Work (SOW) describes the requirements for the charter of a fully-equipped and staffed Research Vessel (hereinafter referred to as “the Research Vessel”) within the framework of the Technical Cooperation Event (TN-RER9154-2204082 “Multi-Stop Marine Expedition for Sediment Analysis Training and Monitoring”).

The Research Vessel is required for a Multi-Stop Marine Expedition cruising the Adriatic Sea and the Ionian Sea consisting of a 14-day training for the Participants comprising Participants selected by the IAEA (hereinafter referred to as the “Expedition”).

The Expedition shall be for a period of fourteen (14) days. In addition, the Research Vessel is expected to receive the Participants the day prior to departure (day 0) and allow one day for disembarking, resulting in a total Charter duration of sixteen (16) days. The Research Vessel will depart from Split, Croatia, and sail through international waters, Albania, Croatia and Greece before returning to Split for disembarking. (Planned route attached as to Appendix 1).

The Participants will reside in the Research Vessel for the entire period of the Expedition and undertake a training programme that will combine theoretical training sessions and practical sessions on sediments sample collection and analysis.

A sufficient number of experienced and licensed crew will sail the Research Vessel and handle all supporting services and requirements full time i.e. 24 hours per day 7 days a week for the entire duration of the Expedition. The Research Vessel should be equipped as defined below.

2. Definitions, Acronyms, and Abbreviations

The following definitions, acronyms, and abbreviations shall apply throughout this SOW unless defined otherwise hereinafter:

- IAEA: International Atomic Energy Agency.
- Vessel Cruise Plan: means a description of the Cruise that includes the itinerary, stops and the journey times between different stops (with expected dates; GPS coordinates and/or name of the location), the cruise track (waypoints), estimated time of arrival (ETA) at those points, and operating areas; with an estimated cruise speed of 10 knots.

- Contractor: the successful bidder that charters out the Research Vessel.
- Crew: personnel provided by the Contractor.
- Chief Scientist: The designated member of the Participants who is in overall charge of the research operations on board the Research Vessel. The Chief Scientist has the responsibility to ensure that each task during the Expedition is adequately planned and manned with appropriately trained and experienced scientific personnel. The Chief Scientist will consult with the Captain during the cruise planning phase considering the Vessel Cruise Plan, round the-clock operations and rest, complexity of over-the-side operations and length of cruise.
- Captain: The designated member of the crew of the Research Vessel who is in overall charge of the entire operation of the Research Vessel. The Research Vessel's Captain is, in both law and tradition, solely and ultimately responsible for the safety and good conduct of the Research Vessel and all persons embarked. The primary objective of the Captain and the crew is to facilitate carrying out the research in a safe and effective manner.
- Marine Technicians: Contractor's employees or representatives that are responsible for sea operation of oceanographic instrumentation and onboard laboratory facilities. They are responsible for helping to ensure safety in the laboratories and on deck during the Expedition. They serve as a primary point of contact between the Participants and the Research Vessel's crew.
- Participants: The thirteen (13) persons present on the Research Vessel to conduct the activities planned within the Expedition under the IAEA Technical Cooperation project RER7015.

3. Requirements

The Contractor shall carry out the activities listed here below and provide the deliverables and services as specified.

3.1 Overall Qualifications

3.1.1 The Contractor shall be fully qualified and equipped to execute the Expedition, including certification of all safety related licences and equipment.

3.1.2 The Contractor shall be appropriately insured to execute the Expedition;

3.1.3 The Contractor shall provide a Captain with a minimum of 10 years experience being in charge of a scientific vessel at seas;

3.1.4 The Contractor shall provide skilled and experienced Crew and Marine Technicians to conduct the Expedition; and

3.1.5 In addition to the Contractor's staff, the Research Vessel shall accommodate thirteen (13) Participants 24h/day during the Expedition.

3.2 Duration of the Expedition

The actual Expedition is planned for a 14 (fourteen)-day duration, with two (2) additional days for embarking and disembarking. The Contractor shall accommodate the following arrangements:

3.2.1 The Participants shall arrive after midday DAY 0, and they shall be provided with accommodation on the Research Vessel;

3.2.2 The Expedition shall take place from DAY 1 though to the following week DAY14;

3.2.3 The Participants shall disembark on DAY15;

3.2.4 The total requirement for availability of the Research Vessel, Crew and Marine Technicians is 16 days, with the actual expedition lasting 14 days; and

3.2.5 Should weather conditions force a change of plan, the schedule shall be adjusted by the Chief Scientist in coordination with the Captain.

3.3 Equipment on board the Research Vessel

3.3.1 The Contractor shall arrange for the following equipment and services on board the Research Vessel. All such equipment shall be safely secured when the Research Vessel is at sea.

- i. At least 12 water samplers with a minimum capacity of 5 L;
- ii. At least two Conductivity, Temperature, Depth (CTD) probes (with a cable of minimum 1200 m length, standard sampling up to 1 Hz);
- iii. Hull-mount 300 kHz Acoustic Doppler Current Profiler (ADCP), minimum profiling range 80 m;
- iv. Hull-mount echosounder system 38 kHz, with max 7° beam width, capable to record seabed data at minimum range of 1200 m, and adjustable vertical resolution from minimum 20 cm to maximum 75 cm;
- v. Automatic meteorological station (wind speed, wind direction, air temperature, barometric pressure, GPS, time), with 10 minutes interval record;
- vi. Van Veen sampler, capacity of at least 5 kg sediment sample;
- vii. Gravity corer Ø90 mm;
- viii. Multicorer with at least 4 PMMA core tubes, Ø80 mm, length 500 mm, with attached camera adjusted for minimum depth down to 600 m;
- ix. Winch for operating multicorer, minimum safe working load 350 kg, and minimum cable length 1300 m;

- x. A portable spectrophotometer of HACH type for instance with built-in protocols for measuring DO, H₂S, nutrients, etc;
- xi. Portable Ph, temperature, conductivity, and oxygen probes; and
- xii. Crane with a minimum workload of 6000 kg, range 6 m.

3.4 Personnel / Staffing

3.4.1 The Contractor shall provide a sufficient number of experienced and licensed Crew and Marine Technicians to ensure the following arrangements:

- i. Crew to safely navigate the planned route;
- ii. Crew to provide food to the Participants (three times a day); and
- iii. Marine Technicians to assist the Participants with sea operation of oceanographic instrumentation and onboard laboratory facilities 24 h/day.

3.5 Accommodation and Facilities

3.5.1 Training Facilities

Since the Expedition includes training courses and a workshop, the Research Vessel shall have the following facilities available:

- i. A space large enough to accommodate at least 16 chairs and a screen for PowerPoint presentations;
- ii. Wet and dry laboratories and a deck workspace of at least 50 m²;
- iii. The Research Vessel shall have a minimum capacity of 8 standing places in a laboratory to conduct hands-on training while performing sample analysis simultaneously;
- iv. The Research Vessel shall include the specific equipment listed in Section 3.3 above and the general equipment of a standard laboratory, including a digestior, a refrigerator, a storage room for chemicals and samples, and paper towels;
- v. Separate disposal facilities for paper/glass/plastic/biomaterial;
- vi. Minimum two separate cooling chambers for samples with a total storage capacity of at least 3 m³ per chamber, with temperature range from -20 °C to +20 °C;
- vii. Projection screen and a projector or monitor of 40-50 inches that can be connected to personal computers or storage media;
- viii. Printer; and

- ix. Power outlets (electricity), including extension cords, for technical and personal equipment.

3.5.2 Accommodation

The Contractor shall:

- i. Provide adequate lodging facilities for all thirteen (13) Participants in terms of resting space, sleeping areas, toilets and bathrooms;
- ii. Ensure the availability of towels, toilet paper, and other basic necessities;
- iii. Ensure the availability of a first-aid-kit on board;
- iv. Ensure the availability of cleaning supplies (including a washing machine);
- v. maintain the accommodation facilities in a clean and sanitary condition throughout the duration of the Expedition;
- vi. Provide Participants with three (3) meals per day and all-day access to drinking water (special requests such as food allergies, halal or vegetarian meals shall be considered during the planning phase).

3.6 Other

3.6.1 Where possible, the Contractor is expected to provide WiFi connection at sea and in port free of charge for the Participants; and

3.6.2 Training / Laboratories areas and working decks shall be clearly designated as non-smoking areas. A designated distinct area in open space shall be available for smokers.

3.7 Charts and nautical publications

The Contractor shall ensure the following charts and nautical publications are ready and available onboard for the duration of the Expedition:

3.7.1 Adequate navigational charts for the planned route, maintained up to date, and of the appropriate scale (seaports 1:5000; territorial waters 1:10000; open sea 1:20000).

3.7.2 Supplemental electronic charting systems to provide capabilities for refining geositions and adjusting nautical route.

3.8 Safety and onboarding

3.8.1 The Contractor shall take measures for the safety of all on board and ensure that the Crew and Marine Technicians are sufficiently trained and Participants are fully briefed upon embarking;

- 3.8.2 The Research Vessel shall be prepared and suitably equipped to ensure the scientific activities can be safely conducted up to a Beaufort Sea State 4 (included);
- 3.8.3 The Research Vessel shall be equipped with all necessary safety equipment (fire extinguishers, emergency communication systems / Very High Frequency (VHF) Radio, visual distress signals, etc.) and lifesaving equipment for each individual onboard (life jacket, lifeboats/lifesaving devices, etc.).
- 3.8.4 The Crew shall be trained according to all necessary safety requirements/regulations;
- 3.8.5 The Research Vessel shall be subject to regular safety in sections and maintenance;
- 3.8.6 Relevant and up-to-date safety related documentation (certificates and licences) shall be provided;
- 3.8.7 Specific measures such as safety ropes and markings shall be available;
- 3.8.8 Before departure, the Participants shall be given a formal safety training and their attendance to the training shall be recorded by signature;
- 3.8.9 Fully adequate first-aid medical supplies and instructions shall be available as appropriate for the size of the Research Vessel, number of persons aboard and operational pattern.

3.9 Special Instructions

- 3.9.1 Routine maintenance provisions (refuelling, oil, lubricants, etc.) shall be included in the Charter price and shall be performed by the Contractor during the entire Expedition on a “when required” basis;
- 3.9.2 In the event of any medical intervention, the Contractor shall provide all the necessary care and support required and shall inform the IAEA immediately.
- 3.9.3 In the event of changing weather conditions, the Contractor/Captain shall monitor closely and act in accordance with applicable safety regulations;
- 3.9.4 In regard to the scientific preparations for the Expedition, the Contractor shall allow the Chief Scientist to inspect all relevant equipment within one (1) week prior to departure to ensure its readiness;
- 3.9.5 The Contractor shall ensure the Research Vessel is ready to receive the Participants and minor equipment brought by participants (e.g. titrators, spectrophotometers, tubes, sampling bags, consumables, etc.) on day 0;
- 3.9.6 Twenty four (24) hours on day 16 shall be allotted to the Participants at the end of the Expedition to allow sufficient time for disembarking;
- 3.9.7 The Contractor shall be available for up to five preparatory meetings (virtual) with the IAEA and the Chief Scientist.

4. Responsibilities of the Contractor

The Contractor shall:

- 4.1. Liaise with the IAEA for governmental authorizations/notification requirements as necessary, to conduct marine scientific research in the territorial seas of the States in the planned route;
- 4.2. Ensure that where applicable, all equipment availed for the Expedition is clearly marked and have adequate internationally agreed warning signals to ensure safety at sea;
- 4.3. Ensure that at all times, the Research Vessel is seaworthy, fit for the purposes of the Charter and that it is documented and all requisite inspections have been conducted in accordance with applicable international maritime and other relevant regulations, rules, standards and recommended practices;
- 4.4. Provide and maintain in effect at all times during the Expedition, insurance against all risks customary to marine scientific research including collision liability as well as against any risk of loss or damage to the Research Vessel and/or equipment provided by the Contractor;
- 4.5. Provide and maintain in effect at all times during the Expedition, insurance against any death or injury to persons or damage to property of third parties or its own property, in the performance of this Charter, including claims and liabilities in the nature of workmen's compensation claims;;
- 4.6. Avail the Research Vessel's bridge log, weather log and other logs to the IAEA at the end of the Expedition and/or at the IAEA's request;
- 4.7. Ensure availability for up to three (3) months after the Expedition of all data collected during the Expedition. IAEA shall have the rights to produce and publish photoplay, video, film, and other promotional materials related to the Expedition;
- 4.8. Provide all collected data to the Chief Scientist and the IAEA and refrain from using the collected data for other purposes.
- 4.9. Pay all wharfage, port dues, pilotage, towage and any other charges customarily charged to the Research Vessel subject to the IAEA's tax exempt status;
- 4.10. Comply with all applicable laws and regulations including, but not limited to pollution and environmental hazards and any financial responsibility therefrom.
- 4.11. In the event of any accidents or incidents involving the Research Vessel, immediately report such accidents or incidents to the IAEA and all appropriate governmental authorities, and protect and preserve all evidence in connection

with the accidents or incidents. In addition, the Contractor shall cooperate with all investigations into the accidents or incidents which may be instituted by the IAEA and/or governmental authorities, including the preparation of reports.

5. Deliverable Data Items

The Contractor shall deliver the following items :

5.1. Before the cruise (eight (8) weeks prior to departure on the Expedition):

5.1.1. CERTIFICATES / LICENCES: The Contractor shall present all applicable up-to-date safety related certificates and licences.

5.1.2. CREW LIST: a list of the Crew and Marine Technicians that will take part in the Expedition.

5.1.3. VESSEL CRUISE PLAN: The Contractor shall prepare and provide to the IAEA a detailed Vessel Cruise Plan based on the planned route attached as Appendix 1 hereto. The Chief Scientist together with the Captain will review the Vessel Cruise Plan prior to departure.

5.2. After the cruise:

5.2.1. LOGBOOK: A formal logbook which contains all records and data relevant for the Expedition shall be shared with the Chief Scientist at the end of the Expedition;

Appendix 1

DRAFT - Itinerary for Adriatic-Ionian Sea Expedition 2023

Member State	Day	Location	Depth (m)	Latitude	Longitude	Maritime zone	Port of Entrance/Exit
Croatia	1.	Split	-	-	-	-	Split (embarking)
	2.	Dubrovnik	100-600	42.443751°	18.007404°	EEZ*	Entrance: Split
	3.	Dubrovnik	200 - 1200	42.265579°	17.878497°	EEZ	Exit: Dubrovnik
Montenegro	4.	Bar	100-600	41.794250°	18.483398°	EEZ	Entrance: Zelenika
	5.	Bar	200-1200	41.739776°	18.307894°	EEZ	Exit: Bar
Greece	6.	Amvrakikos	50-150	38.945739°	21.056946°	TW**	Entrance: Corfu
	7.	Mesolongi	<50	38.339071°	21.323364°	TW	
	8.	Patraikos	50-100	38.308474°	21.649109°	TW	
	9.	Katakolo	200-1000	37.646066°	21.197353°	TW	
	10.	Kefalonia	100-200	38.283386°	20.746237°	TW	Exit: Corfu
Albania	11.	Saranda	<50	39.847829°	19.981192°	TW	Entrance: Saranda
	12.	Otrant – Deep Sea	200-1000	40.158725°	19.270020°	TW	
	13.	Vlora	50-100	40.414333°	19.438110°	TW	
	14.	Dures	100-200	41.364442°	19.186523°	TW	
Montenegro/ Croatia	15.	EEZ/ Dubrovnik				EEZ/TW	Return (workshop) – Entrance: Dubrovnik
Croatia	16.	Split	-	-	-	-	Split (Disembarking)

*Exclusive economic zone

**Territorial waters