

ANNEX II + III: TECHNICAL SPECIFICATIONS + TECHNICAL OFFER

Contract title: Strengthening the capacity of the Sector for Emergency Management in the field of unexploded ordnance (UXO) and other hazardous materials

Publication reference: Europe Aid/135520/DH/SUP/RS

Column 1-2 should be completed by the Contracting Authority
Column 3-4 should be completed by the tenderer
Column 5 is reserved for the evaluation committee
Annex III - the Contractor's technical offer

The tenderers are requested to complete the template on the next pages:

- Column 2 is completed by the Contracting Authority shows the required specifications (not to be modified by the tenderer),
- Column 3 is to be filled in by the tenderer and must detail what is offered (for example the words "compliant" or "yes" are not sufficient)
- Column 4 allows the tenderer to make comments on his proposed supply and to make eventual references to the documentation

The eventual documentation supplied should clearly indicate (highlight, mark) the models offered and the options included, if any, so that the evaluators can see the exact configuration. Offers that do not permit to identify precisely the models and the specifications may be rejected by the evaluation committee.
The offer must be clear enough to allow the evaluators to make an easy comparison between the requested specifications and the offered specifications.

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Abbreviations

The following abbreviations are used consistently throughout this document.

ADR -	Accord européen relatif au transport international des marchandises Dangereuses par Route, European Agreement concerning the International Carriage of Dangerous Goods by Road,
DGPS -	Differential Global Positioning System
DVD.	Digital Versatile Disc
CROMAC -	Mine Action Centre to the Republic of Croatia
IMAS -	International Mine Action Standards by United Nations Mine Action Service (UNMAS)
HDD. -	Hard Disk Drive (Computer)
JTFT -	Joint task force team
MAC-	Mine Action Centre to the Republic of Serbia
PDF -	Portable Document Format
PT-	Project team
PC -	Personal Computer
RAM-	Random Access Memory
RTK -	Real Time Kinematic
SEM-	Sector for Emergency - Ministry of Interior, Republic of Serbia
SSD-	Solid State Drive (Computer)
USB-	Universal Serial Bus
UXO-	Unexploded ordnance devices

0 OVERVIEW

0.1 Background

Unexploded Ordnances (UXOs) present a severe threat to lives and health of citizens, as well as the environment. Serbia has to deal with large quantities of UXOs left behind since the Second World War, the conflict in the territory of the former Yugoslavia in 1991-1995 as well as NATO bombing in 1999.

Following the conflict in territory of the former Yugoslavia (1991-1995), many abandoned hand grenades and other UXOs were left behind on either side of the border between Serbia and Croatia. Mines quickly became a problem for the development of the region and the opportunities for both Serbia and Croatia to resume regular border activities

The project aims to Strengthening capacity of the Serbian and Croatian authorities responsible for managing unexploded ordnance (UXO) and mines. It will build up the capacity of Mine Action Centre Serbia MAC, Croatian Mine Action Centre (CROMAC) as well as the Sector for Emergency Management to (SEM) in identification and mapping of inland waterways and the Croatian Coastal areas thus contributing to both national and international obligations (conventions) related to clearance of all mines and improving security and protection of human lives. This project will also contribute to surveying and mapping of the suspected areas, so that the population is made aware of these restricted locations where access is not allowed contributing to their safety.

With that capacity it will become possible to reduce the amount of areas suspicious of containing dud bombs, UXO and mines significantly by priorities maps, thus reducing the costs for according removal operations. The overall objective is (with the equipment purchased under this supply tender) to conduct studies/reports that will describe the activities for detailed survey and recovery operations.

0.2 General Requirements

All items must confirm to regulations and Standards of EC, ISO, IEC that apply to each and every item. The Tenderer has to provide a certificate of conformity (CE or similar) at the stage of issuing the Provisional Acceptance certificate.

The supplies shall include all accessories necessary for proper operation of the equipment such as, but not limited to power cables, interconnect cables, adapters, connectors, input devices (examples: LV power cables, Coax cables, CAT5 cables) to make the provided equipment fully operational and functioning fitting intended purpose.

The objective to purchase an underwater survey system is to search for magnetic anomalies, UXOs, utility lines, wrecks and scrap at the river and lake bed and up to 3 meters below the river and lake bed.

The successful bidder shall provide a stand-alone solution which includes all equipment, techniques and training needed in order to move on land and water, set up, operate and store the underwater survey system

All requirements listed in the next sections of this specification shall be considered as the minimum acceptable qualifying criteria.

0.3 Organization and additional requirements

The certain activities shall be performed by a Project team (PT) of employees of the Ministry of Interior of the Republic of Serbia, Serbian Mine Action Centre, the Croatian Mine Action Centre and the Sector for Emergency Management (SEM). The Organisation of an according Working group and related activities shall be guided by a Joint task force team of the Directors MAC, CROMAC and SEM. The execution of all activities of PT on site will become the responsibility of SEM.

Main aim of the project is

1. The Provision of necessary equipment for proper action and management of emergency cases requesting geophysical survey of underwater areas.

To contribute to the capacity building of the beneficiary in order to :

2. Survey and perform general mapping of suspicious areas on rivers in Croatia and Serbia and on Croatian coastal areas in order to reduce suspicious areas and to produce a tender dossier for public procurement of recovery by commercial companies with Quality control of the works carried out.
3. Issue of explosive free certificates after recovery activities and resurvey of the areas

For the purpose of geophysical survey of river beds and coastal areas of Croatia the PT shall be equipped with following capacities:

0.3.1 Survey boat

The survey boat shall be made from non-ferromagnetic material (HDPE, Aluminium, fibre reinforced plastics, Rubber etc.) transportable on an adapted trailer. The transmission of thrust and propulsion forces from adapted frames carrying the survey equipment must be constructed in a way minimizing the influence on stability and strength of the survey boat. The safe navigation of the whole system should be possible against current speed up to 7 km/h. The Survey boat has to fulfil following tasks:

0.3.1.1 Side Scan

A Sidescan is a hydro-acoustic device that generates acoustic images of the seafloor/riverbed. It does also work in water with very low visibility. The main task of a high-resolution sidescan survey is to locate underwater obstructions such as shipwrecks, trees and other debris that can possibly hinder or even endanger the following magnetic survey and to identify targets in front of the magnetic Sensor array.

For that purpose a Sidescan sonar (Manufacturer: MarineSonic) is available to SECTOR OF EMERGENCY – MINISTRY OF INTERIOR, RS [SEM] already and shall be used and adapted to the Survey boat. Usually the SideScan will be performed in advance to the magnetic survey.

0.3.1.2 Magnetic Survey

The magnetic survey shall be performed with a Sensor array of at least 6 Three-axis –magnetometers on a distance of 0.5 m. The survey software should be able to assess the x/y/z-Components of the magnetic field data and the total field separately. The array shall be submergible at least to a depth of max. 10 m under water surface and for control, shallow water survey and transport able of being lifted above the water surface. The DGPS assisted magnetic Survey will cover the whole underwater area with an according surface search pattern to locate and determine magnetic anomalies of the seabed and large UXO deeply penetrated into the ground like Arial Dropped Bombs or Guided Missiles. After data processing a list of objects will be compiled: Size, location, Magnetic moment and depth of these objects are a result of computational modelling.

0.3.1.3 DGPS

All recorded data of Sidescan and Magnetic survey have to be time stamped and synchronized with the GPS-position. If the rate of positioning and the rate of data acquisition are different, the exact positions of the measured data must be interpolated. In case of total-field magnetometers an additional independent magnetometer has to be used as base station to record the deviations of the earth magnetic field for according correlation of magnetic data.

0.3.1.4 Bathymetry

The bathymetric data have to be recorded with an echo sounder and integrated into the complex data processing. The distance of the magnetometers to the riverbed should not exceed 0.5 m and has to be recorded continuously.

0.3.1.5 Collision Protection System

The magnetometer array mounted to the Survey-boat has to be protected by a forward echo sounder in front of the array indicating obstacles endangering the array. In case of a collision danger the Array must be lifted up well in advance by a spring force, a motor winch or similar. An electromotor has to be in such a distance from the probes, that a magnetic influence on survey results can be excluded.

0.3.1.6 Working platform

The working platform of the survey boat must be equipped with 2 operator seats in front of the vessel and at least 3 monitors to watch and control the survey operation and nautical instruments like depth control, radio, compass. The operator's places, the screens and the instruments have to be protected by a windscreen and a sprayhood covering the operators console and both seat places in front.

The captain's place has to be equipped with all means to sail and navigate the boat and the engine forward and backward.

0.3.1.7 Propulsion

The ship engine should be positioned as far as possible from the probe array in order to minimize any influence on magnetic results. The complete survey unit must be able to navigate in rivers with a current speed up to 7 km/h with a maximum speed of 30 km/h (with probe array lifted up) and a cruising speed of min. 10 km/h.

0.3.1.8 Results

The Soft- and hardware for data acquisition and processing shall deliver at least following results:

- Drawings of the area with colour-coded maps of the georeferenced magnetic anomalies of the suspicious area
- Object lists of magnetic anomalies as spreadsheet with columns indicating following results:
 - Position with coordinates in UTM Zone 34 and Gauss-Krüger,
 - Depth,
 - Magnetic Moment [Am^2],
 - Length of the dipole
 - x,y, z-components and total field
 - Minimum and maximum of the anomaly
 - Model interpretation and interpretation of the data
 - Criteria for selection and selection of suspicious anomalies (picking)
 - Interpretation and discussion of results

0.3.1.9 Training of Personnel and Tutorial

Personnel shall be trained in groups in compliance with their qualifications and position in the future projects. The training shall be performed with following specialized lessons and jointly with all members of PT:

- Survey and data acquisition
- Data processing and analysis incl. GIS software
- GPS navigation
- First Aid

Together with the complete survey boat a Manual has to be provided describing all means and the handling of boat and survey equipment one copy in English and one in Serbian language.

0.3.2 Rescue boat

The purpose of the rescue boat is to perform rescue operations in any emergency cases and to support the survey boat during data acquisition. The rescue boat and the crew have to be held under standby in the vicinity of the survey boat and connected via radio. The boat should be a RIB-boat to enable easy rescue operations and berthing in shallow water. It has to be equipped with navigation instruments and an engine enabling a maximum speed of 50 km/h as well as rescue means and first aid kit.

0.3.3 Vehicles

Altogether 5 cars are necessary to support the operation.

0.3.3.1 EOD team, OA/OC-Team (2 pcs)

Two off-road intervention vehicles are to be used to transport up to five persons plus equipment and items of luggage on all types of roads. One Car-is intended to carry the EOD team necessary for site preparation and safe access to the search area and the other one for Quality Control (QA/QC) of performance of UXO-tasks and Demining by commercial firms. Both are equipped with all necessary probes for Battle Area Clearance and Demining. The loading platform covered by a hard top is prepared to transport handling safe UXO and mines in appropriate containers.

The personnel is additionally protected against fragments by a plate of armor steel (at least 6 mm thickness) between load area and cabin

0.3.3.2 Towing cars for trailers (2 pcs)

Two off-road intervention vehicles are intended to tow the trailers with the survey boat and the rescue boat on all types of roads. The loading platform, covered by a hard top is foreseen to transport boat- and survey equipment

0.3.3.3 Medical car for paramedic (1 pcs)

This off-road car with 4 seats is intended for medical support and a workable casualty evacuation procedure on all types of roads. It shall be equipped with a loading platform able to carry a stretcher with the casual and first aid equipment.

0.3.4 Personal Protective equipment, clothing and miscellaneous (Lot 2)

The provision of protection and clothing for operations under all weather conditions will play an important part in supporting the survey action. The requested hardware and software is necessary for transfer, assessment and demonstration of results of the survey

0.4 Beneficiary's Responsibility:

In order to ensure smooth project implementation and to provide the Contractor with the necessary information, the Beneficiary has agreed to provide:

- Organisation of Joint Task Force Team (to organize and guide the deployment and effective use of the equipment listed here)
- Availability of an operational Project Team
- Acceptance and storage of deliveries under this contract
- Localisation of a place for assembling the system and training of the Project team
- Operating the system after provisional and final acceptance;

0.5 Scope of the tender

The subject of this tender is the supply of equipment for geophysical underwater survey on rivers of Republic of Serbia and Republic of Croatia as well as coastal areas on locations suspicious of UXO and Mines and the support of emergency operations on rivers with 2 lots:

0.5.1 Lot 1: Survey equipment and supporting vehicles

- Survey boat
- Rescue boat
- Training with the system
- Manual
- Supporting vehicles
- Warranty service
- Documentation;

0.5.2 Lot 2: Clothing, Personal Protective equipment, Miscellaneous

- Clothing and personal protective equipment
- Miscellaneous
- Warranty service

0.6 Description of items and supporting documentation

Tenderers are required to demonstrate that the offered specifications are responsive to the Tender Dossier requirements identifying model, manufacturer and country of origin of each individual item in their Technical Offer providing necessary documentation (catalogues, guides, brochures, manuals, booklets, etc.) with detailed technical specifications for all items being offered thus enabling the Contracting Authority to verify the information provided in the offer. All documentation shall be in English language, including the technical specification of the manufacturer (Data Sheets) and must be provided both in hardcopy and electronic version in PDF format (CD or DVD) at least one set for each delivered device.

0.7 Manual

The manual shall describe all necessary steps to use the survey system correctly with detailed description of.

- Assembling and disassembling of the complete hard- and software of the system
- All the documentation required for the installation, interconnection, alignment, maintenance and repair of the equipment and devices,

On site:

- Installation of DGPS-system
- Booting of computer and survey software
- System check an site test of the whole system
- Data acquisition
- Data processing
- Assessment of results
- Mapping and presentation of results

The manual shall be one in English and one in Serbian/Croatian language and 4 additional copies as well as an electronic copy on DVD

0.8 Final Documentation

Final documentation shall contain at least:

- a) A complete list of equipment. It shall include name, description, part and revision number, quantity and warranty specification,
- b) Documentation related to all hard- and software included
- c) Manual (see 0.7)
- d) Request for provisional acceptance

In English and Serbian/Croatian language in 4 copies and an electronic version on DVD

0.9 Maintenance and Warranty conditions

The Contractor must guarantee correct operation of the equipment for at least 12 months. This warranty must remain valid for a minimum of 1 year after provisional acceptance according article 32 of the General Conditions (SUP).

The warranty shall cover:

- a) all functionalities of the equipment (required and offered),
- b) all defects in material and workmanship, including those when the equipment does not have the exact parameters or features specified by the manufacturers;
- c) Repairs of detected damages to components of the equipment, including replacement of damaged parts with new ones if repair is not possible;
- d) Repairing detected faults, defects and functional failures in both the equipment and the software;
- e) All software updates shall be made available 5 years after Provisional Acceptance

The warranty services will be provided on every site in Republic of Croatia and Republic of Serbia where the system is in operation during the warranty period.

During the warranty period the Supplier shall designate contact person(s) able to support the Beneficiary with information related to the operation of the equipment installed. For this purpose the Supplier(s) shall provide contact telephone and fax numbers plus e-mail addresses available on a 24/7 basis.

This fax number(s) and e-mail(s) shall be used also for reporting all defects and/or failures of the equipment.

During the warranty period the Contractor shall provide the support services on a 24/7 basis.

0.10 Visibility

All supplies shall comply with the visibility Manual for EU External Actions (https://ec.europa.eu/europeaid/communication-and-visibility-manual-eu-external-actions_en).

The vehicles, boats and trailers should be clearly identified, and visibly carry the EU flag and the phrase "Provided with the support of the EU" in the operational language of the EU programme and in the local language. The EU flag should be displayed at least as prominently as the logos of all parties involved in the action on the cars, boats and trailers.

All kinds of clothing (Jackets, Vests, T-shirts, Oilskin, Personal protection Equipment, caps) delivered under lot 2 shall be labelled with the logo of the organisation the Project team (Will be provided by the beneficiary on conclusion of the internal tender process) and the EU-flag. The technical equipment such as computers and laptops must also have appropriate labelling according to the visibility Manual for EU External Actions.

0.11 Supply delivery

The end of the delivery period shall be 6 month after commencement date. The location of assembling of the vehicles, boats and trailer is JP "Marina" , Dunavska obala bb, 25260 Apatin, Republika Srbija. Consequently this is the place of delivery of all items belonging to the vehicles, boats and trailers and necessary for installation and survey and assessment of results. All other items of lot 2 shall be delivered to the premises of Serbian MAC (Vojvode Toze 31, 11000 Beograd, Republika Srbija).

The Tenderer must provide the necessary measures to prevent any damage during delivery, installation, integration and customization stages. If any damage occurs during delivery, installation, integration and customization stages, the Tenderer must appropriately rectify it.

At the end of this assembling period, all items supplied, including hardware and accompanying software must be fully operational and the staff chosen by the Beneficiary will have been given full training for safe and efficient use of the items.

There will be no partial provisional acceptance. Provisional acceptance will depend on the supply of all the equipment, on the requested software installation, integration and customization, as well as requested training having been satisfactorily completed.

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
1 Tender Dossier Requirements Lot 1: Survey equipment and supporting vehicles All tenders submitted must comply with the requirements in the tender dossier and comprise:				
1.1	<div>Survey vessel</div> <div>Quantity : 1</div>			
	<div>Manufacturer's name</div>			
	<div>Product/type, model:</div>			
	a) Made of non-ferromagnetic materials such as HDPE, Aluminium, Rubber, fibre reinforced plastics, rigid pontoons filled with HDPE b) Length of work platform ≥6 m c) Width of work platform ≥1,5 m d) Draught ≤ 0.5 m e) Transportable by trailer with street permission, towed by off-road intervention vehicle f) Windscreen with sprayhood protection of the front seats and the instrument console for control of the survey and			

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	<p>the navigation instruments</p> <p>g) Min.2 additional crew seats in the rear</p> <p>h) Fittings for mounting of frames (platform) to carry the probe array on different depths from max. -10 m under water surface up to max. 0.5 m above the water surface</p> <p>i) Navigation instruments for control of speed and water depth, Compass, radio, Echo sounder for control of water depth and distance between probe array and riverbed</p> <p>j) Halogen navigation lights</p> <p>k) Gangway usable with and without survey equipment for boarding of crew</p> <p>l) Anchors fitted in front and at the rear of the boat</p> <p>m) Bilge Water pump</p> <p>n) Automatic steering gear with NMEA interface (Compass)</p> <p>o) Stern and bow roll bar to install equipment, Serials, Emergency light, navigation light etc.</p> <p>p) Horn</p> <p>q) Equipment for lowering and lifting of the probe array (-10m to +0.5 survey depth)</p>			

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
1.2	Propulsion	Quantity : 1	1		
	Manufacturer's name				
	Product/type, model:				
	a) The ship engine shall be positioned in a way that does not influence the magnetic results during survey. b) The complete survey unit must be able to navigate in rivers with a current speed up to 7 km/h with a maximum speed of 30 km/h (with probe array lifted up) and a cruising speed of min. 10 km/h. c) All means to control the engine shall be installed on the front panel d) The build in tank shall have a capacity to survey with the boat 12 hours without interruption because of lack of gas				
1.3	Trailers	Quantity : 2			
	Manufacturer's name				

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	Product/type, model: a) 2 Trailer for transport of a. the survey vessel and b. the rescue boat c. with 4 WD Vehicle and street permission EU Europe b) Capability for removal and launching of the boats on shores by a winch c) Dismountable traffic light bar to enable the watering of the trailer d) The trailer of the survey boat must have facilities to transport all parts and equipment of the survey system which cannot be transported inside the towing vehicle e) The mounting of all visible parts on the trailer and the towing vehicle must be provided with protection against theft			
1.4	Magnetic Survey equipment			
1.4.1	Magnetometers	Quantity : at least 6		
	Manufacturer's name			

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	<p>Product/type, model:</p> <p>The survey system shall use Three-axis-magnetometers with the following characteristics:</p> <ul style="list-style-type: none"> a) Dynamic measurement range of at least $\pm 100,000,00$ nT b) Bandwidth of at least 0 to 2,000 Hz c) Recording of x, y and z components of the Earth's magnetic field as well as of the total field of the Earth's magnetic field d) Compensation of disturbances of the global magnetic field during data acquisition e) Submersible and water protected to 100 meters water depth for continuous underwater operation f) Submersible cabling to the data acquisition unit and water protected up to 100 meters water depth for continuous underwater operation g) The survey system shall use at least 8 three-axis-magnetometer on a distance of 0.5 m 			

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	Probe Array	Quantity :1			
1.4.2	Manufacturer's name				
	Product/type, model:				
	a) Installation and protection of all probes b) Line up all probes in equal distance to each other c) Made of non-ferrous materials d) To be dismountable for simple transportation e) To be deployed up to max -10 meters below water surface f) To be adapted in height for different deployment depths g) Adequate indicators to monitor deployment depth of the probe array h) Facilities to lower and to lift up the array by winches				
1.4.3	Frame or Swim platform	Quantity :1			
	Manufacturer's name				

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes				
	Product/type, model:							
	<p>The probe array shall be fixed to a frame or swim platform to handle the array with the following parameters and can be pushed or thrown from the survey boat</p> <p>a) Made of non-ferrous materials b) To be dismountable for simple transportation c) Housing a power supply for electronic components of the survey system d) Housing a data acquisition unit that gathers the measurement data from all probes e) Housing a rover DGPS station f) Houses a rugged computer to store the measurement data and visualize status and coverage of the survey g) Ability to carry the probe array on depths between + 0.5 to -10 m relatively to water surface</p>							
1.4.4	<table><tr><td>Data acquisition unit</td><td>Quantity : 1</td></tr><tr><td colspan="2">Manufacturer's name</td></tr></table>	Data acquisition unit	Quantity : 1	Manufacturer's name				
Data acquisition unit	Quantity : 1							
Manufacturer's name								

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes		
	Product/type, model:					
	a) 24 bit digitizing of measurement data b) Sampling rate per axis per 3-axis-magnetometer of at least 200 Hz c) Interfaces for up to 10 magnetometers d) Input for DGPS coordinates to reference measurement data e) Direct power supply to all probes f) Submersible housing for underwater installation					
1.4.5	<table><tr><td>Collision protection system</td><td>Quantity :1</td></tr></table>	Collision protection system	Quantity :1			
Collision protection system	Quantity :1					
	Manufacturer's name					
	Product/type, model:					
	The magnetometer array mounted to the Survey-boat has to be protected by a) Forward echo sounder in front of the array indicating obstacles endangering the array or similar.					

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	b) In case of a collision danger the array must be lifted up well in advance by a spring force, a motor winch or similar. c) An electromotor of a winch has to be in such a distance from the probes, that a magnetic influence on survey results can be excluded.				
1.4.6	Rugged computers	Quantity :2			
	Manufacturer's name				
	Product/type, model:				
	The survey system shall contain 2 rugged computer having the following characteristics: a. Storage of all measurement data b. Display of live view on covered area c. Protection level IP65 or better d. computer operating system b) 12GB RAM 256 GB SSD Storage				
1.4.7	Software Package	Quantity :1			
	Manufacturer's name				

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	Product/type, model:			
	<p>The survey system shall contain a software package having the following characteristics:</p> <ul style="list-style-type: none"> a) Data acquisition unit and software packages are to be supplied by a single manufacturer in order to ensure seamless operation b) A software module providing during a survey: <ul style="list-style-type: none"> 1. A project folder for every survey 2. Location information of the area to be surveyed 3. Configuration information of the survey system in terms of deployment depth, relative position of probes to the DGPS antenna, number of probes, spacing of probes and type of probes 4. Recording function of all measurement data 5. Recording function of all positioning and DGPS coordinates 6. Geographically referencing function for all measurement data with an accuracy of at least ± 20 centimetres 			

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	Assessment Software	Quantity :1			
1.4.8	Manufacturer's name		Quantity :1		
	Product/type, model:				
	Software module for post-processing that provides: a) Function to assess the x/y/z-Components of the magnetic field data and the total field separately b) Function to join location data (DGPS) with measurement data c) Function to transform data into any desired coordinate system d) Generate a 2D graphical colour coded map of magnetic field components e) Interpolation algorithm to cover open survey spots up to 2 m f) measurement data g) Filters to narrow view to various nT-ranges h) Function to interpret magnetic signatures and calculate object parameters such as diameter of suspicious objects (Magnetic Moment), depths of suspicious objects, volume of suspicious object and inclination of				

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	suspicious object i) Export filters to transfer measurement data and results into various third party systems				
1.4.9	DGPS	Quantity :1	Quantity :1	Quantity :1	
	Manufacturer's name				
	Product/type, model:				
	The survey system shall contain a DGPS set as follows a) A rover RTK DGPS to be mounted on the swim platform (frame) b) A connection of the rover RTK DGPS to the data acquisition unit c) A base station RTK DGPS to set up land side d) A power supply to run the base station RTK DGPS autonomously e) Radio communication over a distance of at least 3 kilometres on free sight f) A correction function of GPS coordinates to provide a GPS coordinate accuracy of at least +/- 10 centimetre				

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
1.5	Required Training services:			
1.5.1	Training of PT			
	Performed by:			
	<p>Personnel shall be trained in groups up to max 40 persons in compliance with their qualifications and position in the future Project Team. The training shall be performed with following specialized lessons and jointly with all members of PT:</p> <ul style="list-style-type: none"> • Survey and data acquisition • Data processing and analysis incl. GIS software • GPS navigation • First Aid <p>The successful bidder shall provide the following training sessions in English with Serbian/Croatian translation:</p> <ul style="list-style-type: none"> • a 2 days training in Serbia on storing, handling and set up of the survey system • a 2 days training in Serbia on principle survey methods, magnetometry, detector technology and installation and use of DGPS • a 5 days training in /Serbia on launching the survey system to water, 			

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	maneuvering the survey system in the water, deploying the probe array to different depths and on emergency lift-ups of the probe array <ul style="list-style-type: none">a 5 days follow up training for advanced survey methods, data processing, data interpretation and documentation				
1.6.1	Rescue boat	Quantity : 1			
	Manufacturer's name				
	Product/type, model:				
	General RIB-boat or similar to enable easy rescue operations and berthing in shallow water Dimensions <ul style="list-style-type: none">a) Working Platform length≥ 5mb) Working platform width ≥: 1.5 mc) Seats: 2 in front and additional 2 (Min. 4 Seats)d) Place for one Stretcher to transport reclining casualty				

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
1.6.2	Engine	Quantity:1			
	Manufacturer's name				
	Product/type, model:				
	a) The Rescue boat must be able to navigate in rivers with a current speed up to 7 km/h with a maximum speed of 50 km/h and a cruising speed of min. 10 km/h. b) All means to control the engine shall be installed on the front panel c) The build in tank shall have a capacity to sail with the boat 8 hours without interruption because of lack of gas				
1.6.3	Special Requirements Rescue boat				
	Manufacturer's name				
	Product/type, model:				

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	a) Transportable by trailer with street permission, towed by Off-Road-vehicle b) Windscreen with sprayhood protection of the front seats and the instrument console for navigation instruments c) Navigation instruments for control of speed and water depth, Compass, radio, d) Halogen navigation lights e) Gangway usable for boarding of crew and transport of casual on a stretcher f) Anchors fitted in front and at the rear of the boat g) Bilge Water pump h) Stern and bow roll bar to install equipment, Serials, Emergency light, navigation light etc. i) Horn			
1.6.4	First Aid Equipment Quantity:1			
	Manufacturer's name			
	Product/type, model:			
	a) Stretcher b) The first aid back pack must be floating, made of plastic and in use for similar rescue boats c) colour: red			

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes		
	<p>d) The back pack must have the label of SEM and marked with fluorescent stripes to be easily visible</p> <p>e) The zipper of the back pack must have stitched fluorescent tape to be easily visible in the dark</p> <p>f) Back pack must also have minimum 2 functional pockets and the back part of it must be ergonomically made</p> <p>g) Dimension max. 60 x 35 x 30 cm.</p> <p>The content of the back pack:</p> <p>a. Bandages (individual) - 2 pcs.</p> <p>b. Bandages (abdominal) - 2 pcs.</p> <p>c. Calico bandage 15 cm wide - 5 pcs.</p> <p>d. Calico bandage 10 cm wide - 5 pcs.</p> <p>e. Calico bandage 5 cm wide - 5 pcs.</p> <p>f. Sterile Gaze 1m x 80 cm - 5 pcs.</p> <p>g. Patch - 1 pc.</p> <p>h. Triangular scarf - 10 pcs.</p> <p>i. Resuscitation masks disposable - 5 pcs.</p> <p>j. Neck protection collar - 2 pcs.</p> <p>k. Foil to cover - 2 pcs.</p> <p>l. Pneumatic splint for the upper extremities - 2 pcs.</p> <p>m. Pneumatic splint for the lower extremities - 2 pcs.</p> <p>b) Disposable gloves - 10 pairs</p>					
1.7.	<table><tr><td>Vehicles General</td><td>Quantity: 5</td></tr></table>	Vehicles General	Quantity: 5			
Vehicles General	Quantity: 5					
	Manufacturer's name					

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	<p>Product/type, model:</p> <p>Type Off-road intervention vehicles are to be used to transport up to five persons plus equipment and items of luggage on all types of roads.</p> <p>Dimensions a) Wheelbase: min 3000 mm b) Ground clearances Min 200 mm c) Bed size min 1400 mm d) Bed width: min 1100 mm o) Load: 950 kg</p> <p>Power transmission e) Gearbox: 6 gear , manual f) Differential lock Reduction: H2, H4 and L4</p> <p>Steering system a) Steering: Servo b) Wheels and tires c) Dimension: min R16 d) Wheels material: Fe, AL e) No. of tyres: 5 pcs winter, 5 pcs summer)</p> <p>Doors and Seating capacity, Misc. f) No seats : 5 seats g) 5 doors: Central lock, h) air conditioning.</p>			

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	i) electrical window regulators j) Mirrors 2 pcs, k) Min. 2 air backs l) Radio m) Cruise control: n) Colour: Red/White, with labelling EOD TEAM and label CIVILIAN PROTECTION (will be provided by the beneficiary on conclusion of the internal tender process) Fuel Tank o) Capacity: min 75 l p) Fuel type: Euro Diesel Miscellaneous q) Towing attachment r) Towing capacity: min 2000 kg s) Light: Front and rear (mobile) t) Sound: Sound signals with wailing siren and public address system with a megaphone (100W siren) to the cockpit control panel with built-in microphone u) Winch with Winch power: min 3000 kg v) Length haul rope: min 25 m Additional equipment according to Serbian/Croatian legislation w) Car-jack x) Tools set y) Spare tyre z) Stop blocks for parking: 2 pcs aa) First-aid kit bb) Tow rope			

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes		
	cc) Safety triangle dd) Spare set of bulbs ee) Highly visible safety vest ff) fire extinguisher Additional specifications for EOD and QA/QC-car gg) Equipped according ADR (European Agreement concerning the International Carriage of Dangerous Goods by Road.), Part 9, chapter 9.1 vehicle classification EX/II hh) Loading platform for transport of handling safe UXO ii) Hard top					
1.7.1	<table><tr><td>Fragment Protection for EOD and QA/QC-car</td><td>Quantity:2</td></tr></table>	Fragment Protection for EOD and QA/QC-car	Quantity:2			
Fragment Protection for EOD and QA/QC-car	Quantity:2					
	Manufacturer's name					
	Product/type, model:					
	a. Fragment protection plate (Armour Steel 6 mm) between load platform and Cabin					

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
1.7.2	Additional equipment for First Aid (Paramedic) car	Quantity: 1			
	Manufacturer's name				
	Product/type, model:				
	a) Mountable rotating warning light b) Stretcher c) The first aid back pack shall be made of plastic d) colour: red e) The back pack must have the label of SEM and marked with fluorescent stripes to be easily visible f) The zipper of the back pack must have stitched fluorescent tape to be easily visible in the dark g) Back pack must also have minimum 2 functional pockets and the back part of it must be ergonomically made h) Dimension max. 60 x 35 x 30 cm. The content of the back pack: i) Bandages (individual) - 2 pcs. j) Bandages (abdominal) - 2 pcs.				

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	k) Calico bandage 15 cm wide - 5 pcs. l) Calico bandage 10 cm wide - 5 pcs. m) Calico bandage 5 cm wide - 5 pcs. n) Sterile Gaze 1m x 80 cm - 5 pcs. o) Patch - 1 pc. p) Triangular scarf - 10 pcs. q) Resuscitation masks disposable - 5 pcs. r) Neck protection collar - 2 pcs. s) Foil to cover - 2 pcs. t) Pneumatic splint for the upper extremities - 2 pcs. u) Pneumatic splint for the lower extremities - 2 pcs. v) Disposable gloves - 10 pairs			
1.8	<div>Manual</div> <div>Quantity:5</div>			
	Manufacturer's name			
	Product/type, model:			
	The manual shall describe all necessary steps to use the survey system correctly with detailed description of: a. Assembling and disassembling of the complete hard- and software of the system b. All the documentation required for the			

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	<p>installation, interconnection, alignment, maintenance and repair of the equipment and devices,</p> <p>On site:</p> <ul style="list-style-type: none"> a. Assembling of whole system b. Installation of DGPS-system c. Booting of computer and survey software d. System check an site test of the whole system e. Data acquisition f. Data processing g. Assessment of results h. Mapping and presentation of results <p>The manual shall be one in English and one in Serbian/Croatian language and 4 additional copies as well as an electronic copy on DVD</p>			

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
2 Tender Dossier Requirements Lot 2: Clothing, Personal Protective equipment, Miscellaneous				
2.1	Personal Protective Equipment Personal Protective Equipment according to IMAS 10.30 Capable of satisfying the ballistic test outlined in STANAG 2920, achieving a V50 rating (dry) of 450m/s for 1.102g fragments. It shall also be capable of protecting the chest, abdomen and groin area against the blast effects of 240gm of TNT at 60 cm from the closest part of the body; and			
2.1.1	body armor	Quantity:10		
	Manufacturer's name			
	Product/type, model:			
2.1.2	Helmet	Quantity:10		
	Manufacturer's name			

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
2.1.3	Collar	Quantity:10			
	Manufacturer's name				
	Product/type, model:				
2.1.4	Visor	Quantity:10			
	Manufacturer's name				
	Product/type, model:				
	<p>Visor for eye protection that is held over the eyes in a frame that prevents blast ingress from IMAS 10.30.</p> <p>a) The eye protection shall be capable of retaining integrity against the blast effects of 240 gm of TNT at 60 cm</p>				

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	<p>and shall provide protection equivalent to not less than 5mm of untreated polycarbonate.</p> <p>b) Eye protection should be a part of frontal head protection capable of protecting against the blast effects of 240gm of TNT at 60 cm and providing full frontal coverage of face and throat.</p>			
2.2	Additional Equipment Survey and Rescue boat			
2.2.1	Rescue vests	Quantity:10		
	Manufacturer's name			
	Product/type, model:			
	a) Rescue vests according DIN EN ISO 12402-3 for survey boat and rescue boat (5 pcs each, altogether 10 pcs)			
2.2.2	Carbon Helmets	Quantity:10		

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	Manufacturer's name				
	Product/type, model:				
	a) Rugged carbon composite shell				
2.2.3	Signal torch	Quantity:10			
	Manufacturer's name				
	Product/type, model:				
	Technical specification: a) Packaging – tube b) Dimension – minimum Ø45 – 165mm c) Signal: visible flame (orange, red)				

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	d) Duration: minimum 60 seconds				
2.2.4	Watertight transport bags	Quantity: 10			
	Manufacturer's name				
	Product/type, model:				
	Technical specification: The transport bag should enable the rescuing team transport of the equipment and be watertight in emergency situations. The characteristics are as follows: <ul style="list-style-type: none"> a) Material: the bag must be made from reinforced PVC or equivalent material with high hardness in striking colour resistant to UV rays and wearing b) volume: minimum 80 litre c) The belts must be from stabilized PES high endurance or equivalent material. The belts must enable carrying the bag on the back and in 				

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	the arm. d) Bags must be 100% waterproof			
2.2.5	Floating rope L=30m Quantity:3			
	Manufacturer's name			
	Product/type, model:			
	Technical specification: a) Packed in flexible easily bendable bag. b) The line must have striking colours, high endurance and be resistant to UV radiation and wearing c) The rope length is 30 m d) diameter :minimum 8mm e) Rope load: minimum 400kg			
2.3	Computer, Printer, Beamer, USB-Sticks			

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	Laptop	Quantity:4			
2.3.1	Manufacturer's name				
	Product/type, model:				
	a) computer operating system, minimum requirements: screen size 15,6" , 12GB RAM; 256 GB SSD Storage				
2.3.2	Desktop Computer	Quantity:4			
	Manufacturer's name				
	Product/type, model:				
	a) computer operating system, minimum requirements: 12GB RAM, 256GB SSD, 2 TB HDD with Screen size 23 "				

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
2.3.3	Printer	Quantity:3			
	Manufacturer's name				
	Product/type, model:				
	A3 Laser Colour Printer, at least RAM 256 MB, USB-connection				
2.3.4	Projector (Beamer) For presentation and discussion of results	Quantity:2			
	Manufacturer's name				
	Product/type, model:				

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	Technical specification (minimum requirements): a) 144Hz Triple Flash, 1920x1080 Pixel, Contrast 13.000:1, 3000 ANSI Lumen, HDMI, 1,3x Zoom				
2.3.5	USB-Sticks	Quantity:10			
	Manufacturer's name				
	Product/type, model:				
	Storage capacity 16 GB				
2.4.	Power supply				
2.4.1	Portable Power Generator	Quantity:3			
	Manufacturer's name				

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	Product/type, model:			
	Technical Specification a) At least 4000 watts, b) 120/240V			
2.5.	Clothing			
	Individual clothing sizes by the team as well as logo print and personalization of the clothes will be provided by the beneficiary on conclusion of the internal tender process and agreement. The colour of all clothing pieces is red			
2.5.1	<div>Oilskin for Project team (Survey and Rescue)</div> <div>Quantity:10</div>			
	Manufacturer's name			

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	Product/type, model:				
	Technical Specification a) Breathable b) Category coastal				
2.5.2	Polo shirt – short sleeve, colour red	Quantity:66			
	Manufacturer's name				
	Product/type, model:				
	Technical Specification a) Material: thermal treatment, 100% cotton b) no shrinkage after washing c) Double stitching of all seams				

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
2.5.3	Cargo pants colour black	Quantity:33			
	Manufacturer's name				
	Product/type, model:				
	Technical Specification <ul style="list-style-type: none"> a) Pants made of material which is characterized by high resistance to wear and tear, as well as lightness and airy, colour stable after prolonged use. b) 60% cotton, 40% polyester Rip stop c) Adjustable waist and pant legs d) side Cargo pockets e) knee pockets and reinforcement f) 4 pockets with protective flaps 				

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	g) in total 9 pockets				
2.5.4	Combat Cap, colour red	Quantity:33			
	Manufacturer's name				
	Product/type, model:				
	Technical Specification				
2.5.5	VEST – light, colour red, High Visibility	Quantity:33			
	Manufacturer's name				
	Product/type, model:				
	Technical Specification				

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	a) Material: 100% cotton Rip stop b) in total 8 pockets, of which 3 pockets with Velcro flaps, 3 pockets with zipper and 2 lower side pockets c) hood stored in the collar d) Left side embroidered logo				
2.5.6	Jacket Winter colour black	Quantity:33			
	Manufacturer's name				
	Product/type, model:				
	Technical Specification a) Foreseen for cold weather with the addition of a variety of underwear. b) Breathable and fully water and wind				

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	<p>resistant. Adapted for severe weather conditions, durable and gives freedom of movement with the evaporation of moisture</p> <p>c) Properties:</p> <p>d) waterproof: 10000 mm</p> <p>e) breathable: 8000g / m2 / 24h</p> <p>f) zipper slider, covered by a protective flap</p> <p>g) underarm zippers for ventilation</p> <p>h) Hidden chest pockets, 2 lower pockets with flaps, 2 upper pockets on sleeves with flaps</p> <p>i) reinforcements on elbows</p> <p>j) bottom drawstring with cord lock</p> <p>k) taped seams</p>			
2.5.7	<p>Wind blocker , colour red</p> <p>Quantity:33</p>			

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	Manufacturer's name			
	Product/type, model:			
	a) Technical Specification b) waterproof - vapour permeable wind blocker c) taped seams d) waterproof, vapour permeable e) two way zipper slider f) pockets with flaps, chest pocket g) bottom drawstring with cord lock h) hood			
2.5.8	Field Shoes Half-height, Colour black Quantity:33			
	Manufacturer's name			

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	Product/type, model:			
	Technical Specification a) waterproof boot ankle, b) Water vapour: $\leq 20 \text{ m}^2\text{Pa/W}$ c) Waterproof: $> 5000 \text{ mbar}$ d) breathable, e) made of premium leather in combination with technical textiles, f) System of ventilation when walking. g) Anti-slip sole, antistatic h) resistant to oils and fuels, a) Capacity of energy absorption in the heel parts.			
2.5.9	Rubber boots ,	Quantity:33		

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	colour black				
	Manufacturer's name				
	Product/type, model:				
	Technical Specification a) made of polymeric thermoplastic composition, b) stable at lower temperatures, c) antistatic properties and waterproof. d) Outsole with shock absorbing heel. e) Interior: antibacterial polyester fabric.				