

Hydrographic Survey Data Management

FIRST NOTICE OF HYDROGRAPHIC WORK TO BE PROCURED BASED ON FINNISH NATIONAL AND EU PUBLIC OPEN PROCEDURE IN FINNISH WATERS FOR 2017 (AND FURTHER)

General

The Hydrographic Survey Data Management at Finnish Transport Agency (later FTA) intends to place a procurement, later in late 2016 and early 2017, according to the Finnish national and EU open procedure on a hydrographic survey work, to be performed in the survey seasons 2017 and further years. FTA will conduct the procurement in accordance to Finnish law. Multibeam Echo Sounder (MBES) System Hydrographic Survey on shipping routes and areal surveys is to be performed, supported with other survey methods, in later specified areas in the Finnish waters. The preliminary survey areas for years 2017 and further are indicated on the map (as appendix 1: "Planned hydrographic surveys 2017").

FTA estimates to use about € 2.000.000 for several new starting contracts of hydrographic work for fiscal year 2017. Some contracts may partly continue to fiscal year 2018 and further. JYSE 2014 services terms shall be applied.

Comprehensive IHO S-44 ed 5 Order 1a and special order survey of the area is critical for the efficient routing and safe navigation of all types of shipping. The results of this MBES and supporting systems survey will be used in updating nautical charts and associated navigational publications, as well as supporting topographic mapping. The survey areas are within Finnish territorial waters and EEZ, varying bottom topography, typically depths 10 – 130 metres, and occasionally up to about 5 m of water depth. In inland waters the depths are typically between 5-20 m of water, occasionally up to 3 meters of water. New surveys will concentrate to very shallow water, say between 12 meters to the shoreline and further to the landside. A coherent survey area is requested as a result.

Hydrographic survey work in addition to some shipping fairways on the coast of Finland will also be planned.

Based on the Territorial Surveillance Act and respective Decree the service provider has to apply for a permit to conduct the surveys in Finnish territorial sea area. This permit is also a prerequisite for a contract to be signed. A Facility Security Clearance and Personal Security Clearance may be requested. No permit is needed for inland water areas or EEZ areas.

Environmental information

The Baltic Sea water is brackish. Actual tide does not exist, but a diurnal tidal wave, in the magnitude of 10-20 cm is passing back and forth within the closed basin, although this tidal wave is not modelled. Due to the prevailing winds and weather, the long term fluctuation on the water level varies typically between ± 50 cm. Temperature on top layers of water varies seasonally widely and therefore the sound velocity in water media plays an important factor in successful hydrographic survey work.

Baltic Sea is determined as PSSA-area by IMO.

Vertical Chart datum for the survey the Finnish vertical reference system N2000. Some water level (tidal) information will be provided from FTA to the contractor in the sea areas, but the necessity of an own shore based tide gauge is eminent in some work.

Work

The hydrographic survey work is to be performed according to the hydrographic survey specifications based on the principles of IHO S-44 (edition 5). A Finnish and Swedish common implementation of the S-44 called FSIS-44 will be applied in the work. In all cases full bottom search is required minimum Order 1a. Bathymetric data processing, quality control and delivery as well as metadata delivery is to be performed according to specifications, in the invitation to tender. The resulting deliveries shall amongst others consist of:

- o Processed/flagged survey data;
- o Possibly derived products from selected data;
- o Raw survey data (proprietary system format, also raw GNSS data & RINEX);
- o Possibly sidescan and watercolumn data, if system provides;
- o Digital reports of the survey, including metadata;
- o Shoreline in situ and some topographic data landside;

The MBES shall be permanently hull mounted on the survey vessel(s) using frequencies within the interval about 300 kHz to 480 kHz. Due to the special conditions (low salinity and soft sediments) existing in the Baltic Sea region, the Buyer has previously experienced severe penetration problems when surveying with frequencies lower than 200kHz. A higher frequency multibeam (e.g. closer to 480 kHz) may be used in the shallower parts of the survey areas, down to 50 m of depth. Surface sound velocity observations shall be taken for hull mounted system and be applied to the real-time data collection system.

If work requires LIDAR work, the result is expected to fulfill IHO S-44 ed 5 order 1a requirements in water areas;

Prior to the start of survey, the contractor will be required to conduct a control survey over a buyer defined area to prove that the system, used ship's parameters and processes are correctly implemented and fulfill the demands for this project.

Estimated work areas are visible at the attached map.

Requirements for successful digital / e-tendering

FTA requests the following information later, at the invitation to tender procedure, in written form / statement at e-tendering and in service provider registration country national language / in English:

REGISTRATION AND STATUTORY OBLIGATIONS

- a. The applicant must be registered in a Registry of Companies and respective professional registers in their country of operation. Extract/print from the Registry of Companies or respective document from the registry authority of the EU / EEA country as well as statement on the fulfilment of statutory obligations (e.g. tax and VAT registers) in their country of operation, not older than 2 months, counting backwards from the participation enrollment. These shall be originals and English translations (unofficial accepted) to cover the essential information;

FINANCIAL CAPABILITY

- b. The Applicant shall be credit worthy and provide a certificate of financial status, not older than 2 months, from the date of submitting Tender.
The Applicant shall provide a certificate from authorized credit institute, e.g. UC, Dun & Bradstreet or other. The credit rating, to be approved, shall be at least 3, when the rates are between 1 and 5 where 5 is the lowest risk in UC rating. If a Applicant can not present the above required document, the Applicant may prove their credit rating by other documents approved by FTA;

TECHNICAL PERFORMANCE

- c. The Applicant shall have delivered similar surveys earlier. References and contact information shall be given from similar large area and large commercial order hydrographic surveys for charting purposes for hydrographic offices in last three years;
- d. The Applicant shall operate suitable vessel(s) and platform(s) to perform the task. Basic information on the hydrographic survey vessels and their suitability to operate in the Baltic Sea and in the inland lakes to be used in the scope of work (a statement of the suitability to operate at the Baltic Sea from the maritime safety authority of the flag country is requested in the invitation to tender documents later). The Buyers shall have the possibility to have an overseer onboard during survey operations;
- e. The Applicant shall operate suitable equipment to perform the task. Basic Information on the permanently installed hydrographic survey system to be used in the scope of work (including positioning, motion, sound velocity and other parts of the system) including installation into the vessel is to be presented. Temporary installations (such as bow or pole mounts not fixed to the hull) of hydroacoustic transducers will not be accepted;

Geo-referenced multibeam backscatter data shall be recorded during the whole project. The data is later to be used to provide a general determination of the nature of the seabed. Data formats and content of the deliveries will be specified in the invitation to tender documents;

- f. The Applicant shall perform the work under sufficient quality control. Basic information on the contractor's hydrographic survey process and quality control documentation and on board/shore data processing as well as documentation of the quality system the contractor is using. The processing of the hydrographic data shall be done under the full supervision and responsibility of the main contractor. This means that subcontracting the data processing is most probably not acceptable by the Buyer;
- g. Basic information and documentation on the data editing and processing routine and software planned to be used in the scope of work is to be presented;
- h. The Applicant shall have personnel with the experience that the work requires. Basic information on competence of the personnel in charge of the field surveys, data editing and processing, and project management shall be presented;
- i. The Applicant shall have experience in performing extensive water level (tidal) comparisons, including long time levelling of the tidal stations, for the survey area. Reference shall be given;
- j. The Applicant shall provide information on any subcontractors and their task to be used in the scope of work, as well as information on subcontractors stated in position a and b;

The Tenderers shall not be entitled to any compensation for their expenses accumulated while making and submitting a tender or for any actions related to this.

FTA uses two step validation process. First the successful tenderer shall fulfil the requirements and second the overall price is the decisive factor. Options are asked, but they do not have an effect on the selection process.

Confidentiality

All documents received from the Tenderers will be treated confidentially by FTA until the decision concerning Contractor and Tender is made.

A Tenderer may request in their tender that documents containing proprietary technical and/or commercial information be kept confidential for a longer period if this may cause financial/technical damage. Therefore it is vital that the Tenderer shall provide the Buyer with two sets of documentation separately, a public and a confidential set of documents. The complete document can never be handled confidentially. The Buyers will consider such a request to be public documentation as a whole.

Further information

Additional information will be passed to those interested via a web-
<http://www.liikennevirasto.fi/palveluntuottajat/hankinnat/kaynnissa/merenmittaushankinnat>
site in the respective folder to be established.

This document and the respective map showing the estimated survey areas in pdf-
format and other relevant information are available on web-site
<http://www.liikennevirasto.fi/palveluntuottajat/hankinnat/kaynnissa/merenmittaushankinnat>
in the respective folder later.

Questions related to the first notice shall be addressed to e-mail address
[merenmittaus \(at\) fta.fi](mailto:merenmittaus(at)fta.fi) .

Contact person is Mr. Seppo H Mäkinen [[seppo.h.makinen \(at\) fta.fi](mailto:seppo.h.makinen(at)fta.fi)] at the
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Appendix 1: Planned hydrographic surveys 2017

Good to know available for downloading:

Appendix 2: FSIS-44 Finnish and Swedish implementation of
IHO S-44 ed 5 standard

Appendix 3: Finnish Territorial Surveillance Act

Appendix 4: Finnish Territorial Surveillance Decree

Appendix 5: JYSE 2014 services

