

## NATIONAL REPORT OF ESTONIA

### Executive summary

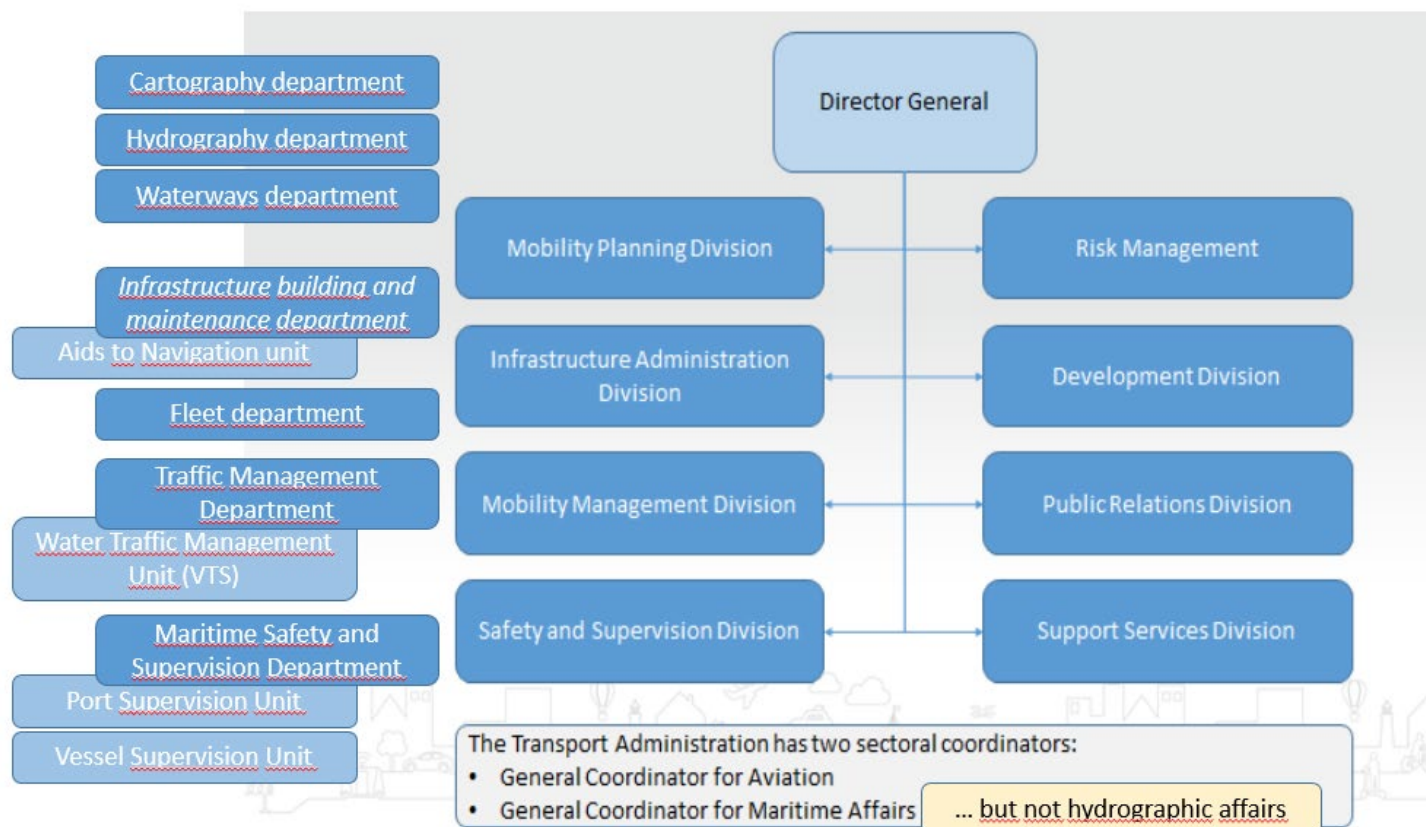
This report summarizes the activities of Estonian Transport Administration (ETA) in the field of hydrography since the Baltic Sea Hydrographic Commission 28<sup>th</sup> conference in 2022.

- Structural changes in the organization
- Information about the hydrographic surveys and cartographic production

### 1. Hydrographic service

On 1.07.2021 Estonian Transport Administration established a structure, where hydrographic activities in Estonian Transport Administration were handled by the Mobility Planning Division that arranged the work of cartography, hydrography, and waterways departments.

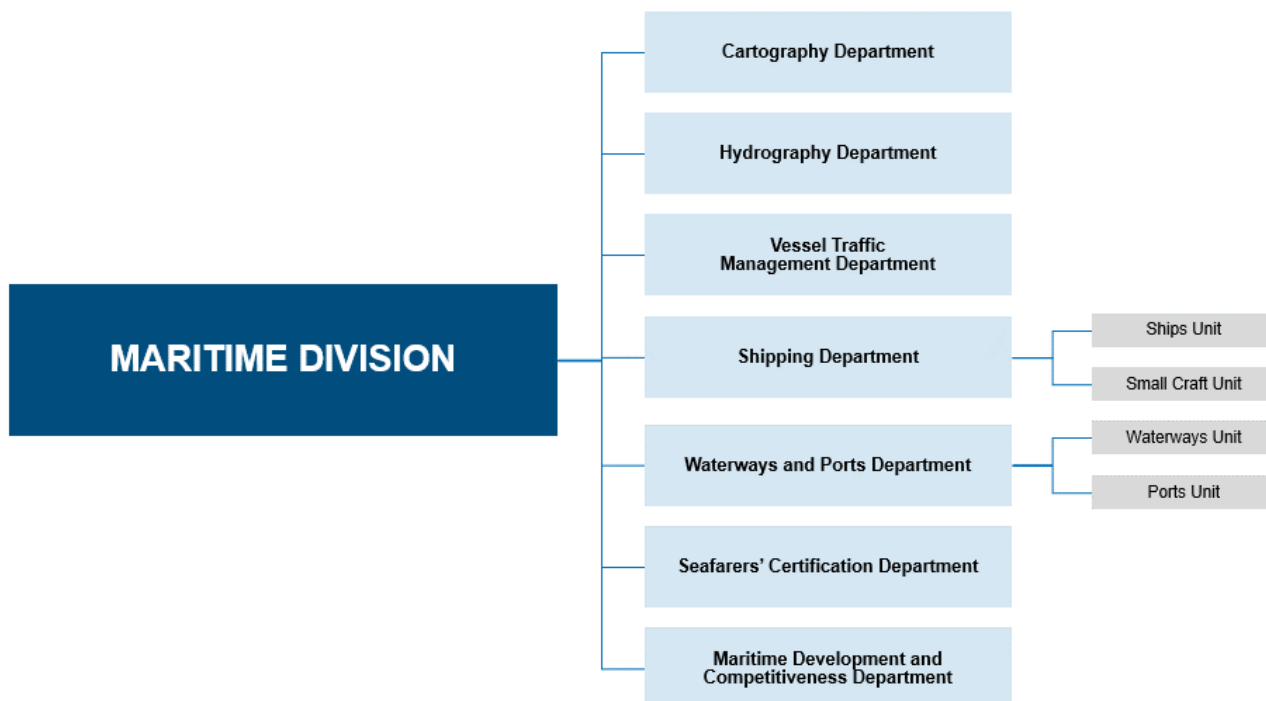
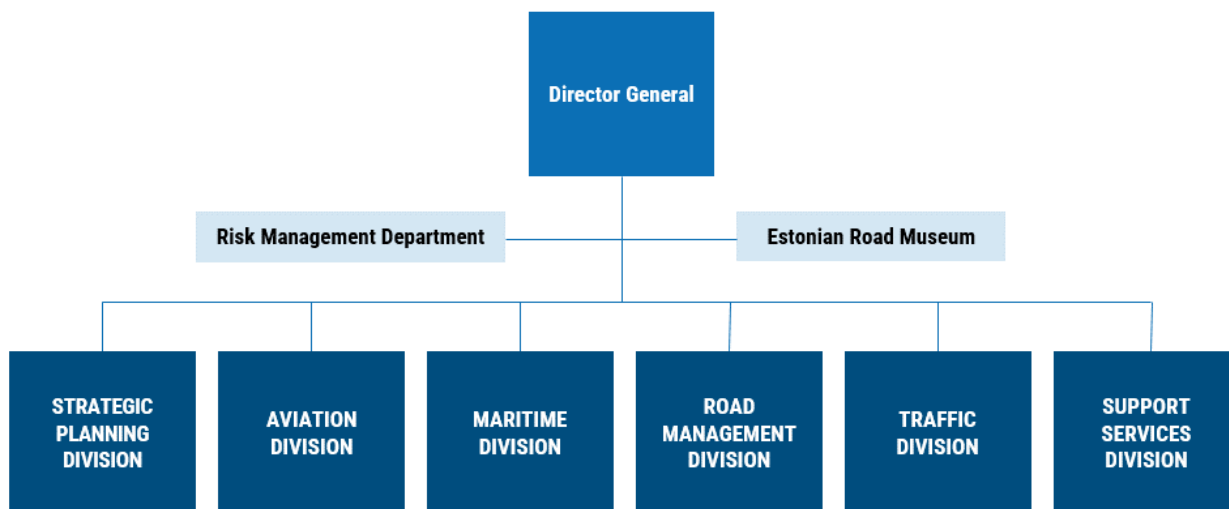
The departments handling maritime and hydrographic activities were divided in different divisions as follows:



On 1.05.2023 Estonian Transport Administration re-established the domain-based structure and all maritime affairs and hydrographic activities are now united under the maritime division once again.

On 1.07.2023 Estonian State Fleet was formed as a new separate organization and from Transport Administration the Fleet Department and Aids to Navigation Department were moved to State Fleet.

As of 1.07.2023 the new structure of the Transport Administration and Maritime Division are as follows:



The service in the field of hydrography is provided by two departments:

- 1) Hydrography Department (head Mr. Peeter Väling),
- 2) Cartography Department (head Mr. Olavi Heinlo)

Some activities also by Waterways and Ports Department. IHO Yearbook P-5 is up to date for relevant contacts.

## 2. Surveys

### Survey vessels

The Hydrography Department (13 officers) deals with surveying (data collecting and post-processing). For surveys, the following hydrographic vessels of the Estonian State Fleet are used:

- 1) JAKOB PREI (crew 8 person) – 25 m SWATH type survey vessel for open sea;
- 2) EVA-320 (crew 4 person) – 18 m twin-hull survey vessel for coastal areas;
- 3) KAJA (crew 1 person) – 7.3 m twin-hull survey-boat on rivers and shallow coastal areas.
- 4) EVA-301 (crew 5 person) – 20 m twin-hull multipurpose vessel for survey in inland waters and for maintenance of the aids to navigation.

### Hydrographic survey

In 2022 hydrographic survey in Estonian waters was carried out as follows:

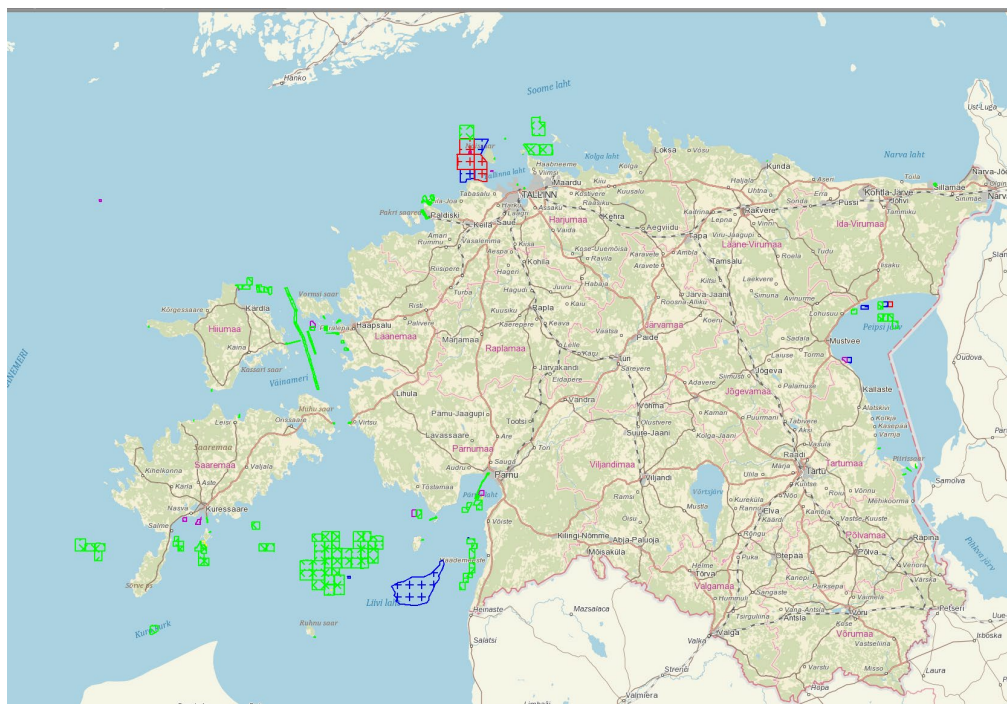
- 1) 1100 km<sup>2</sup> – on HELCOM routes in the Gulf of Finland, Gulf of Riga and the Northern Baltic (CAT II and III).
- 2) 56 km<sup>2</sup> – Lake Peipsi;
- 3) 3 km<sup>2</sup> – Harbor areas (surveyed by private companies)

All surveys were carried out according the IHO S-44 standards Special, Ia and Ib.

In May 2022 LIDAR test survey was performed on 20 km<sup>2</sup> area in western Estonia. This was discussed in previous BSCH meeting and report was presented in last MWG meeting.

For maintaining and accessing survey data a web-accessible database called the Hydrographic Information System (HIS) is used. It is a seamless database for hydrographic information such as survey areas, depths, underwater objects, contours, and storage for raw data. Management of all Estonian survey areas including inland waters is carried on depending on the status of the area (planned, under survey, surveyed, under cleaning, cleaned, under validation or final). Survey data from other parties/companies are included in HIS as well. Backup of data is automatic. Public access (without download services so far) is available at the following link: <https://his.vta.ee:8443/HIS/Avalik?REQUEST=Main>

CSB and SDB data are not used in Estonia



New surveys on 2022

### 3. New charts & Updates

From the 1<sup>st</sup> of January 2018 Estonia gave up the Kronstadt Tide Gauge that served as zero point of the height system so far and Estonian Maritime Administration started implementation of Baltic Sea Chart Datum (BSCD2000) from beginning 2018 for ENC-s and Paper Charts.

#### **ENCs:**

Estonian waters are completely covered with ENC-s on the relevant navigational bands.

Estonia has no overlaps according to BSICCWG9 BSHC overlap report – February 2023 (which is currently the latest overlap report).

At the end of 2022 total 139 cells in navigational purpose bands 2 – 6 (band 2 – 7 cells, band 3 – 14 cells, band 4 – 26 cells, band 5 – 17 cells, band 6 – 75 cells).

In 2022 1 new cell, 42 new editions and 204 updates were produced.

By the end of 2022 99% of berthing and harbour ENC-s were published in BSCD2000 vertical system. In 2023 1 new edition of berthing ENC was produced in new height system – BSCD2000. In 2023 it is planned to finish the last berthing ENC, the transition of Approach ENC to BSCD2000 vertical system has started.

#### **ENC Distribution method**

ETA is a member of RENC (PRIMAR) and also provides data for usage in derived products for various producers.

#### **RNCs**

Not produced.

#### **INT charts**

By mid-2023 ETA has 25 INT charts published, out of total 28 INT numbers. Latest new editions of INT charts are chart 823/INT1794 "Vene-Balti sadam, Piirivalvesadam, Bekkeri sadam, Meeruse sadam" and chart 827/INT1795 " Pakri laht".

#### **National paper charts**

Estonian waters are completely covered with paper charts on all relevant navigational bands.

The portfolio of the currently updated paper charts for the Estonian waters comprises 65 charts produced in accordance with international standards. Chart 856 has been canceled due to low demand. We will continue the optimization of paper chart portfolio according to demand.

In 2022 and 2023 new editions of 4 paper charts were produced in new height system – BSCD2000. 27 harbour plans and paper chart cutouts were produced for Sailing Directions and published for chart albums through NtM in BSCD2000. And 8 harbour plans and paper chart cutouts were produced in old height system- BK77. As of today, we have all paper charts in scales 1:2000 to 1:25 000 published in new height system.

The scheme of the Estonian paper charts is given here:

<https://transpordiamet.ee/en/mobility-and-transportation/navigational-information/navigational-charts>

#### **Other charts, e.g., for pleasure craft**

For pleasure craft ETA produces all together 3 volumes of "Charts of Estonia" in A3 format.

## 4. New publications & Updates

### New Publications

No new navigational publications were published in 2022 and all existing publications were updated monthly

Digital publications [List of Lights](#), [Notice to Mariners](#) and [Sailing Directions](#) are available on the homepage of ETA <https://transpordiamet.ee/en> under the Mobility and Transport section and updated monthly.

Port Register database <https://www.sadamaregister.ee/>

State Port Register will provide an overview of all ports registered in Estonia, including maritime ports and inland ports. The register contains information about port location, port technical data, port services, port manager and harbor master.

Full digital database of aids to navigation, available in Estonian language (but successfully translatable by browser) is available at <https://nma.vta.ee/>

## 5. MSI

### Existing infrastructure for transmission

Navigational warnings are published on the ETA navigational warning GIS application (<https://gis.vta.ee/navhoiatused/en.html>) and are also announced over the maritime radio in Estonian and English. The radio frequencies, channels and times can be checked on the State Infocommunication Foundation website - <https://www.riks.ee/maritime-radio-communications/chart-of-base-stations/submitting-and-monitoring-messages-incl-mf-vhf>

The screenshot displays the 'Navigational Warnings' application from the Estonian Transport Administration. On the left, a list of warnings is shown, including 'No 90: Uncharted floating AtoN' (28/07/2021, 1:13 PM), 'No 89: Competitions' (28/07/2021, 11:00 AM - 01/08/2021, 6:00 PM), 'No 88: Construction works' (27/07/2021, 3:00 PM), 'No 87: Radar coverage' (26/07/2021, 11:35 AM), 'No 85: Uncharted obstruction' (21/07/2021, 3:34 PM), 'No 80: Dredging works' (14/07/2021, 9:03 AM), 'No 77: Fixed beacon light temporarily unlit' (07/07/2021, 1:47 PM), 'No 74: Fixed beacon light temporarily unlit' (01/07/2021, 1:27 PM), 'No 70: Dredging works' (28/06/2021, 11:04 AM), and 'No 38: Harbour entrance limit' (23/04/2021, 11:10 AM). The right panel shows a map of Estonia with a warning area highlighted in orange near Tallinn. A pop-up window for 'Uncharted floating AtoN' provides details: Number 90, Warning title 'Uncharted floating AtoN', Warning output 'Kõduleht / Tallinn raadio', Date from 28/07/2021, 13:13, Date to, Area 'Northern Baltic Sea', and Notification text: 'Uncharted yellow special-purpose light-buoy FI (S) Y 20s is installed west of Sõrve peninsula in position 58°06.29'N, 021°40.35'E and underwater scientific equipment within a radius of 0.3 NM.' The interface also includes a search bar, a 'Subscribe to warnings' button, and a zoom control.

### Navigational warning GIS application

NAVAREA 1 Baltic Sea sub area coordinator Sweden is responsible for NAVTEX Service covering the Estonian waters, while ETA provides the content for the NAVTEX warnings for Estonian sea area. Messages are transmitted by Estonian State Infocommunication Foundation transmitters.

In 2022 Estonia published 151 navigational warnings of which 34 warnings were transmitted over NAVTEX

## **6. C-55**

Information about surveys updated 20/10/2021 (details on IHO webpage)

## **7. Capacity Building**

Nothing to report

## **8. Oceanographic activities**

Nothing to report

## **9. Spatial Data Infrastructures**

Marine data is used for variety of non-navigational purposes in Estonia. Maritime spatial planning, infrastructure development, environmental-, educational- and scientific purposes. ETA has published marine spatial data according to the INSPIRE requirements in National Spatial Data Portal - <https://geoportaal.maaamet.ee/eng/INSPIRE-p712.html>

ETA is a member of Estonian Maritime Spatial Planning working group that is led by Ministry of Finance Overview of MSP activities can be found here <http://mereala.hendrikson.ee/>

## **10. Innovation**

In the S-100 related activities ETA has been involved in testing conversion of S-57 to S-101 and sharing their results with RENC and members of the community. The aim is to improve the ETA S-57 data for better readiness for conversion and also to provide feedback to RENC, software producers and IHO WG-s for developing better standard and software tools. HIS is now capable of producing S-102 version 2.2 datasets. Sample data was sent to PRIMAR for testing and the tests were successful. Now the process of defining areas for S-102 datasets and their resolution is in progress. Delivery of these datasets is planned to do via PRIMAR.

## **11. Other activities**

### **Participation in IHO Working Groups**

ETA is participating in the following committees and WG: HSSC, ENCWG, S-101PT, CDWG, NCWG, BSICCWG, BSMSIWG, NSBSMSDIWG, MWG and BSBDWG.

ETA has been actively involved in Primar S-101 Conversion Task Force, contributing to standard and software development.

### **Meteorological data collection**

In frame of the project EfficienSea (Efficient, Safe and Sustainable Traffic at Sea) for the Baltic Sea a portal called METOC (<http://on-line.msi.ttu.ee/metoc/>) was established. This portal gives information about all operative/ real time measurements in the Estonian coast and coastal sea. The METOC collects all measured data from different measurement stations of the Marine System Institute of the University of Technology of Tallinn, the Estonian Environment Agency (EEIC) and also from sensors of navigational buoys of the Estonian Maritime Administration. From measurement stations the following information is available, which is important for navigation: wind speed and direction, visibility, sea level, wave height etc. From buoys information regarding wave height and period is available.

Information regarding weather observation and forecast is available on the home page of the Estonian Environment Agency (<http://www.ilmateenistus.ee/?lang=en>).

Good solution for checking water level during the transition period from BHS77 to BSCD2000 is provided by the Tallinn University of Technology Marine Systems Institute <http://on-line.msi.ttu.ee/meretase/?en>

## **Geospatial studies**

### **GIS**

All ENC-s, hydrographic data, waterways data, aids to navigation data for Estonia is displayed in web application Nutimeri. Since 2019 the web application also displays AIS data <http://gis.vta.ee/nutimeri/>  
All Estonian navigational warnings are available on GIS <https://gis.vta.ee/navhoiatused/en.html>

### **Magnetic and gravity surveys**

Magnetic and gravity surveys are handled by Estonian Geological Service and Estonian Land Board respectively.