



## National Report of Finland

### Executive Summary

This report provides information of the specific activities and point of interests to the Arctic Region Hydrographic Commission.

- A new revision of the Finland's Strategy for Arctic Policy.
- Production of nautical charts has been limited due to the ongoing system development projects.
- The new Nautical Chart Production System, AHTI have been taken in operational use.
- Plan for the national coordination of the S-100 Implementation

### 1 Finland's Strategy for Arctic Policy

The reviewed Strategy for Arctic Policy<sup>1</sup> sets out Finland's key objectives in the Arctic region. The policy underlines that all Finland's activities in the Arctic region must be based on ecological carrying capacity, climate protection, principles of sustainable development, and respect for the rights of indigenous peoples. The objectives arising from Finland's economic interests can also be examined from this perspective. The Strategy extends to the year 2030.

The Strategy identifies four priority areas for Finland's Arctic activities:

1. Climate change, mitigation and adaptation
2. Inhabitants, promotion of wellbeing and the rights of the Sámi as an indigenous people
3. Expertise, livelihoods and leading edge research
4. Infrastructure and logistics

The priorities of the Strategy present the situational picture of each priority area, the objectives for the Arctic region, and the concrete actions to achieve the objectives.

Through the Strategy and its priorities, Finland promotes the achievement of the goals set in the Agenda for Sustainable Development (2030 Agenda) in the Arctic region.

**Finland's goal is a peaceful Arctic region marked by constructive cooperation.**

<sup>1</sup> Finland's Strategy for Arctic Policy <https://julkaisut.valtioneuvosto.fi/handle/10024/163247>



**The Arctic Council** and its eight Arctic Member States are at the core of the Arctic cooperation. Finland primarily aims to strengthen the existing arrangements and does not see a need for a wider convention covering the Arctic region as a whole.

Cooperation with the Arctic Council states and actors in **the Barents region** is important in efforts to improve transport connections. In addition to international land transport connections, maritime and air transport connections are also essential for the region's development. Among other things, ports are important because of the extensive and developing heavy industry, and air traffic and airports are emphasized for such reasons as securing preconditions for the vital tourism industry.

The Infrastructure and logistics priority area include Strategic measures for Maritime transport e.g.

- Developing further exchanges of information between ships and ports, allowing a vessel to slow down at sea and thus achieve significant reductions in greenhouse gas emissions. Improving the energy efficiency of the logistics system will require advanced communication technology, digital services and the opening up of information systems.
- Exploiting the expertise of the Finnish maritime cluster related to winter navigation in challenging conditions, for example in using the Northeast Passage for freight transport.
- **Strengthening the development of shipping infrastructure and nautical charting in the Arctic region by means of hydrographic surveys.**

## 2 Hydrographic Surveys

Hydrographic surveys have focused on shallow nearshore sea areas on the Gulf of Finland and in the Archipelago Sea as well as on fairway resurveys in the Bay of Bothnia.

Hydrographic LiDAR surveys have been utilized to replace SBES surveys on a very shallow nearshore waters targeting 100 % coverage on all Finnish waters. This also allows safer operation and navigation when performing multibeam surveys afterwards. Seasonal environmental conditions have been proven crucial in obtaining LiDAR data.

Fairway resurveys in full are conducted after dredging operations takes place in order to obtain coherent and consistent bathymetric data. Further LiDAR nearshore surveys are planned based on the resources.

## 3 Nautical Charts

Finland do not publish navigational charts in the Arctic Waters.

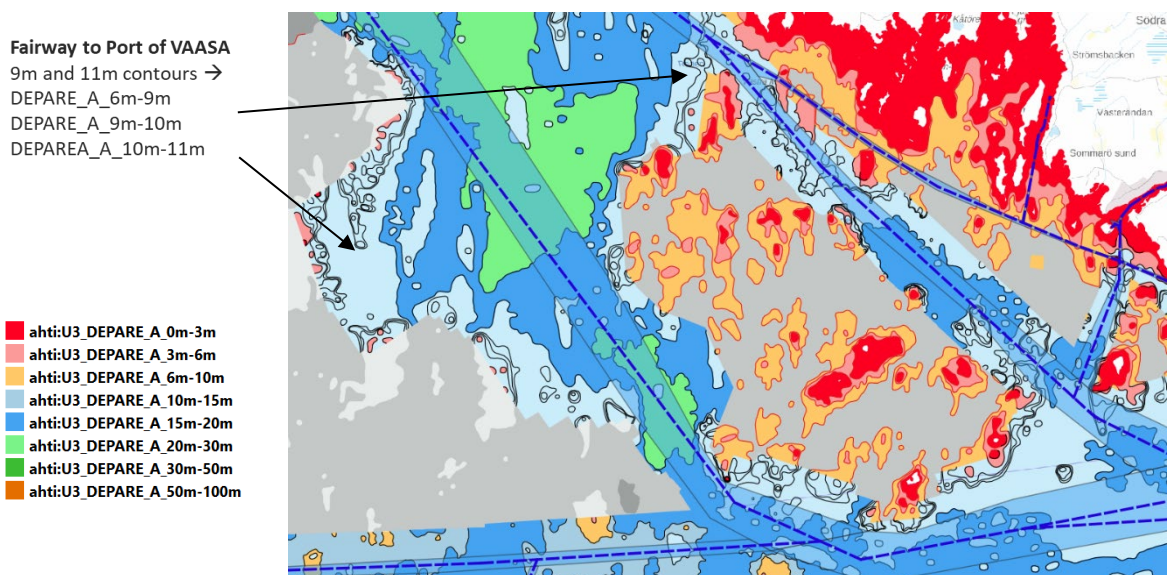
### **Enriching the depth information in ENCs**

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The approaches to Finnish ports are without exception difficult to navigate because of a very shallow waters and a narrow and tide turns fairways. Until now the Finnish ENC's and corresponding printed charts have been populated with standard set of depth contours i.e. 3m, 6m, 10m, 20m, 50m, .... These conditions cause unwanted effects in vessels ECDIS in the form of continuous and unnecessary anti-grounding alarms.

To eliminate or at least mitigate the problem the Finnish HO have adopted a new rule for depth contour intervals and related depth areas. An additional, 1 meter interval depth contours are applied to areas on and close to important fairways in approach, harbor and berth ENC products.



#### **4 Nautical Publications**

Not Applicable.

#### **5 MSI**

Finnish Transport and Communications Agency is responsible for safety radio communications in Finnish territorial waters and for distress radio communications in the deep channels of the Saimaa (inland waters) waterways system.

#### **6 C-55**

Not Applicable.

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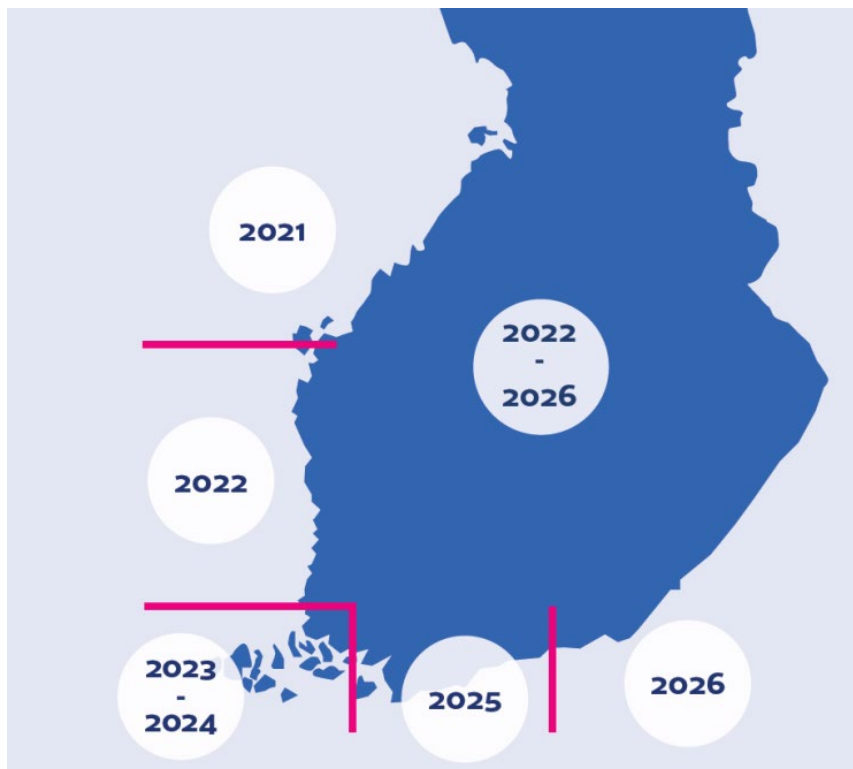


## 7 Capacity building

Nothing to report.

## 8 Oceanographic activities

The implementation of the common vertical chart datum Baltic Sea Chart Datum (BSCD 2000) has continued. The first set of navigational products with the new vertical reference, covering the Bay of Bothnia, are planned to publish before end of 2021.



*Fig.1. Implementation plan for the new vertical reference, Baltic Sea Chart Datum 2000.*

## 9 Spatial Data Infrastructures

### Finnish National Geodata Portal

The non-navigational use of hydrographic data has increased exceedingly. A viewing service is in use via the interface of National Geodata Portal providing Inspire specific national spatial data sets, for example. The FHO is actively supporting hydrographic data to the National Geodata Portal. The metadata of FHO is also available at the National Geodata Portal.

Open data view and download services:

<sup>1</sup> Finland's Strategy for Arctic Policy <https://julkaisut.valtioneuvosto.fi/handle/10024/163247>



- Web Map Service
- Web Feature Service
- Tiled map service (WMTS)

The data available from these services are not suitable for navigation and does not meet the requirements for an official nautical chart.

Finnish Transport and Communications Agency (The new data viewing and download service) <https://julkinen.traficom.fi/oskari/?lang=en>

National Geodata Portal Paikkatietoikkuna:  
<http://www.paikkatietoikkuna.fi/?lang=en>

## 10. Innovation

### Hydrographic survey data processing and management

The improvements to the Bathymetric Data Management System (MERTA) have been taken into full operational use. The new system includes automatic methods for maintaining bathymetric data and developed tools for bathymetric data migration.

### Chart data processing and management

ENC and Paper Chart Production System (AHTI) have been taken into full operational use. Nautical chart production system implementation, data migration, system integrations and deployment (2017-2021):

1. System delivery contract signed 9/2017
2. Delivery (Drop 3), data migrations and system integrations accepted 3/2019
3. Partial production start-up (data management) 4/2019
4. Final acceptance of the delivery Q4/2020
5. Full production/first products Q2/2021

### The national coordination of the S-100 implementation

The Traficom and the Finnish HO are planning to take actions for raising awareness and improving knowledge about S-100 standards among data producers and service providers in Finland.

As a first step

- FHO will share general information to stakeholders about S-100 framework and available S-100 based data transfer and product standards.

<sup>1</sup> Finland's Strategy for Arctic Policy <https://julkaisut.valtioneuvosto.fi/handle/10024/163247>



- In order to promote usage of S-100 standards FHO will contact Finnish agencies and partners responsible for producing data sets included in the current S-100 implementation roadmap. While Traficom/FHO will produce and provide S-101 ENC, S-102 Bathymetry and S-124 Navigational Warnings data sets there are other governmental institutions or government owned companies who are managing i.e. Water Level (S-104) and Surface Currents (S-111) data. FHO will also contact partners responsible for UKC Management services in case there is need to establish such a service in Finnish waters.

#### Objectives for the national coordination

- S-100 data producers and service operators have adequate information about S-100 Standard Frame, published data transfer and product standards.
- Agencies and companies, having role in producing or distributing S-100 data sets for shipping and other maritime shareholders, disseminate data and provide services according the S-100 standards.
- S-100 related guidelines and recommendations published by IHO, IALA, IMO etc. are well adopted and widely applied among stakeholders.
- S-100 data production and services are implemented in a high-quality, an efficient and an economical manner, meeting the customer needs.

## 11. Other activities

FHO has Bilateral Arrangements with UKHO (adoptions of printed Charts), Norway (ENC RENC services), Sweden, Estonia and Germany.

Finland has been a member of the IHO Council and taking part of the HSSC and IRCC meetings.

Finnish experts are actively working in;

- HSSC/NCWG (as Chair)
- HSSC/ENCWG
- HSSC/S-100WG and HSSC/S-101PT
- HSSC/DQWG
- HSSC/NIPWG (as Vice Chair)
- HSSC/TWCWG
- IRCC/WEND-WG (representing BSHC)
- IRCC/MSDIWG
- Baltic Sea Hydrographic Commission including BSHC/BSICCWG (Chair), BSHC-HELCOM/MWG (Chair), BSHC/BSDIWG, BSHC/BS-NSMSDIWG, BSHC/CDWG
- Nordic Hydrographic Commission including NHC/NCPEG, NHC/NSEG
- Arctic Region Hydrographic Commission (as Associate Member) including ARHC/OTWG and ARHC/ARMSDIWG.

Finland is member of the PRIMAR and contribute actively the work of PRIMAR PAC and WGs.

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## **12. Conclusions**

This report highlights the general information and main activities (related to Arctic Region) of the Finnish Hydrographic Office since ARHC 10 Conference in August 2020.

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