



## PRIMAR 2019 ANNUAL REPORT

PRIMAR is a multi-lateral and government based organization. As a regional ENC coordinating center (RENC), it's primary role is to ensure a harmonized quality level of official electronic navigational charts (ENCs) from many producer nations (i.e. national hydrographic offices) and making this information available through a network of distributors to international shipping on a 24/7 basis.



## OPERATION OF PRIMAR

The Norwegian Mapping Authority, Hydrographic Service (NHS) operates PRIMAR on a non-profit cost recovery basis. The NHS uses a Norwegian state owned company, Electronic Chart Centre AS (ECC), to deliver services within database operations/validation, sales and distribution, infrastructure and R&D to PRIMAR through a service provider agreement. NHS is responsible for the daily operation within the framework of strategies and policies decided by the PRIMAR Advisory Committee. The Cooperating Hydrographic Offices, through the PRIMAR Advisory Committee (PAC) decides on the overarching policy of PRIMAR. PRIMAR's vision, mission and objectives are as follows:

### **PRIMAR's Vision:**

*In order to enhance safety at sea and protect the maritime environment, PRIMAR's vision is to be the most efficient model for the provision of ENC services and maritime geospatial data worldwide.*

## PRIMAR'S MISSION

- Assume RENC responsibilities in support of UN Resolutions, IMO Conventions and IHO WEND Principles.
- Provide all actors with responsibilities for safety of navigation and protection of the maritime environment with accurate up to date maritime geospatial data.
- Provide to HOs service solutions and framework to co-operate in the management and provision of ENCs and maritime geospatial data.
- Consider Capacity Building support to achieve adequate global ENC coverage.

## PRIMAR'S OBJECTIVES

- Foster closer cooperation between HOs to reach the greatest level of harmonization and consistency in ENC services.
- Encourage and support the achievement of adequate global ENC coverage.
- Encourage and support efforts to establish RENCs.
- To provide the most efficient ENC quality and distribution services and ensure continuous improvement.
- Foster close cooperation with private industry and distribution network to ensure the most efficient services.
- To ensure the visibility of PRIMAR and the promotion of IHO global ENC coverage.
- Provide cooperating hydrographic offices with operational and technical support and services in their work to produce, quality control and deliver harmonized ENC services compliant with all relevant international standards.

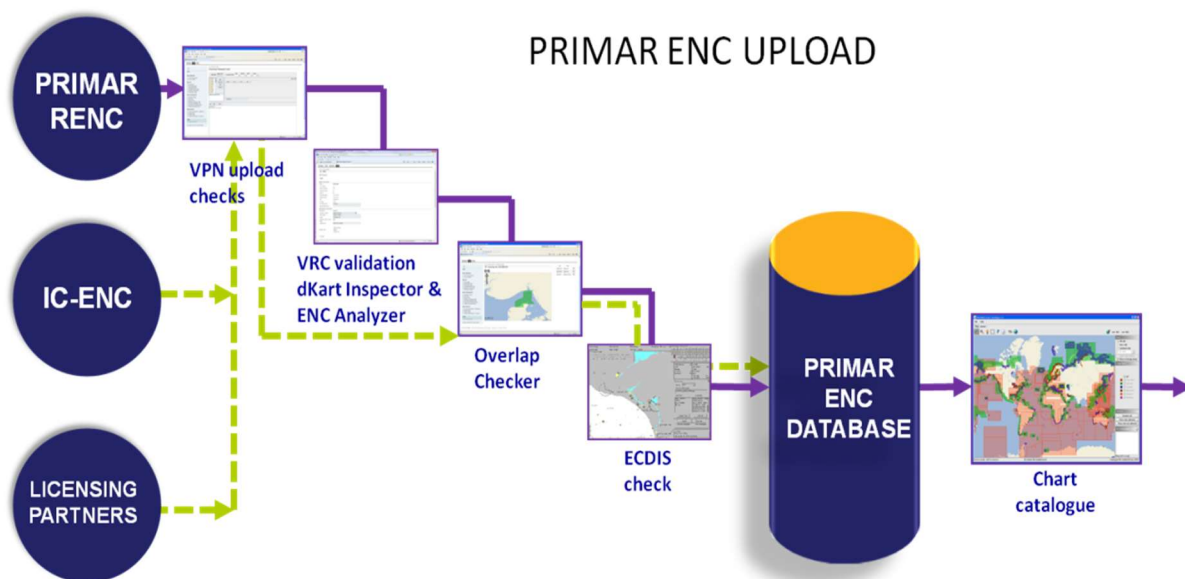
## PRIMAR FOCUS AREAS FOR 2019

The specific objectives for PRIMAR during 2019 have been:

- Continuously provide the world's most efficient ENC quality control and validation services
- To achieve increased ENC coverage in Asia and prepare for new members to join PRIMAR
- To increase knowledge and conduct training in ENC validation and quality control for member nations
- To increase ENC sales, maintain cost control and financial sustainability
- To further develop and improve the PRIMAR technology and services
- To be visible in the IHO arena and maintain a close relation with the network of distributors

## PRIMAR 2019 ENC QUALITY CONTROL AND VALIDATION SERVICES

All ENCs delivered to PRIMAR undergo a series of validation and quality control checks. To ensure that the ENCs are in accordance with relevant IHO standards, all ENCs go through automated S-58 upload checks in the PRIMAR VPN system. ENCs that contains errors are rejected, and a report is generated back to the relevant HO. Having been ISO 9001 accredited since 2005, PRIMAR has a high degree of focus on quality in all stages of the ENC validation and distribution process.



### PRIMAR ENC Validation Procedure

The main tool used for ENC quality control available for PRIMAR member nations is the **validation report checker (VRC)**. The VRC gives access to a whole range of different tools for checking the quality and consistency of the ENC product. All messages reported in the VRC are categorized with guidance on how to proceed with the validation of the ENCs. Historical data from the validation process of each ENC is stored and easily accessible in the VRC. In addition, PRIMAR provides support to the HOs in interpreting, understanding and suggest appropriate measures to resolve quality issues.



The PRIMAR ENC validation statistics for 2019 are as follows:

New ENC	New Editions	Reissue	Cancel cell	Updates
890	5 398	755	1 069	23 052

The below table shows the development of the PRIMAR ENC database during 2019:

Date	Total no of ENCs	Overview	General	Coastal	Approach	Harbor	Berthing	Updates
01.01.19	15 215	178	611	2 509	4 690	5 873	1 354	40 379
01.07.19	15 653	179	630	2 551	4 835	6 000	1 458	43 083
31.12.19	16 092	179	645	2 611	4 949	6 160	1 548	45 496

In 2017, PAC 24 approved to introduce KPIs for ENC validation within PRIMAR. The following validation completion times were achieved in 2019:

Type of data	Validation KPI (95%)	2019 Average Achieved
ENC Update	1 day	6 hrs.
ENC New Edition	2 days	3 hrs.
New ENC	3 days	4 hrs.

## STRATEGIC ISSUES

The PRIMAR Strategic and Financial Working Groups met in Helsinki, Finland in May 2019. Discussions were held on the PRIMAR future strategy related to S-100 products.

The 26<sup>th</sup> PRIMAR Advisory Committee (PAC) Meeting was arranged in Stavanger, Norway in October 2019. The Norwegian Hydrographic Service hosted the meeting. PAC 26 approved the new PRIMAR Strategic Plan, and allocated funding for the PRIMAR S-101 development throughout 2020. PAC 26 approved projects for improved royalty reporting and update of the PRIMAR web pages. PAC 26 tasked PRIMAR to further investigate new development projects like distribution of nautical information and publications.



The PRIMAR ENC database now contains more than 16 000 ENCs worldwide. During 2019, new ENCs from Taiwan, Albania and Vietnam were released for sale from the PRIMAR database.

PRIMAR has set up several free-of-charge service deliveries to support the work of IHO:

- Global WMS coverage for internal use at IHO
- ENC catalogue (RENC / Non RENC coverage)
- CATZOC delivery from both RENCs
- Supply of Overlap/Consistency Checker to all Regional Hydrographic Commissions.

## ENC SALES, COST CONTROL AND FINANCIAL SUSTAINABILITY

PRIMAR 2019 financial result:

- Total revenue of ENC sales 21% increase compared with 2018
- Total cost of PRIMAR operation \$2,5m (RENC Commercial + National)
- Financial surplus (excess of cost coverage after regular royalty payments) of approximately \$100k.

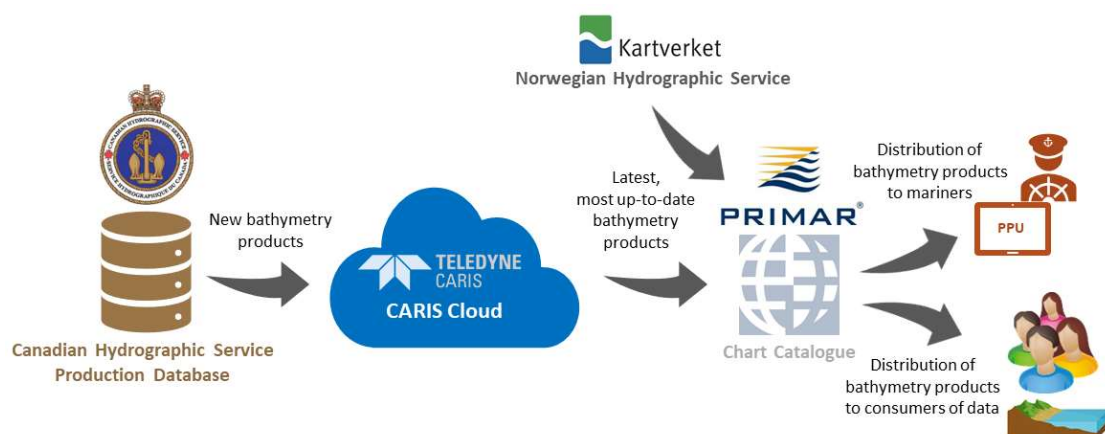
PAC 26 approved the following for the 2020 budget:

- Total cost of PRIMAR operation \$2,5m (RENC Commercial + National)
- Royalty payback: 100% based on ENC price set towards PRIMAR
- Transaction fee national transactions: \$1,5
- Transaction fee national services to non-PRIMAR members: \$2,3

## DEVELOPMENT OF PRIMAR TECHNOLOGY AND SERVICES

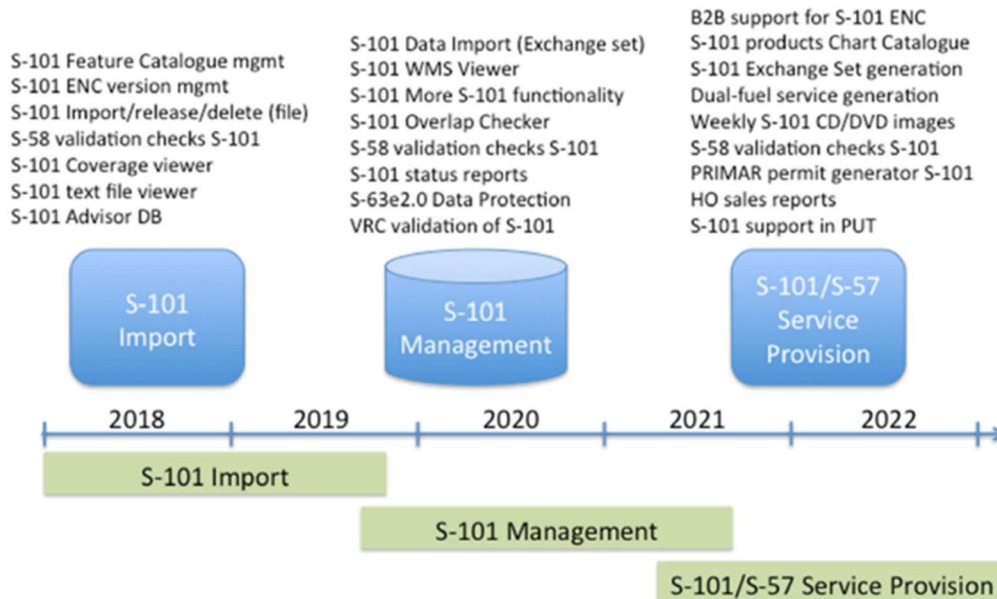
The following technological developments have been conducted or are ongoing within PRIMAR:

- The development phase of the S-100 data distribution project in cooperation with the Canadian Hydrographic Service and Teledyne CARIS was completed in 2019. An operational live test phase of the project was started in the autumn of 2019. This test phase focuses on the delivery of S-102 data through PRIMAR – all the way from producer to end-user.

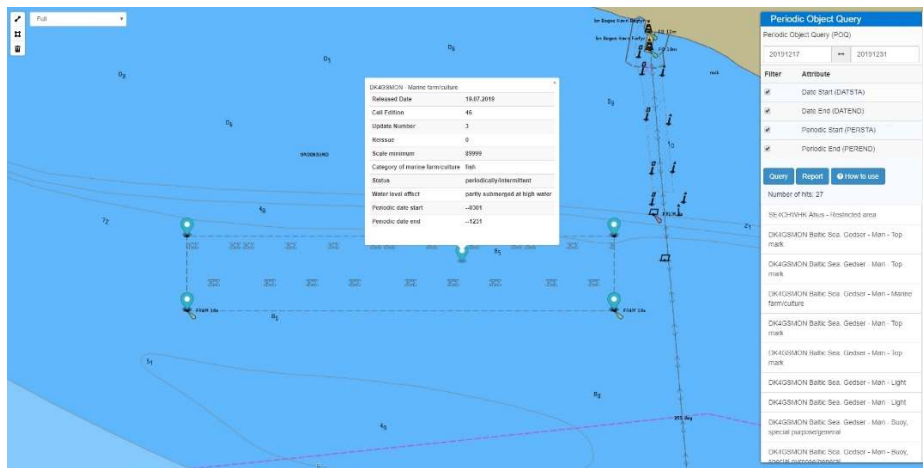




- PRIMAR has implemented support for the new S-100 ed. 15 encryption standard during 2019.
- PAC 26 approved funding of the PRIMAR S-101 project throughout 2020 from the remaining budget surplus from year 2018. The S-101 development is expected to be a 4-5 year project, and to allow for operation of a dual-fuel S-57 / S-101 distribution system in the transition period between S-57 and S-101. The following figure outlines the development stages towards an operational dual fuel service in 2022.



- The development of the PRIMAR S-57 data distribution service was conducted during 2018, and the service has been put to operational use in 2019.
- Periodic Object Query (POQ) is a new PRIMAR service making it possible to identify date related information in an ENC folio. This information is available within the ENCs, and produced by the Hydrographic Office issuing the ENC. All users with an ENC folio from a PRIMAR distributor can easily access the POQ service. A web interface can be used for querying and viewing the results of the date related information in the ENC data, and where needed reports can easily be generated.





## THE IHO ARENA AND RELATIONSHIP WITH THE DISTRIBUTOR NETWORK

During 2019, PRIMAR was present at the following events and IHO conferences to promote the RENC concept and contribute to the IHO working groups:

- WENDWG9, Brest, France
- MBSHC21, Cadiz, Spain
- ENCWG4, Monaco
- HSSC11, Cape Town, South Africa
- S-100WG4, Aalborg, Denmark
- DQWG-14, Monaco

During 2019, PRIMAR conducted several meetings with ENC distributors and participated in several maritime exhibitions and industry fairs to promote the RENC concept and the use of official ENCs. The bi-annual PRIMAR distributor survey was conducted in 2019. These events provided PRIMAR with several useful comments and feedbacks from the network of commercial distributors.

## CONCLUSION AND FOCUS FOR 2020

2019 proved to be a successful year for PRIMAR with further increase in ENC sales, increase in the number of registered ENC users, expanded coverage in the RENC ENC database and several technological developments underway. The financial situation in PRIMAR is good.

At the end of 2019, PRIMAR have 17 member nations through bilateral agreements. 12 other nations and official ENC producers deliver data to PRIMAR through distribution agreements. All ENCs from IC-ENC are delivered to PRIMAR through a VAR agreement. Together, this comprise the global PRIMAR ENC database of more than 16 000 ENCs.

At the end of 2019, PRIMAR have 55 commercial ENC distributors around the world. For the member nations, PRIMAR operate 10 different Navy Supplier Services as well as 10 different Governmental ENC Supplier Services.

Development of new PRIMAR technology and services will continue in 2020.

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PAC Chairman