

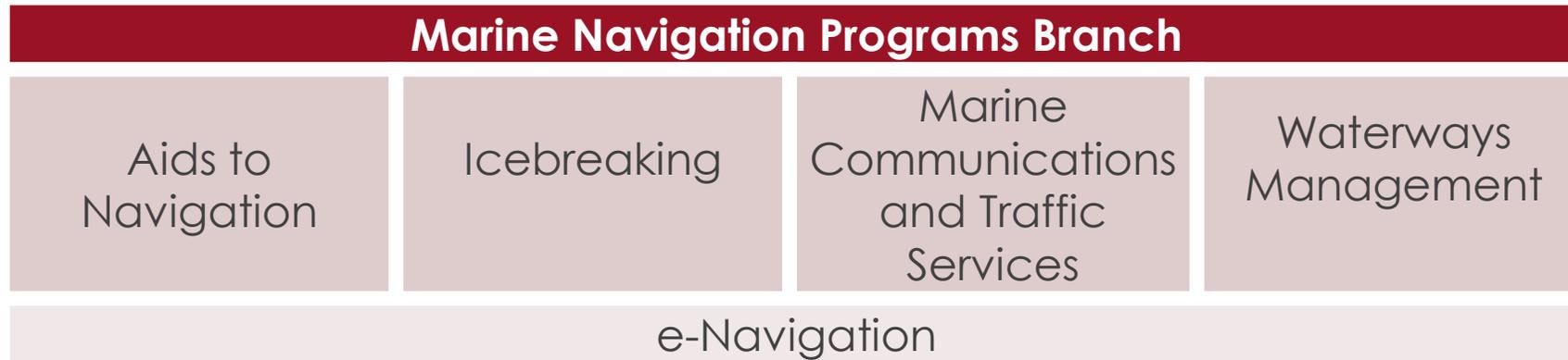
Modernizing Marine Navigation Service Delivery

Mariners' Workshop
January 2022



Introduction

Marine Navigation Programs Branch is part of Fleet & Maritime Services Directorate, Canadian Coast Guard, and includes the following core programs:



This presentation covers the Coast Guard's modernizing marine navigation service delivery, with a focus on e-Navigation as a driver to advance digital delivery of marine navigation programs.



Modernizing Marine Navigation Service Delivery

- This is a transformative initiative, recalibrating Coast Guard's marine navigation programs to deliver navigation services in a modern and increasingly digital environment.
- It will rethink internal structures and mechanisms to reflect modern operational practices and roles.
- Coast Guard will work collaboratively with our federal marine navigation partners, including Canadian Hydrographic Services, Environment and Climate Change Canada, and Transport Canada, to advance modernization in an integrated and efficient manner.



Fundamental Modernization Priorities

The modernization initiative is comprised of four elements to effectively scope, plan and implement it:

Establish **technical requirements** and innovative solutions

Engage and mobilize Coast Guard employees to develop, shape, and implement this initiative

Develop and maintain strong and **meaningful collaborations** to ensure access to robust tools, data, and systems

Provide the necessary **framework** to shift to digitalization of services



Focus on Data

- Modernizing marine navigation service delivery will place a strong emphasis on data and the digitalization of information to better serve mariners.
- Coast Guard will leverage new technologies, use more sensor data, and advance our ability to collect, process, synthesize and analyze data, and readily exchange it with our partners in an integrated and streamlined way.



Aligning with International Standards

- The modernization of marine navigation service delivery will allow Coast Guard to improve information sharing of its maritime data products and harmonized levels of services that meet national and international standards and requirements for the safe use and design of waterways and commercial shipping channels.



e-Navigation: National Priorities

Implementation of electronic aids to navigation

Digitalization of marine services

Realization of cyber security requirements

Emergence of autonomous vessels

Modernization of vessel traffic management

e-Navigation Updates: e-Navigation Portal

- ✓ The e-Navigation Portal website moved to Canada.ca and has a new look.

<https://e-navigation.canada.ca/>

<https://navigation-electronique.canada.ca/>

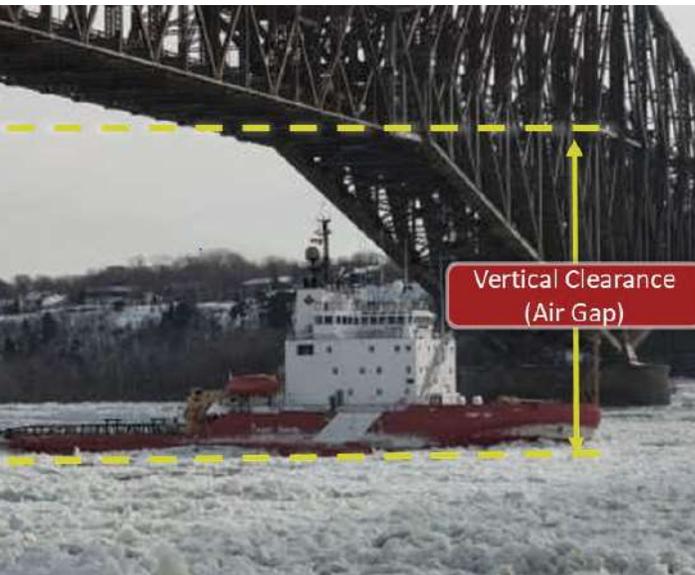
- ✓ New access to information such as ice conditions and daily ice briefings.

The screenshot displays the e-Navigation Portal website. At the top, it features the Government of Canada logo and a search bar. The main heading is "e-Navigation Portal". Below this, there is a "Services and information" section with links to "Tides, Water Levels and Currents", "Marine Weather", "Nautical Charts", "Ice Conditions", "Aids to Navigation", "Vessel Traffic Services", "Waterways management", and "Webs cameras". A "Most requested" section lists "Interactive map", "Catalogue", "NAWWARNs", "Notices to Mariners", and "Contact us". A "Contributors" section lists "Canadian Coast Guard", "Canadian Hydrographic Service", "Environment and Climate Change Canada", and "Fisheries and Oceans Canada". On the right, there are "Features" including "Catalogue", "Interactive map", and "NAWWARNs". Below that, a "What we are doing" section includes "Studies", "Surveys", and "Forms". At the bottom, there are links for "Report a problem on this page" and "Share this page". The footer contains contact information and the Canada logo.

e-Navigation Updates

Coast Guard has made progress on several other e-Navigation initiatives, including:

- ✓ AIS Application Specific Messages
- ✓ AIS Application Specific Message - Air Gap
- ✓ S-123 Marine Radio Service
- ✓ S-124 Navigational Warning (NAVWARN)



Final Thoughts

- Despite operational challenges introduced by COVID-19, modernization efforts and e-navigation initiatives have continued to progress.
- The modernization concept will continue to be refined and advanced based on engagement and collaboration with partners, and marine stakeholders to identify priority areas for improvements in service delivery.
- Coast Guard will continue to engage with international community to ensure harmonized adaptation of e-navigation and influence international standards to better fit the Canadian context.

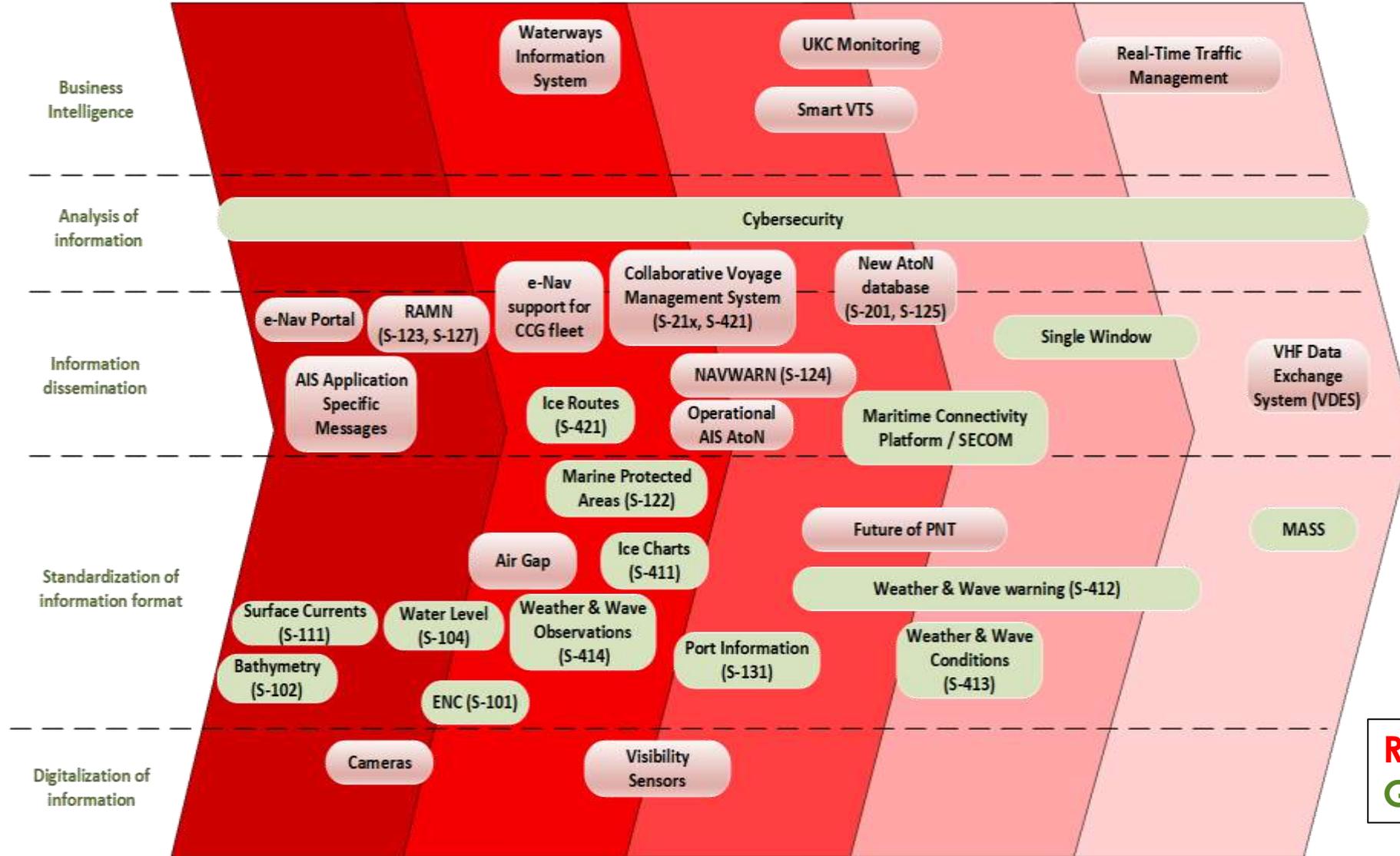


Annex: Canadian e-Navigation Implementation Roadmap

Short term
(2024/25)

Medium term
(2028/29)

Long term
(2030+)



Red - CCG
Green - Federal partners

MASS – Maritime Autonomous Surface Ship VTS – Vessel Traffic Service RAMN – Radio Aids to Marine Navigation ENC – Electronic Navigational Chart
 UKC – Under Keel Clearance NAVWARN – Navigational Warning SECOM – Secure Communication PNT – Positioning, Navigation, and Timing
 AIS – Automatic Identification System VHF – Very high Frequency





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