

# SEMINAR ON E-NAVIGATION ON OUR OCEAN

*The contribution of SIMA-JICA Project*

Honiara, Solomon Islands

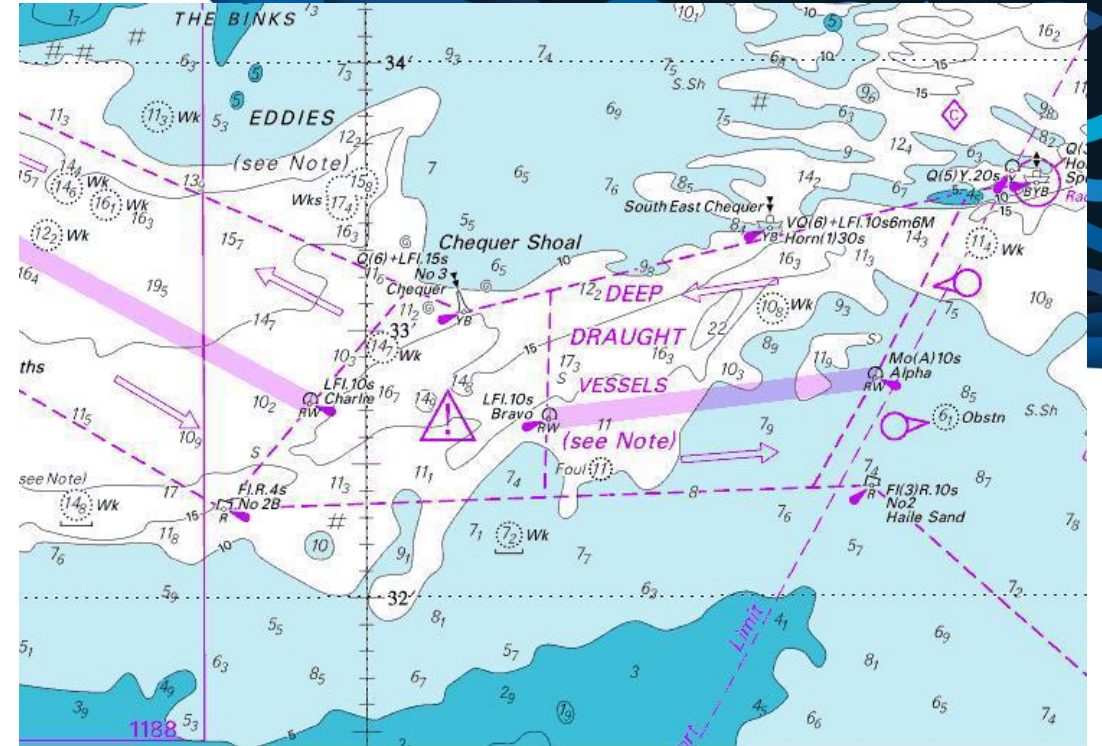
13 May 2025

## What is an Electronic Navigational Chart (ENC)?

*Presented by Arata SENGOKU, Ph.D., Chief Advisor, Executive  
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# What are nautical charts?

- Nautical charts;
  - Special purpose maps specifically designed to meet the requirements of marine navigation.
    - Primary user is a mariner.
  - Provide a graphical representation of relevant information to mariners for planning and executing safe navigation.
    - Primary purpose is safety of navigation.
  - Issued officially by or on the authority of a Government, authorized Hydrographic Office (HO) or other relevant government institution.
    - Officially issued.
  - Must be updated by Notices to Mariners. Non-updated charts are not officially recognized.
    - Update is mandatory.
  - Vessels are requested to carry nautical charts by the SOLAS convention.
    - Carriage requirement by the international law.





# What are nautical charts?

- Nautical charts are available either in digital form (ENCs) or in analogue form (paper charts).
  - ENC: Electronic Navigational Chart.
  - ENC is just a digital dataset and cannot be used alone.
  - ENC is used in an Electronic Chart Display and Information System (ECDIS).
  - ECDIS is accepted as meeting the chart carriage requirements by SOLAS convention.
- In recent years, ENCs are mostly used by mariners than paper charts.



ECDIS: right, RADAR: center



Paper Chart

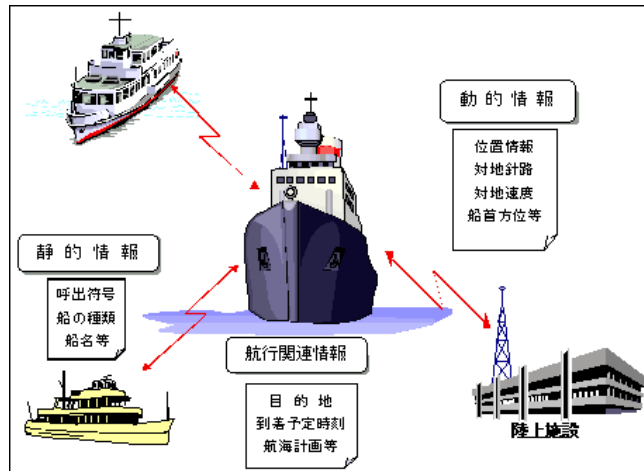
# Benefits of ENC

- Safety

- Position of a ship is shown on ENC in real-time. -> Quick and accurate decision making
- RADAR and AIS can be superposed on ENC -> Prompt decision making
- Alarm will ring when approaching to dangers -> Risk avoidance

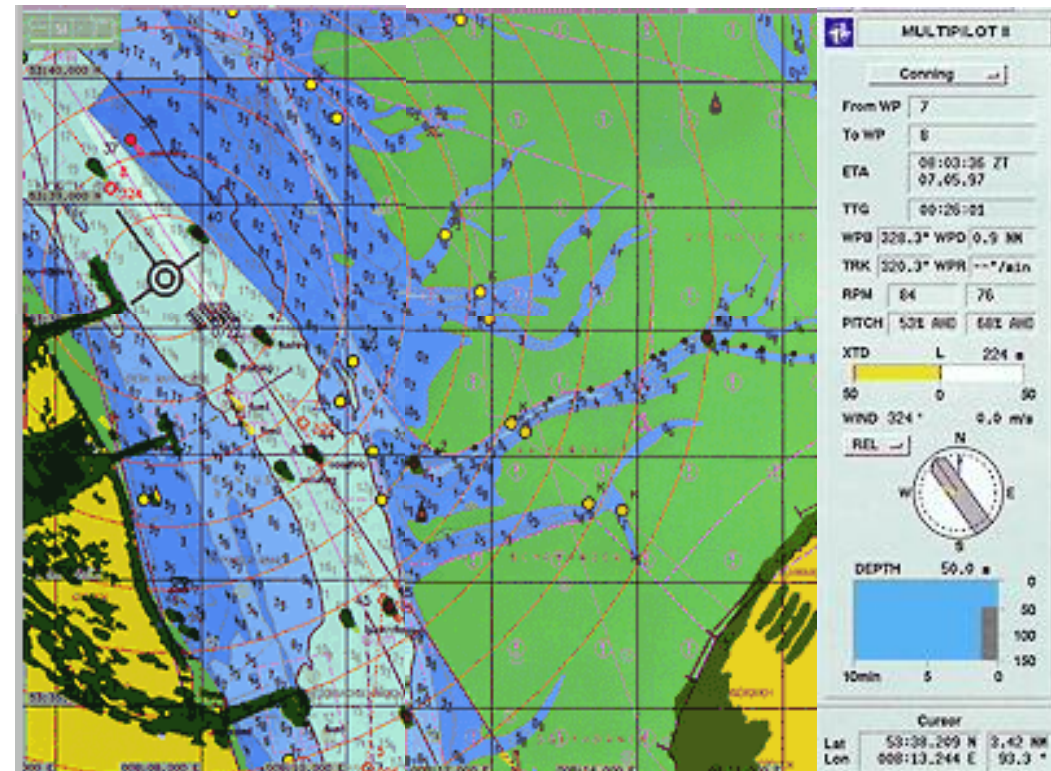
- Saving money and labor

- No chart work
- Automatic update
- Reduction of burden on mariners



AIS

RADAR image can be superposed on ENC



# As we will see in the Demonstration later:

- A vessel simulated as entering the Honiara Port using the appropriate ENC Cell - SB4HIR01,
- Active warnings are given on:
  - Vessel's positions and headings in real-time,
  - Critical hazards to navigation – Shoals, obstruction, wreck, etc,
  - Available Aids to Navigation (AtoN) in the vicinity – buoy, lateral buoy
  - Approaches to Conspicuous Features - Coastline



# Numbers allocated to Navigational Charts

Nautical Paper Chart – Raster Format

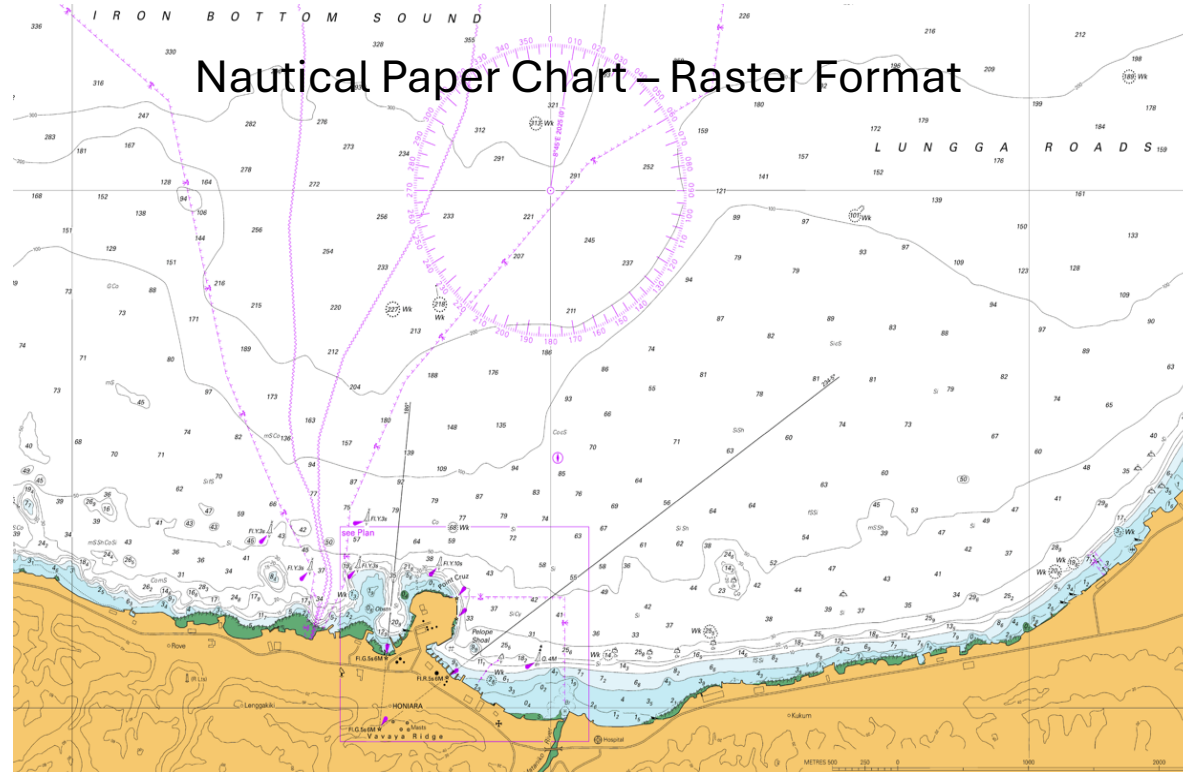


Chart No#: SLB 101

Electronic Navigational Chart – Vector Format

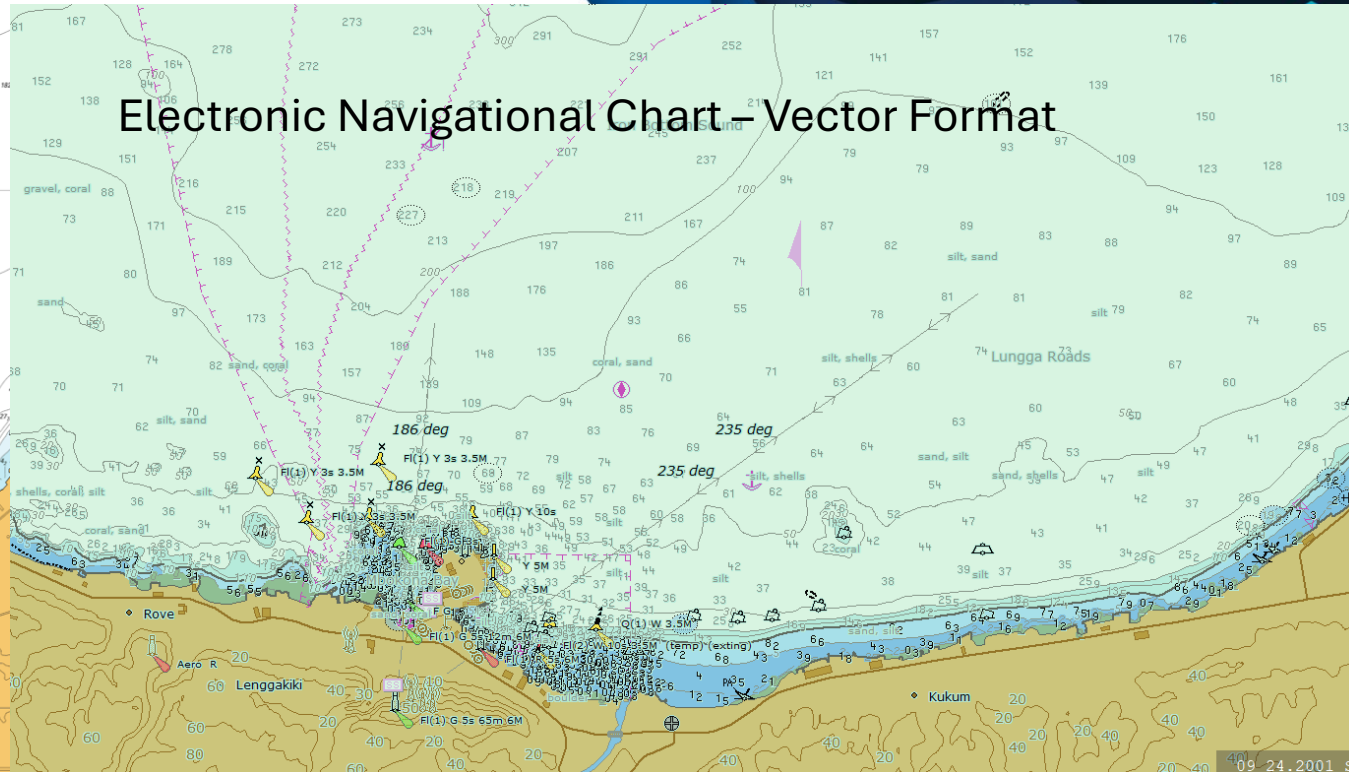


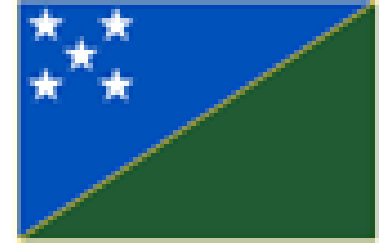
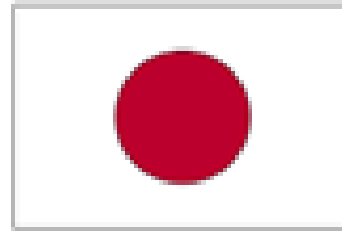
Chart No#: SB5HIR01.000

UN Country Code

Chart Usage Code -

Edition No#

UN Code for Trade and Transport  
Locations (UN/LOCODE)



**TAGIO TUMAS**

The Project for Development Support of  
Electronic Navigational Charts for  
Honiara and Noro Ports in Solomon  
Islands