



6th Meeting ROPME Sea Area Hydrographic Commission (RSAHC)

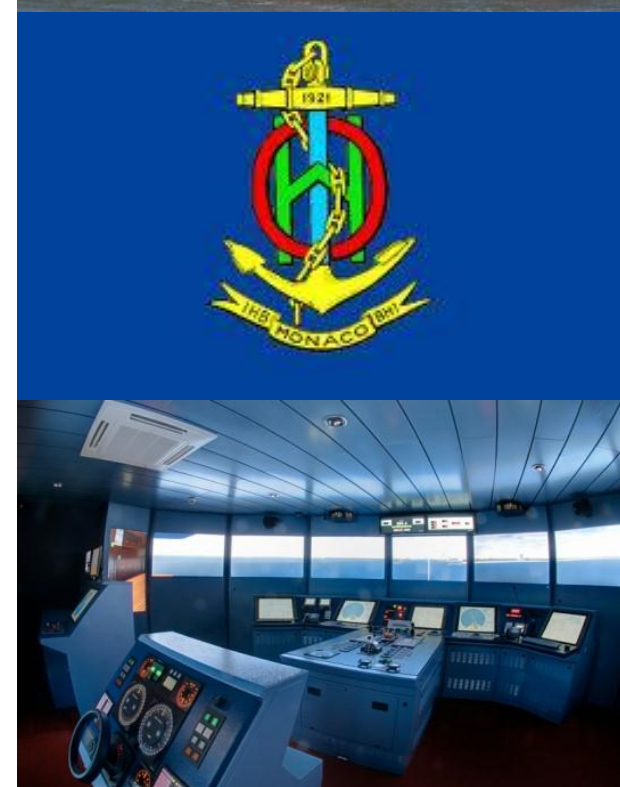
Abu Dhabi, UAE

09-11 February 2015



Company History

- **Founded in 1992**
- **Ex-UKHO owned company**
- **Created S-57 and S-52 Standard as used today for the IHO**
- **Part of the core working group for defining S-100 and beyond, along with Transas, Jeppesen, Esri, IIC, Furuno, Geomod, and Caris.**
- **Experience along the entire value chain of ENC's – Production Software, Production and Encryption, Data Management, Distribution and Navigation**

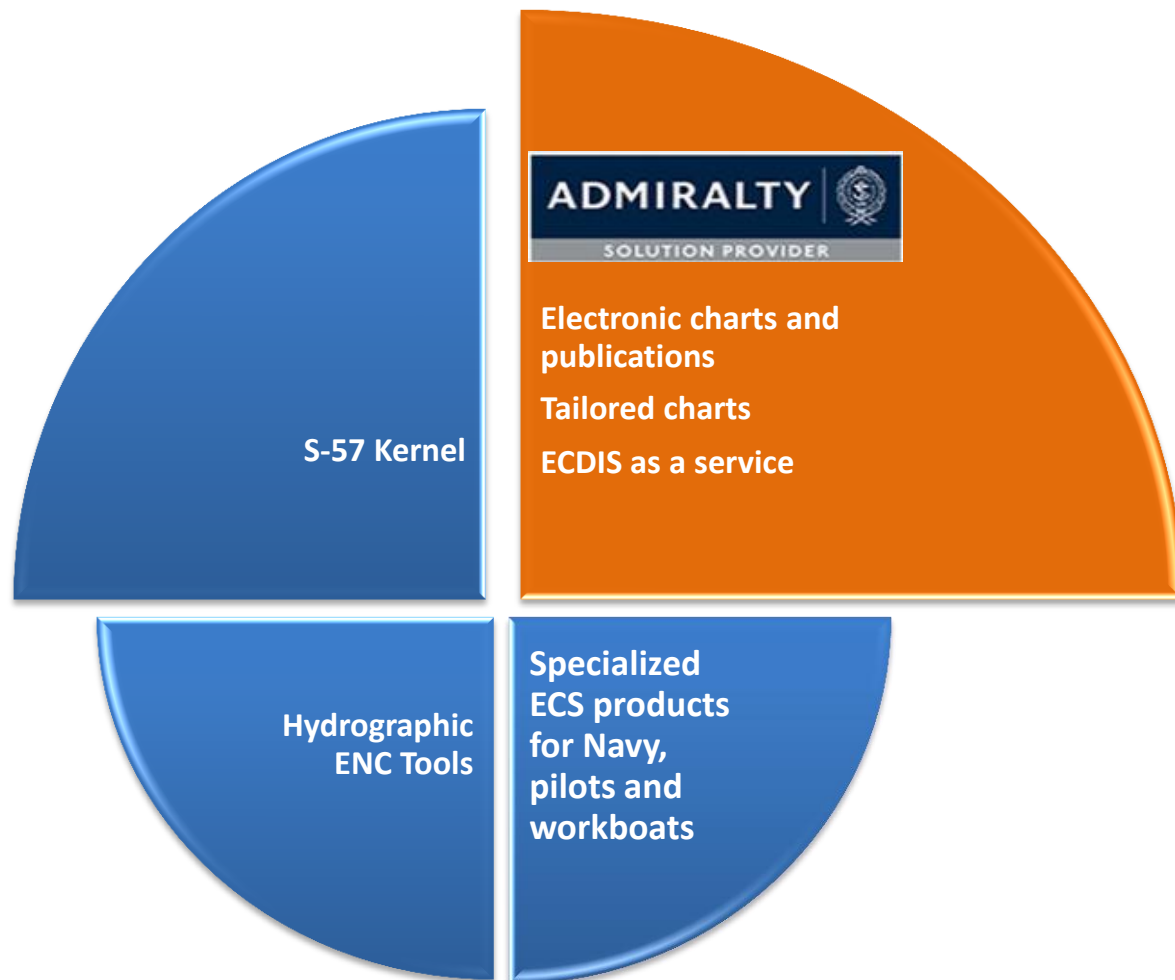


SevenCs and ChartWorld



SevenCs and ChartWorld

More than 120 chart producing clients in various fields such as Hydrographic Offices, Waterway Authorities, Ports, Pilots, private ENC producers, simulators and Universities.



Products

ENC Designer with ENC Manager



ENC Contour Generator



ENC Optimizer



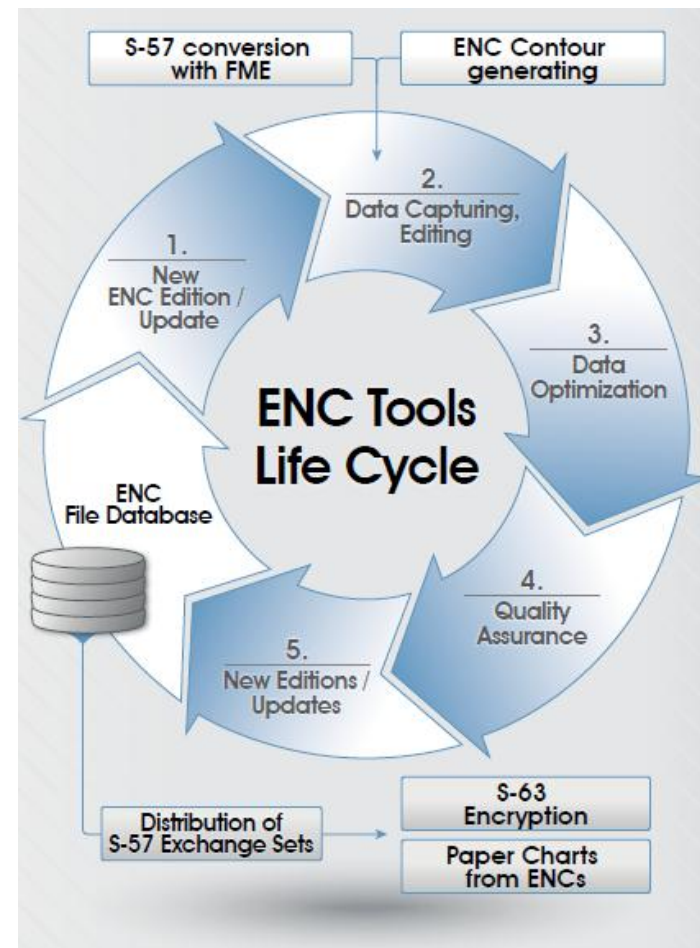
ENC Analyzer



ENC Cartographer



ENC Encryptor



This is your customer

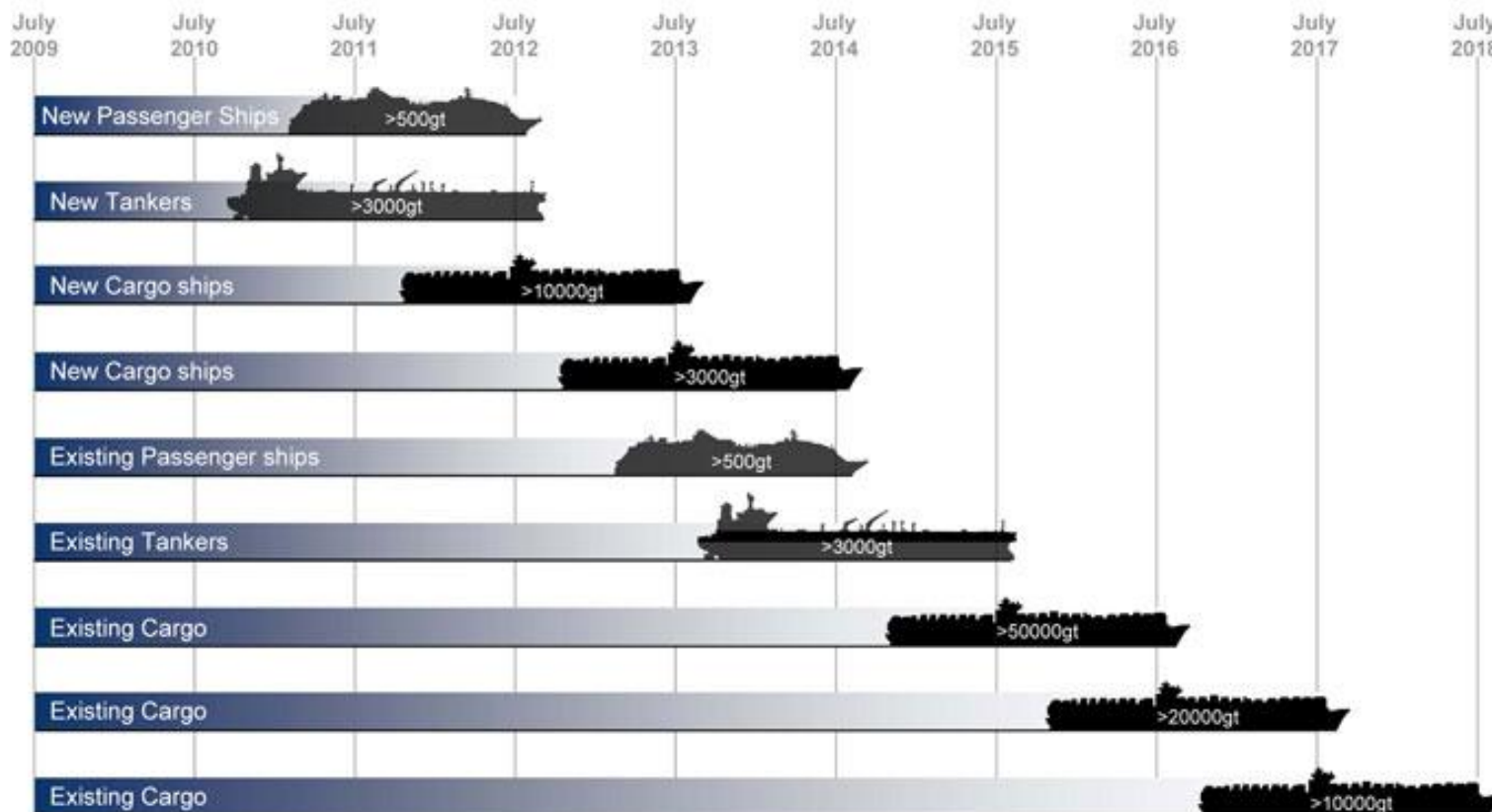


Source: Ships and Harbours



Source: <http://www.omships.org/resources/m9477.jpg>

Current issue: ECDIS implementation



Source: UKHO

Current issues of shipping companies

'King Peace' 79600 dwt 2011 dely Nantong 09/10 Dec
 4/6 mos trading redel worldwide **\$8000 daily - Cargill**



Average OPEX per day per vessel	\$ 5,208	\$ 5,664	\$ 5,410	\$ 5,596
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Current issues of shipping companies

Why is fitting ECDIS so complicated?

- More than 35 makers
- More than 200 chart dealers
- Different communication infrastructure
- Different Flag State and class regulations
- Adoption of purchasing process, ISM procedures and bridge procedures
- Crew training (Generic and Type-Specific)



Current issues of shipping companies

Average additional cost per ship:

- **Dual ECDIS installation:** **25.000 USD**
- **Training per ship:** **10.000 USD**
- **Administration cost:** **1.000 USD**
- **Owners have a sharp look on the budgets so ECDIS fit, refit and maintenance will only be done if necessary / mandatory**



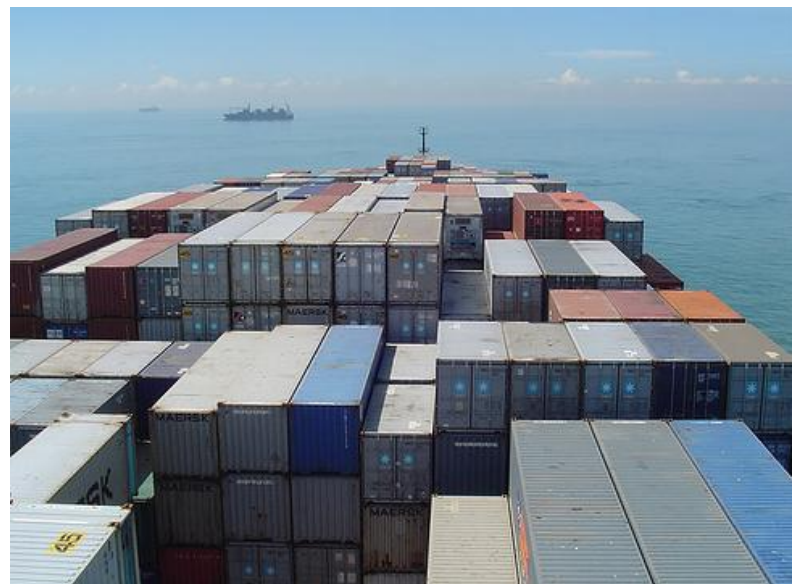
Current issues of shipping companies

Why is operating ECDIS so complicated?

- No knowledge of the status of the ECDIS
- No knowledge of the ECDIS skill of the user
- New standard for ECDIS at least every two (new PS 2009, new symbol library 2011, S-63 1.1 2013, new testing standard and symbol library 2015 etc.)
- Constant work on the ECDIS project
- Low com system on board of the vessel
- Often the office staff did never use an ECDIS and so does not know about the issues (see above)
- ENC supplier and ECDIS supplier often do not work hand in hand

Current issues of sailors

- Differences between chart details in a paper chart and ENC chart – mariners believe paper charts provide greater details than ENC charts (this has nothing to do with the layers this is simply the chart data itself)
- Political matters which affect navigating with ENCs (such as the overlapping charts at the same scale)
- Inconsistent information due to multiple HOs which produce charts (Malacca Straits is a good example of where some charts have different details on them which are produced by different nations)



Current issues of sailors

- Belief that using ENC's, Mariners lose special awareness due to small screen size compared against a paper chart
- Difficulty in maintaining their charts on ECDIS (some ECDIS not all of course) – difficulty of installing updates. Difficulty in checking their update status
- Mariners don't like the fact they have no "proof" of what corrections are applied to a chart (i.e. ENC chart updates are issued but no information on what the changes made are usually shown in most ECDIS).
- Difficulty in applying manual updates on ECDIS – for Navtex / Nav Area warnings etc.
- T&P information and lack of the information on a consistent level



Current issues of sailors

- It is often harder to do the same operation on the ECDIS than doing it on the paper chart (LOP)
- Too many functions in the ECDIS that can only be used by expert users
- Overreliance of the system. The ECDIS should avoid this proactive...pre-defined tasks to do during the voyage
- Higher and higher grad of integration leads to information overkill
- Even with digital navigation the user still need to do too much paper and documentation work
- Unnecessary update issue due to low communication system on board
- Fam. and type specific training needed for each ECDIS maker and version in use
- No unified ENC installation. Different ENC supplier do use different ways of sending the data

Current issues of sailors

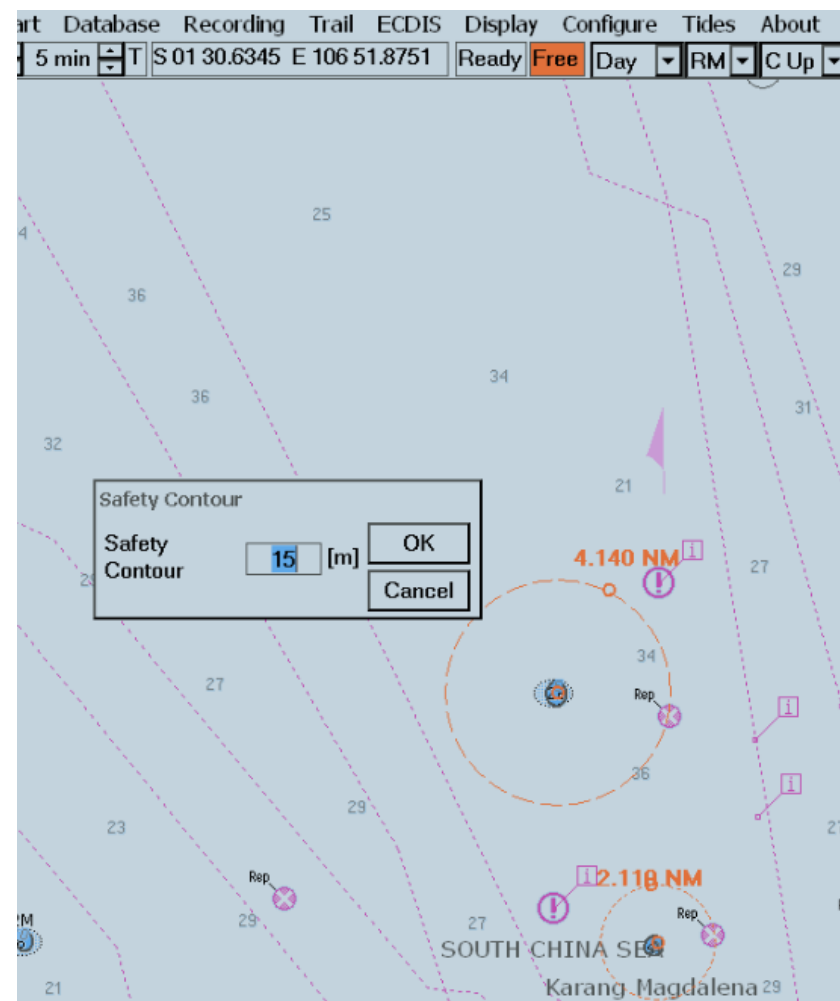
- ENC supplier and ECDIS supplier often do not work hand in hand
- Not all necessary info are included in all ECDIS (ADP, Navtex, AIO, weather etc.)
- Too many different GUI and operation approaches, often designed by software engineers
- Shipping companies do not invest in training
- Crew often is not concentrated during training
- PSC/Vetting without sufficient knowledge of ECDIS and ECDIS that does not help user to satisfy PSC/Vetting (Vetting has more knowledge than PSC)
- x-different “experts” who “set standards” in the market that are not needed e.g. a paper publication that shows the update status of an ECDIS
- No sufficient and poorly adopted ISM procedures
- ECDIS that do not allow to follow safe digital navigation ISM standards

Current issues of sailors

Insufficient Hydrographic Data

Grounding on IN202873 ENC in April 2013

- Only General Chart Available
- CATZOC UKN

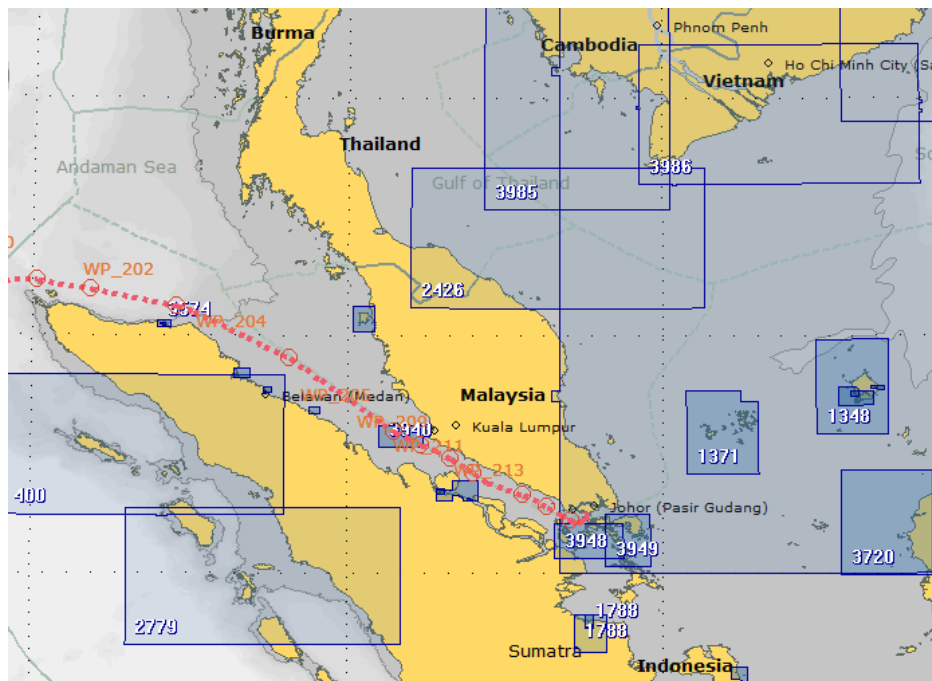


Current issues of sailors

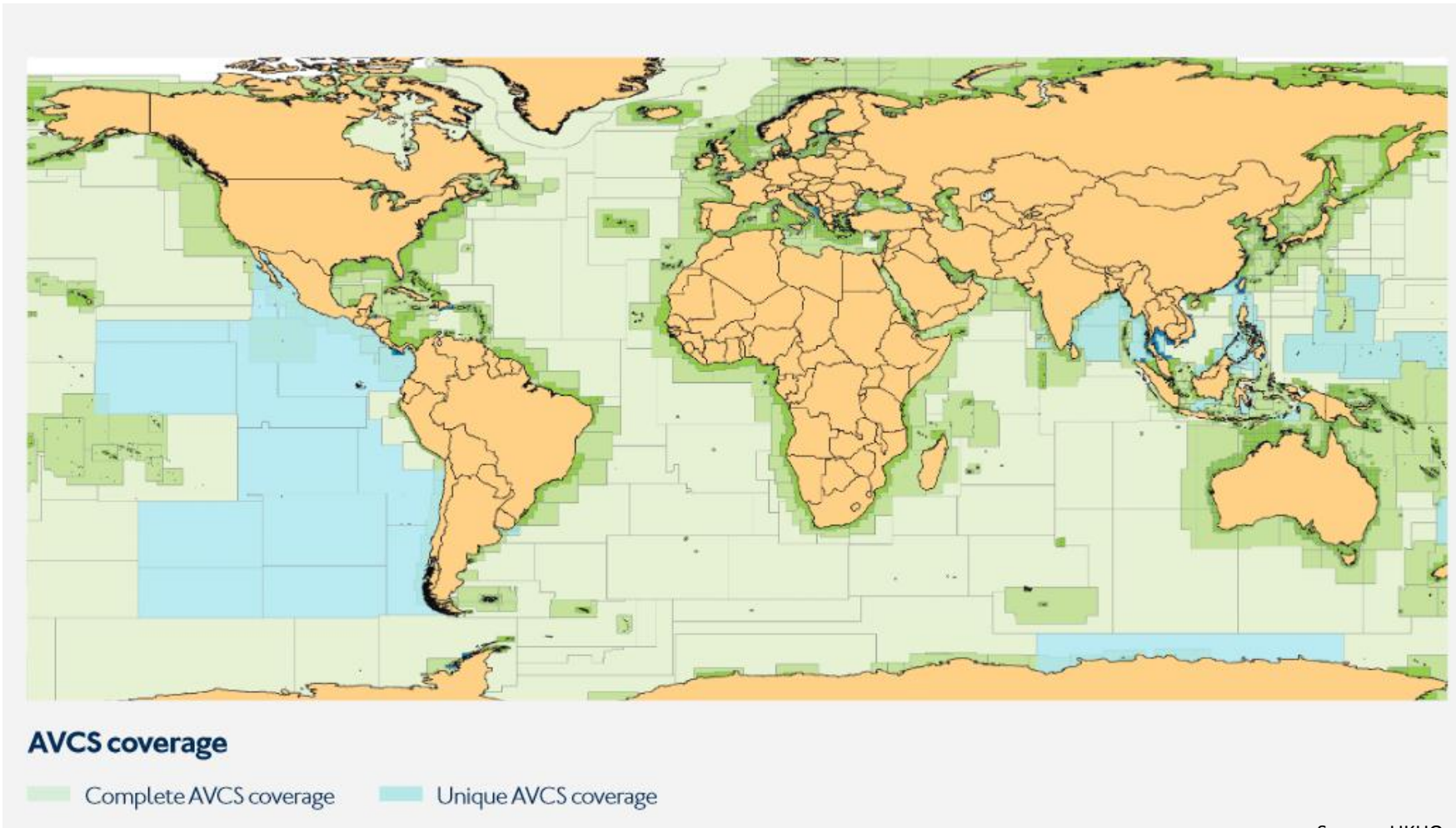
Insufficient Hydrographic Data

Lack of coverage and exclusivity of data

In September 2014 348 paper charts where still lacking an ENC equivalent

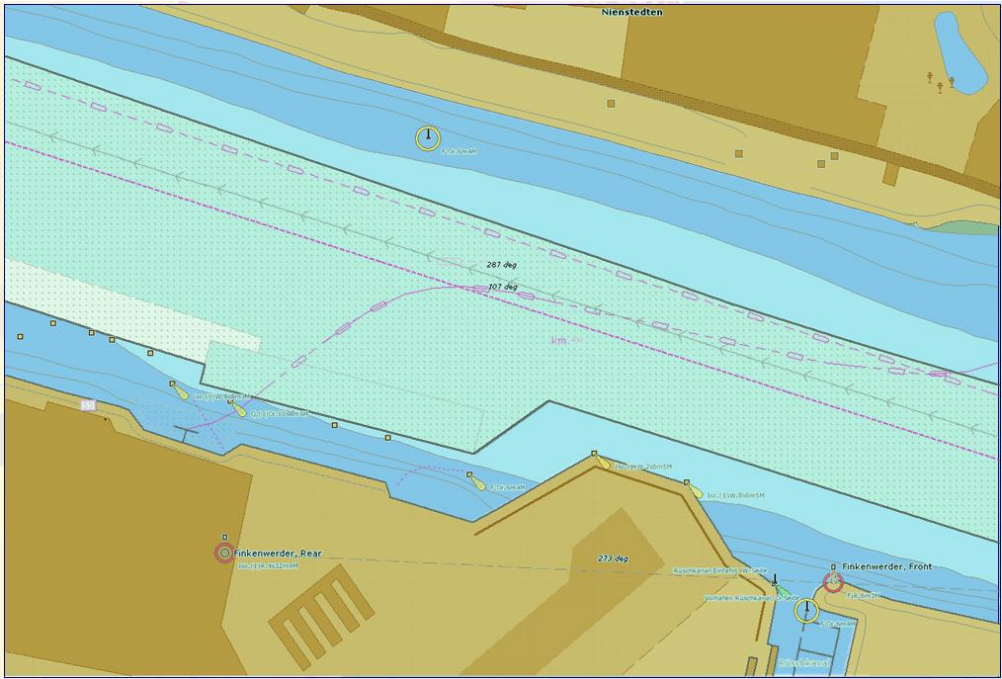


Current issues of sailors

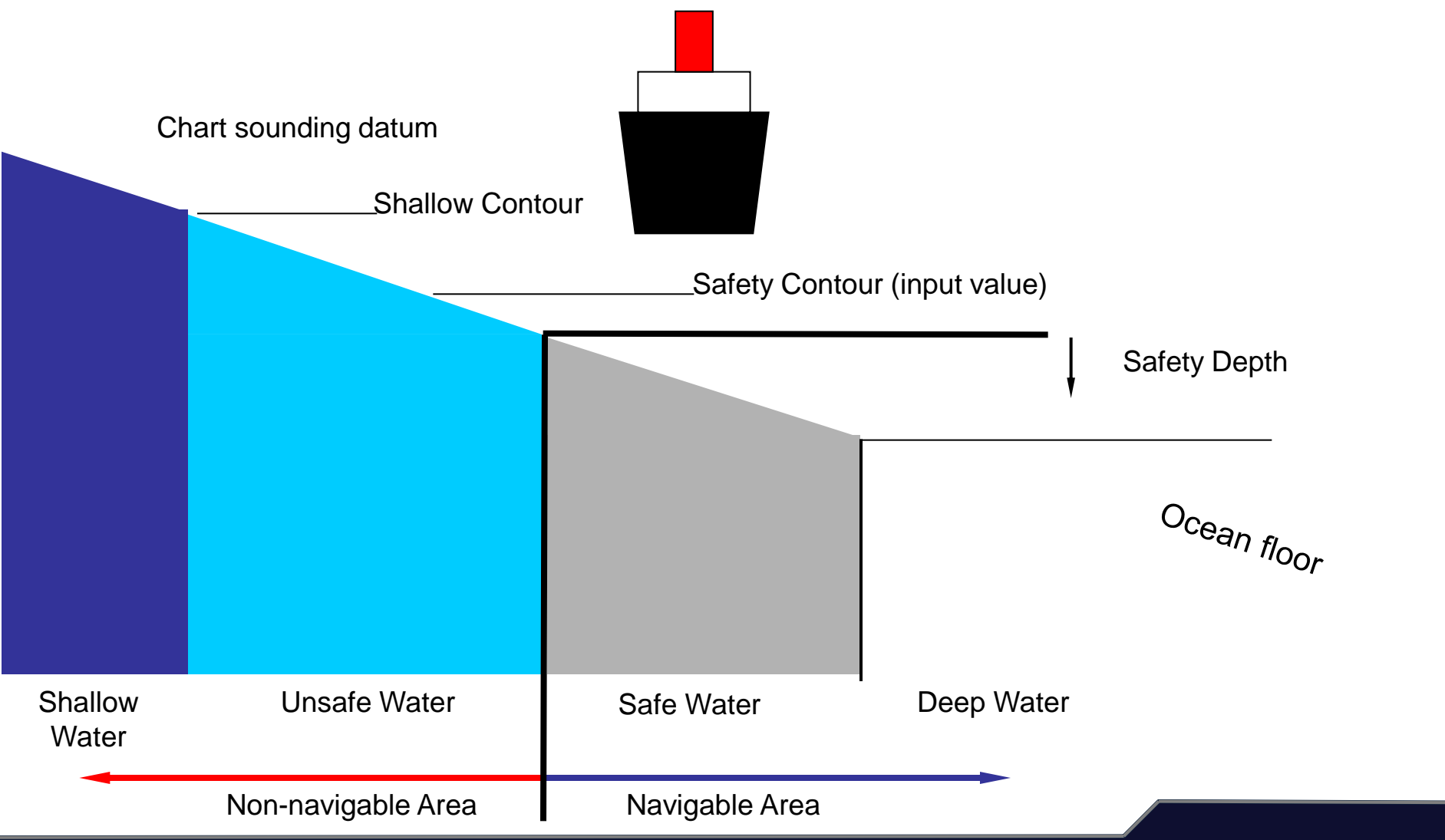


Source: UKHO

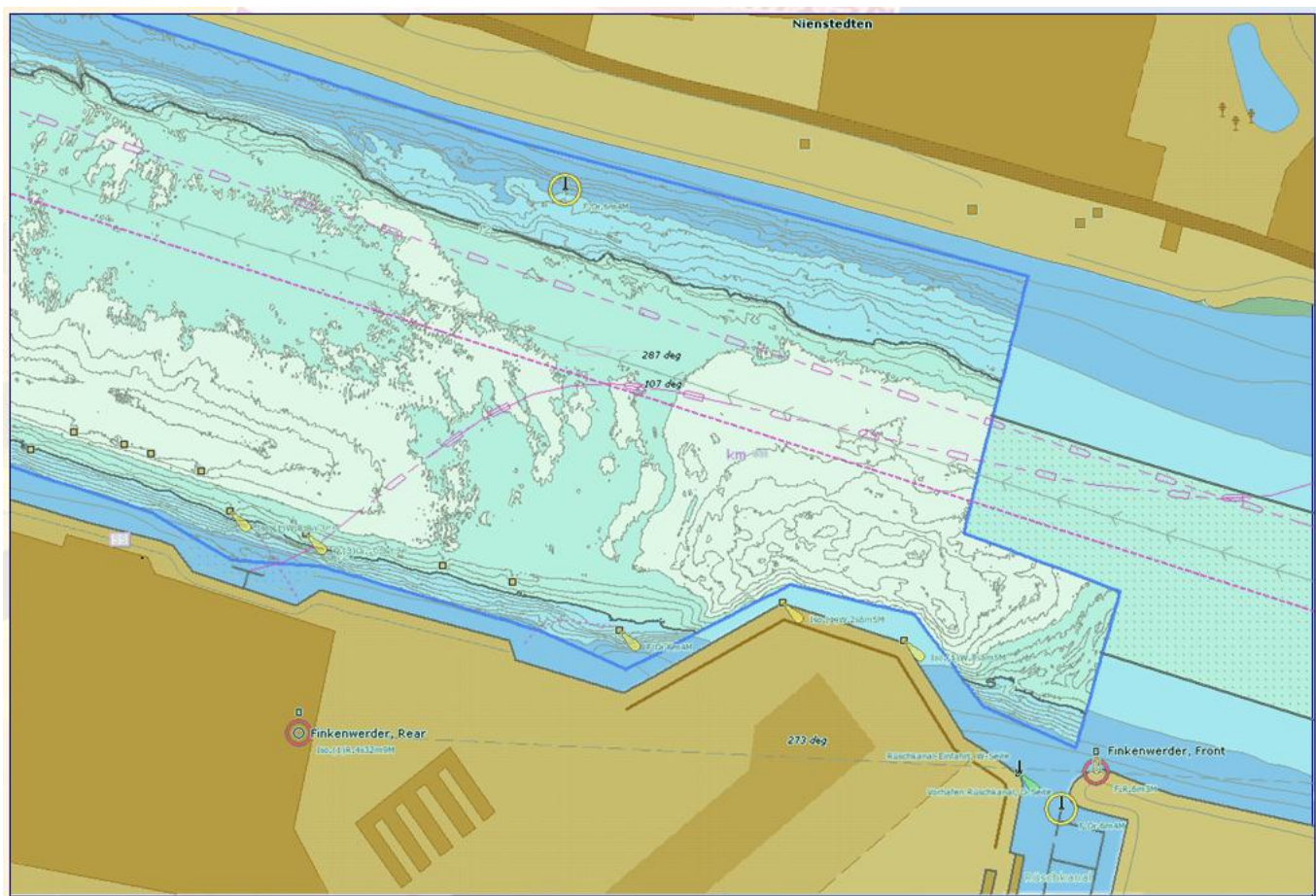
Lack of contour lines inside an ENC due to paper chart standards.



Current issues of sailors



Current issues of sailors



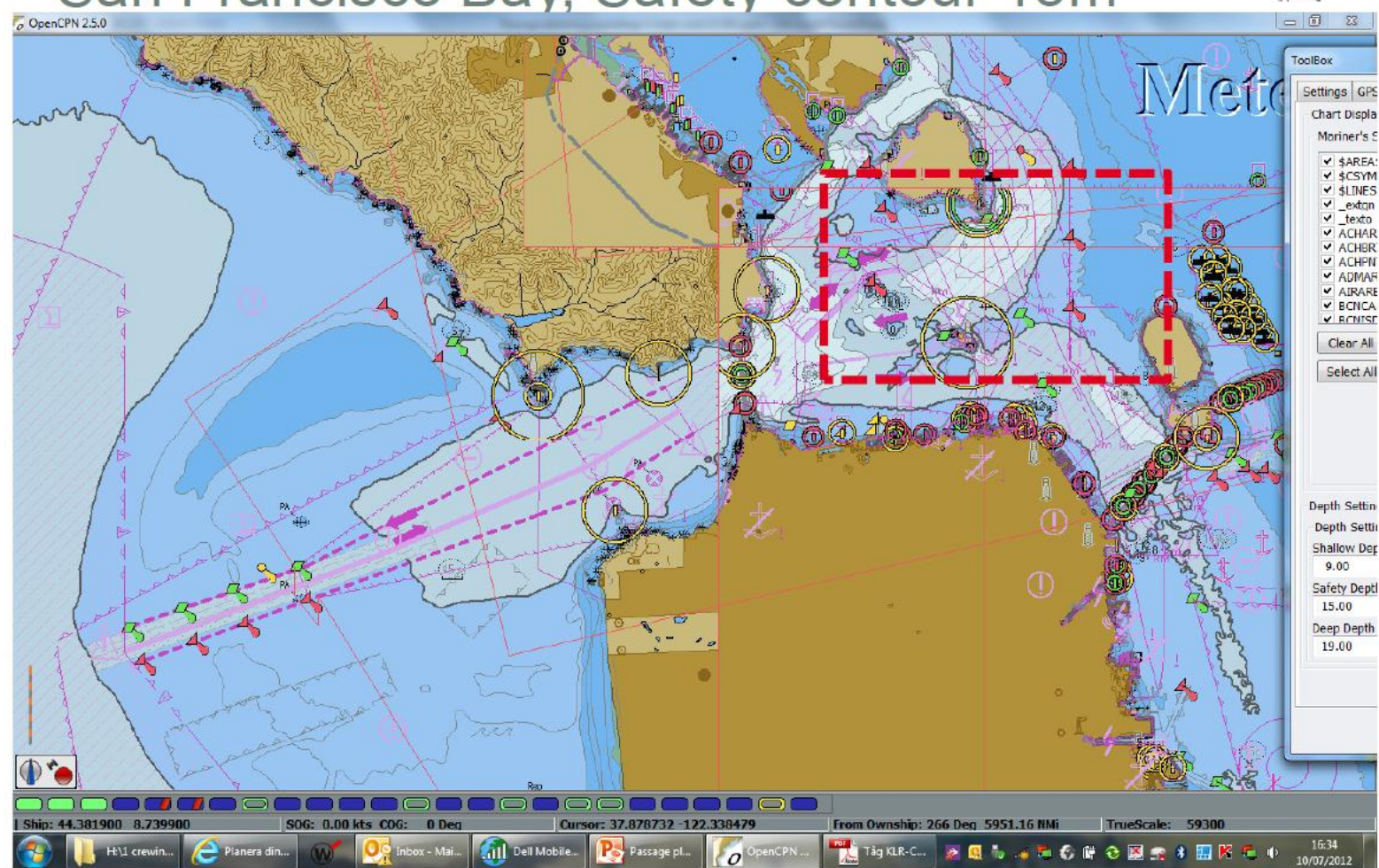
Current issues of sailors

San Francisco Bay



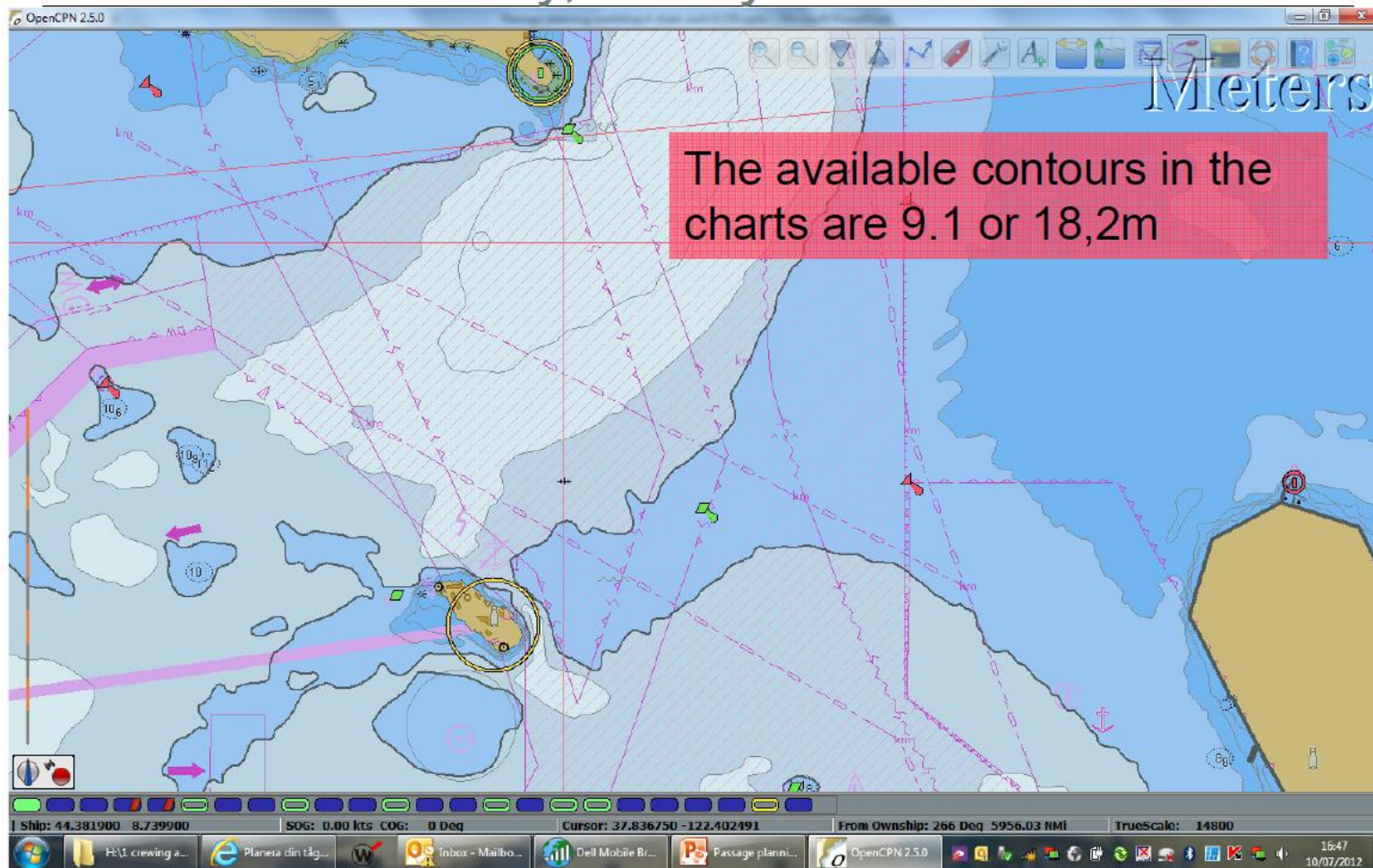
Current issues of sailors

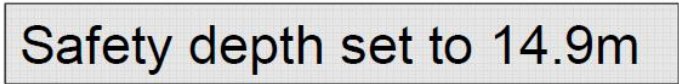
San Francisco Bay, Safety contour 15m



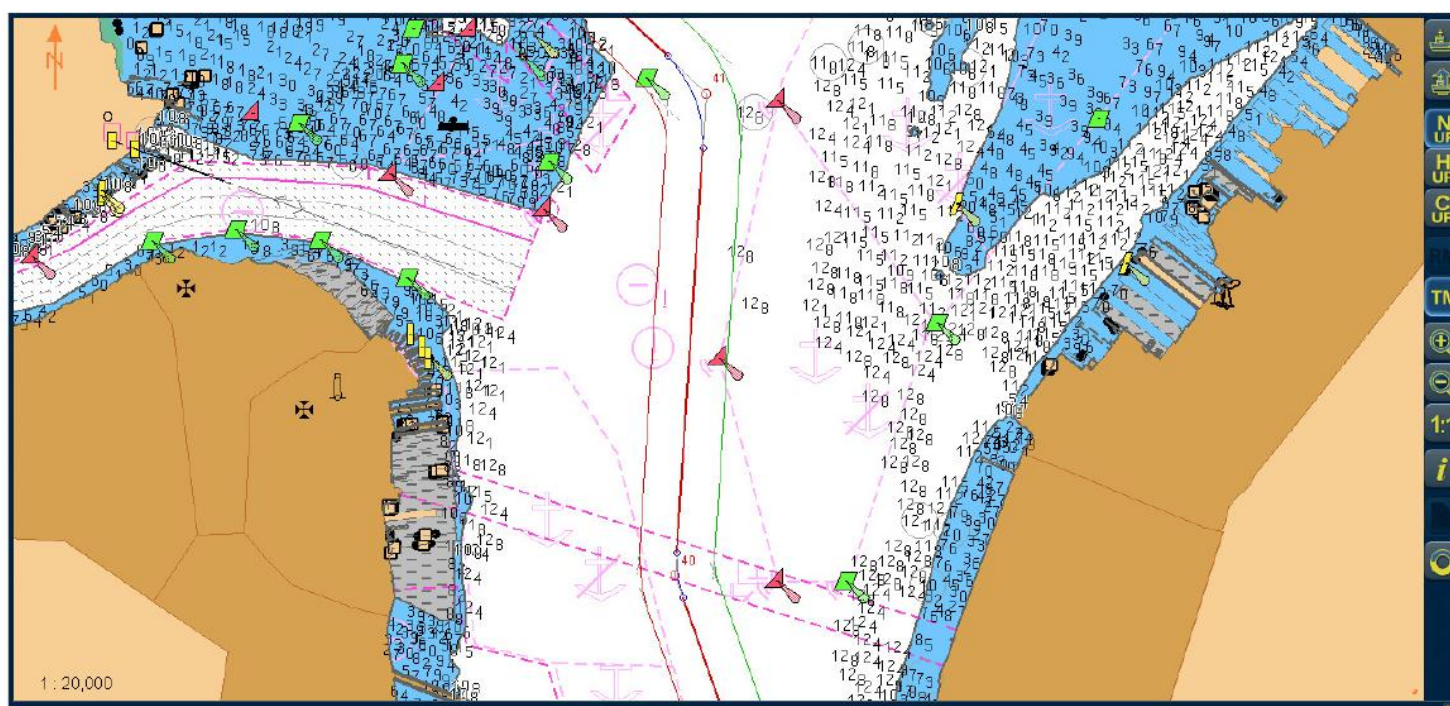
ECDIS Performance Standard vs. ENC Production

San Francisco Bay, Safety contour 15m



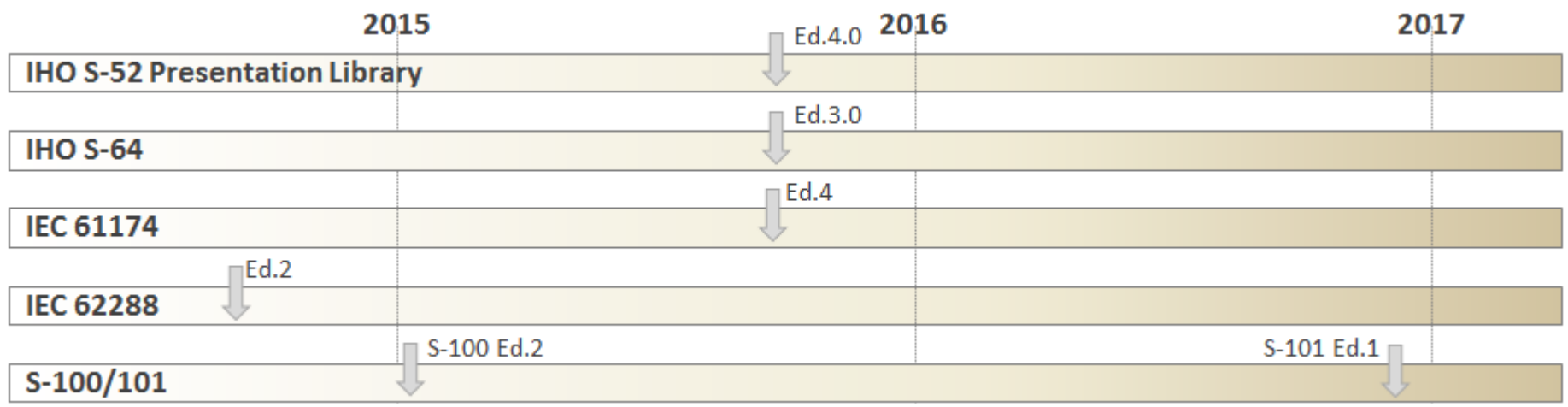


Current issues of sailors

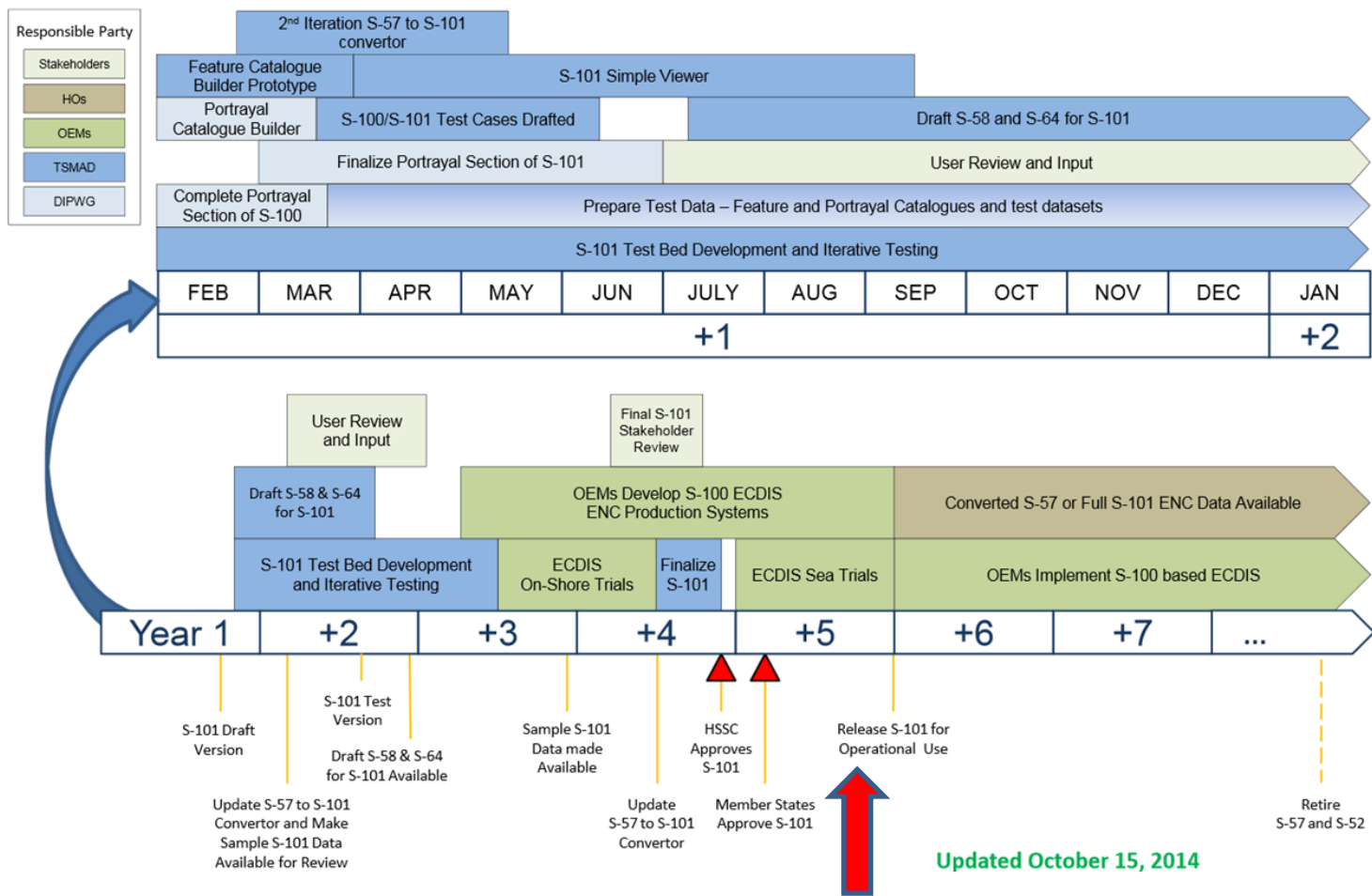


Soundings more than 13m suppressed

Current issues of OEMs



Current issues of OEMs



Date when all ships have to be equipped with ECDIS – Please note: Non of them will be S-100 compliant!

Presentation SevenCs and ChartWorld



Presentation SevenCs and ChartWorld



The screenshot displays the eGlobe software interface, which is used for maritime navigation and chart management. The main window shows a map of Southeast Asia and the Indian Ocean, with a grid overlay. The map includes labels for various locations such as Port Dickson, Melaka, Port Kelang (Kuala), Kuala Lumpur, and Singapore. A red line indicates a route or track on the map.

The interface is divided into several panels and toolbars:

- Top Panel:** Contains a toolbar with icons for S-Mode, Sailing Mode, Planning Mode, Chart Loader, View Alerts, Settings, Profiles, Integrator, and a Depth/Height in meters WGS84 display.
- Left Panel:** Contains a toolbar with icons for Chart Loading, Chart Inventory, Reports, Settings, Review Updates, Manual Updates, and Chart 1.
- Bottom Panel:** Contains a toolbar with icons for VECTOR, AIS, EPFS1, GPS, Edit, Undo, Redo, Select, Deselect, Pick, Chart Settings, and Go to Ship.

The main window is divided into three sections:

- Scan:** Contains a "Scan Drives" button and a "Scan FTP" button. The "Scan Drives" button is highlighted, and the text below it reads: "Press Scan Drives to load Permit, Data and Products.txt from defined local path." The "Scan FTP" button is also highlighted, and the text below it reads: "Press Scan FTP to load Permit, Data and Products.txt from Chart World Server."
- Process:** Contains a progress bar and a "Last Report" button. The progress bar shows 18% completion, and the text below it reads: "Processing GB300309.000". The "Last Report" button is highlighted, and the text below it reads: "No Errors".
- Synchronization:** Contains a "Revert" button, an "Apply Changes" button, and a "This Host:eGlobeBackup" button. The "Apply Changes" button is highlighted, and the text below it reads: "Remote:eGlobeMaster".

Presentation SevenCs and ChartWorld

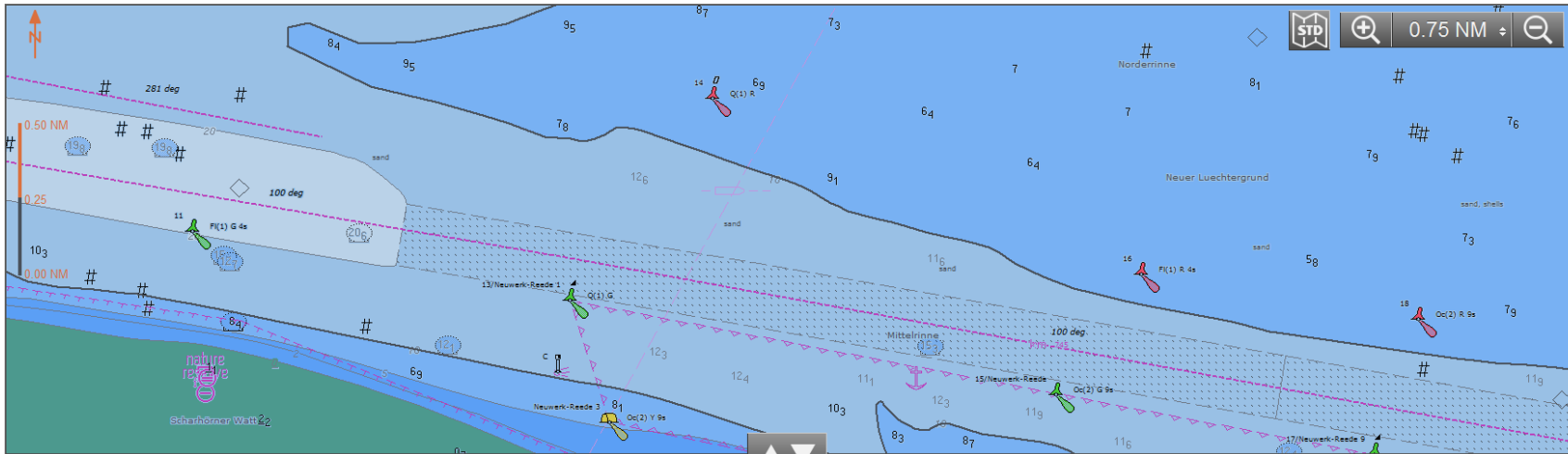


Chart Loading
Chart Inventory
Reports
* Settings
Review Updates
Manual Updates
Chart 1

S-63
S-57
ARCS

Selected: 0 items: Delete

Name	Status	Product	Producer	Installed Edition	Installed Update	Update Date	Latest Edition Available	Latest Update Available	Date of Latest Update
AR201130	OK	ENC	AR	2	9	26.08.2014	2	9	26.08.2014
AR201140	OK	ENC	AR	1	14	26.08.2014	1	14	26.08.2014
AR202100	OK	ENC	AR	1	7	28.07.2014	1	7	28.07.2014
AR202140	OK	ENC	AR	1	1	30.04.2013	1	1	30.04.2013
AR203100	OK	ENC	AR	1	8	29.04.2014	1	8	29.04.2014
AR203170	OK	ENC	AR	1	1	02.10.2013	1	1	02.10.2013

Installation
☒ Installed
☒ Not Installed

Expiry
☒ Does Expire
☒ Never Expires

License
☒ Licensed
☒ Not Licensed

Installed: 13656
 Expired: 0 Not up to date: 0
 Expiring next 30 days: 0

Cursor: ---
 BRG: --- (T)
 Dist: ---

VECTOR: 3min T GND
 AIS: filtered
 ACTIVE:

position by
 EPFS1 ●
 GPS

Edit
Undo
Redo
☒ Select
☒ Deselect
 Pick
 Chart Settings
 Go to Ship

Depth/Height
 in meters
WGS84

S-Mode

Sailing Mode

Planning Mode

Chart Loader

View Alerts

Settings

Profiles

Integrator

Day



Presentation SevenCs and ChartWorld

Thank you.