HỎI ĐÁP ECDIS

ECDIS FAQs

Here is a list of some of the most frequently asked questions about ECDIS. If you can't find the answer to your question in the list below then feel free to click on the contact us button at the bottom of the page and ask us your question.

Q. What is an ECDIS?

A. ECDIS is defined in the IMO ECDIS Performance Standards (IMO Resolution A.817(19)) as follows:

Electronic Chart Display and Information System (ECDIS) means a navigation information system which, with adequate back up arrangements, can be accepted as complying with the up-to-date chart required by regulation V/19 & V/27 of the 1974 SOLAS Convention, by displaying selected information from navigation sensors to assist the mariner in route planning and route monitoring, and by displaying additional navigation-related information if required.

Put in simpler terms it is a computer-based navigation system that integrates electronic navigational charts (ENC), position information from the Global Positioning System (GPS) and other navigational sensors, such as radar, fathometer and automatic identification systems (AIS) to provide an alternative to paper navigation charts.

Q. What are the IMO Regulations regarding ECDIS?

A. At its 86th session from May 26 to June 5 2009, the IMO's Maritime Safety Committee approved new regulations making the carriage of ECDIS mandatory.

The resulting amendments to SOLAS Chapter V regulation 19.2 require ships engaged on international voyages to be fitted with ECDIS according to the table below.
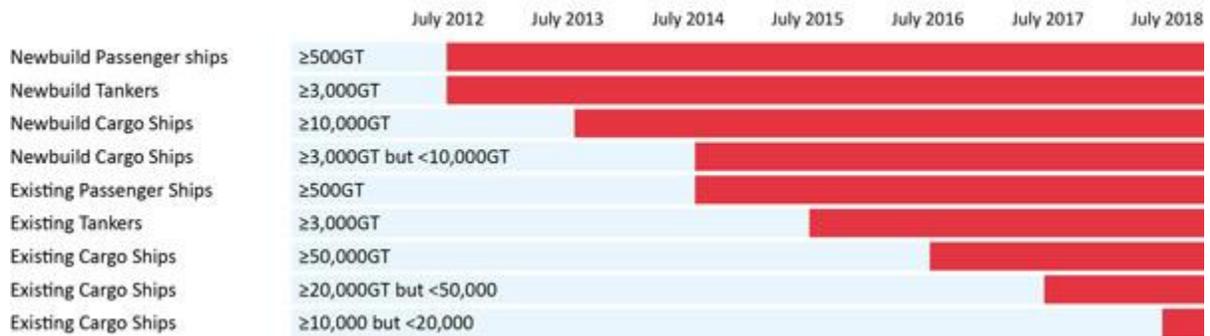
Q. When does it come into force?

A. The requirement for the installation of an ECDIS comes into force over the next 6 years from July 2012 in stages depending on the vessel type. A timetable of the implementation dates can be found below.

Q. What is the schedule for implementing ECDIS?

A.

ECDIS Implementation Schedule - July 2012 to July 2018

		July 2012	July 2013	July 2014	July 2015	July 2016	July 2017	July 2018
Newbuild Passenger ships	≥500GT							
Newbuild Tankers	≥3,000GT							
Newbuild Cargo Ships	≥10,000GT							
Newbuild Cargo Ships	≥3,000GT but <10,000GT							
Existing Passenger Ships	≥500GT							
Existing Tankers	≥3,000GT							
Existing Cargo Ships	≥50,000GT							
Existing Cargo Ships	≥20,000GT but <50,000							
Existing Cargo Ships	≥10,000 but <20,000							

Q. How do I comply with the regulations?

A. To comply with the IMO regulations you will be required to install an ECDIS with type approval from the recognised organisations or marine classification societies nominated by flag states within the timescale shown in the above timetable. The primary method for navigation will be ECDIS but a back up is required in the event of a failure. The back up can either be a secondary ECDIS (known as a dual system) connected to an independent power supply and GPS position input or the traditional paper charts.

Q. What is a nautical chart?

A. Nautical charts are maps specifically designed to meet the requirements of marine navigation, showing amongst other things depths, nature of bottom, elevations, configuration and characteristics of coast, dangers and aids to navigation. IMO requirements are for all vessels engaged on international voyages to carry nautical charts on board.

Nautical charts can be in analogue form (paper charts) or digital (electronic charts). However, only charts issued by or on the authority of a government and official Hydrographic Office are classified as official charts and authorised to fulfil carriage requirements. Any other type of chart (private charts) are not permitted as tools for navigation under the IMO SOLAS convention.

There are two types of OFFICIAL digital/electronic charts – Raster Navigational Charts (RNC) and Electronic Navigational Charts (ENC) which are known as vector charts:

Raster (RNC) – this is purely a scanned and passive image of a paper chart.

Vector (ENC) – these maps are manipulative by the user to show specific user-defined information and the features are drawn from a series of points, lines and area shapes. Also, warning alarms can be created to aid avoidance of disaster i.e. grounding of vessel.

Q. What is an ENC?

ENC is an acronym for Electronic Navigation Chart which is a file containing the official chart data that an ECDIS utilises.

The IMO defines an ENC as follows:

ENC means the database, standardised as to content, structure and format, issued for use with ECDIS on the authority of government-authorised Hydrographic Offices. The ENC contains all the chart information useful for safe navigation, and may contain supplementary information in addition to that contained in the paper, which may be considered necessary for safe navigation.

The use of ENCs in an approved and certified ECDIS and with appropriate back up arrangements is the only paperless chart option for vessel navigation.

Q. What is a SENC?

A. SENC is an acronym for System Electronic Navigational Chart. An ECDIS converts ENC data into its own internal SENC format for optimal chart image creation. SENC data can differ between manufacturers.

"The System Electronic Navigational Chart (SENC) means a database resulting from the transformation of the ENC by ECDIS for appropriate use, updates to the ENC by appropriate means and other data added by the mariner. It is this database that is actually accessed by ECDIS for the display generation and other navigational functions and is the equivalent to an up-to-date paper chart."

Q. What is RCDS?

A. RCDS is an acronym for Raster Chart Display System. A vessel is permitted to sail in RCDS mode if approved by their flag state for geographical areas where there are no ENCs available. For Flag state conformance, vessels must also carry up to date paper charts for these areas. Using RCDS mode in ENC available geographic areas is forbidden. If sailing in RCDS mode then paper charts become the primary form of navigation and the electronic chart is simply an aid to navigation.

Q. How is the chart update process managed?

A. Chart updates for ECDIS can be done directly to vessels by DVD, e-mail or online. We understand the complexity of managing the changes to chart folios resulting from changing vessels' trading patterns or available ENC coverage. We can ensure that your vessel can have the latest charts via a variety of update methods.

Q. What else is needed to comply?

A. As well as the purchase and installation of a fully approved ECDIS, compliant training is also required.

Q. What training is required?

A. Bridge officers / OOW should receive flag state approved general ECDIS training that follows the IMO Model Course 1.27 (40 hours) to satisfy the IMO Standards for Training Certification and Watchkeeping (STCW). In addition to this, manufacturer approved equipment-specific training needs to be carried out according to the IMO's International Safety Management (ISM) Code.