# Shipowners are unprepared for ecdis implementation

There is a surprising lack of hard data across the ecdis supply industry about the number of vessels operating approved systems correctly. Original equipment manufacturers (OEMs) and distributors do not know the total market penetration of approved ecdis, nor the number of ships that would be compliant within IMO's mandate for ecdis carriage, often because many ships run dual systems.

But what is becoming clear is that a significant number of ship operators are unprepared for the enforcement of IMO's phased ecdis mandatory carriage regulations. With the widespread use of paper charts, unofficial data and non-approved equipment, there is still plenty of work to be done to persuade operators to invest in approved equipment and training.

The actual date for the implementation of ecdis depends on the type and tonnage of ship, with further distinctions between supplying new build and the retrofitting of existing ships. Many operators are sailing their fleets with some form of electronic navigation systems and paper charts, but many of these are not type approved.

In a survey of major ship operators recently carried out by The Strategy Works, 80 per cent of the shipping companies interviewed have

*2012 was the start of the six-year introduction period of ecdis, but there is still plenty of work to do to ensure shipowners follow IMO's rules correctly, says* **Michael Herson***

between 75–100 per cent of their fleet fitted with an electronic chart system. However, these figures diminish significantly in terms of type-approved ecdis, where only 40 per cent of the shipping companies interviewed had more than half of their vessels fitted with type-approved hardware.

Paper charts still currently dominate navigational operations. Only one shipping company interviewed had any vessels that do not carry paper charts for primary navigation. The operators interviewed said the main reason for using paper charts is legislative, because they are sailing with the unofficial electronic chart systems. Safety concerns are another reason according to MOL LNG (Europe)'s health and safety manager, Kaushik Roy. He adds: "We have safety concerns because of the problems with ecdis. Paper charts will continue to be used in parallel with ecdis prior to the full implementation to ensure there is additional navigational safety."

This is confirmed by Stephan Dimke, sales director at ChartWorld International. "Some vessels use unofficial ECS in addition to paper charts because the crew feel they improve safety and make navigation easier," he explains. "Some crews do not feel confident using official ENC data. The reason is insufficient training and lack of existing procedures for using ENCs on board. As a result, a lot of vessels still use paper charts."

Some companies, such as Maersk Supply Service, use a mixture of navigational data sources. According to Maersk Supply Service's marine superintendent, Gustav Wain Bretton-Meyer, in areas where there is ENC coverage the company's ships use UK Hydrographic Office (UKHO) as their primary source, with the Admiralty Raster Chart Service (ARCS) as a back-up. For areas not covered, they use raster charts, and for ecdis that cannot use those charts, Maersk Supply Service uses C-Map or Transas data backed up by paper charts.

The ENC coverage issue is addressed by the Admiralty Vector Chart Service (AVCS) according to Stephen Wong, assistant sales manager at chart supplier Lilley & Gillie. "There is a big drive for AVCS. There are several areas of the world where there are no ENCs from anyone else. For example, if you go through the Panama Canal and if you do not have AVCS, once you hit



*A Stolt Tankers crew member updates a folio of paper charts*

the south Atlantic there are no ENCs. Admiralty has additional benefits, like they are willing to check the data against the paper charts, so there are some quality benefits as well."

Both the upstream data providers and the shipping companies are still positive about the use of unofficial data. Indeed the belief in the industry is that little more than around 15 per cent of shipping fleets are using official data from hydrographic offices, and there is still widespread use of unofficial data. Half the shipping companies interviewed admitted they did not use official data.

This is explained by Kelvin Hughes (KH) Charts' managing director, Martin Taylor. He says that the first question to customers when making their data decision is: "Do you want to go with official data or unofficial data? There are some cost and licensing benefits from going to unofficial data. For example, we had a big fleet that has just renewed on unofficial data despite fully understanding the difference between the two data types. The unofficial data's cheaper than the official data, and their vessels may not be mandated for another two or three years." Mr Taylor sees unofficial data as a practical solution for some vessels, not least because of its user-friendliness: "I think there is an element of that if you include ARCS within this category, as many mariners prefer the way the data is presented as it resembles the paper chart. Additionally, some unofficial data is truly global, where official data at the moment still has holes."

Around 80 per cent of the shipping companies interviewed by The Strategy Works expect to abandon paper charts in the future with reduced costs being cited as the main motivation for doing so. "We may do it even earlier than 2016 as we are currently spending double the money on ENC data licences and also on paper charts," comments one shipping company executive who wished to remain anonymous. Another shipping company endorses this view. "We are looking to go paperless in the near future. We are convinced that this is a safer and economic way forward for navigation. Providing paper charts is having an impact on budget. For tramp shipping with sudden route changes, paper charts are always urgently needed, so we have to fly paper charts around the world, and hire launches to bring them out to the vessels, creating a lot of cost."

When ship operators are implementing an ecdis strategy, many are following IMO's requirements for back-up with dual ecdis. In The Strategy Works' survey, 60 per cent of the shipping companies interviewed said they already had two displays on their ecdis-equipped ships. Although there is no official data on the use of ecdis, industry estimates from those interviewed suggest around 40,000–50,000 mandated vessels globally are using some form of electronic chart.

The OEMs are facing a changing market with



*Bob Ball (BP Shipping): "Our fleet has a total of four different types of ecdis"*

fewer new vessel orders and more potential for retrofitting existing fleets by replacing legacy systems. Some OEMs have thrived and some have fallen. Since the first ecdis systems were introduced, seven manufacturers have disappeared, leaving a support problem, says Japan Radio Co (JRC)'s compliance manager, James Moon. He adds, "They have left legacy systems when there is no service and no back-up, so trying to get a new presentation library, for example, for IHO compliance, it just does not work. If there is a software anomaly then you are stuck with it, and you cannot get them upgraded." Mr Moon believes consolidation of ecdis manufacturers is happening naturally: "There are probably five major manufacturers that have taken the major share of the market and then the rest are smaller."

Ecdis supplier, Raytheon Anschütz, has reacted to the rising demand for retrofitting ecdis systems, says the company's marketing manager, Martin Richter. "Retrofit is starting now really to boost our business," he says. Raytheon's stand-alone ecdis for the retrofit market uses a 60cm marinised panel PC, where there is a lesser degree of integration required than for an integrated bridge system. Mr Richter also cautions against buying from companies that are not able to offer continuous support. "We see a lot of companies that have supplied a system but were not able to support it with worldwide service or ongoing spare part support," he explains. "To support our solutions over the next decade, we have 200 service stations and 25 large spare part depots and a professional after-sales management department who do all the obsolescence and end-of-life support and upgrade or retrofit programmes."

Most ecdis suppliers are data agnostic and support most chart types. This is the case for Furuno, confirms the company's deepsea product manager, Bill Haynes: "We are highly neutral when it comes to charts." SAM Electronics' head of product management, Erik Petersen, also confirms this view. "Ships can use any type of approved ENC on our system; there is complete division between the system and charting," he says. "Charting is neutral. Ship operators can buy systems from X and data from Y, and vice versa."

The furthest any of the main ecdis manufacturers will go is offering trial data for three months, but that free trial is usually funded by the data supplier according to Sperry Marine's strategic business manager, Scott McCrory. "We will do trial data, but that is not us – that is the chart data supplier." During The Strategic Works' research process, no formal relationship was established between any (separate) data provider and ecdis manufacturer, unless they sit within the same group of companies, such as Transas or Kelvin Hughes.

When it comes to reducing costs, some ship operators are looking at pay-as-you-sail (PAYS) solutions. Around 70 per cent of the shipping companies interviewed saw PAYS as providing a benefit, but, only 10 per cent actually admitted to buying PAYS – so there is clearly a lot more selling and education to be done by the industry in this respect.

Cost savings are clearly a key criterion for considering PAYS. Bob Ball of BP Shipping is interested in PAYS as a potential cost saving because the operator only pays for what it uses. However not everyone is convinced and Mr Bretton-Meyer at Maersk Supply Service believes it will work out to be more expensive. "We believe that PAYS is more expensive than normal subscription if not handled correctly," he says.

Navtor has built its whole business model around PAYS. The company's managing director, Tor Svanes, says it is the most efficient way for customers to purchase data However, Kelvin Hughes' Mr Taylor is not convinced by the cost savings argument. "If you buy data for PAYS you pay generally another 25 per cent on top of the cost of each cell of data than if you bought it as standard use." But Mr Taylor also sees an up side. "The advantage is that you have the permits for the whole world on board the vessel. If you have a safety problem and you have got to get someone to shore quickly, and you need to change your route to do that, you have the data with you and you do not have to make any calls or expensive communications to open that data," he explains. *MEC*

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