

Electronic charts

Chapter V of SOLAS now includes explicit mention of electronic chart systems, including the statement "An electronic chart display and information system (ECDIS) may be accepted as meeting the chart carriage requirements". Unfortunately, a confusing array of interpretations from marine administrations has emerged of the detailed requirements for using electronic charts. This includes such aspects as requirements for back-up and the use of official raster data (RCDS) when official vector data (ENC) is not available.

For instance, the maritime administration in the Netherlands has the policy that if an ECDIS is fitted the use of RCDS (if ENCs are not available) is preferable to the use of paper charts alone, while the Norwegian administration states that RCDS "does not meet the chart requirement".

Apart from confusion there are two other main issues that are slowing the conversion from paper to electronic charts. The first of these is the availability of a broad coverage of ENCs, which is slowly being addressed but is not helped by the proliferation of national and regional routes to market of ENC data, which is creating difficulties in the procurement, use and updating of a global series of charts. The second is that during the transition phase from paper to official electronic the significant extra costs involved for the user are a deterrent. This is exacerbated by the current need to include raster or unofficial vector data during the transition period. Because of all these difficulties the market in non-official systems has strengthened. Such systems are referred to as ECS (Electronic Chart Systems) by IMO. These offer global non-official vector data or official raster data running on non-approved chart display systems. They are relatively affordable, have most of the user advantages of ECDIS, but users should be aware that they are just an aid to navigation and that the paper chart remains the official charting 'instrument'. It is one of the few examples where non-IMO approved technology is being used relatively commonly to aid the navigation of SOLAS vessels.

Nevertheless the currently slow adoption in the use of ECDIS and ENCs will inevitably speed-up and become the common standard. This could be greatly influenced if the costs involved for the user are reduced. In other spheres the prices of digital data have fallen while those of printed material have risen. This trend will almost certainly be followed in the case of charting.

A significant development in attempting to reduce transition costs is the forthcoming Admiralty ECDIS Service from the United Kingdom Hydrographic Office (UKHO). This is a 'dual-fuel' (ARCS/ ENC) data service that manages the replacement of ARCS (UKHO's official raster data) with ENCs as they become available. Importantly this replacement is covered within a fixed annual subscription price and therefore transition costs are predictable and containable, whatever the rate of ENC conversion. This service is currently being trialled by a number of major shipping companies including major tanker operators, which is helping the UKHO to optimise their offering. The service will be launched into the general market later this year. Alternative routes to ease the transition difficulties are being taken by companies already known for their private vector chart data. For instance C-Map has a service aimed at SOLAS vessels which combines official ENCs with their private CM93 (Ed 3) data. Data can be supplied via the 'System' ENC (SENC), which gives a seamless capability of displaying ENCs and CM93 data, with reduced data sizes. Screen symbology identifies the areas displaying ENC data from the areas that only have unofficial data coverage.