CHRIS16-8.1B

16th CHRIS MEETING
Ottawa, Ontario, Canada, 28-31 May 2004

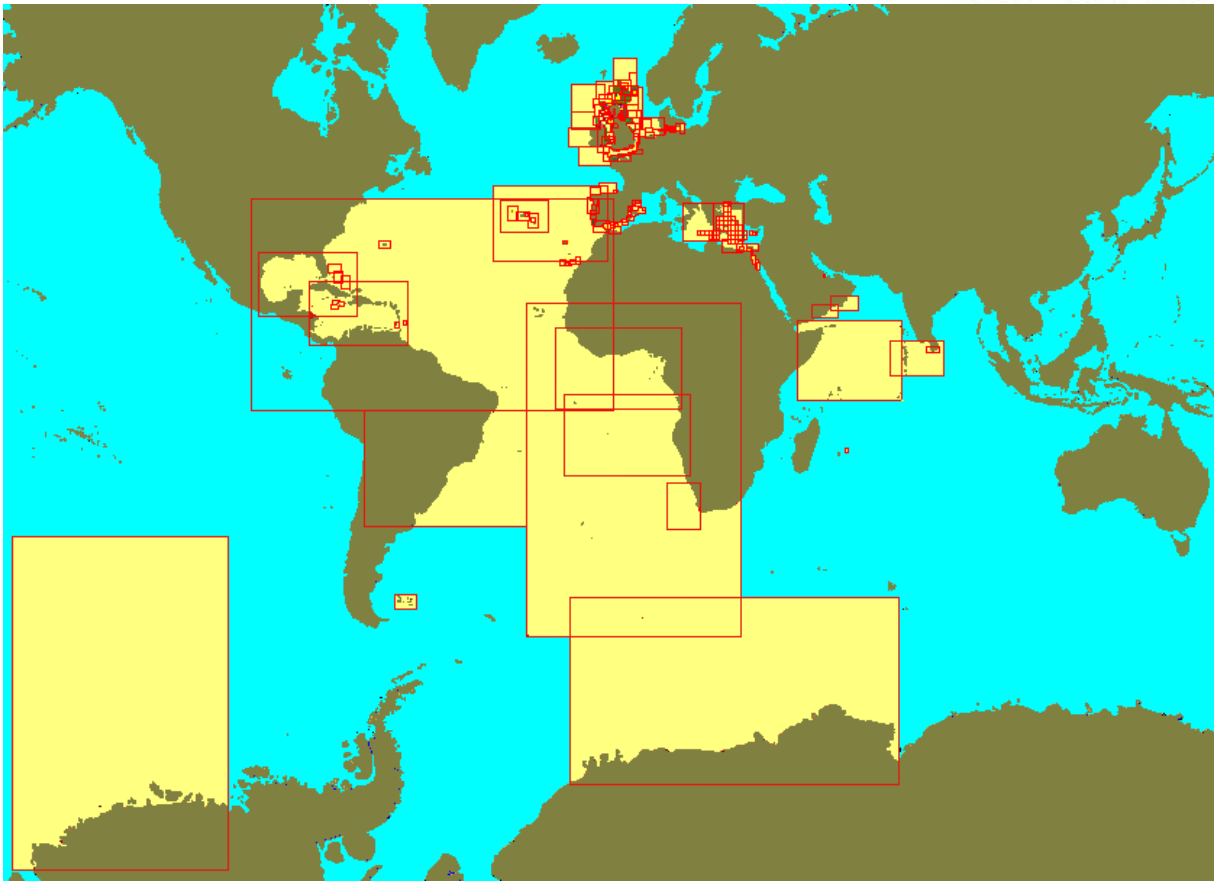
IC-ENC STATUS REPORT

Submitted by:	Graham Saundercock, IC-ENC Business Manager
Executive summary:	Report on the work undertaken and progress made by the International Centre for ENCs (IC-ENC), since CHRIS/15.
Actions to be taken:	CHRIS to note the report.
Related documents:	CHRIS letter No. 2/2004 (call for reports)
Related Projects:	Not applicable

Introduction

The International Centre for ENCs (IC-ENC) is operated by the UK Hydrographic Office (UKHO) on behalf of its members on a not-for-profit basis. Over the last year, we are very pleased to welcome Greece, India and South Africa as new members, and we are in discussion with several other nations with regard to membership. The cooperation with India is of particular interest since this will lead to the creation of a new Regional Centre, hosted by the Indian National Hydrographic Office, and using the same ISO9001:2000 certificated systems and procedures as IC-ENC.

IC-ENC is currently responsible for maintaining a database of over 630 ENC cells which is growing steadily both in size and more importantly in geographical coverage. For details of the latest coverage please see the graphical catalogue on our website at www.ic-enc.org



Coverage on 21 May 2004

Quality Assurance

The IC-ENC members consider it essential to apply a final independent quality assurance process, prior to ENC release, to ensure a supply of high quality consistent data to end users. This promotes confidence in the use of ENCs and enhances the total credibility of an ENC service.

IC-ENC therefore validates each ENC file (base cell and updates) before releasing it into its database. This full independent quality assurance process is conducted using both DKart and 7Cs validation tools, additional validation software designed by IC-ENC to supplement these validation tools, plus three ECDIS systems - all guided by an "error message database" that ensures a consistent and comprehensive approach is always applied. IC-ENC also uses an internally developed data management toolkit which helps its validation team to optimise the effectiveness of the validation process by presenting the validator with just the important information he needs to make a decision. This allows IC-ENC to optimise its efficiency and so keep costs to a minimum without undermining the reliability or comprehensive nature of the validation process.

At the same time, IC-ENC's philosophy of continuous improvement has given IC-ENC spare time to play an active role in working with its members and TSMAD to drive forward important new and improved standards related to the content, scheming and consistency of ENCs. This helps to ensure that the product database is both more consistent and suited to the navigational needs of the mariner.

Distribution

IC-ENC does not operate an end-user service of its own but prefers to take advantage of the expertise and experience of existing major service providers within the industry, allowing these companies to develop their own tailored services based on the ENC data. This significantly reduces the cost and technical complexities of IC-ENC, whilst at the same time maximising the availability of the ENCs for the user.

Therefore IC-ENC delivers its ENC database to the market through specialist distributors, known as Value Added Resellers (VARs), and IC-ENC and its members have an independent assessment panel that evaluates applications from companies wishing to become a VAR according to a standard procedure.

IC-ENC also allows VARs to provide SENC services where the company converts the ISO-8211 format of the ENC data into a type-approved SENC format (subject to the permission of the respective national hydrographic offices).

In all cases, IC-ENC members require that their ENC data is protected by a suitable data security scheme when it is provided to the customer. Since such security schemes control the level of access that a user has to the data, they effectively act as the controlling element to the subscription licence.

To date 5 companies have successfully completed this assessment process and have been appointed as IC-ENC VARs, offering worldwide distribution through its their distributor networks. These companies are:

The **UKHO** was the first VAR to be appointed, and it provides its "Admiralty ENC Service" through its world-wide network of Admiralty distributors. This service is protected using the international data security scheme – S63. UKHO is also trialling a new end-user service ("Admiralty ECDIS Service") where the customer can purchase folios providing comprehensive coverage of a given area, and contain ENCs where they are available and ARCS where they are not.

C-MAP Norway was the second VAR to be appointed. C-MAP takes the ENC data from IC-ENC and PRIMAR Stavanger and converts it into its proprietary SENC format (CM93/3). C-MAP supplements the ENCs with its own private data in the same SENC format where the ENCs are not available.

SevenCs/Chartworld was the third VAR to be appointed, they offer a SENC based service supplemented by private data for areas where ENCs are not available.

Transas Ltd was the fourth VAR to be appointed, and will also offer a SENC based service supplemented by private data for areas where ENCs are not available.

The Norwegian Hydrographic Service is the latest VAR to be appointed, and provides the "PRIMAR Stavanger Official ENC Service" through a comprehensive network of distributors. The service is protected using the international data security scheme – S63

IC-ENC is also about to appoint a sixth VAR. This company is a leading international chart agent with many years experience in managing the supply of paper charts and publications. Like the UKHO and Norwegian Hydrographic Service, they also plan to offer an integrated ENC based service.

Another advantage of a distribution model that uses VARs is that the user will have a choice of services from his chosen distributor that incorporates a wide range of ENCs and other complementary products within a single integrated service proposition. This avoids the need for the user to purchase numerous different services each priced, licensed and packaged differently, a situation about which a growing number of potential users have recently complained.

Sales

IC-ENC uses a "Unit" concept which groups ENC cells into units which are broadly equivalent to a paper chart in terms of coverage. IC-ENC then sells these units to its appointed VARs at the wholesale price set by its members.

IC-ENC recovers its costs by retaining a fixed amount of the revenue it receives from its VARs for every unit sold. This amount is set at $5, a level designed to ensure that IC-ENC can recover its operational costs within five years.

IC-ENC currently has 631 ENC cells available, grouped into around 390 "paper chart equivalent" Units of sale, and on average there are 14 Users per unit. Sales are growing at about 300% per year.

Wider Issues

IC-ENC attended the Singapore ECDIS Conference in 2003 and noted, in particular, the general comments related to the lack of an integrated catalogue of ENCs, and the inconsistent application of the S-57 standards by HOs when ENCs are created.

> In response to the first of these, IC-ENC, in close cooperation with our colleagues in the Portuguese Instituto Hidrografico, now has on its website a Graphical Catalogue showing all ENCs that are available for sale, those that have been produced but are not yet available, and those that are planned for production. In the case of those available for sale, the catalogue contains information on where those ENCs can be bought. This catalogue will shortly be upgraded to show data coverage information as well.
> See www.ic-enc.org or www.hidrografico.pt/website/ic_enc/viewer.htm
>
> With regard to the second comment, IC-ENC had already initiated the study that has now led to the creation of the TSMAD ENC Consistency Working Group which is currently considering the various consistency recommendations proposed by the IC-ENC members. It is hoped that the review of the recommendations will be completed this month and that a draft set of final recommendations will then be forwarded to the IHB for issuing to member states by Circular Letter.

For the most up-to-date information see www.ic-enc.org