

INLAND ENC PRODUCTION

European Union

ECDIS has been standardised by the IHO in Special Publications No. 57 (S57) and No. 52 (S52) and is established in coastal and open sea areas. The S57 standard covers the data model of the chart, whereas S52 defines its presentation. These standards are well approved and thus changes and extensions must be handled carefully. Nevertheless, European hydrographic offices faced the need for adaptations since traffic signs and traffic regulations differ on inland waterways. As a consequence, European experts developed the Inland ECDIS standard as an amendment to the maritime standard. The problem has thus been solved by supplements, strictly avoiding incompatibilities.

Inland ECDIS is recommended by all European standardisation bodies; a world-wide standard is in preparation, in close co-operation with North American administrations. The IHO has been kept closely informed about all these developments and achievements in Inland ECDIS-related activities by members of the expert group. In addition, it is planned to extend co-operation the run of the future co-operation with North America.

The COMPRIS Project

In transport, and definitely in inland shipping, the use of 'Information and Communication Technology' (ICT) is increasing. ICT is an important instrument in the promotion of transport over water. It can provide inland shipping with a competitive edge over road transport. In 1998 the European Union began developing the concept of River Information Services (RIS).

RIS streamlines information exchange between public and private parties participating in inland waterborne transport. This information is shared on the basis of international information and communication standards and is used in various applications and systems for traffic or transport processes.

COMPRIS (Consortium Operational Management Platform River Information Services) is a research and demonstration project within the Growth Programme of the European Commission. The main objective of COMPRIS is to enhance the existing concept of RIS. RIS will support traffic management on inland waterways in Europe. By improving the transport and logistic information that underpins transport and logistical management, the inland navigation transport mode will become a more competitive modality. The awareness and co-operation of all participants (industry, transport sector and authorities) are crucial factors in the scientific, technical and organisational elements of COMPRIS.

One of the major key elements of RIS is the generation of a tactical traffic image showing positions of vessels (including detailed information of ship name, dimension, ports of destination, dangerous cargo etc.) in real-time. This information is based on Inland ECDIS charts and therefore their provision is regarded as a main prerequisite for the implementation of RIS.

As a consequence, COMPRIS aims to mature Inland ECDIS and its applications. So far, only Austria, Germany and the Netherlands have participated in the development of Inland ECDIS. In COMPRIS a large number of additional European countries join in this development and the Inland ECDIS standard will need to be enhanced to care for the specific needs of these countries.

The main Inland ECDIS-related objectives of COMPRIS are:

- To produce sample data collections to show the feasibility of methods and software tools and scenarios for time and cost-effective data gathering methods
- To develop, amend and adapt the existing Inland ECDIS standard with respect to inclusion of water-level, water depth, current info, legal information (legal ECDIS), dynamic objects (status report of bridges, locks...), standardised numerical Notices to Skippers and their inclusion in Inland ECDIS and the Inland ECDIS updating and referring infrastructure
- To develop Inland ENC tools that are used by experts and personnel involved in charting and updating activities
- To design, develop and validate a user-friendly and cost-effective application in the wheelhouses of inland vessels, such as voyage planning applications, engine control and fuel minimisation applications, applications for the integration of radar tracking and route planning results

Status of Inland ECDIS-related Issues within COMPRIS

In August 2003 the first period of the Inland ECDIS related work package ended. The required results were achieved and exceeded all expectations. According to the goals, each participating country had to work out initial sample datasets of Inland ECDIS charts. In addition, concepts for the on-going production of charts had to be set up. The main questions to be defined by all states involved several issues. These included whether charts were to be provided free of charge or to be sold, whether depth information would be provided in the first ENCs or not and, most important of all, whether the ENCs will be worked out by official hydrographical offices or by subcontracted private parties.

As a first result, the Netherlands, Belgium, Slovakian Republic, Hungary, Croatia, Serbia-Montenegro, Bulgaria and Romania all delivered sample ENCs. In addition, Austria extended the contents of her charts and worked out a demonstrator for the inclusion of depth information. In parallel to these activities, future co-operation between Romania and the Ukraine and Bulgaria was set up in order to share the implementation of ENCs for their common stretch of the Danube. All these ENCs differ very much in quality and content but, on the whole, the following achievements may be seen as a vital success of these activities:

- All countries became aware of the importance of providing Inland ENC's in order to improve safety of navigation and to provide a basis for the implementation of River Information Services
- National projects were set up in order to achieve quick and high-quality results in providing full coverage of the main waterways with Inland ENC's
- All countries accumulated experience with the Inland ECDIS standard, which will guarantee the basis for the coming adoption of the standard to the needs of additional European countries
- First steps in the intensive promotion of Inland ENC usage among skippers and shippers were defined and, in some cases, begun
- Both official and private parties set up intensive contacts for future co-operation. Ideas and requests were exchanged and common activities defined

In addition to specifically Inland ECDIS-related issues, other results were achieved. A standard for a digital format for notices to skippers was worked out in an expert group. This standard provides an internationally common XML structure for notices, which will enable applications to translate them into all required languages. All used terms are already translated into eleven languages. In addition, the standard provides the possibility to include information in Inland ECDIS and voyage planning applications. A proper definition of this link will be one of the next steps.

Additional next steps within COMPRIS will be:

- To adapt the Inland ECDIS standard to the needs of all European countries
- To develop a concept for the inclusion of dynamic objects. These objects are defined as information that due to its rapid rate of change cannot be handled by normal update mechanisms
- To define common rules or proposals for the inclusion of depth information in Inland ENC's
- To extend the Inland ECDIS standard in order to enable the inclusion of network-relevant data and information on regulations (legal ECDIS)
- To include all achieved agreements in existing applications and to demonstrate their functioning

Summary

In the run of the COMPRIS project, ideas about the Inland ECDIS standard were spread extensively all over Europe. The impressive efforts of particularly eastern European countries in achieving initial sample ENC's and pushing on-going production for their waterways may be seen as first results. The resulting experience will provide an excellent basis for the coming discussions about further extension of the Inland ECDIS standard.

In addition, digital notices to skippers were defined in order to provide the possibility to include them in Inland ECDIS charts and to translate them automatically into all relevant languages.

Next steps of the project have been defined and work is in progress. A complete coverage of all European waterways will be the final goal of these activities, planned for the end of 2004. Nevertheless, first steps have been achieved and concepts are clear for on-going activities.