

**11<sup>th</sup> CSPCWG-1<sup>st</sup> NCWG MEETING  
Rostock, Germany 27-30 April 2015**

**Paper for Consideration by CSPCWG**

**IHO Digital Reference Tool for Cartographers**

<b>Submitted by:</b>	Republic of Korea (KHOA)
<b>Executive Summary:</b>	Introduce the major features and updates of the Digital Reference Tool for Cartographers (DRTC) which enables nautical cartographers search and access content of IHO standards on chart production.
<b>Related Documents:</b>	S4, S-57 APPENDIX B.1 Annex A
<b>Related Projects:</b>	None

### **Introduction / Background**

Today, S-57 database based chart production system has been widely used for the production of paper charts and ENC. Nautical cartographers produce their products by referring to the IHO's various standards such as S-57 and S-4.

In order to support efficient nautical chart production in response to the fast-changing chart production system and to make use of it as a training reference tool in the delivery of capacity building programmes, ROK developed the Digital Reference Tool for Cartographers (DRTC). DRTC was first presented at the 27th TSMAD meeting held at the IHB, Monaco in Nov. 2013.

At the meeting, ROK proposed that the DRTC application be shared among the IHO Member States, and it was endorsed by the IHB. As a result, a new webpage has been created on the IHO website ([http://www.iho.int/iho\\_pubs/misc/S-4\\_S-57UOC\\_KHOA/index.htm](http://www.iho.int/iho_pubs/misc/S-4_S-57UOC_KHOA/index.htm)).

This agenda is intended to introduce the major features of DRTC and the updates done since the first version of DRTC.

### **Analysis/Discussion**

The IHO standard publications are of significant importance in chart production. ROK recognized the need of a tool which allows users search and access the IHO's various chart production publications, and developed the Digital Reference Tool for Cartographers (DRTC).

This application integrates content from S-57 APPENDIX B.1 Annex A - Use of the Object Catalogue for ENC, S-4 Regulations for International (INT) Charts and Chart Specifications of the IHO, and S-57 Object Catalogue and Attribute Catalogue. It also provides a function to identify symbols of ENC objects. The following IHO standards have been included in the DRTC Version 1.0:

- S-57 IHO Transfer Standard for Digital Hydrographic Data, November 2000 - Main Document Appendix B.1, Annex A - Use of the Object Catalogue for ENC - UOC (Ed. 3.1.0 Nov 2012).
- S-4 Regulations for International (INT) Charts and Chart Specifications of the IHO (English: Edition 4.4.0, September 2013).
- S-32 Hydrographic Dictionary - Part I Volume I, English (FIFTH EDITION, 1994).
- S-32 App 1 Hydrographic Dictionary - Glossary of ECDIS Terms.

The left picture in Figure 1 shows the DRTC webpage on the IHO website. The DRTC installation file and introductory video can be downloaded from this website. The right picture in Figure 1 shows screen shots of the DRTC application.

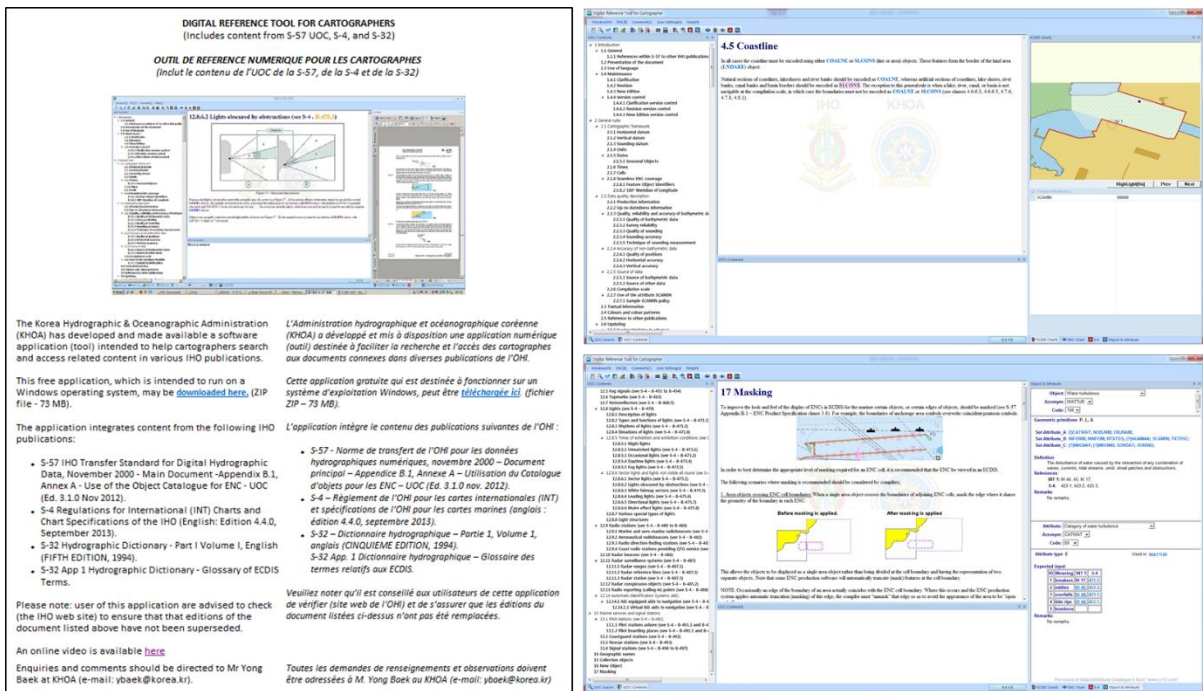


Fig. 1. DRTC Webpage on IHO Website and Screen Shots of DRTC Ver. 1.0

The DRTC application provides the following functions to help cartographers search and access a range of IHO publications conveniently:

- The table of contents of S-57 UOC has been displayed in the tree node structure so that users can see the content of S-57 UOC at a glance. In addition, users can search the content of the UOC.
- Users can access the content of S-4 relevant to the titles of S-57 UOC simply by clicking on the link provided in the S-57 UOC title.
- Users can check the relevant information of S-57 Object Catalogue and Attribute Catalogue by clicking on the ACRONYM of object names included in the body of S-57 UOC.
- Users can check symbols on a sample ENC by clicking on the ACRONYM of object names included in the body of S-57 UOC (ECDIS Chart 1, user's ENC)

After the DRTC Version 1.0 was provided to the IHO, the following updates have been made in order to reflect the changes in the related IHO standards and to further enhance the functions of the application:

- Updated in accordance with the revised S-57 UOC: S-57 IHO Transfer Standard for Digital Hydrographic Data, November 2000 - Main Document, Appendix B.1, Annex A - Use of the Object Catalogue for ENC - UOC (Ed. 4.0.0 Feb 2014)
- Updated in accordance with the revised S-4: Regulations for International (INT) Charts and Chart Specifications of the IHO (English: Edition 4.5.0, October 2014)
- S-4 was being updated in HTML file group, not PDF format.
- The digital version S-57 Object Catalogue/Attribute Catalogue being updated reflecting S-57 Supplement No 3 to Edition 3.1 (June 2014 - incorporates the former Supplement No 2).
- The DRTC video clip being updated.
- The DRTC S/W was updated as version 1.1

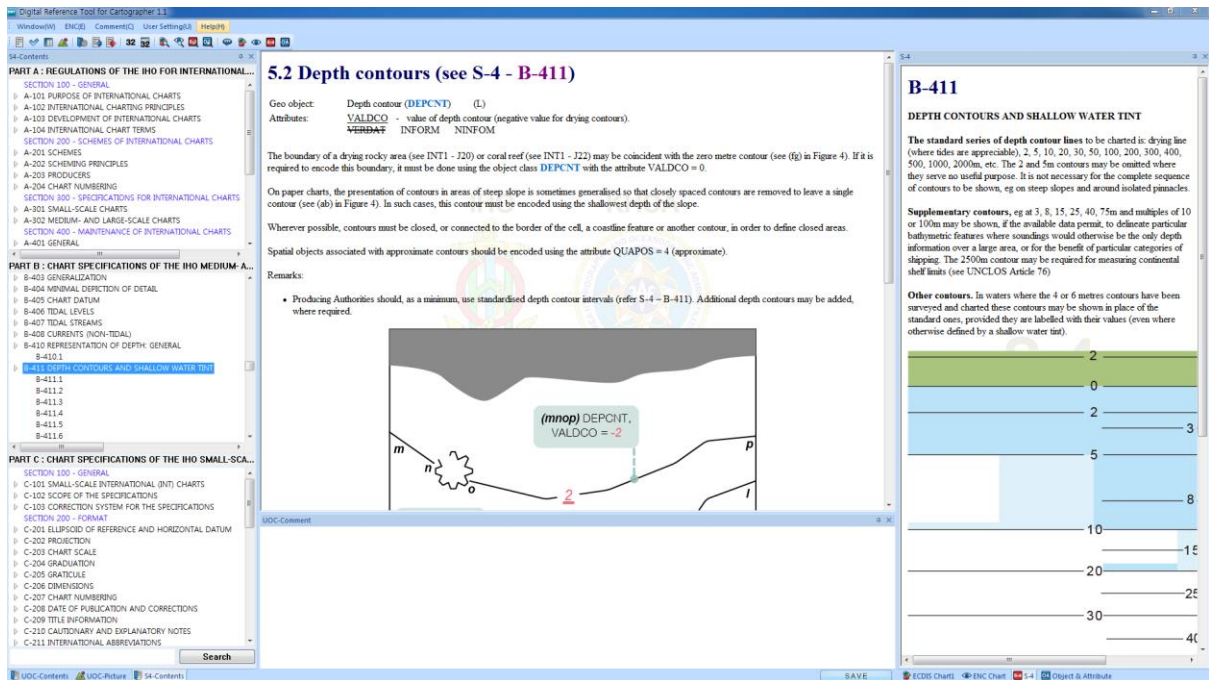


Fig. 2. IHO DRT Carto Version 1.1

## Conclusions

The DRTC application will contribute to chart production, Capacity Building Programmes and maintain relevant IHO chart standards.

In addition, ROK will ensure that the DRTC application remain up-to-date reflecting any changes in the IHO standards and will continue to strive to improve DRTC further to contribute to the work of hydrographic offices.

## Action Required of CSPCWG

The CSPCWG is invited to:

- a) take note of this initiative;
- b) promote the use of DRTC by the IHO Member States
- c) provide recommendations on the Digital Reference Tool for Cartographers;