IMPLEMENTATION OF THE ECDIS SYSTEM: AN OOW PERSPECTIVE AS AN INTEGRAL PART OF EDUCATIONAL IMPROVEMENT

Asst. Prof. David Brčić*, Ph.D, Asst. Prof. Srđan Žuškin, Ph.D,

Asst. Prof. Sanjin Valčić, Ph.D., Assoc. Prof. Vlado Frančić, Ph.D.

University of Rijeka, Faculty of Maritime Studies
Studentska 2, 51000 Rijeka, Croatia
e-mail: brcic@pfri.hr (corresponding author), szuskin@pfri.hr, svalcic@pfri.hr, vfrancic@pfri.hr
web page: www.pfri.uniri.hr

Keywords: maritime navigation, electronic chart display and information system, officers of the watch, knowledge transfer, ecdis eho.

ABSTRACT

Current year marks the completion of the Electronic Chart Display and Information System (ECDIS) implementation period. During the past three decades system evolved from its initial purpose to a complex navigation information system support tool. This transition represents substantial step in navigation, and one would expect that all related issues are shaped smoothly. From the very beginning of ECDIS implementation, Officers of the Watch (OOW) are experiencing various issues ranging from functional, operational, educational, legislative and finally, practical. Numerous organizational standards, resolutions, circulars, reports, guidelines and other documents support this fact, as well as number of ECDIS-related marine accidents, detentions and fines.

The proposed paper represents a segment of a systematically carried long-term research aiming at educational process improvement. This aim is to be achieved through specific approach, proper communication and various and subtle activities, always striving at the user-centered, often neglected issues and their solving. The particular research refers to opinions and attitudes of OOWs towards ECDIS mandatory implementation period completion. Individual knowledge has also been examined in terms of new technology perception, as well as understanding of the system. Internationally distributed questionnaire was used for this purpose. Answers were processed and analyzed together with accompanying comments. Results are shown in the context of transitional period, representing a flow of end-user opinions over the years. Observations and findings are presented and discussed. Research results are especially referring to future officers who are given an objective, immediate and critical insight, beside official education and relevant materials. In this way, OOWs are indirectly exchanging their opinions and knowledge with their younger colleagues. This interrelation, accompanied with theoretical background, is one of the center features of the research. The paper concludes with provision of possible guidelines and planned activities towards further educational improvements, but also towards system development as well.

REFERENCES

[1] Brčić, D.; Kos, S.; Žuškin, S. Navigation with ECDIS: Choosing the proper secondary positioning source. *TransNav: International Journal on Marine Navigation and Safety of Sea Transportation*. September 2015, 9(3). 317-326.

[2] Brčić, D.; Kos, S.; Žuškin, S. Partial structural analysis of the ECDIS EHO research: The handling part. In: *Proceedings of the 24th International Symposium on Electronics in Transport, 2016: ISEP'24*. Ljubljana: Electrotechnical Association of Slovenia & ITS Slovenia, 2016, pp. 80-87.

[3] Brčić, D.; Žuškin, S.; Barić M. Observations on ECDIS education and training. In: *Proceedings of 12th International Conference on Marine Navigation and Safety of Sea Transportation, 2017: TransNav'12*. London: CRC Press, 2017, pp. 29-36.

[4] Hamilton, A. C.; Nickerson, B. G. *The Electronic Chart*. Fredericton: University of New Brunswick. Department of Geodesy and Geomatics Engineering, 1982. TR102.

[5] Hecht, H. and others. *The Electronic Chart: Functions, Potential and Limitation of a New Marine Navigation System*. Lemmer: GITC, 2006.

[6] International Hydrographic Organization. *Information on IHO Standards related to ENC and ECDIS. Version 1.1*. Monaco: IHO, 2017.

[7] International Hydrographic Organization. *Current IHO ECDIS and ENC Standards* [online] Monaco: IHO, 2018 [viewed date: May 1st, 2018]. Available from: http://bit.ly/2pjmCyW.

[8] International Maritime Organization. *Model Course 1.27: Operational use of Electronic Chart Display and Information System*. London: IMO, 2009.

[9] International Maritime Organization. *MSC.232(82): Adoption of the revised performance standards for Electronic Chart Display and Information Systems (ECDIS)*. London: IMO, 2006.

[10] International Maritime Organization. *MSC.282(86): Adoption of amendments to the International Convention for the Safety Of Life At Sea, 1974. Annex 1.* London: IMO, 2009.

[11] International Maritime Organization. *NCSR 2/22/2: Report on monitoring of ECDIS issues by IHO*. London: IMO, 2009.

[12] International Maritime Organization. *MSC.1/Circ.1503 Rev.1: ECDIS – Guidance for good practice*. London: IMO, 2017.

[13] Sabelis, H. Voyage planning in ECDIS. *International Hydrographic Review*. September 1999, 76(2). 41-48.

[14] United Kingdom Hydrographic Office. *Majority of global SOLAS fleet now ECDIS ready*. Press release. London: UKHO, 2016.

[15] Weintrit, A. ECDIS issues related to the implementation of the carriage requirements in SOLAS Convention. *Archives of Transport System Telematics*. February 2015, 8(1). 35-40.

[16] Weintrit, A. International recent issues about ECDIS, E-navigation and safety at sea: Introduction. In: Weintrit, A., ed. *International recent issues about ECDIS, E-navigation and safety at sea*. Boca Raton: Taylor & Francis Group Ltd, 2011, pp. 9-12.

[17] Žuškin, S.; Brčić, D.; Kos, S. Partial structural analysis of the ECDIS EHO research: The safety contour. In: *Proceedings of 7th International Conference on Maritime Transport, 2016: MT'07.* Barcelona: UPC, 2016, pp. 246-262.

[18] Žuškin, S.; Brčić, D.; Šabalja, Đ. A contribution to improving the standards of ECDIS training. *Pomorstvo - Scientific Journal of Maritime Research.* June 2013, 27(1). 131-148.