



University of Rijeka, Faculty of Maritime studies

PROJECT ACRONYM AND TITLE: ECDIS COnccept DEvelopment for increasing navigation safety and environment protection (ECDIS CoDe)

FUNDING PROGRAMME: Scientific-Research Project Initiatives of The University of Rijeka (ZIP UNIRI)

PERSON RESPONSIBLE: Srđan Žuškin, Ph.D

FINANCIAL DATA

Project total cost	Overall funding assigned to PFRI
12.741,39 €	12.741,39 €

SUMMARY

The meaning of navigation safety and marine environment protection is changing together with everlasting evolution of technology and modern navigation on ships at high seas. The Electronic Chart Display and Information System (ECDIS), as a most powerful breakthrough in shipping changed drastically, not only navigational bridges layout, but also navigational methods and functionalities.

The ECDIS CoDe is a concept-based development project aiming to improve navigational safety and environmental protection through the development of two new ECDIS main system functionalities: enhanced voyage planning and voyage monitoring.

Mainly, research purpose regarding voyage planning is based on global path planning methods before the start of navigational voyage for generation of paths/routes during the voyage. The developed discrete algorithm could be used in Decision Support System (DSS) thus enabling advanced voyage planning and reducing the human error impact. This concept development approach leads to maritime autonomous shipping where end users (OOWs) will be gradually less present onboard vessels in the future.

Furthermore, research purpose regarding voyage monitoring is based on innovative concept development through the Integration Navigation System (INS) which will enable timely and accurately real time object detection together with Fuzzy Collision Risk Index (FCRI) development. Abovementioned algorithm development as a Decision Support System (DSS) will provide to end user (OOW) significant support in collision alerting at sea by reducing the human error impact and potential collision.

Start date	End date
01.06.2023.	31.05.2026.

ADDITIONAL INFORMATION:

Members of the project team:

- Srđan Žuškin, University of Rijeka, Faculty of Maritime Studies
- David Brčić, University of Rijeka, Faculty of Maritime Studies
- Davor Šakan, University of Rijeka, Faculty of Maritime Studies
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