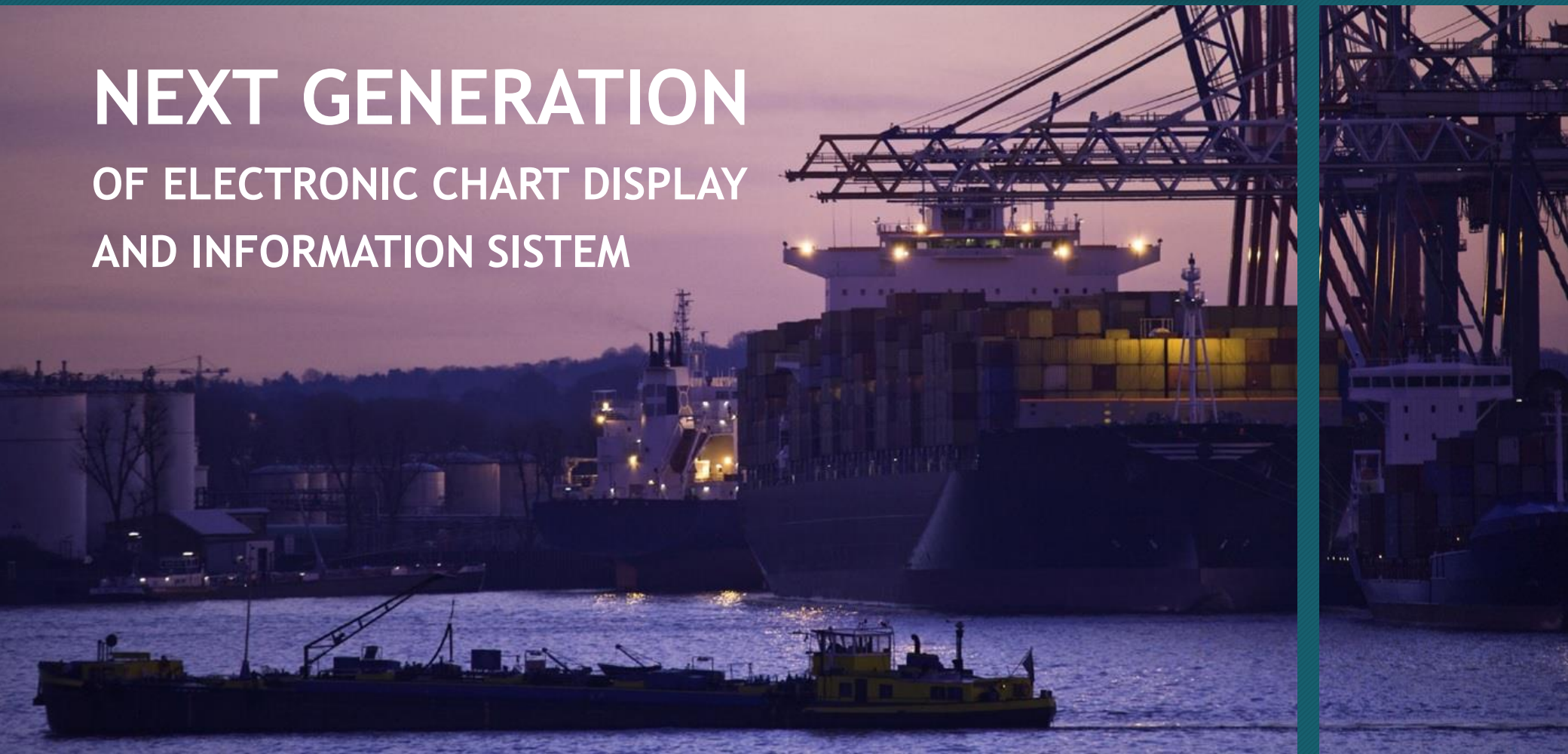
ECDIS NG



NEXT GENERATION

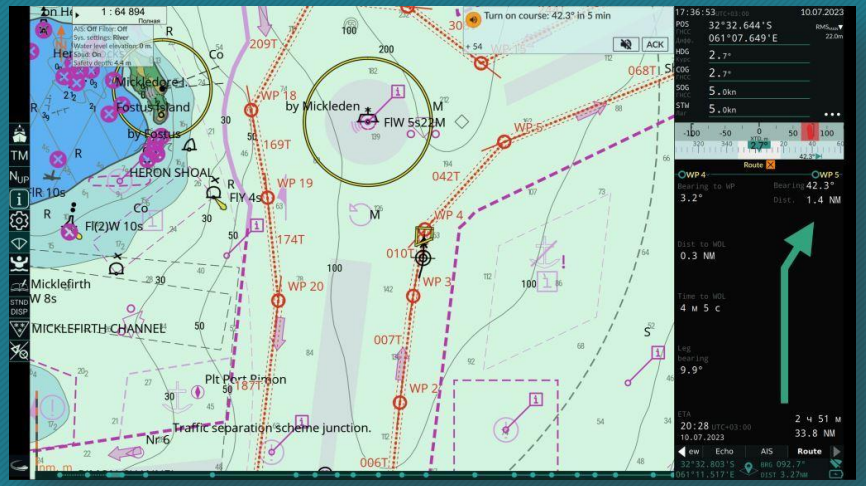
OF ELECTRONIC CHART DISPLAY AND INFORMATION SISTEM

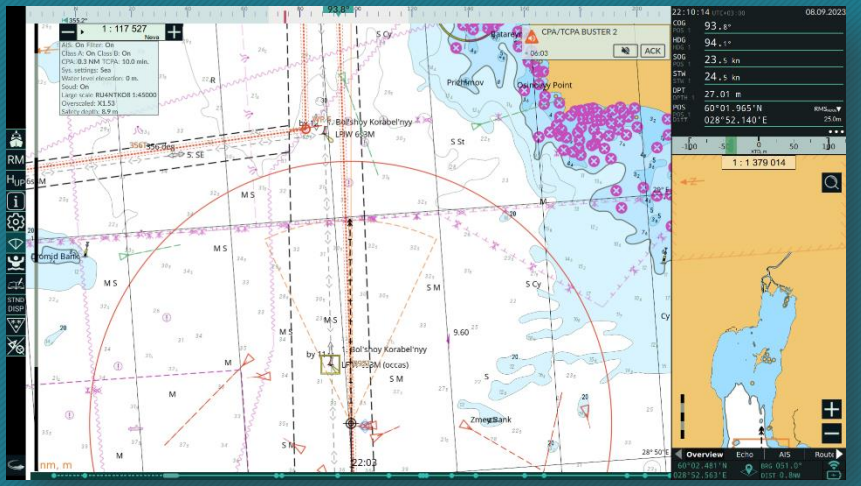
Company profile

- Established in 2003 in Moscow
- Staff – 19 persons
- SW development for various types of navigation systems
- Ex-Transas and Ex-C-MAP experts
- Total experience in the ECDIS and ENC – 100+ Man/Years
- Registered in the IHO as the ECDIS manufacturer
- Recognized by the Russian Maritime Register of Shipping
- Recognized by the Russian Classification Society

ECDIS NG concept

- Compliance with all current international Standards and Resolutions
- Designed keeping in mind future autonomous ships
- Deep unification within the wide range of various types of cartographic systems
- Focus on innovations aimed in safety and efficiency





Standards and Resolutions

- IHO S-57/3.1.3, IHO transfer standard for digital hydrographic data, supplement 3, 2014
- IHO S-57, appendix B.1. ENC product specification,
- IHO S-57, appendix B.1, annex A. Use of the object catalogue for ENC, 2018
- IHO S-52:2014, Specifications for chart content and display aspects of ECDIS edition 6.1
- IHO S-52, appendix 1:2012, Guidance on Updating the Electronic Navigational Chart edition 4.0
- S-52 Annex A: IHO ECDIS Presentation Library Edition 4.0(.3)
- S-52 Annex A: IHO ECDIS Presentation Library Edition 4.0 (.3) – October 2014 (With Clarifications up to December 2020)
- IHO S-63, IHO data protection scheme, Edition 1.2.1.: 2020
- IHO S-64, Test data sets for ECDIS

Standards and Resolutions

- IMO MSC.232 (82):2006, Revised Performance standards for electronic chart display and information systems (ECDIS)
- IMO SN.1/Circ.266:2007, Maintenance of electronic chart display and information system (ECDIS) software,
- SN.1/Circ.243/Rev/2:2019, Guidelines for the presentation of navigation-related symbols, terms and abbreviations
- MSC.1/Circ.1609/:2019, Guidelines for the standardization of user interface design for navigation equipment
- IMO A.694 (17):1991, General requirements for shipborne radio equipment forming part of the global maritime distress and safety system (GMDSS) and for electronic navigational aids
- IMO MSC/Circ.982:2000, Guidelines on ergonomic criteria for bridge equipment and layout.
- IEC 61174:2015, edition 4.0. Maritime navigation and radiocommunication equipment and systems – Electronic chart display and information systems – Operational and performance requirements, methods of testing and required test results

Standards and Resolutions

- IEC 62288, Maritime navigation and radiocommunication equipment and systems – Presentation of navigation-related information on shipborne navigational displays – General requirements – Methods of testing and required test results
- IEC 60945, Maritime navigation and radiocommunication equipment and systems – General requirements – Methods of testing and required test results
- IEC 61162-1, Edition 5.0 2016-08 Maritime navigation and radiocommunication equipment and systems – Digital interfaces – Part 1: Single talker and multiple listeners.
- IEC 61162-3 Edition 1.2 2014-07 Maritime navigation and radiocommunication equipment and systems – Digital interfaces – Part 3: Serial data instrument network
- IEC 61162-450:2011 Maritime navigation and radiocommunication equipment and systems – Digital interfaces – Part 450: Multiple talkers and multiple listeners – Ethernet interconnection

Standards and Resolutions

- IEC 61162-460 Edition 1.0 2015-08 Maritime navigation and radiocommunication equipment and systems – Digital interfaces – Part 460: Multiple talkers and multiple listeners – Ethernet interconnection – Safety and security
- IEC 61996-1:2013, Maritime navigation and radiocommunication equipment and systems – Shipborne voyage data recorder (VDR) – Part 1: Performance requirements, methods of testing and required test results
- IEC 62923-1 Edition 1.0 2018-08 Maritime navigation and radiocommunication equipment and systems – Bridge alert management – Part 1: Operational and performance requirements, methods of testing and required test results
- IEC 62923-2 Edition 1.0 2018-08 Maritime navigation and radiocommunication equipment and systems – Bridge alert management – Part 2: Alert and cluster identifiers and other additional features
- ISO 8601, Data elements and interchange formats – Information interchange – Representation of dates and times.

Product Highlights

- Standard display layout at one touch – MSC.1/Circ.1609/:2019 (future requirements for e-Navigation class of equipment)
- UKC management in confined waters – dynamic safety contour takes into account the draught of ship, the under keel allowance, and the current level of water
- Automatic calculation of the safety margins – takes into account ship's dimensions, speed, draft, accuracy of position and accuracy of ENC
- Danger's courses bar – provides easy to use display of dangerous COG sectors avoiding clattering on chart window

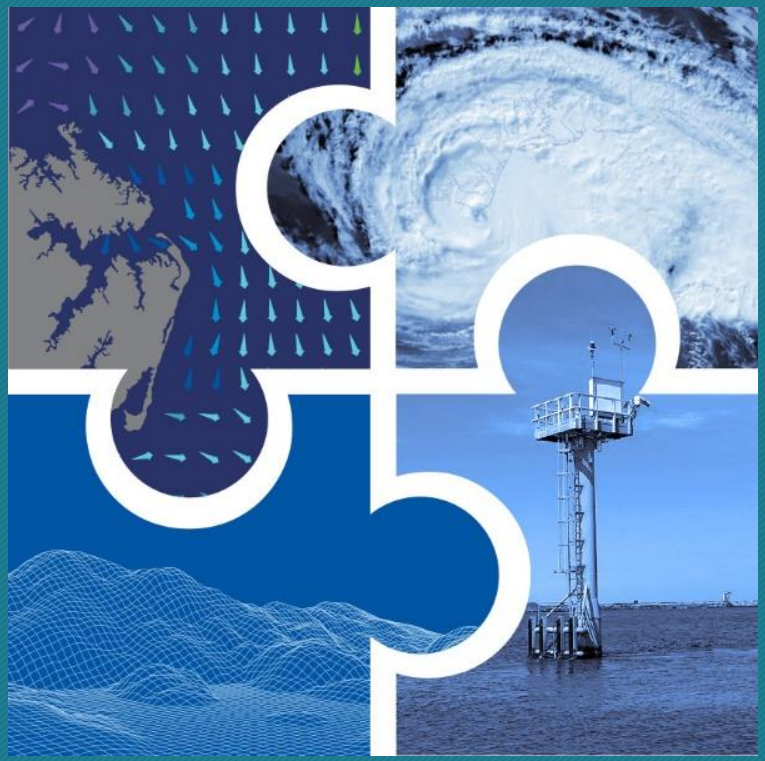
Product Highlights

- Scale independed route monitoring widget – indication of the actual lane taken by the ship with the current drift and accuracy of position
- Multifunctional window (overview/lens, target's info, echo sounder) – additional window to display overview or best scale chart, AIS/ARPA target info, echo sounder diagram etc. on the choice of navigator
- Voyage Time Diagram – display of various parameters synchronized in the time line - for planned voyage or for play back
- Noon reports – automatic generation of Noon Reports based on data registered in the Log Book – response to the common requests of shipping companies for automation of fleet management

S-100 prospective

- Current version of ECDIS SW supports S-57/S-63 data, and prepared for the future use of various S-100 data

- Full implementation of S-100 portrayal planned for 2024-2025 in line with the road map adopted by the IHO



Our typical OEM offering

Development
(remote access to the project management system provided)

- Customized UI design
- Implementation of the customer's requests
- Adaptation to the customer's HW
- In house testing
- User's manual and installation guide in English
- Customer support during type approval

License delivery

- Delivery of SW licenses and dongles (HW Keys) upon OEM's orders

Live circle management

- Technical support (tier 3 level)
- SW and manuals modification upon requests

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