



e-Navigation e-Maritime

Current status and implementation in
Black Sea and East Med 2015

22nd-23th of June, Varna, Bulgaria

International Maritime Conference
for safer, security and efficient shipping

Bulgarian Maritime Day 2015

New Vessel Traffic Management Information System of Bulgaria
Port Management Information Systems. Port/Cargo Community Systems.
Maritime surveillance. Common Information Sharing Environment. Maritime sovereignty.



With partnership of:



DG MOVE



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With kind support and assistance of:

Capt. Zhivko Petrov, Executive Director,
Maritime Administration of Bulgaria

Capt. Stefan Neychev, Chairman of BoD
Bulgarian Ports Infrastructure Company



**e-Navigation
e-Maritime**

Capt. Dimitar Dimitrov, Chairman of BoD
Bulgarian Shipmasters Association

Capt. Nikola Hristov, Chairman of BoD
Bulgarian Shipbrokers and Agents Association



Conference concept, programme and organizing Shortsea Shipping Centre Bulgaria

The leaders of the e-Navigation



Mr. J.E. Hagen
Chair IMO eNav CG



Mr. O. F. Eriksson
Chair IALA eNav Com



Mr. R. Ward
IHO-IHB President



Mr. M. Bergmann
CIRM President



IMO e-Navigation Strategy Implementation Plan

The last decades have seen huge developments in technology within navigation and communication systems. Sophisticated and advanced technology is developing rapidly. Mariners have never had more technological support systems than today and therefore there is a need to coordinate systems and more use of harmonised standards. Although ships now carry GNSS and will soon all have reliable ECDIS, their use on board is not fully integrated and harmonised with other existing systems and those of other ships and ashore. The e-Navigation Strategy Implementation Plan (SIP) attached at annex sets up a list of tasks and specific timelines for the implementation of prioritized e-navigation solutions during the period 2015-2019, facilitating a coordination of efforts by relevant Sub-Committees, related international organisations, Member States, relevant regional bodies and the maritime industry. The SIP focuses on five prioritized e-navigation solutions, as follows: S1: improved, harmonized and user friendly bridge design; S2: means for standardized and automated reporting; S3: improved reliability, resilience and integrity of bridge equipment and navigation information; S4: integration and presentation of available information in graphical displays received via communications equipment; and S9: improved communication of VTS Service Portfolio.



IALA's Strategic Vision 2014-2026. IALA's Leading Technical Role in e-Navigation

The aim of IALA is to foster the safe and efficient movement of vessels through the improvement and harmonization of marine aids to navigation worldwide, and by other appropriate means. IALA's Strategic Domain: The term 'Marine Aid to Navigation' means a device, system, or service, external to a vessel, designed and operated to enhance safe and efficient navigation of all vessels and/or vessel traffic. The organization shall have a consultative, recommendatory, and technical nature. IALA from NGO into an IGO. IALA's Strategic Vision to 2026 Goal 1-Ensure that aids to navigation systems and related services, including e-Navigation, Vessel Traffic Services, and emerging technologies, are harmonized through international cooperation and the provision of standards. Strategies under Goal 1 for e-Nav and VTS : G1-S2 Improve and harmonize the delivery of VTS globally and in a manner consistent with international conventions, legislative frameworks and public expectations ;G1-S3 Harmonize the information structure, Maritime Service Portfolios, and communications for e-Navigation by creating standards, and by cooperation with other IGOs, to achieve worldwide interoperability of shore and ship systems, including IMO sustainability goals for a maritime transport system.



IHO S-100WG, lead the development of IHO standards for IHO e-Navigation-based services

The IHO, as an accredited observer to the IMO, was formally represented by the IHB at NCSR meetings. As reported to IHO Member States IMO current activities relevant to IHO-HSSC cover four main subjects: e-Navigation; ECDIS Matters; AIS Aids to Navigation; Four tasks of the Strategy Implementation Plan are of direct relevance to IHO-HSSC: T13: harmonization of the display of navigation information; T14: development of the Common Maritime Data Structure (CMDS) based on S-100; T16: harmonization of conventions and regulations for navigation and communication equipment; T17: development of the Maritime Service Portfolios (MSP). A new structure of the IHO working groups (WG) responsible for the maintenance of IHO standards. The maintenance of IHO standards for ECDIS, which was shared between the Transfer Standard Maintenance and Applications Development WG (TSMAD) and the Digital Information Portrayal WG, is now regrouped under the ENC Standards Maintenance Working Group. The S-100WG, lead the development of IHO standards for IHO e-Navigation-based services.



Maritime surveillance. Maritime CISE-The common information sharing environment

Enhancing information exchange between maritime surveillance authorities is one of the key strategic objectives of the Union under the Integrated Maritime Policy and an important building block of the Maritime Security Strategy. The development of the common information sharing environment for the EU maritime domain (Maritime CISE) is an ongoing collaborative. Positive results include enhanced inter EU agency cooperation, initiatives by several maritime sectors at EU level, as well as various initiatives at national level. Maritime CISE is supported by stakeholders in Member States. Member State authorities carry out many different operational surveillance tasks. Such tasks require specific competences and assets in various fields: defence, customs, border control, general law enforcement, fisheries control, marine environment protection/pollution response, and maritime security and safety. At national level, several Member States have already put in place mechanisms such as national coordination centres involving all relevant authorities (civilian and military) in order to improve co-ordination.



e-Navigation e-Maritime

Current status and implementation in **Black Sea and East Med 2015** International Maritime Conference

**Themes, Topics, Meetings, Visits, Discussions, Networking
To National e-Navigation Strategy. To Black Sea e-Navigation Forum/Network**

SESSION 1

IMO e-Navigation Strategy

IMO^s concept of e-Navigation. Elements.
E-Navigation aims. Strategy Implementation
Plan 2015-2019. 5 Prioritized solutions.
18 Tacks. 16 Maritime Service Portfolios.
New Guidelines. Global Maritime Cloud.
International support on SIP. Key enablers -
actions of IALA, IHO, ICS, CIRM, BIMCO.

SESSION 3

Black Sea and East Med under e-Navigation

Black Sea and East Med Maritime
Administrations, VTS/VTM Authority reports
on e-Navigation / e-Maritime status.
National e-Navigation Working Group /
Integrated Action Team. Collaboration and
communication between regional VTS/VTM
authorities. Black Sea e-Navigation Forum.

Meetings:

10.00-12.00, 22nd of June Conference Room 1

Workshop "Digital Shipping". Industry presentations. Trends. New products. Cooperation.

Navigational Equipment and Systems: Radars; Automatic Plotting Aids; Satellite Navigation Systems;
Integrated Bridge Systems; Integrated Navigation Systems; Electronic Charts and Systems;
Radiocommunications: Satellite Systems, Inmarsat/Regional; MF/HF Systems; VHF/UHF Systems;
Maritime Safety Information Systems; Automatic Identification Systems; Vessel Traffic Systems

10.00 -12.00, 22nd of June Conference Room 2

Closed Meeting/National/ of Competent Administrations of "Blue Border":

VTS/Maritime; Border Control/Maritime; Military/Navy; Fishing/VTM; Customs/Maritime. About:

(1) Common (National) collaboration on Maritime surveillance; Maritime sovereignty

(2) Discussion on Maritime CISE - Next steps. Implementation in Bulgaria

23 of June 12.00 Conference Room 3 Signing of Memorandum for Joint actions on Maritime
education and training between Naval Academy Varna, Technical University Varna, Bulgarian
Maritime Qualification Center Varna and BPI Co./VTS Black Sea Authority Varna

23 of June 17.00 TU Varna. Signing of an Agreement between Technical University, Varna
and University of Applied Sciences, Flensburg on e Navigation education and Maritime sciences

15.00-18.00, 23rd of June, Multinational Meeting in new VTMISS-GDMSS Center Varna

15.00-18.00, 23rd of June, Multinational Visit in 4 new Maritime Training Simulators

VENUE Conference Center "Cherno More" Hotel, 9000 Varna Bulgaria www.chernomorebg.com

VTMIS

**New modern and high technological
vesel traffic management information system of Bulgaria**



e-Maritime Varna
e-Maritime Burgas
e-Maritime Bulgaria



Operational center Varna



Operational center Burgas



High-tech advanced technology



Modern equipment and new workplaces



**Directorate
VTS Authority - Black Sea, BPI Co**

All activities in the implementation of VTMIS project are in line with developments in e-NAVIGATION initiative of IMO and IALA. This initiative and the harmonization of its productions is also the basis for the implementation of the third phase of the project VTMIS. The project covers 17 upgraded and 5 new build sites located alongside the Bulgarian coast line and 2 new mirrored reserved Operational centers providing continuous information and communication services for ships sailing in the area and for the maritime community and responsible authorities. Altogether the new system consists of 2 VTS/VTMIS Operational centers 1 GMDSS Operational center, 2 Data centers, common WAN, 16 radar stations, 6 AIS base stations, 7 VHF base stations, GMDSS Area A2 Transmitting station (6 MF/HF transmitters), 9 CCTV and thermo vision cameras, 12 meteostations, 2 DGPS stations, 66 radio relay stations and other network equipment.

Project VTMIS improves, upgrades and complements national VTMIS and GMDSS systems as follows: Broader radar surveillance coverage of the Bulgarian maritime domain; New technological opportunities for AIS; Ensures adequate, fast, modern system for direct communication and information exchange platform SafeSeaNet; Integration of all signals and information from the sensors and databases of VTMIS system into a single integrated environment; New video and thermal imaging cameras in critical areas and complementarities with weather stations in key points of the system; Modernize limit aged and technologically outdated, unreliable and physically worn out equipment for Areas A1, A2 and NAVTEX system.

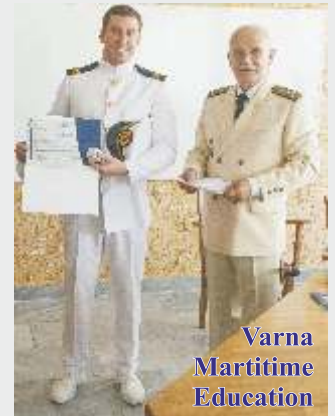
MET

e-Education for e-Navigation

Better Maritime Education for Better Professional Realization



Best example: Maritime Academy DNV-GL



New educational programs, new high-tech intelligent simulators for shipping, ports and VT Services
Collaboration and and Joint actions on e-Navigation education and training

Together we are strong. Together we are the best



1881

Naval Academy is national leader in maritime education and training. The high school is the successor and follower of the bright traditions with 135 years of history. The unique simulated complex of 37 simulators provides the necessary basis for the modern education of the whole spectrum of maritime specialists for the global and national industry. Lecture halls and computer labs have no equivalent in Bulgarian universities and attract the best students from Bulgaria. Training programs are certified by the European Maritime Safety Agency and the National Agency for assessment and certification with the highest marks. The international prestige of the Naval Academy ranks it in the premier list of the International Association of Maritime Universities and attracts students from different countries.



The education and training of full-time and part-time students in the majors of Navigation and Fleet and Ports Operation is carried out at the Technical University Varna. TU Varna Maritime Qualification Center is established by decision of the Academic Council. TU Varna MQC is more than 10 years on the market of Maritime training & Maritime qualification. The largest multifunctional simulation complex- built in partnership with company VSTEP-consists of: FMBS class A 360 deg; FMBS class B 120 deg; Bridge desktop class room; Azimuth bridge; Engine Room Simulator; GMDSS simulator with 14 stations; Rescue Simulator; Naval Ship Simulator with more than 20 modern Naval vessels, etc. TU Varna Maritime Qualification Center has Unique Port creation software tool; Unique Ship creation software tool; The latest full HD technologies; etc. TU Varna Maritime Qualification Center consist a team of highly educated young specialists ready to satisfy every client's wish.



Bulgarian Maritime Training Centre - BMTC is an independent organization, and its services are available to all members of the international shipping community. In its work BMTC constantly takes into account the new national and international requirements / STCW 2010 for seafarer training, evolves alongside the rapidly changing regulatory environment and guarantees the safety navigation and prevention of pollution. The BMTC makes a considerable investment in modern equipment and its maintenance. The latest versions of Bridge, Engine Room and Liquid Cargo Handling Simulators of Kongsberg /Class A NAV DNV-GL/ are in operation here. Training vessel, several types of rescue boats, modern teaching aids, video films, etc, help to provide qualitative and cost effective learning. BMTC provides over 40 different training courses focusing on the main areas of training. Customer's satisfaction is the focal point of all BMTC activities.



Aim and capabilities of the new VTS simulators: VTS simulators cover and exceed the corresponding requirements referred to in IALA Recommendation V-103 Standards for Training of VTS personnel. The new Simulator allows /On Job/ training of: VTS operators including evaluation of training and knowledge with the recommendations of IALA: BPI Co. Operation with the equipment; Organization of traffic within the VTS area; Communication coordination; Transmitting & receiving information by radio; Demonstrating certain personal qualities; Responding to emergencies; Fundamentals of service vessel traffic- Information services; Navigation help; Service organization of traffic VTS supervisor, including an assessment of the training and knowledge with the recommendations of IALA: Advanced training- Additional marine knowledge; VTS equipment; Additional knowledge to respond to emergencies; Demonstration of additional personal qualities.



Today: New Vessel Traffic Management Information System of Bulgaria
Tomorrow: Port Management Information Systems. Port/Cargo Community Systems
To better Maritime surveillance. Common Information Sharing Environment. Maritime sovereignty.

Black Sea e-Navigation Forum



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