IALA e-Navigation Seminar 2007

This event took place at Trinity House, London, from 2nd to 4th July 2007 and was attended by 82 delegates from 25 countries.

On the first forenoon there were welcomes from Rear-Admiral Jeremy de Halpert, Deputy Master of Trinity House and Torsten Kruuse Secretary General of IALA. Admiral Efthimios Mitropoulos, IMO’s Secretary General delivered the keynote speech in which he reminded delegates of the agreed definition of e-Navigation: “E-Navigation is the harmonised collection, integration, exchange and presentation of maritime information onboard and ashore by electronic means to enhance berth to berth navigation and related services, for safety and security at sea and protection of the marine environment.”

Speaking on the role of IALA he added, “I have every faith that IALA is well equipped to meet the new challenges and new demands that will be made of it in the future, a confidence based on the leadership role…taken in the search to make the best possible use of the opportunities afforded by today’s digital, information and communications technologies. These are exciting times in your particular discipline and I know that the maritime world derives great confidence from knowing that IALA and its members are, as usual, at the cutting edge and at the forefront of the debate…at IMO we value your contribution highly and are thankful of your co-operation and support not only in our regulatory work, including work on VTS, but also in the development of the international buoyage system, the global SAR plan and the Marine Electronic Highway concept in the Malacca and Singapore Straits; and in facing the chaotic situation the 2004 tsunami left behind in the Indian Ocean, to mention but a few…”

He went on, “There is much more work to be done on harmonization. With the support of its vast membership, IALA is, and will continue to be, a dynamic and proactive organisation. It will aim to foster the safe and efficient movement of vessels, in a manner that is inclusive, cooperative and one that has the best interests of the mariner.”

Admiral Mitropoulos spoke about the strategic vision at IMO where its Maritime Safety Committee gives a high priority to e-Navigation which will integrate existing and new navigational tools in a system to enhance navigation safety. A correspondence group has been established to identify the core objectives of an integrated e-Navigation system using electronic data capture, communications, processing and presentation, to
facilitate safe and secure navigation of vessels having regard to hydrographic and navigational information and risks. The latter being provided by, for example, the coastline, seabed topography, fixed and floating structures, meteorological conditions and traffic. In addition e-Navigation will facilitate vessel traffic observation and management from shore where appropriate, for example in harbours and their approaches. Furthermore, the system will facilitate ship-to-ship, ship-to-shore, shore-to-ship and shore-to-shore communications, including data exchange, as needed, to achieve these points.

Overall, the theme of e-Navigation will facilitate the effective operation of distress assistance and search and rescue services and the storage and later use of data for the purposes of traffic and risk analysis and accident investigation. Systems will integrate and present information onboard and ashore in a format, which, when supported by appropriate training for users, will maximise navigational safety benefits and minimizes risks of confusion or misinterpretation. In the long run it will provide opportunities for improving the efficiency of transport and logistics.

Finally, in order to facilitate global coverage, consistent standards and mutual compatibility and interoperability of equipment, systems, operational procedures and symbology will be delivered in order to avoid potential conflicts between vessels or between vessels and traffic management agencies. It was felt that e-Navigation equipment manufacturers should consult extensively with shipmasters and shipowners to ensure that user requirements are understood and met.

Over the two and a half days of the seminar delegates heard presentations on: the concept of e-Navigation the user requirements for it, the technical aspects of it having regard to charting and display issues, positioning systems, communications and training. Finally, sessions concerned regulatory and legal issues.

Delegates heard received presentations in sessions by experts on a variety of topics regarding: the Concept of e-Navigation; User requirements; Charting and Display Issues; Navigation and Positioning Systems; Communications; Case Studies and Training Aspects and Regulatory and Legal Aspects. A valuable session at the close delivered conclusions and recommendations.

Sessions were chaired by Rear-Admiral Jeremy de Halpert, Commander Bill Cairns, USCG, (Chairman of the IALA e-Navigation Committee), Mike Sollosi also of the USCG (Chairman of the IALA VTS Committee)
Dr Nick Ward of Trinity House, (Vice-Chairman of the IALA e-Navigation Committee). Other Chairmen were Dr Stuart Ruttle of the Commissioners of Irish Lights, Dr David Last representing Trinity House and Gary Prosser of AMSA.

IALA was represented by Mahesh Alimchandani, Technical Coordination Manager at IALA, Jean-Charles Leclair our representative at IMO and Captain Terry Hughes.

Conclusions of the Seminar
At the end of the event those present contributed to a conclusions and recommendations session chaired by Torsten Kruuse.

1. There is widespread support for the concept of e-Navigation, which is seen as an attainable goal. The global maritime community must continue to maintain momentum in the evolution of e-Navigation.

2. The development of e-Navigation must be driven by user requirements; it should be informed but not led by technology. The development of user requirements must be given the highest priority.

3. e-Navigation should not be pursued to reduce operational shoreside personnel, crew numbers or their competencies.

4. Standardisation (i.e., data formats and communication standards) of navigation systems is very important, but this must not inhibit innovation.

5. The S-mode of operation should be supported

6. Independent and fully redundant position fixing and timing systems are vital for the implementation of e-navigation. Enhanced Loran (eLoran), a terrestrial radionavigation system, is an independent and dissimilar system to GNSS that is capable of meeting the positioning, navigational and timing requirements for e-Navigation.

7. Marine Inertial Navigational Systems (INS) cannot be considered as a primary back up system to GNSS. It can assist in accurate navigation, but for a limited period of time. However, Marine INS can improve a ship's operational efficiency, for example, by providing movement information to the ship’s auto pilot and measuring squat and heel accurately.
8. Systems exist for increasing the volume of data communications with ships. But it is important to ensure that existing safety communication resources are adequately protected.

9. There is evidence of increasing coverage of the world’s navigable waters by ENCs. By 2010, some 85 to 96 percent of the main shipping routes should be covered by ENCs. Therefore, it is anticipated that there will be adequate ENC coverage to support the e-navigation strategy.

10. A Vessel Traffic Management framework needs to be in place to accommodate the shore component of e-navigation.

11. Mandatory training, both ashore and afloat, as well as the on-going assessment of personnel, is critical to the success of e-Navigation. It is equally important to ensure that trainers and training curricula are kept up-to-date.

12. In developing e-Navigation technical standards, intellectual property rights must be respected; the creation of monopolistic situations must be avoided.

13. The development of an e-Navigation must give due regard to international law, including UNCLOS.

At the closure of the Seminar a number of recommendations were agreed for attention by the IALA Secretariat.