

conferences

eNav Underway 2012

David Patraiko FNI

The 2012 'eNavigation Underway' conference, 'From a bird's eye perspective to practical solutions' gathered 143 delegates from 21 countries.

The conference was filmed and the films are available on www.efficiensea.org.

The conference was hosted by the EfficenSea project to highlight lessons learned from the EfficenSea eNavigation test bed, and those of other international test beds. Thomas Christensen, of the Danish Maritime Authority provided background on the EfficenSea project and on the aims with regard to eNavigation. He outlined how test beds are established, with the results already being fed back to the IMO Correspondence Group. One key question was the way in which user needs are captured and assessed. This is done through consultation with the users throughout the project.

What is eNav?

Dr Andy Norris FNI, underlined the difference between eNavigation and electronic navigation, emphasising that 'We have had electronic navigation for years. eNavigation is very different.' He showed a simplified conceptual structure, with emphasis initially on the communications element and the use of existing standards.

Norris suggested that an 'apps-like' approach could be taken to development, with various levels of apps having different standing in the regulatory process. He also looked at the applicability of introducing eNavigation into new build ships, and the challenges for retrofitting. Timescales for introduction are a key factor here.

Manufacturers' concerns

Mike Rambaut, Secretary-General, CIRM (The International Association for Marine Electronics Companies) looked at the factors affecting the equipment available and the process that manufacturers go through when deciding where to concentrate the resources. Production drivers include the development of industry standards, type approval, and even the influence of committees.

The emergence of fixed standards is a major concern for manufacturers. While Rambaut believes that the current IMO Gap Analysis paints too dark a picture, he said

there are basic steps in the implementation of eNavigation which still need to be taken. He concluded with a plea to establish standards as soon as possible. 'We, the manufacturers, can't start designing things until this is all clear,' he said.

Learning from ECDIS

John Murray from the International Chamber of Shipping, suggested that it was reasonable to use the ECDIS experience as a window onto the introduction of eNavigation. In many ways, this experience suggested things to be avoided. In the case of ECDIS, there has been considerable potential for conflict between the pace of technological development and the established regulatory process.

With regard to the crucial issue of competence, he again referred to the industry's experience of ECDIS to make a plea for generic familiarisation and training, with compulsory assessment, to determine competence. Further training, provided onboard if necessary, can then be used to acquire operational competence. However, the automation, harmonisation and integration driven by the definition of eNavigation should ensure that training additional to that already required under the STCW is generally unnecessary.

Usability

David Patraiko FNI, Director of Projects, The Nautical Institute acknowledged that the need for eNavigation to be 'usable' was enshrined in the development strategy but questioned how this theoretical goal could be translated into good operational design. He outlined several proposed and existing usability tools, including the IMO's Human Element Assessment Process (HEAP) and stressed that it was essential to identify a workable solution within the development strategy.

Barbara Fogarty, from Ireland's National Centre for Sensor Research, reviewed the main drivers for Marine ICT, which include marine spatial planning and the concept of multi-functional platforms. Taking advantage of technology convergence is a key interest, and in future, the development of eNavigation could lead to synergies between communications links and the implementation of scientific ocean sensors.

Dynamic routing

Capt Ulf Svedberg, Swedish Maritime Administration, provided a thought provoking if not uncontroversial discussion of dynamic and proactive routing. The presentation featured the Mona Lisa project. A short film showed the problem of coping with green house gas reduction, coupled with the expected growth in transport, coming to the resulting conclusion that sea transport has an important role to play in an environmentally friendly future. It was asserted that Sea Traffic Management / Sea Traffic Control are needed to control this traffic. This leads to the concept of 'Green Routes', marine spatial planning and the ability to save on fuel usage. The possibility for dynamic separation, as opposed to static separation, was hinted at. With ships' routes held centrally in a Sea Traffic Control system, assistance in avoiding congestion and 'open sea pilotage' becomes possible. *Seaways* readers are encouraged to watch the videos at www.sjofartsverket.se/en/MonaLisa/

SAR

Keith Oliver, head of operations for the UK coastguard, looked at how eNavigation can support search and rescue (SAR) operations. SAR authorities need to know the capability of nearby vessels, and relevant meteorological data, whilst improved data about ships can improve search plans. The automated transmission of search area coverage plans by AIS, can also be used to monitor execution.

Turning to unregulated users, he explained the challenges arising from the variety of small boat user equipment available. The growth in unregulated apps, in particular, poses difficulties for shore authorities, including issues around alarm generation and charting. Small craft users are increasingly using social media to issue alerts or warnings, and authorities must now find ways of managing this.

Delegates agreed the following statements:

The regulatory environment:

1. Some level of regulation is necessary but it should be goal-based.
2. More effective use of existing navigational aids can be made by their integration and harmonisation, together with simplification of relevant rules and

regulations. This process is already underway.

3. The IMO Integrated Navigation System (INS) performance standards should be used as the basis for the shipboard integration of existing and future navigational aids, as a component of eNavigation.

4. Initially, existing performance standards for navigational aids are most likely to be satisfactory in the eNavigation context, as they already work with INS. Performance standards will need to be refined and structured towards a modular concept to accommodate changes in technology within an eNavigation environment.

5. eNavigation applications will be a useful tool to support maritime spatial management and coastal states should consider their use.

6. All national authorities should consider developing their own eNavigation strategic action plans, taking into account the IMO strategy.

Lessons learnt from test beds

7. Test beds are essential for progressing eNavigation.

8. eNavigation test beds should demonstrate a response to identified user needs and should take into account the human element and economic implications.

9. Test beds could look at ways to reduce the administrative burden on mariners and operators ashore.

10. It is recognised that errors occur, thus eNavigation should help to reduce errors onshore and aboard and mitigate the consequences.

11. Tools, procedures and training for ensuring usability of eNavigation applications should be considered during design and testing.

12. Test bed methodology and evaluation criteria should be harmonised to facilitate validation of outputs and quality assurance.

It is anticipated that a third conference will be held early in January 2013.

RAN Sea Power Conference 2012

Cmdr Ashley Papp MNI, RAN

The Royal Australian Navy Sea Power Conference 2012 and Pacific 2012 Congress and Maritime Expo - and half a dozen other related conferences - were held in Sydney in early February. Attended by Navy dignitaries from more than 30 nations, from regions including Southern Africa, Scandinavia, Russia, Korea and the Americas, and by industry professionals

and academics from home and afar, SPC12 saw the largest gathering of maritime experts and pundits in many a year.

The theme was 'The naval contribution to national security and prosperity'. The Indo-Asia-Pacific region is one of 'strategic flux,' according to Australian Defence Minister Smith in his opening remarks. With an unprecedented level of new capability being delivered to the RAN in coming years, the interlacing of design and materiel, construction, R and D, and industry economics cannot be separated from maritime strategy, diplomacy and national security.

Maritime Domain Awareness

Emphasising the links between the maritime domain and other sectors, the audience was addressed by Australia's Army and Air Force Chiefs. For a nation that is remote yet geo-strategically located, concentrating on 'effect and objective' rather than 'size and mass' requires an integrated, intelligent and innovative approach.

Provocative discussions were evident during plenary Q and A sessions, and during side-bar discussions. Several speakers challenged the application of the traditional doctrine of sea control, sea denial and sea protection, proposing new definitions and encouraging an evolution in strategic thinking. The challenges of developing and delivering direct combat power projection, simultaneously with diplomacy, capacity building, constabulary enforcement, and humanitarian assistance and disaster relief can be conflicting at times.

In order to maintain sea lines of communication (or perhaps of commerce), we need to ensure that conflicts are resolved peaceably and promptly. It is important that all users operate collectively in the maritime commons. Full Maritime Domain Awareness (MDA) needs inter-agency collaboration between all partners - that is, government, private enterprise, academia, lobbyists, Defence forces and law enforcement.

International cooperation

Cooperation in maritime security was a central tenet of the conference, as regional maritime security is a task too big for one Navy. Naval leaders from Singapore and Malaysia presented the outlines of a successful security cooperation model in the Malacca Straits and the South East Asia region. The RAN presence in the Middle East, over two decades and counting, is a prime example of cooperation in multilateral and bilateral

maritime security operations. Recent RAN Task Force Commanders joined the US Seventh Fleet Commander in outlining the successes of coalition activities in the Middle East/Indian Ocean/Horn of Africa region, and engagement and maritime security cooperation and exercises in the region.

It is not just the human and commercial cost of piracy that needs to be taken into account. All manner of trans-national crime across maritime borders affects maritime security and thereby economic prosperity. With the resources of even the most powerful and affluent nations stretched, the pragmatic approach for dealing with this crime is cooperation. Economic efficiencies and capacity building of developing forces and nations are realised, greater effects are evident, and diplomatic value for money is multiplied through cooperation.

A maritime strategy can include military medical and humanitarian services as an instrument of 'soft power' diplomacy, and the RAN is an active participant in civil-military humanitarian cooperation. Throughout the conference, the inherent flexibility of the Navy was emphasised, making the Navy often the first call of government diplomatic response.

The integrity of hydrographic information, simulation and live training, ECDIS and digital navigation were among some of the technical issues discussed, as well as ship ownership and building and Navy capability acquisition. There was significant discussion of domestic versus foreign defence industry reliance.

Expanding presence

Opportunities and challenges for the future was a second key conference theme, with an Australian Defence Force posture and basing review outlining a need for increased presence in north and north-west Australia. Commercial-military cooperation, and corporate social responsibility, can include access for Naval vessels to commercial berths to achieve mutual objectives. The protection of geographically remote shipping and offshore resources requires sustainment and resupply access from shore and collaborative planning and design of commercial and military capability.

The conference concluded with an update on preparations for the International Fleet Review in Sydney in October 2013, marking a century since the first RAN fleet arrivals.