

## CONFERENCE COMMUNIQUÉ

### Background

The inaugural e-Navigation Underway (North America) Conference was held on 3 - 4 April 2014 at the California Maritime Academy, Vallejo, California, USA. Organized by the Danish Maritime Authority and the International Association of Marine Aids to Navigation and Lighthouse Authorities and hosted by the California Maritime Academy, the conference was attended by 109 delegates, representing 14 countries and 63 organizations. The associated exhibition attracted 8 organizations, displaying e-Navigation related systems and services.

30 Presenters covered a wide variety of e-Navigation topics. Presentations were grouped in 6 Sessions:

- |  |                              |
|--|------------------------------|
| 1. Governmental Overview                             | 4. Training & Education      |
| 2. Waterway Management and Environmental Stewardship | 5. e-Navigation Technology   |
| 3. The Human-Machine Interface                       | 6. Other e-Navigation Issues |

Each Session concluded with a lively discussion of the topics presented. In the Conference Wrap-Up Session delegates reached consensus on the following conclusions and recommendations.

### Conclusions

1. There is a paucity of easily correlated information about of e-Navigation plans, priorities and development. This has resulted in a lack of understanding in a large part of the world of both e-Navigation priorities and how development will proceed. This has negative consequences, permitting, for example, partial understanding of test bed activities to skew the acceptance of e-Navigation among segments of the marine community.
2. e-Navigation implementation must provide for the inclusion of smaller vessels and recreational boats which are not directly governed by SOLAS.
3. Different aspects of e-navigation are being developed and tested all over the world. Test beds are being developed for Under Keel Clearance, Air Gap measurement, Virtual AtoN's, Route Exchange, and others.
4. Training in the e-Navigation era is a major issue afloat and ashore, with the need to train mariners to new levels of sophistication starting at the entry level.
5. A proper balance must be achieved between "Standards" and "Guidelines" in order to ensure the appropriate balance between commonality and flexibility.
6. e-Navigation is intended to deliver interoperability and integration of systems from different vendors.
7. If e-Navigation is to create the necessary maritime information environment, more attention must be paid to development of the underlying infrastructure. The infrastructure includes both database-related matters and communications.
8. Ship officers and marine electronics manufacturers play a critical role in e-Navigation development and must be involved in all stages of e-Navigation development/implementation to ensure proper human centered design.

### Recommendations

1. Create a forum for ideas, tools developed, test results and general information to allow others to build on what already has been achieved elsewhere, and as a source public education about e-Navigation. IALA's e-Navigation.net Portal ([www.e-navigation.net](http://www.e-navigation.net)) may serve this purpose.
2. Ship Officers, System Vendors and P&I Clubs must be active participants in the development implementation and promotion of e-Navigation
3. Equipment standards should be flexible to allow on-board implementation of e-Navigation services/solutions.
4. Manufacturers should adopt inter-vendor operability that still allows them to develop and market innovative products.
5. Training and education requires exposure of faculty and students to e-Navigation planning, development and implementation. To facilitate this it is recommended that an additional e-Navigation conference be held at an academic institution in North America.



Captain Samuel R. Pecota

Conference Chair