

A NEW YEAR MESSAGE FROM THE PRESIDENT OF IAIN

Fellow Members and visitors to our website,

The Association has had a busy year. We have contributed to several strands of activity. These have included in the marine environment: the development of guidelines for both S-mode in ships' bridge equipment and the harmonisation of the presentation of navigational information on bridge displays. Meanwhile, in the air world we are supporting an initiative to encourage the adoption of True North as a heading reference by the aviation community. Lastly, but not least, back at sea, we were involved in the preparation of a first regulatory framework for autonomous ships. Indeed there is an acknowledgement of IAIN's contribution at the front of the first issue of a voluntary *Code of Practice for MASS (Maritime Autonomous Surface Ships) up to 24 m in Length* (See www.maritimeuk.org/mas-cop). Of course, there are many projects that aim to build and operate larger autonomous ships but this first Code is a start.

The continuous challenge facing navigators, one no less serious than the vulnerability of Space-Based Positioning and Timing, is that of maintaining cyber security – the defence of our vehicle systems (be they in cars, planes, ships, drones or space vehicles) against those wishing to interfere with them for malicious purposes. While physical and technical methods of protecting systems (such as a utility called Land Based Positioning and Timing) exist or are being developed, they must be matched by changes in navigators' behaviour with regard to any and all systems so as not to allow the ill-disposed easy access. Even in the case of a lack of protected systems, the expert navigator would deal with occurrences safely to make good the integrity of navigational information. Thus, a human controlled vehicle, even with automatic control systems, would be able to deal with cyber security threats.

It seems that autonomous vehicle systems will arrive soon, but it will not yet be enough to establish a fully autonomous era because there are few infrastructures for countering the vulnerability of GNSS/RNNS. To welcome a fully autonomous era will require the development of autonomous integrity of navigational information. Furthermore, establishing infrastructures for all vehicle systems and autonomous integrity of navigational information will also be essential to safety, security and efficiency for human control of vehicle systems.

This brings me to the 2018 IAIN World Congress to be held over 27 November – 1 December 2018 in Makuhari, Japan (<https://iain2018.org>). The venue is a modern purpose-built convention centre close to Tokyo and the programme will have as its main theme “***Science, Technology and Practice for Resilient Navigation***”, and discuss the development of safety, security and efficiency of navigation in cars, planes, ships, drones or space vehicles developing autonomous integrity of navigational information towards fully autonomous navigation. I look forward to seeing many of you in Makuhari, Japan.

Encouragingly, this year has seen our membership expand again. There are two new Associate Members: NAVCANADA and the Chart and Nautical Instrument Trade Association (CNITA); three more Corresponding Members (one returnee and two new): the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA-AISM), The Honourable Company of Air Pilots (Air Pilots) and the UK Maritime Pilots’ Association (UKMPA) and one new Corporate Member – Chronos Technology Ltd. We welcome all those who belong to these organizations and look forward to purposeful and effective co-operation in the future.

Finally, I would like to acknowledge the contributions made to the Association in the form of input to the website, both material and with suggestions. Efforts made by our representatives at the various international fora they attend on our behalf, and the continued support received from our membership are much appreciated. Thank you all.

I wish all our Members and readers

A happy, successful and safe New Year 2018



Yasuo Arai
Yasuo Arai,
(Japan Institute of Navigation)
President IAIN