

INTERNATIONAL ASSOCIATION OF INSTITUTES OF NAVIGATION

MARIO CAPORALE



MISSION

The International Association of Institutes of Navigation (IAIN)

Is:

➤ non-governmental, non-profit organisation

➤ with the objective of:

uniting national and multi-national Institutes and organisations which aim to foster human activities at sea, in the air, in space and on land, and who may benefit from the development of the science and practice of navigation and related information techniques.

IAIN web site: <https://iainav.org/>



GOVERNANCE

Established in 1975, IAIN renew its Council every three years.

The new Council of Officers, nominated just last year, is:

<i>President:</i>	Prof. K. Czaplewski (PL)
<i>Immediate Past-President:</i>	Mr. J. Pottle (UK)
<i>Senior Vice-President:</i>	Prof. Zhang Baochen (China)
<i>Vice-Presidents:</i>	Dr. Aiden Morrison (N), Prof. S. Gaglione (IT)
<i>Secretary General:</i>	Prof. Capt. Hesham Helal (Egypt)
<i>Treasurer:</i>	Dr. Tom Willems (NL)



REPRESENTATIVES

IAIN is represented in international organisations by appointed representatives.

Current Representatives are:

ICAO (International Civil Aviation Organisation): **Bart Banning** (NIN)

ICG (International Committee on GNSS): **Mario Caporale** (IIN)






IHO (Intern.Hydrographic Organis.): prof. Capt.**Adam Weintrit** (PNF)

IMO (International Maritime Organization): **James Taylor** OBE RN (RIN)

US PNT Advisory Board: **Dana Goward** (RNT Fnd)



IAIN FULL MEMBERS

Arab Institute of Navigation	
Austrian Forum of Navigation	
China Institute of Navigation	
Czech Republic Institute of Navigation	
German Institute of Navigation	
Institute of Navigation (US)	
Israeli Association for Automatic Control	
Italian Institute of Navigation	



IAIN FULL MEMBERS

Japanese Institute of Navigation	
Korean Institute of Navigation and Port Research	
Netherlands Institute of Navigation	
Nordic Institute of Navigation	
Polish Navigation Forum	
Royal Institute of Navigation (UK)	
Swiss Institute of Navigation	



IAIN ASSOCIATE MEMBERS

NAV CANADA



Chart and Nautical Instrument Trade Association



L'Académie de l'air et de l'espace (AAE)





CORRESPONDING MEMBERS

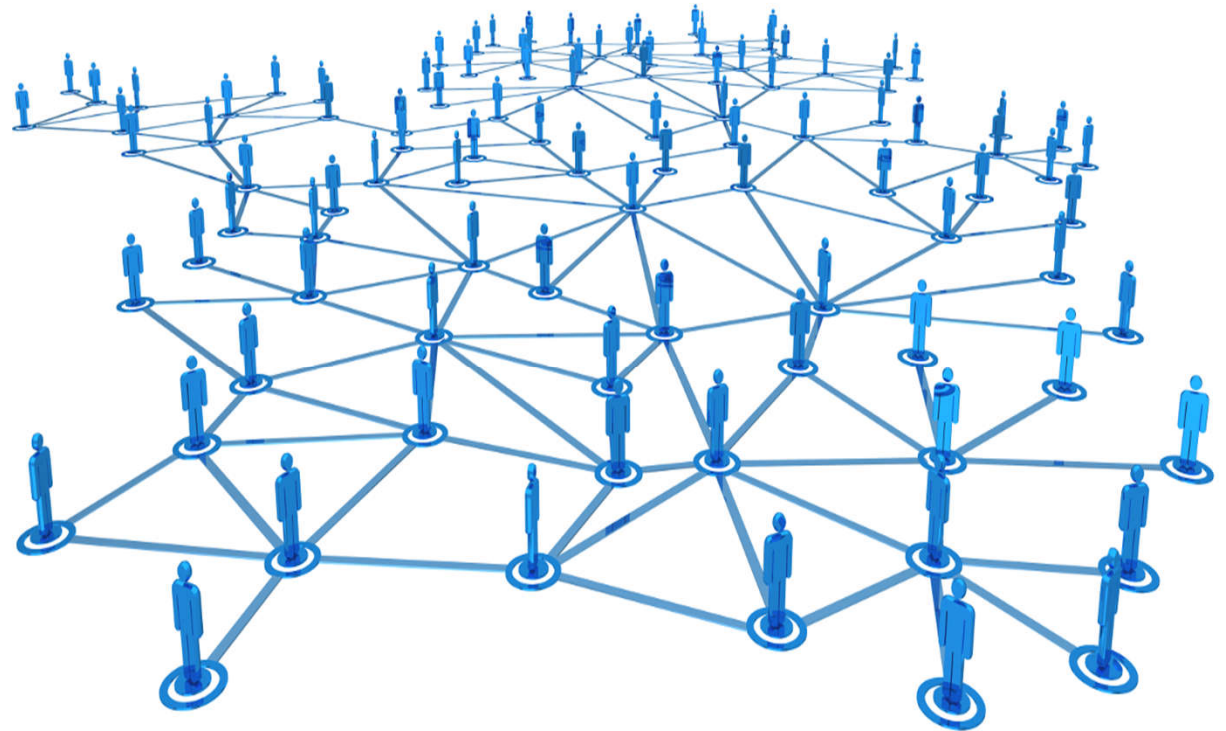
Australian Institute of Navigation	
<u>Comité</u> International Radio-Maritime	
<u>Honourable</u> Company of Air Pilots	
International Association of Aids to Navigation and Lighthouse Authorities (IALA)	
Indian Maritime Foundation	
Institute of Seamanship	
Irish Maritime Forum	
Resilient Navigation and Timing Foundation	
UK Maritime Pilots' Association	
DPRK Institute of Navigation	



IAIN AS NETWORK OF EXPERTS

The Institutes of Navigation and the other Organizations associated to IAIN provide a rich, worldwide **network of experts** in various fields, mainly related with various modalities of transport, from:

- Industry
- Academia
- Research Centres
- Public Institutions





IAIN CONTRIBUTION TO ICG

IAIN acts as a voiceover for the ICG in the nations of its Members

IAIN is also a “**voice**” of the User Communities

Except civil aviation and maritime, which are regulated at international level through ICAO and IMO respectively, other transport modes such as railway or road transport have a very local or regional regulation.



IAIN CONTRIBUTION TO ICG

In the nations of its Members IAIN :

- ✓ Promote the use of GNSS, properly integrated with other time distribution and positioning techniques to ensure the provision of a continuous and resilient service, to the entire user community, and
- ✓ Foster the integration of satellite navigation with the other technologies, to improve efficiency and security of various modal transports.
- ✓ Act as **“tutor”** of the *GNSS knowledge*



CURRENT APPLICATION AND USER SCENARIO

Several Sectorial, Regional or Global User Requirements' specifications are currently available

Ubiquitous systems and outdoor to indoor continuity needs harmonized requirements and definitions among sectors

Multimodal Transport and automation are expected to drive the satellite navigation technological development

Navigation and Mobile communication interoperability is a driver

An harmonized User Requirement document is needed



RTCM

RTCM (Radio Technical Commission for Maritime Services), an International non-profit organization, founded on 1947, has required to become Observer of ICG

Some of its Committees are at the base of nowadays GNSS high accuracy positioning

In particular, SC-134 works on Standard Messages formats for GNSS High Accuracy Integrity Augmentation at User and Service Provider Level, with a Multimodal Approach (Automotive, Rail, Maritime and other applications)



PROPOSAL

The Proposal is a collaboration between IAIN and RTCM, with liaisons with other organizations, for the development of a harmonized and commonly agreed User Requirements

IAIN and RTCM, acting as an interface toward external user communities and standardization bodies, aim at collecting requirements and review of the proposed Documents

IAIN and RTCM, can contribute to the current Application Subgroup of WG-B or constitute an additional Subgroup of WG-B for this purpose



IAIN CORRESPONDENCE

The **IAIN** representative at ICG:

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The **IAIN** Secretary General :

Dr. Capt. **Hesham Helal** (Egypt)
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THANKS !