



**IALA**

ANNUAL REPORT  
2016





# SUCCESSFUL VOYAGES, SUSTAINABLE PLANET

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# ABOUT IALA

Established in 1957, IALA is a not-for-profit, international technical association. It brings together marine aids to navigation authorities, manufacturers, consultants, and scientific and training institutes from across the globe to exchange and compare experiences and knowledge for the improvement and harmonization of maritime navigation services worldwide.



# A MESSAGE FROM THE PRESIDENT AND THE SECRETARY-GENERAL

We are pleased to present the Annual Report of IALA for 2016.

The year was very productive for IALA's four Committees, who, from amongst many other highlights, could take pride in the completion of their intensive work on the first set of draft Standards. The Council will be invited to approve the draft Standards at its 65<sup>th</sup> session in December 2017, and it is envisaged that they will be submitted to the General Assembly for adoption at the 19<sup>th</sup> IALA Conference, to be held in Incheon in May-June 2018. The non-mandatory Standards provide a high-level reference framework for IALA's Recommendations and associated Guidelines and are suitable for citation in national legislation and international instruments.

The World-Wide Academy reports its highest level of activity for capacity building and training since it became operational in January 2012. The handover between the outgoing Dean, Rear-Admiral Jean-Charles Leclair, upon his retirement after many years of exceptional service to IALA, and the new Dean, Mr Omar Frits Eriksson, who took up the position on 1 September 2016, was a blueprint of seamless transition. We are very indebted to the major sponsors as well as in-kind donors for their generosity. Their support is vital to the Academy's activities to improve harmonization in the provision of marine aids to navigation worldwide.

The dedicated staff of the small Secretariat at IALA Headquarters in St Germain-en-Laye deserves credit for the tireless collaboration and hard work. In addition to servicing the ever-busy Committee meetings and arranging the many other IALA events, including workshops and seminars, a number of staff collaborated with the Marine Department of Malaysia on the necessary preparations for the highly successful 13<sup>th</sup> International Vessel Traffic Services Symposium held in Kuala Lumpur in August 2016. We are also particularly pleased that the extensive refurbishment and upgrading of the Headquarters' offices and IT and conference facilities were successfully carried out, thanks to efficient planning by the Secretariat.

The year under review saw significant progress with regard to the preparations by the Legal Advisory Panel for IALA to become an intergovernmental organization (IGO), enabling the submission to the Council of the completed draft texts of the envisaged IALA Convention and the new General Regulations which will govern IALA as an IGO.

The availability of these two key documents led the French Ministry of Foreign Affairs to commence diplomatic action in December 2016, by way of a letter of invitation from the Minister to the membership for a Preparatory Diplomatic Conference in Paris in April 2017.

We commend this Annual Report and trust that its record of the many, diverse activities conducted during 2016 will be a source of inspiration for the continued success of IALA and the Academy into the future.

We feel particularly encouraged by the steady growth in the number of members, with 21 new members having joined in 2016 alone, an increase of 6 per cent over the previous year. This indicates that IALA is strong, and its financial position is also healthy.

We wish to thank all members and staff of the Secretariat and the Academy for their valuable contributions throughout the year.



Juan Francisco REBOLLO  
PRESIDENT



Francis ZACHARIAE  
SECRETARY-GENERAL

# THE STRATEGIC VISION

The Strategic Vision for IALA was approved by the Council in December 2013. It covers the period 2014 to 2026 and sets two Goals which IALA should aim to achieve by the end of 2026.

**Goal 1** - Ensure that aids to navigation systems and related services, including e-Navigation, Vessel Traffic Services, and emerging technologies, are harmonised through international cooperation and the provision of standards.

**Goal 2** - All coastal states have contributed to an efficient global network of aids to navigation and services for the safety of navigation, through capacity building and the sharing of expertise.

In order to facilitate their achievement, the Strategic Vision provides a series of Strategies for the period 2014-2026 and identifies a set of Priorities related to the technical work programme for the period 2014-2018.

The Strategic Vision document may be accessed here :  
<http://www.iala-aism.org/about-iala/vision/>



# GOVERNANCE ARRANGEMENTS

IALA continues to place considerable emphasis on strong governance arrangements. This is increasingly important as the organization moves towards inter governmental status.

Governance arrangements, including those pertaining to the General Assembly and the Council, ensure that IALA is accountable for its actions and able to respond to the developing needs of its members and to global changes. They are supported by two consultative bodies: the Policy Advisory Panel (PAP) and the Legal Advisory Panel (LAP).



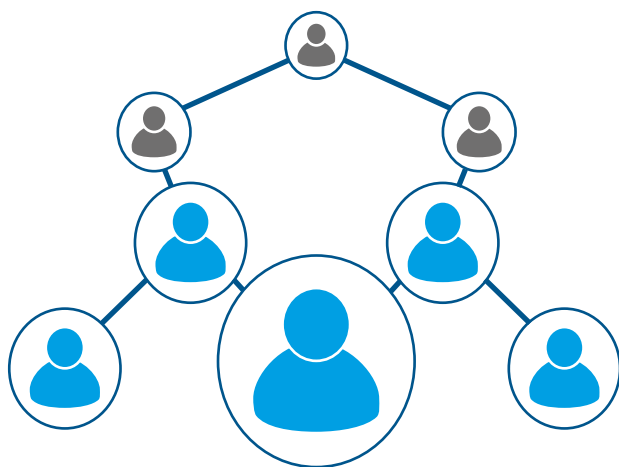
## GENERAL ASSEMBLY

The General Assembly brings together members from all the IALA membership categories every four years and usually convenes in conjunction with the four-yearly IALA Conference.

National members attending the General Assembly are entitled to:

- determine the broad policy direction of IALA;
- elect members to the Council;
- decide upon changes to the IALA Constitution; and
- decide on IALA Standards (from 2018 onwards).

Associate and Industrial members are entitled to attend the General Assembly and take part in the discussions, but they do not have the right to vote.







# COUNCIL

IALA is headed by a President elected by the Council.

The Council comprises 21 elected and three non-elected members. It approves the strategic direction, the annual budget, and the rates for members' annual contributions. It also authorizes any major financial purchases or bank loans required for the running of IALA.

The three non-elected members are a National member of the Host Nation (France), the National member who hosted the previous IALA Conference and the National member who will host the next Conference.

- IALA President: Mr Juan Francisco Rebollo (Puertos del Estado), Spain
- IALA Vice-President: Mr Kim Youngso, Ministry of Oceans and Fisheries, Republic of Korea
- Treasurer and Chairman of the Finance and Audit Committee: Captain Ian McNaught, Trinity House, UK
- Australian Maritime Safety Authority, Australia, represented by Mr Brad Groves
- Centro de Sinalização Náutica Almirante Moraes Rego, Brazil, represented by Captain Alexandre Coelho Gomes
- Armada de Chile - Directemar, Chile, represented by Rear Admiral Osvaldo Schwarzenberg
- Maritime Safety Administration, China, represented by Captain Chen Aiping
- Danish Maritime Authority, Denmark, represented by Mr Troels Blicher Danielsen
- Finnish Transport Agency, Finland, represented by Ms Tiina Tuurnala
- Direction des Affaires Maritimes, France, represented by Captain Vincent Denamur
- Federal Waterways and Shipping Administration, Germany, represented by Mr Christian Forst
- Directorate-General of Lighthouses and Lightships, India, represented by Shri J.S. Chauhan
- Commissioners of Irish Lights, Ireland, represented by Ms Yvonne Shields
- Italian Coast Guard - Headquarters, Italy, represented by Rear Admiral Piero Pellizzari
- Japan Coast Guard, Japan, represented by Captain Kazuo Yagi
- Light Dues Board Peninsular Malaysia, Malaysia, represented by Haji Baharin bin Dato Abdul Hamid
- Ministry of Infrastructure and the Environment, The Netherlands, represented by Ms Brigit Gijssbers
- Norwegian Coastal Administration, Norway, represented by Ms Kirsti Slotsvik
- Portuguese Navy Lighthouse Authority, Portugal, represented by Captain José Guerreiro Cardoso
- Port Autonome de Dakar, Senegal, represented by Mr Ousseynou Ndiaye
- Transnet National Port Authority, South Africa, represented by Mr David Gordon
- Swedish Maritime Administration, Sweden, represented by Mr Ove Eriksson
- Directorate-General of Coastal Safety, Turkey, represented by Mr Levent Kalfa
- United States Coast Guard, USA, represented by Captain Scott Smith

# FINANCE AND AUDIT COMMITTEE

The Finance and Audit Committee (FAC) consists of five members elected from among the Council members for a renewable four-year period.

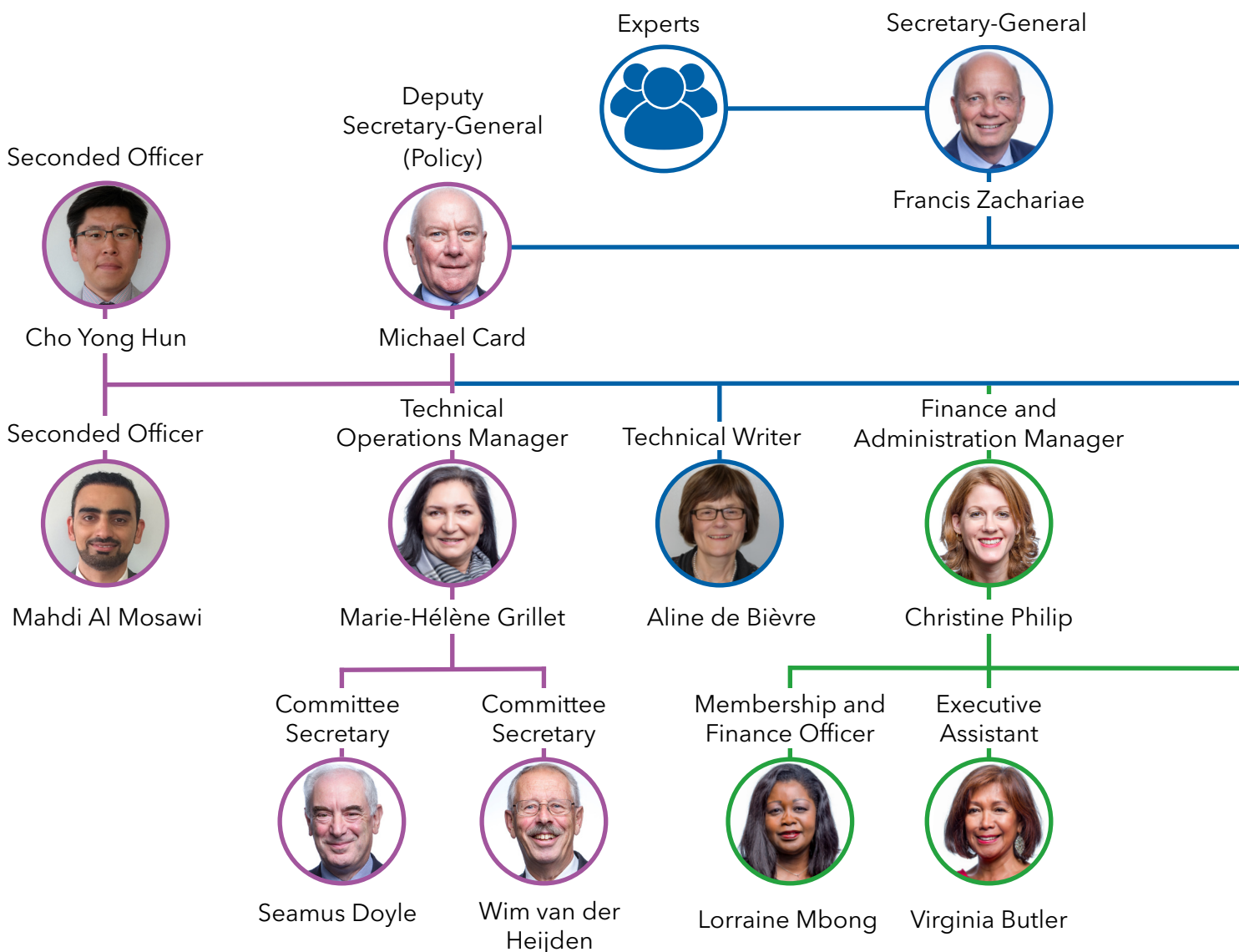
France, Germany, Ireland, Malaysia and the United Kingdom are the current FAC members. The Councillor for the United Kingdom, Captain Ian Mc Naught, acts as both FAC Chair and IALA Treasurer.

The FAC meets twice a year and advises the Council on financial matters such as contribution adjustments and the execution of budget and investment policies.

# COUNCIL STRATEGY DRAFTING GROUP

The Council, at its 63<sup>rd</sup> session, held in December 2016, recognized that there was a need for a high-level strategic framework for IALA to provide the appropriate focus and direction of the IALA Strategic Vision. It was decided that the current Council Strategy Group should be replaced by a Strategy Drafting Group, which would have the task of collecting views from members and drafting a high-level Strategy that would support IALA into the future.

The Council Strategy Drafting Group, under the chairmanship of Mr Christian Forst, the Councillor for Germany, will meet for the first time in June 2017.





# AUDITOR AND CHARTERED ACCOUNTANT

Finance records are maintained by the Secretariat with the advice of a Chartered Accountant to ensure that they are transparent and in accordance with accounting practice of the Host Nation (France). The Chartered Accountant prepares the annual financial statements that are submitted to the Council after they have been assessed by the Auditor.

The Auditor is in charge of reviewing the annual financial statements, providing comments on the accounts and giving specific advice as appropriate.

# SECRETARIAT

The IALA Secretariat is based in Saint-Germain-en-Laye, near Paris, France and consists of seventeen staff members.

The Secretary-General acts as the Chief Executive Officer of IALA and is in charge of managing the operations of the association.

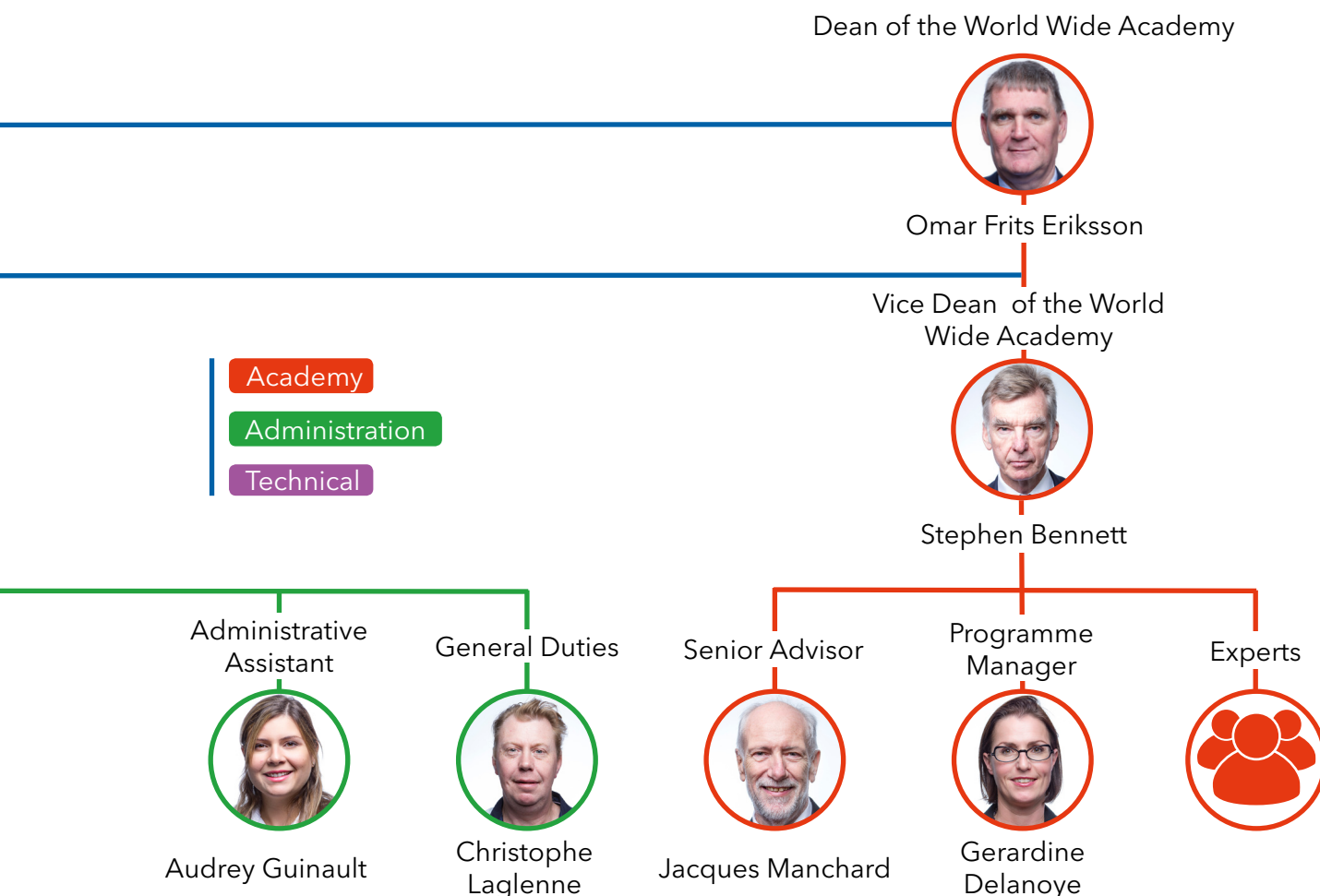
The permanent staff are distributed over three sections: Technical Operations, Administration and Finance, and the World-Wide Academy.

During the year under review, the permanent staff was supported by two officers seconded by National members.

A number of experts also assist the Secretariat in various areas as the need arises.

Mr Omar Frits Eriksson was appointed Dean of the World Wide Academy and took up the position on 1 September 2016, succeeding Rear-Admiral Jean-Charles Leclair, who became the first Dean of the newly established Academy in January 2012 and had been employed by IALA since 2005.

On 31 December 2016, the structure of the IALA secretariat was as follows:



# MANAGEMENT OF TECHNICAL ACTIVITIES



Michael CARD

The overall management of the technical activities is the responsibility of the Deputy Secretary-General, assisted by the Technical Operations Manager supported by the Committee Secretaries.

A primary output of the association is the creation of technical documents for guidance related to the provision of marine aids to navigation and related services. This documentation is vital for achieving the harmonization goal. Development of the technical documents is the responsibility of the four technical Committees (see also Page 17). Organizations representing National members appoint the Committee Chairs, who are responsible for structuring and managing the work, including establishing working groups.



## POLICY ADVISORY PANEL (PAP)

The Deputy Secretary-General chairs meetings of the Policy Advisory Panel (PAP), which advises the Council on strategy and policy matters related to the technical activities. The PAP convenes twice a year and its members include the four Committee Chairs and Vice Chairs, the Chair of the Legal Advisory Panel and the Dean of the World-Wide Academy.

A particular focus during the year under review concerned completion of the work on the development of the first set of high-level Standards and the related review of IALA Recommendations relevant to those Standards, which are designed to provide an overarching reference framework for the technical documentation. This very substantial task involved intensive work by all four Committees.

The Council, at its 63<sup>rd</sup> session in December 2016, reached an important milestone, taking note of the finalized draft texts of seven new Standards. Their development matches the global standing of IALA as the peak technical body in its field of expertise. The areas covered concern aids to navigation planning, service requirements, design and delivery, radio navigation services, vessel traffic services, training and certification, digital communication technologies, and information services.

The Council will be invited to approve the draft Standards at its 65<sup>th</sup> session in December 2017 so that they may be submitted for formal adoption to the XIII<sup>th</sup> General Assembly, scheduled to convene in conjunction with the 19<sup>th</sup> IALA Conference in Incheon, Republic of Korea in May-June 2018.

## TECHNICAL DOCUMENTS

A hierarchy of five levels to distinguish the different types of documents is employed. Standards constitute the top level documents, followed by Recommendations at the second level, and by Guidelines at the third level. The hierarchy is completed by Manuals and Model Courses.

Standards are not binding in the legal sense. They are designed to form a high-level reference framework, covering both marine aids to navigation technologies and related services, and may also be used for citation in national legislation and international instruments. Coastal States will benefit from taking guidance from them when providing marine aids to navigation services. Furthermore, by doing so, they will contribute to achieving Goal 1 of the Strategic Vision concerning improved harmonization of marine aids to navigation worldwide.

Recommendations are aimed at management - "*what should be done*", while Guidelines carry the detailed technical content - "*how to do it*". IALA Recommendations and Guidelines, while not being mandatory, are accepted and applied worldwide as authoritative documents that can be relied upon for their quality and integrity.

Manuals provide broad overviews of specialist topics, and Model Courses are for use by training establishments.

# THE IALA YEAR

## IALA ACTIVITIES

2016 was another busy and productive year for IALA. A 'snapshot' of key activities and events conducted by IALA and the World-Wide Academy is provided in the table beside. Further details of many of the listed activities and events are contained elsewhere in this report.



Month	IALA	World-Wide Academy
January	<ul style="list-style-type: none"><li>✓ LAP inter-sessional meeting, HQ</li></ul>	<ul style="list-style-type: none"><li>✓ Level 1 AtoN Manager Course facilitation meeting, Fiji</li><li>✓ Stage 2 Mission, Solomon Islands</li><li>✓ Level 1 AtoN Manager Course facilitation meeting, Republic of Korea</li></ul>
February	<ul style="list-style-type: none"><li>✓ e-Navigation Underway International Conference, Denmark</li><li>✓ Workshop on Development of VHF Data Exchange System (VDES), Tokyo, Japan</li></ul>	<ul style="list-style-type: none"><li>✓ Level 1 AtoN Manager Course facilitation meeting, UK</li><li>✓ AtoN and VTS training facilitation meeting, South Africa</li><li>✓ Stage 2 Mission, Cambodia</li><li>✓ Level 1+ AtoN seminar, Cambodia</li><li>✓ AtoN training workshop, India</li></ul>
March	<ul style="list-style-type: none"><li>✓ VTS 41, HQ</li><li>✓ ENAV 18, HQ</li></ul>	<ul style="list-style-type: none"><li>✓ Stage 2 Mission, Liberia</li><li>✓ Level 1 AtoN Manager Course facilitation meeting, France</li><li>✓ Asia-Pacific Heads of Maritime Safety Agencies, Queenstown</li></ul>
April	<ul style="list-style-type: none"><li>✓ ENG 4, HQ</li><li>✓ ARM 4, HQ</li><li>✓ PAP 31, HQ</li><li>✓ LAP 16, HQ</li></ul>	<ul style="list-style-type: none"><li>✓ VTS training facilitation, Côte d'Ivoire</li></ul>
May	<ul style="list-style-type: none"><li>✓ Workshop on Shore-Based Maritime Services: from Theory to Practical Use, Lisbon, Portugal</li></ul>	<ul style="list-style-type: none"><li>✓ Level 1+ AtoN seminar, Portugal</li><li>✓ Level 1 AtoN Manager course in English, HQ</li><li>✓ AtoN Awareness seminar, Morocco</li></ul>
June	<ul style="list-style-type: none"><li>✓ Council 62, Lisbon, Portugal</li></ul>	<ul style="list-style-type: none"><li>✓ Stage 2 Mission, Benin</li><li>✓ Stage 2 Mission, Cape Verde</li></ul>
July		<ul style="list-style-type: none"><li>✓ Stage 2 Mission, Vanuatu</li><li>✓ Stage 2 Mission, Cook Islands</li></ul>
August	<ul style="list-style-type: none"><li>✓ VTS 42, Kuala Lumpur, Malaysia</li><li>✓ Joint VTS-ENAV meeting, Kuala Lumpur, Malaysia</li><li>✓ VTS Symposium, Kuala Lumpur, Malaysia</li></ul>	<ul style="list-style-type: none"><li>✓ ASEAN-Japan meeting, Malaysia</li><li>✓ Stage 2 Mission, St. Kitts and Nevis</li><li>✓ Stage 2 Mission, St. Lucia</li><li>✓ South Africa and Islands Hydrographic Commission, South Africa</li></ul>
September	<ul style="list-style-type: none"><li>✓ Workshop on AtoN Services in Extremely Hot Climates, Doha, Qatar</li><li>✓ ENAV 19, HQ</li></ul>	<ul style="list-style-type: none"><li>✓ Stage 2 Mission, Benin</li><li>✓ Level 1 AtoN Manager Course, China</li><li>✓ Level 1 course, China</li></ul>
October	<ul style="list-style-type: none"><li>✓ LAP 17, Helsinki, Finland</li><li>✓ PAP 32, HQ</li><li>✓ e-Navigation Underway North America Conference, Houston, Texas</li><li>✓ ENG 5, HQ</li><li>✓ Workshop on AIS AtoN (real and virtual) Developments and their Uses, Seoul, Republic of Korea</li><li>✓ ARM 5, Seoul, Republic of Korea</li></ul>	<ul style="list-style-type: none"><li>✓ Level 1 AtoN Manager course in French, Brest and HQ</li><li>✓ IMO Technical Cooperation Committee, UK</li><li>✓ Stage 2 Mission, Kenya</li><li>✓ Eastern Atlantic Hydrographic Commission, Spain</li><li>✓ Graduation Ceremony, World Maritime University, Sweden</li></ul>
November		<ul style="list-style-type: none"><li>✓ Risk Management training seminar, Panama</li><li>✓ Stage 2 Mission, Kiribati</li><li>✓ IHO Safety of Navigation seminar, New Caledonia</li></ul>
December	<ul style="list-style-type: none"><li>✓ Council 63, HQ</li></ul>	<ul style="list-style-type: none"><li>✓ South West Pacific Hydrographic Commission, New Caledonia</li><li>✓ Stage 4 Review, Antigua and Barbuda</li><li>✓ Stage 2 Mission, Barbados</li><li>✓ Awareness meeting, Trinidad and Tobago</li><li>✓ IHO Safety of Navigation workshop, Brazil</li><li>✓ Meso America and Caribbean Hydrographic Commission, Brazil</li></ul>

# COUNCIL MEETINGS

The Council convened twice in 2016: in Lisbon, Portugal for its 62<sup>nd</sup> session, and at IALA Headquarters in St Germain-en-Laye for its 63<sup>rd</sup> session.

At the 62<sup>nd</sup> session, held in June, the Council elected a new Vice President following the resignation of Mr Noh, Jin Hak. Mr Kim, Youngso of the Ministry of Oceans and Fisheries of the Republic of Korea was unanimously elected.

C62 approved the financial statement for 2015 and decided on the member contribution rates for 2017. It also gave its formal approval to the revised Basic Documents for the governance of IALA.

A very positive report on the support and involvement of the French Ministry of Foreign Affairs in the project to move IALA towards the status of an intergovernmental organisation (IGO) was presented, and the Council considered the first, complete draft text of the new General Regulations that will govern IALA as an IGO.

Thirteen new or revised Model Courses and two Guidelines, of which the draft texts had been submitted by the relevant Committees, were approved. The existing Recommendation encouraging participation in the World VTS Guide was revoked, as well as two Guidelines, which had been superseded. The new logo and revisited IALA image were introduced and received with enthusiasm.

At the 63<sup>rd</sup> session, held in December, the Council was briefed on the good progress made with the IGO project, including the planned convening of a first Preparatory Diplomatic Conference in Paris in April 2017, with the support of the French Ministry of Foreign Affairs. The draft text of the new IALA Convention, which C62 had taken note of, and the draft General Regulations, approved at this 63<sup>rd</sup> session, would form the basis for discussions.

The Council further noted that work on the draft IALA Standards had been progressing well.

A draft text for a document setting out IALA's position on future developments in marine aids to navigation provision was presented.

There was support for establishing a high-level strategy drafting group, to replace the Council strategy working group, and it was agreed that the group would hold its first meeting in June 2017.

Three new or revised Recommendations, four new or revised Guidelines and nine revised Model Courses were approved. One Recommendation was revoked and one Guideline was withdrawn.

Last but not least, C63 unanimously decided to grant IALA Honorary Membership to Rear-Admiral Jean-Charles Leclair for his outstanding contribution to IALA's achievements and, in particular, his leadership and commitment to ensure the success of the World-Wide Academy.

Both 2016 Council sessions welcomed a significant number of new members (see Page 26 for the list of new members).





# LEGAL ADVISORY PANEL (LAP)

## CHAIR JON PRICE, TRINITY HOUSE, UK



Jon PRICE

The IALA Legal Advisory Panel (LAP) continued its work as an advisory body of the Council. A very large part of LAP's work during 2016 was concerned with the completion of the necessary draft documents on the change of status of IALA to that of an IGO, as these would be the two key documents for consideration at the first Preparatory Diplomatic Conference scheduled to be held in Paris in April 2017. LAP thus finalized developing the draft texts of the new IALA Convention and the new General Regulations for submission to the Council and their subsequent circulation in advance of the Conference.

Other important work items concerned consideration of an IALA policy for dealing with patents when producing IALA documentation, and how IALA may advise its members when AIS data are to be used as evidence in court cases. The LAP also provided advice to the Secretariat on operational procedures.

Since 2016 the LAP is open to all National members, and attendance is therefore no longer limited to national administrations represented on the Council.

# EVENTS

## **13<sup>th</sup> International VTS Symposium, Kuala Lumpur, Malaysia**

The 13<sup>th</sup> International VTS Symposium was held in Kuala Lumpur, Malaysia from 8 to 12 August and the chosen theme was *Sustainable Safe Navigation*.

The Symposium, which was complemented by the customary Industrial Exhibition, attracted 377 delegates representing 37 countries and a number of organizations from around the world. It provided an open forum for in-depth discussion on current challenges and opportunities for VTS in different parts of the world and a look into the future of VTS.

Technical presentations ranged from communications and other technologies to training and the latest developments in the use of VTS as a decision support tool. The Symposium resulted in eleven conclusions that can serve as a basis for future work of the VTS Committee. Among the many highlights of the packed five-day programme was the launch of the sixth Edition of the VTS Manual, which is available in both digital format and print copy.

## Workshops

A **Workshop on the Development of VHF Data Exchange System (VDES)** was hosted by the Japan Coast Guard in Tokyo, Japan, from 15 to 19 February 2016, with the aim to promote the concept of the VDES and to progress its technical and operational development.

A **Workshop on Shore-based Maritime Services: from Theory to Practical Use**, with subtitle *Who Will Do What and When?*, took place in Lisbon, Portugal, from 24 to 26 May 2016, with the aim to identify responsible organisations and contributors / users who should contribute to the development and practical implementation of Maritime Service Portfolios (MSPs), and to consider the future scope and content of MSPs as well as cyber security issues.

A **Workshop on Aids to Navigation (AtoN) Services in Extremely Hot Climates** was held in Doha, Qatar, from 4 to 7 September 2016, and provided an opportunity to consider and develop guidance on the unique issues arising when providing AtoNs in very hot and humid environments.

A **Workshop on AIS Aid to Navigation (real and virtual) Developments and their Uses** was held in Seoul, Republic of Korea, from 19 to 21 October. Hosted by the Korean Ministry of Oceans and Fisheries, it aimed to identify, consider and recognize current and potential uses of AIS for the development and updating of IALA guidance on AIS, and to explore harmonizing solutions for symbology charting and portrayal for potential uses of AIS.

## Other Events

The sixth **e-Navigation Underway International Conference**, organised by the Danish Maritime Authority in close cooperation with IALA, was held in February 2016, on board the DFDS ferry M/S PEARL SEAWAYS, during the vessel's sea passage from Copenhagen to Oslo and back to Copenhagen. The chosen theme for the conference was *The Coordinated Approach*, with a strong focus on aspects of e-navigation implementation explored in test beds and on verification of emerging e-navigation concepts and technologies. The conference sought to gauge stakeholder opinions through the frank exchange of views, highlight experiences gained with e-navigation, and promote understanding between equipment manufacturers and users.

The third **e-Navigation Underway North America Conference** was held in October 2016, at the San Jacinto College Maritime Technology and Training Center, La Porte, Texas, USA. The chosen theme for the conference was *Meeting Informational Needs Where Blue Water, Brown Water and Port Facilities Intersect*. The conference sought to encourage greater understanding and stimulate thought about e-navigation applications meeting North American needs, and to identify specific actions to implement e-navigation.



# THE COMMITTEES AND TECHNICAL ACTIVITIES

The four Committees for the period 2014-2018 and their allocated technical domains are the following:

Committee Title	Technical Domains
AtoN Requirements and Management Committee (ARM)	<ol style="list-style-type: none"><li>1- Risk management</li><li>2- Requirements for AtoN systems</li><li>3- Management of AtoN Services</li><li>4- Marine Spatial Planning</li></ol>
e-Navigation (ENAV)	<ol style="list-style-type: none"><li>1- Data modelling and message systems</li><li>2- e-Navigation communications</li><li>3- Shore technical infrastructure</li><li>4- e-Navigation test beds</li><li>5- Maritime service portfolios</li></ol>
AtoN Engineering and Sustainability (ENG)	<ol style="list-style-type: none"><li>1- Light and vision physics</li><li>2- AtoN design and maintenance</li><li>3- Global capacity building and training</li><li>4- Civil engineering and environment</li><li>5- Maintenance of heritage structures</li></ol>
Vessel Traffic Services (VTS)	<ol style="list-style-type: none"><li>1- Operations</li><li>2- Technology</li><li>3- VTS Training</li></ol>

## Aids to Navigation Requirements and Management (ARM) Chair Phil Day, Northern Lighthouse Board, UK



Phil DAY

The ARM Committee deals with high-level aspects of requirements and management of marine aids to navigation systems, marine spatial planning and risk management.

The Committee met twice during the year under review. ARM4 met at IALA Headquarters from 18 to 22 April 2016 and ARM5 in Seoul, Republic of Korea from 23 to 28 October 2016, with a growing participation - 48 members from 23 countries.

The Risk Management Steering Group was continued as Working Group 3 of the ARM Committee during the ARM4 session and this resulted in six new tasks under the Committees' Work Programme 2014-2018.

Significant outputs and achievements of the ARM Committee during 2016 included:

- ✓ Updates of the NAVGUIDE
- ✓ Contributions to the IALA Wiki
- ✓ The development of a new Recommendation O-149 on Accreditation of Training Organizations
- ✓ Progress on the development of four new Recommendations / Guidelines on:
  - Marking of wrecks
  - Disaster recovery
  - Use of mobile AtoN
  - The use of Marine Spatial Planning
  - AtoN in environmentally protected areas
  - PAWSA, SQUART and IWRAP

The Committee will continue to monitor portrayal and the use of pictograms on AtoN.

## Aids to Navigation Engineering & Sustainability Committee (ENG) Chair Simon Millyard, Trinity House, UK



Simon MILLYARD

The ENG Committee deals with all aspects of AtoN design and maintenance, civil engineering and environment, power systems, AtoN light and vision physics, global capacity building and training, harmonizing and interfacing of equipment and systems, and remote monitoring and control. It supports the World-Wide Academy through the development and coordination of model courses for AtoNs and e-navigation, and also oversees the work of the Heritage Forum.

The Committee met twice during the year under review. ENG4 met in April 2016 and ENG5 in October 2016; both meetings took place at IALA Headquarters. Participation was enthusiastic, with 60 participants from 27 countries attending ENG 5.

Significant outputs and achievements of the ENG Committee during 2016 included:

- ✓ Development of a new Guideline 1116 on Selection of Rhythmic Characters and Synchronization of Lights for AtoNs
- ✓ Revision of Recommendation E-110 on Rhythmic Characters of AtoN Lights
- ✓ Revision of 11 Model Courses
- ✓ Revision of Guideline 1094 on Daymarks for AtoNs
- ✓ Revision of Guideline 1041 on Sector Lights
- ✓ Revision of Guideline 1038 on Methods and Ambient Light Levels for the Activation of AtoN Lights
- ✓ Revocation of two Guidelines
- ✓ Organisation of a Workshop on Aids to Navigation (AtoN) Services in Extremely Hot Climates in Doha, Qatar, in September 2016
- ✓ Support for the ARM Committee's review of the NAVGUIDE
- ✓ Development of a management strategy for the IALA Dictionary

The planning of a Workshop on Sustainable Light and Power for the Next Generation, to be held in Koblenz in March 2017, was initiated.



## Vessel Traffic Service (VTS) Chair Tuncay Çehreli, Directorate General of Coastal Safety, Turkey



Tuncay ÇEHRELI

The VTS Committee deals with all aspects of VTS such as planning, implementation, operations, equipment requirements, technology, training and certification.

The Committee met twice during the year under review. VTS41 took place at IALA Headquarters from 7 to 11 March 2016 and VTS42 was held in Kuala Lumpur, Malaysia from 1 to 5 August 2016, immediately preceding the 13th International VTS Symposium, which took place from 8 to 12 August. The Committee comprises approximately 80 participants from 26 countries.

Also in Kuala Lumpur was the first meeting of the joint VTS-ENAV liaison group also took place in Kuala Lumpur, on 5 August 2016, with 57 participants, and focused on digital interaction between VTS and ships.

Significant outputs and achievements of the VTS Committee during 2016 included:

- ✓ Sixth Edition of the VTS Manual, launched during the 13th International VTS Symposium
- ✓ Results of the VTS Questionnaire, also presented during the VTS Symposium
- ✓ Revision of the VTS Strategy addressing the delivery of VTS in a rapidly changing world
- ✓ Development of a new Guideline 1118 on Marine casualty / incident reporting and recording, including near-miss situations as it relates to VTS
- ✓ Development of a new Model Course V-103/5 on the Revalidation Process for VTS Qualification and Certification
- ✓ Significant progress with the preparation of an input paper to the IMO on (IMO) Resolution A.857(20) concerning Guidelines for VTS, with the completion of a paper setting out the compelling need for a comprehensive revision by the IMO as an unplanned output
- ✓ Progress in the development of new Recommendations and Guidelines on:
  - Maritime Service Portfolios for VTS
  - Measures to Evaluate the Effectiveness of a VTS
  - VTS Communications
  - Portrayal of VTS information and data
  - Technical acceptance of a VTS System
  - Technical interface between VTS systems and the systems of other stakeholders
  - VTS Training Manual
  - Human Factors and Ergonomics in VTS
  - VTS Awareness for Navigation Officers

# e-Navigation Committee (ENAV) Chair Commander Hideki Noguchi, Japan Coast Guard (replacing Mr Omar Frits Eriksson, Danish Maritime Authority, Denmark)



Hideki NOGUCHI

The ENAV Committee deals with all aspects of the development and implementation of e-navigation including data modelling and message systems, communications, shore-based technical infrastructure, resilient Positioning, Navigation and Timing (PNT), testbeds and Maritime Service Portfolios (MSPs).

The Committee met twice during the year under review. ENAV18 met in March 2016 and ENAV 19 in September 2016; both meetings took place at IALA Headquarters. Participation was enthusiastic, with 122 participants from 26 countries and seven sister organizations attending ENAV 19.

Significant outputs and achievements of the ENAV Committee during 2016 included:

- ✓ Development of a new Recommendation R-150 on DGNSS Service Provision Upgrades and Future Use
- ✓ Development of a new Guideline 1117 on VHF Data Exchange System (VDES) Overview
- ✓ Development of a new Guideline 1119 on Marine Beacon Coverage Prediction
- ✓ Revision of Guideline 1107 on Planning and Reporting of e-Navigation Testbeds
- ✓ Revision of Guideline 1082 on Overview of AIS
- ✓ Development of the S 240 Product Specification DGNSS Station Almanac to draft status, and posting on the IALA website
- ✓ Organisation of a Workshop on the Development of VHF Data Exchange System (VDES) in Tokyo, Japan in February 2016
- ✓ Organisation of a Workshop on Shore-based Maritime Services: from Theory to Practical Use, with subtitle *Who Will Do What and When?*, in Lisbon, Portugal in May 2016
- ✓ Development of proposals to the IHO in relation to streaming data services needed for envisaged e-navigation services in the IMO-defined Maritime Service Portfolios for inclusion in S-100
- ✓ On-going liaison with the IEC, IMO, ITU and WMO to progress international standards on e-navigation
- ✓ Development of a road map for IALA's activities concerning e-navigation and related maritime domain developments for 2016 and beyond
- ✓ Development of the VHF Data Exchange System (VDES) as the successor of AIS, in cooperation with the ITU and the IMO, and preparation of Frequently Asked Questions (FAQ) regarding VDES for posting on the IALA website
- ✓ Development of the promulgation of testbed information via the IALA website as the global repository for reports (interim and final) on e-navigation testbed results
- ✓ Establishment of a joint VTS-ENAV liaison group to coordinate the work of the VTS and ENAV Committees with regard to the development of e-navigation services

In view of the anticipated eLoran developments in the United States, following the passing of a bill on GNSS backup by the US House of Representatives, the Committee progressed work on the development of guidance on resilient Positioning, Navigation and Timing (PNT).



## EfficienSea2



As a participant in the EfficienSea2 project, which is funded by the European Commission under the Horizon 2020 programme and led by the Danish Maritime Authority, IALA is leading two work packages and supporting others. The purpose of EfficienSea2 is to enhance safety of navigation and increase efficiency at sea by developing e-navigation services, the Maritime Cloud and communications, in particular the VHF Data Exchange System (VDES).

IALA leads Task 1.2 (Project/Test Bed Liaison) and Task 1.3 (Standardization) in EfficienSea2 Work Package 1 (WP 1). It also contributes to Work Package 2 (Communications - VDES) and Work Package 3 (Maritime Cloud).

By assuming an active role in this innovative project, IALA is in a good position to maintain an overview of testbeds and standards and to provide support to the work of the ENAV Committee to develop e-navigation services, technology and documentation for VDES, and to promote and develop the Maritime Cloud as the logical communications framework for e-navigation.

As a system for data exchange as distinguished from a messaging system, VDES could be a key supporting element of the IMO's strategy for the implementation of e-navigation, building on the existing capabilities of the Automatic Identification System (AIS) and providing a communication channel (both terrestrial and satellite-based) for the transfer of large volumes of data between ships and other entities.

The Maritime Cloud is being developed as a logical communications infrastructure that enables efficient, secure, reliable and seamless electronic information exchange among all authorized maritime stakeholders across available communication systems.

IALA is indebted to Dr Nick Ward, Director of Research, General Lighthouse Authorities of the United Kingdom and Ireland, for acting as IALA Project Manager for EfficienSea2.

# WORLD-WIDE ACADEMY



By the Dean, Mr Omar Frits Eriksson

IALA's World-Wide Academy (WWA) has continued to expand since it became operational five years ago (January 2012). This is all the more remarkable given that it is a not-for-profit enterprise, depending entirely on external funding, in-kind contributions and mission/training event sponsorships. The loan of experts at no cost is equally indispensable.

The recruitment of a full-time Dean during the year under review was a significant milestone in the development of the Academy. The new Dean, who joined on 1 September 2016, and the full-time Programme Manager and two part-time staff together constitute the critical mass of human resources needed to sustain – and to continue to develop – the Academy's level of activity, which has steadily increased in the short period of its existence. The strengthening of the WWA staff complement undoubtedly contributed to the successful execution of all principal tasks of the 2016 Action Plan.

The focus of the Academy on capacity building and training is of particular benefit to coastal States, who are required to deliver marine aids to navigation services in accordance with international legal obligations and standards, but who in many cases lack the capacity to do so. Capacity building concerns the development and strengthening of human and institutional resources, and the Academy actively facilitates this process through technical missions and by facilitating training events.

In addition, it engages in joint capacity-building activities, under the United Nations banner of "Delivering as One", with other international organizations, in particular the International Maritime Organization (IMO) and the International Hydrographic Organization (IHO). In this regard, it should also be noted that coastal States that are member States of the IMO need to prepare for compulsory audits, under the IMO Member State Audit Scheme (IMSAS), with respect to fulfilment of their obligations under the International Convention for the Safety Of Life At Sea (SOLAS Convention) relating to the provision of aids to navigation.

The promotion of the many model courses developed by IALA continued to be a key activity of the Academy, alongside efforts to encourage and assist countries to establish their own training system, and open it to neighbouring countries. The IALA Council's decision, at its 63<sup>rd</sup> session in December 2016, to approve a new Recommendation on Accreditation of Training Organizations marked an important milestone in this regard. There is no doubt that the model courses and the associated accreditation scheme are critically important instruments that will not only continue to drive increases in effective training capacity but also help to ensure a consistent level of training quality worldwide.

Distance learning was trialled for the first time during the year under review, yielding promising results. As part of its increasingly pivotal role in bringing about greater harmonization, the Academy will increasingly focus on facilitating distance learning and also develop an Internet-based distance-learning platform.





## ACTIVITIES

During 2016, the Academy increased its activities to the highest level since its inception:

- ⇒ Four Aids to Navigation Awareness seminars (Cambodia, India, Morocco and Portugal)
- ⇒ 12 Technical Needs Assessment missions (Barbados, Benin, Cambodia, Cape Verde, Cook Islands, Kenya, Kiribati, Liberia, St. Kitts & Nevis, St. Lucia, Solomon Islands and Vanuatu)
- ⇒ One Review missions (Antigua)
- ⇒ Three Level 1 four week Aids to Navigation Manager courses (one in China, two in France; one was in French and two in English)
- ⇒ One IALA Risk Management training seminar (Panama)
- ⇒ Distance learning (pilot trial)

Furthermore, the Academy participated in numerous meetings of regional hydrographic commissions, IMO meetings, IALA Committee meetings, IALA seminars and workshops, all the while raising awareness about the obligations of coastal States and the work of the Academy and liaising with States in need of its assistance.

## ACHIEVEMENTS

Measuring the effect of capacity building and training activities is a challenge, and the Academy continues to work on developing suitable metrics.

The achievements in the year under review may be summed up as follows:

- ⇒ The number of accredited VTS training organizations worldwide increased from 26 to 30 in 2016.
- ⇒ The number of accredited marine aids to navigation training organizations worldwide increased from nine to 11 in 2016.
- ⇒ The number of certified marine aids to navigation managers worldwide increased from 74 to 127 in 2016.

The number of accredited training organizations provides an indication of the training capacity worldwide. The number of certified aids to navigation managers indicates the volume of competent individuals in this field worldwide.

## OUTLOOK FOR 2017

Demand for the Academy services is expected to increase further in 2017 as many lesser-developed countries seek to build a maritime economy, for which they need sufficient cadres of competent people. This will lead to many technical needs assessment missions. The accumulated number of needs assessment missions can possibly lead to a backlog of review (follow up) missions. The number of Accredited Training Organisations worldwide will increase, as well as the number of certified aids to navigation managers, requiring increased attention to Alumni activities. Demand for distance learning is expected to increase.

Numerous coastal States have now received technical needs assessment missions. They should be revisited and their progress reviewed. In 2017, the Academy should focus its capacity building efforts on those coastal States with greatest need.

Although the Academy is currently fairly well resourced, it is imperative that care is taken not to commit to activities in excess of the available capacity. There is also a need to ensure the sustainability of its funding sources through interaction with existing and potential future sponsors.

# FINANCIAL RESULTS



IALA closed its financial year with a net consolidated deficit of **€62,781**, the breakdown of which is as follows:

- - **€15,430** from the World-Wide Academy's activities:

The World-Wide Academy (WWA) has its own budget and work programme and is funded independently from IALA, through generous sponsorships received mainly from The International Foundation for Aids to Navigation and the Ministry of Oceans and Fisheries of the Republic of Korea. During the year under review, the French Ministry of Ecology and other National members also provided direct and in-kind sponsorship. The deficit is related to an exceptionally busy and active year, marked by the accomplishment of a number of important missions, courses and seminars. The WWA reserve fund remained positive despite the deficit.



- - **€47,351** from IALA's activities:

The reported increase of fixed assets is due to the refurbishment of the Headquarters office and conference facilities during 2016. The negative result is the consequence of a recalculation of staff provisions to cover staff indemnities. Overall, the budget execution for the year was satisfactory and the available cash position on 31 December 2016 remained at a sufficient level to deal with future commitments.



## CONSOLIDATED INCOME STATEMENT (in Euros)

	2016	2015
Total operating income	3 400 460 €	3 111 593 €
Total operating expenses	3 448 429 €	2 952 064 €
<b>OPERATING RESULT</b>	<b>-47 969 €</b>	<b>159 529 €</b>
Total interest and other financial income	29 038 €	42 367 €
Total interest and other financial expenses	12 943 €	2 131 €
<b>FINANCIAL RESULT</b>	<b>16 095 €</b>	<b>40 236 €</b>
Total extraordinary income	32 229 €	55 630 €
Total extraordinary expenses	60 000 €	7 199 €
<b>EXTRAORDINARY RESULT</b>	<b>-27 771 €</b>	<b>48 431 €</b>
Income tax	3 136 €	4 182 €
Total income	3 461 727 €	3 209 590 €
Total expenses	3 524 508 €	2 965 576 €
<b>NET RESULT FOR THE PERIOD</b>	<b>-62 781 €</b>	<b>244 014 €</b>



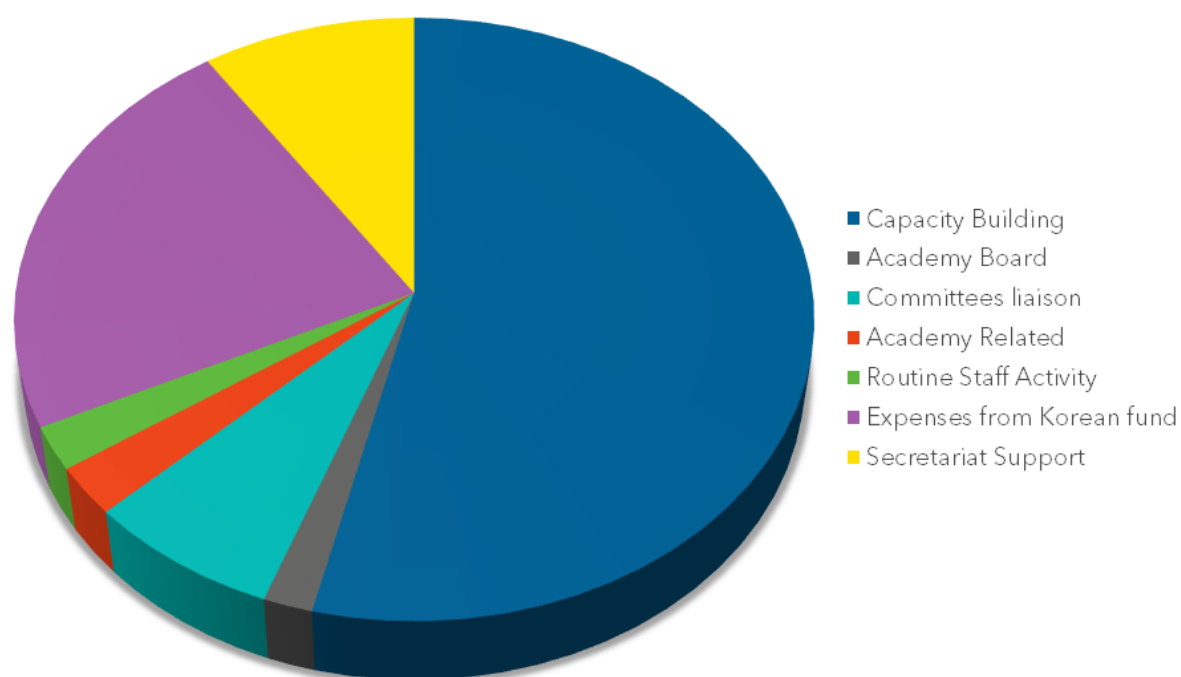
## CONSOLIDATED BALANCE SHEET (in Euros)

ASSETS	2016			2015
	GROSS	Depreciation & allowances	NET	NET
Total fixed assets	3 169 449 €	830 921 €	2 338 528 €	2 281 572 €
Total current assets	4 337 312 €	223 151 €	4 114 161 €	3 055 045 €
<b>Grand total ASSETS</b>	<b>7 506 761 €</b>	<b>1 054 072 €</b>	<b>6 452 689 €</b>	<b>5 336 617 €</b>

LIABILITIES	2016	2015
Total association funds and reserves	2 814 822 €	2 570 808 €
Result of the year	-62 781 €	244 014 €
Subsidies of long-term investments	815 486 €	847 075 €
Total contingencies and loss provisions	639 788 €	360 417 €
Total dedicated funds	60 778 €	108 268 €
Total debts and liabilities	2 184 596 €	1 206 035 €
<b>Grand total LIABILITIES</b>	<b>6 452 689 €</b>	<b>5 336 617 €</b>

Detailed financial statements are available on the IALA Website

## FINANCIAL POSITION – WORLD-WIDE ACADEMY



# MEMBERS

## MEMBERSHIP CATEGORIES

IALA membership comprises a large number of national authorities responsible for marine aids to navigation, agencies, private companies and individuals involved in aids to navigation provision and management around the world.

IALA maintains four different categories. Details of these, and the global reach of IALA, are displayed in the tables and charts below.

Membership Category	Description
National	National aids to navigation authorities or organizations of any country or part of a country that are legally responsible for the provision, maintenance or operation of marine aids to navigation within that country or any part of that country (hereinafter referred to as National Authorities) can join IALA as National Members. National Members are eligible for election to the IALA Council.
Industrial	Manufacturers, distributors of marine aids to navigation equipment for sale, and organizations providing marine aids to navigation services or technical advice under contract can join IALA as Industrial Members. Industrial Members are entitled to participate in the IALA Committees and to exhibit their technologies during IALA conferences, symposia, workshops and seminars around the world.
Associate	Any other service, scientific or research organization, and other organizations, including ports, with an interest in aids to navigation or related matters can join IALA as Associate Members. Associate Members have the opportunity to contribute to the technical work programme of the IALA Committees.
Honorary	Honorary Membership may be conferred for life to an individual who is considered by the IALA Council to have made an important contribution to the work of IALA.

IALA welcomed 21 new members in 2016, bringing the total membership to 266 on 31 December 2016. The 21 new members joined in the following categories:



National members: Ministry of Maritime Affairs, Transport and Infrastructure of Croatia; Georgia State Hydrographic Service; Suriname Maritime Authority; and, Dubai Maritime City Authority of the United Arab Emirates.

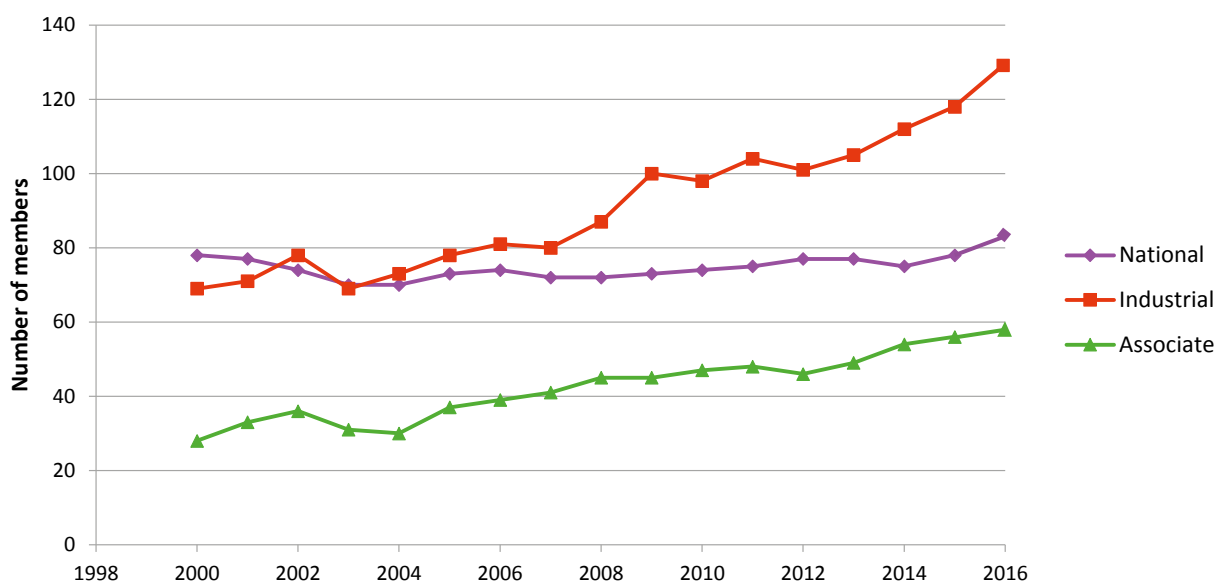
Industrial members: Qinhuangdao Yaoxing Aids to Navigation Technology Co in China; Beacon Co in Egypt; Kenta Electronic, Full Oceans and IxBlue in France; Marine Nav aids and Solar Auto Private Ltd in India; Combustion and Energy Srl in Italy; Greenfinder Sdn Bhd in Malaysia; Tide Technologies Ltd and M-Nav Solutions Pte in Singapore; Abu Dhabi Petroleum Port Operating Company in the United Arab Emirates; Senro Ltd in the United Kingdom; and, Harris Corporation in the United States.



Associate members: China Waterborne Transport Research Institute; Qatar Ports Management Company; and, Marine Transport Institute of the Democratic People's Republic of Korea.

Overall membership has continued to grow steadily and increased by 6% during the year under review. The table and chart below illustrate the growth in the IALA membership over the past 16 years.

 Countries in which IALA has national members  
 Countries in which IALA has no national member  
82 National Members, 127 industrial members, 57 associate members



# CHANGE OF STATUS PROJECT

## ACHIEVING STATUS AS AN INTERGOVERNMENTAL ORGANIZATION THROUGH A NEW IALA CONVENTION

By Secretary-General Francis ZACHARIAE

At its XII<sup>th</sup> session held in A Coruña, Spain in May 2014, the IALA General Assembly adopted a resolution stating its firm belief that status as an Intergovernmental Organization (IGO) will best facilitate IALA's aims in the 21<sup>st</sup> century and determining that the new status should be achieved, as soon as possible, through the development of an international treaty instrument (GA Resolution A.01 of 27 May 2014).

The envisaged new "Convention on the International Organization for Marine Aids to Navigation" ("IALA Convention") will meet the requirements of the Vienna Convention for International Treaties and supersede, upon fulfilment of agreed entry-into-force requirements, the present IALA Constitution. It will be presented for adoption at a future diplomatic conference to be convened under the auspices of IALA. Upon adoption, it will be open for signature to all member States of the United Nations (UN).

### SMOOTH TRANSITION

The draft IALA Convention foresees in robust arrangements for a smooth transition. These will ensure that the activities of IALA's organs and its technical work in the area of marine aids to navigation will continue uninterrupted and that its responsibilities towards the maritime community will be undiminished and maintained with the customary high level of commitment and expertise.

The change of status will mark a major milestone in the life of IALA. However, it will not change IALA's principal aim, which is, as stated in its present Constitution, "to foster the safe, economic and efficient movement of vessels". Under the new Convention, IALA will also remain a consultative, recommendatory technical organization.

### STRENGTHENING INTERNATIONAL COOPERATION

IALA has worked in close partnership with other international organizations for decades and wishes this collaboration to continue and grow. Elevating IALA's status to that of an IGO will make it a peer to organizations like the International Maritime Organization (IMO), the International Telecommunication Union (ITU), the World Meteorological Organization (WMO) and the International Hydrographic Organization, thereby strengthening existing cooperation.

Furthermore, it will allow for a broader participation in IALA by States, at government level. This will assist IALA's aim to promote the greatest possible



uniformity in aids to navigation, in the spirit of the International Convention for the Safety Of Life At Sea (SOLAS Convention).

Further in this regard, IALA is mindful of the UN Convention on the Law of the Sea (UNCLOS), which, under Article 266, requires States that are Parties to UNCLOS to cooperate “through competent international organizations” to promote the development and transfer of marine technology. IALA is already fully engaged with, and will continue to be dedicated to promoting technical cooperation on all matters related to the development and transfer of expertise and technology in relation to marine aids to navigation. In this context, it is committed to keeping pace with emerging technologies, as appropriate, and working closely together with its Industrial members around the world, as well as with national government agencies and marine aids to navigation authorities and other international and intergovernmental organizations.

IALA’s objectives and activities as an IGO will continue to be complementary to those of its peer IGOs. By working together as partner IGOs - with the respective mandate, role and responsibilities of each transparent, mutually supportive, and commonly accepted - they will work more effectively through better coordination and greater integration of standards. Any overlap or duplication would also be easier to avoid and the resulting creation of synergies would optimize available resources in the interests of the efficient movement of vessels, expeditious shipping traffic, maritime safety and protection of the environment.

## THE DRAFT IALA CONVENTION

The draft IALA Convention has been developed drawing on the principles and provisions of the present IALA Constitution and those of the conventions of sister organizations such as the ITU, WMO and IHO.

The draft IALA Convention was finalized by the IALA Council at its 61st session held in Dakar, Senegal in December 2015. It is the result of more than two years of intensive work involving consultations with National Members, input from a working group established by the IALA Council, as well as detailed advice from IALA’s Legal Advisory Panel supported by independent legal expertise from outside IALA, as appropriate.

The development of a set of draft General Regulations, including financial regulations, pertaining to the governance of IALA as an IGO was finalized in 2016. Meanwhile, the draft Headquarters Agreement has been developed in cooperation with the French Ministry of Foreign Affairs.

The Government of France started the diplomatic process in December 2016, issuing an invitation to a Preparatory Diplomatic Conference in Paris, scheduled from 18 to 19 April 2017. Further diplomatic action will continue in 2017.

## CONCLUSION

IALA firmly believes that IGO status will best support IALA’s aims and activities into the future. It will benefit the members, other international organizations and their member States, as well as the shipping industry, by continuous improvement and enhanced harmonization of marine aids to navigation and related services to the benefit of safety of navigation, efficiency of shipping traffic and protection of the environment. The envisaged IALA Convention will provide a fit-for-purpose international legal framework that ensures transparency and good governance, strengthens IALA’s positions to work in close collaboration with Governments and other IGOs, and fosters its technical and consultative work as the leading international expert body concerned with marine aids to navigation.



# INDUSTRIAL MEMBERS COMMITTEE (IMC)

The Industrial members form an integral part of the IALA family and the ARM, ENG, VTS and ENAV Committees is where they jointly provide valuable technical knowledge and first-hand experience to IALA.

On 31 December 2016, the total of Industrial members reached 127 and many actively support the Committees' different working groups, providing detailed input and expert knowledge at a high technical level for the continuous development and updating of the Guidelines and Recommendations published by IALA.

In addition, many Industrial members take part in many other technical activities including symposiums, seminars, workshops on specific topics and the IALA Conference.

It is a hallmark of the Industrial members that they closely cooperate amongst themselves and within IALA and this helps to ensure that their products are reliable and robust and conform to the latest IALA publications.

The Industrial members fulfil the critical role of forming an important link between manufacturers and users of marine aids to navigation. This is of great value to help ensure safe, efficient and economic movement of vessels through continuous improvement of aids to navigation worldwide for the benefit of the marine community and protection of the environment.

The Industrial Members Committee (IMC) represents the interests of the Industrial members to IALA and the IALA Council. In addition the IMC is involved in arranging or assisting in a number of exhibitions including the IALA conference and the famous "Industrial Members Evening".

The Industrial Members Committee (IMC) is elected for a period of four years. The election takes place at the Industrial Members' General Meeting, held during the four-yearly IALA Conference. The current IMC was elected in 2014 and has the following six members:

Mr Young K Bang, Daekee Marine Corporation, President

Mr Steve J Nell, Marine Data Solutions,  
Vice President and Member at Large

Mr Clive W Quickenden,  
Tideland Signal Corporation,  
Secretary, Treasurer, America representative  
and IALA Council Observer

Mr Lars Mansner, Sabik, Europe, Africa and  
IMC representative at IALA Policy Advisory Panel

Mr Noboru Maruoka, Zeni Lite Buoy Co., Ltd.,  
Asia and Oceania representative

Mr John Sugarman, Australian Maritime Systems,  
Member at Large and IALA Council Observer.

The IMC meets regularly and also sends two representatives to the twice-yearly Council meetings.

During 2016 a great deal of preparatory work was carried out to make all the necessary arrangements for the 19<sup>th</sup> IALA Conference in Incheon in May 2018. Venues were visited and approved for the customary Industrial Members' Exhibition and also for the popular Industrial Members' evening.





# COOPERATION WITH OTHER INTERNATIONAL BODIES



To achieve its objectives, IALA cooperates with a number of international bodies, both inter-governmental organizations (IGO) and non-governmental organizations (NGOs), and has established a Memorandum of Understanding (MoU) with a number of them:

- International Hydrographic Organization (IHO)*
- International Navigation Association (PIANC)*
- Comité International Radio Maritime (CIRM)*
- International Harbour Masters' Association (IHMA)*
- The Nautical Institute (NI)*
- International Mobile Satellite Organization (IMSO)*
- International Maritime Pilots' Association (IMPA)*
- The Maritime Organisation for West and Central Africa (MOWCA)*
- Secretariat of the Pacific Community (SPC)*

In addition, IALA works in close cooperation with the following IGOs and NGOs:

- International Maritime Organization (IMO)*
- International Telecommunication Union (ITU)*
- Arctic Council*
- Far East Radionavigation Service (FERNS)*
- Commission Electrotechnique Internationale (CEI)*
- Commission Internationale de l'éclairage (CIE)*
- International Chamber of Shipping (ICS)*
- International Federation of Shipmasters' Association (IFSMA)*
- International Association of Dry Cargo Shipowners (INTERCARGO)*
- International Association of Independent Tanker Owners (INTERTANKO)*
- Inter-governmental Oceanographic Commission (IOC)*
- Radio Technical Commission for Maritime Service (RTCM)*
- World Meteorological Organization (WMO)*







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International Association of Marine Aids to Navigation and Lighthouse Authorities  
Association Internationale de Signalisation Maritime