

# The Royal Institution of Naval Architects



## 2016 Annual Report and Financial Statements for the year ending 30 September 2016

Contents	Page
<b>Annual Report</b>	
Objectives of the Institution	2
Activities, Achievements and Performance	2
Board of Trustees	2
Council	3
Standing Committees	4
Membership	7
Cooperation with other Organisations	7
Publications	7
Conferences, Courses and Events	8
Institution Awards	8
Members Deceased during the Year	9
Obituary	9
<b>Financial Statements</b>	
Financial Review and Reserves Policy	10
Statement of the Board of Trustees' Responsibilities	10
Independent Auditors' Report	10
Summary Statement of Financial Activities	12
Balance Sheet	13
Statement of Cashflows	15



# Royal Institution of Naval Architects

## 2016 ANNUAL REPORT

---

### OBJECTIVES OF THE INSTITUTION

The Objectives of The Royal Institution of Naval Architects are as set out in the Charter of Incorporation 1910 - ‘the improvement of ships and all that specially appertains to them, and the arrangement of periodic meetings for the purpose of discussing practical and scientific subjects bearing upon the design and construction of ships and their means of propulsion, and all that relates thereto’.

Today, reflecting the wider range of activities of the Institution as both a professional institution and learned society, the Objectives of the Institution are more aptly described as “to encourage and assist in the achievement of the safe and efficient design, construction, maintenance and operation of marine vessels and structures.”

These Objects are primarily achieved by:

- Setting of internationally recognised and accepted standards of professional competence and integrity required for membership.
- Encouraging membership of the Institution at all levels
- Enabling of the exchange of technical information through the Institution’s publications, conferences and local meetings, which are open to all those involved in the design, construction, maintenance and operation of marine vessels and structures.
- Contributing its collective expertise to national and international maritime organisations for the benefit of the profession and society.

The Institution’s specific objectives in 2016 have been to increase the internationalism of the Institution in both its membership and its activities, to encourage the younger members of the profession to become involved in the activities of the Institution, and to strengthen its links with academia and industry. These remain the Institution’s specific objectives for the forthcoming year.

---

### ACTIVITIES, ACHIEVEMENTS AND PERFORMANCE

The Institution organised 19 courses and conferences, covering the full spectrum of maritime technology and ranging from one-day seminars to major 2-day conferences. Throughout the year, the Institution published 9 journal titles, reporting on developments in the maritime industry and the results of research and development. Conferences and publications have also contributed to the Institution’s income.

The Institution’s local branches have held regular meetings to present and discuss matters of professional interest. The Institution’s conferences, publications and local meetings are available to both members and non-members.

The Institution also contributed its collective expertise to national and international organisations, particularly concerned with maritime safety and the protection of the maritime environment.

The Institution recognised and encouraged the achievement of individuals at all stages of professional development through its prizes and awards.

During the year, the Institution achieved its programme of planned activities in full, and increased their availability to both members and non-members. Feedback on its activities confirmed that the Institution was maintaining the high standard and value of its conferences, publications etc., and meeting its objectives.

### Future Plans

In the forthcoming year, the Institution intends to maintain its programme of courses, conferences and local meetings, reflecting developments in the design, construction and maintenance of marine vessels and structures, and to continue contributing its collective expertise to appropriate national and international organisations.

---

### BOARD OF TRUSTEES

The Royal Institution of Naval Architects, also known as “RINA”, is a registered charity (number 211161) incorporated under Royal Charter. The Board of Trustees is the governing body of the Institution. The Trustees are appointed by Council.

The Board of Trustees is responsible for the governance and management of the Institution. Responsibility for the day to day management of the Institution’s affairs is delegated to the Chief Executive, accountable through the Chairman to the Board of Trustees. All Trustees are provided with guidance documentation issued by the Charity Commission concerning their responsibilities.

During the year, the Board conducted an annual Internal Audit of governance, administration and finance..

The members of the Board of Trustees confirm they have complied with the duty in section 17 of the Charities Act 2011 to have due regard to public benefit guidance published by the Charity Commission. In particular, the Institution has acted as a Licensed Member of the UK Engineering Council in promoting higher education and professional standards, and as an NGO of the International Maritime Organization in improving maritime safety and the protection of the maritime environment. It has also contributed its collective expertise to other appropriate maritime organizations.

## Management of Risk

The Risk Register is reviewed and updated at every Trustees meeting

### Board of Trustees (at 31 December 2016)

The following were appointed by Council to the Board of Trustees:

**Chairman**  
T Boardley

**Vice Chairman**  
N Pattison

**Treasurer**  
J Frier

<b>Trustees</b>		
D J Andrews	R Gehling	F H Spencer
C Cooper	A King	P Wrobel
J De Rose	A Pattison	A J Marsh

The Board of Trustees met five times in the year, during which its principal considerations were the policy, management and review of the Institution's investments, the management and review of the Risk Register, and an internal audit of the Institution's financial and administrative procedures.

---

## COUNCIL

The Council is elected by the members. It is responsible for the appointment of the Board of Trustees, communicating the views of the Institution's membership to the Board and providing guidance and advice to the Board of Trustees on all matters related to the governance of the Institution.

The Council holds delegated authority from the Board of Trustees for the management of the professional, technical and learned society affairs of the Institution. Such delegated authority is principally exercised through the Institution's standing committees and the Chief Executive.

### Council and Officers of the Institution (at 31 December 2016)

**President**  
2016- Tom Boardley FRINA

**Past Presidents**  
1984-1987 Professor John B Caldwell OBE PhD DSc FREng  
1993-1996 Dr Peter J Usher CBE DSc RCNC FREng  
1996-1999 Sir John Parker FREng  
2002-2004 Professor W Geraint Price FREng FRS  
2004-2007 Dr Nigel Gee DEng FREng  
2007-2010 Stephen Payne OBE HonPhD (Sc) FREng  
2010-2014 Peter French FREng FRSA  
2014-2016 Bruce S. Rosenblatt FRINA

**Honorary Vice Presidents**  
1972- Sir Eric G Yarrow BT MBE FRINA  
2004- E C Tupper RCNC FRINA

Date Elected

Date elected

### Vice Presidents

2014 A Marsh	2016 R W Birmingham
2014 T Allan	2016 N P Pattison
2016 D S Aldwinckle	2016 D J Andrews

### Fellows

2014 M d'Amico	2014 P G Wrobel
2014 R A Shenoi	2015 A Subahani
2014 W D Everard	2015 S C Rusling
2014 K Tikka	2015 J C Hudson
2014 IKAP Utama	2015 R C Gehling
2014 R Curry	2015 J Frier
2014 J De Rose	2016 A G Blyth
2014 R Pudduck	2016 H Karanassos
	2016 C L Savage

### Members

2014 M A Brooking	2015 W Kelly
2014 P B L Coley	2015 D Viner
2014 R D Smart	2016 P Gualeni
2014 S E M Watts	2016 R Spink
2014 D V Whittaker	2016 A D King
2015 D Viner	2016 A Pattison

### Associates

2014 G Smyth	2016 N Desty
--------------	--------------

### Associate-Members 2015 C Cooper

### President of the Australian Division 2016 M Renilson +

### President of the New Zealand Division 2016 R Flay +

**Chairmen of Standing Committees**  
R Cripps (Maritime Innovation Committee) +  
S Watts (Maritime Safety Committee)  
T Strang (Maritime Environment Committee) +  
J De Rose (IMO Committee)  
F H Spencer (Disciplinary Committee) +  
N Pattison (Publications Committee) +  
Y Sarac-Williams (Membership Committee) +  
D Spinney (Professional Affairs Committee) +

+ Ex officio members

**Chief Executive**  
T Blakeley

**Solicitors**  
Messrs Taylor, Joyson Garret & Co.

**Auditors**  
haysmacintyre

**Bankers**  
The Royal Bank of Scotland

**Investment Advisors**  
M&G Investment Management Ltd

## President

Board and Council record their grateful thanks to Mr Bruce Rosenblatt for the considerable service he has rendered to the Institution as its President and as Chairman of the Board of Trustees during the year and throughout his term of office.

## Staff

The Board and Council record their grateful thanks to the Chief Executive and the Secretariat staff for their dedication to the work of the Institution during the year.

---

## STANDING COMMITTEES

The Council thanks the chairmen and members of the Institution's standing committees for the time and effort which they devote to the work of the Institution.

During the year, the Technical Committees Working Group completed its review of the Technical Committees structure. Its principal recommendations were that there should be four Technical Committees – Maritime Safety Committee; Maritime Environment Committee; Maritime Innovation Committee; IMO Committee; - and that a Technical Register of members' experience and expertise should be introduced.

Council accepted all the recommendations of the Working Group.

### Membership Committee

The Committee met five times during the year to consider applications for membership and registration with the Engineering Council UK. A number of new members joined the Committee during the year.

The total membership at the end of 2016 was 10,442. There was again an increase in the number of Student Members and Associate Members in 2016, reflecting the Institution's continuing priority of engaging with the younger members of the profession and industry.

### Disciplinary Committee

No allegations of improper professional conduct by members were received.

### IMO Committee

The Institution continued to make a substantial and important contribution to the work of the UN International Maritime Organisation (IMO), in its capacity as an NGO. The IMO Committee continued to liaise with the Institution's Naval Architectural Group. In 2016, members of the IMO Committee represented the Institution at IMO Committees, Sub-Committees and working groups, and participated in many inter-sessional activities as listed below. Members of the committee participate in 13 Correspondence Groups.

The Committee has met three times this year and added four new members. The Committee also rationalised the lists of members and experts into two lists, for simplicity. It is the intention of the committee to amalgamate the second list into the online Technical Register for ease of use.

The following are the IMO committees and sub-committees which members of the Committee attended during 2016. All reports are published on the website:-

### Ship Design and Construction (SDC) 3

The following matters were addressed by the sub-committee:-

- Amendments to SOLAS II-1 SDS regulations 6 and 8.1.
- Computerised stability support for the master in case of flooding for existing passenger ships.
- Guidelines on safe return to port for passenger ships
- Finalisation of Second generation intact stability criteria
- Amendments to part B of the 2008 IS Code on towing, lifting and anchor handling operations
- Amendments to SOLAS and FSS Code to make evacuation analysis mandatory for new passenger ships and review of the recommendations analysis for new and existing passenger ships.
- Amendments to SOLAS II-1 and associated guidelines on damage control drills for passenger ships.
- Revision of section 3 of the guidelines for damage control plans and information to the master (MSC.1/circ.1245) for passenger ships
- classification of offshore industry vessels and a review of the need for a non-mandatory code for offshore construction support vessels
- Amendments to the 2011 ESP Code.
- Mandatory instrument and/or provisions addressing safety standards for the carriage of more than 12 industrial personnel on board vessels engaged in international voyages
- Guidelines for use of FRP in ship structures.

The sub-committee agreed to set up working and drafting groups at the next meeting on:-

1. Intact Stability
2. SDS
3. Fire Protection
4. Safe mooring operations.
5. Carriage of more than 12 industrial personnel.

The Institution will be represented in these groups.

The following correspondence groups were agreed:-

1. Intact Stability
2. SDS
3. Fire Protection
4. Safe mooring operations

The correspondence group on Subdivision and Damage Stability covers a number of these subjects and the Institution is a member of it. The other CG's referred to above are also being covered by the Institution.

### Ship systems and equipment (SSE) 3

The following matters were addressed by the sub-committee:-

- Safety objectives and functional requirements of the Guidelines on alternative design and arrangements for SOLAS chapters II-1 and III
- Making the provisions of MSC.1/Circ.1206/Rev.1 mandatory
- Review the MODU Code, LSA Code

- Development of life safety performance criteria for alternative design and arrangements for fire safety
- Clarification of the requirements in SOLAS chapter II-2 for fire integrity of windows on passenger ships carrying not more than 36 passengers and special purpose ships with more than 60 (but no more than 240) persons on board
- Measures for onboard lifting appliances and winches
- Amendments to the Guidelines for vessels with dynamic positioning
- Revision of requirements for escape route signs and equipment location markings in SOLAS and related instruments
- Revised SOLAS regulations II-1/13 and II-1/13-1 and other related regulations for new ships.

The sub-committee agreed to set up working and drafting groups at the next meeting on:-

1. Fire Protection
2. Life saving appliances
3. On board lifting appliances
4. Review the MODU Code, LSA Code and MSC.1/circ 1206
5. Dynamic positioning systems

The following correspondence groups were agreed:-

1. Life saving appliances
2. On board lifting appliances
3. Dynamic positioning systems
4. Anti-crushing protection to WT doors

The Institution is a member of another CG on Fire Protection (see SDC above) covering some of the items above. The other CG's referred to above are also being covered by the Institution.

### **Marine Environmental Protection Committee (MEPC) 69/70**

There were two MEPC meetings this year, attended by members of the Committee.

Matters considered by the committee included:

- BWM
- Air pollution
- Energy Efficiency
- Fuel oil availability and quality
- Further Technical and Operational Measures for Enhancing Energy Efficiency of International Shipping
- Reduction of GHG Emissions from Ships
- Inadequacy of Reception Facilities
- The Pollution Prevention and Response (PPR) sub-committee are developing a measuring protocol for "black carbon" and more robust bunker delivery notes that clearly show regulations.
- The proposal for the Hong Kong Convention (Recycling) to come into force early was discussed.
- The carrying of HFO in Arctic waters will be considered at future meetings.

The matters being discussed in the relevant correspondence groups are being monitored and commented upon by the Institution's representatives.

### **Maritime Safety Committee (MSC) 96/97**

There were two MSC meetings this year, attended by members of the Committee.

Matters considered by the committee included:

- Measures to enhance maritime security
- Goal base new ship construction standards
- Passenger ship safety
- Mandatory instrument addressing safety standards for the carriage of more than 12 industrial personnel
- Formal safety assessment
- General cargo ship safety
- Amendments to mandatory instruments
- Ships operating in polar waters
- Implementation of sulphur limits in fuel (0.5%) in 2020
- Lowering the flash point of fuels
- The value of 'R' (This relates to stability and tonnage particularly with respect to passenger numbers). Currently there is no agreement as to where the value needs to be set. The matter will be further debated.

The matters being discussed in the relevant correspondence groups are being monitored and commented upon by the Institution's representatives.

### **Implementation of IMO Instruments (III) 2**

This sub-committee is a central point for discussing matters related to all sub-committees and as such needs to be monitored by the Institution.

The Institution attended this sub-committee in order to follow the Casualty Statistics and investigations aspects. Currently, the recorded investigations do not reveal any naval architectural problems –they appear to be operational matters. However RINA have an expert on the correspondence groups set up under this sub-committee.

Port State Control activities are also monitored for the same reason. A programme for ascertaining deficiencies in passenger ship operations – HAVEP - is being implemented but is not sufficiently developed to ascertain causes of deficiencies.

There are many naval architectural matters which will be discussed in the forthcoming IMO committee's and Sub-Committee's in 2017. The Institution will continue to be well represented.

### **Publications Committee**

The Committee met to determine the award of Medals and Prizes for papers published in the Transactions.

### **Professional Affairs Committee**

The Committee met on three occasions during the course of the year during which the primary topics of discussion were the introduction of mandatory reporting by members of their CPD activity, and the accreditation of academic and Initial Professional Development programmes.



## Maritime Safety Committee

The Committee met four times in 2016. Having established a list of work topics in 2015, i.e. Fishing Vessel Safety, Large Container Ships, Analysis of Inclining experiments and lifeboats, the first three topics were discussed within the committee forum and the latter in the Lifeboat Sub Committee. There were two further topics included in the list, Passenger Ship Safety and the Advanced Safety Techniques Workshop. The former was included to ensure that any issues raised in IMO, or any other forum which required consideration within the committee could be included. The Advanced Safety Techniques workshop was deferred for a year and a working group is due to be formed in January 2017 to plan the event.

The development of the aforementioned list of work enabled the other Technical Committees and Council to be able to clearly see what issues the Safety Committee was working on and therefore allow input or collaboration where appropriate.

In addition, Committee members provided support to MAIB in a “Recommendations Meeting” and the MCA through FISG meetings.

Some considerable time was spent discussing the *Hoegh Osaka* incident. The underlying theme of the cause of the accident was that there was complacency or lack of awareness in respect of the importance of stability and the potential consequences to the vessel. This could be a result of lack of training or commercial pressures (real or perceived on the operational staff). Irrespective of the reasons why this is the case and recognising that accidents like this do not occur often, every opportunity should be used to improve the knowledge and understanding of the importance of stability both in car carriers and all other vessel types, particularly by the operational staff.

### Fishing Vessels

Members of the Committee continued to work with appropriate third parties to help improve the safety of fishing vessels, particularly those between 12m and 15m in length. An example of the support that is given is that a member of the committee has been working with “Seafish” to develop the Stability Awareness Course. The Committee will also continue to lobby the relevant authorities to make a satisfactory stability assessment a prerequisite for grant funding for modifications of fishing vessels.

### Large Containerships

A number of issues relating to large container ships were discussed, including the calculation of windage for anchoring requirements, and the correlated topics of whether anchor requirements were sufficient for combating engine failure in bad weather and the effect of larger spacing between containers and the associated structural impact of the increased entrapped water between containers.

### Analysis of Inclining Experiments

The Committee monitored a number of activities which are being undertaken to establish the level of the inaccuracies associated with the traditional methods of analysing the results of inclining experiments. The Committee will continue to monitor progress and help keep the debate alive.

## Hoegh Osaka

A presentation was made to the Committee by MAIB based on the investigations and subsequent MAIB report into the loss of stability and subsequent capsizing of the *Hoegh Osaka*.

The vessel was a car carrier which for operational reasons had a change to its routine trading pattern, neither the shore based operations staff or the ship’s crew considered the impact of this change. Although a stability calculation was attempted immediately the vessel had sailed, it had incorrect assumptions, which would have led to an inaccurate stability calculation had time permitted the calculations to have been completed. In the event, before the calculation was completed the vessel developed a severe list and subsequently capsized in Southampton water.

The Committee discussed the findings of the report and identified a number of areas where safety improvements could be initiated. Fundamentally the incident was caused by a lack of appreciation of the importance of stability, both by the shore based operation and the ship’s crew, the committee will endeavour to raise awareness of the importance of stability and the risk of complacency in this area.

A report was circulated to Council on the incident, based on the subsequent MAIB report.

### Lifeboats and Life Saving Appliances:

Following the initial meeting held in 2015, there was a further three meetings of the Lifeboat Sub Committee in 2016. The aim of the meetings was complete the development of the table outlining issues of concern which had previously been documented and then establish how to improve safety and identify the priorities. However it was recognised that opportunities to support both the IMO Committee and MCA where there were common areas of interests in this subject area would provide a more efficient and effective route to improve safety.

The MCA presented some of their current work streams which included UK static test set out in MSC 1803 (which has been superseded by MGN 560) and the suitability of the IMO Dynamic overload tests requirements (IMO MSC1/Circ.1206). Also the parallel study into Marine Evacuation Systems was discussed. The presence of the MCA representatives at the meeting has allowed for collection of further evidence to support their current work.

The final meeting of the year was focussed on supporting the work of the IMO committee relating to the development of functional requirements for SOLAS Chapter III, specifically those relating to “time for boarding”, and the associated definitions. Additionally, it was considered that in defining functional requirements for Alternative Design and Arrangements (ADAs) there will be a gap with the more traditional regulations.

## Maritime Environment Committee

The Chairman and members of the Committee were appointed in Dec 2016. The Committee will hold its first meeting in Feb 2017.

## Maritime Innovation Committee

The Chairman and members of the Committee were appointed in Dec 2016. The Committee will hold its first meeting in Feb 2017.

## Benevolent Fund Committee

Limited financial assistance was given to members who found themselves in necessitous circumstances. The Council records its grateful thanks for the donations to the Benevolent Fund received during the year.

---

## MEMBERSHIP

Members on the Roll at 31 December 2016 are shown below:

	Total
Hon Fellows	8
Fellows	941
Members	3234
Associate Members	3256
Associate	304
Student Members	2294
Junior Members	314
Corporate Partners	91
	-----
Total	10442

## Corporate Partners

The following companies were elected Corporate Partners in 2016, thereby demonstrating their commitment to achieving and maintaining high standards of professional competence amongst their engineers:

Netherlands Society of Yacht Designers and Naval Architects  
Buoyancy Consultants & Engineering LLP  
The Marine Institute

---

## COOPERATION WITH OTHER ORGANISATIONS

### The Engineering Council

The Institution continued to carry out its responsibilities as a Licensed and Nominated Body of the Engineering Council of the United Kingdom. A total of 2277 members were registered with the Engineering Council in 2016, with 107 members being registered during the year. The Institution's Licence was renewed during the year.

### RINA and IMarEST

The Institution continued to work closely with the IMarEST through joint branch and accreditation activities.

### Agreements of Co-Operation

The Institution continued to work with national professional institutions with common aims and objectives through its Agreements of Co-operation.

Agreements of Cooperation were signed with:

Netherlands Society of Yacht Designers and Naval Architects  
WELL Ocean Science & Technology Association  
The Council of Engineering & Technology (India)  
Institute of Engineers Pakistan

The Council considers that these Agreements also serve to demonstrate the Institution's commitment to maintaining the professional standing and influence it derives from its international membership and activities.

## International Maritime Organisation

The Institution has continued to make a significant contribution to improving safety at sea and the protection of the maritime environment through its work as an NGO at the International Maritime Organisation. The significance of this contribution is recognised by staff and members of the IMO, and is an important element of the public benefit which the Institution provides.

## International Standards Organisation

The Institution fulfilled its role as a Liaison Member of the International Standards Organisation.

## Confederation of European Maritime Technology Societies

The Council of CEMT met twice during the year. The Institution was represented by the Chief Executive, who is also the Chairman of the CEMT Council.

---

## PUBLICATIONS

### Journals

*The Naval Architect*, *Ship & Boat International*, *Ship Repair & Conversion Technology*, *Offshore Marine Technology* and *Warship Technology*, were published during the year, providing reports on technological development in all sectors of the maritime industry. *The Naval Architect* was again published in the Chinese language.

All journals published during the year were also published online.

Two eNewsletters – *Ship & Boat eNews* and *Shiprepair eNews* – were launched during the year.

### Significant Ships and Significant Small Ships

The series were continued with the publication of *Significant Ships 2016* and *Significant Small Ships 2016*.

### Transactions

Transactions Part A – *International Journal of Maritime Engineering (IJME)* was published four times during the year. Transactions Part B – *International Journal of Small Craft Technology (IJSCT)*, was published twice during the year. Transactions Part C – *International Journal of Marine Design (IJMD)*, – was published twice during the year.

Both the *IJME* and *IJSCT* were published in printed format, on CD-ROM and on the RINA website. The *IJMD* was published online only

---

## CONFERENCES, COURSES AND EVENTS

### Conferences and Courses

The following conferences and courses were organised or co-organised during 2016:

Jan: Smart Ships, London, UK  
Jan: Fixed & Floating Structures, Perth, Australia  
Feb: Maritime Project Management, London, UK  
Mar: Basic Dry Dock Training Course, London, UK  
Mar: Wind Farm Support Vessels, London, UK  
Apr: Innovations in Small Craft Technologies, London, UK  
Apr: Contract Management Course, London, UK  
May: Design and Operation of Ferries & Ro-Pax Vessels, London, UK  
Jun: Warships 2016, Bath, UK  
Jun: IPR Seminar, London, UK  
Sep: Basic Dry Dock Training Course, London, UK  
Sep: Education and Professional Development, Singapore  
Sep: Human Factors, London, UK  
Oct: Communication Skills for Engineers, London, UK  
Oct: LNG Shipping, London, UK  
Nov: Contract Management Course, London, UK  
Nov: Computational and Experimental Marine Hydrodynamics, Chennai, India  
Nov: Energy Efficient Ships, London, UK  
Dec: Historic Ships 2016, London, UK

### Sponsored Student Places

The Council record their grateful thanks to the following companies who generously sponsored places for students at Institution conferences during the year.

BMT Group  
BAE Systems  
Lloyd's Register  
ABS

Danish Society of Naval Architects & Marine Engineers

### Annual General Meeting

The Annual General Meeting was held on 20 April 2016 at the Institution's Headquarters, at which the following Resolution were passed:

**Resolution 1:** To elect Mr T Boardley FRINA as President

**Resolution 2:** To re-elect haysmacintyre as Auditors until conclusion of the next Annual General Meeting

On completion of the AGM, a presentation was given by Dr Martin Stopford, President of Clarkson Research, entitled *Smart Shipping & The Intranet of Ships – a New Challenge*

### Annual Dinner

The Annual Dinner was held on 20 April 2016 at the Lancaster London Hotel. The principal speakers were Kitack Lim, Secretary General of the International Maritime Organisation, and the Revd Andrew Wright, Secretary General of the Mission to Seafarers.

### President's Invitation Lecture

The Vice President, Professor David Andrews, welcomed guests and members to the 2016 President's Invitation Lecture on 9 November at One Whitehall Place, when Mr Antonis Trakakis, Technical Manager of Arista Shipping, presented *Project Forward – The Design of an Ocean Going LNG Powered Ship*

The 2016 President's Invitation Lecture was again sponsored by ABS, to whom the Institution is indebted for their support of this and other Institution activities.

### Technical Forum

Extensive use was made of the Institution's Group on the online professional network LinkedIn as a technical forum.

### Divisions, Sections and Branches

The Divisions, Branches and Sections provided a comprehensive programme of technical and social events during the year.

The Board of Trustees and the Council recognise of the value which the membership places upon the activities of the Divisions, Sections and Branches, and record their thanks to those members who spend much time and effort in organising these activities.

---

## INSTITUTION AWARDS

### Institution Medal of Distinction

The Institution Medal for papers of distinction published in the 2016 Transactions was awarded to the following:

M Haase, J R Binns, N Bose, G Davidson, G Thomas and S Friezer for their paper *Hydrodynamic hull form design space exploration of large medium-speed catamarans using full-scale CFD*

X-Q Zhou, S Sutulo, C Guedes Soares for their paper *Ship-ship hydrodynamic interaction in confined waters with complex boundaries by a panelled moving patch method*

Z Q Leong, D Ranmuthugala, I Penesis, and H D Nguyen for their paper *Transient analysis of hydrodynamic interaction effects on an autonomous underwater vehicle in proximity of a moving submarine*

H J Phillips, H F J Fogarty and P J Sheppard for their paper *The development of a high speed inshore lifeboat for the River Thames*



V Kumar, D Boote, T Pais and G Penco for their paper *Development of a parametric model for analysing temperature effects of solar radiation on yachts*

### **Jeom Paik Prize**

The Jeom Paik Prize for the best paper on the subject of structures published by an author under the age of 35 in the 2016 Transactions was awarded to G Vergassola and L Strano for their paper *A numerical determination of effective breadth of grp stiffened plates*.

### **W H C Nicholas Prize**

The W H C Nicholas Prize for the best paper on a design related subject published by an author under the age of 35 in the 2016 Transactions was awarded to Dr Zhi Quan Leong for his paper *Transient analysis of hydrodynamic interaction effects on an autonomous underwater vehicle in proximity of a moving submarine*

### **David Goodrich Prize**

The David Goodrich Prize for the best paper presented at the 2016 Warships Conference was awarded to A Kana, C P F Shields and D J Singer for their paper *Why Is Naval Design Decision-Making So Difficult?*

### **Small Craft Group Medal**

The 2016 Small Craft Medal was awarded to Robert Curry for his lifetime services to the small craft sector.

### **Student Awards**

Student Awards in recognition of their achievement were presented to students at 24 universities.

The Institution is grateful to the following organisations and companies for their support of the Awards:

BAE Systems  
Babcock (NZ)  
BMT Fleet Technology  
BMT Group  
Bureau Veritas/Amico Società di Navigazione  
Greek Shipping Cooperative Committee  
Keppel Shipyard  
Lloyd's Register  
PT BKI  
Defence, Science & Technology Group

### **RINA–Lloyd's Register Maritime Safety Award**

The 2015 RINA – Lloyd's Register Maritime Safety Award was awarded jointly to Griffon Hoverworks and the Hovercraft Manufacturers' Association for their work in creating a dedicated Code of Practice and a regulatory process for the construction and certification of small hovercraft.

The Award was announced and presented at the 2016 Annual Dinner by Tom Boardley, Marine Director of Lloyd's Register.

### **RINA – QinetiQ Maritime Innovation Award**

The 2015 RINA–QinetiQ Maritime Innovation Award was awarded to Magma Structures for the design and construction of the world's tallest, carbon composite, free-standing masts for a private superyacht.

The Award was announced at the 2016 Annual Dinner and presented by Sarah Kenny, Managing Director of QinetiQ Maritime.

### **MEMBERS DECEASED DURING THE YEAR**

#### **FRINA**

J G Adams	J J P Abela
J B Bunnis	M A Cheetham
C A Creber	R J Daniel
E D Dubois	R C Ffooks
F Fossati	H A Holmberg
M G Kay	B McCarthy
T Macduff	D I Moor
F E Sawyer	S M Tennant
R Curry	

#### **MRINA**

G F Bedford	J L Bowen
D A Boyd	D K Brown
J G Cameron	K E W Harper
I Henderson	R D Livingstone
J Lunt	G M Lyall
P H Mitchell	J L Morris
M R C Parr	T W Rye
D R Sloan	C Thew

#### **AssocRINA**

J H Neal	W E G Webb
J Roseworn	

### **OBITUARY**

#### **Robert Curry 1934 – 2016**

#### **Member of Council 2014 – 2016**

Robert (Bob) Curry was a traditional naval architect whose career spanned over 60 years, mainly involved with ship structures and ABS Rule development. During this time he made a significant contribution to both the maritime industry and the Institution.

His career started with the completion in 1957 of a five year apprenticeship scheme in the drawing and design offices of Vickers Armstrong Naval Yard, Newcastle upon Tyne. He attended Rutherford College where he gained a Higher National Certificate in Naval Architecture and later an endorsement in Wave Theory and Ship Motions

After leaving Vickers, he moved to London in 1962 to work as an assistant naval architect with Sir Joseph W. Isherwood, Naval Architects. He joined ABS in London in 1965 and progressed through the ranks, moving first to New York as a Surveyor and then to Rio de Janeiro, where he established the ABS hull technical office for South America in 1968.

He subsequently served as Principal Engineer in New York before returning to the London Europe Division office where he was appointed Manager Rule Development in April 1994. Later, in October 1999, he became involved in technical consistency of Rule application for ABS. He finally started his own company and was director of Robert Curry Naval Architects, Ltd. from 2007.

In the course of his work for ABS in Brazil, US and Europe, he carried out hull damage surveys and occasionally hull new construction surveys. He had responsibility for plan approval and technical consistency for vessels built to ABS class less than 90 m length. His ABS career also included development of hull structural requirements for ABS Ice Class Rules, Rules for Ro-Ro Vessels, and Guides for High Speed Craft, Motor Yachts and Offshore Racing Yachts. Over the later years, his hull plan approval role in Europe extended to very large container vessels, oil carriers and Ro-Ro vessels. Finally, he was retained by ABS as a Senior Staff Consultant, when he was responsible for guidance to staff on Rules' applications and interpretations, Rule development, training and support.

Bob Curry was also involved as a hull structures expert in litigation. He represented ABS on a number of IACS Working Groups, including existing Bulk Carriers, Ro-Ro Safety and Hull Equipment. He was also a key contact for development and application of ABS Ice Class Rules, including ice breaking model tests. Right up to his death, he remained up-to-date with current issues through actively participating in a number of associations and committees.

He represented the Institution at IMO on Working Groups on Goal Based Standards, IMO Polar Code and FRP (Fibre Reinforced Plastic) laminates on SOLAS Ships. He was also the UK expert on ISO Working Groups for Large Yacht Safety and Small Craft Structural Standards. As well as authoring over 30 technical papers published by RINA, SNAME and for the technical modules for Lloyd's Maritime Academy courses, he was the Director of its course in Naval Architecture. He was also Senior Tutor for Middlesex University's M.Sc. Course in Marine Surveying.

Bob Curry became a member of the Royal Institution of Naval Architects in 1968, and was elected Fellow in 2007. He was first elected as a member of Council in 2000, where he served on number occasions, most recently from 2014-2016, as well as on Branch and Institution committees. He was President of the London Branch from 1999 – 2002. He was the Chairman of the Small Craft Committee from 2009 – 2015, and was awarded the Small Craft Group Medal for his lifetime contribution to the small craft sector. He was a member of the IMO Committee (Vice Chairman 2002 – 2012), the Safety Committee and the High Speed Vessels Committee for many years.

Bob Curry's long career in the maritime industry was notable not only for his professional achievements but by his friendliness and willingness to make that experience available to others.



## Royal Institution of Naval Architects

# FINANCIAL STATEMENTS FOR THE PERIOD ENDING 30 SEPTEMBER 2016

### FINANCIAL REVIEW AND RESERVES POLICY

Income (Restricted and Unrestricted) in 2015/16 was £2.29m compared with £2.28m in 2014/15. Expenditure (Restricted and Unrestricted) in 2015/16 was £2.25m, compared to £2.20m in 2014/15.

Net income in 2015/16 before investment gains was £33k, compared with net income before investment losses of £81k in 2014/15.

The total value of the Institution's funds (Unrestricted, Restricted and Endowment) at 30 Sep 2016 was £9.80m compared with £9.42m at 30 Sep 2015. The value of the Unrestricted Fund (investments, cash, fixed assets) was £8.01m at 30 Sep 2016 compared with £7.82m at 30 Sep 2015. The value of Restricted Funds was £205k at 30 Sep 2016, compared with £173k at 30 Sep 2015. The value of Endowment Funds (investments) was £1.59m at 30 Sep 2016 compared with £1.43m at 30 Sep 2015. The total value of the Institution's investments was £4.1m at 30 Sep 2016 compared with £3.8m at 30 Sep 2015.

The operating surplus in the Unrestricted Fund in 2015/16 was £0.5k compared with an operating surplus of £40k in 2014/15. The operating surplus in the Restricted Fund in 2015/16 was £32k, compared with an operating surplus of £41k in 2014/15.

### Investment policy and performance

In accordance with authority enabled by the Order of the Charity Commissioners for England and Wales, dated 1 Nov 2002 and issued under Section 26 of the Charities Act 1993, the Trustees have adopted a 'Total Return' policy with regard to the Endowment Funds.

The investment powers of the Board of Trustees are set out in the Royal Charter and By Laws, copies of which are available from the Chief Executive at RINA Headquarters.

Under the terms of those powers, management of the investment portfolio has been delegated to PruM&G Investment Management Ltd.

The Board of Trustees continues to review its investments policy. The Board considers the performance of the investments in the year to be satisfactory.

### Reserves Policy

The charity's free reserves (unrestricted funds less designated funds and tangible fixed assets) stood at £2.51m as at 30 September 2016. The Board of Trustees' policy is to maintain minimum cash reserves at the level of 3 months/£250,000 forward operating costs, and to consider reserves in excess of this level for investment.

### Restricted Funds

The Board of Trustees' policy is to use all dividend income from Restricted Funds to assist and enable the continuing academic and professional development of members. The Board has extended this policy to include both undergraduate and post graduate members.

### Risk Management

Operational and financial facing the Institution are listed in the Risk Register which is routinely reviewed and revised by the Trustees. Policies and procedures have been established to mitigate any risks identified during these reviews. Compliance with these policies and procedures is monitored by Internal Audit and Self Assessment.

The principal risk is considered to be the negative impact of the depressed global maritime industry on the Institution's dependent income, affecting the Institution's ability to maintain the current level of its activities and services to members. The Board routinely reviews cashflow, income and expenditure in both short and long term to manage financial risk.

### Remuneration of key personnel

The remuneration of senior members of the Secretariat is reviewed and changes approved annually by the Trustees.

### STATEMENT OF THE BOARD OF TRUSTEES' RESPONSIBILITIES

Law applicable to charities in England & Wales requires the Trustees, to prepare financial statements for each financial year which give a true and fair view of the Institution's financial activities during the year and of its financial position at the end of the year. In preparing financial statements giving a true and fair view, The Board of Trustees should follow best practice and:

- select suitable accounting policies and apply them consistently;
- make judgements and estimates that are reasonable and prudent;
- state whether applicable accounting standards have been followed, subject to any material departures disclosed and explained in the financial statements; and
- prepare the financial statements on a going concern basis unless it is inappropriate to presume that the Institution will continue in operation.

The Board of Trustees is responsible for keeping accounting records which disclose with reasonable accuracy the financial position of the Institution and which enable them to ascertain the financial position of the Institution and which enable them to ensure that the financial statements comply with applicable

law. They are also responsible for safeguarding the assets of the Institution and hence for taking reasonable steps for the detection and prevention of fraud and other irregularities.

## **Annual Accounts**

The Financial Statements which follow are a summary of the full statutory accounts of the Institution. The full statutory accounts may be obtained from the Chief Executive.

## **Auditors**

haysmacintyre have expressed their willingness to continue in office as auditors and a resolution proposing their re-appointment will be submitted at the Annual General Meeting.

---

## **INDEPENDENT AUDITORS' REPORT TO THE COUNCIL OF THE ROYAL INSTITUTION OF NAVAL ARCHITECTS**

We have audited the financial statements of the Royal Institution of Naval Architects for the year ended 30 September 2016 which comprise the Statement of Financial Activities, the Balance Sheet and the related notes. The financial reporting framework that has been applied in their preparation is applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice).

This report is made solely to the charity's members, as a body, in accordance with Section 144 of the Charities Act 2011 and regulations made under section 154 of that Act. Our audit work has been undertaken so that we might state to the Charity's Trustees those matters we are required to state to them in an Auditors' Report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the charity's trustees as a body, for our audit work, for this report, or for the opinions we have formed.

### **Respective responsibilities of trustees and auditor**

As explained more fully in the Statement of the Board of Trustees' Responsibilities on page 5, the trustees are responsible for the preparation of financial statements which give a true and fair view.

We have been appointed as auditor under section 144 of the Charities Act 2011 and report in accordance with regulations made under section 154 of that Act. Our responsibility is to audit and express an opinion on the financial statements in accordance with applicable law and International Standards on Auditing (UK and Ireland). Those standards require us to comply with the Auditing Practices Board's Ethical Standards for Auditors.

## **Scope of the audit of the financial statements**

A description of the scope of an audit of financial statements is provided on the Financial Reporting Council's website at [www.frc.org.uk/auditscopeukprivate](http://www.frc.org.uk/auditscopeukprivate).

## **Opinion on financial statements**

In our opinion the financial statements:

- give a true and fair view of the state of the charity's affairs as at 30 September 2016, and of its incoming resources and application of resources, for the year then ended;
- have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice; and
- have been prepared in accordance with the requirements of the Charities Act 2011 and Royal Charter.

## **Matters on which we are required to report by exception**

We have nothing to report in respect of the following matters where the Charities Act 2011 requires us to report to you if, in our opinion:

- the information given in the Trustees' Report is inconsistent in any material respect with the financial statements; or
- sufficient accounting records have not been kept; or
- the financial statements are not in agreement with the accounting records and returns; or
- we have not received all the information and explanations we require for our audit.

**haysmacintyre**  
**Statutory Auditors**

## SUMMARY STATEMENT OF FINANCIAL ACTIVITIES FOR THE YEAR ENDED 30 SEP 2016

	Unrestricted Funds £	Restricted Funds £	Endowment Funds £	Total Funds 2016 £	Total Funds 2015 £
<b>Income and expenditure</b>					
<b>Income and endowments from:</b>					
<b>Charitable Activities</b>					
Membership	816,623	-	-	816,623	768,887
Events	365,244	-	-	365,244	458,227
Publications	877,776	-	-	877,776	827,303
<b>Donations and legacies</b>	620	-	-	620	13,600
<b>Investment income</b>	142,360	84,896	-	227,256	214,145
<b>Total income and endowments</b>	<u>2,202,623</u>	<u>84,896</u>	<u>-</u>	<u>2,287,519</u>	<u>2,282,162</u>
<b>Expenditure on:</b>					
<b>Charitable Activities</b>					
Membership	609,667	52,500	-	662,167	609,408
Events	525,057	-	-	525,057	621,399
Publications	1,067,430	-	-	1,067,430	970,084
<b>Total expenditure</b>	<u>2,202,154</u>	<u>52,500</u>	<u>-</u>	<u>2,254,654</u>	<u>2,200,891</u>
<b>Net income before investment gains/losses</b>	469	32,396	-	32,865	81,271
Gain on investment assets	190,180	-	156,073	346,253	(128,854)
<b>Net movement in funds</b>	<u>190,649</u>	<u>32,396</u>	<u>156,073</u>	<u>379,118</u>	<u>(47,583)</u>
<b>Reconciliation of funds</b>					
Total funds brought forward	7,818,221	172,677	1,432,721	9,423,619	9,471,202
Total funds carried forward	<u>£8,008,870</u>	<u>£205,073</u>	<u>£1,588,794</u>	<u>£9,802,737</u>	<u>£9,423,619</u>

All amounts relate to continuing activities.



## BALANCE SHEET AS AT 30 SEPTEMBER 2016

	2016		2015	
	£	£	£	£
<b>FIXED ASSETS</b>				
Tangible assets		5,502,952		5,523,195
Investments		4,116,906		3,770,653
		<u>9,619,858</u>		<u>9,293,848</u>
<b>CURRENT ASSETS</b>				
Debtors	239,979		202,259	
Cash at bank and in hand	314,433		303,453	
	<u>554,412</u>		<u>505,712</u>	
<b>CREDITORS:</b> amounts falling due within one year	(371,533)		(375,941)	
<b>NET CURRENT ASSETS</b>		<u>182,879</u>		<u>129,771</u>
<b>NET ASSETS</b>		<u>£9,802,737</u>		<u>£9,423,619</u>
<b>CHARITY FUNDS</b>				
Unrestricted funds				
General funds		8,008,870		7,818,221
Restricted		205,073		172,677
Endowment		1,588,794		1,432,721
		<u>£9,802,737</u>		<u>£9,423,619</u>

The financial statements were approved and authorised for issue by the Board of Trustees on 8 February 2017 and signed on their behalf by:

**J Frier**  
Trustee

## STATEMENT OF CASHFLOWS FOR THE YEAR ENDING 30 SEPTEMBER 2016

	2016 £	2016 £	2015 £	2015 £
<b>Operating activities</b>				
Net income before investment gains	32,865		81,271	
Depreciation	79,232		67,492	
Decrease/(increase) in debtors	(37,720)		(30,413)	
Increase/(decrease) in creditors	(4,408)		3,964	
	<hr/>		<hr/>	
<b>Net cash from operating activities</b>		69,969		122,314
<b>Investing activities</b>				
Purchase of tangible fixed assets	(58,989)		(36,869)	
Purchase of investments	(200,000)		(400,000)	
Proceeds from sale of investments	200,000		-	
	<hr/>		<hr/>	
<b>Net cash from investing activities</b>		(58,989)		(436,869)
<b>Movement in cash and cash equivalents</b>		10,980		(314,555)
Cash and cash equivalents at 1 October		303,453		618,008
		<hr/>		<hr/>
Cash and cash equivalents at 30 September		£314,433		£303,453
		<hr/> <hr/>		<hr/> <hr/>
Cash and cash equivalents comprise				
Cash at bank		£314,433		£303,453
		<hr/> <hr/>		<hr/> <hr/>