During this financial year I had the privilege in March 2016 of being appointed as the 114th President of the Institute but the year started for me in earnest at the Council Meeting in November 2015. As President-Elect I chaired the Singapore end of the Council Meeting and participated beforehand in a workshop that looked at how the Institute could further grow membership and expand influence in the Asia Pacific Region. This workshop really set the tone for the year with a group of engaged, enthusiastic members discussing how we can further grow our Institute as a thriving and successful home for all marine professionals. Growth in the Asia Pacific Region has been one of my areas of focus during the year through providing support to the MarEST Team in Singapore, ably led by David Kelly as Regional Director. During the year we have seen membership growth in this region increase from 2,968 members to 5,466 members with a new branch opening in the Philippines and a resurgence of activity in Hong Kong, Malaysia, Singapore, Indonesia and Australia. We now have members in 128 countries across the world.

At the start of my Presidential year I made a commitment to promote four key themes to strengthen both our industry and our Institute. These were:

- inspiring the marine professionals of the future about career possibilities in our industry;
- promoting lifelong learning as a cornerstone of professionalism;
- increasing the diversity of the Institute itself until it fully mirrors that of the marine sector as a whole; and
- enhancing the Institute’s presence and influence internationally, as the only multi-disciplinary body able to provide a home for all marine professionals.

I have been well supported by our excellent executive team in promoting these themes, and the Institute’s achievements during the year included the launch of the multi-tiered programme, Sea Your Future, aimed to inspire school-age children to continue STEM subjects and educate them about the numerous exciting career possibilities available in the marine sector; support students, cadets and apprentices during their training; and develop a career path and opportunities for marine professionals in the early stages of their careers. It is early days but success in this initiative will go some way towards addressing both the shortfall of staff and a serious skills gap in the marine industry.

The Institute’s role in facilitating lifelong learning has been further developed during the year by the launch of IMarEST TV, enhanced accredited distance learning opportunities through our Marine Learning Alliance (MLA College), and the further enhancement of our online Virtual Library. These all supplement the traditional offerings in our technical journals and technical meetings. Throughout all these advances in delivery mechanisms, a constant has been the Institute’s absolute commitment to providing the support and services that members need to continue learning and professional development throughout their careers.

At the end of this financial year I went on to Hong Kong to participate in the PAAMES (Pan Asian Association of Marine Engineering Societies) Meeting. It was heartening to meet so many early career professionals from across Asia. Whilst there I gave a keynote address on Sustainable Development of the Marine Workforce for the 21st Century. This highlighted the shortfall in staff and the skills gap in the marine industry, and the lack of diversity in much of the marine workforce. It then highlighted some of the activities the Institute has put in place to help solve these problems. The response from those at the meeting indicates this is a global problem, and one that IMarEST has the capability to address.

During my Presidential year, I have met Institute Members across the globe. This has included meeting members in locations as diverse as Cardiff and Kuala Lumpur, Aberdeen and Perth (Western Australia rather than Scotland), and Hull and Tasmania. I can report that the Institute is thriving in all these locations. What links these diverse locations is the energy and enthusiasm of the members, and their commitment to developing the Institute for the benefit of all our colleagues in the marine sector. So to finish I would say that while we have made good progress this year, we must not, however, become complacent. We need to continue to develop our Institute until its membership completely reflects the full diversity of professionals and disciplines found in the marine industry throughout the world.

"We have made good progress (but) we need to continue to develop our Institute until its membership completely reflects the full diversity of professionals and disciplines found in the marine industry throughout the world."
As I move towards completing my first year as Chair of the Board of Trustees, I first of all have to thank all my fellow Board members and the Institute’s executive team for the help and support they have provided over this period. My predecessor, Professor Chris Hodge, oversaw a considerable period of change within the Institute over the six years he was in office and we will continue with that transformation over the coming years to ensure that the Institute has a sustainable and exciting future. The contribution that Chris made cannot be underestimated and we all thank him for this.

Of course key to this sustainable future is ensuring that the finances of the Institute are sound and the Board spends a major part of its time reviewing financial matters. It was pleasing that once again, for the third year in a row, the Institute has considerably reduced its exposure to the costs of running its publications, events and conferences and it will continue to seek to work collaboratively with other Professional Engineering Institutions (PEIs) to see if further economies of scale can be realised. Our successful move to 1 Birdcage Walk was a part of this strategy. This type of approach is being actively discussed within the PEI community at this time as other professional bodies face similar challenges and, having already embraced the concept, our Institute is well-positioned to take advantage of any opportunities when they arise.

Other notable achievements have been a complete review of our Charter, By Laws and Rules with a view to bringing them up-to-date and fit for purpose. Professor John Chudley and our Institute Assistant Secretary, Margaret Marchetti, have put an enormous amount of effort in to this task and our thanks go to them. The Board also discussed and adopted a statement of the public benefit that the Institute provides to satisfy the requirements of the Charity Commission (for England and Wales, its regulatory body).

Finally and perhaps most importantly we continued to raise our profile as a Learned Society. Our unique position at IMO, the International Maritime Organization, our prestige and branch lecture programmes together with our high profile conferences such as the highly successful INEC, International Naval Engineering Conference, held in Bristol in April 2016 attract positive comment regarding our engagement and contribution to marine safety, sustainability and environmental protection. This would not be possible without the input and support from our marine partners and above all our members who give so generously of their time and expertise to make sure that, as our profile describes, we are “the international professional body and learned society for all marine professionals”.

The solution is to grow our income whilst at the same time keeping a tight control over costs and it is pleasing to report that we are making considerable progress in both these areas.
The Institute continues to deliver against the targets we laid out five years ago (and) it is a real achievement that we have remained on track financially whilst at the same time increasing our overall output and learned society activity.

This year we’ve witnessed some significant changes both in global politics and the maritime sector. The recent US election and earlier the EU referendum in the UK along with changes to emissions and ballast water regulations will continue to impact industry and individuals around the world for some time. The relocation of the Institute’s London headquarters to Westminster this year could therefore not have been timelier. The move strengthened our technical voice and international standing by bringing us closer to the UK government and other relevant institutions such as the International Maritime Organization. The IMarEST has already, along with other professional engineering institutions, contributed to gathering evidence-based advice to help the UK government in its EU exit negotiations.

We welcomed the first female president in the Institute’s 127-year history. Dr Jane Smallman CSci CMarEng FIMarEST was appointed 114th President in January we created a campaign to support seafarers in developing their skills and demonstrating their competencies. It aimed to raise awareness of development opportunities such as doing a Master’s degree through distance learning or using existing certificates of competency to gain professional qualifications. As we enter into the final year of our five year strategic plan the Institute continues to deliver against the targets we laid out five years ago. It is a real achievement that we have remained on track financially whilst at the same time increasing our overall output and learned society activity. We have been able to do this by working ‘smarter’ and through the unwavering and valued support of our member volunteers. Thank you!
## OUR CORPORATE PLAN

### Corporate Vision, Mission & Ambition

### Vision

Our vision is a world where marine resources and activities are sustained, managed and developed for the benefit of humanity.

### Mission

Our mission is to work with the global marine community to promote the scientific development of marine engineering, science and technology, providing opportunities for the exchange of ideas and practices and upholding the status, standards and expertise of marine professionals worldwide.

### Ambition

Our ambition is to double the size of the Institute by 2017.

---

### Priorities

The priority is to improve the efficiency of the organisation, grow and retain our membership whilst increasing revenues from our commercial activities by offering greater benefits, improved delivery of our publications and added value linked to our products and services. To deliver the member, Board and staff’s vision of the Institute in 2017, we will need to prioritise carefully over the five years of the plan. The key to the future success of the IMarEST will not be whether we have the best strategy and plan but how effective we are in delivering it.

The key themes that will exist throughout the life of this plan are:

- Engagement/Empowerment of the Membership
- Market Analysis – strategy prioritisation
- Ensure events deliver benefit
- Strong and efficient financial control
- Technology exploitation
As a registered charity, all the Institute’s work must be carried out in the public benefit in line with its charitable purposes. The Institute has identified six relevant charitable purposes, with each purpose supported by specific aspects of the Institute’s work.

<table>
<thead>
<tr>
<th>Charitable Purpose</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>To contribute to the relief of global poverty by ensuring the safe, effective, managed and sustainable use of the world’s oceans for trade and resource extraction, and specifically by:</td>
</tr>
<tr>
<td>2</td>
<td>To develop, maintain and assure educational excellence for all those who operate in the global marine sector by providing:</td>
</tr>
<tr>
<td>3</td>
<td>To support the continuous improvement of safety for all those who operate in the global marine sector by providing:</td>
</tr>
<tr>
<td>4</td>
<td>To advance the understanding and practice of marine engineering, science and technology (MEST) for all those who operate in the global marine sector by providing:</td>
</tr>
<tr>
<td>5</td>
<td>To promote environmental sustainability in the global marine sector for the benefit of mankind by providing:</td>
</tr>
<tr>
<td>6</td>
<td>To develop and sustain ethical professionalism for all those who operate in the global marine sector by:</td>
</tr>
</tbody>
</table>

- **Objective Advice** to International Intergovernmental Organisations to ensure necessary and beneficial regulation.
- **Technical Leadership** to identify and resolve marine technical issues relating to safety coherently across the spectrum of science, engineering and technology.
- **Infrastructure and processes** to gather, develop and disseminate information and best practice to the marine community.
- **Scholarships and awards** which provide enabling grants and recognition of excellence in educational and professional achievement.
- **Authoritative and objective accreditation** of marine education, training and development in academia, the marine industry and armed forces.
- A system for assuring educational and professional standards by accreditation and registration.
- **Processes and infrastructure** to gather, develop and disseminate information and best practice across the marine community.
- **Processes and infrastructure** to gather, develop and disseminate information and understanding to the marine community.
- **Scholarships and awards** which provide enabling grants and recognition of reward excellence in educational and professional achievement.
- **Objective Advice** to International Intergovernmental Organisations to ensure necessary and beneficial regulation.
- **Technical Leadership** to identify and resolve marine technical issues relating to sustainability coherently across the spectrum of science, engineering and technology.
- **Infrastructure and processes** to gather, develop and disseminate information and best practice to the marine community.
- **Infrastructure and processes** to gather, develop and disseminate information and understanding to the marine community.
- **Technical Leadership** to identify and resolve marine technical issues relating to sustainability coherently across the spectrum of science, engineering and technology.
- **Infrastructure and processes** to gather, develop and disseminate information and understanding to the marine community.
- **Technical Leadership** to identify and resolve marine technical issues relating to sustainability coherently across the spectrum of science, engineering and technology.
- **Objective Advice** to International Intergovernmental Organisations to ensure necessary and beneficial regulation.
- **Technical Leadership** to identify and resolve marine technical issues relating to sustainability coherently across the spectrum of science, engineering and technology.
- **Infrastructure and processes** to gather, develop and disseminate information and understanding to the marine community.
- **Technical Leadership** to identify and resolve marine technical issues relating to sustainability coherently across the spectrum of science, engineering and technology.
KEY DELIVERABLES 2015-2016

HOW DID WE DO?
Relocation of HQ ✓
Governance Review ✓
Set up a Virtual Branch ✓
Launch IMarEST TV ✓
Develop a new Professional Development Tool ✓
Launch Seafarers Campaign ✓
Implement Phase 1 of Sea Your Future ✓
Relaunch Awards Programme ✓
Branch Review (Phase 2) ✓
Increase Institute’s Technical Voice ✓
Champion Diversity (ONGOING) ✓

EXPECTED HIGHLIGHTS OF 2016-2017

EXPECTED ACTIVITIES

Develop and implement initiatives to address skills gaps across marine sectors and geographic regions ✓ ✓ ✓ ✓ ✓
Expand Prestige Lecture programme in Asia Pacific region ✓ ✓ ✓ ✓ ✓
Deliver 3rd INEC @ IMDEX Asia ✓ ✓ ✓ ✓ ✓
Deliver EAAW VII ✓ ✓ ✓ ✓ ✓
Complete Governance Review and implement new rules ✓ ✓ ✓ ✓ ✓ ✓
Develop chartered descriptors to demonstrate members’ expertise in one or more specific areas of marine engineering, science and technology ✓ ✓ ✓ ✓ ✓
Launch of IMarEST Echo Professional Development Tool ✓ ✓ ✓
Develop Five Year Corporate Plan for 2018-2023 ✓ ✓ ✓ ✓ ✓ ✓
Develop international growth strategies ✓ ✓ ✓ ✓ ✓ ✓
Implement Phase 2 of Sea Your Future ✓ ✓ ✓ ✓ ✓ ✓
Implement expanded Awards and Scholarship Programme ✓ ✓ ✓ ✓ ✓
Develop for the public benefit technically sound, impartial positions on key technical topics of importance and relevance both to members and the broader marine sector ✓ ✓ ✓ ✓ ✓ ✓
Contribute to Sustainable Development Goal 14 (Conserve and sustainably use the oceans, seas and marine resources for sustainable development) by making a proactive and positive contribution to the UN Oceans Conference ✓
Engage members to provide specialist technical expertise in shaping the future of legislation and policy through an enhanced SIG network, communications, roundtables and other events. ✓ ✓ ✓ ✓ ✓ ✓
Grow the influence and quality of the IMarEST journals as recognised by impact factor and develop specialist supplements such as the annual State of the Ocean report ✓ ✓ ✓ ✓ ✓
Develop books strategy to enable growth of the Institute’s book portfolio to support increased knowledge across the marine sector ✓ ✓ ✓ ✓ ✓ ✓

RELATED CHARITABLE PURPOSE(S)

LEARNED SOCIETY STATISTICS – 2015-2016

Membership at 30 September 2016: 20,200
Accreditations/CPD Course Recognitions: 79
   Academic Courses: 68
   Companies: 2
   CPD Courses: 9
Professional Review Interviews (PRIs) conducted: 315

1 2 3 4 5 6
ACTIVITY HIGHLIGHTS

ALTHOUGH NO ACTIVITIES THIS YEAR RELATED SOLELY TO THE RELIEF OF POVERTY, A NUMBER OF INITIATIVES DETAILED ELSEWHERE IN THIS REVIEW WERE ALSO RELEVANT AND CONTRIBUTED TO THIS AREA.

These include the Operational Oceanography Special Interest Group’s event exploring the economic, safety and environmental benefits of improved observation and prediction of our oceans and seas, and various submissions to the International Maritime Organization (IMO).

In addition, all six of the Institute’s identified key technical priorities are relevant to this purpose. Full details of them are included in the section titled “Increasing the Institute’s Technical Voice” found under Charitable Purpose 4.

EDUCATIONAL EXCELLENCE

AS PART OF ITS COMMITMENT TO EDUCATIONAL EXCELLENCE AND PROFESSIONAL ACHIEVEMENT, THE INSTITUTE OFFERS A WIDE PORTFOLIO OF AWARDS, SCHOLARSHIPS, PRIZES AND MEDALS FOR BOTH UNDERGRADUATE AND POSTGRADUATE STUDENTS AS WELL AS FOR MARINE PROFESSIONALS WORKING IN THE INDUSTRY.

Many of the awards have been established by, or in memory of, long-standing members while others are sponsored by industry companies.

RELAUNCH AWARDS PROGRAMME

FOLLOWING A REVIEW OF ITS CURRENT AWARDS PORTFOLIO, THE INSTITUTE HAS DECIDED TO INCREASE THE NUMBER AND RANGE OF AWARDS IT OFFERS IN FUTURE. THE FIRST TRANCHE OF ADDITIONAL AWARDS, FOCUSING ON OUTSTANDING CONTRIBUTIONS TO SPECIFIC ASPECTS OF THE MARINE INDUSTRY AND AN EXPANSION OF THE BOOK PRIZES AVAILABLE TO STUDENTS AND CADETS, HAVE BEEN LAUNCHED AND WILL BE AWARDED FOR THE FIRST TIME NEXT YEAR. FURTHER NEW AWARDS WILL BE INTRODUCED IN SUBSEQUENT YEARS.

WINNERS OF THE 2015-2016 IMarEST AWARDS

DENNY MEDALS

A Denny Medal, along with a certificate, is awarded for the most worthy paper published in each of the Institute’s journals during a single volume year.

FOR PAPERS PUBLISHED IN 2015

JOURNAL OF MARINE ENGINEERING AND TECHNOLOGY (JMET)
Santiago Suárez de la Fuente & Alistair R. Greig, Making shipping greener: comparative study between organic fluids and water for Rankine cycle waste heat recovery, Published in Volume 14, Number 2.

JOURNAL OF OPERATIONAL OCEANOGRAPHY (JOO)

FOR PAPERS PUBLISHED IN 2016

JOURNAL OF MARINE ENGINEERING AND TECHNOLOGY (JMET)
João Falcão, Rui Castro & J. M. Ferreira de Jesus, Frequency control during transients in offshore wind parks using battery energy storage systems, Published in Volume 15, Number 2.

JOURNAL OF OPERATIONAL OCEANOGRAPHY (JOO)
Joaquin A. Trinanes, M. Josefa Olascoaga, Gustavo J. Goni, Nikolai A. Maximenko, David A. Griffin & Jan Hafner, Analysis of flight MH370 potential debris trajectories using ocean observations and numerical model results, Published in Volume 9, Number 2.
WINNERS OF THE 2015-2016 IMarEST AWARDS

JOHN BLACKBURN MAIN AWARDS

Students studying in the Department of Naval Architecture and Marine Engineering at the combined University of Strathclyde are eligible for the award which funds all the travel, accommodation and out-of-pocket expenses incurred while gaining valuable experience working in a shipyard, usually in the Far East, for up to a month, to witness the construction of a vessel. Recipients are normally expected to provide a written report on their experiences on completion of the placement.

UNDERGRADUATE AWARD:
Arash Hemmati
Christos Papazisis
Emmanuel Ngang

POSTGRADUATE AWARD: Not awarded in 2015-2016

SIR DONALD GOSLING AWARDS

The awards are given to encourage young authors (35 years of age or younger) to present their ideas and innovations to a worldwide audience at IMarEST’s biennial flagship International Naval Engineering Conference (INEC).

FIRST PRIZE (£5000)
Robert Taylor Babcock International Group – for ‘The advantages and disadvantages of using variable speed pumps in commercial and naval marine applications’ which described the fitting of variable speed pumps to sea water cooling systems of private yachts, commercial and naval vessels to improve economy and reduce emissions.

SECOND PRIZE (£2500)
Oliver Simmonds GE Power Conversion, Rugby – for ‘Advanced hybrid systems and new integration challenges’ which focused on a hybrid (diesel and electric) propulsion system such as provided in the new UK MARS Tankers and a Norwegian logistics and support vessel.

THIRD PRIZES (£1500 EACH)
Ian Whitelegg Marine Research Group, University College London (UCL) – for ‘Power system design considerations when integrating electromagnetic railguns with electric warships’ which was based on his recent PhD about how electromagnetic railguns would affect a warship’s power and propulsion systems.
Tim Goode Babcock International Group - ‘In-bore submarine tailshaft inspection’ which described the development and use of ultrasonic equipment designed to pass up the hollow core of submarine tailshafts to discover any cracks in the shaft.

STANLEY GRAY FELLOWSHIP

Ian Campbell University of the Highlands and Islands – to support his work conducting an examination of floating wind farms as vectors for the spread of invasive non-native species (INNS) in Scottish territorial waters. The project seeks to address the hypothesis that Hywind Scotland, the world’s largest floating wind farm, represents a new and unquantified vector for the arrival and establishment of new INNS from its source, the port of assembly on the Norwegian west coast, to its release, the turbine deployment area in Buchan Deep and the near shore habitats on the east coast of Scotland.

TRIPARTITE PRIZE (AWARDED JOINTLY BY THE CHALLENGER SOCIETY FOR MARINE SCIENCE (CSMS)/SOCIETY FOR UNDERWATER TECHNOLOGY (SUT)/IMarEST)

The tripartite prize is given for the best project by a BSc student in marine engineering, science or technology.
Sam Black Scottish Association of Marine Science and University of the Highlands and Islands for a project, entitled Origin of Fucus Distichus in Svalbard, which involved field work in Svalbard followed by laboratory genetic studies.

UNDERGRADUATE SCHOLARSHIPS

Alicja Borsberry-Woods BSc Marine Science
Scottish Association of Marine Science

Duncan Boyter MEng Marine Technology with Small Craft Design Newcastle University

Kate Shilliday BSc Marine Science
Scottish Association of Marine Science and University of the Highlands and Islands

Adelina Steven Naval Architecture and Offshore Engineering University Technology of Malaysia

MENTORING

The Institute has agreed to provide mentoring support to Marine Member Ngee Ann Polytechnic (Singapore)’s Industry Mentor Network (IMN). Under the auspices of the IMN, a joint-polytechnic mentoring programme, the industry practitioner mentor meets with a small group of student mentees several times a year to offer professional and industry guidance, help students refine their individual career goals and track progress. The programme aims to deepen students’ skills and commitment to the sectors for which they were trained; broaden their perspectives on career opportunities and assist them to reach their career aspirations; enhance networking opportunities and develop students’ confidence in communicating with experienced professionals; and foster institution-industry partnerships and collaborations.
It has been another busy year at MLA College, with the Plymouth team working hard to grow student numbers, provide expert tutoring and support to students on current distance learning programmes, produce new courses and programmes of study, redesign MLA College branding and literature, provide training and support to industry, and win awards!

MLA College’s brand new BSc(Hons) degree and Master’s programmes were launched in September 2016. The ‘Sustainable Maritime Operations’ programmes are broad-based, and aim to give sea-going and recently shore-based engineering and deck officers a comprehensive education in the maritime world. The study programmes cover management, science and environmental subjects and are designed to equip students with a qualification that both progresses their career and provides a building block towards professional recognition, and ultimately, Chartership. There has been high demand for the programmes, with 20 students starting in September 2016, another intake beginning in January 2017 and further intakes planned for later in Spring 2017.

MLA College’s Hydrographic Academy students have had a busy year, with many attending their first residential practical session. These ‘summer schools’ have been a highlight, with one taking place in in Plymouth, UK and the other with a new partner, the University of Otago in New Zealand. Being able to establish a good working relationship with University of Otago has been hugely beneficial and means that Hydrographic Academy students, based in over 50 countries, now have a choice of where to undertake their practical modules.

In addition to continuing the core education offer, the year also saw the further development of new training offers, and MLA College has been offering academic, technological and organisational support to develop training, education and learning programmes. MLA College’s relationships in this area have developed well, with successful business relationships with large multinational companies such as Bernhard Schulte Shipmanagement, Agylia, Videotel and ABMA Education to mention just a few.

It was another award winning year with MLA College scooping two prestigious awards, including Gold at the 2016 Learning Technologies Awards for ‘Best Online Distance Learning Programme’ as well as an Honourable Mention for e-learning from the International E-Learning Awards. These awards highlight the focus and effort that MLA College has put into developing its learning technology. Teaching and learning materials now include the use of drone technology for capturing aerial video for ‘virtual practical’ work, and the use of advanced 3D animation to demonstrate complex theoretical concepts.

As sharp-eyed readers will notice, a rebranding exercise has taken place during the year, changing the original Marine Learning Alliance to MLA College. The new name encapsulates the strategic intent and is inspired by MLA College’s efforts to enrich the student experience, extend its relevance to industry and employers, provide a world-class education, and foster creative collaboration and strategic partnerships with other national and international educational institutions, as well as the private sector.
Two of the Institute’s key technical priorities, full details of which are included under Charitable Purpose 4, are directly relevant to the improvement of safety:

- **People:** at the heart of marine safety and environmental sustainability is the requirement for a competent and professional workforce.
- **Safety & Security:** the prevention of unintentional and intentional harmful actions in order to protect life, health, property and the marine environment.

**MARINE ELECTRICAL AND CONTROL SYSTEMS SAFETY CONFERENCE (MECSS 2015)**

Delivering integrated, dependable, safe and reliable systems was the overall theme of the Marine Electrical and Control Systems Safety Conference (MECSS 2015). The conference, which was held in Bristol UK at the end of November 2015, attracted delegates from around the world with Germany, Greece, Italy, Japan, the Netherlands, New Zealand, Norway, UK, and USA all represented.

The keynote speech by Moritz Krijgsman, from HyPS Hybrid Power Systems in the Netherlands, set several challenges from his unique perspective of supplying complex and novel hybrid power and propulsion systems for high value yachts. This was followed by over 20 peer-reviewed technical papers, covering the four main topics which shaped MECSS 2015: prominent hazards; emerging technology; whole system verification, integration and regulation; and operation, maintenance and training/human factors.

In summarising main points arising from MECSS 2015, the conference chairman Kevin Daffey, Director of Engineering & Technology - Marine for Rolls-Royce plc, observed that it was important that the requirements were clearly defined, captured and understood by all stakeholders upfront so that the best design solution could be achieved to address the operational and safety needs and that this was relevant for all aspects of equipment and systems design in marine electrical and control applications. He added that the idea that security (cyber or otherwise) and safety aspects should be considered together was a key item for all to consider in system designs going forward.
Increasing the Institute’s Technical Voice

The Technical Leadership Board (TLB) continued to work to ensure that the IMarEST is a significant industry, government and academic participant, adding value through impartial technical expertise, for the benefit of society. The TLB ensures that key identified issues related to marine engineering, science and technology are addressed and enhanced through effective stakeholder engagement. In order to achieve its aims, the TLB commits to undertaking regular engagement with appropriate industry bodies and regulators; maintaining a diverse network of global contacts; participating actively in, and organising, key fora, meetings and events; promoting the IMarEST as a proactive stakeholder; and ensuring opportunities for all members to contribute to initiatives within the Special Interest Groups (SIGs).

The TLB further developed their technical priorities in 2016 which will help shape the activities of the IMarEST and provide guidance to the Special Interest Groups.

The technical priorities cover:
- **People:** at the heart of marine safety and environmental sustainability is the requirement for a competent and professional workforce.
- **Environment:** recognising that the marine environment is essential for goods and services that impact global health, wealth and is a driver of weather and climate.
- **Ocean Governance:** ensuring that the use of marine space and ocean resources are managed within a framework of appropriate, informed rules, regulations and legislation.
- **Climate Change:** where the oceans both impact, and are impacted by, climate change - with sea level rise, ocean acidification, sea ice melt, coral bleaching and more being of concern.
- **Safety & Security:** the prevention of unintentional and intentional harmful actions in order to protect life, health, property and the marine environment.
- **Novel Technology:** where enabling sustainable development will require the use of novel technologies incorporating new engineering ideas and practices.

Under the guidance of the TLB, the IMarEST Special Interest Groups continue to grow and to act as enablers for the creation, transfer and sharing of knowledge on a variety of marine topics. Each SIG leads the Institute’s work in its specialist area, advancing the expertise and status of members working in that area, acting as a clearinghouse to provide up-to-date, relevant information to members and facilitating a network of members working in, or simply interested in, the SIG’s topic.

The Operational Oceanography Special Interest Group published a report on the safety and sustainability of shipping and offshore activities in the Arctic. The report highlighted that geopolitical perspectives are of foremost importance in addressing Arctic risks and opportunities at the global scale rather than just at a regional scale. There is a unique opportunity to put effective international legislation in place, but collaboration and coordination between stakeholders and operators is paramount to the implementation of legislation and in particular the Polar Code. The report further highlighted that at the core lies the need for increased professional and public awareness of current Arctic operations. Investment in education, training, and understanding of policy and legislation is equally as important as investment in new technologies. Arctic shipping and offshore activities present major new engineering, technical and technological challenges.

**Branch Review (Phase 2)**

Phase 2 of the Branch Review was the latest in a series of discussions about the future shape, function and requirements of the Institute’s local presence. A guide for branches, clearly setting out the minimum expectations for branch activity, communications and reporting, was sent to all branches at the start of the 2015-2016 year and followed up by a questionnaire in April 2016 asking the branches to self-assess against these requirements. Council considered the results of the survey at its meeting in May 2016 and found that while many branches were performing effectively and facing only minor issues, a few branches had indicated they were facing significant difficulties in multiple areas or were, in fact, struggling to continue as distinct entities. The Executive was asked to investigate the root causes behind the significant difficulties faced in certain branches and Council planned to give the matter further consideration at its first meeting in the new year in November 2016.

The Arctic Special Interest Group published a report on the safety and sustainability of shipping and offshore activities in the Arctic. The report highlighted that geopolitical perspectives are of foremost importance in addressing Arctic risks and opportunities at the global scale rather than just at a regional scale. There is a unique opportunity to put effective international legislation in place, but collaboration and coordination between stakeholders and operators is paramount to the implementation of legislation and in particular the Polar Code. The report further highlighted that at the core lies the need for increased professional and public awareness of the Arctic's current operations. Investment in education, training, and understanding of policy and legislation is equally as important as investment in new technologies. Arctic shipping and offshore activities present major new engineering, technical and technological challenges.
**ACTIVITY HIGHLIGHTS**

**IMarEST JOURNALS: JMET AND JOO**

From studies looking at the vulnerability of container-hub ports in East Asia due to extreme climate and environmental changes through to cooperative control of a team of autonomous underwater vehicles (AUVs) in the presence of obstacles, the Journal of Marine Engineering & Technology (JMET) continues to grow through the successful publishing partnership developed with Taylor & Francis. Sixteen papers were published in the 2016 volume of the JMET.

In 2016 a paper published in the Journal of Operational Oceanography (JOO) offered clues to the potential fate of Malaysia Airlines flight MH370 which left Kuala Lumpur, Malaysia on a flight to Beijing, China in March 2014. The flight disappeared from communication and was never found, despite great search efforts. The authors tracked drifters that were released or that travelled near the search area in the southeastern Indian Ocean and combined this with a computer model of ocean currents from the University of Hawaii. This model incorporated the surface ocean winds and provided a realistic simulation of ocean currents during and after the plane crash. Using these computer-derived currents, the scientists released thousands of replica drifters to see where they travelled. By combining the real trajectories from actual instruments with the simulated trajectories, scientists were able to identify the location where a crash was most likely.

In addition to exploring the fate of the missing aircraft, the JOO volume of 2016 featured 11 papers covering a wide range of issues relating to operational oceanography plus a 22 page supplement highlighting the work of the Italian National Group for Operational Oceanography (Gruppo Nazionale di Oceanografia Operativa – GNOO) and covering topics ranging from uses for the management of fishery activities to directing search and rescue (SAR) activities and oil-spill emergencies at sea.

**VIRTUAL BRANCH**

To complement the excellent work done locally by the IMarEST’s local branches around the world, the Institute has established a virtual branch. Although all members are welcome to participate in the virtual branch, its main purpose is to provide access to high quality technical and networking opportunities to those members who either do not have access to a local, physical branch or who are unable to attend their local branch’s activities and lectures for any reason.

The virtual branch will, in due course, offer its own technical programme and support Sea Your Future initiatives by drawing on content and input from the TLB, SIGs and the technical programmes of other branches, delivering this content digitally to members via the IMarEST online platforms. Consideration may in the future be given to the creation of regional virtual branches which would then allow an element of regional interest to be reflected in their programmes.

**IMarEST TV**

The Institute launched a new member benefit, IMarEST TV, to increase knowledge sharing and exchange throughout the Institute. IMarEST TV features recordings of IMarEST’s Prestige Lectures and conference presentations, meetings, events such as the Annual Dinner and European International Submarine Race and video guides to help members access and get the most from the full range of member benefits.

An ever-increasing number of IMarEST branches around the world are recording and uploading their technical lectures, ensuring members have access to rich technical content from across the marine sector. Currently 11 branches, from Eastern USA to Victoria Australia and from the United Arab Emirates to East of England, participate, with contributions from additional locations expected to come online in the coming year.

In addition, selected lectures are regularly live-streamed. With IMarEST TV’s split-screen format allowing both speaker and slides to be viewed simultaneously and an ability to ask questions and provide comments live via online functionality, viewers are able to engage and participate fully in the proceedings.

IMarEST TV, so far enjoyed by members in over 80 countries around the globe, can be accessed via web browser or on the move via Android and Apple apps. Content can even be downloaded for convenient offline viewing, at home, in the office, on the daily commute or even at sea.
IMPLEMENTING PHASE 1 OF SEA YOUR FUTURE

The Sea Your Future (SYF) programme is the IMarEST’s initiative to inspire school-aged children to get involved in the marine sector, support students, trainees, cadets and apprentices with their learning and develop those who are just starting out in marine careers.

The SYF webpages have now been launched to provide resources and activities to its target audiences from schoolchildren to early career professionals. The pages include profiles on the broad variety of careers available in the marine sector, details of IMarEST-accredited higher education courses, IPD and Graduate Training Schemes, and role model profiles for a wide range of career opportunities as well as links to marine-related sites and resources for schools. An online copy of the comprehensive publication Sea Your Future – A Guide to Marine Careers is also available for viewing online or download.

IMarEST OPEN DAY AND CAREERS FAIR

In conjunction with the European International Submarine Race 2016, the IMarEST offered a free Open Day & Careers Fair at the historic Hilsea Lido. The day provided opportunities for members of the public to come and look at the submarines both up close and in action and for the race team members and other students to learn more about marine careers at the highly successful graduate master classes.

The keynote speech, by Gwyn Griffiths, an ocean engineer whose 40-year career in the marine sector has spanned from serving as a junior seagoing instrument engineer supporting oceanographic research to appointment as Chief Technologist for the UK National Oceanography Centre and a Professor of Underwater Systems Engineering at the University of Southampton, noted that, despite the pace of technological change, many of the fundamental building blocks that had been important in his own career development were still relevant today. He used examples from his own career with ocean technology, especially autonomous marine vehicles, to explain these building blocks before illustrating how several young marine professionals of today have progressed their careers in marine technology.

SUBMARINE RACING RETURNS TO UK'S SOUTH COAST

The third edition of the biennial European International Submarine Race (eISR), supported by sponsorship from QinetiQ, DE&S, Babcock International Group and BMT Defence Services, saw twenty university teams from across the world accept the challenge to design, build and race human-powered submarines.

Eleven teams from six countries on three continents eventually qualified for the racing stages of the competition by meeting a rigorous set of technical and performance requirements, which had to be documented in written, photographic and videographic formats. They gathered at QinetiQ’s Ocean Basin in July 2016 to race their human-powered submarines against the clock around a demanding slalom course.

The almost 150 student participants demonstrated a true passion for engineering and teamwork throughout the racing stages as they honed the performance of their own craft and helped each other to overcome the individual challenges that arose.

The race was won by the University of Auckland team’s Taniwha II submarine. It was driven to near record-breaking speeds (4.7 knots) by a robust biomimetic propulsion system and a novel fish-inspired hydrodynamically-efficient tail, which replaced the rudder usually found on submarines.
ACTIVITY HIGHLIGHTS

CHALLENGING OF MEST

In late 2015, the IMarEST’s Gulf Coast USA Branch (GCB) issued a ‘simple’ challenge to the middle school and high school students in the Houston Independent and Katy (TX) Independent School Districts: find a solution to the lack of clean water across the world.

CONTEXT AND GOALS

GCB decided on the topic because although over 70% of the world’s surface is covered with water, less than 3% is fresh water. Of that, only one-third is accessible to the human population which means almost 50% of the world’s population live in the water-deprived areas – and this could rise to 65% by 2035. If today’s engineers and scientists fail to find a viable and lasting solution, that task will inevitably fall to the professionals of tomorrow.

GCB hoped the Water Project competition would provide an arena for that elusive, creative spark of genius that may precipitate a solution to the world’s water problem or failing that, inspire at least some of the participating students to become an engineer or scientist of tomorrow. In addition, the competition was deliberately structured to require students to engage in team and project-based work, skills vital for success in most professional working environments but not always well-honed in traditional education.

THE COMPETITION

The project attracted so much attention in the school districts when the flyer for the middle and high school competition was launched, that the Branch decided to run a second competition, for elementary school students, in parallel. In the end, between Houston and Katy, over 20 schools signed up to participate.

Teams took part in a two-stage competition with their written reports judged by a distinguished panel of eminent professionals whose own careers had in some way been influenced by water:

- Huda Aldahan, project director with CH2M-Hill, specialising in water projects and civil infrastructure
- Bill Callegari, a senior Texas lawmaker, trained as a civil engineer
- Kathleen Jackson, member of the Texas Water Development Board
- Dr Paul Jukes, IMarEST’s former president of the Americas and a former member of IMarEST’s Council and Board of Trustees
- Jim Speer, a senior lawyer from the water-starved town of El Paso, Texas

The ten teams shortlisted on the basis of their reports expanded on their initial research and prepared and delivered an eight-minute presentation to three of the judges in front of an enthusiastic audience of around 150. The audience also got involved in the spirit of the evening and actively participated in a water-themed quiz between presentations and while the judges deliberated.

Prizes, awarded to the overall top three teams from the middle and high schools and the top three teams from the elementary schools, were presented by Amanda Duhon, Regional Director, North & Central America at the Energy Industries Council.

LASTING IMPACT AND THE FUTURE

GCB wants to build lasting relationships with the participating students, sponsoring teachers and school districts. The Branch gave one Raspberry Pi to the science teachers for each team they introduced and mentored, providing a gateway to those schools for next year’s IT projects and gaining recognition for the IMarEST. The intention is to use this entry and similar future projects to become an indispensable and indelible part of the youngsters’ career paths.

The Branch also plans to make the competition a regular event, probably focusing on a different topic each time, and to get additional school districts involved and sponsoring teams in future years.

NEW BRANCH LAUNCHED

The IMarEST has established a new branch in Asia Pacific. The Philippines Branch, which will be based in Manila, was launched at the AMOSUP Convention Hall with 40 people pledged to actively support the new branch’s launch and approximately 1,000 IMarEST members based in its territory. The branch’s initial focus will be on boosting the learning and development of Filipino seafarers by providing access to high quality technical content and networks. The new branch is being proactively supported by local Marine Partner, The Maritime Academy of Asia and the Pacific (MAAP), with MAAP’s President, VAdm Eduardo Ma R Santos AFP (Ret), serving as the branch’s first chairman.

The IMarEST has established a new branch in Asia Pacific. The Philippines Branch, which will be based in Manila, was launched at the AMOSUP Convention Hall with 40 people pledged to actively support the new branch’s launch and approximately 1,000 IMarEST members based in its territory. The branch’s initial focus will be on boosting the learning and development of Filipino seafarers by providing access to high quality technical content and networks. The new branch is being proactively supported by local Marine Partner, The Maritime Academy of Asia and the Pacific (MAAP), with MAAP’s President, VAdm Eduardo Ma R Santos AFP (Ret), serving as the branch’s first chairman.
ACTIVITY HIGHLIGHTS

INEC 2016

Over 300 delegates from across the globe gathered for the 13th International Naval Engineering Conference (INEC 2016), with its highly topical theme ‘Engineering the Triple A Navy: Active, Adaptive, Affordable.’ The biennial event was held at The Passenger Shed at Brunel’s Old Station in Bristol in April, and on the final day hosted a visit by Her Royal Highness The Princess Royal, an Honorary Fellow of the IMarEST.

Chaired by Cdr Matt Bolton RN, promoted to Captain shortly after INEC, the opening session saw keynote addresses being delivered by Vice Admiral Arie Jan de Waard, Director, Defence Materiel Organisation, the Netherlands; Rear Admiral Richard Stokes, Assistant Chief of Naval Staff (Support), UK; Frank Kelley, Deputy Assistant Secretary of the Navy for Unmanned Systems, USA; and Simon Knight, Naval Engineering Director, Babcock International Group. It also featured over 80 peer-reviewed technical papers, 23 of which were eligible for the Sir Donald Gosling Award (see Charitable Purpose 2), designed to recognise young authors aged 35 and below.

In his summary, the Conference Chairman observed that INEC had provided a most stimulating three days, due to the breadth and quality of the technical papers presented and the excellent discussions that had been generated. He added that the visit by HRH The Princess Royal had been not only a great honour but also a true highlight as she had spent a significant amount of time meeting groups of speakers, international delegations, the Sir Donald Gosling Award candidates and many other participants, and impressing all that she met with both her knowledge and interest.

The Royal Navy Mine Counter Measures Vessel HMS Atherstone was present in Bristol for the duration of INEC and many delegates took tours of the ship. An industrial visit to Rolls-Royce proved another attraction and included the opportunity to view the MT30 Marine Gas Turbine build/test facility.

113th ANNUAL DINNER

Following a pre-dinner champagne networking reception, the 114th President of the Institute, Dr Jane Smallman, welcomed professionals from across the marine sector to the Guildhall in the City of London for the Institute’s 113th Annual Dinner. She noted that her own career had involved using science and technology in engineering and environmental applications, neatly encompassing the Institute’s disciplines. She also highlighted four key themes that she intended to promote as president, namely: inspiring the marine professionals of the future about career possibilities in the marine industry; promoting lifelong learning as a cornerstone of professionalism; increasing the diversity of the Institute itself until it fully mirrors that of the marine sector as a whole; and enhancing the Institute’s presence and influence internationally, as the only multi-disciplinary body able to provide a home for all marine professionals.

The President then presented an Honorary Fellowship, the highest honour the Institute can bestow, to Malcolm Vincent CEng CMarEng FIMarEST, the Institute’s 110th President, in recognition of his dedicated and selfless service to the Institute over several decades, his deep involvement with virtually every successful initiative that the Institute had embarked on in recent times and his steadfast guidance.

The evening’s after-dinner speaker was Simon King OBE, the renowned wildlife television presenter and cinematographer, who spoke about the importance of increasing our knowledge of the oceans and of preserving and understanding the life within them.

ADDITIONAL EVENTS

Other events held in 2015-2016 included Oceans of Knowledge, the 5th Ballast Water Technology Conference held in London and the 2nd Ballast Water Technology Conference in Singapore, and the 5th Condition Based Maintenance Conference in London and Singapore.

A course on Port State Control Awareness was delivered in Singapore.

PRESTIGE LECTURES

The President’s Day Lecture was given by Jane Smallman and explored challenges in port design.

The Founders’ Lecture, sponsored by ClassNK, was delivered by the IMO Secretary-General, Kitack Lim, who talked about the history of the IMO and its plans for facing the challenges of today.

Two Stanley Gray Lectures were given – one in London by Dr Graham Brown, Divisional Director, Oil and Gas, at Sonardyne International Ltd, on marine autonomy saving the world and one in Singapore by Yves De Leeneer, Founder and Managing Director of DEEPBLUE Pte Ltd, on the conflicts between engineering and protection of the environment (see Charitable Purpose 5 for further details on the Singapore lecture).
ACTIVITY HIGHLIGHTS

RELATED KEY TECHNICAL PRIORITIES

Three of the Institute’s key technical priorities, full details of which are included under Charitable Purpose 4, are directly relevant to environmental sustainability:

- **People**: at the heart of marine safety and environmental sustainability is the requirement for a competent and professional workforce
- **Environment**: recognising that the marine environment is essential for goods and services that impact global health, wealth and is a driver of weather and climate
- **Climate Change**: where the oceans both impact, and are impacted by, climate change – with sea level rise, ocean acidification, sea ice melt, coral bleaching and more being of concern

CHARITABLE PURPOSE 5

ENVIRONMENTAL SUSTAINABILITY

In 2015-2016, the IMarEST was granted Observer status as an international non-governmental organisation (INGO) at the London Convention & Protocol (in full: 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972). Receiving Observer status is an extremely important development for the IMarEST as it enables the Institute to provide a valuable contribution to the scientific evaluation of waste disposal at sea proposed for dumping (e.g. dredged material), including monitoring and assessment of waste disposal options. Moreover, as the London Convention and its Protocol are expanding their scope, the Institute will be able to provide a valuable contribution to the scientific evaluation of waste disposal at sea proposed for dumping (e.g. dredged material), including monitoring and assessment of waste disposal options.

Following successful submission of the first draft of a Ballast Water Manual to the International Maritime Organization’s Pollution Prevention & Response Subcommittee, the Institute continued to engage with the IMO Secretariat, the members of the Ballast Water Expert Group and with representatives of Singapore to review and update the draft manual as well as engaging an external consultant to develop and review text. A second draft was submitted to the IMO late in 2015 and is now with the IMO Member States to develop further. With the ratification of the Convention in 2016 and subsequent entry into force on 8th September 2017, the guide is likely to be a valuable tool for all stakeholders concerned with Ballast Water Management.

The IMarEST became a strategic partner to the IMO-GEF-UNDP GloMEEP (Global Maritime Energy Efficiency Partnership) project, aiming to support developing countries in implementing energy efficiency measures and developing national regulatory frameworks related to the prevention of air pollution and reduction of greenhouse gas emissions from ships.

A number of papers were submitted to the International Maritime Organization (IMO):

- **PPR 3/7**: Second draft of the manual entitled: “Ballast Water Management – How to do it”
- **MEPC 69/INF.8**: The implementation of technical energy efficiency measures in shipping (submitted with the Royal Institution of Naval Architects)
- **MEPC 70/7/2**: Issues relating to the use of fuel oils from non-petroleum sources
- **MEPC 70/9/2**: Guidelines for on board sampling for the verification of the sulphur content of fuel oil used on board ships
- **MEPC 70/4/15**: Structuring the experience-building phase associated with the BWM Convention (submitted with Canada, Republic of Korea and Marshall Islands)
- **MEPC 70/INF.23**: A template for the completion of a biofouling management plan (submitted with the International Paint and Printing Ink Council)

The IMarEST became a partner in the PIANC Think Climate coalition. Through an unprecedented collaboration, the partner organisations have committed to work together to help the inland and maritime navigation infrastructure sector respond to climate change.

ACTIVITIES AT INTERGOVERNMENTAL ORGANISATIONS (IGOs)

FIRST STANLEY GRAY PRESTIGE LECTURE (SINGAPORE)

The Institute expanded the reach of its prestige lecture programme into Asia Pacific in 2015-2016 by holding a Stanley Gray Lecture in Singapore for the first time. Presented by Yves De Leeneer, Founder and Managing Director of DEEPBLUE Pte Ltd, the lecture discussed the embracing or conflicting situation between marine and offshore engineering and protecting the environment from further disastrous damage. He talked about the possibility of aligning pro-environmental requirements and marine & offshore industry requirements before providing examples of how to approach engineering in a different way.
ACTIVITY HIGHLIGHTS

PROFESSIONAL DEVELOPMENT TOOL

The Institute has been working to develop a new professional development tool to help support members’ commitment to continuing professional development (CPD). Designed to be both SCORM and Tin Can compliant and accessible via browser and mobile device (iOS, Windows and Android), the new tool will help users plan their CPD activity, capture learning activities with evidence and support IMarEST monitoring of CPD for registrants. The tool is expected to be completed and launched during the 2016-2017 year.

CHARITABLE PURPOSE

ETHICAL PROFESSIONALISM

The Institute launched a campaign to raise awareness among seafarers about the opportunities available to support them in developing the skills and demonstrating the competencies needed to take the next step in their careers while still serving at sea. The campaign highlighted development opportunities such as obtaining a Master’s degree through distance learning and using existing Certificates of Competency (CoCs), on both the deck and engine sides, along with their experience, to gain professional registration. The Institute prepared material clearly mapping the Class 1 CoCs (unlimited) and Master Mariner certificates, accompanied with varying levels of experience, to specific levels of professional registration so that seafarers could see at a glance which level of professional registration would be most relevant to their own careers. In addition, with Filipinos remaining the single largest national bloc of seafarers, the IMarEST’s new Philippines Branch will provide many of these members with access to a strong local presence, including technical lectures and networking activity, when ashore (see Charitable Purpose 4 for more details).

SEAFARERS CAMPAIGN

Whether it is taking small steps such as ensuring the reduced fees application makes it clear that members on maternity/paternity leave are eligible or participating fully in cross-institute work with other engineering and science institutes or using the Sea Your Future initiative to inspire all students to pursue STEM subjects and entertain marine careers, IMarEST remains committed to promoting diversity and inclusion in its membership and throughout the marine sector. The Institute continues to play an active part in the Royal Academy of Engineering’s group on diversity as a party to both the Engineering Diversity Concordat and the Science Council Declaration on Diversity, Equality and Inclusion and with a Board-level champion and the proactive support of the Institute’s first female President, the Institute works towards the day when its membership becomes fully reflective of the marine sector while that sector itself continues to move towards better mirroring global society-at-large, providing equal access and opportunity for all.

CHAMPIONING DIVERSITY

ENABLING ALL OUR CHARITABLE PURPOSES

BIRDCAGE WALK – A NEW HOME FOR THE INSTITUTE

The relocation of the IMarEST’s International HQ from Aldgate to Westminster was completed in February 2016 with the remaining five-and-a-half years of the Institute’s lease at Aldgate House successfully assigned to a former neighbour, resulting in cost savings to the Institute in excess of £250K. The new, long-term home for the IMarEST at Birdcage Walk, was expected to deliver annual savings in the region of £150K, even before the expected forthcoming rent increase for Aldgate had been factored in.

The Birdcage Walk location has also yielded softer benefits such as increased opportunities for interaction with UK Government entities and locally-based bodies such as the International Maritime Organization (IMO). In addition, members visiting the new HQ have access to dedicated facilities including the library, members’ lounge and business centre, with hotdesks, wifi, and bookable private meeting rooms. The Institute has also benefitted from increased co-operative working with our IMechE (Institution of Mechanical Engineers) hosts and fellow tenants, as well as with other neighbouring institutes.
Through its Marine Partner initiative, IMarEST works in partnership with organisations which demonstrate a continued commitment to professional development in the marine sector.

Marine Partners work strategically with their dedicated IMarEST account manager to create and deliver a bespoke, flexible annual programme of activity and premium promotion, tailored to their own specific interests and needs.

Marine Partners and the Institute jointly promote professional membership and registration, continuing professional development, knowledge sharing and learning opportunities both within their organisations and to the wider marine community. All Marine Partner staff benefit directly from discounts on the IMarEST’s events, conferences, training and learning programmes and, of course, Marine Partner staff who join the Institute also receive access to the full range of member benefits, including technical and knowledge resources and access to a global network of professionals working across the broad spectrum of marine engineering, science and technology.
The Consolidated Statement of Financial Activities and the Consolidated Balance Sheet shown are not full Annual Accounts but are extracted from the unqualified audited financial statements which were approved by the Board of Trustees on 7 February 2017 and signed by the Chairman of the Board, R H Vie and the Honorary Treasurer, F B Mungo.

A full set of financial statements prepared in accordance with the Charities SORP and as audited by BDO LLP is available on request from the Secretary at the principal address or electronically from info@imarest.org and will be filed with the Charity Commission in due course after the Annual General Meeting.

REVIEW OF THE CONSOLIDATED STATEMENT OF FINANCIAL ACTIVITIES (SOFA) AND THE CONSOLIDATED BALANCE SHEET

The financial statements for the year ended 30 September 2016 on have been prepared in accordance with Generally Accepted Accounting Principles (GAAP), Financial Reporting Standards currently in issue (FRS 102) and comply with the Statement of Recommended Practice (SORP) issued by the Charity Commission. The layout of the accounts has changed from that used in previous annual reports and so the accounts for the year ending September 2015 have been restated in the new format to allow for prior year comparison.

Total incoming resources in the year (£2.9M) were £403K higher than the previous year (£2.4M). Income from charitable activities increased by £378K and an increase in incoming resources of subsidiary companies contributed £156K of this improvement. Donations received were a total of £71K, an increase of £65K on the previous year while investment income of £375K was unchanged from the previous year.

Total resources expended (£4.0M) were £294K higher than the previous year (£3.7M) with an additional £319K being expended on Charitable Activities and a reduction of £25K on other activities.

The most significant matter affecting the Consolidated Statement of Financial Activities and the Balance Sheet has been the increase in the pension deficit of £2.5M from £1.7M last year to £4.2M this year. This increase is despite a £240K contribution in year to the pension recovery plan. The main driver for the increase in the deficit has been an increase in the value placed on the liabilities as a result of falling gilt yields as gilt yields govern the expected return on pension scheme investments.

The IMarEST Retirement Benefits Scheme disclosure required by the accounting standards is based on the annual reports from our actuaries. The basis for selecting the assumptions for the preparation of the FRS 102 pension costs and disclosures reflects the changes in the mortality tables used. The scheme’s liabilities were valued at £15.8M at year end, an increase of £3.9M compared to a £1.4M increase in the value of the scheme’s assets valued at £11.7M at the same day. This has given rise to a scheme net deficit of £4.2M compared to a deficit of £1.7M in the previous year. The total provision for the RBS scheme liability of £4.2M is included in the Balance Sheet.

The total realised and unrealised gains on the investment portfolio for the year appear on the Statement of Financial Activities. The investment income was £375K as it also was the previous year and at 30 September 2016 the market value of the investments of the combined portfolio was £14.1M, a reduction of £181K on the value (£14.2M) at September 2015.

R H Vie FREng CEng CMarEng FIMarEST
Chairman of the Board of Trustees

F B Mungo CEng CMarEng FIMarEST
Trustee & Honorary Treasurer of the Institute
INDEPENDENT AUDITOR’S REPORT
The Institute’s full financial statements for the year ended 30 September 2016, which include the Group Statement of Financial Activities and the Group Balance Sheet included in the Annual Review, are contained in the full Annual Report which has been audited by BDO LLP, Gatwick. 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).

RESPECTIVE RESPONSIBILITIES OF TRUSTEES AND AUDITOR
The trustees are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view.

BDO has been appointed as auditors under section 144 of the Charities Act 2011 and report in accordance with regulations made under section 154 of that Act. Their 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).

OPINION
BDO’s opinion on the full financial statements is that they give a true and fair view of the state of the group’s and the parent charity’s affairs as at 30 September 2016, and of the group’s and the parent charity’s incoming resources and application of resources for the year then ended and that they have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice and the requirements of the Charities Act 2011. The basis of their opinion is contained in the full Annual Report.

RISK MANAGEMENT
Risk is considered in terms of the wider environment in which the Institute operates, including the financial climate, society and its cultures and attitudes, the natural environment, regulatory and financial bodies, technology and the law.

The major risks the Institute faces are included in its Risk Register which is monitored regularly by both the Executive and the Board of Trustees to ensure that risks are identified and then managed effectively and efficiently. Risks are reviewed at least quarterly by the Board which also undertakes a comprehensive review of the charity’s strategic objectives and risk management strategy at least annually.

Financial sustainability has been identified as the key risk and this is reflected in the Institute’s Corporate Plan, key performance measures and target setting.
OFFICERS OF THE INSTITUTE

President
Dr J V Smallman
CSci CMarSci FIMarEST

Immediate Past President
M Murphy
CEng CMarEng FIMarEST

President-Elect
Prof C G Hodge
OBE FREng CEng CMarEng FIMarEST

Chairman, Board of Trustees
R H Vie
FEng CEng CMarEng FIMarEST

Honorary Treasurer
F B Mungo
CEng CMarEng FIMarEST

MEMBERS OF THE EXECUTIVE

Chief Executive and Secretary .................................................. D Loosley
Commercial Director ................................................................. P James
Communications Director ......................................................... C Lord
Technical and Policy Director ................................................. Dr B Mackenzie CSci CMarSci FIMarEST

For IMarEST subsidiaries:
Director, Asia Pac (MAREST (S) Pte Ltd) ......................... D Kelly MCIM, Chartered Marketer, MIMarEST
Chief Executive (MLA Ltd) ....................................................... Dr R Thain CSci CMarSci FIMarEST
Commercial Director (MLA Ltd) .............................................. A Conney

OFFICERS OF THE INSTITUTE

Chairman, Board of Trustees
R H Vie
FEng CEng CMarEng FIMarEST

Honorary Treasurer
F B Mungo
CEng CMarEng FIMarEST

President
Dr J V Smallman
CSci CMarSci FIMarEST

Immediate Past President
M Murphy
CEng CMarEng FIMarEST

President-Elect
Prof C G Hodge
OBE FREng CEng CMarEng FIMarEST

Chairman, Board of Trustees
R H Vie
FEng CEng CMarEng FIMarEST

Honorary Treasurer
F B Mungo
CEng CMarEng FIMarEST

MEMBERS OF THE EXECUTIVE

Chief Executive and Secretary .................................................. D Loosley
Commercial Director ................................................................. P James
Communications Director ......................................................... C Lord
Technical and Policy Director ................................................. Dr B Mackenzie CSci CMarSci FIMarEST

For IMarEST subsidiaries:
Director, Asia Pac (MAREST (S) Pte Ltd) ......................... D Kelly MCIM, Chartered Marketer, MIMarEST
Chief Executive (MLA Ltd) ....................................................... Dr R Thain CSci CMarSci FIMarEST
Commercial Director (MLA Ltd) .............................................. A Conney

BOARD OF TRUSTEES

Prof C G Hodge OBE FREng CEng CMarEng FIMarEST (Chairman, to 18 March 2016; President-Elect, from 18 March 2016)
R H Vie FREng CEng CMarEng FIMarEST (Immediate Past President, to 18 March 2016; Chairman, from 18 March 2016)
Dr S E Cornell CSci CMarSci MIMarEST (Vice Chair)
Dr J V Smallman CSci CMarSci FIMarEST (President, to 18 March 2016; Immediate Past President, from 18 March 2016)
F B Mungo CEng CMarEng FIMarEST (Honorary Treasurer)
Prof J Chudley CEng CMarEng FIMarEST (non-Council, from 18 March 2016)
S Dhanda (non-Council)
Prof A R Greig CEng CMarEng FIMarEST
Rear Admiral N C F Guild CB FREng CEng CMarEng FIMarEST (non-Council)
Eur Ing Dr J Lawson CEng CMarEng FIMarEST (from 10 May 2016)
Eur Ing G J McKenzie CEng CMarEng FIMarEST
A D Muncer AO CEng CMarEng FIMarEST (to 10 May 2016)
M G Parker CEng MIMechE (non-Council)
P S Parvin CEng CMarEng FIMarEST
C M Sharp CMarTech FIMarEST (to 9 June 2016)
Dr R J Wakefield CSci CMarSci MIMarEST
HONORARY FELLOWS

Honorary Fellowship, the highest distinction the Institute can confer, is awarded to highly distinguished external individuals to enhance the prestige of the Institute, to Fellows of the Institute who have attained an international reputation and are recognised for their professional eminence as marine engineers, scientists or technologists and to Fellows and Officers of the Institute for outstanding service.

HRH The Prince Philip, Duke of Edinburgh
HRH The Princess Royal
The Rt Hon the Lord Greenway
The Rt Hon the Lord Sterling of Plaistow
Chiau Beng Choo
Dr J Cowley CBE FREng
Prof C Th Grammenos CBE DSc
R J M Grey MBE
Vice Admiral Sir Robert Hill KBE FREng
Prof Sir David King FRS
Admiral R E Kramek
R M Long CEng
Rear Admiral (Rtd) RNLN R Lutje Schipholt KNL DION
Admiral E E Mitropoulos
Sir John Parker GBE FREng
Sir John Parker GBE FREng
Admiral Sir David King FRS
A E W Swanston CEng

HONORARY VICE-PRESIDENTS

The Honorary Vice Presidency is awarded to Fellows of the Institute in recognition of long-standing and committed service to the activities and organisation of the Institute. There can be no more than 25 Honorary Vice Presidents at any given time.

J Ayles CEng
D Brophy CEng CMarEng
B T Carr CEng CMarEng
J R Corless
D W Cory CEng CMarEng
A Gilchrist CEng CMarEng
E E Hopkins MBE CEng CMarEng
Eur Ing Prof R A Johns
Eur Ing G D Kinrade CEng CMarEng
Eur Ing M H F Law CEng CMarEng
P M Low CEng CMarEng
Eur Ing B McDeamid CEng CMarEng
T Mackey
S W Nicholls MBE CEng CMarEng
Dato’ Ir A M Omar CEng CMarEng
Eur Ing V Pomeroy CEng
Eur Ing A Rose CEng CMarEng
Prof K Rozhdestvensky CEng CMarEng
J Sloan CEng CMarEng
Eur Ing A R Wells CEng CMarEng
J C Woodhead CEng CMarEng
The Guild of Benevolence, which is a separate registered charity, provides assistance to members of the marine community and their dependents in need and traces its origins back to the Fund set up in 1912 by the then Institute of Marine Engineers in co-operation with the Daily Chronicle to help families of all the engineer officers who were lost when the RMS Titanic sank on 15 April 1912.

Applications from any members of the Merchant and Naval Services worldwide, together with their dependents, are considered on an equal basis and it is important to remember that applicants do not have to be present or past members of the Institute.

One of the Guild’s recent beneficiaries, an IMarEST member, sent their heartfelt thanks and gratitude to the Trustees because they did not know how they would have coped without the Guild’s assistance. Fortunately, this beneficiary’s circumstances have now stabilised and, moving forward, they wish to assist the Guild in their work in any way they can, including having their circumstances used as a case study. The Guild is currently updating promotional material and will keep this case in mind for the forthcoming website and booklet updates.

The Trustees are extremely appreciative of the considerable and continued efforts made by the Institute and Guild members, staff and branches throughout the world in raising funds. The Guild was fortunate this year to receive the final instalment of a previous legacy which, together with others and the donations from members and Branches, has helped to offset the deficit in the Guild’s net resources expended. Notwithstanding this, your continued help is needed to ensure the Guild can continue with its important work.

Last year, IMarEST members and branches based outside the UK were asked if they would be willing to assist the Guild with overseas case work and additional help would still be especially welcomed in Europe, South Africa, USA, Malaysia, Singapore, India, Pakistan, Sri Lanka, Australia and New Zealand. The Guild would be pleased to learn of any members, but particularly those in the areas mentioned above, who would be willing to assist in case work. If you can assist, please contact Karen Lendor in the Guild office at guild@imarest.org and she would be pleased to advise you further.

For further information on the Guild and its activities please go to the website www.imarest.org/guild.

### Key Statistics - 2015-2016

<table>
<thead>
<tr>
<th>Category</th>
<th>Figures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total cases considered</td>
<td>110*</td>
</tr>
<tr>
<td>New applicants</td>
<td>35</td>
</tr>
<tr>
<td>% of regular grant recipients who are overseas citizens</td>
<td>17%</td>
</tr>
<tr>
<td>Maximum amount per week of regular grants</td>
<td>£25</td>
</tr>
<tr>
<td>Total disbursed to beneficiaries (regular and one-off grants)</td>
<td>£100,000</td>
</tr>
</tbody>
</table>

*This figure includes annual reviews of regular grants, additional applications from current regular beneficiaries and applications from previous recipients of one-off grants as well as new applications.

### Trustees

- **A D Muncer** CEng CMarEng FIMarEST Chairman
- **Eur Ing T Aston** CEng CMarEng FIMarEST Deputy Chairman
- **Eur Ing G J McKenzie** CEng CMarEng FIMarEST Honorary Treasurer
- **D P Loosley** Honorary Secretary
- **Prof M J C Crabbe** CMarSci FIMarEST
- **Eur Ing C G Loughran** RD MNM VR CEng CMarEng FIMarEST
- **Eur Ing B McDearmid** CEng CMarEng FIMarEST
- **F B Mungo** CEng CMarEng FIMarEST
- **Cdr W K Ridley** CEng CMarEng FIMarEST
- **D D Ward** CEng CMarEng FIMarEST
- **Dr D W Williams** CB JP CEng CMarEng FIMarEST
- **J C Woodhead** CEng CMarEng FIMarEST