

# '15

## ANNUAL REPORT AND FINANCIAL STATEMENTS

CHARITY REGISTRATION NO: 269275

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The Institute is a professional body seeking to promote all aspects of the science, engineering and technology of materials, minerals and mining through its members for the benefit of mankind. The trustees, who are duly elected members of Council, are pleased to present their annual report together with the financial statements of the Institute for the year ended 31 December 2015.

The annual report and financial statements have been prepared in accordance with the accounting policies set out on pages 38 to 41 and comply with the Charity's Royal Charter, the Charities Act 2011 and Accounting and Reporting by Charities: Statement of Recommended Practice applicable to charities preparing their financial statements in accordance with the financial reporting standard applicable in the UK and Republic of Ireland published on 16 July 2014.



The principal office of the Institute is 297 Euston Road, London NW1 3AQ.

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The Institute of Materials Minerals and Mining (IOM3) is an unincorporated registered charity with registration number 269275.

## PUBLIC BENEFIT

Materials form an integral and important part of all our lives. The materials cycle covers the exploration and extraction of raw materials from the earth, processing them into industrial/engineered materials, application of these materials, recycling of waste and the ultimate disposal of waste in an environmentally friendly way. It is more important than ever that the scientists, engineers and technologists involved in the materials cycle are qualified and experienced to make the best use of materials in terms of economics, efficiency and sustainability for the benefit of the public. The objectives and activities of the Institute (see page 28) have been designed to support the wider materials, minerals and mining community together with government and other interested parties to achieve these ideals.

The Institute has referred to the Charity Commission's guidance on public benefit when reviewing its aims and objectives and in planning future activities. In particular, the Council considers how planned activities will contribute to the aims and objectives it has set.

## VISION

Our vision is to be recognised as the global leader for professionals involved with the materials cycle.

## MISSION

- To promote the science, design, engineering and technology of materials, minerals and mining and their practical applications.
- To facilitate qualifications, professional recognition and development, and to deliver knowledge, information and networking services to a global membership and wider community.

## TRUSTEES' REPORT

### AN OVERVIEW



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Mike Hicks

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President

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2015 – 2016

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It is a great honour for me to be your President and it's hard to believe that I am already halfway through my term of office. You may recall that when I took over the role from Jon Binner, I captured my priorities in an easily remembered phrase: '3M's for IOM3' namely, Management, Moving and Membership. I will take each of these in turn to provide an interim statement of progress.

Firstly Management, which has been a bit of a mixed bag. Our plans for Governance change that were overwhelmingly approved by the membership at the EGM in 2012 have still to achieve final approval by the Privy Council, but we are hopeful that a resolution will be found in the coming months. We also set out to balance our finances, having made significant losses in previous years. This is not a one-year task but we have established robust plans to break even by the end of 2017.

Secondly, on a much more positive note, the move from 1CHT to our new premises at 297 Euston Road went extremely well and I would like to thank all those involved for all the commitment and hard work required to make this possible. This culminated in a particular highlight for me when HRH The Duke of Edinburgh attended our opening ceremony in November. He is a great supporter of our Institute and, as well as unveiling a plaque, it was nice that he was able to spend so much time talking to members.

Finally Membership. Our target is to achieve 20,000 members by 2020 and I am pleased to report that excellent progress is being made against this goal, primarily due to the input of the whole membership team. The key to success will not just be down to hitting the numbers but also on attracting younger members and achieving a greater gender and ethnic diversity. Everyone can play a role in helping us to meet these objectives, so can I please ask you to think about encouraging friends and colleagues to either join or to seek a membership upgrade and, if you are organising meetings/conferences, to consider making full use of the excellent facilities at our new headquarters. Thanks!

Personal highlights of 2015, in addition to hosting HRH The Duke of Edinburgh, have included being one of the judges at the Young Persons' World Lecture Competition held in Ireland. This event gets bigger and better every year and it was great to see nine countries represented and such a high standard of talks. Particular thanks are due to CBMM, the primary sponsor, for making this whole event possible and we look forward to the 2016 finals which will be held in Brazil.

I also get a huge kick from awarding medals and prizes to the many deserving individuals and companies; the 2015 Premier Awards Dinner at Kensington Roof Gardens was a particularly memorable event. I found it very hard to get my mind around flamingoes walking around a beautiful garden high up in central London!

It has also been very rewarding to listen to the views of people around the country, both members and stakeholders, and I would like to thank everyone who has invited me to their events. In conclusion I would like to express my sincere thanks to all of the IOM3 staff and the many volunteers from the membership for their hard work and dedication. I look forward to my final year of the Presidency knowing that we have established a firm platform on which to grow the Institute.





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Bernie Rickinson

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Chief Executive

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2015 – A Year of Change

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Our search for new London offices, which commenced in 2014, came to an exciting conclusion in June 2015. All staff teams successfully transferred into flexible and open plan space and the organisation of moving literature, historic artefacts and records from 40 years of occupation at Carlton House Terrace was completed to time and with minimum disruption. The key objectives identified in our search for new freehold premises were all achieved, namely, that we would create a modern space with improved communication links and space to host all sizes of events. During the premises development, we took the opportunity to improve our capability for knowledge transfer with both the installation of state of the art presentation facilities, and the provision of video studio capability. IOM3, with its other complementary facilities in Grantham and Stoke-on-Trent, can effectively provide the visibility of our communities' interests across the UK and overseas. Notwithstanding this significant change, IOM3 also embarked upon a reorganisation of certain staff resources involving the transfer of finance activity to London and the redevelopment of facilities management in London. IOM3 has a talented and committed staff team and, without their enthusiastic support, such a major change in the space of six months would not have been possible. I am privileged to lead such a group and I wish to register my thanks for their support during this time of change.

Overlapping this transformational time, IOM3 managed and completed two separate mergers with the Titanium Information Group and the European Association of Brazing and Soldering. Both of these organisations bring to IOM3 a further connection and relevance to industry and these links provide for growth and integration with our Materials Information, Training and Events activities. These important developments now bring the total of successful merger events to seven over the last thirteen years and consistently demonstrate a capability that IOM3 can provide a union of real value to the community as a whole.

During the year, our long standing publisher of journals and books Maney was acquired by Informa PLC, through its operating division of Taylor and Francis Ltd (T&F). This change provides to IOM3 a much broader portfolio of services and during the next two years I confidently expect that the link to T&F will support our vision and mission. We



benefit from a close working relationship with this publisher with sharing of office accommodation at 297 Euston Road.

With growth of our Materials World magazine, the launch of our new website and an MW App (our first), the enlargement of our school, industry and individual memberships, 2015 was indeed a year of change and places IOM3 in the vanguard of those institutions seeking to adapt to the needs of a future professional body.

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## CORPORATE AIMS

Our strategic plan contains the following corporate aims:

- Increase the membership and the retention of members.
- Promote the importance and relevance of our subject areas and increase our influence.
- Improve membership services in extent, quality and perception.
- Operate at a surplus with sufficient reserves to meet at least one year's activities.

## OUR PLANS FOR 2016

- Develop the use of 297 Euston Road to act as a recognised centre for knowledge exchange across the Materials Cycle.
- Continue to progress the growth of the Institute membership and further assist younger members in the development of their professional status.
- Reduce overhead and administrative costs but simultaneously extend our public benefit and recognition as the voice of the materials, minerals and mining community.



# Highlights

# of 2015

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## HIGHLIGHTS OF 2015

Significant events that took place during 2015 were the move of our London headquarters from Carlton House Terrace, where IOM3 and its predecessors had been housed since 1974, and the launch of the new IOM3 website.

From the date of the sale agreement in December 2014 to our final farewell to 1CHT in June 2015, the move from our leasehold property to the new freehold offices at 297 Euston Road took place in record time and with minimal disruption of services. Some work on the property still remained after staff moved in and the building was officially opened on 10 November 2015. Staff are enjoying working in the new building which provides more modern and flexible facilities than the old, and the lively area and proximity to other institutions in the “Knowledge Quarter” are providing new opportunities for interaction with other organisations. Meeting rooms began to be used for internal meetings almost straight away and we are now developing a client base for venue hire to build on this potential income stream for the future.

The new IOM3 website launched in March 2015 as the culmination of over 2 years’ development and provided a long-awaited step change in design and functionality. The website provides a wealth of information for members and non-members about developments in materials and sources of advice, as well as allowing access to online services and benefits. In tandem with the website development, a major clean up of membership and subscription data on our CRM system was undertaken, which continued well after the launch of the site. We started 2016 with more reliable member data and better defined processes to manage it. A review of data protection and security issues is also currently under way to ensure that IOM3 membership and financial data is adequately protected.

In addition to a new website, IOM3 also launched its first app – Materials World - in April, making the magazine accessible on mobile devices and providing an easier way to keep up with developments in materials, minerals and mining.

We extend thanks to all of the IOM3 staff for their hard work, dedication and extra time during a challenging but exciting year. and hope to see their enthusiasm continue in 2016.

## MEMBERSHIP

The Institute's Membership Growth Initiative, which has the target of increasing membership to 20,000 by 2020, continued in earnest with new records for recruitment and licenced registrations being achieved in 2015. A total of 2,026 new members were recruited during the year against a target of 1,000. In addition 170 new registrants were approved with 144 being submitted to the Engineering Council. This included record numbers for Chartered Engineer, Incorporated Engineer and Engineering Technician.

Growth in the various membership grades also saw significant increases, with 96 new Fellows being confirmed during the year, in addition to 84 new Technician members. These two classes of membership are being specifically targeted by the Membership Growth Initiative and will be the subject of renewed efforts in the future.

One of the most exciting developments at the end of the year was the signing of an agreement with the National Association of Mining Engineers of the Russian Federation whereby their professional members would have to qualify as professional members of IOM3 to practise.

## EDUCATION

Education outreach to schools, helping to support teachers in the delivery of the science curriculum and introducing pupils to the fascinating world of materials and their importance in science, technology and business, has always been an important IOM3 initiative. These activities continued to grow in 2015 with the addition of two new conferences for school pupils. In July we ran the Magic of Materials Summer School in partnership with St Paul's School, London, for the first time. This free three-day residential course allowed a group of twenty seven 14- and 15-year-olds to immerse themselves in materials science and engineering and experience a range of activities beyond the classroom. The pilot project was funded by the Lloyds Register Foundation and we are now seeking funding for the 2016 course. In November we joined forces with the Younger Members' Committee to run our first Materials Matter event for sixth formers. This one day conference highlighted the importance of materials science and engineering and showed the students the wide range of career options available. We are now looking at running the event again as part of Tomorrow's Engineers week in 2016.

Membership of the Schools Affiliate Scheme reached 900 towards the end of 2015 and we are now aiming for 1,000! Membership of this scheme at the basic level is free which means that any schoolteacher can join at no cost. Presentations in schools and on courses for teachers and trainee teachers continue to be popular, with a combined audience in excess of 4,500 in 2015. This takes the total number of people who have seen an IOM3 schools presentation to over 71,000 since 2002.

## TRAINING

IOM3 Training Academy continues to develop and evolve courses to meet the needs of three industry sectors: packaging, clay and wood. Courses are open to members and non-members of IOM3 and help to provide those who enter these industries with an element of formal education. Numbers of attendees on our courses increased on previous years, despite the difficult trading conditions in these sectors.

IOM3 also provides packaging courses to cater for a company's specific needs. During 2015, bespoke packaging courses were well received by companies such as SCA in Sweden and Wilko in the UK. The Level 5 Diploma in Packaging Technology and the Level 3 Certificate in Packaging courses were well attended. Delegates registering for the online Diploma course came from countries as far afield as Taiwan, China, South Africa, Poland and Italy. We were also delighted to welcome two delegates from Russia attending a taught Diploma course in Grantham. The auditors' course (EQIPT) attracts delegates from every continent, save Antarctica!

A new refresher day course for Clay Quarry Managers and Responsible Persons opened for registration in 2015. Four sessions ran and attracted a number of candidates from the clay industry. The Clay Quarry Managers' CPD Scheme saw an increased level of participation, which looks set to rise again in the 2015/16 term.

The Technical Certificate in Clay Building Products was again fully subscribed and included an updated induction session split over two days. Work on the Technical Certificate in Clay Building Products revalidation is still in progress and should be completed before the end of 2016. The IOM3 Training Academy is currently consulting with industry representatives to identify what level and format future courses should take.

2015 also saw two Timber and Panel Products students achieve "Best Performance" certificates due to their outstanding performance in the exams.

## MARKETING

Focused sales activity during 2015 had a positive impact on packaging training delegate revenue with 24 delegates booked on the Intensive Diploma course which began in September. A record level of sponsorship was generated for the Rolls 5 conference held in April 2015.

The marketing team will continue to focus sales activity to promote corporate and recruitment advertising opportunities to target IOM3 members and the wider materials community. These opportunities will include a Materials World monthly e-newsletter from March 2016. Generating sponsorship for the programme of one day seminars planned for 2016 will also be a priority.





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## YOUNGER MEMBERS

The Younger Members' Committee (YMC) represents the interests of IOM3 members under 35 and is involved in organising various events throughout the year to engage with young people. Kate Thornton became Chair of the Younger Members' Committee and Rachael Ambury took the role of Vice Chair in March 2015.

### 1 Young Persons' World Lecture Competition (YPWLC)

The 11th YPWLC final took place in Drogheda, Ireland in October 2015. Kevin Doherty (representing Ireland) took first prize with his lecture 'New thermal control material systems for interplanetary and geosynchronous spaceflight'. Second prize went to Kaushik Parida from Singapore with his lecture, 'Piezoelectric energy harvest: converting ambient mechanical energy to useful electrical energy'. Third place was awarded to Mariana Viegas Greco de Oliveira who represented the 2016 host country, Brazil for her lecture 'Biomimetics: what can nature teach an engineer?'. The competition was sponsored by CBMM and supported by SCF Processing and Rolls-Royce.

### 2 Young Persons' Lecture Competition (YPLC)

The 2015 National Final of the Young Persons' Lecture Competition was held in April at the Armourers' Hall in London, home to the Worshipful Company of Armourers & Brasiers', who support the event. The annual event is organised by the Local Affairs Board, with additional support from the Midland Institute of Mining Engineers and East Midlands Materials Society. Maria Cann from the South East region was the winner with her lecture 'Enhancement of nanowire transparent conductors for use in touch sensors'. Rachel Wong representing the North East came second, with 'Effect of photoinitiator concentration on the properties of unmedicated hydrogels' and third place was awarded to North West representative, Mohammed Adeel Shaikh with his lecture 'Accident tolerant fuel cladding for LWR applications'.



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### 3 Matopoly

The 2015 Matopoly event was hosted by the YMC in Birmingham in October. The event was well attended, with a 45 strong crowd representing a variety of backgrounds and regions. The Materials, Minerals and Mining themed Matopoly Challenge brought out everyone's competitive streak! The event was sponsored by the University of Birmingham Department of Metallurgy and Materials, Jaguar Land Rover, Croda, and the East Midlands Materials Society.

#### Materials Matter

In November the Younger Members' Committee in conjunction with the Schools Affiliates Scheme held 'Materials Matter', the first materials, minerals and mining conference for sixth form students at 297 Euston Road. The event was attended by 48 students and nine teachers from six local schools with the aim of inspiring them to consider a future career in one of these subject areas.

The students started their day with a fascinating talk on materials by Professor Mark Miodownik, head of the UCL's Institute of Making, before being split into groups to participate in the 'Design, Build, Quake' Challenge. A speed networking session with eight representatives from different sectors and career stages highlighted the diverse range of career options available to students. The day concluded with a short talk from Dr Diane Aston on the practicalities of pursuing a career in materials, minerals or mining. The day was a huge success with a number of students keen to look at either a degree or a career in one of these areas in the future. Based on this success, 'Materials Matter' will become a biannual event from the 2016-2017 academic year.

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## STUDENT FORUMS

The Oxford University Materials Society gained official recognition as an IOM3 student forum in 2015. With the financial backing of IOM3 and sponsors Shell, Element Six and P2i the society managed to run an action-packed programme of events - members were able to gain an insight into industry by visiting the Rutherford Appleton Laboratory Neutron and Muon Source, develop their CV in our Shell clinics and hear about the nanomaterials centre for doctoral training at Cambridge University. Micro Materials Ltd also presented a talk on the importance of materials science to their business. For the first time in its history, the society designed and sold its own branded clothing, courtesy of Element Six, which was hugely popular with members.

The University of Surrey's Materials Society, also recognised as an IOM3 Student Forum, held its first Chartership Café event in 2015. The aim of the forum is to organise events, talks and workshops to help students and recent graduates make the transition into, and start on, successful and rewarding careers. The Chartership Café was organised as an opportunity for those thinking of becoming chartered with IOM3 to benefit from key information on the process and a chance to gain some inside tips on preparing an application.



To celebrate National Women in Engineering Day on 23 June, the IOM3 Women in Materials (WIM) group held an evening event at Manchester University, attended by around 60 people from a mix of companies and institutions. Presentations from two truly inspirational women from the world of engineering were followed by a lively networking session. The group also organised its most successful seminar so far in terms of attendance at the University of Sheffield in November, with delegates coming from as far as London and Bristol.

WIM has its own LinkedIn group that is growing in membership. WIM aims to continue its series of networking events for women in different parts of the UK during 2016, and to develop mechanisms for supporting women in their careers in the materials industries.

## PUBLICATIONS

By the time the Institute moved into its new premises at 297 Euston Road in June, there was an almost entirely new Magazines team compared to the previous year. The expanded Materials World continued to be refined and driving the growth of the new app was a continued focus, through promotional activities and additional content, including video interviews – the first time Materials World had moved into this area. An updated version of the app was launched in January 2016.

Materials World was shortlisted for the PPA Independent Publisher Membership Magazine of the Year Award. In 2016 the aim is to grow app views/subscriptions and develop more video offerings. The Magazines team will be working together with the Sales team to launch an e-newsletter from March 2016 to provide regular updates between magazine issues.

Maney Publishing, the publisher of IOM3 peer-reviewed journals, was acquired by Taylor & Francis Group during 2015, which means that the range of publishing services IOM3 and its members enjoy will be enhanced with their suite of materials science and engineering journals and books. As one of the world's leading publishers of scholarly journals, books, ebooks, and reference works their content spans STEM (scientific, technical, engineering and medical) and embraces history of science and engineering. Taylor & Francis has a suite of more than 70 materials science and engineering journals.

A pilot library digitisation project was begun in late 2015 to establish the processes needed for delivery of an IOM3 e-library and to tie up with OneMine (online digital library of mining and minerals publications). Sample scanned images and a test website were available by the end of 2015 and work is ongoing relating to metadata and delivery. The site will be trialled in 2016 and the feedback from the pilot project will be used to set in place plans for a full digitisation project.

## STAFF

2015 was a busy year of change for all staff at the Institute with an office move and two large team reorganisations. Taking into consideration our needs for the new building at 297 Euston Road, we reorganised the facilities team to comprise three Front of House Executives servicing the building from 8am to 7pm. This change is working well and the team are aiming to increase venue hire use and income in 2016. We also took the opportunity to utilise the additional office space available and make positive changes in moving the finance function to London. The relocation of this department has increased efficiency and communication between other teams in the organisation.

During 2016 we will be developing a succession plan for staff and focusing on development and retention of our talent alongside our business needs.

## INFORMATION SERVICES

The Materials Information Service (MIS) continues to provide technical help and information to personal members, corporate members and the general public. 2015 continued to see a large number of enquiries from a global audience via the IOM3 website. Although the majority of these enquiries were of a highly technical and specific nature, the Information Services Team had a great year in providing a high quality service and response which exceeded the expectation of most enquirers. As a result of this and other initiatives, 2015 saw an increased level of interest in the Industry Affiliate Scheme.

The MIS Team continued to increase its support for the Technical Groups within IOM3, particularly identifying areas of synergy between various communities. 2015 saw the introduction of Café Nano – events held at 297 Euston Road after working hours to discuss the importance of nanomaterials in society within a relaxed and informal atmosphere. Professor Andrea Ferrari, Director of the Graphene Centre at the University of Cambridge and an acknowledged world expert gave an excellent presentation on the applications of graphene in society.

The MIS team took responsibility for reinvigorating the annual Sir Henry Bessemer Lecture and its return to a public open format. Two hundred people attended the 2015 event, held at the Cutlers' Hall in Sheffield on 13 November, presented by the 2015 Bessemer laureate, Professor John Beynon of the University of Adelaide, Australia.

A Memorandum of Agreement was reached with the European Association of Brazing and Soldering (EABS) for IOM3 to take over their responsibilities. They will become part of the Surface Engineering Division and will be supported by the MIS team. The Library services team had a tumultuous year in moving the library from 1 Carlton House Terrace to a new purpose built facility in Grantham. This was done in a very professional manner and with as little disruption as possible to the availability of library resources. The team was also involved in the move of the Heritage assets that belong to the Institute from the old building and was actively engaged in the re-location of these important collections in the new headquarters in London.

The IMMAGE (Information on Mining, Metallurgy and Geological Exploration) bibliographic database continues to be produced and managed by Information Services staff and is highly appreciated by members, subscribers and researchers worldwide.

2015 saw the start of a new European Project to participate in a Horizon 2020 work package – MATCH (MATERials Common House). The MIS team are Work Task leaders in several of the Work Packages in this project which is due to run until mid 2018.

The MIS is also heavily involved in the Signature Materials project to establish technological solutions to metal theft. 2015 saw a step change in direction for Signature Materials as a result of the changing metal theft climate and reduction in commodity pricing. The laser marking line was discontinued and efforts concentrated on physical dot matrix marking aimed at the transport, utilities and ecclesiastical markets.

Major objectives for 2016 are to increase membership of the Titanium Information Group and Industry Affiliate Scheme, establish a training facility for brazing and soldering at Grantham within EABS, and continue the digitisation project of library resources.

## PROMOTION AND SOCIAL MEDIA

Our social media activity has become pivotal in the way we reach out to the public and communicate with both members and non-members. The IOM3 social media presence grew steadily throughout 2015, increasing to 3,566 Twitter followers, 2,410 Facebook fans and 7,462 LinkedIn Group members. The latter receive a regular weekly newsletter promoting IOM3 events, activities and services.

Use of email marketing software Campaignmaster continued to develop during 2015, with a new version of the software mid-year allowing mobile-friendly messaging. The system has been implemented across all IOM3 activities and has facilitated targeted marketing emails with trackable results. This has been a very successful way of communicating information about events, awards, membership updates and staff news. IOM3 divisions have begun to compile divisional newsletters as a regular means of communication to members, which has improved connectivity between divisions and their members and facilitated the delivery of targeted news to relevant groups. Campaignmaster has also become a key platform to use to promote cosponsored and supported events such as Easyfairs and Advanced Engineering.

## INTERNATIONAL AFFAIRS

### University of California, Riverside (UCR)

Representatives of IOM3 travelled to UCR to meet with materials science students and staff at the university, including Dean of the School of Engineering, Reza Abbaschian, to promote the work of IOM3.

### Michigan State University

A visit to Michigan State University was hosted by Professor of the School of Packaging, Ron Iwaszkiewicz FIMMM (winner of the 2015 Institute's International Medal). Meetings were held between IOM3 and the School of Materials to work towards future collaboration.

### Ireland

The YPWLC final was held in Drogheda, Ireland, and was won by local finalist, Kevin Doherty. Finalists and sponsors visited two local schools and future student involvement plans are being developed.



### University of Florida

The first US final of the Young Persons' Lecture Competition was held in 2015. Maeve Budi won with her lecture Nano Multiferrroics: Lead Free Alternatives. IOM3 representatives met with Martha McDonald, who runs the East Coast student forum and is active in the promotion of IOM3 at the university.

### CBMM, Brazil

CBMM are long time supporters of the Young Persons' Lecture Competition (YPLC) and they will host the world final in 2016. They hosted the 2015 Brazilian final, won by Mariana Viegas Greco de Oliveira, with her lecture 'Biomimetics: What Can Nature Teach an Engineer'. Mariana travelled to Ireland for the world final and won third place.

### Australia

The first Australia YPLC final was held in August 2015. IOM3 representatives attended the event to discuss the promotion of IOM3 activities and the organisation of the 2017 YPWLC final.

## CONFERENCES AND EVENTS

IOM3 conferences aim to provide a forum for the dissemination of information and networking opportunities for people in a wide range of sectors, and cater for a large proportion of non-members as well as members. The 2015 conference programme delivered a relatively small but successful number of events:

- The Rolls conference series, a meeting covering rolling mill rolls for metals processing made a very successful return in April after a hiatus caused by the economic uncertainty in the sector.
- Our established International Conference on Manufacturing of Advanced Composites was held in Bristol in June. This is a forum where all those interested in composites manufacturing from the academic and industrial worlds can meet to interact and discuss their common interests and was planned to coincide with the EPSRC Centre for Innovative Manufacturing in Composites (CIMComp) Open Day.
- The Charles Parsons Turbine and Generator Conference held in Loughborough in September featured the Parsons Memorial Lecture and also a special session forming a heat of the Young Persons' Lecture Competition
- 12 • The successful annual ClayTech conference and exhibition continues to grow. This programme for the 2015 event, which looked to the future of the heavy clay sector, focussed on professional development and was considered to be one of the best events in this series. Organised by the International Clay Technology association in collaboration with IOM3 Communications, it attracted 250 delegates to the Stafford County Showground.
- Minerals and Metals Production from Mine to Market, a conference covering the scientific, technological and socio-economic aspects of the procuring, processing, separating, extracting and refining of minerals and metals and other natural resources proved to be a sell-out event. This meeting was held in Cambridge and was dedicated to Professor Derek Fray to mark his lifetime contributions to and achievements in minerals processing and extractive metallurgy.

2016 is expected to be another quiet year for conferences, but work has already begun for a busier programme in 2017. We are also looking at ways to develop small, affordable, focussed events held at our new premises at 297 Euston Road, to complement the existing conference formats.

## LOCAL SOCIETIES

Highlights from some of our Affiliated Societies.

### Cleveland Institution of Engineers

The Cleveland Institution of Engineers (CIE) held its Prestigious Lecture jointly with the Cleveland Scientific Institution (CSI) on 15 December 2015. The speaker was Dr Andrew Shovlin, Chief Race Engineer for the Mercedes AMG Petronas F1 team, the man who looks after Lewis Hamilton's car. The event was held at the Princess Alexandra Auditorium at Yarm School, which has a seating capacity of 750, and was possibly the largest IOM3 local society lecture ever held.

### 1 Cornish Institute of Engineers

The Cornish Institute of Engineers welcomed Kim-Marie Clothier as their new and first female President. She is pictured here after receiving the medallion of office from the outgoing president, Dr Pat Foster.

### East Midlands Materials Society

Steve Andrews (Conference Treasurer) and Dave Evetts (Honorary Secretary) of the East Midlands Materials Society (EMMS) presented a cheque for £500 to Julian Bennett and Gavin Bowyer (trustees of the Members' Benevolent Trust) at the IOM3 Local Societies Forum. EMMS had run three very successful conferences over the past few years, made a profit and so were delighted to be able to donate some of their proceeds to the MBT.

### IOM3 South Africa

The IOM3 Southern Africa division hosted its 22nd National Rubber Conference on 19 and 20 June 2015 at the Cathedral Peak Hotel in the beautiful Drakensberg Mountains, South Africa. The very informative conference was attended by 100 delegates, 20% of whom were from countries outside of South Africa.



### Manchester Metallurgical Society

Manchester Metallurgical Society hosted a lecture by Dr Aravind Vijayaraghavan of the graphene team at the University of Manchester in January. More than 80 members and students from the Manchester Materials Science Centre were given an excellent introduction to the science and technology of graphene, its history, structure, methods of production and its superlative properties. This work will be greatly accelerated and extended into other new 2D materials with the opening of the new National Graphene Institute in Manchester this year.

### Manchester Polymer Group

Manchester Polymer Group was again invited to the Chemistry at Work event in April, organised by the University of Manchester and sponsored by the Royal Society of Chemistry and The Wolfson Foundation. The event aims to show pupils how the chemistry they are learning about at school is used by a variety of people in their work, with the additional aim of attracting some of the brightest and best young people to take up the challenge of mastery of chemistry, so they can provide solutions to many of the challenges posed by modern life.



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### 2 Sheffield Metallurgical and Engineering Association

SMEA Sheffield Metallurgical and Engineering Association hosted its annual dinner at Cutlers' Hall, and this event had a particular significance in 2015, as a very select group of Sheffield's 'Metallurgical Masters' was brought back together to celebrate the exciting achievements they collectively made in the development, processing, properties and applications of microalloyed steels.

### Mining Institute of Scotland

The history of the Mining Institute of Scotland (MIS) – now an affiliated society of IOM3 – is documented in a book published in 2015. Starting from its foundation in 1878, the book draws on original records and anecdotal accounts to chart the contribution of MIS members to Scottish industrial development. It is not a social history of mining or miners, but a tribute to the inventiveness and skills of a small body of specialists in the past.

### MinSouth

MinSouth welcomed new President Andrew Hindmarch. Andrew is a Fellow of IOM3 and former committee member of the BTS. Based in Mott MacDonald's tunnelling consultancy in Croydon, he has more than 26 years of experience. As well as working in the UK, Andrew has worked in California, Australia, Denmark and South Africa. He is also a joint recipient of the Alec Wilson Memorial Award – Certificate of Merit for the best paper on tunnelling awarded by the Southern African Institute of Mining and Metallurgy. The MinSouth final of the YPLC was held on 12 March at Imperial College London's Royal School of Mines.

### 3 ICTa Yorkshire branch

ICTa Yorkshire branch hosted a sell-out event in March - the Vulcan Experience. This allowed guests to enjoy an exclusive tour of the last remaining Avro Vulcan (XH558) in operation at Robin Hood airport in Doncaster.

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### IOM3 Hong Kong

More than 350 delegates met in Hong Kong to attend the Underground Construction conference, organised by the IOM3 Hong Kong Branch. The majority of attendees were young local engineers but there was also a significant international contingent of renowned engineers from different parts of the world.



3

## TECHNICAL COMMUNITIES

Highlights of 2015 from some of our Technical Communities.

IOM3 has 22 technical divisions, societies, groups and associations which act as special interest groups, forming a focus for activities within specific sectors. Each of these groups promotes members' professional development in a particular industrial or other professional sector. They advise IOM3 on technical matters relating to their sector and organise technical programmes that may consist of lectures, seminars, workshops, conferences etc. They are the IOM3 interface with national and international technical organisations. Each group has a presence on the IOM3 website and some also distribute a regular newsletter summarising relevant activities and inviting participation.

### Automotive Division

The Automotive Division dropped "Applications" from its title during 2015 and had a successful relaunch event at the CENEX Low Carbon Vehicle Event at Millbrook in September. The two-day event covered all automotive technologies, with a special theme of materials innovation with a dedicated showcase area. Andrew Haggie, Chair of the Division, presented a paper on 'Materials challenges and solutions for low carbon vehicles'.

### British Composites Society

The British Composites Society (BCS) awarded Luigi Gigliotti the IOM3 BCS Best Student Paper Award which covered the cost of a trip to the ICCM20 conference in Copenhagen, where he went on to win the Tsai prize for the best student paper with his work 'Enabling faster structural design: efficient multiscale simulation of large composite structures'. The ICMAC conference (International Conference on the Manufacture of Advanced Composites) held in Bristol in June was a great success and continues to be a regular feature of the UK composites conference programme. BCS also exhibited at the Composites Engineering Show, as part of Advanced Engineering UK 2015 at the NEC, Birmingham, in November.

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L-R: Professor Nobuo Takeda, University of Tokyo and Chairman of the Tsai Award Session, presenting Luigi Gigliotti with the Tsai prize for best student paper at ICCM20

### Energy Materials Group

The Energy Materials Group board merged with the MATS UK Energy Materials Working Group (EMWG) to form a significantly larger group. The 2015 Energy Materials lecture was given by Professor Steven Cowley FRS, Director of the Culham Laboratory on Fusion Energy on the challenges for materials under extreme conditions in the new ITER fusion reactor. This was one of the last events to be held at 1 Carlton House Terrace and drew a broad audience from industry, academia and the public sector. EMG also supported the Parsons conference in Loughborough which attracted a wide range of talks on energy materials for large power generation. An experimental approach was taken to organising a symposium on Energy Materials at the EUROMAT conference in Warsaw (September 2015). This was a success and drew together talks and posters on a diversity of energy materials, including nuclear, energy storage, solar PV and magnetic materials.

### The Packaging Society

The Packaging Society (TPS) held a very successful event in March, entitled 'The Packaging Innovation Challenges of an Ageing Population' and continued their involvement with the EasyFairs Packaging Innovations event. A bigger stand than at previous events welcomed more guests than ever before to the Packaging Consultancy Clinic. TPS held their annual Fellows' Lunch at the RAF Club in London where Chris Turner was presented with an Outstanding Service Award.

### Light Metals Division

The Light Metals Division (LMD) continued its approach of engaging with the regions in 2015, taking the opportunity to stage technical tours and visits of member facilities in the process. Venues included a 'farewell' meeting at Carlton House Terrace, a visit to the Advanced Forming Research Centre at the University of Strathclyde, and to the Magnesium Elektron Technology Centre in Swinton, Manchester. LMD board members also contributed to the successful acquisition and integration of the Titanium Information Group (TIG) during 2015. The LMD provided three of the invited speakers at 'Titanium in the UK' in September; an event that provided an excellent launch platform for the new relationship between IOM3 and TIG. The LMD is passionate about attracting more young people into materials and major focus for 2016 will be to further develop its education and outreach strategy and to engage with younger people to promote materials, metallurgy and light metals as attractive study areas and career choices.

### Nanomaterials Committee

The Nanomaterials and Nanotechnology Committee changed its name to the Nano Committee and launched a series of 'Café Nano' events to explore the increasingly important area of nanotechnology. The first event in the series took place in October and featured a presentation from Andre Ferrari, Director of the Cambridge Graphene Centre on Graphene Future, Emerging Technology.



The Polymer Society welcomed a new Chair, Alan Wood. Stuart Patrick stood down as Chair after holding the post for eight years

#### Iron and Steel Society

The third major IOM3 awards evening for 2015 was held at the Cutlers' Hall in Sheffield in November with the presentation of the Iron and Steel Society Awards. Following the presentations, Professor John Beynon, University of Adelaide, gave the 2015 Sir Henry Bessemer Lecture entitled 'Mitigating a grievous mistake' which addressed the ability of researchers to accurately represent industry conditions using a combination of techniques. Mick Steeper, an active member of the Institute's technical community for more than 25 years, was elected as Chair of the Iron and Steel Society in 2015.

#### Surface Engineering Division

The launch of UK Tribology (UKT), a network for people interested in the effect of surface contact and resulting wear and how to minimise and manage it, was hosted at IOM3 headquarters in London in October. UKT is unique in being a partnership between five professional bodies - IOM3, IET, IMechE, IOP and RSC. The UKT launch event was attended by 100 delegates from both academia and industry, with a plenary talk presented by Peter Jost from the International Tribology Council, who coined the term tribology and produced the influential Jost Report in 1966.

#### Oil and Gas Division

The Oil and Gas Division delivered a masterclass on UK wells and offshore plant integrity in Aberdeen along with student seminars in Aberdeen, St Andrews, Edinburgh and Manchester. The Division produced educational packs with the objective of providing the public with information on the production of oil and gas. A joint working group with the Institute of Mechanical Engineers produced a paper on UK Shale Well Integrity to provide the public with answers to the question: "what is the risk from shale gas well integrity?".

## STARPACK AND WORLDSTAR

The Starpack Awards reach out to schools and students to encourage them to be aware of packaging design and consider a career in the packaging industry. September brought together 200 students and Starpack Industry winners to receive their awards at the National Space Centre in Leicester. On show for the first time in a new display format was the students' work which provoked a lot of interest. In 2016, the Starpack presentations will be held during the September Packaging Innovations show in London to raise the profile of Starpack within the packaging community.

On 19 May, the Worldstar Awards were presented at an awards ceremony organised by IOM3 on behalf of the World Packaging Organisation. Over 200 attended the event which was held in Milan and coincided with IPACK-IMA, the processing and packaging exhibition. For the first time, IOM3 produced a video which included interviews of selected winners.



Students view the work on display at the Starpack Student and Industry Awards Presentations evening at the National Space Centre, Leicester, September 2015



Nikki Clarke, Marketing Manager, Graphic Packaging International presents their sponsored award to Gavin Housley, Edinburgh Napier University at the National Space Centre, Leicester, September 2015



## OUR MOVE FROM CARLTON HOUSE TERRACE TO EUSTON ROAD



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A view of the ground floor reception area at the new IOM3 London headquarters at 297 Euston Road

IOM3 was fortunate to acquire new premises in the Euston Road to house its London headquarters and the move from 1 Carlton House Terrace to 297 Euston Road was one of the major events of 2015.

The new building fronts onto both Euston Road and Warren Street and is located within one minute's walk of Warren Street underground station. The building is better placed than the Institute's previous headquarters, providing exceptionally easy access to most of London's mainline railway stations, Eurostar, and future Crossrail and HS2 connections. The location also provides a significantly increased footfall past the premises and this will enable IOM3 to showcase materials, minerals and mining activity directly to the public.

The new office positions IOM3 well within London's designated Knowledge Quarter. Those organisations providing information, resources and knowledge exchange within a one-mile radius of St Pancras station are now working together in a new network officially launched in December 2014. Some 36 organisations centred in the quarter, including the British Library, Central St Martin's, the Francis Crick Institute, Google, UCL and the Wellcome Trust, have joined the initiative, and the office move has placed

IOM3 in an ideal position to support this interdisciplinary initiative with its own community knowledge.

The building, which is set over seven floors, was built in 1903, and was significantly extended by its former owners in 1998. Staff accommodation is provided on the first and second floors in an open plan office environment. The third floor houses the Bessemer Suite, designed for large conferences, Council meetings and awards presentations and offering a flexible space with a mix of contemporary and heritage style. The fourth floor has meeting rooms and a lounge area and also houses our partner businesses.

At the top of the building with views over Euston Circus, the fifth floor has two separate meeting rooms and a dedicated small studio for filming. The final space, the basement area, houses a catering kitchen, building services and a large networking/dining area - the Mine - which has been refurbished in the style of a coal mine, with wooden props supporting the roof, large mock-wooden gates and railway tracks running along its length.

Staff moved into the new building in June 2015, when some building work still remained to be done - but have settled in very quickly and are enjoying the more modern space and its improved services and access.



1

The building was officially opened on 10 November 2015 by HRH The Duke of Edinburgh. Members, staff and invited guests gathered in the Bessemer Suite and were welcomed by IOM3 President, Mike Hicks. After unveiling the plaque to mark the official opening, HRH The Duke of Edinburgh, along with guests, was given a tour of the building. The celebrations culminated in the first official dinner in the Bessemer Suite.

The offices and meeting rooms are now all fully functioning and are in regular use for meetings of the various IOM3 boards and committees, seminars, conferences and social events. The venue is also being made available to external users as a unique building in central London. Displays are being developed to showcase materials and IOM3 has declared its intention to become a central resource for information about materials, minerals and mining not only for specialists but for the general public as well.

IOM3 members are entitled to free use of the 4th floor members' lounge and private meeting room. The members' lounge provides lounge sofa seating, telephone, coffee machine, PC and printing facilities. Members are also entitled to a discount on room hire fees. If you are in the vicinity, then you are welcome to come and view our new premises.



2

1. The prestigious Bessemer Suite is ideal for conferences, board meetings and workshops, and also lends itself to formal lunches, dinners and receptions
2. The frontage of the new headquarters onto Euston Road
3. Replicating the materials and structure typical of an underground mine, The Mine@NW1 is a unique London space ideal for networking workshops and can also be adapted for candlelit dinners, receptions, exhibitions and formal meetings
4. Top floor meeting rooms provide bright and airy spaces with impressive views

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Medals and

The background of the entire page is a scanning electron microscope (SEM) image of a silicon microstructure. It features a dense array of vertical, conical, and textured structures that resemble a forest of microscopic needles or spires. The color palette is a gradient of reds and oranges, with the tips of the structures appearing brighter and more saturated, while the base and surrounding areas are in deep shadow.

# Prizes 2015

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## MEDALS AND PRIZES 2015

The Institute's medals and prizes are awarded for outstanding contributions to science, technology and management in the field of materials, minerals and mining. The premier and other awards made throughout the year were:

### PREMIER AWARDS

Bessemer Gold Medal	Mr John Beynon
Platinum Medal	Mr Ravi Silva
Silver Medal	Dr Matthew Cole
Sir Andrew Bryan Medal	Mr Jan Lewis
Chapman Medal	Mr Andrew Lewis
Colwyn Medal	Mr Gert Heinrich
Futers Gold Medal	Prof Derek Fray
Griffith Medal/Prize	Dr Ivan Parkin
T B Marsden Professional Award	Peter Latham
Thornton Medal	Mr Jonathon Porritt
Medal for Excellence	Oil & Gas UK
International Medal	Prof Ron Iwaszkiewicz

### PERSONAL ACHIEVEMENT AWARDS

Dowding Medal and Prize	Dr Gregor Terlinde
Grunfield Memorial Award & Medal	Mr David Armstrong
Sir Robert Hadfield Medal & Prize	Mr Dave Worsley
R T Holland Medal	Dr Denis Brosnan
Leslie Holliday Prize	Mr Derek Hull
Hume Rothery Prize	Mr Joseph Robson
Colin Humphreys Education Award	Ms Claire Hinchcliffe
John Hunt Medal	Mr Wilfried Kurz
James S Walker Award	Ms Elizabeth Walton
Ivor Jenkins Medal	Yuyuan Zhao
Kroll Medal and Prize	Dr Suzana Fries
Outstanding Contribution Award	Mr Keith Purcell
	Mr Barry Lye
	Mr Bob Moon
Rosenhain Medal and Prize	Dr Sarbajit Banerjee
Thomas Medal and Prize	Dr Andrew Howe
Tom Colclough Medal	Mr David Crowther
Prince Philip Award	Avon Rubber Plc

### PUBLICATION AWARDS

Adrian Normanton Award	Y S Lee, S M Jung & D Min
Alan Glanvill Award	C J Norris, M Hale & M Bennett
Guy Bengough Award	N R Smart, A P Rance, P A H Fennell & B Kursten
Billiton Gold Medal	C E Loo & R D Dukino
Composite Award	J Herwan, A Kondo, S Morooka & N Watanabe
Cook/Ablett Award	T Sourmail, F G Caballero, C Garcia-Mateo, V Smaino, C Ziegler, M Kuntz, R Elvira, A Leiro, E Vuorinen & T Teeri
Douglas Hay Medal	F T Suorineni, J J Mgumbwa, P K Kaiser & D Thibodeau
Mann Redmayne Award	1. H M Ahmed, E Eberhardt & W S Dunbar
	2. S Ahmad, M A Rhamdhani, M I Pownceby & W J Bruckard
	3. F E Minz, J Lasskogen, C Wanhainen & P Lamberg
Pfeil Award	M Marangoni, I Ponsot, R Kuusik & E Bernardo
James S Walker Award	E Walton
Wardell Armstrong Prize	S Bright, G Conner, A Turner & J Vearncombe
Williams Award	W Zhu, H Yang, A Luinenburg, F van den Berg, S Dickinson, W Yin & A J Peyton
JOINT AWARDS	
Beilby Medal and Prize	Mr Benjamin Wiley
Ivor Jenkins Medal	Dr Yuyuan Zhao
Charles Hatchett Award	B Kuhn, M Talik, L Niewolak, J Zurek & H Hattendorf
Vanadium Award	S Nafisi, M Arafin, R Glodowski, L Collins & J Szpunar



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1. IOM3 Premier Award winners 2015 were presented with their awards at a ceremony at London's prestigious Roof Gardens in Kensington
2. Professor Ravi Silva receiving the Platinum Medal from Dr Mike Hicks, IOM3 President
3. Professor John Beynon, recipient of the 2015 Bessemer Gold Medal
4. James S Walker Award winner Elizabeth Walton of the Materials Department, Oxford University, with IOM3 Senior Vice President, Martin Cox

## LOCAL SOCIETY OF THE YEAR

### LARGE SOCIETY

MinSouth have improved membership numbers and supported IOM3 by providing peer reviewers for professional interview panels for both UK and overseas candidates. They have sponsored students by paying towards their IOM3 membership fees at a number of universities and supported the Earth Science Teachers Association. They also attend careers fairs and secondary school careers evenings to encourage interest in the materials and mining sector. MinSouth have an active website and communicate with their members via posters, emails and a dedicated LinkedIn group. Meetings take the form of regular formal meetings, monthly social 'Sundowner' events and an annual prestige lecture. They also promote Masterclass events and have helped organise a bi-annual conference.



L-R: MinSouth (Large Local Society of the Year) representatives Katie Vowles and Andrew Hindmarch with President, Mike Hicks

### SMALL SOCIETY

Ebbw Vale Metallurgical & Historical Society had to reinvent itself in the late 1990s following the decline in both local mining and steelmaking industries. They have taken a lead role in preserving and promoting the history of many local industries that have now sadly disappeared. They have strong links with the Ebbw Vale Works Museum which is open to the public and showcases many historic aspects of industry in South Wales. Annually the museum gives its many thousands of visitors an insight into what materials, minerals and mining is all about. EVMHS communicates with members by newsletter, email, printed programme and their own website. They have a very full technical programme of meetings and hold an annual dinner. Many of the members help with the running of the museum and so actively promote and inform many members of the public about metallurgical and mining history.



L-R: Ebbw Vale Metallurgical & Historical Society (Small Local Society of the Year) representative, Mel Warrender with IOM3 President, Mike Hicks



L-R: Winner of the Sir Colin Humphreys Award, Claire Hinchcliffe, with President, Mike Hicks



MA Rhamdhani and S Ahmad, representing Mann Redmayne Medal winners, being presented with their awards on 11 November at a ceremony at IOM3 in London

## OTHER AWARDS

Royal Charter Prize	Ms Sioned Llewelyn
R H Craven Award	Ms Alexandra Orrin
A T Green Award	Mr Sinclair Ryley Ratnasingham
Technician of the Year Category A	Mr Matthew Graham
Technician of the Year Category B	Mr Jack Folkes
Young Persons' National	Ms Maria Cann
Lecture Competition	
Young Persons' World	Mr Kevin Doherty
Lecture Competition	

## SUE PANTENY AWARD

Lucy Moy is the winner of the 2015 Sue Panteny Award. Sue was a formidable materials engineer and would have been pleased that the award named in her memory has gone to a female student. Lucy Moy's work on the Crystallisation, Morphology and Properties of Polypropylene-EPDM Blends was considered the best final year project by her tutors at Loughborough University's Department of Materials. Lucy spent time with Jaguar Land Rover during her BEng and will take up a permanent position there.



R H Craven award winner, Alexandra Orrin, with Martin Cox, IOM3 Senior Vice President



A T Green winner, Sinclair Ryley Ratnasingham and IOM3 Senior Vice President, Martin Cox

## HONOURS AND AWARDS

Council has been informed of the following honours/awards made to members and wishes to record its congratulations to all recipients.

## KNIGHTHOOD

Professor Harry Bhadeshia FREng FRS CEng FIMMM

## FELLOWSHIP OF THE ROYAL SOCIETY OF EDINBURGH (RSE)

Kathleen Elizabeth Tanner FREng CEng CSci FIMechE FIMMM FIPEM FBSE, Professor of Biomedical Materials (Biomedical Engineering) at University of Glasgow

## FELLOWSHIP OF THE ROYAL ACADEMY OF ENGINEERING

Dr David Knowles CEng CSci FIMMM  
Professor Mary Ryan CEng FIMMM

## HONORARY FELLOWSHIP OF THE INSTITUTE OF MATERIALS, MINERALS AND MINING

Sebastian Conran, Creative Principal of Sebastian Conran Associates

Julian Allwood, Professor of Engineering and the Environment at the University of Cambridge



Three students from the IOM3 Training Academy won the PIABC Best Student awards: Wai Lee from Rapid Action Packaging (Diploma), Amy Johnson from Ultimate Packaging (Certificate) and Sophia Brandao from Nestlé in Switzerland (Best Diploma project). Pictured here is Amy Johnson with Dr Helene Roberts FIMMM, Group Marketing Director, at Graphic Packaging International



## FINANCIAL REVIEW

### OVERVIEW

2015 has been an eventful and challenging year for the Institute, dominated by the London office move in the first half and staff restructuring in the second, whilst trying to revive revenue streams and increase membership numbers at the same time.

The Institute finished the year with an overall deficit of £1,554k, compared to £12,117k surplus generated in the previous year. It should be noted that the 2014 surplus includes £14.5m profit on disposal of the long lease at 1 Carlton House Terrace, which has subsequently been reinvested in the purchase of the freehold of 297 Euston Road. In addition, there have been a number of one off costs incurred in 2015, with the increased rent during the first six months of the year and London office move costing the Institute £330k and staff restructuring costing £130k. Although these costs had a significant impact on the organisation's cash flow, the trustees feel that the future of IOM3 has now been secured, whilst the staff teams in place are able to provide improved and more efficient service to members.

The results of individual activities differ somewhat compared to last year. Whilst most of the activities saw their income maintained or slightly increased, significant shortfall on income compared to last year was felt in information services activities, following the termination of the Materials KTN agreement in 2014 and conference activities, due to the cyclical nature of events organised by IOM3. Both teams are working hard to replace the lost revenue and break the cycle to ensure continuity of income streams in future years.

The campaign to reach 20,000 members by 2020 is gradually starting to bring benefits, with membership subscriptions revenue increasing by 1.3% compared to 2014. The trustees consider it a good result against the backdrop of the ageing membership population and the challenge of encouraging young professionals to maintain their membership and progress to higher membership grades.

The IOM3 balance sheet was significantly strengthened towards the end of 2014 with the purchase of the freehold of 297 Euston Road. However, during the year the trustees took a decision to disinvest £750k from the Institute's investments portfolio to assist with the new office refurbishment and restructuring costs. Although this has an impact on the investment income available to the Institute going forward, the sale of investments ensured a seamless office refurbishment and move within the tight timescale of just 3 months. Moreover, this enabled the Institute to repay its bank overdraft in full and finish the year overdraft free.

The costs of running a defined benefit pension scheme and funding its deficit continue to have a significant effect on the financial results of the Institute. In order to agree the recovery plan and free up cash available to invest in future activities, the Institute and the pension scheme trustees agreed to place a first charge of £250k against the London property. The charge came into effect in February 2016 and enabled IOM3 to reduce the amount of deficit funding payable to the pension scheme, while providing security to the pension scheme trustees at the same time.

### TRANSITION TO FRS102

The readers of this annual report will notice slight presentational differences in the financial statements compared to last year. The new accounting standard FRS102 came into effect on 1 January 2015 and replaced UK GAAP on the basis of which the accounts were prepared in previous years. Whilst the change of the accounting standard had no impact on the actual results for the year, there are a number of small presentational differences on the face of the accounts and a few additional disclosures in the notes, which should give the reader a greater understanding of the costs of running the Institute and its activities.

### INVESTMENTS AND RESERVES REVIEW

Council's policy on reserves is to:

- Set aside sufficient reserves to fund the net book value of all tangible fixed assets and the cost of future capital expenditure requirements. These amounts are held in the asset development fund and total £13,177k at 31 December 2015.
- Set aside reserves to develop and improve the quality of services provided by the Institute. These reserves are held in the services development fund and total £88k as at 31 December 2015.
- Retain sufficient liquid reserves to cover the future expenditure of charitable, management and administrative costs of up to one year. This level of reserves is considered appropriate to allow the Institute to be managed effectively, to provide a buffer for uninterrupted services and to achieve the long-term objectives of the Institute. The unrestricted general reserves total £5,089k at the year end and represent 119% of the total budgeted expenditure for 2016.

In light of the challenges faced by various Institute activities the council has set a budget for net expenditure of £200k for 2016 to support initiatives for the development of membership and conferences programmes as well as establishing new sources of income.

## STRUCTURE, GOVERNANCE AND MANAGEMENT

### OVERVIEW

The Institute has adopted a policy of maximising total returns from investments commensurate with acceptable risk for a charitable organisation. Amounts required to fund operations of the Institute are set aside in a short-term fund consisting of cash or easily realisable investments. All other investments are placed in a long-term fund. An appropriate benchmark (depending on the Institute's requirements) is agreed with the investment managers to measure performance.

The total surplus from investments (income and gains less losses) excluding pension scheme assets amounted to £500k compared to £509k in 2014. During 2015 return on investment assets amounted to 5.06% (2014 – 4.42%) compared to a benchmark return of 4.29% (2014 - -0.3%).

### PRINCIPAL RISKS AND UNCERTAINTIES

Council's policy on reserves is to:

- Failure of IT systems and compromise to the use of membership database as a result of cyber security breach;
- Loss of members due to ageing population and economic outlook;
- Difficulty in maintaining the current and replacing the lost income streams;
- Financial impact of the deficit of the defined benefit pension scheme on the Institute's future strategy;
- Major adverse change in investments value.

The risk register is being reviewed and updated on a regular basis and the trustees, staff and professional advisors are taking steps to mitigate these risks and minimise their impact on the Institute's future performance.

The founding body of this Institute was created in 1869. The Institute of Materials, Minerals and Mining is a body incorporated by Royal Charter dated 25 July 1965 and modified on 26 June 2002. As such it does not have company directors or share capital.

### COUNCIL

The governance of the Institute is vested in the Council. Members of Council, other than co-opted members, are trustees of the Institute for the purpose of charity law. Under the bye-laws of the Institute, members of Council are elected by members of the Institute at the annual general meeting to serve for varying terms. Under the Institute's regulations, Council is entitled to co-opt honorary vice presidents and five members of Council.

Regular induction meetings are held for new Council members to ensure that they understand their responsibilities as trustees of the charity. The induction process provides trustees with information about the role of Council, its supporting boards and the organisational structure of the Institute. The objects of the Institute together with the mission statement and corporate strategies are explained. Each trustee is provided with an information pack and points of access to further details. Ongoing training is provided to trustees in relation to the individual responsibilities undertaken by them wherever appropriate.

Council meets at least three times during the year to review strategy and approve operating plans and budgets.

Council has overall responsibility for ensuring that the Institute has appropriate systems of control, financial and otherwise. It is responsible for safeguarding the assets of the charity and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities. Council has introduced a formal risk management process to enable it to assess business risks and implement risk management strategies on a regular basis. It involves identifying the types of risks the Institute faces, prioritising them in terms of potential impact and likelihood of occurrence, and identifying means of mitigating the risks. As part of this process Council reviews the adequacy of the charity's current internal controls. The systems of internal control are designed to provide reasonable, but not absolute, assurance against material misstatement or loss. They include:

- a strategic plan and an annual budget approved by Council
- regular consideration by Council of financial results, variance from budgets, non-financial performance indicators and benchmarking reviews

- delegation of authority and segregation of duties

The law applicable to charities in England and Wales requires Council to prepare financial statements for each financial year which give a true and fair view of the state of affairs of the charitable group and the charity and of the incoming resources and application of resources of the charitable group for that period. In preparing those financial statements, Council is required to:

- select suitable accounting policies and apply them consistently
- observe the methods and principles in the Charities SORP (Statement of Recommended Practice)
- make judgements and estimates that are reasonable and prudent
- state whether applicable UK accounting standards have been followed, subject to any material departures disclosed and explained in the financial statements
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the charity will continue in business

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Council is responsible for:

- preparing the trustees' report and the financial statements in accordance with applicable law and United Kingdom accounting standards (Generally Accepted Accounting Practice)
- keeping proper accounting records which disclose with reasonable accuracy at any time the financial position of the Institute and enable Council to ensure that the financial statements comply with the Charities Act 2011, the applicable Charity (Accounts and Reports) Regulations and the provisions of the Royal Charter and bye-laws
- safeguarding the assets of the charity and taking reasonable steps for the prevention and detection of fraud and other irregularities
- the maintenance and integrity of the charity and financial information included on the charity's website in accordance with legislation in the United Kingdom governing the preparation and dissemination of financial statements.

## AUDIT COMMITTEE

The Audit Committee, which reports directly to the Council, comprises a chairman and three other members of Council or membership who are not associated with the Managing Board or management of the Institute. Appointments are endorsed by Council. Members who served during the year are set out on

page 31. The committee normally meets twice a year or as the chairman of the committee sees fit. The Chief Executive and Finance Director generally attend, with others invited as and when appropriate. The committee is authorised to keep under review the effectiveness of the Institute's financial reporting, internal control policies and operating procedures, together with a broad remit to review all elements and levels of Institute governance and function. Advice is given on the appointment of external auditors. A regular dialogue is maintained with the Institute's external auditors to review matters identified from audits as being in need of management attention and the actions to be taken to resolve the same. The chairman has direct access to the President and Council.

## MANAGING BOARD

Council delegates its responsibility for the ongoing management of strategy and performance of the Institute to the Managing Board. Membership of this board is drawn from senior members of the Institute and staff. The day to day management of the Institute's activities is delegated to the Chief Executive and staff.

The Managing Board reviews the progress of the Institute's subsidiaries, boards and committees.

- IOM Communications Ltd  
The charitable trading activities are carried out by this wholly owned subsidiary. The Board of this company, meets regularly to assess the commercial opportunities and effectiveness of the company's trading activities.
- Nominations Committee  
The committee reviews the role, membership and performance of the major committees including Council and oversees adherence to the Charter and bye-laws.
- Remuneration Committee  
The committee agrees the remuneration package for all executive directors and key management personnel (as detailed on page 31) and the overall levels of remuneration for other staff. Remuneration is set on the basis of level of responsibility and experience.
- Industry and Technology Policy Board  
The board is responsible for the co-ordination of seventeen technical divisions. In turn, the role of the divisions is to further the networking and professional development of their members. The board consists of the divisional chairmen who are elected by the technical community they represent.
- Professional Policy Board  
The board is responsible for membership, education, accreditation and professional development and technician activities. Four committees support the board.

- **Local Affairs Board**  
The board is responsible for the promotion of the interests of regional members, communication between Council and regional members and the establishment of links with affiliated local societies.
- **International Affairs Board**  
The IAB is responsible for communications between the Institute and its international communities. It also encourages the development of new activities and communities outside the UK.
- **Younger Members' Committee**  
The younger members play a vital and active role in the development of the Institute and their activities are co-ordinated by the Younger Members' Committee.
- **External Affairs Group**  
The group makes submissions to UK government, parliamentary committees and the European Commission on behalf of the Institute.
- **Women in Materials Group**  
The IOM3 Women in Materials Group was formed in 2012 to raise the profile of female members within IOM3, to support networking, mentoring, and work in schools to educate girls about the benefits of a career in science and engineering.
- **Materials Institute Services Ltd**  
This is a wholly owned subsidiary responsible for non-charitable activities. The company has not traded for a number of years. It has recommenced activities from 1 January 2016.

## IOM3 TECHNICAL COMMUNITIES

### Materials Divisions

The British Composites Society  
The Ceramics Society  
Functional Materials Division  
The Iron and Steel Society  
Materials Science and Technology Division  
Light Metals Division  
The Polymer Society  
The Wood Technology Society

### Minerals and Mining Divisions

International Mining & Minerals Association (IMMa)  
(representing the four Resources Divisions below)  
Mining Technology Division  
Oil and Gas Division  
Applied Earth Science Division  
Mineral Processing and Extractive Metallurgy Division

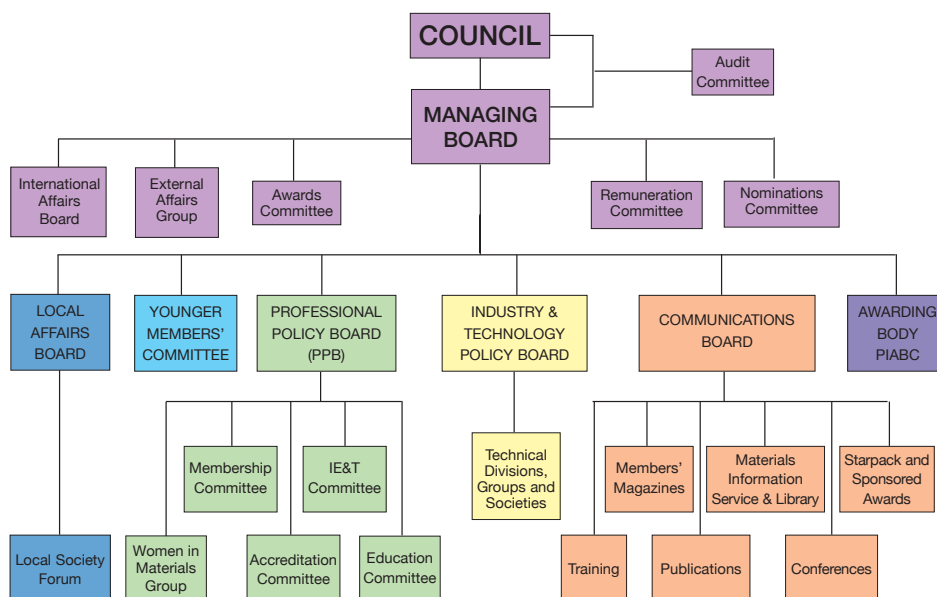
### Applications Divisions

Automotive Division  
Biomedical Applications Division  
The Casting and Solidification Society  
The Packaging Society  
Surface Engineering Division

### Multidisciplinary Groups

Construction Materials Group  
Energy Materials Group  
Natural Materials Association  
Sustainable Development Group

## IOM3 CURRENT STRUCTURE



## OBJECTIVES AND ACTIVITIES

The objects of the Institute, as set out in the Royal Charter, shall be: To advance and develop all aspects of the science, engineering and technology of the discovery, exploration, development, characterisation, exploitation, processing, application and recycling of materials, minerals and fuels; To further and co-ordinate education, training and practice in these disciplines and to facilitate the acquisition, preservation and dissemination of knowledge pertaining to these disciplines. In pursuing these objects in so far as they may be similar to those of existing organisations, the Institute shall use its best endeavours to co-operate with them and to ensure that its activities are complementary to those of such organisations.

Through our activities we aim to:

- Raise the profile of our sector as a technology vital to the wealth of the nation
- Provide a central resource of expertise and information
- Support and encourage education in materials, minerals and mining to attract young people to the profession
- Disseminate information through conferences, events, publications, online resources, social media
- 28 • Provide networking opportunities through technical, local and other activities to increase interaction between industry, academia and government
- Increase the visibility of new technology to industry
- Provide our members with benefits, services and opportunities to support their careers

Twenty-two special interest groups act (see p23) as a focus of expertise within the broad range of technical sectors embraced by the Institute. Each group holds regular meetings and, through its supporting network of committees and members, organises a programme of events to promote and develop its discipline. Each also maintains its own online microsite and communicates its activities to members and non-members alike through web content, newsletters and social media. Events organised by the technical groups are open to all and serve to inform about the latest developments within the discipline as well as providing networking opportunities for people from academia, industry and government, often in an international context. Networking events attract non-members from the UK and overseas, who often make up at least 75% of the event audience.

A network of affiliated societies in the UK and overseas provides activities at a local level, delivering a regular programme of evening lectures, site visits and seminars that are open to all. Some affiliated societies also engage with local schools, universities and businesses to provide valuable support for teaching and learning.

The Institute has an active education programme to attract young people into a career in the materials, minerals and mining science, engineering and technology sector. Our Schools Affiliate Scheme (with nearly 1,000 registered schools) provides help, advice and teaching materials free of charge to schools and the education team regularly attends schools and careers fairs. Our schools presentations have so far been delivered to over 70,000 pupils throughout the UK. The Education team also organises study days for teachers and events to allow older pupils to interact with young people already working in the sector. The Institute accredits a number of university, college and industry courses in the UK and overseas, and provides a special low cost membership package for undergraduates, which is often sponsored by local societies or by their university. A thriving Younger Members' Committee organises regular events for students and younger members. A relatively recent addition to our activities, the Women in Materials group promotes networking for women in the materials profession and strives to provide support for women in STEM careers.

The Institute's divisions, boards and committees are all composed of volunteers mostly drawn from the Institute's membership, who freely give their time and expertise to further the Institute's professional activities, develop its communities and provide peer review processes where needed. The Institute depends on the engagement of its members in the broad range of its activities and could not deliver its objectives effectively without their significant contribution.

Members of the Institute play a prime role in promoting our objects and providing public benefit. Accordingly, a wide range of member services and benefits have been developed in pursuance of our objectives and to attract newcomers to the Institute. Benefits of membership include professional recognition, networking opportunities to share knowledge and experience, free materials information services, a members' magazine, a members' business centre and use of facilities, discounted conference fees, training courses and publications, and additional online services. The Institute provides support to its worldwide membership through its UK offices, its technical divisions and societies, and its network of affiliated local societies. Career progression is recognised through various of grades of membership and the Institute is licensed to deal with applications for Chartered Engineer, Chartered Scientist, Chartered Environmentalist, Incorporated Engineer, Engineering Technician, Registered Scientist and Registered Science Technician status. The Institute collaborates with many like-minded societies in the UK and overseas.

The Institute works closely with government and EC departments particularly in relation to the delivery of new technology to industry. This work has enhanced the reputation of the Institute and we are now seen as a first port of call in our area of expertise. We are also increasingly called upon by the national media to provide comment or signposting for high profile news stories as well as technical articles for the specialist press. The Institute maintains an extensive resource of technical and historical publications that form the core of its information and library services, a source of expertise accessible to all. The Materials Information Service provides consultancy and advice services to anyone who needs access to expertise in materials, both individuals and organisations. Of the 1,500 enquiries routinely handled each year, 50% originate from the UK public. Our Industry Affiliate Scheme allows small and medium sized enterprises to become company members of IOM3 with direct access to its information and consultancy services.

Through its subsidiary, IOM Communications Ltd, the Institute publishes technical books, learned journals and member magazines and organises conferences on materials, minerals and mining related subjects. The publishing of technical books and learned journals is outsourced to Taylor & Francis (formerly Maney Publishing). Access to this material is available to both members and non-members. In-house teams publish the member magazines and organise the majority of conferences. IOM Communications Ltd also operates information services and provides consultancy advice on materials. All these services are fundamental in achieving the Institute's objectives.

Stimulating innovation in the use and application of materials, the Institute organises both UK and worldwide competitions to develop a broad understanding of the importance of materials and minerals. Non-members are encouraged to take part in competitions related to soft skills, the use of plastics and innovations in packaging, and such events engage with schools, students and businesses from the UK and Europe. Separately the Institute provides an extensive range of awards both to members and non-members who have provided outstanding contributions to the community that the Institute supports.

There is a regular programme to ensure that employees are involved in the direction and progress of the Institute. Employees are consulted and kept fully informed on issues of concern to them. Staff training and development appropriate to the Institute's goals is assessed on a regular basis and provided both internally and externally.

## OFFICERS AND COUNCIL MEMBERS (FROM 1 JANUARY 2015 TO MAY 2016)

<b>President</b>	Dr M A Hicks (from January 2015)	<b>South West &amp; Wales</b>	Vacancy	<b>The Casting &amp; Solidification Society</b>	Dr P Withey and Professor Z Fan
<b>Senior Vice-President</b>	Mr M Cox (from January 2015)	<b>COUNCIL MEMBERS REPRESENTING ALL CORPORATE MEMBERS</b>			
<b>Honorary Treasurer</b>	Dr M J May	<b>Professional Members &amp; Members</b>	Dr J R Wilcox Mr M C Cox	<b>The Ceramics Society</b>	Professor J G P Binner
<b>Vice Presidents</b>	Dr S M Best (from January 2015) Dr P J E Bischler	<b>Associate Members</b>	Mr S J Wood Dr S O Matthews	<b>Functional Materials</b>	Prof R A Dorey
<b>Chairman of Managing Board and Past President</b>	Professor J G P Binner (from January 2015)	<b>Technician Members</b>	Mr S L J Bellaby	<b>Light Metals</b>	Dr M R Clinch
<b>Chairman of Professional Policy Board</b>	Dr C W Corti	<b>COUNCIL MEMBERS REPRESENTING DISCIPLINES</b>			
<b>Chairman of Industry and Technology Policy Board</b>	Dr D J Gooch	<b>Metals</b>	Dr K A Ridal	<b>Mineral Processing &amp; Extractive Metallurgy</b>	Mr A D Francis
<b>Chairman of the Local Affairs Board</b>	Dr P J E Bischler	<b>Ceramics</b>	Professor J G P Binner	<b>Mining Technology</b>	Dr P J Foster (to March 2016) Mrs C A Blackmore (from March 2016)
<b>Chairman of Younger Members' Committee</b>	Dr K Thornton (from January 2015)	<b>Plastics &amp; Rubber</b>	Mr K L Forsdyke	<b>The Packaging Society</b>	Mr K V H Barnes
<b>Chairman of International Affairs Board</b>	Mr B D Lye	<b>Minerals &amp; Mining</b>	Mr R G Siddall	<b>Oil &amp; Gas</b>	Eur Ing S A Bedford
<b>DIVISIONAL BOARD CHAIRMEN</b>					
<b>COUNCIL MEMBERS REPRESENTING CORPORATE MEMBERS FROM THE REGIONS</b>					
<b>Scotland</b>	Dr C S Hindle	<b>Applied Earth Science</b>	Mr M D Forrest Ms L Carroll (to July 2015) Mr J J Aldridge (from July 2015)	<b>The Polymer Society</b>	Dr A K Wood
<b>North East</b>	Vacancy	<b>Automotive Applications</b>	Mr A Haggie	<b>The Iron &amp; Steel Society</b>	Dr R P Thackray (to October 2015) Mr M J Steeper (from October 2015)
<b>North West</b>	Vacancy	<b>Biomedical Applications</b>	Professor S M Best (to March 2015) Prof A L Lewis (from March 2015)	<b>Surface Engineering</b>	Mr K A Harrison (to December 2015) Dr D S Rickerby (from January 2016)
<b>Midlands</b>	Mr D R Evetts	<b>The British Composites Society</b>	Mr E G Shahidi	<b>The Wood Technology Society</b>	Mr A J True (to December 2015) Mr J H Park (from January 2016)
<b>South East</b>	Vacancy				

## SENIOR BOARDS AND PROFESSIONAL ADVISORS

### MANAGING BOARD

The Managing Board is chaired by the immediate past president and includes the following:

The President  
Senior Vice-President  
Honorary Treasurer  
Vice Presidents  
Chairman of IOM Communications Ltd  
Chairman of Professional Policy Board  
Chairman of Industry & Technology Policy Board  
Chairman of Local Affairs Board  
Chairman of International Affairs Board  
Chairman of Younger Members' Committee  
Chairman of PIABC  
Chief Executive  
Deputy Chief Executive  
Finance Director

### BOARD OF DIRECTORS – IOM COMMUNICATIONS LTD

The following served as directors during the year:

<b>Chairman</b>	Dr E B Farmer (to March 2015) Mr J C H Lewis (from March 2015)
<b>Directors/trustees</b>	Mr N E Riley (to October 2015) Dr A T Cole Dr M J May Mr K Shankland Prof A L Greer Dr S Garwood
<b>Chief Executive and trustee</b>	Dr B A Rickinson
<b>Company Secretary</b>	Ms J Bugajeva

### AUDIT COMMITTEE

<b>Chairman</b>	Mr P J K Haslehurst Dr D Elliott Mr C Hallas Mr S Patrick Mr M Chapman (from May 2015)
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RSM UK Audit LLP has indicated its willingness to continue in office.

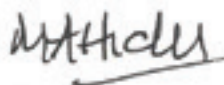
### KEY MANAGEMENT PERSONNEL

<b>Chief Executive</b>	Dr B A Rickinson
<b>Deputy Chief Executive</b>	Dr G Woodrow
<b>Finance Director</b>	Ms J Bugajeva
<b>Director of Communications</b>	Dr I A N Stanciaszek
<b>Director of Sales and Marketing</b>	Ms K Harrison
<b>Director of Membership and Professional Development</b>	Mr I J Bowbrick
<b>Director of Administration</b>	Ms C M Tuke

### PROFESSIONAL ADVISERS

<b>Bankers</b>	Lloyds Bank plc Chelmsford Legg St OSC 1 Legg Street Chelmsford CM1 1JS
<b>Solicitors</b>	Allen & Overy LLP One Bishops Square London E1 6AD Howes Percival LLP 3 The Osiers Business Centre Leicester LE19 1DX
<b>Auditors</b>	RSM UK Audit LLP Statutory Auditor Portland 25 High Street Crawley West Sussex RH10 1BG
<b>Investment Managers</b>	Blackrock Investment Management (UK) Ltd 12 Throgmorton Avenue London EC2N 2DL
<b>Actuaries</b>	First Actuarial LLP Second Floor, The Square Basing View, Basingstoke Hampshire RG21 4EB

This report was approved by the trustees on 26 May 2016.  
Dr M A Hicks





# Auditor's Report



## AUDITOR'S REPORT

Independent auditor's report to the trustees of the Institute of Materials, Minerals and Mining.

We have audited the financial statements of The Institute of Materials, Minerals and Mining for the year ended 31 December 2015 on pages 35 to 59. 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), including FRS 102 "The Financial Reporting Standard applicable in the UK and Republic of Ireland".

This report is made solely to the charity's trustees as a body, in accordance with the Charities Act 2011. Our audit work has been undertaken so that we might state to the charity's members those matters we are required to state to them in an auditor's 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 charitable company and the charitable company's members as a body, for our audit work, for this report, or for the opinions we have formed.

### Respective responsibilities of trustees and auditors

As explained more fully in the Statement of Trustees' responsibilities set out on page 25, the trustees are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view.

We have been appointed as auditors under section 151 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 (APB'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:

<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 group's and charity's affairs as at 31 December 2015 and of their 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.

### Emphasis of matter – early adoption of the Charities SORP (FRS 102)

In forming our opinion, which is not modified, we have considered the disclosure in note 1 concerning the charity's early adoption of the Charities SORP (FRS 102) issued in July 2014, rather than applying the Charities 2005 SORP which has been withdrawn but is still referred to in the extant Charities (Accounts and Reports) Regulations 2008. This departure has been necessary for the financial statements to show a true and fair view in accordance with United Kingdom Generally Accepted Accounting Practice effective for accounting periods beginning on or after 1 January 2015.

### 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
- the parent charity has not kept sufficient accounting records; or
- the parent charity 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.

### RSM UK AUDIT LLP

(formerly BAKER TILLY UK AUDIT LLP), Statutory Auditor  
Chartered Accountants  
Portland, 25 High Street  
Crawley, West Sussex  
RH10 1BG

13 June 2016

RSM UK AUDIT LLP is eligible to act as an auditor in terms of section 1212 of the Companies Act 2006.

# Financial Statements

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## CONSOLIDATED STATEMENT OF FINANCIAL ACTIVITIES FOR THE YEAR ENDED 31 DECEMBER 2015

	Notes	Unrestricted funds General £'000	Unrestricted funds Designated £'000	Restricted funds £'000	Permanent endowment £'000	Total funds 2015 £'000	Total funds 2014 £'000
<b>INCOME AND ENDOWMENTS FROM:</b>							
Donations and legacies	4	-	-	2	-	2	2
Charitable activities							
Membership and related activities		1,450	-	-	-	1,450	1,441
Charitable trading activities	3	1,707	-	-	-	1,707	2,938
Other trading activities	5	207	-	-	-	207	310
Investments	6	246	2	52	-	300	356
Other	7	-	-	-	-	-	14,536
<b>Total income</b>		<b>3,610</b>	<b>2</b>	<b>54</b>	<b>-</b>	<b>3,666</b>	<b>19,583</b>
<b>EXPENDITURE ON:</b>							
Raising funds	5	208	-	-	-	208	310
Charitable activities		-					
Membership and related activities		3,449	1	23	-	3,473	3,874
Charitable trading activities	3	1,627	-	-	-	1,627	2,509
Other		5	-	-	-	5	28
<b>Total expenditure</b>	<b>8</b>	<b>5,289</b>	<b>1</b>	<b>23</b>	<b>-</b>	<b>5,313</b>	<b>6,721</b>
<b>Net gains/(losses) on investments</b>		<b>185</b>	<b>2</b>	<b>13</b>	<b>-</b>	<b>200</b>	<b>153</b>
<b>Net income/(expenditure)</b>		<b>(1,494)</b>	<b>3</b>	<b>44</b>	<b>-</b>	<b>(1,447)</b>	<b>13,015</b>
<b>Transfers between funds</b>	<b>9</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Other recognised (losses)/gains:</b>							
Gains on revaluation of fixed assets		-	-	-	-	-	189
Actuarial losses on defined benefit pension scheme		(107)	-	-	-	(107)	(1,087)
<b>NET MOVEMENT IN FUNDS</b>		<b>(1,601)</b>	<b>3</b>	<b>44</b>	<b>-</b>	<b>(1,554)</b>	<b>12,117</b>
<b>Reconciliation of funds</b>							
Total funds brought forward		6,690	13,477	1,966	33	22,166	10,049
<b>TOTAL FUNDS CARRIED FORWARD</b>		<b>5,089</b>	<b>13,480</b>	<b>2,010</b>	<b>33</b>	<b>20,612</b>	<b>22,166</b>

The statement of financial activities includes all gains and losses recognised in the year. All incoming and outgoing resources derive from continuing activities.

## CONSOLIDATED AND CHARITY BALANCE SHEETS AS AT 31 DECEMBER 2015

	Notes	Group		Institute	
		2015 £'000	2014 £'000	2015 £'000	2014 £'000
<b>FIXED ASSETS</b>					
Intangible assets	10	344	191	324	175
Tangible assets	11	13,994	13,302	13,994	13,302
Investments	12	8,922	9,472	8,922	9,472
Total fixed assets		23,260	22,965	23,240	22,949
<b>CURRENT ASSETS</b>					
Stock and work in progress	14	16	33	2	3
Debtors	15	502	4,435	257	4,095
Cash at bank and in hand		266	178	24	1
		784	4,646	283	4,099
<b>CREDITORS: Amounts falling due within one year</b>	16	(1,397)	(3,580)	(1,218)	(3,360)
<b>NET CURRENT (LIABILITIES) ASSETS</b>		(613)	1,066	(935)	739
<b>NET ASSETS EXCLUDING PENSION ASSET OR LIABILITY</b>		22,647	24,031	22,305	23,688
Defined benefit pension scheme liability	24.3	(2,035)	(1,865)	(2,035)	(1,865)
<b>TOTAL NET ASSETS</b>	17	<b>20,612</b>	<b>22,166</b>	<b>20,270</b>	<b>21,823</b>

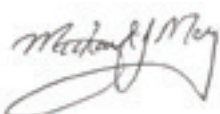
<b>THE FUNDS OF THE CHARITY</b>					
<b>ENDOWMENT FUNDS</b>	18	33	33	33	33
<b>RESTRICTED INCOME FUNDS</b>					
Restricted funds	19	2,010	1,966	2,010	1,966
<b>UNRESTRICTED FUNDS</b>					
General funds		5,089	6,690	4,747	6,347
Designated funds	20	13,480	13,477	13,480	13,477
<b>TOTAL CHARITY FUNDS</b>		<b>20,612</b>	<b>22,166</b>	<b>20,270</b>	<b>21,823</b>

The financial statements on pages 35 to 59 were approved and authorised for issue by the trustees on 26 May 2016 and signed on their behalf by

Dr M A Hicks, President 2015-16



Dr M J May, Honorary Treasurer



## CONSOLIDATED AND CHARITY STATEMENT OF CASH FLOWS

	Notes	Group		Institute	
		2015 £'000	2014 £'000	2015 £'000	2014 £'000
<b>Cash flows from operating activities:</b>					
<b>Net cash provided by/(used in) operating activities</b>	<b>T1</b>	<b>626</b>	<b>(3,118)</b>	<b>554</b>	<b>(3,148)</b>
<b>Cash flows from investing activities:</b>					
Dividends, interest and rents from investments		300	356	300	356
Proceeds from the sale of property, plant and equipment		-	15,300	-	15,300
Purchase of intangibles		(213)	(16)	(206)	-
Purchase of property, plant and equipment		(818)	(12,656)	(818)	(12,656)
Proceeds from sale of investments		1,231	567	1,231	567
Purchase of investments		(481)	(567)	(481)	(567)
<b>Net cash provided by (used in) investing activities</b>		<b>645</b>	<b>(134)</b>	<b>580</b>	<b>(148)</b>
<b>Change in cash and cash equivalents in the reporting period</b>		<b>645</b>	<b>(134)</b>	<b>580</b>	<b>(148)</b>
<b>Cash and cash equivalents at the beginning of the reporting period</b>	<b>T2</b>	<b>(379)</b>	<b>(245)</b>	<b>(556)</b>	<b>(408)</b>
<b>Cash and cash equivalents at the end of the reporting period.</b>	<b>T2</b>	<b>266</b>	<b>(379)</b>	<b>24</b>	<b>(556)</b>

### T1 RECONCILIATION OF NET INCOME/(EXPENDITURE) TO NET CASH FLOW FROM OPERATING ACTIVITIES

<b>Net income/(expenditure) for the reporting period (as per the statement of financial activities)</b>		<b>(1,447)</b>	<b>13,015</b>	<b>(1,446)</b>	<b>13,015</b>
<b>Adjustments for:</b>					
Depreciation charges		134	1,381	131	1,381
(Gains)/losses on investments		(200)	(153)	(200)	(153)
Pension costs		63	(19)	63	(19)
Dividends, interest and rents from investments		(300)	(356)	(300)	(356)
Loss/(profit) on the sale of fixed assets		52	(14,585)	52	(14,585)
(Increase)/decrease in stocks		17	124	1	-
(Increase)/decrease in debtors		3,933	(3,377)	3,838	(3,738)
Increase/(decrease) in creditors		(1,626)	852	(1,585)	1,307
<b>Net cash provided by used in operating activities</b>		<b>626</b>	<b>(3,118)</b>	<b>554</b>	<b>(3,148)</b>

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### T2 ANALYSIS OF CASH AND CASH EQUIVALENTS

Cash in hand		266	178	24	1
Overdraft facility repayable on demand		-	(557)	-	(557)
<b>Total cash and cash equivalents</b>		<b>266</b>	<b>(379)</b>	<b>24</b>	<b>(556)</b>

## ACCOUNTING POLICIES

### BASIS OF FINANCIAL STATEMENTS

The financial statements have been prepared in accordance with Accounting and Reporting by Charities: Statement of Recommended Practice applicable to charities preparing their accounts in accordance with the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS 102) (effective 1 January 2015) – (Charities SORP (FRS 102)), the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS 102) and the Charities Act 2011.

The financial statements have been prepared to give a ‘true and fair’ view and have departed from the Charities (Accounts and Reports) Regulations 2008 only to the extent required to provide a ‘true and fair’ view. This departure has involved following Accounting and Reporting by Charities preparing these accounts in accordance with the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS102) issued on 16 July 2014 rather than the Accounting and Reporting by Charities: Statement of Recommended Practice effective from 1 April 2005 which has since been withdrawn.

The Institute of Materials, Minerals and Mining meets the definition of a public benefit entity under FRS 102. Assets and liabilities are initially recognised at historic cost or transaction value unless otherwise stated in the relevant accounting policy notes.

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### RECONCILIATION WITH PREVIOUS GENERALLY ACCEPTED ACCOUNTING PRACTICE

In preparing the accounts, the Trustees have considered whether in applying the accounting policies under FRS 102 and the Charities SORP FRS 102 the restatement of comparative items was required.

At the date of transition in applying the requirement to recognise website and computer software as intangible fixed assets, a reclassification of the above named items was made. This had no impact on the statement of financial activities and income and expenditure account.

Under UK GAAP the expected return on defined benefit plan assets was recognised in the profit and loss account. Under FRS 102, the interest income is calculated by reference to the discount rate and does not reflect the expected return on the assets. At the date of transition the adjustment was made to strip out the expected return on plan assets and recognise interest income by reference to the discount rate. This had no impact on the statement of financial activities and income and expenditure account.

<i>Reconciliation of reported net income</i>	<i>Group £'000</i>	<i>Charity £'000</i>
Reported net income before transfers as previously stated	13,014	13,014
Actuarial FRS 102 adjustments	(152)	(152)
Adjustment for gains in investments now treated as a component of net income	153	153
Reported net income before transfers as restated	13,015	13,015

### TRANSITION TO FRS 102

The opening fund balances at the date of transition have been restated due to reclassification of the website and computer software as intangible fixed asset and restatement of defined benefit pension scheme liability in line with FRS 102.

The transition date was 1 January 2014.

## PREPARATION OF THE ACCOUNTS ON A GOING CONCERN BASIS

The Council members confirm that at the time of approving the financial statements, there is a reasonable expectation that the Institute has adequate resources to continue in operational existence for the foreseeable future. In arriving at this conclusion the Council members have taken account of current and anticipated financial performance in the current economic conditions, and the Institute's reserves position. For this reason, the going concern basis continues to be adopted in the preparation of the Institutes financial statements.

## GROUP FINANCIAL STATEMENTS

The financial statements consolidate the results of the wholly owned subsidiary companies and companies over which the Institute exercises dominant influence on a line-by-line basis. The members' benevolent funds are not consolidated because they are under independent control.

The Institute has taken advantage of the exemption granted by Charities SORP FRS 102 from preparing a Statement of Financial Activities detailing the charity's own activities. Details of the Institute's total incoming resources and net movement in funds are shown in the notes.

## INCOME

Income is recognised when the charity has entitlements to the funds, any performance conditions attached to the items of income have been met, it is probable that the income will be received and the amount can be measured reliably.

Subscription income represents the amount received in respect of current and past years. Amounts received in advance are carried forward to the following year and subscriptions in arrears have not been anticipated.

Income from conferences represents the amount receivable in respect of the current year. Amounts received in respect of conferences to be run in future years are carried forward to the following year.

Incoming resources from grants, where related to performance and specific deliverables, are accounted for as the charity earns the right to consideration by its performance.

Other income is recognised where there is entitlement, probability of receipt and the amount can be measured with sufficient reliability.

## EXPENDITURE

Expenditure is recognised once there is a legal or constructive obligation to make a payment to a third party, it is probable that settlement will be required and the amount of the obligation can be measured reliably.

All expenditure is accounted for on an accruals basis and has been classified under headings that aggregate all costs related to the category. Where costs cannot be clearly attributed to particular headings they have been allocated to activities on a basis consistent with the use of the resources. Overheads have been allocated on the basis of head count.

Grants and prizes are awarded annually, mainly to affiliated societies and individuals.

## ALLOCATION OF SUPPORT COSTS

Support costs comprise employment, establishment and administration costs in support of the charitable activities of the Institute. Allocations of these costs are made to the various activities of the Institute using standard rates based on staff time involved on each activity and facility usage. The basis on which support costs are allocated is set out in note 8.

## DONATED SERVICES AND MATERIALS

Where services are provided to the Institute as a donation that would normally be purchased from suppliers, this contribution is included in the financial statements at an estimate based on the value of the contribution to the Institute.



## DEPRECIATION AND AMORTISATION

Individual fixed assets are capitalised where the purchase price exceeds £1,500.

Depreciation is calculated by reference to the cost of fixed assets using the straight line method at rates considered appropriate having regard to their expected useful lives. The bases used are:

Leasehold property	over the term of the lease
Furniture	15%-20% p.a.
Equipment	20%-33% p.a.
Intangible assets	20% p.a.

Impairment reviews are carried out where there is an indication that the recoverable amount of a fixed asset is below its net book value. Any such impairments are charged through the statement of financial activities in the year in which the impairment occurs.

The trustees have reviewed the value and accounting treatment of the Institute's freehold properties. Although London property was owned throughout 2015, it was being refurbished for most of the year and has not been brought into use until November 2015. Any resulting depreciation would therefore have been negligible and the trustees deem the cost of 297 Euston Road to be representative of its market value as at 31 December 2015. The trustees have reviewed the market value of Shelton House and consider its accounting value to be representative of its market value as at 31 December 2015.

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Although non depreciation of freehold properties represents departure from the accounting treatment prescribed by FRS 102, the overall effect on the SOFA and the Balance Sheet at 31 December 2015 is immaterial.

Revaluation method will be used going forward with the building element of freehold properties depreciated at a rate of 2% per annum and revalued to its market value at the end of the financial year.

## INTANGIBLE FIXED ASSETS

Intangible fixed assets, including purchased goodwill and patents, are amortised at rates calculated to write off the assets on a straight line basis over their estimated useful economic lives. Where it is not possible to make a reliable estimate of the useful life of an intangible asset, the life shall not exceed five years. Impairment of intangible assets is reviewed where circumstances indicate that the carrying value of an asset may not be fully recoverable.

## INVESTMENTS AND INVESTMENT INCOME

Investments are shown at market value at the balance sheet date. Realised and unrealised gains or losses are taken to the fund to which they relate via the SOFA in the year in which they arise. Income is included together with the tax related credit in the financial statements of the year in which it is receivable. Investment income and any gain or loss on the asset development and service development designated funds is taken to general funds.

## STOCKS AND WORK IN PROGRESS

Sundry stocks are valued at cost. Work in progress is valued at cost and includes staff and other overheads.

## DEBTORS

Trade and other debtors are recognised at the settlement amount due after any trade discount offered. Prepayments are valued at the amount prepaid net of any trade discounts due translated at the rate of exchange ruling at the balance sheet date. Transactions in foreign currencies are recorded at an internal rate of exchange ruling at the date of the transaction. All differences are taken to the statement of financial activities.

## CASH AT BANK AND IN HAND

Cash at bank and in hand includes cash and short term highly liquid investments with a short maturity of three months or less from the date of acquisition or opening of the deposit or similar account.

## CREDITORS AND PROVISIONS

Creditors and provisions are recognised where the charity has a present obligation resulting from a past event that will probably result in the transfer of funds to a third party and the amount due to settle the obligation can be measured or estimated reliably. Creditors and provisions are normally recognised at their settlement amount after allowing for any trade discounts due.

## FINANCIAL INSTRUMENTS

The Institute only has financial assets and financial liabilities of a kind that qualify as basic financial instruments. Basic financial instruments are measured at their settlement value.

## FOREIGN CURRENCIES

Assets and liabilities denominated in foreign currencies are translated at the rate of exchange ruling at the balance sheet date. Transactions in foreign currencies are recorded at an internal rate of exchange ruling at the date of the transaction. All differences are taken to the statement of financial activities.

## OPERATING LEASES

The rentals under operating leases are charged to the statement of financial activities on a straight line basis over the lease term.

## IRRECOVERABLE VAT

Irrecoverable VAT incurred in respect of the year is included in the statement of financial activities except for any amounts relating to capital expenditure which are included in the cost of fixed asset additions.

## PENSION COSTS

The Institute participates in both a defined benefit scheme and defined contribution schemes.

Under the defined benefit scheme, the Institute makes contributions to The Institute of Materials Pension and Life Assurance Scheme. Pension costs are assessed in accordance with actuarial advice and based on the most recent actuarial valuation of the scheme. The scheme was closed to new entrants during 2002.

The assets of the scheme are held separately from the Institute in separate trustee administered funds. Full actuarial valuations, by a professionally qualified actuary, are obtained at least every three years, and updated to reflect current conditions at the balance sheet date. Fair value is based on the market price information and in the case of quoted securities is the published bid price. The pension scheme assets are measured at fair value. The pension scheme liabilities are measured using the projected unit method and discounted at the current rate of return on a high quality corporate bond that has been rated at AA or equivalent basis of equivalent term and currency. A pension scheme asset is recognised in the balance sheet only to the extent that the surplus may be recovered by reduced future contributions or to the extent that the Council have agreed a refund from the scheme at the balance sheet date. A pension liability is recognised to the extent that the group has a legal obligation to settle the liability.

The actuarial gain or loss arising in the year included under 'other recognised gains or losses'. Contributions are charged to expenditure so as to spread the regular cost of pensions over the expected working lives of the employees in the scheme. Any difference between the cumulative amounts

charged and contributions paid is included as an asset or liability on the balance sheet.

The interest element of the defined benefit cost represents the change in present value of scheme obligations relating to the passage of time and is determined by applying a discount rate to the opening present value of the benefit obligation, valuing into account material changes in the obligation during the year. The expected return on plan assets is based on an assessment made at the beginning of the year of long-term market returns on scheme assets adjusted for the effect on the fair value of plan assets of the contributions received and benefits paid during the year. The difference between the expected return on plan assets and the interest costs is recognised in the consolidated SOFA as pension finance income or within resources expenses as appropriate.

Under the defined contribution schemes, the Institute contributes to group personal pension plans providing benefits for some employees. Pension costs are based on current salaries and charged to the statement of financial activities in the year in which they are due.

## CRITICAL ACCOUNTING ESTIMATES AND ASSUMPTIONS

The Institute makes estimates and assumptions concerning the future. The resulting estimates and assumptions will, by definition, seldom equal the related actual results. The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are those used by the scheme actuary in calculating the Institute's defined benefit scheme liability (see note 24 for details).

## INSTITUTE FUNDS AND RESERVES POLICY

Funds held by the Institute are:

Unrestricted general funds – these are funds that can be used in accordance with the charitable objects at the discretion of the Council. The Institute's policy is to maintain sufficient liquid reserves to cover the future expenditure of charitable and administrative costs for up to one year.

Designated funds – these are funds set aside by Council out of unrestricted general funds for specific future purposes or projects.

Restricted funds – these are funds that can only be used for particular restricted purposes within the objects of the Institute. Restrictions arise when specified by the donor or when funds are raised for particular restricted purposes.

Further explanation of the nature and purpose of each fund is included in the notes to the financial statements.

## NOTES TO FINANCIAL STATEMENTS

### 1. CONSOLIDATED STATEMENT OF FINANCIAL ACTIVITIES FOR THE YEAR ENDED 31 DECEMBER 2014

	Unrestricted funds		Restricted funds	Permanent endowment	Total funds 2014
	General	Designated			
	£'000	£'000	£'000	£'000	£'000
<b>INCOME AND ENDOWMENTS FROM:</b>					
Donations and legacies	-	-	2	-	2
Charitable activities	-	-	-	-	-
Membership and related activities	1,441	-	-	-	1,441
Charitable trading activities	2,938	-	-	-	2,938
Other trading activities	310	-	-	-	310
Investments	302	4	50	-	356
Other	14,536	-	-	-	14,536
<b>Total income</b>	<b>19,527</b>	<b>4</b>	<b>52</b>	<b>-</b>	<b>19,583</b>
<b>EXPENDITURE ON:</b>					
Raising funds	310	-	-	-	310
Charitable activities	-	-	-	-	-
Membership and related activities	3,844	-	30	-	3,874
Charitable trading activities	2,509	-	-	-	2,509
Other	28	-	-	-	28
<b>Total expenditure</b>	<b>6,691</b>	<b>-</b>	<b>30</b>	<b>-</b>	<b>6,721</b>
<b>Net gains/(losses) on investment</b>	<b>113</b>	<b>2</b>	<b>38</b>	<b>-</b>	<b>153</b>
<b>Net income/(expenditure)</b>	<b>12,949</b>	<b>6</b>	<b>60</b>	<b>-</b>	<b>13,015</b>
<b>Transfers between funds</b>	<b>(9,638)</b>	<b>9,638</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Other recognised (losses)/gains:</b>					
Gains on revaluation of fixed assets	-	189	-	-	189
Actuarial losses on defined benefit pension scheme	(1,087)	-	-	-	(1,087)
<b>NET MOVEMENT IN FUNDS</b>	<b>2,224</b>	<b>9,833</b>	<b>60</b>	<b>-</b>	<b>12,117</b>
<b>Reconciliation of funds</b>					
Total funds brought forward	4,466	3,644	1,906	33	10,049
<b>TOTAL FUNDS CARRIED FORWARD</b>	<b>6,690</b>	<b>13,477</b>	<b>1,966</b>	<b>33</b>	<b>22,166</b>

The statement of financial activities includes all gains and losses recognised in the year. All incoming and outgoing resources derive from continuing activities.

2. CHARITY ONLY STATEMENT OF FINANCIAL ACTIVITIES  
FOR THE YEAR ENDED 31 DECEMBER 2015

	Unrestricted funds		Restricted funds	Permanent endowment	Total funds 2015	Total funds 2014
	General	Designated			2015	2014
	£'000	£'000	£'000	£'000	£'000	£'000
<b>INCOME AND ENDOWMENTS FROM:</b>						
Donations and legacies	80	-	2	-	82	431
Charitable activities						
Membership and related activities	1,450	-	-	-	1,450	1,441
Other trading activities	207	-	-	-	207	310
Investments	246	2	52	-	300	356
Other	-	-	-	-	-	14,536
<b>Total income</b>	<b>1,983</b>	<b>2</b>	<b>54</b>	<b>-</b>	<b>2,039</b>	<b>17,074</b>
<b>EXPENDITURE ON:</b>						
Raising funds	207	-	-	-	207	310
Charitable activities						
Membership and related activities	3,449	1	23	-	3,473	3,874
Other	5	-	-	-	5	28
<b>Total expenditure</b>	<b>3,661</b>	<b>1</b>	<b>23</b>	<b>-</b>	<b>3,685</b>	<b>4,212</b>
<b>Net gains/(losses) on investments</b>	<b>185</b>	<b>2</b>	<b>13</b>	<b>-</b>	<b>200</b>	<b>153</b>
<b>Net income/(expenditure)</b>	<b>(1,493)</b>	<b>3</b>	<b>44</b>	<b>-</b>	<b>(1,446)</b>	<b>13,015</b>
<b>Transfers between funds</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Other recognised (losses)/gains:</b>						
Gains on revaluation of fixed assets	-	-	-	-	-	189
Actuarial losses on defined benefit pension scheme	(107)	-	-	-	(107)	(1,087)
<b>NET MOVEMENT IN FUNDS</b>	<b>(1,600)</b>	<b>3</b>	<b>44</b>	<b>-</b>	<b>(1,553)</b>	<b>12,117</b>
<b>Reconciliation of funds</b>						
Total funds brought forward	6,347	13,477	1,966	33	21,823	9,706
<b>TOTAL FUNDS CARRIED FORWARD</b>	<b>4,747</b>	<b>13,480</b>	<b>2,010</b>	<b>33</b>	<b>20,270</b>	<b>21,823</b>

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The statement of financial activities includes all gains and losses recognised in the year. All incoming and outgoing resources derive from continuing activities.

### 3. CHARITABLE TRADING ACTIVITIES

2015  
£'000

2014  
£'000

TURNOVER		
Publishing	1,418	1,430
Conferences and exhibitions	301	772
Information services	50	831
Technology improvement awards	91	109
Training services	302	251
	<b>2,162</b>	<b>3,393</b>
Internal contribution for costs included in sales	(455)	(455)
Incoming resources	1,707	2,938
COST OF CHARITABLE TRADING ACTIVITIES		
Publishing	730	757
Conferences and exhibitions	385	635
Information services	456	1,190
Technology improvement awards	168	115
Training services	343	267
	<b>2,082</b>	<b>2,964</b>
Internal contribution to sales	(455)	(455)
	<b>1,627</b>	<b>2,509</b>
NET CONTRIBUTION FROM CHARITABLE TRADING ACTIVITIES		
Publishing	688	673
Conferences and exhibitions	(84)	137
Information services	(406)	(359)
Technology improvement awards	(77)	(6)
Training services	(41)	(16)
	<b>80</b>	<b>429</b>

#### 4. VOLUNTARY INCOME

2015  
£'000

2014  
£'000

Donations for medal funds	2	2
	2	2

#### 5. ACTIVITIES FOR GENERATING FUNDS

The Institute has a policy to generate income from its property facilities when not required for its own purpose. Related expenditure includes direct costs, employment costs and relevant overheads.

#### 6. INVESTMENT INCOME

2015  
Unrestricted  
£'000

Restricted  
£'000

2014  
Unrestricted  
£'000

Restricted  
£'000

Listed securities				
Fixed interest	73	25	84	26
UK equities	161	27	208	23
Overseas equities	14	-	13	-
Cash and cash equivalents	-	-	1	1
	248	52	306	50

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#### 7. OTHER INCOMING RESOURCES

In 2014 the Institute sold its leasehold interest in 1 Carlton House Terrace, London. A long leasehold property asset with a net book value of £707k was disposed of in the prior year and a profit on disposal of £14,536k has been recognised in the consolidated Statement of Financial Activities for the year ended 31 December 2014. The Institute entered into an operating leaseback transaction in respect of 1 Carlton House Terrace which ceased on 30 June 2015. There were no other incoming resources in the year ended 31 December 2015.

## 8. TOTAL RESOURCES EXPENDED

### SUMMARY

	2015 £'000	2015 £'000	2014 £'000	2014 £'000
Direct charitable costs		1,347		1,990
Employment costs				
Salaries	2,012		2,012	
Social security costs	204		200	
Pension costs	279		209	
Temporary and other staff costs	114		150	
Redundancy costs	107		8	
		2,716		2,579
Establishment costs				
Property costs	586		343	
Information technology	153		140	
Depreciation and amortisation	180		172	
Impairment	-		1,209	
		919		1,864
Administration costs				
Travel, meeting and committee expenses	127		90	
Postage and telecommunications	54		68	
Printing and stationery	33		26	
Finance costs	16		25	
Professional fees	94		71	
Office and other costs	7		8	
		331		288
		5,313		6,721

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### BREAKDOWN OF COSTS OF ACTIVITIES

	Direct costs £'000	Support costs £'000	2015 Total £'000	2014 Total £'000
Charitable activities				
Membership and related services	1,174	2,299	3,473	3,874
Charitable trading activities	137	1,490	1,627	2,509
	1,311	3,789	5,100	6,383
Costs of generating funds				
Activities for generating funds	31	177	208	310
Investment management costs	5	-	5	28
	1,347	3,966	5,313	6,721

## SUPPORT COST BREAKDOWN BY ACTIVITY

	<i>Employment costs</i> £'000	<i>Establishment costs</i> £'000	<i>Admin costs</i> £'000	<i>2015 Total</i> £'000	<i>2014 Total</i> £'000
Membership and related services	1,577	543	179	2,299	2,799
Charitable trading activities	1,031	330	129	1,490	1,682
Activities for generating funds	108	46	23	177	250
	2,716	919	331	3,966	4,731

Employment costs are allocated to activities based on the cost of the estimated time spent on those activities.

Establishment and administration costs are apportioned to activities on the basis of employment costs.

Admin costs include governance, finance, HR, IT and sales and marketing costs, which are apportioned to activities on the basis of employment costs.

## EMPLOYEE INFORMATION

	<i>2015 No.</i>	<i>2014 No.</i>
The average number/(full time equivalent) employees during the year was	62 (55)	64 (56)
The number of employees who earned more than £60,000 per annum including benefits was:		
£60,001 - £70,000	1	-
£70,001 - £80,000	1	1
£160,001 - £170,000	1	1
The number of employees who earned more than £60,000 per annum and accrued benefits in the Institute's pension scheme was:		
Defined benefit scheme	1	1
Money purchase scheme	2	1
Total remuneration of key management personnel, including benefits during the year was	543	525
Total employer National Insurance contributions paid on the key management personnel remuneration	60	56
Total amount of redundancy payments made during the year was	107	8
Contributions to the pension funds during the year were		
Defined benefit scheme	110	147
Money purchase scheme	63	61

The key management personnel of the charity are detailed on page 31.



## TOTAL EXPENDITURE INCLUDES:

	2015 £'000	2014 £'000
Auditor's remuneration		
Audit fee – current year	36	30
Accountancy, taxation and other services	1	16
Travel expenses paid to 29 (2014: 28) Council Members for attending Council and other meetings	32	33
Travel expenses paid on behalf of 12 (2014: 4) Council Members for attending Council and other meetings	11	4

None of the Council members received any remuneration in either year.

	2015 £'000		2014 £'000	
Operating lease rentals expiring within:	Land and buildings	Other	Land and buildings	Other
Within one year	-	-	250	-
Within two to five years	-	14	-	21
After five years	391	-	378	-

## OTHER TRANSACTIONS WITH TRUSTEES AND OTHER RELATED PARTIES

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Mr K Harrison provided technology expertise to IOM Communications Ltd during the year and was paid fees of £nil (2014: £19,024). No other members of the Council have directly or indirectly received any remuneration during the years ended 31 December 2014 and 2015.

During the year the Institute provided services to IOM Communications Ltd to the value of £1,490k (2014 - £1,682k), and received a donation of £80k (2014 - £429k). At the year end the balance due to IOM Communications Ltd was £248k (2014 - £257k).

## 9. TRANSFERS BETWEEN FUNDS

There were no transfers between funds during 2015. Following our investment in freehold property in London, £9,638k was transferred to the Asset development in 2014.

## 10. INTANGIBLE FIXED ASSETS

	<i>Group and parent Website and software £'000</i>	<i>Group only Patent costs £'000</i>	<i>Total £'000</i>
<b>GROUP</b>			
<b>Cost</b>			
1 January 2015	294	16	310
Additions in the year	206	7	213
Disposals in a year	(116)	-	(116)
31 December 2015	384	23	407
<b>Amortisation</b>			
1 January 2015	119	-	119
Change for the year	57	3	60
Disposed of	(116)	-	(116)
31 December 2015	60	3	63
<b>Net book value</b>			
31 December 2015	324	20	344
31 December 2014	175	16	191

## 11. TANGIBLE FIXED ASSETS

	<i>Freehold property £'000</i>	<i>Short leasehold property £'000</i>	<i>Furniture, fittings &amp; equipment £'000</i>	<i>Total £'000</i>
<b>GROUP AND PARENT</b>				
<b>Cost or valuation</b>				
1 January 2015	12,845	2,272	913	16,030
Additions in the year	625	6	187	818
Disposals in the year	-	(67)	(3)	(70)
31 December 2015	13,470	2,211	1,097	16,778
<b>Depreciation</b>				
1 January 2015	-	1,900	828	2,728
Provided during the year	-	28	46	74
Disposals in the year	-	(18)	-	(18)
31 December 2015	-	1,910	874	2,784
<b>Net book value</b>				
31 December 2015	13,470	301	223	13,994
31 December 2014	12,845	372	85	13,302

## 11. TANGIBLE FIXED ASSETS (CONTINUED)

In 2014 the trustees reviewed the Institute's accounting policies and agreed that the freehold land and buildings should be accounted for using the valuation method. The existing freehold property has therefore been revalued at its present market value of £300k by Ian Robertson MRICS on 20 February 2014. The next formal valuation of freehold properties is due to take place in 2019. In the interim the trustees will review the valuation on an annual basis. At 31 December 2015 the cost of freehold property was £13,329k.

In addition to the assets outlined above, the institute owns a collection of paintings and artefacts of historic and scientific importance which it deems to be heritage assets as defined

under SORP (FRS 102). The collection comprises of portraits, paintings, artefacts and sculptures which the Institute has commissioned, acquired or received as a donation to either enhance the fabric of its building or to celebrate its history in science, engineering and technology. The institute maintains a register of these assets, however it is not practical to ascertain the costs of these assets. The Trustees consider that the cost of not obtaining a valuation of the heritage assets is justified by the usefulness of the information to the users of the accounts and to the charity for its own stewardship purposes, and in accordance with SORP (FRS 102) has not included them within the balance sheet.

## 12. INVESTMENTS

	<i>Group</i>		<i>Institute</i>	
	<i>2015</i>	<i>2014</i>	<i>2015</i>	<i>2014</i>
	<i>£'000</i>	<i>£'000</i>	<i>£'000</i>	<i>£'000</i>
<b>Analysis of movements in the year</b>				
Market value at 1 January	9,472	9,319	9,472	9,319
Additions at cost	481	567	481	567
Disposals at opening market value	(1,231)	(567)	(1,231)	(567)
Revaluations	200	153	200	153
Market value at 31 December	8,922	9,472	8,922	9,472
<b>At the balance sheet date, the portfolio was invested as follows</b>				
<i>Listed investments</i>				
Fixed interest	2,290	2,460	2,290	2,460
UK equities	6,033	6,341	6,033	6,341
Overseas equities	440	459	440	459
<i>Unlisted investments</i>				
Cash and cash equivalents	159	212	159	212
Subsidiary undertakings (note 13)	-	-	-	-
Market value at 31 December	8,922	9,472	8,922	9,472
<b>At the balance sheet date, the following investments represent more than 5% of the portfolio by market value</b>				
Charinco (UK fixed interest common investment fund)	2,190	2,381	2,190	2,381
Charishare (UK equities common investment fund)	3,697	6,330	3,697	6,330
Blackrock International Equity Fund	404	459	404	459
Historical cost at 31 December	6,476	7,057	6,476	7,057

## 13. SUBSIDIARY UNDERTAKINGS

The Institute has three subsidiary organisations:

- IOM Communications Ltd (company number 3285009, charity number 1059475), a charitable trading company limited by shares.
- The Institute of Packaging (company number 786826, charity number 295762), a company limited by guarantee.
- Materials Institute Services Ltd (company number 2882544), a company limited by shares.

All subsidiary companies are incorporated in the UK and file accounts with the Registrar of Companies. The accounts of IOM Communications Ltd are audited. IOM Communications Limited and Materials Institute Services Limited are wholly owned subsidiaries. The Institute holds 100 shares of £1 each in IOM Communications Limited and 2 shares of £1 each in Materials Institute Services Limited. No premium was paid on acquisition.

IOM Communications Limited undertakes the charitable trading activities of the Institute of Materials, Minerals and Mining. The Institute of Packaging and Materials Institute Services Limited did not trade during 2015.

A summary of the 2015 results and balance sheet of IOM Communications Limited together with comparative figures for 2014 is shown below.

	2015 Total £'000	2014 Total £'000
<b>Results</b>		
Charitable trading activities	2,162	3,394
Total incoming resources	2,162	3,394
Charitable trading activities	2,082	2,965
Donation to the Institute	80	429
Total outgoing resources	2,162	3,394
Net incoming resources	-	-
Balances brought forward	340	340
Balances carried forward	340	340
<b>Balance sheets at 31 December</b>		
Fixed assets	20	16
Current assets	750	803
Creditors: amounts falling due within one year	(430)	(479)
Net current assets	340	340
Shareholders' funds	340	340

The net assets of Materials Institute Services Limited at 31 December 2014 and 2015 were £3,447.

The net assets of The Institute of Packaging at 31 December 2014 and 2015 were £nil.

## 14. STOCK AND WORK IN PROGRESS

	<i>Consolidated</i>		<i>Institute</i>	
	<i>2015</i>	<i>2014</i>	<i>2015</i>	<i>2014</i>
	<i>£'000</i>	<i>£'000</i>	<i>£'000</i>	<i>£'000</i>
Work in progress	14	32	-	2
Sundry stocks	2	1	2	1
	16	33	2	3

## 15. DEBTORS

Trade debtors	311	263	75	64
Other debtors	11	3,869	11	3,869
Prepayments and accrued income	180	303	171	162
	502	4,435	257	4,095

## 16. CREDITORS: AMOUNTS FALLING DUE WITHIN ONE YEAR

Trade creditors	219	212	164	99
Taxes and social security costs	68	119	68	119
Subscriptions and orders paid in advance	617	679	338	411
Other creditors and accruals	493	2,013	399	1,914
Amounts due to subsidiary companies	-	-	249	260
Bank overdraft	-	557	-	557
	1,397	3,580	1,218	3,360

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## SUBSCRIPTIONS AND ORDERS PAID IN ADVANCE

At 1 January	679	772	411	346
Recognised in a year	(669)	(752)	(409)	(335)
Provided for in a year	607	659	336	400
At 31 December	617	679	338	411

17. ANALYSIS OF NET ASSETS  
BETWEEN FUNDS

Group	Unrestricted funds		Restricted	Permanent	Total
	General £'000	Designated £'000	funds £'000	Endowment fund £'000	
Intangible assets	344	-	-	-	344
Tangible fixed assets	514	13,480	-	-	13,994
Investments	7,239	-	1,650	33	8,922
Current assets	424	-	360	-	784
Current liabilities	(1,397)	-	-	-	(1,397)
Net assets before pension liability	7,174	13,480	2,010	33	22,647
Pension liability	(2,035)	-	-	-	(2,035)
Total net assets	5,089	13,480	2,010	33	20,612

Institute	Unrestricted funds		Restricted	Permanent	Total
	General £'000	Designated £'000	funds £'000	Endowment fund £'000	
Intangible fixed assets	324	-	-	-	324
Tangible fixed assets	514	13,480	-	-	13,994
Investments	7,239	-	1,650	33	8,922
Current assets	(77)	-	360	-	283
Current liabilities	(1,218)	-	-	-	(1,218)
Net assets before pension liability	6,782	13,480	2,010	33	22,305
Pension liability	(2,035)	-	-	-	(2,035)
Total net assets	4,747	13,480	2,010	33	20,270

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18. PERMANENT  
ENDOWMENT FUND

Group and Institute	Balance at	Incoming	Resources	Investment	Transfers	Balance at 31
	1 January 2015 £'000	resources £'000	expended £'000	gains/ (losses) £'000	between funds £'000	December 2015 £'000
Mining Club	33	-	-	-	-	33

The income of the Mining Club is dealt with in a restricted fund that provides grants for travel, study or attendance at international conferences related to the minerals industry.

## 19. RESTRICTED FUNDS

	<i>Balance at 1 January 2015 £'000</i>	<i>Incoming resources £'000</i>	<i>Resources expended £'000</i>	<i>Investment gains/ (losses) £'000</i>	<i>Transfers between funds £'000</i>	<i>Balance at 31 December 2015 £'000</i>
<b>Group and Institute</b>						
Stanley Elmore Fellowship	673	16	-	(12)	-	677
Andrew Carnegie Trust Fund	521	11	(10)	11	-	533
Bosworth Smith Trust	229	7	(4)	5	-	237
Tom Seaman Travelling Scholarship	228	7	(7)	5	-	233
Metals & Metallurgy Trust Fund	91	7	(1)	1	-	98
Edgar Pam Fellowship	90	3	-	2	-	95
G Vernon Hobson Bequest	57	2	-	1	-	60
Other funds	21	-	(1)	-	-	20
Prize funds	56	1	-	-	-	57
	1,966	54	(23)	13	-	2,010

The income of these restricted funds are to be used for the following purposes:

Stanley Elmore Fellowship, Bosworth Smith Trust, Edgar Pam Fellowship and G Vernon Hobson Bequest - to provide grants to assist post-graduate research, together with the unexpended balance of Mining Club income.

Andrew Carnegie Trust Fund – to support the award of scholarships and awards in the field of materials.

Tom Seaman Travelling Scholarship Fund is for the purpose of awarding scholarships to persons who are engaged in or associated with the coal mining industry.

The Metals & Metallurgy Trust Fund – to support the award or grants, scholarships and prizes in the field of metals and metallurgy.

Other funds include:

- A G Charleton Fund – to award prizes to deserving students at the Imperial College of Science Technology and Medicine.
- Centenary Student Sponsorship Fund – to provide membership benefits of the Institute to students.
- Dixie Dean Bursary Fund – to provide bursaries for foreign students associated with the packaging industry.

Prize funds include the R T Holland Fund, Dennis Chapman Medal Award, Frank Fitzgerald Medal and other funds set up for the award of medals or money to appropriate recipients.

Further information about scholarships, bursaries, professional and travel grants including details of case studies are shown on our website ([www.iom3.org/scholarships-grants-and-bursaries](http://www.iom3.org/scholarships-grants-and-bursaries)).

## 20. DESIGNATED FUNDS

	<i>Balance at 1 January 2015 £'000</i>	<i>Incoming resources £'000</i>	<i>Resources expended £'000</i>	<i>Investment gains/ (losses) £'000</i>	<i>Transfers between funds £'000</i>	<i>Balance at 31 December 2015 £'000</i>
Asset development fund	13,177	-	-	-	-	13,177
Services development fund	88	-	-	-	-	88
Sir Julius Wernher Memorial Fund	121	2	(1)	2	-	124
Packaging education fund	50	-	-	-	-	50
Materials education	24	-	-	-	-	24
Robert A Moore Fund	17	-	-	-	-	17
	13,477	2	(1)	2	-	13,480

The designated funds have been set up for the following purposes:

- Asset development fund – representing the total amount (at cost or market value less depreciation) invested in freehold and leasehold properties, furniture, equipment and computers used for the functional purposes of the Institute and amounts set aside to meet future capital requirements.
- Services development fund – representing amounts designated by Council to develop and improve the quality of services provided by the Institute.
- Sir Julius Wernher Memorial Fund – representing amounts designated to provide for memorial lectures.
- Packaging education fund – representing amounts set aside to promote and develop packaging education.
- Materials education fund – representing income generated for and costs relating to the promotion of materials education in schools.
- Robert A Moore Fund – representing amounts designated to promote the aims of the Institute in the name of Robert A Moore.

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## 21. UNREALISED GAINS/(LOSSES)

	<i>Consolidated</i>		<i>Institute</i>	
	<i>2015 £'000</i>	<i>2014 £'000</i>	<i>2015 £'000</i>	<i>2014 £'000</i>
General fund	2,110	2,072	2,110	2,072
Designated funds	12	12	12	12
	2,122	2,084	2,122	2,084
Restricted funds	324	312	324	312
	2,446	2,396	2,446	2,396

## 22. CAPITAL COMMITMENTS

The Institute had no capital commitments at 31 December 2014 and 2015.



## 23. POST BALANCE SHEET EVENTS

Following 2013 actuarial valuation of the defined benefit pension scheme and the deficit arising as a result, the Trustees of the pension scheme placed a fixed charge of £250k on the Institute's London property. The charge took effect from February 2016 and was set in order to reduce deficit funding paid by the Institute to the pension scheme. Fixed charge arrangements will be reviewed during the 2016 actuarial valuation.

There are no other charges on any of the Institute's assets at the moment.

## 24. PENSION SCHEMES

### 24.1 INTRODUCTION

The Institute operates a funded defined benefit occupational pension scheme. The assets of the scheme are held separately from those of the Institute and are invested in an insured fund administered by the Prudential Assurance Company Limited and the Newton Exempt Fund administered by Mellon Fund Managers Limited. Under the terms of the Trust Deeds, the scheme is administered by the Trustees.

The scheme was closed to new members during 2002 and new employees are given the opportunity to join the group

On 1 January 2016, IOM3 merged with The European Association of Brazing and Soldering, resulting in the improved offering provided by Materials Information Services and IOM3 Training Academy.

From 1 January 2016 room lettings activity is being carried out by IOM3 fully owned trading subsidiary Materials Institute Services Ltd. Transfer of activity will result in improvement of services provided to IOM3 members and external users of all IOM3 venues.

personal pension arrangements with Royal London. The group personal pension plan is a defined contribution benefit scheme and complies with the stakeholder legislation.

At the year end, the scheme had 8 current staff members and 87 deferred members.

Results of the most recent triennial actuarial valuations, at 1 January 2007, 2010 and 2013 showed the following results.

	2007 £'000	2010 £'000	2013 £'000
Market value of the scheme's assets	5,065	6,404	7,361
Liability for projected accrued benefits	(5,311)	(6,925)	(9,201)
(Deficit)	(246)	(521)	(1,840)

Arrangements have been made for the deficit shown by the actuarial valuation at 1 January 2013 to be funded at the rate of:

- £29k p.a. payable in equal monthly instalments from 1 January 2013 to 31 December 2014.
- £29k increasing at 3.4% p.a. payable in equal monthly instalments from 1 January 2015 to 31 December 2028.

## 24.2 PRINCIPAL ACTUARIAL ASSUMPTIONS

A valuation of the defined benefit pension scheme assets and liabilities at 31 December 2015 under FRS102 has been carried out by a qualified independent actuary. The projected unit valuation method has been used. The major financial assumptions used by the actuary were:

Years ended	2015 % p.a.	2014 % p.a.
Discount rate	3.70	3.50
Price inflation – pre-retirement (RPI)	3.10	3.10
Consumer Prices Inflation – pre-retirement (CPI)	2.10	2.10
Future salary increases	2.10	2.10
Rate of increases of pensions in payment (RPI)	3.00	3.00
Rates of increases of pensions in payment – (CPI)	1.80	1.80
Rate of increase for deferred pensioners	2.10	2.10

The following demographic assumptions were used in the valuation:

	Year ended 31/12/2015	Year ended 31/12/2014
Mortality pre-retirement	As for post retirement	As for post retirement
Mortality post-retirement	S2PXA CMI 2015 1%	S2PXA CMI 2014 1%

	Males	Females	Males	Females
Life expectancy for a current 65 year old in 2015	86.9 years	88.8 years	87.1 years	89.1 years
Life expectancy at age 65 for an individual aged 45 in 2015	88.1 years	90.3 years	88.4 years	90.6 years

### 24.3 AMOUNTS RECOGNISED IN THE BALANCE SHEET FOR DEFINED BENEFIT SCHEME

	2015 £'000	2014 £'000
Present value of defined benefit obligation	(14,859)	(14,642)
Fair value of scheme assets	12,824	12,777
Pension scheme liability recognised in the balance sheet	<u>(2,035)</u>	<u>(1,865)</u>

### 24.4 CHANGES IN PRESENT VALUE OF DEFINED BENEFIT OBLIGATION

	2015 £'000	2014 £'000
Defined benefit obligation at 1 January	(14,642)	(8,904)
Service cost	(108)	(95)
Interest cost	(507)	(399)
Member contributions	(38)	(38)
Benefits paid	484	216
Actuarial (losses)	(48)	(1,097)
Defined benefit obligation at 31 Decemeber	<u>(14,859)</u>	<u>(10,317)</u>

### 24.5 CHANGES IN FAIR VALUE OF SCHEME ASSETS

	2015 £'000	2014 £'000
Plan assets at 1 January	12,777	12,432
Return on plan assets (excluding net interest on defined benefit obligations)	(59)	10
Interest income	441	366
Employer contributions	111	147
Member contributions	38	38
Benefits paid	(484)	(216)
Plan assets at 31 December	<u>12,824</u>	<u>12,777</u>
Amount recognised in balance sheet	<u>12,824</u>	<u>12,777</u>

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### 24.6 MAJOR CATEGORIES OF SCHEME ASSETS

	%	%
Equities	27	35
Corporate bonds	8	6
Gilts	18	12
Properties	2	2
Cash	6	6
Annuities	32	34
Other assets	7	5
Total scheme assets	<u>100</u>	<u>100</u>

## 24.7 AMOUNTS RECOGNISED IN THE STATEMENT OF FINANCIAL ACTIVITIES

Amounts recognised in net incoming resources are as follows:

	2015 £'000	2014 £'000
Current service cost	108	95
Net interest cost	66	33
Net charge	174	128

The actual return on scheme assets was a gain of £382k (2014: £949k)

The actuarial losses recognised in the statement of financial activities for 2015 were £107k and the cumulative losses recognised from 2002 to 2015 amounted to £2,415k.

The Institute expects to contribute £118k to its defined benefit pension scheme in 2016. This is in addition to paying all the expenses of the scheme including fees, levies and life assurance premiums.

## 24.8 OUTSTANDING PENSION CONTRIBUTIONS AT THE YEAR END

Contributions for the defined benefit scheme amounting to £11k (2014 - £12k) were outstanding at the year-end. Contributions for the defined contributions schemes amounting to £8k (2014 - £8k) were outstanding at the year-end.



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