

# 2019 Annual report and financial statements



The Institute of Materials,  
Minerals and Mining

The annual report and financial statements have been prepared in accordance with the accounting policies set out on pages 62 to 65 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 second edition - October 2019.

The Institute of Materials, Minerals and Mining (IOM3) is a major UK science and engineering institution whose activities promote and develop all aspects of the materials cycle, from exploration and extraction, through characterisation, processing and application, to product recycling and reuse. IOM3 supports professionals in materials, minerals and mining to become heroes of the transition to a low-carbon, resource efficient society, not villains. We seek to be the best professional membership body we can be by providing modern, flexible services, quality technical content and value for money.

## 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 all. The objectives and activities of the Institute (see page 50) 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.

## 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.



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Minerals and Mining

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

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**Inspirational, professional,  
supportive, fun, varied,  
expert, well run,  
connected, adventurous,  
forward looking, open,  
diverse, relevant,  
interesting, innovative,  
energising, leadership,  
authority, engagement,  
network, education,  
information, community,  
skills, knowledge,  
materials matter globally.**



Left: Describe IOM3 in three words? A question asked of attendees of the 150th Anniversary Inauguration Day held on 25 February 2019.



In 2019, IOM3 celebrated a major milestone in its history – 150 years since the formation of the Iron and Steel Institute – with a series of commemorative events and activities.



Left: Serena speaking with The Duke of Kent at the 150th Gala & Premier Awards Dinner.

The 150th Anniversary year proved to be a very busy and highly productive time for IOM3.

# President's

# overview

Serena Best,  
President 2019–2020.  
Overview written on  
6 January 2020.

The start of 2019 marked the beginning of my term of office as President and this coincided with Dr Colin Church taking on the role as Chief Executive. The conference team put together a very impressive range of conferences and meetings during the year with several of these achieving record numbers of registrations and sponsorship. We were delighted that the Duke of Kent agreed to present two of our Premier Medals in July, at the special Awards Dinner held at the Science Museum. There were also a number of other highly successful events across the UK and around the world. I was very fortunate to be able to attend a number of the events during the year and it is clear that there remains both a demand and a need for face-to-face meetings even in the digitised world of the 21<sup>st</sup> century. I would like to thank the many IOM3 members and also the Institute team who worked so hard to make these events a success.

The approval by the Privy Council of the changes to our governance structure was a major development in 2019. We are now able to move forward with the newly formed Advisory Council and Executive Board. We have an excellent set of representatives across the Regions and Membership grades, and this moves us towards our aims of improved gender balance, diversity and inclusion. The Technology Communities Board was also established and we were delighted to welcome the team of Strategic Advisors who will be instrumental in linking the various constituencies within the Institute and providing an important ‘outward facing’ perspective for IOM3. This ability to respond more rapidly to news and current affairs across the UK and the world, is an essential new development to increase the profile of the Institute. The Materials Cycle is becoming increasingly important globally and IOM3 has a pivotal role to play in providing input and knowledge to inform decision-making at government level.

Another important development, which will soon be evident to the whole of our membership, is the digital transformation project (Optimus). This will transform the way in which IOM3 staff are able to communicate with IOM3 members and I trust that the benefits will become clear in the near future. There have been continuing initiatives to increase membership numbers and these have proved to be particularly impressive at Technician level. In addition, initiatives to improve diversity are improving reorientation across all levels of membership.

2019 was also an important year for the Young Persons’ Lecture Competition with the World Final returning to the UK for the first time since 2012. The excellent talks spanned the breadth and scope of the Institute’s activities. It is always a pleasure to meet with these outstanding young scientists and engineers from around the world.

In closing, I would like to thank all of the staff and volunteers who contributed to this very special year. There are many challenges to address as we move forward, both from the technical perspective and in terms of continuing political uncertainty and economic turbulence across the world. However, with continued focus on engagement and communication, we can ensure the success of the Institute through its membership.



**Top-bottom:**  
**IOM3 President, Professor Serena Best and the IOM3 Hong Kong branch Council members.**



**Serena presenting the 150th commemorative booklet, which contains the IOM3 history timeline.**  
**Young Person’s World Lecture Competition 2019 final winners.**



# CEO's

# review

When I came into this role at the end of 2018, it was already clear that 2019 would be a big year for IOM3, and so it proved to be.



Above: Colin unveiling the history of the Institute tree, which is on permanent display at 297 Euston Road.

Colin Church,  
Chief Executive.  
Review written on  
13 February 2020.

Alongside our normal day-to-day activities, the Trustees, volunteers and employees of IOM3 have:

- Inaugurated the first woman President of IOM3, Professor Serena Best;
- Had a successful and enjoyable year-long celebration of the 150th Anniversary of the founding of our oldest national constituent part, the Iron and Steel Institute in 1869;
- After ten years of debate, implemented important changes to modernise our governance and decision making; and
- Started, and successfully completed the first phase of, a major digital transformation project in order to be in a position to deliver the kind of service our members will expect in the future.

The common thread throughout the year was the celebration of our 150th Anniversary. Things got off to a great start with our event on the anniversary day (25 February), where a workshop involving a cross-section of members developed thoughts on the future shape of a professional body in 2069 and Professor Serena Best gave her inaugural speech. A strong programme of 150th Anniversary events then followed, with highlights including our bumper May issue of *Materials World*, a well-attended Bessemer Lecture and gala dinner at the Science Museum in July, the very successful International Rubber Conference in September and our hosting of the final of the Young Persons' World Lecture Competition in October. Our affiliated local societies were also involved, including an extremely well-run 150th event in Hong Kong. The 150th Anniversary theme ended with the Future Materials conference on 17 December, where with early career and younger members we looked forward to the future of materials, minerals and mining over the coming decades. Our normal strong events programme also continued, covering topics such as ceramics, clay technology, adhesion, fire safety, mine tailings management, resource efficiency and steel alloys, to name but a few. And we had a few innovations, not least the #WarrenStreetWindow, displaying some visually arresting aspects of the IOM3 story over the course of the year.

In August, we received the assent of the Privy Council to amend our Bye-Laws to create the new Executive Board and the Advisory Council. The former are now the Trustees of the Institute, with responsibility for overseeing its work by the IOM3 team. The latter exists to advise the Trustees on strategic issues relevant to the members. During September and October, we ran the elections to the Advisory Council, with over sixty members volunteering to stand in the fifteen seats representing the regions and grades of IOM3, to join the twenty seats representing technical communities and the President, Vice-Presidents and Honorary Treasurer of the Institute. The Advisory Council had its first meeting on 5 November and, in line with the new rules, elected two of its number to become Trustee members of the Executive Board alongside the core Presidential team and the Chairs of the main IOM3 Boards. These changes will enable us to be much more agile in our decision making, whilst retaining a strong member input to our overall strategy.

Also in August, work started on Project Optimus – the 18-month process first to replace our ageing membership database and then to revamp our website and extend and enhance our digital offering enabling us to provide the kind of personalised, easy-access experience our members expect. The first phase of the work was mostly internal, but the new Member Portal, which went live at the end of January 2020, is the first of many external manifestations of the change that you will see through 2020.

In 2019, IOM3 carried out its first all-member survey to gauge what members want from their professional body. As reported during the year, this showed that access to appropriate technical information was the top benefit, with professional recognition also highly rated as

second. The access to technical content was also a strong message from our autumn survey of members who declined to renew their membership. This evidence fed into the development of the new strategic direction for IOM3, as announced at the beginning of 2020. In this plan, IOM3 seeks to respond to the changing professional, societal and environmental context to support professionals in materials, minerals and mining to be heroes of the transition to a low-carbon, resource efficient society, not villains, whilst being the best professional membership body IOM3 can be. The three-year plan is primarily focused on membership, content, professional development and influence in public and policy debates, underpinned by appropriate investment in the human, digital and physical infrastructure necessary to support this.

### **Membership**

In 2019, IOM3 has achieved the first organic growth in member numbers for at least a decade (around 2.5%), and entered over a third more individuals on the Engineering Council, Science Council and Society for the Environment professional registers than in 2018. The growth in Technician Members (TIMMM) was also very noteworthy, with 180 new joiners, double the numbers in 2018, which was in turn a record-breaking year for TIMMMs. As always, this work relies on significant contributions from our volunteer assessors and committee members and we are hugely grateful to all.

### **Content**

In response to the results from the membership survey, we have started to do more to make technical content available to our members. In 2019, we made our growing library of digitised material freely available and created the IOM3 Content Café as a showcase for our growing material (for example a recent report on lithium mining in the UK), alongside the existing Technical Community microsites, *Materials World*, and more.

### **Professional Development**

In recognition of the importance of education, training and professional development, we created a new team bringing together our work on all aspects of this. On education and outreach, IOM3 is now – together with several UK universities and the Henry Royce Institute – part of the Discover Materials Partnership, through which we are working to engage, educate and enthuse the next generation of materials, minerals and mining professionals.

2019 also saw solid performance from the IOM3 Training Academy in its existing technical portfolio covering packaging, wood and clay, as well as the start of a major effort to create and deliver a comprehensive portfolio of professional development opportunities that spans the Institute's areas of influence.



### ***Influence***

During the course of the year, IOM3 has started to make a greater contribution to the relevant main public debates. This is a gradual process as we find our way in what can often be choppy waters, but examples include responding to UK Government consultations on packaging recycling, deposit return schemes and the proposed plastics tax; with our partners in the National Engineering Policy Centre, setting out a set of engineering ‘asks’ of government, engagement on issues surrounding carbon capture, use and storage; and joining the UK Plastics Pact.

### ***International***

IOM3 continues to have a strong set of international relations. Across Europe, we play an active role (including post-Brexit) as a member of various Europe-wide materials bodies covering a range of topics such as ceramics, corrosion, enamelling and general materials. Globally, we participate in work looking at for example materials chemistry, minerals and mining, rubber and steel.

In October, IOM3 colleagues travelled to St Petersburg for the successful 3rd Russian-UK Raw Materials Dialogue, hosted this year by our partners St Petersburg Mining University, Russia. This followed the signing of a set of agreements with the National Association of Mining Engineers of the Russian Federation and the St Petersburg-based UNESCO Centre for Mining Engineering Education and Competence, with whom we will be working to develop and promote global competence standards for mining engineers.

Our international affiliated local societies played their part in celebrating our 150th Anniversary, including supporting the World Lecture Competition and organising events, and there continues to be strong interest in several parts of the world.

### ***Finance***

The expenses of the 150th Anniversary, Project Optimus and essential maintenance of our buildings resulted in the expected operating loss in 2019, and though we plan to return to a modest operating surplus in 2020 this will remain fragile, especially in the light of global, European and national developments early in the year.



**Top: Current and past presidents with the signed commemorative print, which is on permanent display in the London office history staircase.**

**Bottom: Delegates at Inauguration Day on 25 February.**

## Our corporate aims include:

- Increase member recruitment and retention, including by improving our understanding of their needs and our ability to meet them
- Deliver excellent content to our members through physical and digital conferences and events, scientific journals, member magazines, the library and other technical content
- Deliver a comprehensive portfolio of professional development opportunities and support to individuals and organisations working within the Institute's areas of interest
- Promote the importance and relevance of our subject areas and increase our influence
- Return to a modest operating surplus with enough reserves to meet at least one year's activities

## Our plans for 2020

2020 is another challenging and stimulating year for the Institute, not least because of the effect the Covid-19 pandemic had on the Institute's operations. Our plans for the year, set out in our new corporate strategy and business plan (developed in 2019) include:

- Continuing our work to understand our members' needs and aligning our benefits to those needs;
- Making more and better content available to our members, including through the implementation of enhanced digital platform (Project Optimus);
- Creating and delivering a broader portfolio of learning opportunities, both in terms of topics and delivery routes
- Further developing our ability to bring the expertise of our members into the public debates on relevant issues such as combatting climate change; and
- Continuing to develop the digital, physical and human infrastructure of the Institute to support our activities in 2020 and beyond.
- Mitigating the impact of the Covid-19 pandemic on the Institute's activities, including improving our offering of digital conferences and events, training courses and professional development programme.

In some ways a challenging year, 2019 has also been immensely rewarding for my team and for me and I am very grateful to them all for their help. As always, of course, we could not have done it without the help and support of our members and volunteers, so a very big thanks to you all too.



**This annual report reflects the work, aims and objectives of 2019. The global pandemic has had a significant impact on the operations for IOM3 for 2020 including financial reports, events schedule and venue hire. The report details plans and operations prior to the pandemic and therefore this has not been reflected in the report. The full impact of COVID-19 for IOM3 will be published in 2020.**

In 2019, the Institute celebrated the 150th Anniversary of the founding of our oldest national constituent part. The special anniversary year kicked off with the Inauguration Day on 25 February where we premiered the programme filmed with us by ITN broadcast 'Journey of the Drop' in association with the World Petroleum Council (WPC). In the programme, IOM3 discussed the 150th Anniversary celebrations, the Institute's Younger Members' Committee (YMC), and encouraging and driving younger people through education into industry as well as our Schools Affiliate Scheme.

IOM3 continued celebrations throughout the year with a number of events and activities including the Iron Cycle conference in March, *Materials World* celebratory issue, Gala Dinner and Premier Awards with the Bessemer Lecture and Masterclass as well as International Rubber Conference and Steel Strategy Seminar – Industry 4.0, National Young Person's Lecture Competition in London, followed by our Future of Materials YMC closing event in December.

IOM3 also celebrated another milestone as this year marked 10 years since the Grantham offices first opened on 7 July 2009. The Boilerhouse hosts exhibitions, conferences, meetings and training sessions and also provides office accommodation for IOM3.

As well as some major Governance changes (see page 44), IOM3 embarked on a major digital transformation project, which ran throughout the end half of 2019 to upgrade our current system providing a new Member Portal and website due to launch in 2020. The year ended with the launch of a three-year business plan that is primarily focused on membership, content, professional development and influence in public and policy debates.

Highlights of 2019 from all IOM3 activities are described in the following pages. IOM3 is grateful to the large body of volunteers contributing at all levels and across all sectors, both in the UK and overseas. As previously, we are keen to encourage more younger members and members from under-represented groups to get involved in volunteer activities. Information about the many ways in which members can contribute to IOM3 as volunteers is available on the IOM3 website. The Trustees would also like to acknowledge the hard work and dedication of the team at IOM3.



The Institute of Materials  
The Miner



The IOM3 Time Capsule contains the outcomes of a workshop to predict the skills and competencies required for successful materials, minerals and mining entrepreneurs over the next 50 years. It was held on the 150<sup>th</sup> anniversary of the Inauguration Day, 25 February 2019. The capsule is due to be opened in 2069.

# Highlights of 2019

**'IOM3 has given me a lot of confidence and has broadened my knowledge of materials.'**

***Sir Colin Humphreys  
CBE FREng FRS CEng FIMMM***

**'Thank you IOM3 for everything you have given to me. I hope to be able to give something back in future.'**

***Dr Kate Thornton CEng CSci MIMMM***

**'Everyone is welcome, it is a lot of fun and you can benefit a lot from becoming a member.'**

***Dr Mike Clinch FIMMM***

The major achievement of the Membership team in 2019 was the net growth in member numbers, the first for several years despite an almost identical number of new members being recruited as for 2018.

This report details plans and operations prior to the pandemic and therefore this has not been reflected in the report.

This turnaround results from new activities launched as part of the Membership Growth Initiative starting to yield positive results.

A total of 1,810 new members were recruited during the year, in addition to more than 600 signing up as users of our website. Women made up a significant proportion of new recruits, particularly at the student grades, and further reinforced our position as the leading professional engineering institution for the proportion of women members, which currently stands at more than 19% of the total.

IOM3 also for the first time sought the views of our members in a comprehensive survey carried out to better understand the needs and wishes of our members. Two member benefits stood out from those assessed through the survey. The benefit valued most highly by members is the provision of technical information and data. The second was recognition, be it through registration as a competent person such as CEng or CEnv, or Institute membership grades such as Fellow. A follow up survey in 2020 is being conducted.

The Institute also achieved a longstanding milestone with 502 practitioners being promoted to the Professional Member, Associate Member and Technician grades of membership. This is of particular note as the previous best achieved for its professional grades was less than half of this total. Encouragingly 160 of these promotions were entries into the Technician grade.

A new activity launched in 2019 was the Mentoring Workshops – ‘Become a Fellow’ and ‘Registrant in a Day’. Structured to support members achieve the application submission stage, these one-day boot camps proved to be extremely popular and led to an increased interest in achieving these levels of professional recognition. In total, 220 members achieved competent person registration during the year with 163 as professional engineers with the Engineering Council. A further 143 members were elected to Fellowship of the Institute.

The Institute’s commitment to quality assuring the ongoing competency of its members was delivered through the sampling and assessment of Continuing Professional Development records. During the year, the records of 300 members were certificated for ongoing professional registration.

Right: Some of the results from a comprehensive member survey carried out in 2019. Rated either very important/important or somewhat important.

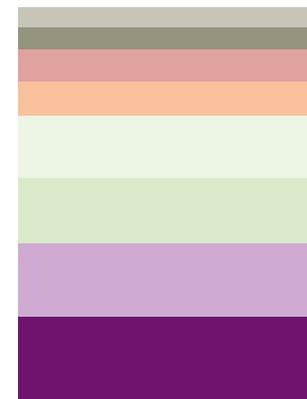
How important are the following types of information to you with respect to your own professional needs?

- Technical information and data – 96%
- Business intelligence and update – 87%
- Political and regulatory intelligence and updates – 87%
- News on recent member and sector appointments – 76%
- Funding and investment opportunities – 58%
- Job opportunities – 56%
- Potential candidates to employ – 46%



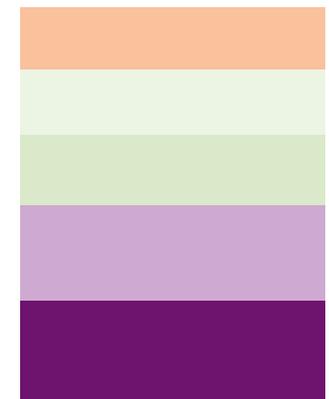
How important are the following media with respect to your own professional needs?

- LinkedIn – 70%
- TV – 60%
- Youtube – 54%
- Radio – 51%
- Facebook – 28%
- Twitter – 26.5%
- Tumblr/Blogs – 18%
- Instagram – 17%



How important are the following forms of recognition in meeting your own professional needs?

- Institute professional recognition as a FIMMM, MIMMM, AIMMM, TIMMM, GradIMMM – 92%
- ‘Competent person’ registration as a CEng, CEnv, CSci, IEng, EngTech – 87%
- Prizes, medals and awards for individuals – 64%
- Prizes, medals and awards for organisations – 60%
- Scholarships, bursaries and other funding to support short term activities – 57%



**More than 1,300 delegates attended 150th anniversary events**

**200 attendees at the 150th Premier Awards and Gala Dinner**

**928,083 views on the IOM3 website since January 2019**



The Younger Members' Committee (YMC) represents the interests of IOM3 members normally under 35 and is involved in organising various events throughout the year to engage with young people.

This report details plans and operations prior to the pandemic and therefore this has not been reflected in the report.

Below: Jessica Pass presenting the YMC Art Lecture.

Right: Jessica creates statement pieces inspired by nature.



YMC key objectives for 2019 included continuing to deliver on what our young and early career members tell us they value most – supporting career development, providing networking opportunities, as well as ensuring our members voices continue to be represented and heard at the most senior levels within the Institute. A key objective for 2020 includes looking to engage further with our technical communities through our younger member network, as well as the members we represent to ensure we have the synergy needed to understand and evolve to meet our members' changing needs. We will also aim to increase the accessibility of the events we run and the information we provide, as well as focus on member benefits to ensure IOM3 membership delivers the value our younger members deserve.

### YMC Art Lecture

The Younger Members' Committee Art Lecture took place at IOM3 headquarters in London in March, as part of the YMC lecture series. Jessica Pass, a contemporary fine jeweller based in The Goldsmiths' Centre discussed her background getting into the jewellery industry and the use of different materials and techniques to achieve her collections. Speaking about the use of materials, Jessica explained that she uses precious metals such as gold and silver to create the statement pieces and employs various techniques including 3D printing.



'It is great to bring together art and fine jewellery with help from the materials community. It is great to present the Younger Members' Art Lecture at IOM3.'

*Jessica Pass, Contemporary Artist and the 2019 Art Lecture Presenter*



Left: YPLC final at Armourers and Brasiers' in London.

Below left: YPWLC finalists during the competition week in London.

Below right: YPWLC final held at IOM3 headquarters.

## Young Persons' Lecture Competition UK Final

The Young Persons' Lecture Competition final took place on 1 May 2019 at the Armourers' Hall in London. For the first time the audience were able to cast a people's vote. The judging panel included Dr Phil Bischler CEng CSci FIMMM, Neil Battison CEng FIMMM and Younger Members' Committee member Aimee Goodall ProfGradIMMM. First prize went to Megan McGregor, from the South East, for her lecture '*The world's hottest superglue: Materials requirements for better sealing in jet engines*'. McGregor was awarded £750 plus the Armourers and Brasiers' Company Medal. She went on to represent the UK at the Young Persons' World Lecture Competition final.

## Young Persons' World Lecture Competition

In October, IOM3 headquarters in London hosted the 15th Young Persons' World Lecture Competition (YPWLC). Tamlyn Naidu from South Africa was awarded first place for her lecture on '*Acid Mine Drainage Remediation System Using Waste Products from the Steel Manufacturing and Sugar Industries*'. The nine finalists were treated to an all expenses paid trip sponsored by CBMM in London organised by IOM3. During the week they were able to participate in a number of activities including tours of Rolls-Royce Heritage Site, Cambridge University Materials Department, a visit to a local primary school as well as bowling, a sightseeing tour across London followed by a London Eye visit and a free afternoon to enjoy the sights of the city. They also attended the Institute's Special & Publication Awards dinner, the YMC Chartership event for Younger Members and also took part in Matopoly: London.



‘I am very grateful to IOM3 for the opportunity to come to London and spend time with others who have similar goals and research focuses.’

**Tamyln Naidu, 1st place in the YPWLC Final**

## Future Materials Conference

The one-day conference, held on 17 December, was the final event in the IOM3 150th Anniversary calendar focusing on the future of materials research in the UK. The conference, organised by the YMC was intended to be a forum for early career materials, minerals and mining scientists and engineers from the UK to present their research on the materials they are developing. There were three keynote talks during the day given by experienced members of the materials science community with the hope of inspiring and educating the delegates as they begin their careers in either academia or industry. The inaugural Future of Materials Conference at Leeds was a resounding success, and was an inspiring day showing such an exciting future unfolding for materials, mining and minerals research.

## YMC Chartership event

To support the journey towards Chartership, the IOM3 Younger Members’ Committee (YMC) hosted a Chartership event with two key speakers. The speakers were Jan Lewis CEng CEnv FIMMM – Ground Risk Consultant and IOM3 Past President and Dr Sophie Parsons CEng CEnv MIMMM, Lecturer at the University of Bath and IOM3 Strategic Advisor. The speakers provided an industry and academic perspective on their chartership journey.

‘I have had the opportunity to meet people from all over the world. You can tell from all the organisers the passion for this event and it was so humbling to see.’

**Morgan Lehtinen, 3rd place in the YPWLC Final**

Right: Literature displayed at the the Future of Materials Conference held in December.



The [Materials Information Service \(MIS\)](#) continues to provide technical help and information to personal members, corporate members and the general public via our library in Grantham and the IOM3 digital library.

This report details plans and operations prior to the pandemic and therefore this has not been reflected in the report.

2019 saw significant changes within The Materials Information Service (MIS) as well as across the Institute. MIS became Specialist Support (SS) in August and the management changed from Stuart Preston to David Arthur. The team continued to provide high-level technical help and information to personal members, corporate members and the general public, via the IOM3 website.

Right: A wooden panel from Bessemer's ship, on display in the Bessemer Room at 297 Euston Road, London.

The team continued to support the Technical Groups within IOM3, working with the recently formed Technology Communities Board (TCB) and the Strategic Advisers, to develop inter-community working. The year saw the new TCB evolve as the over-arching body and the team helped to smooth through these changes.

The Titanium Information Group (TIG) became a network under the Light Metals Division of IOM3 in the early part of 2019. Similarly, the former European Association for Brazing and Soldering (EABS) has been superseded by the IOM3 Brazing and Soldering Group, part of the Surface Engineering Division of IOM3.

The National Materials and Mining Archive (NMMA) and the Information on Mining, Metallurgy and Geological Exploration (IMMAGE) bibliographic database work developed in 2019, as did the library digitisation project. In August 2019, as part of the changes outlined above the management responsibility for this activity switched to Katherine Williams, Head of Content.

Signature Materials was all but dormant in 2019 as resource was allocated to other roles. There has been a significant increase in the theft of metals including catalytic converters, an area where Signature Materials has been trialled successfully in the past. Discussions started with 3<sup>rd</sup> parties with a view to the future development of the technology.

Major objectives for 2020 are to:

- Continue to provide a high quality service to members and the general public
- Review and revise the operation of the Technical Communities
- Support the review of the Industry Affiliate Scheme
- Develop a sustainable team model including recruitment of Policy Research Fellows to increase our capacity to contribute to and comment on government/agency policies.



'For the IOM3 Inauguration Day, two display cases were organised of Sir Henry Bessemer artefacts, which are placed in the Bessemer Suite at the Institute Headquarters in London. A third case was added to our Safety Lamps Collection.'

**Hilda Kaune, Senior Information Advisor**

## Library

Towards the end of 2019, IOM3 recruited a new Library Assistant to provide services for the NMMA in Grantham. This strengthens the library team and boosts our plan to make the collection more useable for our members.

The digital library remains accessible to members and during 2019 further digitised content was added including the volumes related to wood and ceramics. We continued to supply mining content to OneMine which members can access for free via the member benefits link.

The Content Café section of our website was launched and contains items on mining, lithium and polymers with the aim to increase content throughout 2020.

## Magazines

The past 12 months have been a positive and productive period for the magazines team. While *Clay Technology* made a return to technical, industrial-focused content, *Materials World* took advantage of the Institute's anniversary year to support and highlight the work taking place in our Technical Communities and Local Societies. Through the publishing of research and opinion articles, reporting on events and awards, the magazine helped to celebrate the achievements of our members and of the Institute itself. This culminated in the May 150th Anniversary special issue, which marked the inauguration month with a bumper magazine featuring historical information and a pull-out centre. Following this, *Materials World* switched to recycled paper and a recyclable plastic wrapper which has been a great success.

Going forward, there are additional changes ahead to help grow the brands. These include:

- A soft launch of the new website, as well as incorporating other rich media, including podcasts
- Restructure of the team to better serve online and print channels
- A commitment to technical content and thought leadership, in line with the Institute's values and mission, and
- Revised timetable and design for *Clay Technology*, to improve quality and brand alignment.

Right: *Materials World* May Anniversary issue.



Above: Grantham library.

'I'm a member of an organisation that values my credibility, integrity and professionalism.'

**Helen Gray BEng MBA CEng MIMMM, Consultant MQI Technical Consulting Ltd**

'Being a member, of this Institute, to me means career development and networking opportunities. It also pushes me out of my comfort zone, allowing me to develop on a personal level as well.'

**Amy Jade Newell TIMMM, Characterisation Technician, School of Metallurgy and Materials, University of Birmingham**

'Membership of IOM3 means I belong to a network of expert practitioners, can keep up to date with the latest developments and gives me an opportunity to influence the future direction of the discipline.'

**Kate Fox, Engineering Specialist, Materials Engineering at Rolls-Royce**

## Training

2019 saw a solid performance from the IOM3 Training Academy. Both the Diploma in Packaging Technology and Certificate in Packaging saw a year-on-year increase in the classroom delegate numbers. The online format for both courses also continued to be popular.

The two wood courses delivered a consistent performance with the Level 2 Timber & Panel Products delivering 20 delegates. The Level 2 & 3 Clay Technology course was at full capacity of 30 students split between the two courses.

The focus of the IOM3 Training Department moving forward is the creation and delivery of a comprehensive portfolio of professional development opportunities that spans the Institute's areas of influence. To ensure that the evolving course programme has maximum reach, opportunities to deliver professional development content via varied delivery routes is being actively pursued.

Below: Attendees at the Management Course held in 2019.



This report details plans and operations prior to the pandemic and therefore this has not been reflected in the report.

Right top-bottom:  
Attendees at the Oval International Rubber Conference (IRC) 2019.  
IRC 2019 Chair Professor James Busfield opening the conference.



## Journals

Readership of the IOM3 portfolio of journals has maintained healthy growth. In 2019, compared to 2018, there was a 20% increase in article downloads across the publications, reaching a total of 738,356. The most significant development was seen for the journal *Heat Treatment and Surface Engineering* with an increase of 45% in downloads, which we attribute to the journal recently adopting an Open Access publishing model. The journal with the most downloads in 2019 was *Materials Science and Technology* with 198,305 article downloads.

For the majority of IOM3 journals with Impact Factors, the 2018 Impact Factors grew. *International Materials Reviews* experienced the greatest improvement with a 66% increase in Impact Factor to 21.086, placing the journal in the top ten of its JCR category.

Submissions across all the IOM3 journals continue to increase steadily with over 4,000 submissions received in 2019. 951 articles were accepted for publication in 2019. In 2019, the vast majority of article submissions came from China, followed by India, Iran and Turkey. The vast majority of accepted articles came from Germany, Australia, Canada and the UK.

## PIABC

PIABC Limited is a specialist awarding body administered by IOM3, with a suite of regulated and nationally recognised qualifications in the materials sector. During 2019, PIABC Limited continued to develop and evolve qualifications to meet the needs of the materials sector. PIABC Limited also successfully completed its annual regulatory activities for each of its three Regulators (CCEA Regulation, Ofqual and SQA Accreditation). In 2020, PIABC Limited plans to review its packaging qualifications to ensure that they are current and reflect what employers consider is important.



## Commercial

2019 magazine advertising revenue exceeded its forecast and IOM3 staged its first paid for technical webinar. The International Rubber Conference (IRC) 2019 conference attracted significant industry sponsor support along with a large exhibition and the ClayTech UK event staged in November attracted a record level of sponsorship and exhibition revenue with a number of new sponsors and exhibitors attending the event for the first time.

Looking forward to 2020, the sales team are looking to increase the number of paid for webinars and create more digital promotional opportunities.

The Institute has 22 technical communities, societies, groups and associations that act as special interest groups, forming a focus for activities within specific sectors.

## Group changes

From 28 February 2019, the Titanium Information Group (TIG) became a titanium information network under the Light Metals Division of IOM3. TIG members then came under Industry Affiliate Scheme members of IOM3. The Institute also appointed eight Strategic Advisors who met throughout 2019 to discuss Institute priorities and arrange and host the first Technology Communities Board (TCB) Annual Forum in November 2019. The eight Strategic Advisors are:

- Cynthia Adu ProfGradIMMM, Current EngD student at Cranfield University.
- Bryan Allcock FIMMM, CEO TRL9 Limited.
- Andy Birtles CEng FIMMM, Independent Mining Consultant, ANB Mining Ltd.
- James Goddin CEng CEnv FIMMM, Market Development Manager at Granta Design.
- Simon Hogg FIMMM, Senior Lecturer in Metallurgy in the Department of Materials at Loughborough University.
- Graham Ormondroyd FIMMM, Head of Materials Research at the BioComposites Centre at Bangor University
- Sophie Parsons CEng CEnv MIMMM, Lecturer in the Department of Mechanical Engineering at the University of Bath.
- Martin Cox CEng FIMMM, Director of Business Development at Aberdeen Drilling Management

In May IOM3 set up the Resources Strategy Group as a subgroup of the Sustainability Development Group (SDG) of IOM3. Its mission is to focus on the role of waste in a modern economy and it aims to fully engage IOM3 with the public and policy debates on a resource-efficient, low-carbon economy. The group started by organising the Balancing Resource Efficiency with Climate Change conference in November.

‘Professional Membership provides tangible objectives for individuals to aspire to and achieve professional registration. It allows us to educate and encourage the next generation to take up membership. We will continue to work with IOM3 to engage and excite a younger audience about materials science.’

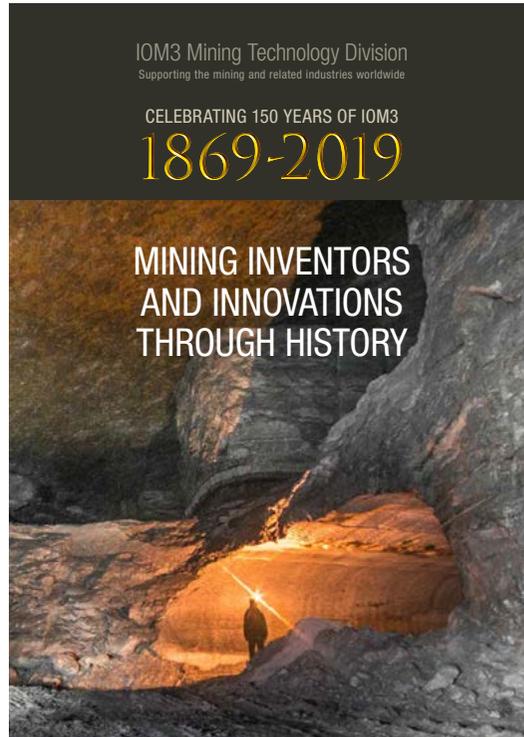
**Dorian Rixon EngTech FIMMM,  
Operations Manager, BAM Nuttall Limited**



‘Membership is validation that my hard work and knowledge has been recognised, and that my age and current experience associated with that are not a restriction.’

**Katrina Love BEng(Hons) EngTech TIMMM PhD Student,  
Materials and Engineering Research Institute (MERI),  
Sheffield Hallam University, UK**





Right: Publication produced by the Mining Technology Division for the 150th Anniversary.

## Content

To celebrate the Institute's 150th anniversary, the Iron and Steel Society (ISS) developed a digital archive detailing how the industry has evolved over this time and the impact it has had on our society. Every month during 2019, ISS launched a new subject area starting with the Industrial Evolution of Steel. The archive has a wide array of presentations, videos, photographs and commentary about the past, the present, and future opportunities. In March 2019, the IOM3 Mining Technology Division Board published a booklet on mining inventors and innovations through history as part of the Institute's 150th anniversary celebrations.

## Media engagement

IOM3 partnered with ITN Productions in January to take part in its *Journey of the Drop* programme, in association with the World Petroleum Council (WPC). In the programme, IOM3 discussed the 2019 150th anniversary celebrations, the Institute's Younger Members' Committee, and encouraging and driving younger people through education into industry. The IOM3 London offices were also featured on the BBC show *The Apprentice* with one of the 2019 episodes filmed in the mine at 297 Euston Road.

## Policy and engagement

IOM3 responded to the following consultations:

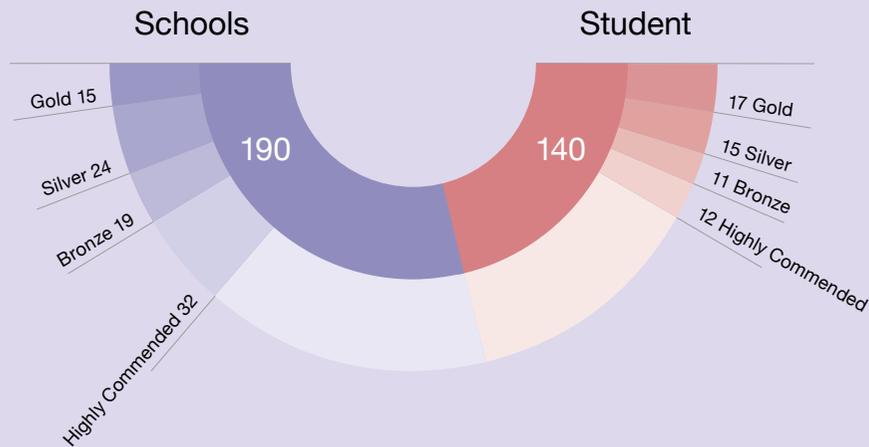
- Plastic packaging tax by HM Treasury
- Packaging waste: changing the UK producer responsibility system for packaging waste by DEFRA,
- Introducing a deposit return scheme (DRS) for containers by DEFRA, and
- Clean Steel Call by BEIS.

In June, the Institute signed up to become a supporter of the UK Plastics Pact Initiative aimed at ensuring that people live in a world where plastic is valued and does not pollute the environment. The Global Minerals Professional Alliance (GMPA) announced it would seek to address global action on tailings with help from IOM3, focusing on examining tailings from the perspective of disposal and closure. IOM3 also became part of the National Engineering Policy Centre.

'My membership allows me to demonstrate my qualifications and experience are recognised internationally.'

**Hannah Tew CEng MIMMM Partnership Lead  
AMRC Composite Centre**

The *Starpack Industry Awards* scheme recognises innovation in packaging design and technology, with its Schools and Student awards intended to encourage young people to take up careers in consumer packaging design.



Left: Starpack Student and Schools entries and awards in 2019.

This report details plans and operations prior to the pandemic and therefore this has not been reflected in the report.

‘My experience in taking part in the Starpack Awards has been very informative, interesting and a good insight as to what the design process entails. Students thinking of entering this project should know that it is fun but challenging at the same time and there is a lot of freedom to express your ideas and possibly develop them further with experienced professionals.’

**Sascha Entwistle, winner from Wimbledon High School**

The Starpack Student and Schools Awards schemes again attracted great support. In 2019, the Schools Awards welcomed entries from Year 7 up to AS Level, and with 190 entries to judge there was no shortage of excellent work. The judges awarded 32 highly commended, 19 bronze, 24 silver and 15 gold stars. The students came from across the UK to collect their awards, followed by a trip to the London Eye. The judges praised the level of this year’s entries and recognised the emphasis on current trends.

The Student Awards attracted over 140 entries and 12 highly commended stars, 11 bronze stars, 15 silver stars and 17 gold stars were awarded, with Loughborough University winning the Eric Dickens Memorial Award for recognition of the high quality of packaging design evident at the college.

The Starpack Student and Schools awards are only possible thanks to the support of the industrial sponsors: Graphic Packaging International, Klöckner Pentaplast, RPC, Logoplaste, University of Cambridge, NHS, Owlstone Medical, Rigid Containers in association with Bakkavor, Metal Packaging Manufacturers Association and Smurfit Kappa.

The Starpack Industry Awards celebrated its 60th anniversary recognising excellence in packaging and the fantastic work being done in process development and engineering, focusing on innovation and recognition of personal as well as corporate achievement. This year we saw 82 entries and from this, the judges awarded 16 Gold, 10 Silver, 10 Bronze and 8 Highly Commended awards which were presented at the awards dinner in June.

## Education

The Schools Affiliate Scheme continues to thrive and at the end of 2019 a review process was started to look at how we can increase our digital and face-to-face interactions with teachers and young people in an impactful and sustainable way. The 'Magic of Materials' Summer School and Engineering Extravaganza events allowed us deliver focussed messages around materials, minerals and mining to over 600 students aged 11-15 and our involvement in conferences and CPD sessions for teachers, in partnership with the Salters' Institute and Horners' Company, provided an opportunity to increase the subject knowledge of over 200 secondary school teachers. We continue to make the best use of our resources to support the teaching of materials, minerals and mining in the 5-19 curriculum and to engage, educate and encourage the next generation of STEM professionals.

## Accreditation

2019 was arguably the busiest year for accreditation at IOM3. 20 visits were undertaken across four countries. Two programmes have been reviewed in line with IEng standard, eleven in line with partial CEng, twelve with full CEng and sixteen with further learning for CEng. In addition to this four Professional Development Programmes were accredited. 2020 holds new challenges for accreditation with the introduction of AHEP 4th Edition and other regulatory changes planned to take place.

## WorldStar

The WorldStar Awards continue to go from strength to strength, gaining more entries year-on-year. The year 2019/2020 saw 214 winners from 36 countries gaining a WorldStar Award and companies will be recognised in the annual Awards Presentations Ceremony & Dinner, 8 May 2020, during Interpack week in Dusseldorf, Germany, one of the largest packaging exhibitions in the world. The contract to organise the awards on behalf of the World Packaging Organisation comes to a close at the end of 2020 and IOM3 will not be bidding to renew the contract.

**Top: Warwickshire Polymer Study Tour at WHS Plastics.**

**Middle: Magic of Materials Summer School held in July.**

**Bottom: Worldstar judging took place in Bali, Indonesia.**





Above: IRC 2019 exhibition hall.

Right: Sir Henry Bessemer Lecture presented by the Bessemer Gold Medallist Jon Bolton.



'IRC 2019 is one of the best conferences I have been to.'

*Ed Miller, Director of the Rubber Division American Chemical Society*

**17 events,  
attracting  
1779 attendees.**

'We were impressed with the organisation, good mix of attendees, good balance of presentation topics and ratio of presentations to networking time.'

*Hayley Larkin CGG attended the Tailings Management – Best Practice conference*

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## Conferences

In 2019 the conferences and events team ran 17 events, attracting 1,779 attendees. Events specifically themed around the 150th Anniversary included The Iron Cycle held in London at 297 Euston Road, and 50 Years of Steel Alloy Design at Sheffield's Cutlers' Hall. The 2019 Bessemer Lecture by John Bolton, Liberty Steel was held at the Science Museum, the afternoon before the Gala Dinner.

In September, IOM3 hosted the International Rubber Conference (IRC) for the UK. Held at the Kia Oval in London, this event was an incredible success, with a sell-out exhibition, 496 delegates plus an additional 104 visitors to the exhibition.

Two new, highly topical conferences at 297 Euston Road also proved extremely successful: Fire Safety, the Role of Materials in the Built Environment in October, and Tailings Management Best Practice in September, achieving a capacity audience.

The triennial Adhesion conference and annual ClayTech conference and exhibition continued to be well received by their respective sectors.

'It was a well organised conference. A really friendly atmosphere.'

*Neal Parkes, University of Birmingham attended the AToMS symposium*



## IOM3 Eastern Australian Branch

Institute members in the Sydney area are looking to set up an Eastern Australia Branch. This is ongoing and they are currently looking for volunteers to help run this branch.

## IOM3 represented at GMPA in Peru

IOM3 attended the Global Minerals Professional Alliance (GMPA) meeting in Arequipa, Peru to discuss the appointment of a GMPA Secretary, the latest developments on Tailings and the OneMine database (a benefit to IOM3 members). During the meeting a new MoU was developed and the Chilean Institute of Mining Engineers became the latest professional body to join the Alliance.

Below: GMPA meeting held in Peru.

Right: First YPLC in Canada.



## South Africa YPLC Final

In June, six students and young professionals from universities across South Africa took part in the Young Persons' Lecture Competition National Final. The winner was Tamlyn Naidu, a Chemical Engineering PhD student from the University of Witwatersrand who gave a presentation on *Acid Mine Drainage Remediation System using Waste Products from the Steel Manufacturing and Sugar Industries*. Tamlyn went on to win the Young Persons' World Lecture Competition final in London in October.

## First YPLC in Canada

The Arthur B McDonald Canadian Astroparticle Physics Research Institute hosted the first national final of the Young Persons' Lecture Competition. The winner was Morgan Lehtinen, a PhD student at Queen's University whose presentation on *H2Only: Smart filters for efficient oil/water separation* earned her a place in the Young Persons' World Lecture Competition. Dr Phil Bischler CEng FIMMM was joined by the 2014 YPLC top finalist Matthew Topping on the first YPLC Canada judging panel, held at McDonald Institute at Queen's University, Kingston.

## Diversity

To demonstrate the renewed commitment from IOM3 to inclusion, diversity and equality, we have made a number of changes relating to codes of conduct. These include new codes of conduct for events and for social media as well as reinforcement of the anti-harassment and anti-discrimination provisions in the main Code of Professional Conduct. Together, these aim to provide a discrimination- and harassment-free experience for everyone in their dealings within the influence of the Institute, regardless of sex, gender identity, sexual orientation, marital or parental status, age, disability, race, religion or physical appearance.

IOM3 has also introduced a new requirement when accrediting university courses to see the appropriate safeguarding and anti-harassment policies. Following from this, IOM3 has proposed to the Engineering Council that it should also adapt its accreditation framework regarding anti-harassment policies for universities and talks regarding these changes are in process. Internally, IOM3 has started to undertake the self-assessment for the Royal Academy of Engineering/Science Council diversity and inclusion progression framework, for completion in early 2020.

IOM3 is also, where possible, removing age limits for awards, bursaries, grants and scholarships and we are introducing diversity monitoring for our awards, training and events activities. We have also started work to support a network for members who identify as LGBTQ+. To be known as IOM3Pride, this network will provide a platform for members to celebrate achievements and debate obstacles for LGBTQ+ members in materials, minerals and mining fields.

Right: 150th Calendar of events for 2019.

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Month	Date	Event
FEB	21	Future cities and mobility: the challenges for tribology
FEB	25	Inauguration Day and unveiling of commemorative artwork at IOM3 HQ 297 Euston Road
FEB	26	2nd Postgraduate Research Symposium on Ferrous Metallurgy
MAR	12	YMC Art Lecture Organized by the IOM3 Young Members' Committee
MAR	30	The Iron Cycle (Fe150) Conference
MAY	1	Young Persons' Lecture Competition UK Final
MAY	10	Materials World celebratory issue
MAY	13	MidSouth IOM3 150th Anniversary joint meeting with Women in Mining
JUN	5	Ceramics Society Muller Memorial Lecture
JUL	3-4	Timber 2019
JUL	11	Gate Droner and Premier Awards at the Science Museum
JUL	11	Bessemer Lectures
JUL	12	Bessemer Masterclass
SEP	3-5	International Rubber Conference IRC 2019
SEP	3-5	Adhesion Conference
SEP	16-18	Parsons 2019 10th International Turbine and Generator Conference
OCT	3	Fire Safety - the Role of Materials in the Built Environment
OCT	6	Matpatoy, London
OCT	8	Special Awards Dinner
OCT	10	Young Persons' World Lecture Competition Final
OCT	15	Steel Strategy Seminar - Industry 4.0 Schools Activity A World without Steel?
NOV	7-8	50 Years of Steel Alloy Design Iron & Steel Society Technical Conference
DEC	17	Future Materials Conference Organized by the IOM3 Young Members' Committee

**OTHER ACTIVITIES /**  
Iron and Steel Society Virtual exhibition  
To find out more visit: [www.iom3.org/150](http://www.iom3.org/150)

'As the lead for IOM3Pride, I am delighted at how engaged IOM3 is with improving representation and support for those in divergent and minority groups, like myself, within STEM generally, and engineering specifically.'

**Dr Emily Radley, Chemist and Materials Engineer at Swansea University and Treasurer of South Wales Materials Association**

## Communications

A significant part of the Communications team time was spent helping to structure and organise the 150th Anniversary celebrations. The design team were busy throughout the year creating conference design materials, videos to celebrate the 150th anniversary and launching the Warren Street window display. In addition, a lot of time was spent promoting conferences via social media, press releases and news items as well as increasing the profile of IOM3 through the help of the Strategic Advisors who received Media Awareness Training in June. The Communications team also built further links with the Knowledge Quarter (KQ) – a hub of organisations around the Kings Cross/Euston area – to promote IOM3 events, attend free morning workshops and our London office also featured on the KQ walking tours. In 2020, the communications team will be focused on improving our visual presence at future events and rebranding to tie in with the launch of the new website in 2020. Our social media activity continues to expand apace with Twitter followers on the @iom3 account now standing at 9,282, an increase of more than 2,000 on 2018. Social media engagement at our conferences and events has continued, with live tweeting from team member accounts as well as delegates and speakers. Our LinkedIn company page now has over 11,000 followers and is updated almost daily by the team. Our Facebook page has 3,744 followers and we have also developed an Instagram presence @iomthree with the help of the excellent graphics custom-made by our in-house Design Team. Website sessions referred from social media were up over 17% on 2018.

The number of website users (site visitors) nearly doubled in 2019, rising by 83.75% on 2018, with 52% more website sessions. Total page views were up over 3.6%, with unique page views up 11.9%. The number of new visitors to the site increased by around 7%.

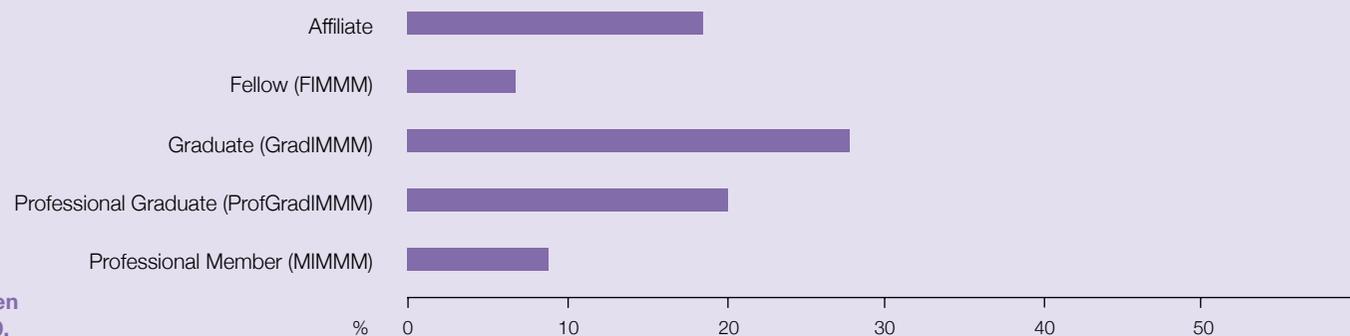
The IOM3 [Women In Materials, Minerals and Mining \(WIM3\)](#) group organises networking events for women in different parts of the UK and develops mechanisms to support women in their careers in the materials industries.

## International Women's Day

On 8 March 2019, IOM3 celebrated International Women's Day (IWD), recognised annually since the first IWD in 1911. The day celebrates the social, economic, cultural and political achievements of women. The day also marks a call to action for accelerating gender parity. This year's theme focused on #BalanceforBetter. Balance is not a women's issue, it is a business issue. The race is on for the gender-balanced boardroom, government, media coverage, employees, wealth and sports coverage. IOM3 joined in the celebrations on social media sharing pictures of staff holding IWD posters and *Materials World* making its female-focused features open to the public for the day. As part of our Women in Fellowship scheme and Women in Materials, Minerals and Mining Group, we are looking to increase the number of females within the Institute with help from our current President Professor Serena Best.

'WIM3 had a successful year and joined in the 150th anniversary celebrations of the Institute. We organised two seminars in Birmingham and London, which promoted and networked various women across the IOM3 fields. Female members of IOM3 now constitute 19% of members, which we are proud to have been part of growing.'

**IOM3 WIM3 Chair Margaret Wegrzyn**



Right: Proportion of women members by grade in 2019.

## Women in Materials Seminar held in Birmingham

On Friday 15 March 2019, the WIM3 group held its spring seminar at the University of Birmingham, UK. More than 70 female students from academia and industry, joined together for talks on careers, mentoring and networking. Talks were given by Dee Harris from Jaguar Land Rover, Louise Gale from Rolls-Royce, Amy Gandy of the University of Sheffield and Emma Kendrick from the University of Birmingham, who all spoke about their careers in materials science and engineering fields. 'I like how the applications of materials science can change the world around us,' Louise Gale from Rolls-Royce said. The day finished with a panel discussion on the book titled, *Rise of the Rocket Girls*.

## International Women in Engineering Day 2019

On 21 June 2019, the WIM3 Group held an afternoon seminar to celebrate International Women in Engineering Day. The event was held at 297 Euston Road, London, with an afternoon programme featuring a keynote lecture from IOM3 President, Professor Serena Best as well as talks from Elizabeth Eaves from Synvina in The Netherlands, Maria Ribera Vincent from Imperial College London, Katie Atkinson from Allen & Overy (recognised in the Top 50 Women in Engineering Awards 2018) and Kate Thornton from Croda and Vice-President of IOM3. A special guest among the audience was Mary Lawson, a past President of the Clay Technology Institute in Scotland who was 100 years old. IOM3 also celebrated INWED with the launch of the Stephanie Kwolek window display.



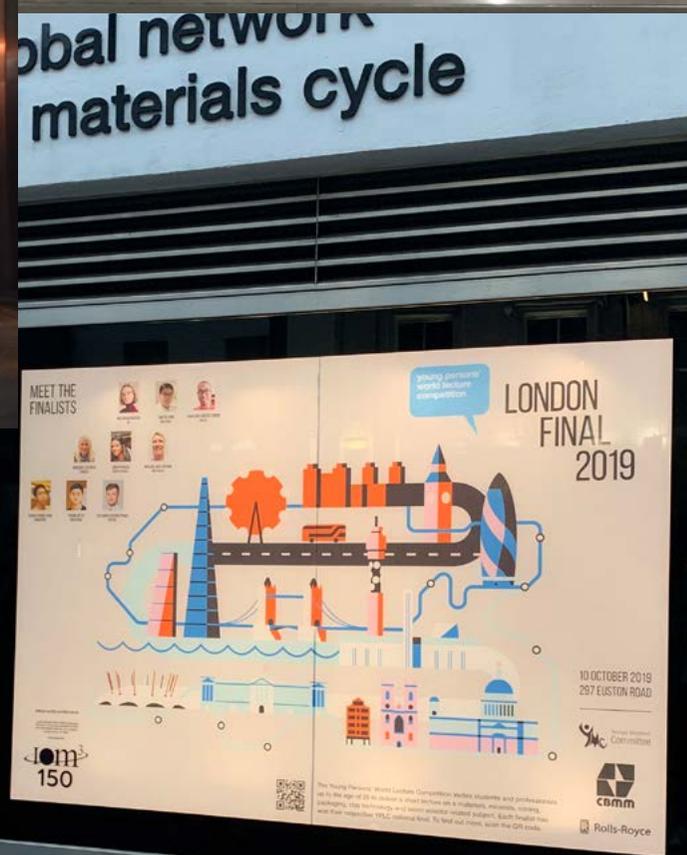
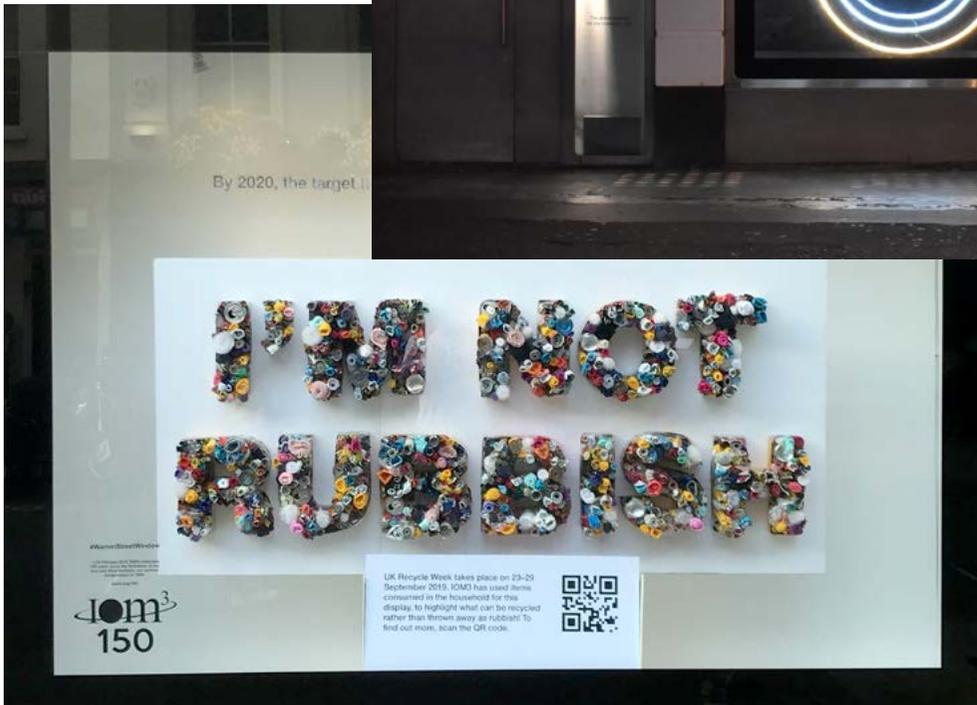
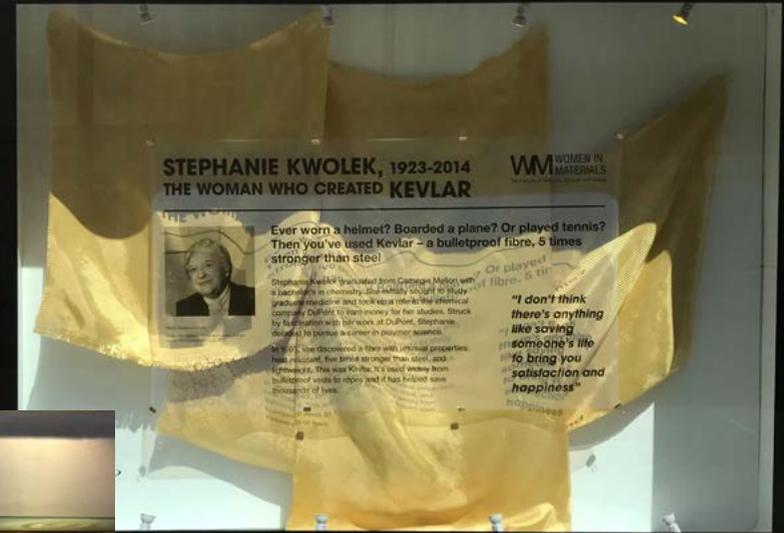
Below: International Women in Engineering Day 2019 held at 297 Euston Road.

Above: Women in Materials Seminar at the University of Birmingham.



## Warren Street window

In February 2019, the IOM3 Design Team launched the Warren Street window display in London. Displays during the year included themes on 'Recycle Now' week, the 150th anniversary, membership, Young Persons' World Lecture Competition, the history of the tin can, the woman who created Kevlar (Stephanie Kwolek) and an LED-themed display to brighten the winter evenings.



## Data security and digital transformation

During 2019, IOM3 embarked upon a major digital transformation project to upgrade the IOM3 membership database and implement new digital technology across all its activities. The main drivers for this were the desire to enhance digital product and services delivery and improve online user experience, the impending obsolescence of the membership database, and the need to integrate disparate systems currently forming data silos and making it difficult to service members and customers effectively.

The Institute's central membership database dated from before 2002, as it was used by the former Institution of Mining and Metallurgy (IMM) which merged with the Institute of Materials to form IOM3. The database was integrated with the IOM3 website for the purposes of member joining, profile updating and online payments, but apart from this IOM3 has a number of other systems performing the functions of conference and awards registrations, email marketing, commercial sales, HR and finance, which are not integrated and require transfer of data/manual updating. We were acutely aware of the need to improve our digital services offering and enhance online user experience, as well as allowing services to be delivered in a more granular way according to member or customer need, grade or type.

From the outset, this major project has focussed on improving online member value and member engagement, and meeting online member expectations, with the knowledge that these are only likely to increase in future.

Aware of the importance of selecting the right digital partner to deliver a new system, and of the issues encountered by other membership organisations that had started out on a similar journey, IOM3 chose to work with a digital consultancy, Hart Square, to develop an objective and realistic strategy for project delivery. Hart Square managed the process of requirements gathering, tendering and supplier selection, and also provided IOM3 with a project manager for the implementation phase of the project.

A new membership management system and Member Portal were delivered within a record 5 months, in time for the end of the contract with the legacy database supplier, putting in place a system that could be extended during the second phase of the project to provide the additional functionality required to integrate the Institute's other activities. The new system was launched at the end of January 2020 and this year will see its gradual expansion, as well as the development of a new website, building on the newly launched member portal. Together with the refresh of the IOM3 visual identity taking place, this will mean that by the end of 2020, IOM3 will have a fresh identity and will have moved entirely onto modern digital platforms that will provide a firm foundation for future development. During 2020, we also plan to invest further in IT to improve flexible working, reduce costs and secure business continuity.



'I'm very proud to be a Chartered Engineer and member of IOM3. I'd like to broaden my engineering horizon through Chartership as well as to pass on some of my experience to support other members of the Institute in their professional careers.'

**Dr Katja Löhnert CEng MIMMM Engineering Programme Manager, Rolls-Royce plc**



'My membership with IOM3 demonstrates my commitment towards responsible use of science and engineering knowledge for the society and environment.'

**Dr Davannendran Chandan CEnv CSci MIMMM**



'Professional membership of IOM3 is recognition of competence in a wide range of engineering and scientific disciplines and proof of my commitment to continual development.'

**Morteza Aboutalebi CEng FIMMM, Principal Structural Engineer - Technical Excellence, British Board of Agrément**

## Venue Hire

IOM3 increased internal use of the building for smaller conferences and events during 2019 as well as the external use of rooms meant that overall venue hire was within budgeted income. During 2019, we employed the facilities management company Landmark to support the Institute in improving the standards within the building in London and Grantham and they will be working on a number of projects during the course of 2020 and 2021.

During the year we built on our relationship with the Knowledge Quarter and Fitzrovia Partnership and hosted meetings and events for both. A real highlight of the year was to be part of the BBC show *The Apprentice* with one of the 2019 episodes filmed in the Mine at 297 Euston Road.

We continued our relationship with some long-term clients in Grantham which is working well. During 2020, we will be focusing on a number of improvement projects for London and Grantham for both the building and equipment upgrade as well as looking to increase income. During the later part of 2020 we will look to source serviced offices in the Stoke area for our Membership and IT teams. This is to limit the risks of lone working and facilitate the sale of Shelton House, our Stoke office.

We aim to ensure that as a business we are fully engaged in minimising our impact upon the environment. Therefore, in March 2020 we made our pledge to Net Zero in order to help bring all greenhouse gas emissions to Net Zero by 2050. We have a number of projects going on in order to help us achieve these targets, which include reviewing energy consumptions for London and Grantham. We are also looking into how much as a business we send to landfill and ways to reduce this.

In line with our promise to protect our environment, IOM3 has made the following changes in 2019 including:

- Removing single-use plastic cups and bottles from our venues
- Changing our member magazine paper to recycled and introducing a recyclable plastic wrap for the member magazines
- Introducing food waste bin and glass recycling at our offices

Last year, London, Grantham and Stoke produced 134.14 tonnes of CO<sub>2</sub> on gas and electricity alone. By simply changing the type of lighting we use in the London offices we can reduce our CO<sub>2</sub> by 14%. Also, in the past 12 months London produced 18,450kg in general waste and 6,525kg in mixed recycling, therefore only 37% of our total waste was recycled. Our target for 2020 is to increase the amount of waste that is recycled to 45%.

‘Excellent, speedy response to our enquiry for a room. Food was lovely. Staff were friendly and helpful.’

**External client of IOM3.**

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Left: IOM3 London office, 297 Euston Road.



‘Membership encourages development of a career with direction through structured introspection and examination. It is particularly useful for materials scientists working in small labs wishing to network with a wider community of professionals.’

**Daniel Tustin, Chemist, CHT UK**

## The IOM3 team

2019 was a special year for the whole IOM3 team with a new Chief Executive and a busy 150th anniversary programme. The team across all our sites really came together to produce a series of successful events, including our spectacular Gala Dinner. The Institute trialed a flexible working pattern for the summer during 2019 and this proved to be popular with both the team and external visitors who expressed how forward thinking they felt the trial was. The trial was viewed as a success and will be run again in 2020. During 2020, IOM3 will plan to work on a Training and Development Programme for all team members.




‘IOM3 allows me to stay in touch with the industry’s latest advancements and to network with like-minded people. Becoming a Fellow is a huge honour and help in supporting my career. I am also now proud to be the chair of the Construction Materials Group and to support the Institute in its activities.’

**Flavie Lowres, Associate Director, Research and Strategic Advisory Group, BRE**

‘As a Fellow of the Royal Society of Chemistry, being awarded Fellowship of IOM3 is an excellent recognition for the application of chemistry to the development of useful materials for industrial applications. It is also very valuable in expanding one’s professional networks to the very large number of technology, engineering and materials communities that make up the IOM3 membership globally.’

**Dr Su Varma CChem FRSC FIMMM Academic Director, Incubator R&D NSG European Technical Centre**



# Awards, Medals & Prizes





The Institute's medals for personal achievement and publications are a history in themselves, drawn from the predecessor bodies of IOM3, with the Bessemer Gold Medal first being awarded in 1874. A special display case housing all of the medals was unveiled on the Inauguration Day anniversary, in February.

The Institute awards numerous medals and prizes in recognition of outstanding contributions to science, technology and management across all disciplines in materials, minerals and mining.

Awards are presented for personal achievement and published work as well as for outstanding contributions to the Institute and its activities. Some awards are aimed specifically at earlier career stages, others recognise technological developments or contributions to education. Awards are presented at special occasions throughout the year, and some award winners deliver lectures to which all members are invited. Prizes are also presented to the best students in specific disciplines and IOM3 runs competitions such as the Young Persons' Lecture Competition to recognise communication and presentation skills. Full details of IOM3 awards and prizes are published on the IOM3 website at [www.iom3.org/iom3-awards](http://www.iom3.org/iom3-awards).

The Institute's **awards, medals and prizes** are awarded for outstanding contributions to science, technology and management in the field of materials, minerals and mining.

## Premier awards

Bessemer Gold Medal	Jon Bolton
Chapman Medal	Prof John Fisher
Futers Gold Medal	Sandy Gray
Gold Medal	Dr Geoff Scamans
Griffith Medal & Prize	Prof David Jones
Platinum Medal (joint)	Prof Robert Young & Prof Roger W Whatmore
Silver Medal	Dr Kate Thornton
Sir Andrew Bryan Award	Barry Lye
Sir Colin Humphreys Education Award	Dr Russell Goodall
Colwyn Medal	Dr C Michael Roland
Prince Philip Award	NEXTEK

## Personal achievement awards

2018 Harvey Flower Titanium Prize (Retrospective)	Dr Kate Fox
Dowding Medal and Prize	Prof Jesus Talamantes-Silva
Grunfeld Memorial Award and Medal	Dr Roberto Morana
Frank Fitzgerald Medal and Travel Grant	Dr Hollie Cockings
Hadfield Medal and Prize	Prof Claire Davis
Hume Rothery Prize	Dr Suzana G Fries
Ivor Jenkins Medal	Dr Leo Prakash (posthumous)
James S Walker Award	Eleanor Howland
Kroll Medal and Prize	Prof Duncan Gregory
Leslie Holliday	Dr Rod Martin
Institute's Technician Medal (joint)	Mitchell Greener & Tomasz Zalewski
Local Society of the Year (Large)	South Wales Materials Association
Local Society of the Year (Small)	East Midlands Materials Society
Local Society of the Year (Special Commendation)	Western Institute of Mining & Minerals
Outstanding Contribution Awards	James Shields, Dr Gene Donald Spenceley & Prof Ivor Rex Harris

## Personal achievement awards (continued)

Stockwiec Medal & Prize	Martin John Rawson
Robert Perrin Award	Dr Rachael Ambury
Rosenhain Medal & Prize	Dr Christopher Gourlay
T B Marsden Professional Award	Deborah Keighley
Thomas Medal and Prize Prize	Dr Edwin Jackson
Thornton Medal	Ivor Tedbury
Tom Colclough Medal and Prize	Andrew Dunsmore
Verulam Medal and Prize	Prof Luc Vandeperre

## Publication awards

Adrian Normanton Award	K L S Assis & P C Pistorius
Alan Glanvill Award	S Tadakaluru, T Kumpika, E Kantarak, W Sroila, A Panthawan, P Sanmuangmoon, W Thongsuwan & P Singjai
Composite Award	Prabij Joshi, Atsushi Kondo & Naoyuki Watanabe
Materials World Medal	Joseph Bear
Pfeil Award	J Han, J Zhao & Z Shen
Williams Award	Diptak Bhattacharya

## Joint awards with other bodies

Beilby Medal & Prize	Prashant Jain
Charles Hatchett Award	Kent Griffith, Kamila Wiaderek, Giannantonio Cibir, Lauren Marbella, Clare Grey
Vanadium Award 2019 (Retrospective)	L Cho, E J Seo, D H Sulistiyo, K R Jo, S W Kim, J K Oh, Y R Cho & B C De Cooman

## Competitions

Young Persons' Lecture Competition	Megan McGregor
Young Persons' World Lecture Competition	Tamlyn Naidu

## Other awards

Royal Charter	Tom Zalewski
AT Green	Maxim Vreeswijk
RH Craven	Samuel Grisa
Technician of the Year Category A	Steven Challinor
Technician of the Year Category B	Gabriella Horan & Laura Jackman
Outstanding Service Award by IOM3	Sue Parker
Local Affairs Board	



'I thank IOM3 for sponsoring the Colwyn Medal and commend their many efforts to promote the science and engineering of materials.'

**Mike Roland, winner of the Colwyn Medal in 2019**

'These awards are really essential to make sure we are recognising the leaders in the field and by doing this we are advertising to the whole world the importance of materials, minerals and mining, which underpin so much of what we do in our everyday life.'

**Professor Serena Best CBE FREng CEng FIMMM**



**Above: Serena Best presenting Mike Roland with his medal at IRC 2019.**

**Left: Serena Best with Gold Medal winner Dr Geoff Scamans.**

## Honours and awards

### Other Awards

Suffrage Science Award – recognises researchers across a range of different disciplines, spanning medicine and life sciences, mathematics and computing through to engineering and physical sciences.

- President Professor Serena Best CBE FREng CEng FIMMM
- Armourers and Brasiers' Award from the Royal Academy of Engineering
- President Professor Serena Best CBE FREng CEng FIMMM

### Top 100 women engineers from history

Magnificent Women released a list of 100 women engineers from history as part of a project to celebrate the achievements of women in engineering over the past 100 years and IOM3 is pleased to see eight women members of IOM3 and its predecessor organisations featured.

Among these are:

- Cleone de Heveningham Benest (1880-1963)
- Marie Gayler (1891-1976)
- Monica Maurice (1908-1995)
- Marion McQuillan (1922-1998)
- Dorothy Pile (1902-1993)
- Jane Plant (1945-2016)
- Jean Taylor (1924-1999)
- Constance Tipper (1894-1995)

### Royal Academy of Engineering

Fellows of IOM3 appointed Chairs in Emerging Technologies by the Royal Academy of Engineering:

- Professor Judith Driscoll FREng FIMMM
- Professor Peter Lee FIMMM

'IOM3 can help people grow in their particular fields but it also gives them an opportunity to speak to people in other fields to share knowledge.'

**Barry Lye CEng CSci FIMMM**



'The Institute takes its work with schools and young people very seriously. It is really important for us as a relatively little known discipline to get out there and tell people what materials is all about.'

**Dr Russell Goodall CEng FIMMM**



**Above: Serena Best presenting the Sir Andrew Bryan Medal to Barry Lye.**

**Left: Sir Colin Humphreys presenting the Education Award to Dr Russell Goodall.**

## Local Society of the Year (Large)

Awarded to South Wales Materials Association. Their award was based on their high attendance numbers and good academic/industry interaction through a full events schedule. This included international talks from visiting speakers based in the USA and Spain. The strong leadership provided by the SWMA council has enabled the branch to further extend into both industry and academia which has led to the broader recognition of the branch locally as well as of the IOM3 itself. They plan to use the prize money to purchase several items of outreach kit.

## Local Society of the Year (Small)

Awarded to East Midlands Materials Society. Their award was based on their thorough application, work with younger members, strong programme and excellent social media presence. This year also saw the first meeting promoting Women in Engineering and Women in Materials. EMMS are also making steps to encourage older members to get involved by organising afternoon events. They continue to support the development of future professionals; these include funding of membership of IOM3 for students, continued sponsorship of the Young Persons' Lecture Competition and co-sponsoring Loughborough University schools outreach programme. They also sponsored and participated in a Young Members' Committee organised 'Materials Matter' event at Rolls-Royce which was very successful.



## Local Society of the Year (Special Commendation)

Awarded to Western Institute of Mining & Minerals, WestIMM. Special Commendation was to highlight their continued engagement with younger potential members through the networking sessions at their events and meetings. They work closely with the Earth Science Department at Keele University, they present the annual Wynne Student Prize as well as other awards. They engage with other allied societies on a regular basis.

## Financial review

### Overview

2019 was a busy year for the staff, trustees and volunteers of The Institute of Materials, Minerals and Mining. Against the backdrop of 150th anniversary celebrations, the Institute started a major capital expenditure project while also aiming to improve core business performance.

The Institute and its subsidiaries finished the year with a combined overall deficit of £474k, a significant improvement on deficit of £3,267k generated in 2018. Despite strengthening performance of some of the Institute's main income streams, continuing cost control, and a significant improvement in the market value of the Institute's investments portfolio (2019 – gain of £1,208k, 2018 – loss of £909k) the valuation of the defined benefit pension scheme brought in £1,172k of recognised actuarial losses resulting in significant adverse impact on the year-end results.

The Institute's main activities had an overall good performance in 2019, with conferences, training services and membership performing particularly well. As a result, the Institute's total revenue saw an increase of 7.5% from £4,007k in 2018 to £4,308k in 2019. 150th anniversary celebrations contributed to the increase in running costs of the Institute and its subsidiaries, with an overall increase of 6.6% in operating costs. Full breakdown of the Institute's income streams and their performance compared to 2018 can be seen on page 58.

While COVID-19 at the start of 2020 put some of the Institute's plans on hold, in the background the team and trustees continue to look for further cost savings and new income streams to ensure the Institute's activities return to normal and it starts operating at break-even level as soon as possible.

As with other organisations, the costs of running the defined benefit pension scheme and funding its deficit continue to have a significant effect on the financial results and strategic development of the Institute. The 2019 triennial actuarial valuation was completed in March 2020 showing a significant increase in the scheme's deficit from £1,623k to £3,689k. In an attempt to tackle the deficit it was agreed that the Institute will resume the payment of the scheme's running costs, contribute deficit funding at a rate of £200k p.a. over the next 3 years and increase a first charge against the London property to £5.5m (previously £610k).

### Investments review

Most of the Institute's investments portfolio is managed by BlackRock. 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.

Despite £550k being released during the year to assist with cash flow requirements, the Institute's investments saw an improvement in market value compared to 2018. Overall, the market value of the Institute's restricted and unrestricted portfolios increased by 7.7% year on year to £9,169k (2018 - £8,511k). Despite a significant fall in value at the beginning of 2020, the Institute's investments portfolio recovered somewhat by 30 June 2020, with an overall fall in value amounting to 8.5% (compared to 16% fall in value as at 31 March 2020)

Approximately 70% of the Institute's investments portfolio were held in Charishare Fund, an equities investment fund developed for the not for profit sector. In July 2020 the Institute completed transition of its investments portfolio to BlackRock Charities Growth & Income Fund, a sustainable investments fund which aims to provide a return on investment (net of fees) over a period of 5 or more consecutive years through an increase to the value of the assets held and/or income received from those assets whilst adhering to the Fund's environmental, social and governance (ESG) criteria.

### Freehold properties review

The Institute owns two freehold properties, one in London and one in Stoke-on-Trent. In line with the Institute's accounting policies, both properties were revalued to their present market value at the end of 2018.

Trustees reviewed value of the properties in January 2020 and were satisfied that there was no change to the market value of the Institute's freehold properties as at 31 December 2019. Trustees are satisfied that value of freehold properties was not significantly affected by the Covid-19 pandemic.

## Reserves review

The Trustee'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 £10,680k at 31 December 2019.
- 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 £57k as at 31 December 2019. Reserves held in other designated funds amounted to £939k, including £699k held in the revaluation reserve.
- 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 reserves total £2,221k at the year end and represent 47% of the budgeted operating expenditure for 2020. The trustees are aware that this level of reserves is insufficient to achieve the long-term objectives of the Institute and are currently looking at ways of maximising the use of the Institute's fixed assets and broadening the use of restricted funds.

In light of the challenges faced by various Institute activities, trustees set a budget for net expenditure of £124k for 2020 to support initiatives for the development of membership, training and conference programmes. In addition, trustees agreed to provide the pension scheme with a deficit funding of £200k p.a. for 3 years starting January 2020 and to continue with the planned property improvement and digital transformation programme at an estimated cost of £520k in 2020.

## Principal risks and uncertainties

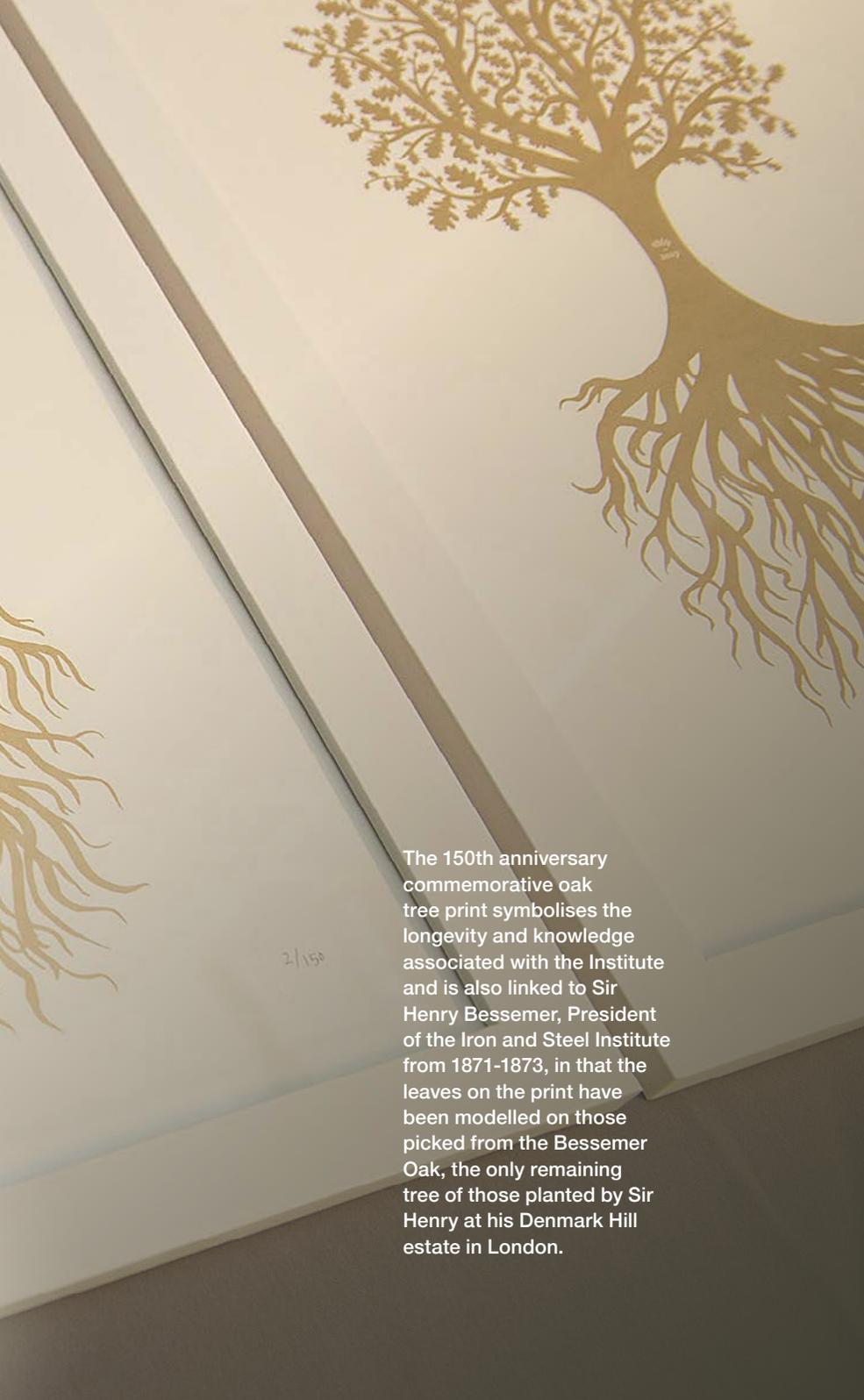
Trustees have identified the following major risks facing the Institute:

- Failure of IT systems and compromise to the use of the membership database as a result of cyber security breach;
- Loss of members through the ageing population and economic impact within the industry;
- Difficulty in maintaining the current income streams;
- Financial impact of the deficit of the defined benefit pension scheme on the Institute's future strategy;
- Impact of the Covid-19 pandemic on the Institute's operations;
- Major adverse change in investment values;
- Major adverse change in the UK and global economy.

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



# Structure & Governance



The 150th anniversary commemorative oak tree print symbolises the longevity and knowledge associated with the Institute and is also linked to Sir Henry Bessemer, President of the Iron and Steel Institute from 1871-1873, in that the leaves on the print have been modelled on those picked from the Bessemer Oak, the only remaining tree of those planted by Sir Henry at his Denmark Hill estate in London.

The oldest nation-wide constituent of this Institute was created in 1869. The Institute of Materials, Minerals and Mining is a body incorporated by Royal Charter dated 25 July 1975 and modified on 26 June 2002 and is a Registered Charity. Up until November 2019, the Institute was governed by a broadly based Council whose members' represented the full scope of interests of its membership. However, a new Governance Structure was approved by the Privy Council in August 2019 and implemented in November 2019. This governance change is described in more detail on the following pages.

The income generating activities of the Institute are managed by the Institute's charitable trading company, IOM Communications Ltd. One of the most important areas of activity is the provision of information on materials, minerals and mining through Institute publications, conferences and library services. A major benefit for all members is free access to the Institute's Materials Information Service, which includes a telephone helpline and on-site specialist support. The Information Services group is also responsible for developing the Institute's Industry Affiliate Scheme (IAS), and for managing IMMAGE, the international mining and minerals abstracts database. Materials Institute Services Ltd is a wholly owned subsidiary of IOM Communications Ltd, responsible for IOM3 venue hire activities and for the Signature Materials anti-theft metal marking activity.

## Structure, governance and management

### Changes to Governance

During the Extraordinary General Meeting held in July 2018, the Institute's voting members agreed to a suite of proposed changes to the Institute's governance structures. Following discussions with the Engineering Council, Science Council and the Society for the Environment, in 2019 the Institute formally requested approval for the changes from the Privy Council (required because we have a Royal Charter). Approval was granted and new Governance came into effect in November 2019. The purpose is to modernise the Institute's arrangements to better reflect current charity and professional body good practice. The structure up until November 2019 can be found in the 2018 Annual Report (page 48). The Royal Charter, revised Bye-Laws and new governance structures are further explained on the following pages.

### Executive Board

IOM3 is managed by an Executive Board, most members of which are Trustees of the Institute. The Trustees are drawn from senior members of the Institute and are responsible for the ongoing management of strategy and performance of the Institute. The members of the Board include those who are following presidential succession, and members involved as chairs of other activity boards.

### Advisory Council

The Advisory Council exists to advise the Executive Board on major strategic decisions and strategic planning and consists of the Officers of the Institute together with 21 members representing the Technical Communities, eight members representing Grades and seven members representing UK and overseas regions.

### Audit Committee

The Audit Committee reports directly to the Executive Board, and comprises a chair and five other members, not more than two of whom can be Trustees. The committee keeps under review the effectiveness of the Institute's financial reporting, internal control policies and operating procedures, and has a broad remit to review all elements and levels of Institute governance and function.

### Technology Communities Board

The Institute's technical communities structure is designed to provide enhanced networks for learned society activities in addition to regionally organised affiliated society events. In effect, members can become involved in any number of these communities that deal with their own interest areas, albeit that many of the activities developed by the communities will be on a national or an international scale.

### Members' Board

The Members' Board is responsible for co-ordinating the Institute's activities in the regions and other member networks. The Institute has a network of affiliated societies throughout the UK, as well as overseas groups. Events and activities co-ordinated by local groups and societies are also supported through the divisional structure. The Members' Board also looks after the interests of Women in Materials, Minerals & Mining, Younger Members and International Affairs.

### Younger Members' Committee

The Younger Members' Committee (YMC) was established in 1967 to represent the views and interests of the Institute's younger members, and is one of the longest running committees in our history. It organises various events and activities throughout the year.

## Women in Materials, Minerals & Mining Committee

IOM3 Women in Materials, Minerals & Mining (WIM3) was established in 2012 to provide a focus for women members within the Institute and help support them in their careers. The WIM3 committee has organised several successful events around the UK which have attracted women members at all stages of their career and provided valuable networking opportunities for women.

## Professional Affairs

Professional affairs within the Institute are overseen by the Professional Standards & Development Board, which deals with membership, qualifications, accreditation and education. Contact details for the Board and its committees are as follows:

## Accreditation and Professional Formation Committee (APFC)

The APFC oversees the standards and processes for the accreditation of academic programmes, and company Initial Professional Development (IPD) schemes to meet the requirements for registration levels for which IOM3 has licences, in the UK and abroad.

## Communications and Business Development Board

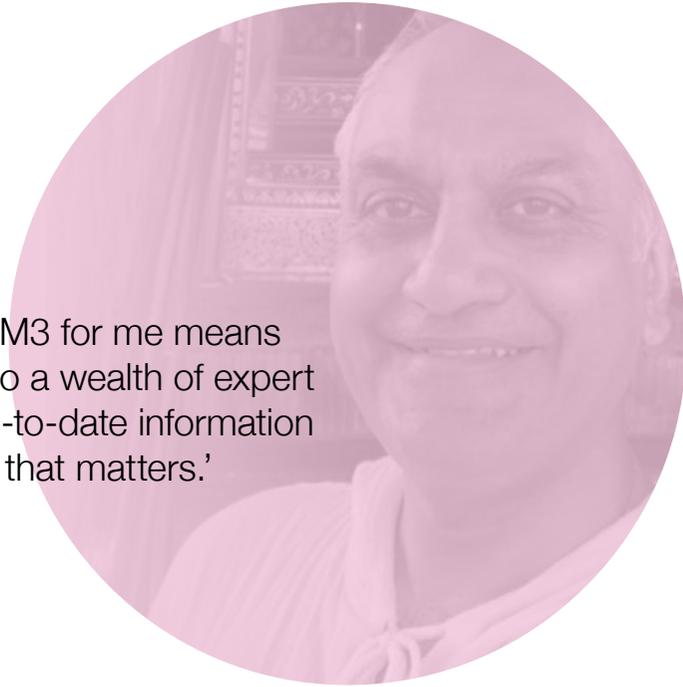
Responsible for strategy development and co-ordination of revenue generation activities within the framework of a charitable trading company, IOM Communications Ltd.

## Materials Institute Services Ltd

A wholly owned commercial subsidiary of the Institute, responsible for IOM3 venue hire activities and for the Signature Materials anti-theft metal marking activity.

## Packaging Industry Awarding Body Company (PIABC Ltd)

A specialist awarding body with a suite of regulated and nationally recognised qualifications in the materials cycle, operating independently from IOM3.



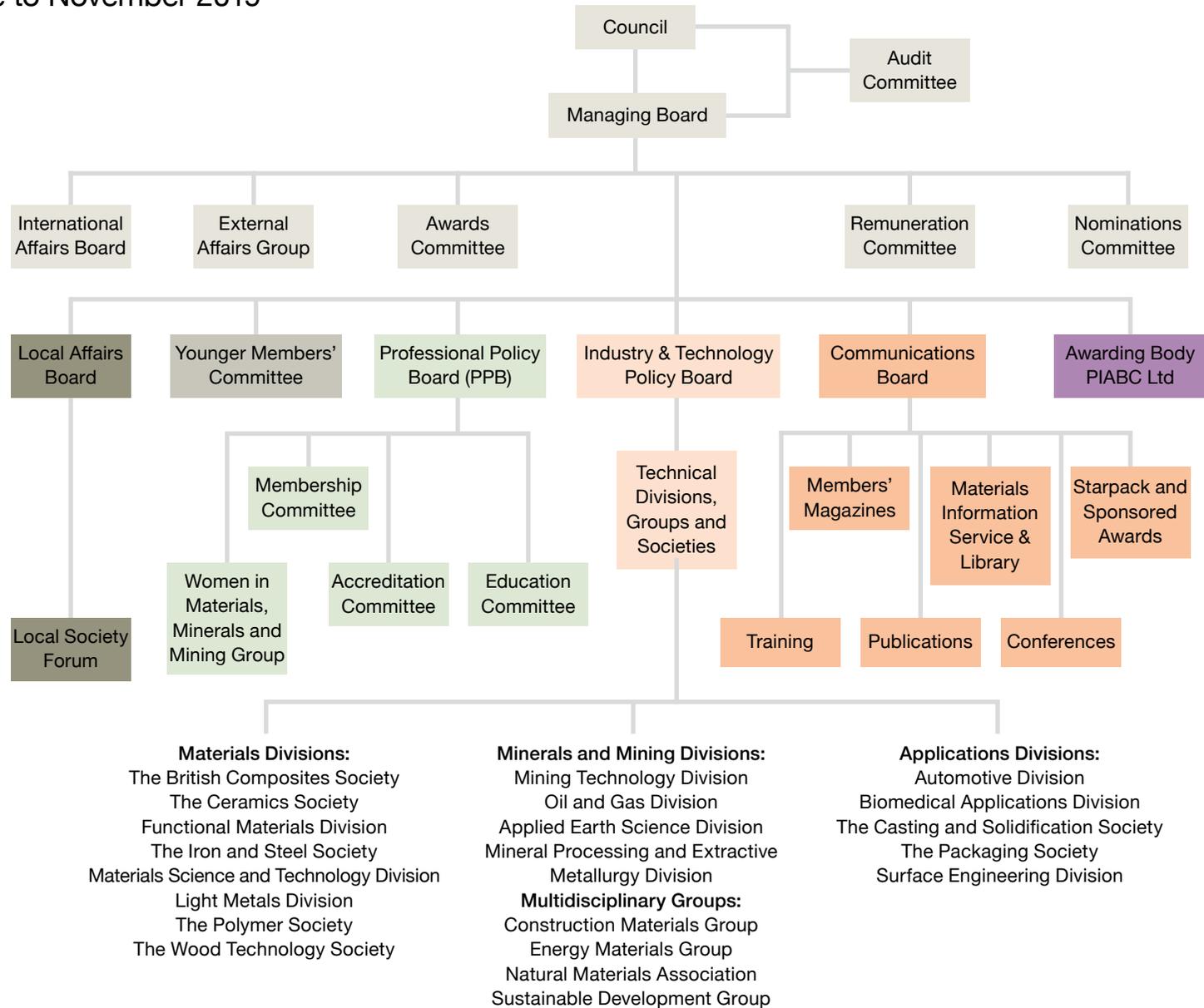
‘Membership of IOM3 for me means having a gateway to a wealth of expert knowledge and up-to-date information on interesting stuff that matters.’

***Dr Jagdish K Jethwa***

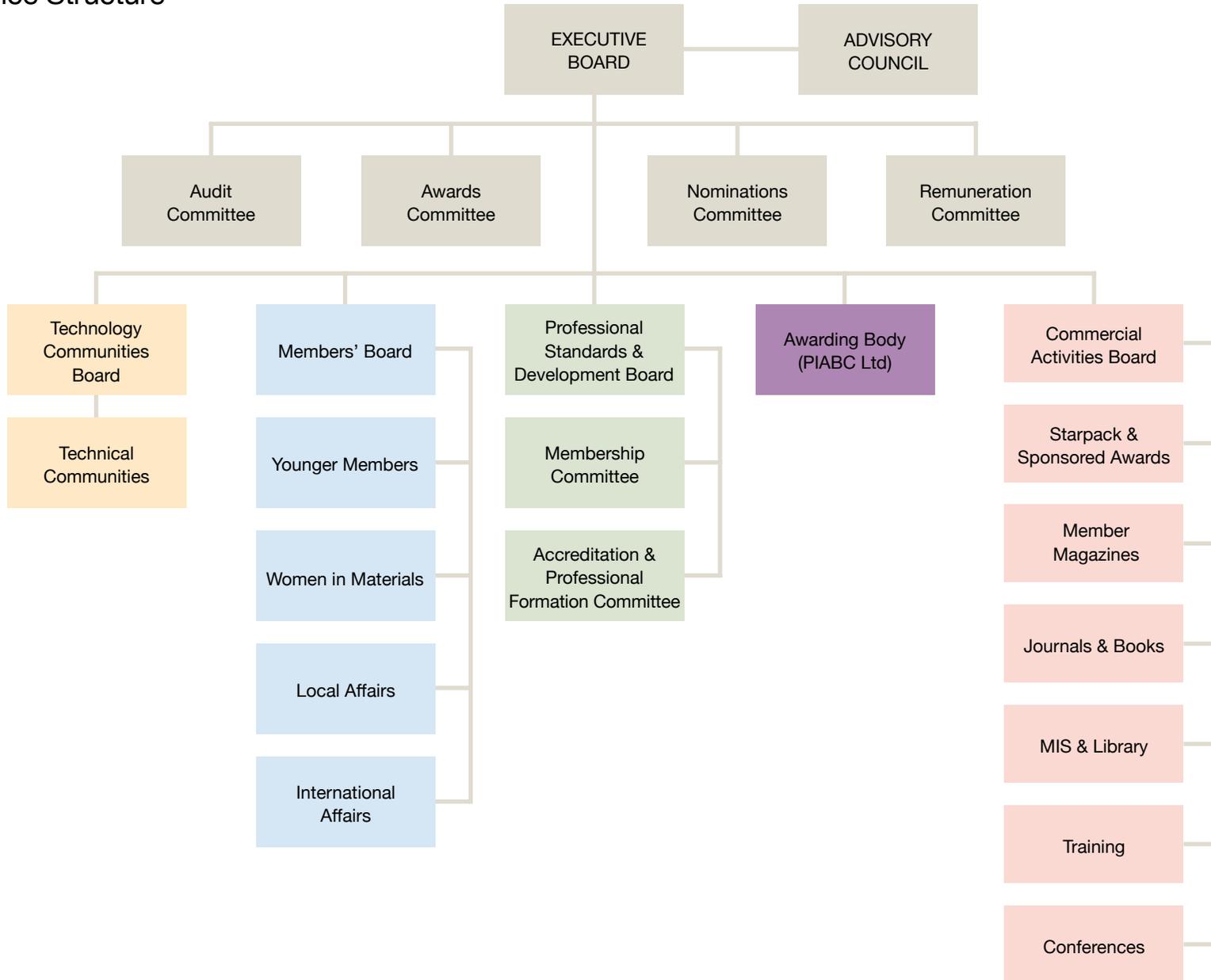
‘Being a senior engineer means a lot more than knowing how things work and how to design things. IOM3 membership more than anything else provides me with an inner-compass for navigating the multi-dimensional space of moral, ethical, legal & social responsibilities as an engineer.’

***Jan Dharmabandu, Group Manager, Endeavour Mining Corporation***

## IOM3 structure to November 2019



# New Governance Structure



## Objectives and activities

The objects of the Institute, as set out in the Royal Charter, are: 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; supports professionals in materials, minerals and mining to become heroes of the transition to a low-carbon, resource efficient society, not villains. We seek to be the best professional membership body we can be by providing modern, flexible services, quality technical content and value for money. 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
- Support people within the materials, minerals and mining sector to face some of the societal challenges we face today such as climate change
- Provide a central resource of expertise and information through content
- 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
- 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
- Engage in public, policy and media debate to increase visibility of IOM3
- Provide our members with benefits, services and opportunities to support their careers.
- Deliver tailored online and digital services for members and non-members at different stages of their careers.

Twenty two special interest groups act 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. The Schools Affiliate Scheme (with over 1,200 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 80,000 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. The Women in Materials, Minerals and Mining group promotes networking for women in the materials profession and strives to provide support for women in STEM careers. A relatively new initiative in its early stages the Institute is in the process of setting up an LGBTQ+ group and allies support network, IOM3Pride. 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 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 has always worked closely with government in relation to the delivery of new technology to industry. This work has enhanced the reputation of the Institute and it is now seen as a first port of call in its area of expertise. We are also increasingly deploying the expertise of our members to influence the public, media and policy debates that have materials, minerals and mining aspects, though we are working to make this even more effective. 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 direct access to our information and consultancy services.

Through its charitable trading company, 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. 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 beyond. Separately the Institute provides an extensive range of awards both to members and non-members who have provided outstanding contributions to the communities 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. Training and development appropriate to the Institute's goals is assessed on a regular basis and provided both internally and externally.

## Statement of Trustees' responsibilities

The Trustees are responsible for preparing the Trustees' Report and the financial statements in accordance with applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice).

The Law applicable to charities in England & Wales requires the Trustees to prepare financial statements for each financial year which give a true and fair view of the state of affairs of the group and charity and of the incoming resources and application of resources of the group and charity for that period. In preparing these financial statements, the Trustees are required to:

- select suitable accounting policies and then apply them consistently;
- observe the methods and principles in the applicable Charities SORP;
- make judgements and estimates that are reasonable and prudent;
- state whether applicable United Kingdom 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.

The Trustees are responsible for keeping proper accounting records that disclose with reasonable accuracy at any time the financial position of the group and charity and enable them to ensure that the financial statements comply with the Charities Act 2011, the Charity (Accounts and Reports) Regulations and the provisions of the Royal Charter and Bye-laws. They are also responsible for safeguarding the assets of the group and charity and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

The Trustees are responsible for the maintenance and integrity of the group and charity and financial information included on the charity's website. Legislation in the United Kingdom governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

## Officers and Council members (from 1 January 2019 to November 2019)

<b>President</b>	Prof S M Best CBE FREng CEng FIMMM
<b>Honorary Treasurer</b>	Dr M J May FREng FIMMM
<b>Vice Presidents</b>	Mr N E Glover CEng FIMMM Dr K Thornton CEng CSci FIMMM Dr P J E Bischler CEng CSci FIMMM
<b>Chair of Managing Board and Past President</b>	Mr M C Cox CEng FIMMM
<b>Chair of Professional Policy Board</b>	Dr C W Corti CEng CSci FIMMM
<b>Chair of Industry and Technology Policy Board</b>	Mr K A Harrison CSci FIMMM
<b>Chair of the Local Affairs Board</b>	Dr P J E Bischler CEng CSci FIMMM
<b>Chair of Younger Members' Committee</b>	Dr S Cruchley MIMMM
<b>Chair of International Affairs Board</b>	Vacancy
Council members representing corporate members from the regions	
<b>Scotland</b>	Dr C S Hindle CEng FIMMM
<b>North East</b>	Vacancy
<b>North West</b>	Vacancy
<b>Midlands</b>	Mr D R Evetts CEng FIMMM
<b>South East</b>	Vacancy
<b>South West &amp; Wales</b>	Vacancy
Council members representing all corporate members	
<b>Professional Members &amp; Members</b>	Dr J R Wilcox CEng MIMMM
<b>Honorary Fellows &amp; Fellows</b>	Vacancy
<b>Associate Members</b>	Mr S J Wood IEng AIMMM
<b>Technician Members</b>	Mr S L J Bellaby EngTech TIMMM
Council members representing disciplines	
<b>Metals</b>	Dr K A Ridal CEng FIMMM
<b>Ceramics</b>	Prof J G P Binner CEng FIMMM

<b>Plastics &amp; Rubber</b>	Mr K L Forsdyke CEng CSci FIMMM
<b>Minerals &amp; Mining</b>	Mr R G Siddall FREng CEng FIMMM
Divisional board chairmen	
<b>Applied Earth Science</b>	Mr J J Aldridge MIMMM
<b>Automotive Applications</b>	Mr J S Hayes CEng FIMMM
<b>Biomedical Applications</b>	Prof A L Lewis FREng FIMMM
<b>The British Composites Society</b>	Dr D Kells CEng FIMMM
<b>The Casting &amp; Solidification Society</b>	Dr S A Butler CEng MIMMM
<b>The Ceramics Society</b>	Dr A M McDermott FIMMM
<b>Functional Materials</b>	Prof R A Dorey CEng CSci FIMMM
<b>Light Metals</b>	Dr M R Clinch FIMMM
<b>Materials Science &amp; Technology</b>	Prof M R Jolly CEng CEnv FIMMM
<b>Mineral Processing &amp; Extractive Metallurgy</b>	Mr A D Francis CEng FIMMM
<b>Mining Technology</b>	Mrs C A Blackmore CEnv CSci FIMMM
<b>The Packaging Society</b>	Mr I M Davis FIMMM
<b>Oil &amp; Gas</b>	Dr A J Sturgeon CEng FIMMM
<b>The Polymer Society</b>	Mr S Patrick FIMMM
<b>The Iron &amp; Steel Society</b>	Dr M S Brunnock CEng FIMMM
<b>Surface Engineering</b>	Dr D S Rickerby FIMMM
<b>The Wood Technology Society</b>	Mr J H Park FIMMM (to March 2019) Dr G Ormondroyd FIMMM (from March 2019)
Advisory Council members	
Elected to serve when the first phase of governance change has been implemented (see page 34)	
	Mr B Edy CEng FIMMM, Mr J Sellors CEng FIMMM, Mr W J Tinsley CEng FIMMM, Dr C Fenn CEng FIMMM, Mr A Partridge CEng FIMMM

## Senior boards and professional advisors

### Managing Board up until November 2019

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

**The President**  
**Senior Vice-President**  
**Honorary Treasurer**  
**Vice Presidents**  
**Chair of IOM Communications Ltd**  
**Chair of Professional Policy Board**  
**Chair of Industry & Technology Policy Board (to March 2019)**  
**Chair of Local Affairs Board**  
**Chair of International Affairs Board**  
**Chair of Younger Members' Committee**  
**Chair of PIABC**  
**Chief Executive**  
**Finance Director**  
**Co-opted Member**

### Executive Board and Trustees from November 2019

**Prof S M Best, President**  
**Mr M C Cox, immediate Past President**  
**Mr N E Glover, senior Vice President**  
**Dr K Thornton, Vice President**  
**Dr M J May, Honorary Treasurer**  
**Mr J C H Lewis**  
**Dr P J E Bischler**  
**Dr C W Corti**  
**Dr M R Clinch**  
**Prof M R Jolly**  
**Mr D Seath**  
**Dr S Cruchley (to February 2020)**  
**Mr M A Jones (from February 2020)**  
**Mr R G Siddall (co-opted)**

### Key management personnel

<b>Chief Executive</b>	Dr C Church CEnv FIMMM
<b>Finance Director</b>	Mrs J Bugajeva
<b>Director of Communications</b>	Dr I A N Stanciaszek FIMMM
<b>Director of Operations and Professional Development</b>	Ms K Harrison
<b>Director of Membership and Professional Standards</b>	Mr I J Bowbrick CEng CEnv FIMMM
<b>Director of Business Support</b>	Mrs C Marriott

### Professional advisors

<b>Bankers</b>	Santander UK plc 4th Floor 100 Ludgate Hill London EC4M 7RE
<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 25 Farringdon Street London EC4A 4AB
<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

Board of Directors, IOM Communications Ltd. *The following served as directors during the year:*

<b>Chair</b>	Mr J C H Lewis CEng CEnv FIMMM
<b>Directors/trustees</b>	Dr A T Cole CEng CSci FIMMM Dr M J May FEng FIMMM Mr K Shankland CEng FIMMM (to June 2019) Prof A L Greer FEng CEng FIMMM Dr S Garwood FEng CEng FIMMM (to May 2020) Dr A J Tinker
<b>Chief Executive and trustee</b>	Dr C Church CEnv FIMMM
<b>Company Secretary</b>	Mrs J Bugajeva

### Audit Committee

<b>Chair</b>	Mr P J K Haslehurst CEng FIMMM Mr C Hallas CSci FIMMM Mr M Chapman CEnv FIMMM Mr B A Bhat NONP2X Dr R Ambury CEng CSci FIMMM
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This report was approved by the trustees on 06/08/2020

Professor Serena Best





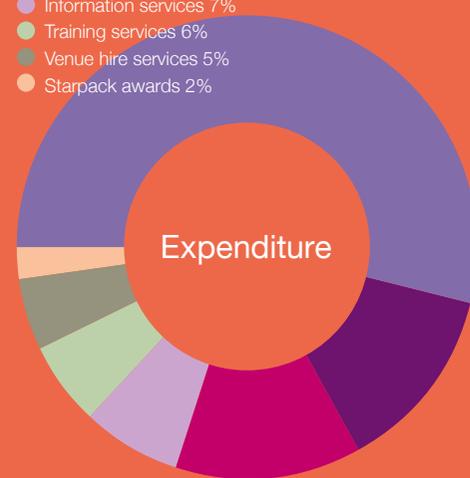
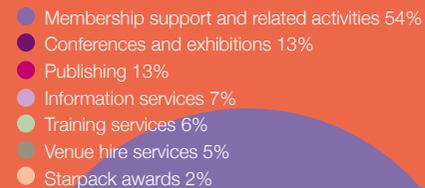
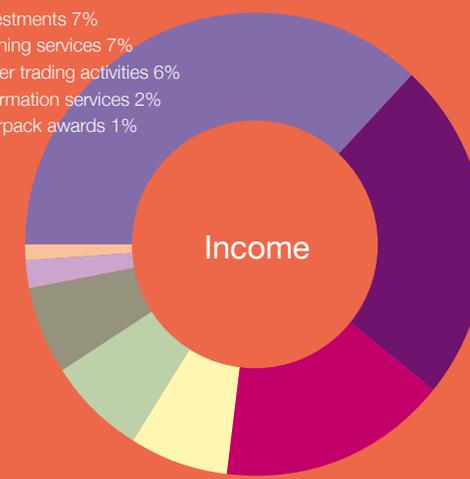
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2021

**Financial**  
**Statements**



In celebration of the 150th anniversary of Inauguration Day on 25 February 2019, the Warren Street window at IOM3 headquarters in London, UK, displayed 150 balloons in the branding colours of the anniversary artwork, as a background to the prominent dates 1869–2019.



The following pages detail financial activities for the year ended 31 December 2019, reflecting operating performance, assets and obligations. Income and expenditure for the year are summarised in the charts above.

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

## Opinion on financial statements

We have audited the financial statements of The Institute of Materials Minerals And Mining (the 'charity') and its subsidiaries (the 'group') for the year ended 31 December 2019 which comprise the Consolidated Statement of Financial Activities, the Consolidated and charity Balance Sheets, the Consolidated and charity Statements of Cash Flows and notes to the financial statements, including a summary of significant accounting policies. The financial reporting framework that has been applied in their preparation is applicable law and United Kingdom Accounting Standards, including FRS 102 "The Financial Reporting Standard applicable in the UK and Republic of Ireland"(United Kingdom Generally Accepted Accounting Practice).

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 2019 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.

## Basis for opinion

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.

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) and applicable law. Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the financial statements section of our report. We are independent of the group and parent charity in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, including the FRC's Ethical Standard and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

## Conclusions relating to going concern

We have nothing to report in respect of the following matters in relation to which the ISAs (UK) require us to report to you where:

- the trustees' use of the going concern basis of accounting in the preparation of the financial statements is not appropriate; or
- the trustees have not disclosed in the financial statements any identified material uncertainties that may cast significant doubt about the group's or parent charity's ability to continue to adopt the going concern basis of accounting for a period of at least twelve months from the date when the financial statements are authorised for issue.

## Other information

The trustees are responsible for the other information. The other information comprises the information included in the Annual Report other than the financial statements and our auditor's report thereon. Our opinion on the financial statements does not cover the other information and, we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether there is a material misstatement in the financial statements or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

## 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 financial statements is inconsistent in any material respect with the Trustees' Report; or
- sufficient accounting records have not been kept by the parent charity; 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.

## Responsibilities of trustees

As explained more fully in the Statement of Trustees' responsibilities set out on page 51, the trustees are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view, and for such internal control as the trustees determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the trustees are responsible for assessing the group's and parent charity's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the trustees either intend to liquidate the group or parent charity or to cease operations, or have no realistic alternative but to do so.

## Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

A further description of our responsibilities for the audit of the financial statements is provided on the Financial Reporting Council's website at <http://www.frc.org.uk/auditorsresponsibilities>. This description forms part of our auditor's report.

## Use of our report

This report is made solely to the charity's trustees, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the charity's trustees those matters we are required to state to them in an 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 charity and the charity's trustees as a body, for our audit work, for this report, or for the opinions we have formed.

RSM UK AUDIT LLP  
Statutory Auditor  
Chartered Accountants  
25 Farringdon Street  
London  
EC4A 4AB

Date: 06/08/2020

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

Consolidated statement of financial  
activities for the year ended  
31 December 2019

	Notes	Unrestricted funds General £'000	Designated £'000	Restricted funds £'000	Permanent endowment £'000	Total funds 2019 £'000	Total funds 2018 £'000
<b>INCOME AND ENDOWMENTS FROM:</b>							
Donations and legacies		-	-	13	-	13	-
Charitable activities							
Membership and related activities		1,595	-	-	-	1,595	1,491
Charitable trading activities	3	2,156	-	-	-	2,156	1,987
Other trading activities	13	249	-	-	-	249	227
Investments		234	2	59	-	295	302
<b>Total income</b>		<b>4,234</b>	<b>2</b>	<b>72</b>	<b>-</b>	<b>4,308</b>	<b>4,007</b>
<b>EXPENDITURE ON:</b>							
Raising funds	13	251	-	-	-	251	227
Charitable activities							
Membership and related activities		3,176	-	35	-	3,211	5,226
Charitable trading activities	3	1,440	-	-	-	1,440	1,422
<b>Total expenditure</b>		<b>4,867</b>	<b>-</b>	<b>35</b>	<b>-</b>	<b>4,902</b>	<b>6,875</b>
<b>Net gains/(losses) on investments</b>	12	<b>989</b>	<b>12</b>	<b>207</b>	<b>-</b>	<b>1,208</b>	<b>(909)</b>
<b>Net income/(expenditure)</b>		<b>356</b>	<b>14</b>	<b>244</b>	<b>-</b>	<b>614</b>	<b>(3,777)</b>
<b>Other recognised gains/(losses)</b>							
Gains on revaluation of fixed assets	10	-	84	-	-	84	258
Actuarial (losses)/gains on defined benefit pension schemes		(1,172)	-	-	-	(1,172)	252
<b>NET MOVEMENT IN FUNDS</b>		<b>(816)</b>	<b>98</b>	<b>244</b>	<b>-</b>	<b>(474)</b>	<b>(3,267)</b>
<b>Reconciliation of funds</b>							
Total funds brought forward		3,037	11,578	2,156	33	16,804	20,071
<b>TOTAL FUNDS CARRIED FORWARD</b>		<b>2,221</b>	<b>11,676</b>	<b>2,400</b>	<b>33</b>	<b>16,330</b>	<b>16,804</b>

## Consolidated and charity balance sheets as at 31 December 2019

	Notes	Group		Institute	
		2019 £'000	2018 £'000	2019 £'000	2018 £'000
<b>FIXED ASSETS</b>					
Intangible assets	9	210	146	189	129
Tangible assets	10	11,362	11,393	11,362	11,393
Heritage assets	11	456	456	456	456
Investments	12	9,169	8,511	9,169	8,511
Total fixed assets		21,197	20,506	21,176	20,489
<b>CURRENT ASSETS</b>					
Stock and work in progress	14	218	159	3	13
Debtors	15	457	568	99	169
Cash at bank and in hand		89	69	2	2
		764	796	104	184
<b>CREDITORS: Amounts falling due within one year</b>	16	(1,458)	(1,587)	(1,144)	(1,320)
<b>NET CURRENT LIABILITIES</b>		(694)	(791)	(1,040)	(1,136)
<b>NET ASSETS BEFORE PENSION LIABILITY</b>		20,503	19,715	20,136	19,353
Defined benefit pension scheme liability	22	(4,173)	(2,911)	(4,173)	(2,911)
<b>NET ASSETS AFTER PENSION LIABILITY</b>		<b>16,330</b>	<b>16,804</b>	<b>15,963</b>	<b>16,442</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	2,400	2,156	2,400	2,156
<b>UNRESTRICTED FUNDS</b>					
General funds		2,221	3,037	1,854	2,675
Designated funds	20	10,977	10,963	10,977	10,963
Revaluation reserve		699	615	699	615
<b>TOTAL CHARITY FUNDS</b>		<b>16,330</b>	<b>16,804</b>	<b>15,963</b>	<b>16,442</b>

The financial statements on pages 58 to 89 were approved and authorised for issue by the trustees and signed on their behalf by:

Prof S M Best, Trustee and President 2019-20  
on 06/08/2020



Dr M J May, Honorary Treasurer  
on 06/08/2020



Consolidated and charity statement  
of cash flows for the year ended  
31 December 2019

	Notes	Group		Institute	
		2019 £'000	2018 £'000	2019 £'000	2018 £'000
<b>Cash flows from operating activities:</b>					
<b>Net cash used in operating activities</b>	T1	<b>(521)</b>	<b>(594)</b>	<b>(552)</b>	<b>(541)</b>
<b>Cash flows from investing activities:</b>					
Dividends, interest and rents from investments		295	302	295	302
Purchase of intangibles		(158)	(33)	(147)	(29)
Purchase of property, plant and equipment		(49)	(37)	(49)	(37)
Proceeds from sale of investments		819	323	819	323
Purchase of investments		(269)	(123)	(269)	(123)
<b>Net cash provided by/(used in) investing activities</b>		<b>117</b>	<b>(162)</b>	<b>97</b>	<b>(105)</b>
<b>Change in cash and cash equivalents in the reporting period</b>		<b>117</b>	<b>(162)</b>	<b>97</b>	<b>(105)</b>
<b>Cash and cash equivalents at the beginning of the reporting period</b>		<b>(81)</b>	<b>81</b>	<b>(148)</b>	<b>(43)</b>
<b>Cash and cash equivalents at the end of the reporting period.</b>	T2	<b>36</b>	<b>(81)</b>	<b>(51)</b>	<b>(148)</b>

T1 Reconciliation of net income/  
(expenditure) to net cash flow  
from operating activities

	<i>Group</i>		<i>Institute</i>	
	<i>2019</i>	<i>2018</i>	<i>2019</i>	<i>2018</i>
	<i>£'000</i>	<i>£'000</i>	<i>£'000</i>	<i>£'000</i>
<b>Net income/(expenditure) for the reporting period (as per the statement of financial activities)</b>	<b>614</b>	<b>(3,777)</b>	<b>609</b>	<b>(3,776)</b>
<b>Adjustments for:</b>				
Depreciation and amortisation charges and impairment of fixed assets	258	2,475	251	2,472
(Gains)/losses on investments	(1,208)	909	(1,208)	909
Pension costs	90	249	90	249
Dividends, interest and rents from investments	(295)	(302)	(295)	(302)
(Increase)/decrease in stocks	(59)	(92)	10	(11)
Decrease/(increase) in debtors	111	(232)	70	(17)
(Decrease)/increase in creditors	(32)	176	(79)	(65)
<b>Net cash used in operating activities</b>	<b>(521)</b>	<b>(594)</b>	<b>(552)</b>	<b>(541)</b>

T2 Analysis of cash and  
cash equivalents

	<i>Group</i>		<i>Institute</i>	
	<i>2019</i>	<i>2018</i>	<i>2019</i>	<i>2018</i>
	<i>£'000</i>	<i>£'000</i>	<i>£'000</i>	<i>£'000</i>
Cash in hand	89	69	2	2
Bank overdraft	(53)	(150)	(53)	(150)
<b>Total cash and cash equivalents</b>	<b>36</b>	<b>(81)</b>	<b>(51)</b>	<b>(148)</b>

## Accounting Policies

### Basis of financial statements

The Institute of Materials, Minerals and Mining (“the Charity”) is an unincorporated charity domiciled in England. The address of the Charity’s registered office and principal place of business is 297 Euston Road, London NW1 3AD.

The Charity’s principal activities and the nature of the Charity’s operations are described in the Trustees’ Report on pages 50–51.

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 2019) – (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 (the Charities SORP (FRS 102) effective 1 January 2019) 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.

The financial statements are prepared in sterling, which is the functional currency of the Charity. Monetary amounts in these financial statements are rounded to the nearest £1,000.

### Preparation of the accounts on a going concern basis

The Trustees confirm that at the time of approving these financial statements, there is a reasonable expectation that the Institute has adequate resources to continue for the foreseeable future. In arriving at this conclusion, the Trustees have taken into account the current and anticipated financial performance in the current economic conditions and the charity’s reserves position. Due to Covid-19 the Trustees consider there will be significant adverse impacts on many of the charities income streams and the trustees have accordingly considered the forecasts for 2020 and 2021 in light of this expected reduction income and potential drop in the investment valuation. The Trustees are however satisfied that the charity has adequate reserves and strategies in place to deal with the impact as it develops and have therefore concluded that it remains appropriate to prepare the financial statements on the going concern basis.

### 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.

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 7.

## 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.

## Heritage Assets

A description of heritage assets held by the Charity is given in note 11. These assets were valued in February 2019 and details are given in note 11.

The heritage assets have been recognised in the Institute's balance sheet at 31 December 2018 at this valuation. The Trustees reviewed value of the heritage assets and are happy there was no change in value as at 31 December 2019.

## Tangible fixed assets 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:

Freehold Property (excluding land)	2% p.a.
Leasehold property	over the term of the lease
Furniture	15%-20% p.a.
Equipment	20%-33% 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.

Freehold property is accounted for using the revaluation method with the building element depreciated at a rate of 2% per annum and revalued to its market value at the end of the financial year. The net value of gains on revaluation are held in the revaluation reserve.

Both of the Institute's freehold properties were revalued at their present market value at the beginning of 2019. The trustees chose to recognise revaluation losses in the 2018 Statement of Financial Activities (see details in note 10).

## Intangible fixed assets

Intangible fixed assets, including patents and software, 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

Listed 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. Unlisted investments are held at cost. 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 independently 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 unto 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 (Statement of Financial Activities) 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 22 for details).

Revaluation of freehold property: the revaluation is based on 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.

On 26 October 2018, the High Court ruled that UK Pension schemes need to equalise the benefits for the inequality of Guaranteed Minimum Pensions (GMP) between men and women. The allowance for GMPs has been estimated by the scheme actuary based on the average impact for a sample of scheme members. Further details are given in note 22.

## 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. The revaluation reserve within designated funds represents the value of gains on revaluation of freehold property.
- 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.
- Permanent endowment fund – 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.

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 2018

	Notes	Unrestricted funds General £'000	Designated £'000	Restricted funds £'000	Permanent endowment £'000	Total funds 2018 £'000	Total funds 2017 £'000
<b>INCOME AND ENDOWMENTS FROM:</b>							
Donations and legacies	4	-	-	-	-		12
Charitable activities							
Membership and related activities		1,491	-	-	-	1,491	1,507
Charitable trading activities	3	1,987	-	-	-	1,987	2,041
Other trading activities	5	227	-	-	-	227	309
Investments	6	240	3	59	-	302	295
<b>Total income</b>		<b>3,945</b>	<b>3</b>	<b>59</b>	<b>-</b>	<b>4,007</b>	<b>4,164</b>
<b>EXPENDITURE ON:</b>							
Raising funds	5	227	-	-	-	227	289
Charitable activities							
Membership and related activities		2,886	2,308	32	-	5,226	2,998
Charitable trading activities	3	1,422	-	-	-	1,422	1,448
<b>Total expenditure</b>	<b>7</b>	<b>4,535</b>	<b>2,308</b>	<b>32</b>	<b>-</b>	<b>6,875</b>	<b>4,735</b>
<b>Net (losses)/gains on investments</b>		<b>(739)</b>	<b>(9)</b>	<b>(161)</b>	<b>-</b>	<b>(909)</b>	<b>661</b>
<b>Net (expenditure)/income</b>		<b>(1,329)</b>	<b>(2,314)</b>	<b>(134)</b>	<b>-</b>	<b>(3,777)</b>	<b>90</b>
<b>Other recognised gains/(losses):</b>							
Gains/(Losses) on revaluation of fixed assets		-	258	-	-	258	84
Actuarial gains/(losses) on defined benefit pension scheme		252	-	-	-	252	(181)
<b>NET MOVEMENT IN FUNDS</b>		<b>(1,077)</b>	<b>(2,056)</b>	<b>(134)</b>	<b>-</b>	<b>(3,267)</b>	<b>(7)</b>
<b>Reconciliation of funds</b>							
Total funds brought forward		4,114	13,634	2,290	33	20,071	20,078
<b>TOTAL FUNDS CARRIED FORWARD</b>		<b>3,037</b>	<b>11,578</b>	<b>2,156</b>	<b>33</b>	<b>16,804</b>	<b>20,071</b>

2. Charity only statement of financial activities for the year ended 31 December 2019

	Unrestricted funds		Restricted funds	Permanent endowment	Total funds 2019	Total funds 2018
	General £'000	Designated £'000	£'000	£'000	£'000	£'000
<b>INCOME AND ENDOWMENTS FROM:</b>						
Donations and legacies	716	-	13	-	729	565
Charitable activities						
Membership and related activities	1,551	-	-	-	1,551	1,458
Investments	234	2	59	-	295	302
<b>Total income</b>	<b>2,501</b>	<b>2</b>	<b>72</b>	<b>-</b>	<b>2,575</b>	<b>2,325</b>
<b>EXPENDITURE ON:</b>						
Charitable activities						
Membership and related activities	3,139	-	35	-	3,174	5,192
<b>Total expenditure</b>	<b>3,139</b>	<b>-</b>	<b>35</b>	<b>-</b>	<b>3,174</b>	<b>5,192</b>
<b>Net gains/(losses) on investments</b>	<b>989</b>	<b>12</b>	<b>207</b>	<b>-</b>	<b>1,208</b>	<b>(909)</b>
<b>Net income/(expenditure)</b>	<b>351</b>	<b>14</b>	<b>244</b>	<b>-</b>	<b>609</b>	<b>(3,776)</b>
<b>Other recognised (losses)/gains:</b>						
Gains on revaluation of fixed assets	-	84	-	-	84	258
Actuarial (losses)/gains on defined benefit pension schemes	(1,172)	-	-	-	(1,172)	252
<b>NET MOVEMENT IN FUNDS</b>	<b>(821)</b>	<b>98</b>	<b>244</b>	<b>-</b>	<b>(479)</b>	<b>(3,266)</b>
<b>Reconciliation of funds</b>						
Total funds brought forward	2,675	11,578	2,156	33	16,442	19,708
<b>TOTAL FUNDS CARRIED FORWARD</b>	<b>1,854</b>	<b>11,676</b>	<b>2,400</b>	<b>33</b>	<b>15,963</b>	<b>16,442</b>

### 3. Charitable trading activities

	2019 £'000	2018 £'000
<b>TURNOVER</b>		
Publishing	1,575	1,657
Conferences and exhibitions	671	481
Information services	115	88
Technology improvement awards	53	73
Training services	296	242
	<b>2,710</b>	<b>2,541</b>
Internal contribution for costs included in sales	(554)	(554)
Incoming resources	2,156	1,987
<b>COST OF CHARITABLE TRADING ACTIVITIES</b>		
Publishing	622	618
Conferences and exhibitions	645	531
Information services	350	432
Technology improvement awards	98	125
Training services	279	270
	<b>1,994</b>	<b>1,976</b>
Internal contribution to sales	(554)	(554)
	<b>1,440</b>	<b>1,422</b>
<b>NET CONTRIBUTION FROM CHARITABLE TRADING ACTIVITIES</b>		
Publishing	953	1,039
Conferences and exhibitions	26	(50)
Information services	(235)	(344)
Technology improvement awards	(45)	(52)
Training services	17	(28)
	<b>716</b>	<b>565</b>

#### 4. Donations and legacies

	2019 £'000	2018 £'000
Donations for medal funds	13	-
	13	-

#### 5. Other trading activities

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. These activities are undertaken by Materials Institute Services Ltd (see note 13: Subsidiary undertakings).

#### 6. Investment income

	2019		2018	
	<i>Unrestricted</i> £'000	<i>Restricted</i> £'000	<i>Unrestricted</i> £'000	<i>Restricted</i> £'000
Listed securities				
Fixed interest	74	26	77	27
UK equities	151	32	154	31
Overseas equities	10	-	11	-
Cash and cash equivalents	1	1	1	1
	236	59	243	59

## 7. Total resources expended

### Summary

	2019 £'000	2019 £'000	2018 £'000	2018 £'000
Direct charitable costs		1,527		1,280
Employment costs				
Salaries	1,819		1,786	
Social security costs	194		190	
Pension costs	298		368	
Temporary and other staff costs	84		125	
Redundancy costs	17		-	
		2,412		2,469
Establishment costs				
Property costs	318		272	
Information technology	113		116	
Depreciation and amortisation	250		164	
Impairment of fixed assets	-		2,308	
		681		2,860
Administration costs				
Travel, meeting and committee expenses	106		96	
Postage and telecommunications	63		66	
Printing and stationery	30		36	
Finance costs	18		11	
Professional fees	57		51	
Office and other costs	8		6	
		282		266
		4,902		6,875

## Breakdown of costs of activities

	<i>Direct costs</i> £'000	<i>Support costs</i> £'000	<i>2019 Total</i> £'000	<i>2018 Total</i> £'000
Charitable activities				
Membership and related services	646	2,011	2,657	4,672
Charitable trading activities	805	1,189	1,994	1,976
	1,451	3,200	4,651	6,648
Costs of raising funds				
Activities for raising funds	76	175	251	227
	1,527	3,375	4,902	6,875

## Support cost breakdown by activity

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.

	<i>Employment costs</i> £'000	<i>Establishment costs</i> £'000	<i>Admin costs</i> £'000	<i>2019 Total</i> £'000	<i>2018 Total</i> £'000
Membership and related services	1,490	368	153	2,011	4,160
Charitable trading activities	836	235	118	1,189	1,293
Activities for raising funds	86	78	11	175	142
	2,412	681	282	3,375	5,595

## Employee information

	2019 No.	2018 No.
The average number/(full time equivalent) employees during the year was	52 (49)	50 (47)
The number of employees who earned more than £60,000 per annum including benefits was:		
£60,001 - £70,000	3	2
£100,001 - £110,000	1	-
£170,001 - £180,000	-	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
Money purchase scheme	4	2

	2019 £'000	2018 £'000
Total remuneration of key management personnel, including benefits during the year was	504	531
Total employer National Insurance contributions paid on the key management personnel remuneration	55	60
Total amount of redundancy payments made during the year was	17	-
Contributions to the pension funds during the year were:		
Defined benefit scheme	32	53
Money purchase scheme	70	58

The key management personnel of the charity are detailed on page 53.

## Total expenditure includes

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

	2019 £'000	2018 £'000
Auditor's remuneration		
Audit fee – current year	35	35
Accountancy, taxation and other services	4	6
Travel expenses paid to 28 (2018: 26) Council Members for attending Council and other meetings	29	38
Travel expenses paid on behalf of 20 (2018:18) Council Members for attending Council and other meetings	6	5
Operating lease charges	43	42

	2019 £'000		2018 £'000	
The total future minimum lease payments under non-cancellable operating leases	Land and buildings	Other	Land and buildings	Other
Within one year	30	6	35	6
Within two to five years	107	10	116	16
After five years	94	-	120	-

## Other transactions with trustees

Mr I Davis (trustee) provided training services during the year to the Institute's subsidiary, IOM Communications Ltd. The value of these services during the year was £4,823 (2018 - £7,979) including VAT. At 31 December balance due to Mr I Davis was £nil (2018 - £nil).

No other members of the Council directly or indirectly received any remuneration during the years ended 31 December 2019 and 2018.

## 8. Transfers between funds

There were no transfers between funds during 2019 or 2018.

## 9. Intangible fixed assets

	<i>Group and parent Website and software £'000</i>	<i>Group only Patent costs £'000</i>	<i>Total £'000</i>
<b>Cost</b>			
1 January 2019	432	30	462
Additions in the year	147	11	158
31 December 2019	579	41	620
<b>Amortisation</b>			
1 January 2019	303	13	316
Charge for the year	87	7	94
31 December 2019	390	20	410
<b>Net book value</b>			
31 December 2019	189	21	210
31 December 2018	129	17	146

## 10. 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 2019	13,476	2,221	867	16,564
Additions in the year	-	-	49	49
31 December 2019	13,476	2,221	916	16,613
<b>Depreciation</b>				
1 January 2019	2,506	1,985	680	5,171
Charge for the year	84	26	54	164
Revaluation	(84)	-	-	(84)
31 December 2019	2,506	2,011	734	5,251
<b>Net book value</b>				
31 December 2019	10,970	210	182	11,362
31 December 2018	10,970	236	187	11,393

## 10. Tangible fixed assets (continued)

The Institute's freehold land and buildings are accounted for using the valuation method. Both of the Institute's freehold properties were revalued at their present market value at the end of 2018. The London property was revalued at its present market value of £10.7m by Neil Burch MRICS on 31 March 2019. The Stoke property was revalued at its present market value of £270k by Nick Deavall MRICS on 1 April 2019. As no significant events occurred between 31 December 2018 and 1 April 2019 that would have materially impacted on the market value of either of the properties, trustees chose to recognise these revaluations in the 2018 financial statements, in line with guidance provided by Charities SORP and FRS102. The next formal valuation of freehold properties is due to take place in 2024.

## 11. Heritage assets

In addition to the assets outlined in note 10, the Institute owns a collection of paintings and artefacts of historic and scientific importance which is deemed to be heritage assets as defined under SORP (FRS 102). The collection comprises 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 comprehensive register of these assets. The Institute's heritage assets were valued in February 2019 by Penny Bingham (MRICS), an independent Fine Art Valuer, at a combined value of £287k. Separately, the Institute's Mining Lamp collection was valued in May 2016 by David Rimmer of the Miners Lamp Society at a combined value of £169k.

Both independent valuers consider that the resale value of individual heritage assets is very sensitive to the number of potential purchasers with the ability and willingness to pay.

The heritage assets were recognised in the Institute's balance sheet at 31 December 2018 at valuation and have been subsequently held at valuation subject to annual review for indications of any impairment.

## 12. Investments

	<i>Group</i>		<i>Institute</i>	
	<i>2019</i>	<i>2018</i>	<i>2019</i>	<i>2018</i>
	<i>£'000</i>	<i>£'000</i>	<i>£'000</i>	<i>£'000</i>
<b>Analysis of movements in the year</b>				
Opening market value	8,511	9,620	8,511	9,620
Additions at cost	269	123	269	123
Disposals at opening market value	(819)	(323)	(819)	(323)
Revaluations	1,208	(909)	1,208	(909)
Closing market value	9,169	8,511	9,169	8,511
<b>Invested as follows</b>				
<i>Listed investments</i>				
Fixed interest	2,346	2,423	2,346	2,423
UK equities	6,309	5,596	6,309	5,596
Overseas equities	355	334	355	334
<i>Unlisted investments</i>				
Cash and cash equivalents	159	158	159	158
Subsidiary undertakings	-	-	-	-
Closing market value	9,169	8,511	9,169	8,511
<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)	2,309	2,443	2,309	2,443
Charishare (UK equities common investment fund)	3,033	3,174	3,033	3,174
Historical cost at 31 December	5,342	5,617	5,342	5,617

### 13. Subsidiary undertakings

The Institute has four 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.
- PIABC Ltd (company number 10371273) 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, Materials Institute Services Ltd and PIABC Ltd are audited. IOM Communications Ltd and Materials Institute Services Ltd and PIABC Ltd are wholly owned subsidiaries. The Institute holds 100 shares of £1 each in IOM Communications Ltd and one share of £1 in PIABC Ltd. IOM Communications Ltd holds 2 shares of £1 each in Materials Institute Services Ltd.

IOM Communications Ltd undertakes the charitable trading activities of the Institute of Materials, Minerals and Mining. Materials Institute Services Ltd undertakes income generating activities of the Institute of Materials, Minerals and Mining. PIABC Ltd undertakes membership related activities on behalf of the Institute of Materials, Minerals and Mining. The Institute of Packaging did not trade in 2019 or 2018.

Summaries of the 2019 results and balance sheets for IOM Communications Ltd, Materials Institute Services Ltd and PIABC Ltd together with comparative figures for 2018, where applicable, are shown in this note. The net assets of The Institute of Packaging at 31 December 2019 and 31 December 2018 were £nil.

#### IOM Communications Limited

	2019 Total £'000	2018 Total £'000
<b>Results</b>		
Charitable trading activities	2,710	2,541
Total incoming resources	2,710	2,541
Charitable trading costs	1,994	1,976
Donation to the Institute	716	565
Total outgoing resources	2,710	2,541
Net incoming resources	-	-
Balances brought forward	342	342
Balances carried forward	342	342
<b>Balance sheets at 31 December</b>		
Fixed assets	21	17
Current assets	975	935
Creditors: amounts falling due within one year	(654)	(610)
Net current assets	342	342
Shareholders' funds	342	342

### 13. Subsidiary undertakings (continued)

#### Materials Institute Services Limited

	<i>2019</i>	<i>2018</i>
	<i>Total</i>	<i>Total</i>
	<i>£'000</i>	<i>£'000</i>
<b>Results</b>		
Turnover	249	227
Total incoming resources	249	227
Costs	251	227
Donation to the Institute	-	-
Total outgoing resources	251	227
Net incoming resources	(2)	-
Balances brought forward	24	24
Balances carried forward	22	24
<b>Balance sheets at 31 December</b>		
Current assets	104	77
Creditors: amounts falling due within one year	(82)	(53)
Net current assets	22	24
Shareholders' funds	22	24

## PIABC Limited

	2019 Total £'000	2018 Total £'000
<b>Results</b>		
Turnover	37	34
Total incoming resources	37	34
Costs	37	34
Total outgoing resources	37	34
Net incoming resources	-	-
Balances brought forward	1	1
Balances carried forward	1	1
<b>Balance sheets at 31 December</b>		
Current assets	1	1
Creditors: amounts falling due within one year	-	-
Net current assets	1	1
Shareholders' funds	1	1

## 14. Stock and work in progress

	<i>Consolidated</i>		<i>Institute</i>	
	<i>2019</i>	<i>2018</i>	<i>2019</i>	<i>2018</i>
	<i>£'000</i>	<i>£'000</i>	<i>£'000</i>	<i>£'000</i>
Work in progress	215	157	-	11
Sundry stocks	3	2	3	2
	<b>218</b>	<b>159</b>	<b>3</b>	<b>13</b>

## 15. Debtors

Trade debtors	326	384	26	10
Other debtors	3	11	4	13
Prepayments and accrued income	128	173	69	146
	<b>457</b>	<b>568</b>	<b>99</b>	<b>169</b>

## 16. Creditors: Amounts falling due within one year

Trade creditors	348	476	237	194
Taxes and social security costs	27	62	37	64
Subscriptions and orders paid in advance	738	618	351	347
Other creditors and accruals	292	281	168	171
Amounts due to subsidiary companies	-	-	298	394
Bank overdraft	53	150	53	150
	<b>1,458</b>	<b>1,587</b>	<b>1,144</b>	<b>1,320</b>

## Subscriptions and orders paid in advance

At 1 January	618	677	347	337
Recognised in year	(549)	(579)	(340)	(330)
Provided for in year	669	520	344	340
At 31 December	<b>738</b>	<b>618</b>	<b>351</b>	<b>347</b>

17. Analysis of net assets between funds  
at 31 December 2019

Group	Unrestricted funds		Restricted	Permanent	Total
	General £'000	Designated £'000	funds £'000	Endowment fund £'000	funds £'000
Intangible assets	210	-	-	-	210
Tangible fixed assets	440	10,922	-	-	11,362
Heritage assets	-	456	-	-	456
Investments	7,162	77	1,897	33	9,169
Current assets	40	221	503	-	764
Current liabilities	(1,458)	-	-	-	(1,458)
Net assets before pension liability	6,394	11,676	2,400	33	20,503
Pension liability	(4,173)	-	-	-	(4,173)
Total net assets	2,221	11,676	2,400	33	16,330

Institute	Unrestricted funds		Restricted	Permanent	Total
	General £'000	Designated £'000	funds £'000	Endowment fund £'000	funds £'000
Intangible fixed assets	189	-	-	-	189
Tangible fixed assets	440	10,922	-	-	11,362
Heritage assets	-	456	-	-	456
Investments	7,162	77	1,897	33	9,169
Current assets	(620)	221	503	-	104
Current liabilities	(1,144)	-	-	-	(1,144)
Net assets before pension liability	6,027	11,676	2,400	33	20,136
Pension liability	(4,173)	-	-	-	(4,173)
Total net assets	1,854	11,676	2,400	33	15,963

## 17. Analysis of net assets between funds at 31 December 2018

Group	Unrestricted funds		Restricted	Permanent	Total
	General £'000	Designated £'000	funds £'000	Endowment fund £'000	funds £'000
Intangible assets	146	-	-	-	146
Tangible fixed assets	554	10,839	-	-	11,393
Heritage assets	-	456	-	-	456
Investments	6,682	72	1,724	33	8,511
Current assets	153	211	432	-	796
Current liabilities	(1,587)	-	-	-	(1,587)
Net assets before pension liability	5,948	11,578	2,156	33	19,715
Pension liability	(2,911)	-	-	-	(2,911)
Total net assets	3,037	11,578	2,156	33	16,804

Institute					
Intangible fixed assets	129	-	-	-	129
Tangible fixed assets	554	10,839	-	-	11,393
Heritage assets	-	456	-	-	456
Investments	6,682	72	1,724	33	8,511
Current assets	(459)	211	432	-	184
Current liabilities	(1,320)	-	-	-	(1,320)
Net assets before pension liability	5,586	11,578	2,156	33	19,353
Pension liability	(2,911)	-	-	-	(2,911)
Total net assets	2,675	11,578	2,156	33	16,442

## 18. Permanent endowment fund

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.

Group and Institute	Balance at 1 January 2019 £'000	Incoming resources £'000	Resources expended £'000	Investment gains/ (losses) £'000	Transfers between funds £'000	Balance at 31 December 2019 £'000
Mining Club	33	-	-	-	-	33

## 19. Restricted funds

The income of these restricted funds is 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).

	<i>Balance at 1 January 2019 £'000</i>	<i>Incoming resources £'000</i>	<i>Resources expended £'000</i>	<i>Investment gains/ (losses) £'000</i>	<i>Balance at 31 December 2019 £'000</i>
<b>Group and Institute</b>					
Stanley Elmore Fellowship	689	18	(12)	10	705
Andrew Carnegie Trust Fund	595	18	(7)	86	692
Bosworth Smith Trust	259	7	(6)	38	298
Tom Seaman Travelling Scholarship	254	7	(7)	39	293
Metals & Metallurgy Trust Fund	105	4		12	121
Edgar Pam Fellowship	105	3	(2)	13	119
G Vernon Hobson Bequest	63	2	(1)	9	73
Other funds	20	-	-	1	20
Prize funds	66	13	-	-	79
	<b>2,156</b>	<b>72</b>	<b>(35)</b>	<b>207</b>	<b>2,400</b>

## 20. Designated funds

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

- Asset development fund – representing selected amounts (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 as deemed appropriate by the trustees.
- 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.

	<i>Balance at 1 January 2019 £'000</i>	<i>Incoming resources £'000</i>	<i>Resources expended £'000</i>	<i>Gains/ (losses) £'000</i>	<i>Balance at 31 December 2019 £'000</i>
Asset development fund	10,680	-	-	-	10,680
Revaluation reserve	615	-	-	84	699
Services development fund	57	-	-	-	57
Sir Julius Wernher Memorial Fund	135	2	-	12	149
Packaging education fund	50	-	-	-	50
Materials education	24	-	-	-	24
Robert A Moore Fund	17	-	-	-	17
	11,578	2	-	96	11,676

## 21. Cumulative unrealised investment gains

	<i>Consolidated</i>		<i>Institute</i>	
	<i>2019 £'000</i>	<i>2018 £'000</i>	<i>2019 £'000</i>	<i>2018 £'000</i>
General fund	2,727	1,989	2,727	1,989
Designated funds	21	13	21	13
	2,748	2,002	2,748	2,002
Restricted funds	605	398	605	398
	3,353	2,400	3,353	2,400

## 22. Pension schemes

### 22.1 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 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 six current staff members and 68 deferred members.

Results of the most recent triennial actuarial valuations, at 1 January 2013, 2016 and 2019 showed the following results.

	2013 £'000	2016 £'000	2019 £'000
Market value of the scheme's assets	7,361	13,970	17,330
Liability for projected accrued benefits	(9,201)	(15,593)	(13,641)
(Deficit)	(1,840)	(1,623)	(3,689)

Arrangements have been made for the deficit shown by the actuarial valuation at 1 January 2019 to be funded at the rate of:

- £200k p.a. payable in a lump sum during years ending 31 December 2020 - 2022.
- £73k p.a. increasing at 2.8% payable in equal monthly installments from 1 January 2020 to 31 December 2034.

## 22.2 Principal actuarial assumptions

A valuation of the defined benefit pension scheme assets and liabilities at 31 December 2019 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	2019 % p.a.	2018 % p.a.
Discount rate	2.00	2.80
Price inflation – pre-retirement (RPI)	-	3.10
Before 2030	2.90	-
After 2030	2.40	-
Consumer Prices Inflation – pre-retirement (CPI)	1.90	2.10
Future salary increases	1.50	1.50
Rate of increases of pensions in payment (RPI)	2.70	3.00
Rates of increases of pensions in payment – (CPI)	1.70	1.80
Rate of increase for deferred pensioners	1.90	2.10

The following demographic assumptions were used in the valuation:

	Year ended 31/12/2019		Year ended 31/12/2018	
	As for post retirement			
Mortality pre-retirement	As for post retirement		As for post retirement	
Mortality post-retirement	S3PMA CMI 2018 1%		S2PMA CMI 2017 1%	
	Males	Females	Males	Females
Life expectancy for a current 65 year old in 2019	86.5 years	88.2 years	86.8 years	88.7 years
Life expectancy at age 65 for an individual aged 45 in 2019	87.5 years	89.3 years	87.8 years	89.9 years

## 22.3 Amounts recognised in the balance sheet for defined benefit scheme

	2019 £'000	2018 £'000
Present value of defined benefit obligation	(17,115)	(16,099)
Fair value of scheme assets	12,942	13,188
Pension scheme liability recognised in the balance sheet	(4,173)	(2,911)

## 22.4 Changes in present value of defined benefit obligation

## 22.5 Changes in fair value of scheme assets

## 22.6 Major categories of scheme assets

## 24. Post Balance Sheet events

	2019 £'000	2018 £'000
Defined benefit obligation at 1 January	(16,099)	(16,542)
Service cost	(41)	(145)
Interest cost	(438)	(424)
Member contributions	(20)	(30)
Benefits paid	1,010	537
Actuarial gains/(losses)	(1,527)	505
Defined benefit obligation at 31 December	(17,115)	(16,099)

	2019 £'000	2018 £'000
Plan assets at 1 January	13,188	13,628
Return on plan assets (excluding net interest on defined benefit obligations)	355	(253)
Interest income	356	347
Employer contributions	68	53
Expenses (paid by the Fund)	(35)	(80)
Member contributions	20	30
Benefits paid	(1,010)	(537)
Plan assets at 31 December	12,942	13,188

	%	%
Equities	19	22
Corporate bonds	9	12
Gilts	-	18
Properties	1	2
Cash	1	6
Annuities	29	30
Other assets	41	10
Total scheme assets	100	100

## 22.7 Amounts recognised in the statement of financial activities

The actual return on scheme assets was a gain of £711k (2018: £94k)

The Institute expects to contribute £200k to its defined benefit pension scheme in 2020.

On 26 October 2018, the High court ruled that UK Pension schemes need to equalise the benefits for the inequality of Guaranteed Minimum Pensions (GMP) between men and women. The allowance for GMPs has been estimated based on the average impact for a sample of scheme members and this increase in the defined benefit obligation is shown as a past service cost. The assumptions used have yet to be agreed with the Trustees however the estimated GMP equalisation impact for the Institute's defined benefit scheme is an increase of 0.4% of the total value of scheme liabilities as at 31 December 2018, being £77k.

The actuarial losses recognised in the statement financial activities were £1,172k and the total cumulative net losses recognised from 2002 to 2019 amounted to £4,029k

Amounts recognised in net incoming resources are as follows:

	2019 £'000	2018 £'000
Current service cost	41	68
Past service cost	-	77
Expenses paid by the scheme	35	80
Net interest cost	82	77
Net charge	158	302

## 22.8 Outstanding pension contributions at the year end

Contributions for the defined benefit scheme amounting to £5k (2018 - £7k) were outstanding at the year-end. Contributions for the defined contributions schemes amounting to £15k (2018 - £10k) were outstanding at the year-end.

## 23. Capital Commitments

At 31 December 2019 the Institute has capital commitments in respect of phase 1 of the digital transformation project of £70k (2018 - £nil). Phase 2 of the digital transformation project was commissioned in March 2020.

## 24. Post Balance Sheet events

As at 31 December 2019 China had alerted the World Health Organisation (WHO) of several cases of an unusual form of pneumonia in Wuhan. However, substantive information about what has now been identified as coronavirus (or COVID-19) only came to light in early 2020. Therefore the impact of COVID-19 is considered to be a non-adjusting event for The Institute of Materials, Minerals and Mining.

Given the emergence and spread of the COVID-19 virus is not considered to provide more information about conditions that existed at the balance sheet date, the measurement of assets and liabilities in the accounts have not be adjusted for its potential impact.

COVID-19 has however had a significant impact on the daily operations of The Institute of Materials, Minerals and Mining and its subsidiaries, leading to cancellation of conferences and events, training courses and venue hire. Where possible, The Institute's team moved various activities online or rearranged a postponement to 2021. As of July 2020 all of activities of The Institute of Materials, Minerals and Mining were gradually rebuilding and returning to normal.

Although 1 January 2019 triennial actuarial valuation of defined benefit pension scheme was concluded in March 2020, it was agreed with the scheme actuary that the valuation results will not be adjusted for the impact of COVID-19.

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