

Autumn 2024

Chairman's Chat



As 2024 starts to draw in, we still have plenty of mining news to share with members and I extend another welcome to the Autumn edition of the Mining Technology Group (MTG) newsletter.

We are a bit later than expected with this edition but it has had its reward with a spate of recent news items that would otherwise have been missed. They include interesting developments in the consulting arena and critical minerals (tin, lithium) projects in the UK and Europe; plus the news of a significant decision on West Cumbria Mining's proposed coal mine at Whitehaven, UK. No need for a spoiler alert, please read on the News and Views pages.

In the last edition I indicated there was more to come from our calls for volunteers. Therefore, I am delighted to announce two new team members with a warm welcome to Richard Shellam and Rob Thomas, who joined in August (see p.4). Alongside Martha

Needs, who was introduced in the Summer newsletter, they make up a cohort of three new members. They all come with different experiences and ideas, and will have big parts to play not only in current MTG activities but also in shaping its future plans. In another moment of change, the team bids farewell and best wishes to Robert Bacon (p.5), one of our long-serving team members. After ten years' service he is stepping down to focus on his vocational duties with St John Ambulance and others.

This edition includes part 3 of a serialised article about Sir George Dowty and the Dowty Mining company. We remain very grateful to the Memorial Committee for permission to reproduce the story.

Elsewhere, there is more exciting news about the MTG 2025 conference 'Advances in Mining Technology and Mineral Supply' to be held at IET Austin Court, Birmingham on 19-20 March 2025. Following a successful call for papers and our first three main sponsors confirmed, the [registration link](#) is now open. There are still opportunities for sponsors, exhibitors and AI demo sessions. Check on p.2 and p.10 for further details and please spread the word to your colleagues and contacts. As ever, we really need and appreciate your support to help make it happen.

'Mining Education Matters' features Minerals Matter, its link with IOM3 and recruitment investment (p.13) by the Mining Association of the UK, announced by its President, Andrew Fulton (MTG leadership team member). Daniel Smith, University of Leicester also provides an update from the TARGET workshop.

The Ground Engineering Subgroup (p.14) continues to make its mark, with a joint webinar to be held in November. Please show your support and [register](#) for your free place. On the same page, news of the British Tunnelling Society's heavyweight book available to celebrate its 50th year.

Another new development is the imminent collaboration between the MTG and IOM3 Non-Ferrous & Light Metals Group on the latter's cleaner future roadmap. There is more news from PERC about its 2025 AGM, newsletter, CRIRSCO conference and revised JORC code. As the lecture season returns, MTG has collated a full diary of IOM3 affiliated local society events.

Finally, a moment of remembrance - 21 October was the anniversary of the Aberfan colliery spoil tip failure disaster in South Wales, which in 1966 took the lives of 116 schoolchildren and 28 adults. Let us never forget them and the lessons learned for safer mining practice.

To close, a request. MTG would like your feedback. See p.5 for details and get in touch through our dedicated email address mtg@iom3.org.

Stop Press

MTG Leadership Team update

Richard Shellam, geotechnical engineer at Mining One Pty Ltd and co-founder of Geotech Assist, and Rob Thomas, geotechnical engineer at Absolute Geotechnics became new members of the MTG Leadership Team with effect from August 2024. See p.4 for more details.

MTG 2025: Advances in Mining Technology & Mineral Supply - registration is now open!

The [MTG 2025 conference](#) will be held at IET Austin Court, Birmingham, 19-20 March 2025. See p.10.



Mining Association of the UK - Minerals Matter Co-ordinator

The Mining Association of the UK (MAUK) is investing in employment of a dedicated Mining Sector Ambassador Coordinator. **Webinar to be held 5 November 2024** (See p.13).

Consolidated Mining Standard Initiative (CMSI) - public consultation

The [first public consultation](#) on a new CMSI draft mining standard is open until **16 December 2024**. IOM3 is also [calling for members](#) to contribute to its collective response by **2 December 2024**.

Upcoming events

GES & EGGS Joint Afternoon Webinar - Our Preparedness for the Renaissance of Pumped Storage Hydro Power - 12pm - 1pm 13 November 2024

IOM3 Ground Engineering Subgroup(GES) of the MTG has organised an insightful joint webinar with the Engineering Group of the Geological Society (EGGS). See p.14.

ABMEC Conference 2024

This two-day conference will be held at the DoubleTree by Hilton Oxford Belfry, Thame, Oxford, UK. Start Date: 27 November 2024. More details can be found on the [ABMEC website](#).

Mines and Money @ Resourcing Tomorrow 2024

This [conference](#), claimed to be 'Europe's largest mining event', is to again encompass three themes, Resourcing Tomorrow, Technology and Innovation and Mines and Money, 3 - 5 December 2024 at The Business Design Centre, London, UK. It is supported by [IOM3](#).

IOM3 Contacts

A question often asked is where to find a list of IOM3 Management and Staff and their contact details. Their roles and contact details are on the [IOM3 website](#).

Editorial team

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Leadership Team Updates

MTG Leadership

New members

We are delighted to welcome Richard Shellam, Senior Geotechnical Engineer at Mining One Pty Ltd and co-founder of Geotech Assist, and Rob Thomas, Director and Principal Consultant at Absolute Geotechnics as new members of the MTG Leadership Team.

Richard's bio:

Richard is a chartered engineer with 12 years of international experience in geotechnical engineering, primarily focused on open pit operations but also encompassing underground projects. Recently, Richard co-founded Geotech Assist, a generative AI start-up aimed at revolutionising geotechnical data management and analysis in mining. With a solid foundation in both open pit and underground environments, Richard brings a comprehensive understanding of geotechnical challenges in various mining contexts.

Richard's expertise extends to assessing and managing open pit geotechnical risks, leading geotechnical departments, and fostering strong safety cultures. His commitment to professional development is evident in his focus on training and mentoring personnel, ensuring the growth of both individuals and teams.



Source: R Shellam

Reasons for wanting to join the MTG Leadership Team

By joining the MTG Leadership Team, I hope to contribute to creating valuable networking and professional development opportunities, while also helping to foster a wider acknowledgment of mining's essential role in meeting global material demands. Furthermore, I believe my international experience across various mining contexts positions me well to contribute to the MTG's aim of developing a wider public and political acknowledgement of mining's global importance.

Ultimately, I see joining the MTG Leadership Team as an opportunity to give back to an industry that has given me so much, while also pushing the boundaries of what's possible in mining technology. I am committed to supporting the MTG's goals and driving positive change within our industry, inspiring and supporting the next generation of mining professionals along the way.

Rob's bio:

Rob is a chartered engineer and geotechnical professional focussed on undertaking, managing and delivering geotechnical assessments for mine developments. Rob has over 15 years' experience as a geotechnical consultant, and his work has included geotechnical design from scoping to feasibility level, provision of operational support, planning and managing field investigations, operational site-based roles, and conducting independent technical reviews and due diligence.

Absolute Geotechnics Pty Ltd was formed in 2016, prior to which, Rob led the mining geotechnical team of international consultancy Coffey Mining Pty Ltd, based in Perth, Western Australia.

Reasons for wanting to join the MTG Leadership Team

As a mining-specific geotechnical engineer who has recently returned to the UK (from Australia), I'm looking for more opportunities to get involved with IOM3. I would like to assist the leadership group with running the MTG and working towards its stated aims. I strongly believe in the benefits of formal and informal knowledge sharing within the industry. Initiatives like this are highly beneficial, connecting practitioners from different backgrounds and with varying experience levels. With the upcoming conference, newsletter, and other activities, I believe the MTG offers similar benefits and opportunities to its members, which I would be glad to support.



Source: R Thomas

Farewell to Robert Bacon



Source: IOM3

Robert Bacon has stepped down after 10 years of volunteer service on the MTG Leadership Team. His main role on the team was to monitor mining-related activity through All-Party Parliamentary Groups (APPGs) and public consultations. This was inevitably disrupted during the pandemic years and changed as IOM3 developed its policy and influence strategy. Nevertheless, Robert has never been one to shy away from MTG debates and written responses about the inter-relationships between mining, energy and politics.

We cannot say goodbye to Robert without some reflection on his career. After graduating in Metallurgy & Materials Science from the University of Wales in 1982, Robert worked for 5 years as a research scientist in corrosion. He then turned to the industrial insurance market and spent 30+ years working for Factory Mutual, Commercial Union, Wellington 2020 Syndicate at Lloyds, as a consultant, as Engineer Construction & Mining at Chubb Technical Risks in London and latterly at his independent consultancy, Bacon Risk Engineering. His work has taken him all over the world to look at a wide variety of construction and mining projects. He has provided practical advice to clients to reduce their property and business interruption risk profile to

support the underwriting of these risks in the London market.

Robert is a Chartered Engineer, Member of the Institute of Fire Engineers and Fellow of the Institute of Materials, Minerals and Mining (IOM3). He joined the IOM3 Affiliated Local Society MinSouth Council in 2011 and was its President in 2015/16.

As Robert has effectively wound down on his risk engineering work, he has become ever more dedicated to his volunteer responder duties at St John Ambulance, London Ambulance Service and other personal vocations in life. He graciously identified this to be an appropriate time to bow out of the MTG Leadership Team.

The MTG conveys its many thanks and best wishes to Robert for his input and contribution during his ten years on the team, in addition to representing MinSouth. IOM3 has awarded Robert a certificate signed by CEO Dr Colin Church in recognition of his long service of volunteering on the IOM3 Mining Technology Group Leadership Team and its predecessor Mining Technology Division Board, which he joined in 2014.

Member opinion - what is yours?

One of the questions frequently pondered over by the leadership team members is what the rest of MTG-affiliated IOM3 members think of the way the team represents them and their interests. Whilst we have received some good feedback from individuals, it would be beneficial to hear from more people. This is important in terms of value for members and to the team itself as it has to prepare for the future. The MTG is one of the three largest technical communities within IOM3, which means there are plenty of voices out there.

How would you like the MTG to develop?

You might want to say or ask something about joining the team, the newsletter, events, meetings, publications, careers, education, communications with members, affiliated local society connections, to name but a few areas.

The team is happy to hear your views - though please be realistic and remember we are all volunteers!

We can be contacted through our dedicated email address mtg@iom3.org.

News and Views

MTG Leadership

Update on Woodhouse Colliery, Whitehaven

Plans to build the UK's first deep coal mine in more than 30 years have been quashed in a High Court judgement dated 13 September 2024.

Two campaign groups, Friends of the Earth (FOTE) and South Lakes Action on Climate Change (SLACC), had brought legal action over the previous government's decision to grant planning permission for the site near Whitehaven in Cumbria.

In his judgement, Mr Justice Holgate said: "The assumption that the proposed mine would not produce a net increase in greenhouse gas emissions, or would be a net-zero mine, is legally flawed."

In addition, it was [announced on 26 September 2024](#) that the Coal Authority has refused to grant conditional underground coal mining licences for the site.

West Cumbria Mining has yet to comment on its website.

SLR acquisition of Wardell Armstrong

On 17 October 2024 SLR sent ripples across the minerals and mining consulting sector when it [announced](#) its acquisition of Wardell Armstrong. It is interesting to briefly reflect on their respective histories. SLR was only founded in 1994, just 30 years ago, as SECOR Ltd in the UK. Since then it has developed into a global company with more than 3,000 people. Whilst it also grew organically, it might not have been so successful without its notable history of making multiple strategic acquisitions. Wardell Armstrong is one of the latest in that line. It comes with a 185-year history of independent consulting, originally in minerals and mining. By way of contrast to SLR's approach, it took all that time to grow organically (in the main) to a staff of around 550 people, notwithstanding its diversification over the years into ground engineering, waste management and environmental consulting. Once famed for having its regional offices in the main active coalfields of England, it has also acted as the Crown mineral agent for many decades.

It is also worthy of note that two past IOM3 Presidents in the last twenty years were Wardell Armstrong staff: Jeff Smith (2004-2005) and Jan Lewis (2010-2011); and a third, Christine Blackmore (ex-employee) is about to take up the role for 2025-2026. Several other Wardell Armstrong staff/alumni hold or have held roles on the IOM3 Mining Technology Group and other IOM3 committees or boards. SLR has acquired yet another valuable asset.

Cornish Metals corporate news

Cornish Metals has confirmed the appointment of Don Turvey as Chief Executive Officer and Executive Director, with effect from 9 October 2024. This [news](#) followed approval of a UK work visa to enable him to relocate from South Africa to Cornwall, UK. One of his first tasks was to welcome the appointment of Endeavour Financial as financial adviser to secure project financing for the construction of South Crofty tin mine. Within a matter of days it was then [announced](#) that Cornish Metals had entered into a non-dilutive £7 million (US\$9.1 million) secured credit facility with Vision Blue Resources Limited to support the continued development of the mine. The facility is expected to be used for the general operating and corporate purposes. Vision Blue is understood to hold 25.95% of the Company's issued share capital.

UK Research and Innovation funds new critical minerals centre

Great South West, which promotes the counties of Cornwall, Devon, Dorset, Somerset and the Isles of Scilly [reported](#) further support for the critical minerals industry in Devon and Cornwall. UK Research and Innovation (UKRI) has announced £4.5m to fund a new Critical Minerals Accelerating the Green Economy Centre at the University of Exeter, which will collaborate with local businesses and government bodies. The investment is one part of a UKRI £25 million fund to create five new UK green industry centres.

Cornish Lithium & Northern Lithium - demonstration plants

Readers may remember that in early 2023 Cornish Lithium and Northern Lithium announced their collaboration to deliver a UK domestic supply of lithium. Both have made significant progress on that front. On 18 October 2024 Cornish Lithium commissioned its new '[Demonstration Processing Plant](#)' at Trelavour. The new plant will be the first step to test the viability of lithium extraction from hard rock prior to full scale production of battery-grade lithium hydroxide. The [company estimates](#) that a combination of its Trelavour hard rock and other geothermal lithium production will contribute approximately 25% of the UK's demand by 2030.

On 26 June 2024 Northern Lithium and Evove Ltd [announced](#) the installation of a Direct Lithium Extraction (DLE) demonstration plant in County Durham. The first module will be commissioned in autumn; more modules can be added to reach full-scale production of battery-grade lithium from 2027.

Cornish Tin - Great Wheal Vor project update

Following on from its discovery of the year award at the UK Mining Conference in Cornwall in June, the company has been shortlisted for the [Discovery of the Year Award at Resourcing Tomorrow](#) in London (December 2024). Cornish Tin is the only UK or European candidate for this award. Its success is based on the results of a successful Phase 2 exploration programme completed during February to April 2024. A total of 2,810 metres of diamond drilling discovered new tin lodes (to make it seven in 2024), plus new intercepts of lithium enriched G5 granite. More details are available on the [company website](#).

Lithium - Serbia

In 2004, [Rio Tinto](#) geologists discovered Jadarite, a new mineral containing lithium and boron. Jadarite, named after the Jadar River, is located near the city of Loznica in Western Serbia. The Jadar deposit is a world-class resource that is expected to provide the foundation of a new electric vehicle supply chain in Serbia. In early August, thousands of people protested in Belgrade against plans to mine one of Europe's largest deposits of lithium - a crucial raw material for electric car batteries. Activists say the mine would cause irreversible environmental destruction to the valley where the deposit is located.

A licence granted to mining company Rio Tinto was revoked in 2022 following widespread protests in Serbia. The project was restarted in July following a court decision and government intervention, which was praised by Germany's Chancellor as "helping to defend Europe's economic security". It was reported that the Serbian President has insisted that strict environmental safety protocols be implemented.

Lithium - Germany 1

Shares in Germany-focused [Zinnwald Lithium](#) soared after the mineral resource estimate for its namesake project in Saxony was improved. This makes Zinnwald the second largest hard rock lithium project in the EU by both resource size and contained lithium, said chief executive Anton du Plessis. The latest resource estimate incorporates some 27km of new diamond core drilling (84 drill holes) and an updated and reinterpreted geological model (superseding that released in September 2018). Located in the heart of Europe's chemical and car industries, the project, about 35km from Dresden, is expected to produce battery grade lithium carbonate, lithium hydroxide and lithium fluoride (Li₂CO₃, LiOH, LiF). Europe's largest hard rock lithium deposit (globally the fourth-largest) is the Cinovec project in the Czech Republic, owned by European Metals and state-controlled utility CEZ.

Lithium - Germany 2

In a move aimed at shoring up European supply chains for electric vehicle batteries, Dutch company [AMG Lithium](#) has opened Europe's first lithium refinery plant in eastern Germany at Bitterfeld-Wolfen. The German government has pledged €1 bln to support domestic and international raw materials projects. The refinery is expected to produce 20,000 tonnes of battery-grade lithium hydroxide annually, sufficient to supply around half a million electric vehicle batteries. This facility represents the first of five planned modules at the site, with the potential to expand the capacity to 100,000 tonnes per annum.

The contribution of Dowty to the world of mining

John Whitaker

This will be a regular feature for the Newsletters this year. John Whitaker¹ has kindly written an article outlining the history of the Dowty company, and their innovative approach to mining. He has included two additional articles from persons active in the industry at the time of the development of these innovations, which will be included in the final article. MTG is grateful to Martin Robins, Chairman of the Sir George Dowty Memorial Committee, for permission to publish the article. Continuing from the Spring and Summer newsletters, part three is featured in this edition, which presents a contribution reflecting on George Dowty's achievements, and an article from an American coal related magazine, [Coal Zoom](#).

Reflections of the Dowty Brand - 1

Contribution by Allan Wilson

Allan Wilson CEng, CMarEng, MarEST was employed at NCB Lambton Engineering Works from 1962-1971.

Coming from three generations of miners, I had a 5-year technical apprenticeship in the National Coal Board in the Durham and Northumberland coalfields. Several of my uncles and my father were maimed at the coal face due to roof falls.

In the 1960s, the word was 'mechanisation' throughout the coal industry. I went to Seaham Colliery to do my underground training in 1963, in between my college semesters. On the coal face, there were rows of literally dozens of Dowty Props and we were taught to set a wooden prop and a Dowty prop. The Dowty prop was much easier to set than a wooden prop, and I was told 'it had a 5-ton setting load between roof and floor, but it would 'relieve' or yield the oil pressure at 20 tons load. Two of us set our props with a 6" (0.15m) wide corrugated steel strap between them, about 3 feet (0.9m) apart. Moving away from the coal face, we used the same pump handle to pull the top ring on a prop to extract it in seconds. The 5-foot-long (1.5m) prop was easy to lift, move, and then re-use nearer the face. I was told many of the wooden props could not be reused due to splitting, bending or just not being long enough. The advantage of the Dowty hydraulic prop was that it could be reused dozens of times for different heights between the mine roof and floor. The props came in 2-, 3-, 4-, 5- and 6-foot (0.6, 0.9, 1.2, 1.5 & 1.8m) lengths, extended hydraulically and were made from coated steel tubes with a softer fibrous cap on the end, held in place by 4 rivets. The design had to be user-friendly, 'bomb proof' and resistant to corrosive water and fluids. Miners took to them immediately, as they were easier to use, and everything felt more secure with them in place.

It was obviously an attractive proposition to use Dowty props, as fewer miners were needed at the face, but particularly because there were fewer safety issues and accidents. A Dowty prop under severe load could be extracted from a few yards away, if necessary, and under the cover provided by other props, which made it safer.

Mechanisation of longwall coal faces rapidly changed the role of miners. The double-edged rapid coal plough, mounted on top of a coal face chain conveyor would cut coal as it was pulled along the face, in either direction. The coal then fell onto the face conveyor and in turn was fed onto a belt conveyor, sending it towards the shaft. Other coal cutting machines were also used, such as 'shearers' with either a single rotating drum with external picks or two cutting drums one at each end. The shearing machine pulled itself along a chain near the top of the coal face chain conveyor. Dowty also provided 'walking' roof supports, which enabled uninterrupted coal production - a novel solution changing the whole method of coal production. Miners called Dowty Roofmaster supports 'Daleks'!

Daleks worked as follows. A row of Daleks would be located every few feet along the longwall coal face, attached to the face conveyor with a push/pull hydraulic actuator. As the coal plough or shearer went past, the face conveyor was pushed against the coal face by the Dalek. When the coal was cut it fell onto the conveyor. The Roofmaster pushed and advanced the conveyor forward, against the freshly cut coal face.

¹ Grandson of the first Dowty Group Chairman, AW Martyn, and author of the book 'The Best' detailing the definitive history of HH Martyn. Whitaker also authored a paper recording the significant contribution made by the Dowty Group to winning the Battle of Britain during WWII.

The Roofmaster retracted the 2 or 3 vertical hydraulic rams holding the roof beam against the roof, thus freeing the Roofmaster. The horizontal ram would then retract, pulling the Roofmaster forward towards the face conveyor. It would then re-extend the 2 or 3 vertical hydraulic rams, to force the roof canopy against the roof once again. The 'Dalek' was then moved forward and reset, until the plough or shearer finished cutting and returned in the other direction.

Dowty Roofmasters came in several roof load capacities and operational specifications. They could be fully automatic as described above or set manually. A remote hydraulic power pack would power all of the Roofmasters connected together, 'daisy chain' style.

Consequently, coal production soared, and some mines produced in Britain over 1 million tons per year and 'continuous mining' had arrived. Some mines that had struggled to be profitable, suddenly became an asset! Fewer personnel were required, which therefore meant fewer casualties. However, more technical expertise was necessary to install, maintain and then extract non-operational units. The coal face had now become highly technological and Dowty played a large part in this.



Source: M Robins

Sir George Dowty Legacy Celebration Continues

The following is the article available on [Coal Zoom](#).

Interest in the founder of the Dowty Group, one Sir George Dowty (1901- 1975), continues to grow at a significant pace. Sir George is known in the mining community as the person, who in 1947, took the technology from aircraft undercarriages underground with the first hydraulic props used to support the roof of coal mines.

Springtime saw a Dowty Organ Recital in his home town of Pershore at the Benedictine Abbey which has Anglo-Saxon origins. This recital was led by the renowned organist Simon Bell who is Director of Music Tewkesbury Schola Cantorum. The Dowty family has close connections with the Abbey. Over one hundred former employees attended the service.

Two life size statues of Sir George have been commissioned and one was unveiled during May at the private residence of the Chairman of the Dowty Memorial Committee, Martin Robins. Attendees included the former Governor of Gibraltar and representatives of the military. The statue has received fulsome praise for its life like features and shows Sir George standing beside one his most famous designs - the undercarriage of the Lancaster Bomber aircraft brought into service in 1942.

As one of the twentieth century's most accomplished engineers in the field of aircraft components and mining machinery, it is most gratifying to see Sir George receive recognition for his designs, which have and continue to save countless lives. He made a significant contribution to the winning of the Second World War. The second statue is scheduled to be unveiled later in the year at a military museum.

Copies of a booklet that was issued for the May unveiling ceremony can be obtained by emailing Martin Robins, Chairman of the Sir George Dowty Memorial Committee at martinrobins@btinternet.com.



Source: M Robins

MTG 2025 Conference Update

Colin Comberbach

[Advances in Mining Technology & Mineral Supply](#)

IET Austin Court, Birmingham, 19-20 March 2025

MTG 2025 will be a mining conference with a difference. It will explore advances in technology, including artificial intelligence, at every step of the mining lifecycle and examine their interactions with strategic mineral supply to meet future demands for downstream materials.



Source: IOM3

Programme

The call for papers attracted thirty-five abstracts spread across the conference themes. Most are for oral presentations; a few others will be displayed as a collection of posters. Authors have been provided with deadlines and guidelines for their presentations and written papers for the conference proceedings. The conference programme will be announced soon.

Venue

The MTG and IOM3 Events team visited Austin Court in September for a leadership team meeting and venue tour to help shape plans for the conference. With its courtyard garden space, the venue centrepiece is the superb Kingston Lecture Theatre, with illuminated stage, tiered seating, state-of-the-art AV and private green room for speakers. The Lodge Rooms and Boulton-Faraday Rooms can each be configured into one or more spaces for speaker presentations, refreshments, sponsors/exhibitors and demo sessions. Main catering and exhibition will be held in the Waterside Room, with views over the historic Birmingham Canal Old Line.

Austin Court is centrally located and offers a fine blend of historic architecture and contemporary facilities, with a professional but intimate ambience. It promises a positive experience for attendees at the conference. See for yourself by making a virtual 'visit' to the venue via the 3D tour on the [IET website](#).

Artificial Intelligence Training or Demonstration Sessions

Spaces are still available to provide Artificial Intelligence training or demo sessions related to mining technology. Please let us know via the 'Get in touch' button on the [overview web page](#).

Conference Dinner

MTG is pleased to announce the conference evening dinner will be held on 19 March 2025 at the iconic, Grade II listed Birmingham Council House, a short walk from Austin Court.



Source: BCC

Registration

REGISTRATIONS ARE NOW BEING ACCEPTED!

Click on the event image above or visit the IOM3 event [webpage](#).

Save on registration fees by registering before the **early bird deadline of 31 January 2025**.

Sponsors & exhibitors

Our first two Gold Sponsors and Dinner Sponsor have been confirmed, for which we are extremely grateful to:



Further opportunities for sponsorship and exhibiting at the conference are available on the [website](#).

Mining Education Matters 1 - TARGET

Daniel Smith

Centre to train mineral resources specialists

Approximately 20 delegates participated in a meeting focused on possible topics and funding sources relevant to mineral resources research, with some emphasis on PhD studentship generation for the TARGET programme. The tone of the meeting was discussion and networking rather than generating concrete actions, but some notes of important points raised are below.

Charlotte Hawkins (Senior Programme Manager Resources and Circular Economy, UKRI NERC) presented the view from NERC, with a summary of currently active programmes, and relevant forthcoming calls. These include:

Pre-announcement: UKRI cross research council responsive mode pilot scheme: round 2 - UKRI

<https://www.ukri.org/opportunity/sustainable-industrial-futures/>

<https://www.ukri.org/opportunity/uk-canada-sustainable-critical-minerals-research-partnerships/>

Jamie Wilkinson's presentation included some good guidance and exemplars of recent projects and how they would mesh with different call types and sizes from the funders (PhDs and large strategic grants in particular).

Key areas that seem to be favourable with the funders, and reflective of government strategic priorities, include critical minerals, circular economy, and more sustainable mining (including reuse of waste).

There was some discussion about whether these would change with the new government, and the feeling was - no; critical minerals and hence wider topics around the mineral resources lifecycle are on Labour's agenda.

Most of the day was used to discuss key research themes that might be collectively addressed in the next few years. In brief, some topics that repeatedly rose to the fore were:

- Exploration and novel discovery (across all metals, not just the critical ones)
- Waste & tailings - minimisation, reuse, as a source of metals
- Biology - plants in exploration and remediation, biomining/ leaching
- Novel tech (data science, AI) - applications within exploration and mining
- Public perception of mining, stakeholder and community interactions

Needless to say, our doors are open for collaborative work and certainly PhD studentships on those themes. Canvassing for new TARGET PhD projects will commence in early Autumn (October), so it's worth thinking about possible topics. There will be some facilitation of activities, a skills matrix built and circulated to allow industry partners to see which academics are the best to work with, and a possible meeting with an element of "speed dating".

A big thanks to Charlotte Hawkins (NERC), Jamie Wilkinson (NHM), Sarah Gordon (Satarla) and James Cleverley (Imdex) for helping kickstart discussions on the day, and to Cat Greenfield (Leics), Miranda Shirley and Aileen Doran (Satarla) for some facilitation on the day.

On day two training priorities were discussed, and were more focussed on TARGET.



Source: A Birtles

Mining Education Matters 2 - Minerals Matter & MAUK

Andrew Fulton

Introduction

Minerals Matter is the place to learn all about careers in quarrying, mining, mineral products and mineral processing. Brought to you by minerals industry organisations and employers, Minerals Matter is a resource for young people and adults thinking about their career options. It's also helpful for parents, guardians, carers, school teachers, careers advisors and educators, wanting minerals industry information to guide people with their career choices.

Partnerships

Minerals Matter works with key strategic partners to help raise the profile of the sector, ensure that employers' voices are heard and open up opportunities of benefit to employers and the sector. One of those partners is IOM3; Dr Colin Church, CEO said " IOM3 joined the Minerals Matter partnership in Spring last year. The partnership seeks to engage students and young people in the career opportunities in minerals and mining, which strongly aligns with our objectives. Following various team changes there, we are currently at the early stages of liaising with them to support their Ambassadors Scheme and the development of activities and resources next year".

Minerals Matter

We are "The Materials Supply Industry" – everything that is made starts or is made with the products we produce.

We make life possible for 8 billion people, reducing our global human footprint to help protect species and planet.

Our industry is people, working to make the world both sustainable and a better place for all.

These points are from IOM3 report 2023, 'The Talent Gap: Critical Skills for Critical Materials'

- The serious and growing skills gap is a significant risk facing value chain.
- Mining engineering, mineral processing and metallurgical skills are in short supply.
- Industry, academia and regulators all require access to the necessary skills.
- Modernising perceptions will be key to attracting talent and sustaining the industry.
- Everyone has a role to play to address the skills gaps & greater collaboration is required.



Source: A Fulton

Education

Early connection with Learners to and by our Sector is important, starting with the Primary Schools.

- It is a sustainable career
- It provides opportunities
- It is "just"
- It is interesting
- It is exciting



Source: A Fulton

Shape your world

Want to get involved?

[Become a Minerals Matter STEM Ambassador.](#)

Inspire young people to consider an industry that shapes the world around us, showcase your story and career journey, support a live webinar, or invite a local school to visit your site. There are lots of ways to support as an ambassador, the possibilities are limitless.

Minerals Matter Webinar

The Mining Association of the UK (MAUK) is investing in employment of a dedicated Mining Sector Ambassador Coordinator - this person will work for **YOU!**

As a part of the Minerals Matter team, the Sector Coordinator's duties are to drive forward the timely and effective development and delivery of industry careers interventions and the Minerals Matter Ambassador scheme. This will be achieved through providing effective, responsive, high-quality project management to ensure delivery of key activities across the organisation.

Job Tasks and Responsibilities will include:

- Coordinate the Minerals Matter Ambassador scheme specifically for the Mining sector in partnership with STEM Learning UK and MAUK, and other activities led by Minerals Matter within the context of the Minerals Matter strategy.
- Coordinate available resources to support Minerals Matter Ambassadors with their delivery in schools/colleges, specific to the Minerals and Mining sector.
- Work with industry centres of excellence to support activities and events as required.
- Support activities and provide resources to external partners to ensure industry representation e.g. National Careers Week, Green Careers Week, National Apprenticeship Week etc.
- Collate information to produce reports/newsletters/infographics for stakeholders.

All in all, the coordinator will be responsible for coordinating a portfolio of outreach initiatives, and the Minerals Matter STEM Ambassador network (Science, Technology, Engineering and Maths) in partnership with STEM Learning UK, Minerals Matter and MAUK Members.

You are invited to find out more by attending a dedicated [Minerals Matter webinar](#) - 5 November 2024.

This is an opportunity for organisations in the mining sector to find out more about the Minerals Matter Ambassador scheme – a fantastic opportunity for employees from across the minerals industry to volunteer their time and raise the profile of the sector to young people across the UK.

From careers talks to mock interview sessions, speed networking to event support – there are so many different ways that employees in the mining sector can inspire young people to think about a career in the industry.

Join the Minerals Matter team to hear more about this fantastic scheme and how you can get involved!

The speakers will be:

- Hannah Higley, Future Careers Coordinator, Minerals Matter. Hannah will be providing more information about the ambassador scheme and how organisations in the sector can benefit from getting involved.
- Andrew Fulton, President - MAUK, Mining Association of the UK. Andrew will be sharing more about the support MAUK will be providing Minerals Matter with regards to industry ambassadors, and how this will shape the offering for the 'Underground Mining Sector'.

Who should attend this webinar:

- Operational and technical managers and leadership.
- Outreach programme managers,
- Education and training managers
- Human resource managers, and
- Current company STEM ambassadors

For more details on Minerals Matter or MAUK, contact Andrew Fulton, President – MAUK

andrew.fulton@mauk.org.uk

www.mauk.org.uk

British Tunnelling Society

Ken Spiby/ John Corcoran

The book to celebrate the British Tunnelling Society (BTS) at 50 is finally getting close to publication. This is truly "a book by tunnelling people, for tunnelling people".

It is possible to [download](#) a 24-page 'taster' sample version to get an idea of the finished book.

The majority of the pages will contain stories from the construction of underground infrastructure, with further chapters describing the BTS, along with 'people' pages featuring, for example, the recipients of the James Clark Medal. It promises to be a fascinating, informative and entertaining read.

There is no universal style or theme. People have chosen to write about their life in tunnelling, a project that was a special highlight in their career, or about a particular incident or one of the many characters in the tunnelling world. Most articles were submitted in written form, but others have come from interviews or were gathered in their natural environment, with a pint in hand.

It is hoped that the sample will leave you eager for more. If so, the back pages explain the pre-ordering options that are available to ensure you don't miss out on getting your copy (or copies!) as early as possible.

We would like to take the opportunity to thank all the volunteers and professionals involved in the production of the book, and of course our authors, over 200 of them from the tunnelling industry have contributed to the book.

It has been a much harder and longer process than envisaged when proposing the idea way back in 2018. We now have a 'tome' that is over 900 pages in length, and has been over five years in the making. Many thanks to all the contributors for sticking with the vision and the process. More information can be found on the BTS website on the [BTS at 50 page](#).



Source: BTS

Ground Engineering Subgroup (GES) Activities

Emily Wood

Overview

The IOM3 Ground Engineering Subgroup (a subgroup of the Mining Technology Group) is for the broad ground engineering community including site and laboratory technicians, geotechnical engineers, engineering geologists, geo-environmental engineers and many other ground engineering professionals. Some examples of the ground engineering discipline are provided on the page. With our collective efforts and determination, we have strived to make 2024 a successful and fulfilling year for GES. Please continue to 'spread the word'. If you wish to hear more or get involved please contact:

- David Waring (Chair) david.waring@uk.bp.com
- Iain McKechnie (Vice Chair) iain.mckechnie@bam.com
- Emily Wood (Secretary) emily.wood@bam.com

Joint Webinar

GES & EGGS Joint Afternoon Webinar - Our Preparedness for the Renaissance of Pumped Storage Hydro Power - 12pm - 1pm 13 November 2024

Join us for this insightful webinar featuring David Waring from BP and Angus MacGregor from BAM Ritchies, organised by the IOM3 Ground Engineering Subgroup and the Engineering Group of the Geological Society. Show your support and [register](#) for your free place on the IOM3 web site.

For more information please contact the GES secretary at emily.wood@bam.com.

Lighting the way

NFLM Group Leadership Team

The IOM3 Non-Ferrous and Light Metals (NFLM) Group Leadership Team hosted a series of webinars to map a cleaner future for the sector. The culmination of these efforts after a year’s worth of hard work is a roadmap (see illustration below) to take the industry forward.

A full [article](#) is available on the IOM3 website and was included in the April 2024 Materials World.



Source: IOM3

At a recent Mining Technology Group meeting the roadmap was circulated for discussion. It was felt that "finding the raw stuff, the digging up the decent stuff, or the creating the useful stuff" issues were not included in the road map. It was reported that these issues were discussed in the development of the roadmap, but it has been accepted that the relevant expertise may not have been 'in the room' to ensure they were consolidated and communicated effectively in the roadmap.

The Mining Technology Group Leadership Team have responded to an invitation to work with the Non-Ferrous and Light Metals Group Leadership Team about the roadmap. Discussions are being held at the end of October to include the upstream process of the cycle and further improve the impressive work done so far by the Non-Ferrous and Light Metals Group.

This initiative is an excellent opportunity to collaborate with another technical community to improve the cross pollination of the diversity of skills and disciplines within IOM3.

PERC News

Andy Birtles

PERC AGM

The Pan European Reserves and Resources Reporting Committee (PERC) Annual General Meeting (AGM) will be held in Germany in April 2025. Two possible locations have been suggested, with options to organise field visits and a training course immediately before and/or after the AGM. The AGM would be organised as a hybrid event. The suitability of the alternative locations (Karlsruhe and Freiberg) are currently being evaluated.

PERC Newsletter

The Communications Sub-committee have published the first newsletter of what is hoped to be a regular feature by the PERC members for the PERC membership. This has now been posted on the PERC Standard website and on the [IGI website](#).

JORC Code (2024)



Source: PERC

and can be completed by both individuals and/or organisation entities.

In addition to the survey, JORC engagement events will be held in major centres and online from mid-August to end of September. The schedule of events is available here: [Draft JORC Code Consultation Events](#). Your participation and feedback is encouraged. The Draft JORC Code and online survey can be found at: [Draft JORC Code Survey](#)

JORC Committee invites public feedback on the draft JORC Code

The Australasian Joint Ore Reserves Committee (JORC) has released the draft JORC Code for public feedback through an online survey, seeking comment from stakeholders ahead of the final review and update of the JORC Code.

The public feedback period will be open for three months, closing 31 October 2024. This was announced on the IOM3 website in August.

The survey allows for responses to be tailored to those elements of the code with which you have the most interaction, experience and interest

CRIRSCO

CRIRSCO AGM + MRMR 2024 Conference, Vancouver, Canada, October 2024

This year's CRIRSCO Annual General Meeting (AGM) in Vancouver was followed by a conference on the topic of Mineral Resources and Mineral Reserves which was jointly organised by the CRIRSCO and the CIM (Canadian Institute of Mining, Metallurgy and Petroleum).

The CRIRSCO AGM was held from 14 - 16 October 2024

The MRMR 2024 Conference: Mineral Resources and Mineral Reserves, Innovation and Integration, hosted jointly by CIM and CRIRSCO, was held immediately after the AGM and provided an opportunity to share information and experiences with regards to the assessment and reporting of Mineral Resources and Mineral Reserves.

Holding a conference in conjunction with the AGM is a new initiative and it is hoped that this will provide an opportunity for the representatives attending the AGM and others involved in the mining sector to exchange ideas and discuss topics of interest.

Edmund Sides and Mark Burnett (PERC's representatives on CRIRSCO) represented PERC at the CRIRSCO AGM and the MRMR 2024 Conference.

Affiliated Local Societies' news and events

MTG Leadership

The following events have taken place or are currently planned for 2024/25. Details of upcoming Local Society meetings are listed on the [IOM3 website](#). Members can also sign up to a regular update on forthcoming ALS events via their IOM3 account under My Preferences.

CorIE

Meetings are generally held at the Chapel Lecture Theatre, Penryn Campus, Penryn, Cornwall, commencing at 6:00 pm. Additional information can be accessed on the [IOM3 website](#) or from secretary@thecornishinstituteofengineers.com

10 October 2024	Presidential Address: Commercialising university research - KMO-Fleet
24 October 2024	Victor Philips Memorial Lecture: 55 years in mineral processing
28 November 2024	Technical Talk by Cormac Geotechnical (TBC)
5 December 2024	Grand Christmas Quiz - Upper Stannary Bar
23 January 2025	The Mine Water Heat Resource in Cornwall
6 February 2025	The Importance of Backfill
27 February 2025	Don Dixon Memorial Lecture; The development in farm energy methane
13 March 2025	Ecton - A British mine at the forefront of technology for three thousand years
24 April 2025	AGM followed by lecture - A YEAR ON - South Crofty Mine: dewatering and water treatment

MIMinE

Meetings are generally held on the second Thursday of the month at Knottingley or Mansfield Mines Rescue Stations, with video conference facilities for those who cannot attend in person at the MRSs at Rhondda and Fife, usually commencing at 4:00 pm. Additional information can be accessed at www.themime.org.uk/events/. **Please check for venue details prior to attendance.**

12 December 2024	Mine Safe Briefing - Hazards associated with historical coal mining
13 February 2025	The Renaissance of Pumped Storage Hydro - our readiness for creating underground spaces for energy generation
13 March 2025	Mine Ventilation - the good, the bad and the ugly
Events at other venues:	
11 October 2024	AGM, Dinner and Presidential Address - Mount Pleasant, Doncaster
14 November 2024	Drill and Blast Techniques at the Woodsmith Mine Shaft Sinking Project - Woodsmith Mine
9 January 2025	Various Applications of Drilling Technology - MS Teams
11 April 2025	ANNUAL SAFETY SEMINAR 2025 - Crowne Plaza, Sheffield
8 May 2025	Mine and Mill operations at Boliden Tara Mines - MS Teams

MIS

Meetings are generally held on the second Tuesday of the month, with video conference facilities for those who cannot attend available, commencing at 7:00 pm. Additional information can be accessed on the [IOM3 website](#).

16 October 2024	Lochaline Quartz Sand Mine: Underground Mining in the Scottish Highlands - virtual
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MinSouth

Meetings are generally held on the second Thursday of the month at various venues, usually commencing at 7:00 pm. Registration prior to the event is required. Additional information can be accessed at minsouth.org.uk/.

Planned events for the remainder of 2024 and for 2025 are indicated on the [Events page](#) of the website.

10 October 2024	AGM followed by paper - Risk based approach for safety reviews of tailings dams & mine water management dams) - IOM3 London Office, 297 Euston Road
14 November 2024	The Klondike Gold Rush: A Tale of Fortunes and Frontiers - the Counting House & virtual
12 December 2024	Membership & Chartership Evening, Explaining the Process - virtual
9 January 2025	Integrating Prospectivity Mineral Systems, Machine Learning and Sterilisation/Enhancement from Previous Exploration - the Counting House & virtual
13 February 2025	BTS - MinSouth Annual Lecture (TBC) - The Institution of Civil Engineers
13 March 2025	Young Persons' Lecture Competition MinSouth Heat - Royal School of Mines
10 April 2025	Women in Mining UK – MinSouth Joint Lecture (TBC)
8 May 2025	Prestige Lecture by Roland Chavasse, Secretary General of the International Lithium Association (ILiA) - IOM3 London Office, 297 Euston Road
12 June 2025	2025 MinSouth Quiz: Test Your Knowledge! - Doggett's Coat and Badge, London

NEIMME

Meetings are generally held on the second Thursday of the month at Neville Hall in Newcastle upon Tyne, with video conference facilities available for those who cannot attend, commencing at 6:00 pm. Additional information can be accessed at mininginstitute.org.uk/.

17 October 2024	Sir Charles Parsons: Development of the marine steam turbine and SY Turbinia
14 November 2024	Teesworks - modern manufacturing, renewable activity and clean energy jobs
5 December 2024	Quarrying's vital role in a Net Zero World

Our colleagues at the North East Coast Joint Branch NECJB of IMarEST and RINA welcome all NEIMME members to their events in 2024-25. Their events programme is available on the [NEIMME website](#).

Please contact office@mininginstitute.org.uk stating an interest in getting involved with:

- Arranging professional training events
- Helping to run NEIMME's lecture series and lecture recordings
- Judging the institute's prizes
- Writing or editing NEIMME's publications and quarterly newsletter
- History and science fair volunteers

WIMM

Meetings are generally held on the first Monday of the month at the William Smith Building of Keele University, usually commencing at 7:00 pm. The meetings/ lectures can also be attended using the Zoom application. Additional information can be accessed from the [IOM3 website](#).

7 October 2024	AGM followed by paper - Blockchain Technology in Mining
4 November 2024	Drill and Blast Techniques at the Woodsmith Mine Shaft Sinking Project
2 December 2024	The Drainage and Utilisation of Coal Mine Methane (CMM) following the closure of a mine
3 February 2025	Energy Efficiency Within Crushing and Reclaiming Product Development
3 March 2025	Heavy Rare Earth Elements...
31 March 2025	Dealing with Lubrication Technologies & Technologists!