



IQM

INSTITUTE OF QUARRYING MALAYSIA

Newsletter

FOR MEMBERS CIRCULATION ONLY
Jan - Jun 2025 KDN NO: PP8487/06/2013(032604)

MESSAGE FROM THE EDITOR

Happy New Year to all our members! With the Chinese New Year celebrations approaching on 29 & 30 January 2025, IQM extends its warmest Gong Xi Fa Cai to those celebrating this auspicious occasion, and a Happy Holiday to the rest of our members. The holy month of Ramadhan is also just around the corner, and we would like to wish all our Muslim members a blessed and peaceful fasting month in March 2025. The Institute remains committed to providing state-of-the-art training, industry insights, and the latest developments to ensure that all members are equipped to succeed.

During the second half of 2024, we successfully completed several training programs at IQM Puchong, as well as in Sabah and Sarawak. We have been working closely with the Sabah and Sarawak Quarry Associations to jointly organize these training sessions, ensuring they meet the needs of the local industry. We also successfully organized the IQM Conex 2024 Quarry Conference and Exhibition from 22 to 23 October 2024 and was officiated by our very own Director General of Department of Mineral and Geoscience Malaysia, Datuk Zamri bin Ramli. The event saw a strong turnout and received excellent support from our exhibitors and sponsors, making it a resounding success. The event photos have been published in this newsletter. We hope you enjoy the captured photos during this successful gathering!

We are also proud to announce that Malaysia won the IOQ International Caernarfon Award for the second consecutive year! This recognition highlights the outstanding contribution of the Mines Research Institute, Department of Mineral & Geoscience Malaysia, on their winning paper, titled My QPPI: A Real-Time Mobile App for Quarry Dust Monitoring, presented at the IQM Conex 2023 Conference. It is inspiring to know that we now reach the level of international standards. Congratulations to the winners. Full details with photos published in this newsletter.

For this year's training, all our QMC and QMPC modules as well as our Quarry Specialisation Courses will follow a scheduled timetable, with updates and enhancements to the course notes. We've also added new topics to provide additional value to the courses. In addition, a couple of new courses have been developed and will be offered this year. The 2025 training schedule is also included in this newsletter for your convenience.

We encourage all past recipients of the QMC and QMPC certifications to consider attending some of the new courses or to return for a refresher. This will help you accumulate CPD hours for the upcoming renewal of your certificates.

Most importantly, we would like to remind all our members to renew their membership subscription for this year. For those interested, we also offer the 3+1 scheme, which entitles you to an additional year of free membership. This is an excellent opportunity to maximize your membership benefits.

In closing, I would like to extend my sincere gratitude to all our members for your continued support. Your dedication helps drive the success of our Institute and strengthens the quarry industry as a whole. We look forward to another year of working together and achieving new milestones. We wish you all a prosperous and successful 2025.

INTERNATIONAL AFFILIATIONS:



The Institute of Quarrying
United Kingdom



The Institute of Quarrying
Australia



The Institute of Quarrying
Southern Africa



The Institute of Quarrying
New Zealand



The Institute of Quarrying
Malaysia



The Institute of Quarrying
Hong Kong



2025 IQM COURSES AND ACTIVITIES

JANUARY

14 - 16 January
Legislation Course for
Mining & Quarrying
2025 (IQM)

**IQM
NEWSLETTER**

CNY HOLIDAYS

FEBRUARY

17 - 22 February
Training Course for
Shot-Firers 1/2025
(IQM)

25 - 26 February
Effluent Sampling &
Analysis
(USM, Penang)

MARCH

Shot-Firers Exam

PUASA MONTH

**IQM CONEX 2025
ANNOUNCEMENT**

**HARI RAYA
HOLIDAYS**

APRIL

**QUARRY DIRECTORY
2025 (out for sale)**

7 - 11 April
OSH Coordinator
Certification for Mineral
Industry 1/2025 (KK)

7 - 11 April
Drilling Course 1/2025
(Kuching)

22 - 24 April
Drilling Course 2/2025
(IQM)

MAY

5 - 7 May
Crushing & Screening
Course 1/2025 (IQM)

14 - 15 May
Blast Monitoring
Course 1/2025 (IQM)

26 - 30 May
OSH Coordinator
Certification for Mineral
Industry 2/2025
(IQM)

JUNE

9 - 13 June
Environmental
Management Course
1/2025 (IQM)

21 June
23rd AGM / Technical Talk
(IQM/Four Points by
Sheraton)

23 - 26 June
Professional Drone
Pilot Certification (IQM)

JULY

7 - 9 July
Crushing & Screening
Course 2/2025
(Kuching)

21 - 26 July
Training Course for
Shot-Firers 2/2025 (IQM)

AUGUST

Shot-Firers Exam

4 - 7 August
Quarry Planning &
Design (IQM)

18 - 20 August
Quarry Economics
1/2025 (IQM)

25 - 27 August
Quarry Economics
2/2025 (Kuching)

SEPTEMBER

8 - 10 September
Structural Geology &
Streographic
Projection
(FYS, Penang)

OCTOBER

13 - 15 October
IQM Conex 2025
(Palm Garden Hotel,
IOI Resort)

DEEPAVALI HOLIDAYS

27 Oct - 1 Nov
Training Course for
Shot-Firers 3/2025
(IQM)

NOVEMBER

Shot-Firers Exam

10 - 12 November
Professional ESG
Certification
(IQM)

17 - 19 November
Professional ESG
Certification
(Kuching)

DECEMBER

**CHRISTMAS/
NEW YEAR
HOLIDAYS**



ANNUAL SUBSCRIPTION FOR 2025

Please be informed that your Membership Subscription Fee for year 2025 is due for payment. Kindly ensure that payment is made by 31st March 2025.

Payment can be made by crossed cheque / bank draft / Online Transfer to :

INSTITUTE OF QUARRYING MALAYSIA BHD

Maybank 014187208342

(Kindly fax / email bank transaction advice)

The following subscription rates apply for 2025

Fellow (FIQ)	:	RM250.00
Member (MIQ)	:	RM200.00
Technical Member (TMIQ)	:	RM190.00
Associate	:	RM180.00



We would like to inform you that if you choose to pay your Membership Fee in advance for three (3) years, you will be entitled to an additional year of free membership (3 years + 1 year). This is a great opportunity to maximize your membership benefits.

If you have any queries or need any clarification on your membership status kindly contact Madam Nirmala Devi at Tel : 03-80624194 Email : nirmala@iqm.com.my

I _____ Membership No : _____

enclose my crossed cheque/bank draft/money order no. _____

for RM _____ being Membership Fee for year _____ payable to

INSTITUTE OF QUARRYING MALAYSIA BHD.

E-mail : _____ Handphone No : _____

TO ALL RECIPIENTS OF QMC & QMPC

CONTINUING PROFESSIONAL DEVELOPMENT

The Institute is committed to recognizing and promoting the professionalism of individuals within the quarrying industry. Professionalism is built through a combination of work experience and qualifications, and Continuing Professional Development (CPD) plays a key role in this process. CPD is a way of ensuring continual improvement and personal growth, while also keeping your career documentation up to date.

We strongly believe that participating in CPD ensures your qualifications remain current and relevant.

Starting in 2023, all QMC and QMPC holders are required to complete 60 hours of CPD to maintain their certification. In addition, to remain certified, you must be an active member of IQM. Attached, you will find the CPD Record Form, which includes examples of activities that qualify for CPD hours.

Please note, the QMC and QMPC certifications now have an expiration date. Certificates issued before 2023 will no longer be recognized. To renew your certification, you will need to submit the relevant forms. These certifications are valid for 3 years and are renewable thereafter. A renewal fee of RM40.00 will apply, and upon renewal, you will receive a new certificate along with an IC-sized membership card.

If you are not yet a member of IQM, you can download the membership form from our website at www.iqm.com.my, complete it, and submit it along with the payment.

We encourage all QMC and QMPC recipients to submit their renewal applications along with the CPD Record Form summary to ensure the continued validity of your certification.

For further enquires on the above, kindly contact Madam Nirmala Devi at :

Tel : 03-8062 4194 / 8062 4195 email : nirmala@iqm.com.my

QMC / QMPC RENEWAL FORM

I _____ Membership No : _____

wish to renew my QMC / QMPC for year _____

Certificate No. : _____

Enclose is my renewal fee of **RM40.00** transferred online to

Institute of Quarrying Malaysia Bhd - Maybank 014187208342

Email : _____

Handphone No : _____

SUMMARY - CONTINUING PROFESSIONAL DEVELOPMENT (CPD) RECORDS FOR YEAR

Name: _____ IC No: _____

Conferment Year of QMC / QMPC Award _____

IQM Membership No: _____

CPD Requirements: 60 hours (3 years)

	Category	Date	CPD Activity/Topic CPD Provider	Allowable CPD hours	Total CPD hours
1	Related Training to Quarrying Activities			No Limit	
2	Company/Inst. Training <ul style="list-style-type: none"> • On-job Learning • In-house Training • Apprenticeship 			Maximum 10 hours per year	
3	Participants of Conferences/Seminars and Technical Talks			No Limit	
4	Technical Presentations at Conferences/Seminars or Technical Talks			Maximum 15 hours per year	
5	Contributions/Services in related Professional Institutional Activities			Maximum 15 hours per year	
6	Informal Learning <ul style="list-style-type: none"> • Private study • Reading of technical publications/manuals • Technology knowledge update using Internet 			Maximum 5 hours per year	
TOTAL					

Congratulations

TO THE WINNERS OF THE IOQ INTERNATIONAL CAERNARFON AWARD 2024

The Caernarfon Award is the highest international award that The Institute of Quarrying (IOQ) awards annually to the best conference presentation in that year. Since 1989, the Caernarfon Award is presented to someone who the international IQ Presidents have adjudged to have contributed the most to the advancement of the science and practise of the quarrying industry.

We are proud to announce that in October 2024 the award went to Malaysia for the second consecutive year! This award was presented to the Mines Research Institute, Department of Mineral & Geoscience Malaysia, for their innovative work. Their winning paper, titled My QPPI: A Real-Time Mobile App for Quarry Dust Monitoring, presented at the IQM Conex 2023 Conference, showcases a significant advancement in environmental monitoring technology. The development of a mobile app to track quarry dust in real-time could greatly contribute to improving environmental health and safety standards in the mining industry. It's truly inspiring to see Malaysia reach the level of international standards with this achievement. Congratulations to the following winners :

1. Dr Izhar Abadi bin Ibrahim Raiz
2. Fatihah binti Azmi
3. Muhammad Hazim bin Yaacob
4. Ahmad Firdaus bin Shamsul Baharin



IQM CONEX 2024 QUARRY CONFERENCE & EXHIBITION

Smart Quarries : AI & Top Trending Technologies (SQ-ATT 2024) 22 & 23rd October 2024

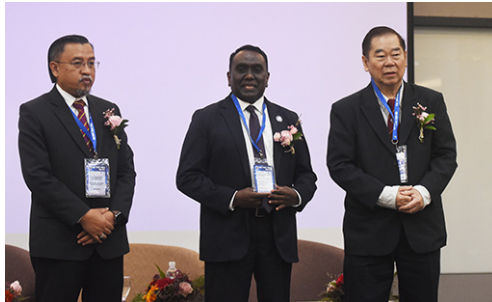
IQM had successfully organized the IQM Conex 2024 Quarry Conference and Exhibition held from 22 to 23 October 2024 and was officiated by our very own Director General of Department of Mineral and Geoscience Malaysia, Datuk Zamri bin Ramli. The event saw a strong turnout and received excellent support from our exhibitors and sponsors, making it a resounding success.

A total of 10 papers were presented by experts from the industry, and it's wonderful to hear that they were well received by the participants. A big thank you to all the conference presenters for dedicating their time and effort to deliver successful and impactful presentations.

Our sincere thanks and appreciation also go out to our exhibitors, whose presence and contributions were vital to the success of the event. We would also like to extend our heartfelt gratitude to our sponsors, whose generous support made this event possible and they are :

AUSTIN POWDER MALAYSIA SDN BHD
SANDVIK MINING & CONSTRUCTION (M) SDN BHD
SAROMA ENGINEERING SDN BHD
ORICA-CCM ENERGY SYSTEMS SDN BHD
TTE MACHINERY SDN BHD

OFFICIAL OPENING



IQM CONEX 2024





IQM CONEX 2024



CONFERENCE



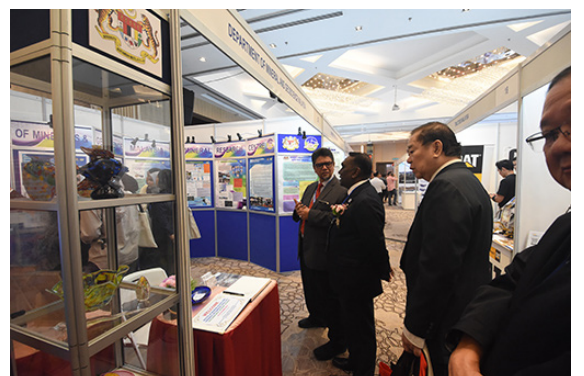
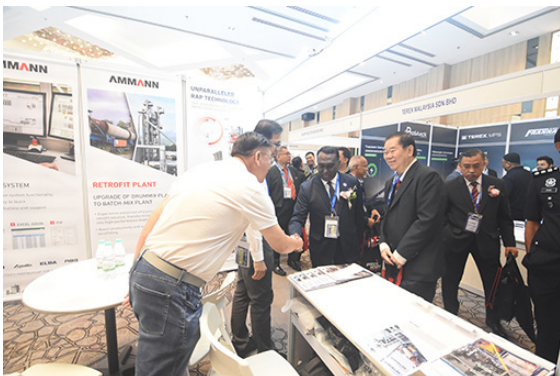
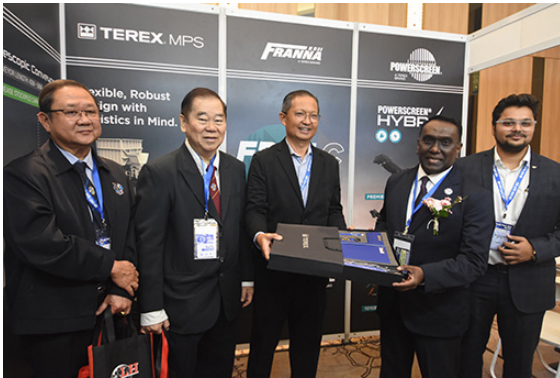
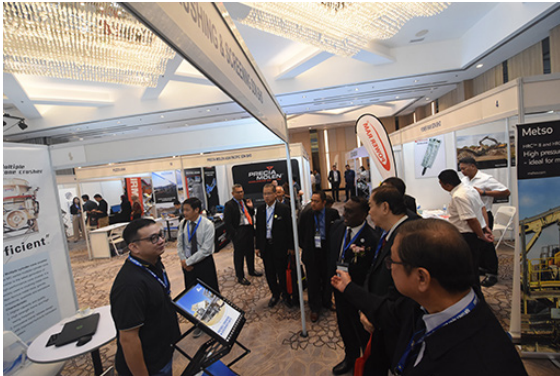
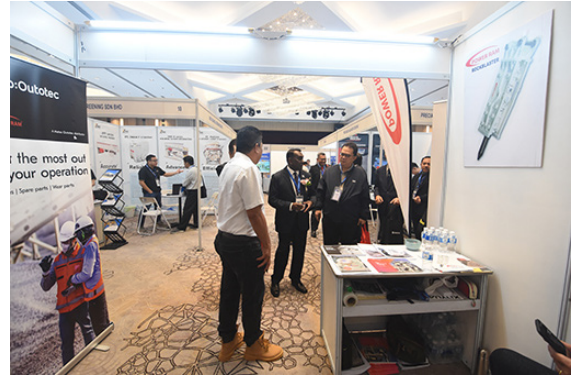
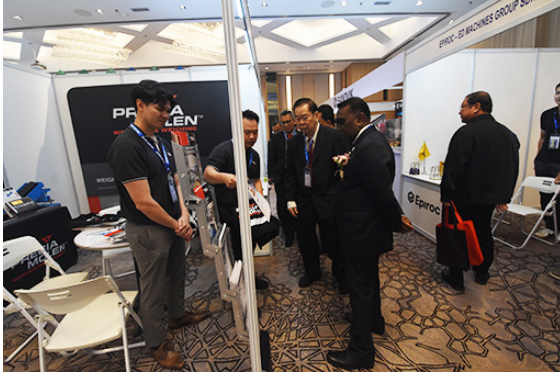
INDOR & OUTDOOR EXHIBITION



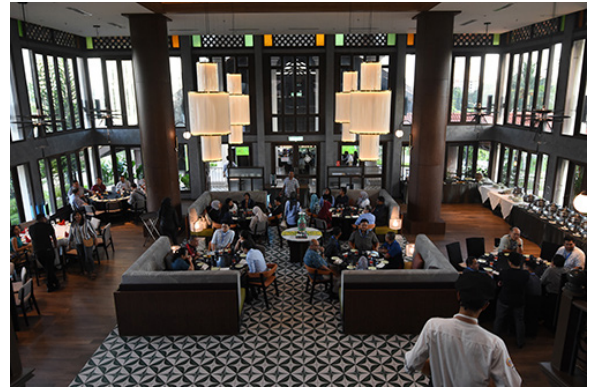
IQM CONEX 2024



IQM CONEX 2024



LUNCH & DINNER



THE AWARDS



IQM CONEX 2024



IQM CONEX 2024

THE AWARDS



IQM COUNCIL 2024/2025

Chen Nyet Lin
Hj Nurul Huda bin Romli
Assoc. Prof. Ir. Dr. Eric Goh
Ir Muhammad Faiz Zainuddin
Ir Norhamidi Md Din
Mr Pang Kang Ngen
Mr Lee Wen Han, Vincent
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Ir Toh Kar Wai

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Deputy President
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Council Member
Council Member



3D drone model of Mountsorrel blast pile surveyed by Rajen Gupta, higher apprentice - operations at Tarmac's Mountsorrel Quarry

Artificial Intelligence

Mining data for CO2 reductions

Many of us may have tentatively dabbled with Artificial Intelligence (AI), perhaps to generate a self-image for use on social media or help write a short letter or report. Nevertheless, its use in risk-managed businesses, such as quarrying, where real-world dynamics and people are involved, has perhaps been viewed with more scepticism.

The reasons are very understandable; AI not being properly understood; not knowing appropriate implementations for its use; little willingness to test it due to lack of understanding or perceived prohibitive costs; even simply the use of the word artificial being conflated in the mind with not being real and, therefore, not to be trusted.

Yet, as a sector working with huge scale and volumes, the minerals products industry has so much data that needs attention. Consequently, AI in quarrying has untold potential.

In 2023, such potential won the Institute of Quarrying Emerald Challenge – an initiative created to invite the mineral products sector to test innovative, environmentally focused ideas that could help the industry on its path to Net Zero. The Emerald Challenge grant is there to support research and development into new processes or concepts to help deliver better performance or deliver existing technologies within a new context for the sector.

Before looking at the winning work of Ground Engineering Applied Research Services (GEARS) in joint venture with New Gradient and its early adoption and consequential development investment by Tarmac at their Mountsorrel Quarry, first it is useful to try to better understand what is meant by AI, its potential, and the growth of data.

AI is an expanding frontier

There is no doubt that the use of AI is growing. The AI market amounted to around US\$200 billion in 2023 and is expected to grow well beyond that to more than US\$1.8 trillion by 2030.

IQ Emerald Challenge



The more global data surges, the more the need for digital intelligence to extract trends from this data and the greater AI's value in doing the work that would otherwise be an insurmountable challenge for human resources.

Artificial intelligence already, sometimes invisibly, permeates extensive areas of our lives; for instance, debugging code, camera filters on our phones, responding as chatbots for customer service.

AI has proven extremely useful in other extractive industries and industrial sectors. For example, AI is now used extensively in new oil field and precious metals exploration, in cases such as safety checks for identifying personnel not wearing required PPE.

AI's predictive value is transformative

Whilst data analysis is often a process of review of what has happened, the transformative value of AI is in its ability to predict, using that analysis to discover patterns and consequently devise better ways to do things. Improvements in efficiency that reduce cost and increase knowledge.

Suddenly, AI becomes more exciting, and business wants to know what it can do.

More than just data benefits

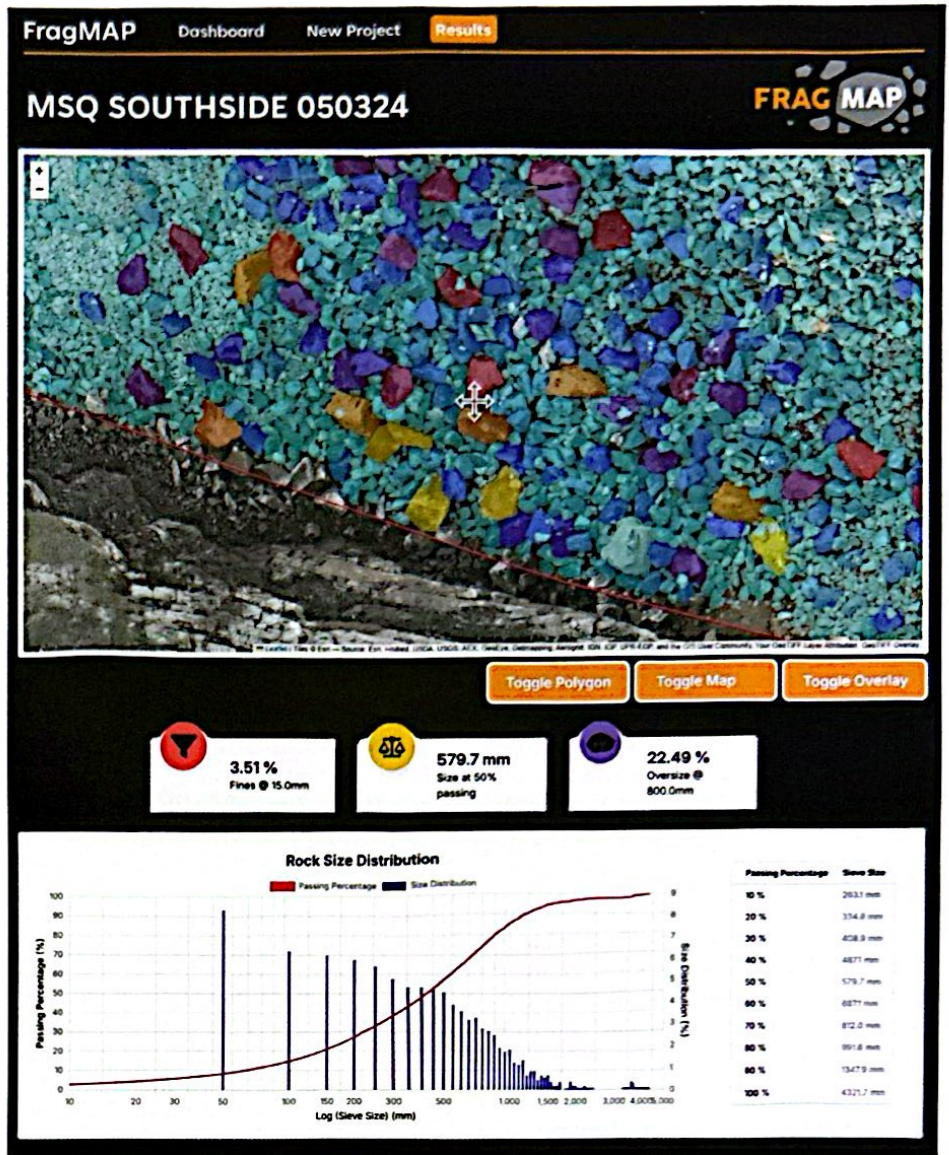
AI's benefits extend beyond data analysis. It reduces human error, automates mundane tasks, and aids in quick decision-making. AI systems perform hazardous tasks and improve workflows. Furthermore, AI does not need sleep, it operates 24h a day, seven days a week, offering unparalleled productivity.

That does not mean that AI can replace humans entirely. Despite fears of AI replacing human jobs, the growing volume of data necessitates skilled data analysts. With 90% of the world's data generated in the last two years and expected data growth of 150% by 2025, AI tools augment rather than replace human expertise. By automating repetitive tasks, AI allows data scientists to focus on more complex analyses from its output.

The need for a robust process

Importantly, AI relies on good-quality data, well-sourced, accurate, and secure. Bad data will produce bad AI results. Creating and leveraging reliable AI systems involves:

- 1. Data collection:** Gathering data from diverse sources is essential to train AI algorithms effectively.
- 2. Data cleaning:** The cleaner the data, the more valuable the insights. AI assists in eliminating errors, managing empty values, and normalizing data.
- 3. Model training:** An AI model must be trained on the selected data, tuning parameters to make sure the model does not over-fit and offers representative and robust predictions.
- 4. Model deployment:** AI models must be optimized for their specific deployment use case, whether this be cloud or edge devices, a model must be optimized in such a way to reduce inference cost.
- 5. Model inference:** Once deployed the model can be run on a continuous



FragMAP analysis of a blast pile at Mountsorrel

stream of data offering intelligent and robust predictions.

- 6. Data-driven decision-making:** Leveraging the outputs of AI models leads to faster, more accurate decisions. Predictive analytics can foresee potential issues, allowing businesses to address them proactively.

Further reading regarding the use of AI in mining; Insights and ethical considerations is available, along with comment on AI machine learning and autonomous technology.

Trailblazing with AI: Blasting down CO2 at Mountsorrel Quarry

During the 2023 Emerald Challenge, the Institute of Quarrying requested submissions from the sector for development projects with the potential to show a positive environmental impact and contribute to the sustainability of the industry.

One of the winners was a collaboration between GEARS, New Gradient, and Tarmac.

The team presented their initial hypothesis on the CO2 impact of poor blasting quality. Their idea was to undertake a project whereby cost-effective AI solutions could be developed and implemented to measure the impact of

the blast design on the entire process. The aim was to reduce CO2 emissions using Tarmac's Mountsorrel Quarry as a test case. This would serve as an example for the UK hard rock quarrying sector.

Additionally, this could, in part, trailblaze how to use AI to address more 'mine-to-mill' operational efficiencies. AI's capacity to understand complex, data-heavy work could be a quicker, easier, and more accessible route to mine-to-mill operational improvements.

CO2 emissions in UK quarries

Hard rock quarries produce between 2.5kg and 4kg of CO2 per tonne, primarily from diesel-powered load-and-haul equipment and energy-intensive processing plants. Recognizing the economic constraints and logistical impracticality of immediate replacement of mobile plant and processing plant with new plant powered by renewable energy, GEARS shifted focus to optimizing existing operations, particularly through improved blast fragmentation.

The team considered that blasting, despite being essential, is costly (often 10-15% of total production costs) and often optimized solely for expense reduction, which can compromise blast quality and increase ▶



Mounsthorrel AggCAM installation above the CV1 conveyor belt



AggCAM analysis of material on a conveyor belt

overall CO₂ emissions. Therefore, without precise measurement of blast fragmentation, the impact on CO₂ emissions and total operational costs was unclear.

By using AI, GEARS believed precise measurement would be possible. With such high costs blasting is often being targeted to reduce cost, but often to the detriment of good fragmentation. Without accurate methods of measuring the quality of fragmentation from blasting, it is impossible to assess fragmentations influence on CO₂ emissions and impact on the total operational cost.

Why Mounsthorrel Quarry?

Mounsthorrel Quarry, a flagship Tarmac site, was chosen due to its high production levels, the recent addition of a new primary crusher plant and mobile plant telemetry system. The quarry's potential for significant CO₂ and cost savings made it an ideal location for the project.

AI rationale and data gathering

AI's ability to identify patterns and abstractions from data make it ideal for understanding complex processes such as the optimization of mineral processing. Machine learning, a subset of AI, can learn from data to make predictions, thus facilitating intelligent decision-making. Additionally, AI allowed for data gathering at a frequency and accuracy otherwise not possible with just humans, allowing for tighter feedback loops. Acting on this data makes it possible to optimize processes in a way that would otherwise be impossible.

Drill and blast process: New Gradient used their AI-driven tool, FragMAP, via drone

imagery and AI computer vision to measure rock sizes in blast piles. This provided data on blast quality, enabling feedback loops for optimization. GEARS and New Gradient, with access to a wide range of blast design data, some of which was provided by Tarmac, developed BlastFRAG, an AI programme that predicts blast pile outcomes based on input factors, aiding in selecting optimal blast designs.

Crushing and screening: Monitoring the particle size distribution (grading) through the crushing and screening process is challenging yet crucial. Incorrect settings can lead to increased energy usage and reduced throughput. AggCAM, is another AI tool developed by New Gradient, to continuously monitor grading and aggregate volume on conveyor belts, facilitating optimization of the crushing process and linking blast pile quality to downstream processing efficiency. A fully operational prototype of AggCAM is deployed on the conveyor downstream of the new primary crusher at Mounsthorrel.

The initial AI project results

The research revealed that by improving blast fragmentation dumper loads could be increased by up to 10%. Furthermore, previous research has demonstrated improved fragmentation can increase processing plant energy efficiency by up to 20%, subsequently requiring less energy per tonne. Whilst the data-collection, analysis, and optimization process are still at an early-stage, indications are that, depending on site characteristics, total production cost savings of around £1 per tonne may be achievable as well as significant reductions in CO₂.

Additionally, constant measuring of crusher conveyors using AggCAM identified non-productive operation of around 15%. This feedback led Tarmac to immediately review the efficiency of the supply to the primary crusher, resulting in an increase in the mobile plant fleet to ensure continuous efficient operation of the crusher.

FragMAP has allowed Tarmac to improve drill and blast efficiency by facilitating objective measurement of clear KPIs for blast quality.

Better-informed decisions

The use of AI at Mounsthorrel and introduction of in-house drone data capture capability has not only empowered the Tarmac quarry management team to make better-informed decisions and challenge contractors to improve outcomes, but has also upskilled the team and fostered a deeper understanding of the processing system.

A genesis of change?

The project is testament to the value of the Institute of Quarrying's Emerald Challenge, as it has inspired individuals and companies to think about and innovate in the environmental space.

Looking more widely, the project and its results demonstrate the power of AI, in combination with human ingenuity, to solve problems at speed and be the catalyst for genuine and valuable change.

Thomas Clifford (GEARS) and Oliver Kibble (Tarmac) will be presenting their work on 'Blasting Down CO₂' to the IQ Derbyshire branch on Wednesday 11 September 2024 at Buxton Rugby Club. To book, visit: go.quarrying.org/blasting-down-co2-event

A fuller case study of the work undertaken is also available on the Institute of Quarrying website. Visit: go.quarrying.org/blasting-down-co2; or use the QR code below: **QM**

About the project team

GEARS: a research consultancy working within the UK quarrying industry to identify, develop, and implement innovative technologies to improve efficiency, sustainability, and safety. GEARS' small team is comprised of industry experts in geology, geotechnics, and blast design. The consultancy has for several years been undertaking, in partnership with Tarmac, new blasting research, as well as providing Tarmac with specialist geological, geotechnical, and blasting services.

New Gradient: a specialist Artificial Intelligence (AI) and Machine Learning (ML) consultancy that collaborates with clients to understand their key operational challenges and develop bespoke AI/ML software solutions to improve efficiency and leverage commercial gains.

Tarmac (a CRH company): the UK's leading sustainable building materials and construction solutions business.



The 7th Global Aggregates Information Network (GAIN™) Meeting

The 7th GAIN Meeting theme “Developing the GAIN™ Strategy 2023” was warmly hosted in Córdoba, Argentina, by CEMINCOR, CAEM, Cámara de la Piedra and Federación de la Piedra, on 20-23 October 2024. Present were Malaysia, Argentina, Brazil, Colombia, Chile, Costa Rica, Canada, US, Aggregates Europe representing its 30 countries, New Zealand, China, South Korea and recorded inputs from India, Australia and South Africa.



The highly-focused exchanges of best practice benefitted all participants, as is the key mission of GAIN. Sustainability was a key theme, in fact the guiding goal of the industry, where it is developing proof of success in greater efficiency on carbon footprint, energy and water usage and many more KPIs through Environmental Product Declarations. Fostering of biodiversity is another area in the industry which can make a huge contribution to neighbours, community and wider society.

All shared new approaches on public relations and communications, which is absolutely essential in telling society the good story of the industry. Environment, social and governance indicators also help to better underline the industry’s positive impact on society. The industry is also acutely aware of the need to attract the new talent, providing better career opportunities with progressive lifestyles.

Zeems outlined how the MQA strongly represents the aggregates sector in Malaysia. National production is estimated at 175mt, which equates to just on 5t/c. The MQA successfully engages with many stakeholders with the aim of improving the industry image, in parallel helping to improve operational health, safety and environmental standards.



5 Strategic Direction to Brand Build the Quarry Industry

Strategic Direction 1: Engagement and Cooperation with Government Agencies

Strategic Direction 2: Training, Technical Workshop & Education Visit

Strategic Direction 3: Local & International Cooperation

Strategic Direction 4: Publicity

Strategic Direction 5: Community and Social Events

Module 6, Achieving PR & Communications Excellence: Public Acceptance of Quarries, Tourism

Zeems demonstrated via his eternal enthusiasm the unique FYS story, moving from defending the imminent closure of his quarry by encroaching neighbours to launching a public information blitz, inviting neighbours and communities to visit and witness real-life operations. The plant has won a plethora of international awards and coined the concept of “Quarry Tourism”.



Prepared by Zeems Foo Kheng Sin, FIQ
Chairman of FYS Marketing Sdn Bhd