MAPTEK™

Forge

December 2024 Newsletter

In this issue

Welcome to our Forge newsletter December 2024

In this issue of Forge, we outline the deployment of Maptek laser scanners alongside UAVs at a lithium operation in Western Australia.

We see how the Maptek Technical Services team helped solve critical operational challenges in developing an iron ore project in the Republic of Guinea.

In Mongolia, VisionV2X proximity detection has been in steady use underground at Oyu Tolgoi for more than 2 million vehicle operating hours.

We are excited to share how our new platform, Maptek Vestrex can elevate industry decision making through data services, cloud computing, automation and orchestration. Imagine Vestrex as the glue that binds multiple applications, empowering collaboration across stakeholders.

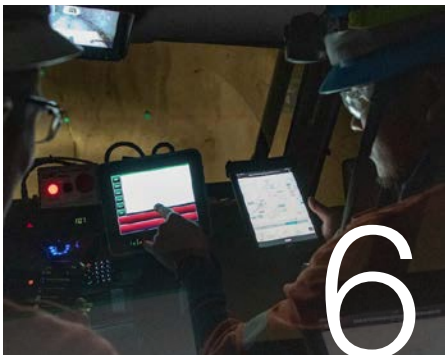
It follows that integrating data collected by a proximity detection system with fleet management and haulage routes can create a seamless workflow where real-time data, risk analysis and operational adjustments come together in a unified platform.

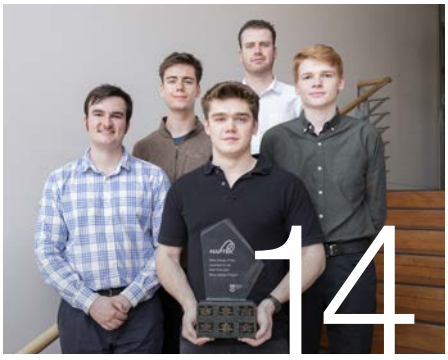
We also recognise achievements across our customer and university partner base. Read about Hall of Fame at MINExpo International, the annual Geology Challenge, Woman in Technology Innovation awards and the Mine Design prize.

All the best for the holiday season. See you in 2025. Stay safe!

Eduardo Coloma
CEO

Contact us: forge@maptek.com





Maptek mine measurement technologies deliver safe, efficient survey at Mount Marion mine

Contents

Driving better survey results

Mount Marion lithium operation employs Maptek™ laser scan imaging systems alongside UAVs in a best of both worlds approach to mine survey.

Mount Marion Lithium Mine is located 72km by road southwest of Kalgoorlie-Boulder in the Eastern Goldfields region of Western Australia. The project currently operates two open pits and an underground development.

Mount Marion employs conventional open pit drill, blast and haul mine operations and processes ore through its onsite primary and secondary crushers to feed the processing plant, which utilises a modular beneficiation circuit targeting Li_2O at 6% chemical grade spodumene concentrate.

An exploration decline has been commenced and together with surface infrastructure will form the foundation for an ongoing underground operation.

Implementing a Maptek™ laser scanner and Maptek™ PointStudio™ software has transformed the previous conventional survey approach.

The process is safer and faster, and confidence and respect has grown for the survey team, that the data they produce adds value to the business.

Senior Mining Surveyor, Michael Sadural has more than 15 years open pit survey experience in Australia and overseas across coal, copper, gold, iron ore and lithium operations.

Sadural has been using a Maptek XR3 laser scanner for several years and finds the combination with Maptek Drive for mobile operation an excellent addition to their survey arsenal.

'Maptek Drive was a game changer, lessening the risk of surveyor interaction with mining equipment and exposure to environmental hazards such as dust,' Sadural said.

Sadural finds the survey tools straightforward to use, allowing them to deliver results to stakeholders much faster.

'Reliable performance is critical in harsh weather conditions, when you need systems to operate as expected without delaying production,' Sadural said.

> Survey data represents the moment of truth—we provide accurate and reliable data for our teams to plan more productively and wisely.

Mount Marion applies specialised PointStudio add-ons for geotechnical analysis and design conformance. The data produced by the survey team is used by all departments who share common operational goals to safely and efficiently meet production goals.

'Less re-work arises from having accurate data to feed into planning,' Sadural said. 'Maptek solutions connect seamlessly to our operation. It is a one-stop shop from data acquisition to data processing and delivering the results to our stakeholders.'

Versatility to transform survey data into valuable decision support information for multiple departments is an important consideration.

‘For example, topographic surfaces, design conformance reports and volume calculations can be seamlessly prepared from the one dataset,’ Sadural added.

One challenge arises at Mount Marion when adverse weather conditions threaten end of month survey. Maptek Drive ensures the survey team can quickly acquire data and deliver reports on time. PointStudio software proves ideal for processing, filtering data efficiently and producing reports.

Mount Marion deploys various spatial technologies, depending on the purpose. Specific approaches are chosen to ensure full coverage of the pit, topography or stockpile. UAV is used for the majority of mine survey tasks due to its compact, easy setup and extended coverage beyond line of sight, with Maptek systems for specialised tasks.

‘We use the laser scanner mounted on a vehicle for high resolution scans of the highwall for detailed geotechnical analysis and mapping,’ Sadural added. ‘And deploy the rapid mobile scanning mode to survey for drill pattern surfaces and dig faces.'

Advantages

The dedicated mining solutions developed by Maptek allow the Mount Marion survey team to gather data efficiently and safely, and create an accurate terrain model to fulfil operational needs.

‘We have been able to greatly improve our site survey process, and upskill surveyors on conducting surveys and processing the data,’ Sadural concluded.

Sadural appreciates the positive relationship with Maptek, and believes the innovative technologies make his job as a surveyor easier.

The operation realises the benefits of having one system to manage survey data processing, modelling and calculating volumes for open pit reconciliation of movement and stockpiles. Standout advantages are the accurate stockpile volumes and design conformance reporting.

Thanks to
Michael Sadural, Senior Mining Surveyor
Mineral Resources Limited
Mount Marion Lithium Mine

Mount Marion has two open pits, 2km apart—North Pit around 1km^2 and Central Pit around 0.5km^2—and an underground development. Total mining movement is planned for around 37.6 Mt per year.

Underground vehicle detection

Maptek™ VisionV2X proximity detection has been in steady use at Oyu Tolgoi for more than 2 million vehicle operating hours, contributing to safety underground.

Oyu Tolgoi LLC, one of the largest known copper and gold deposits in the world, is a strategic partnership between the Government of Mongolia and Rio Tinto. The mine is also one of the most modern, safe and sustainable operations.

Maptek™ has been involved with Oyu Tolgoi since 2008, before open pit mining began in 2011. The Maptek VisionV2X detection system has helped mitigate significant risk since expansion into underground production commenced in 2023.

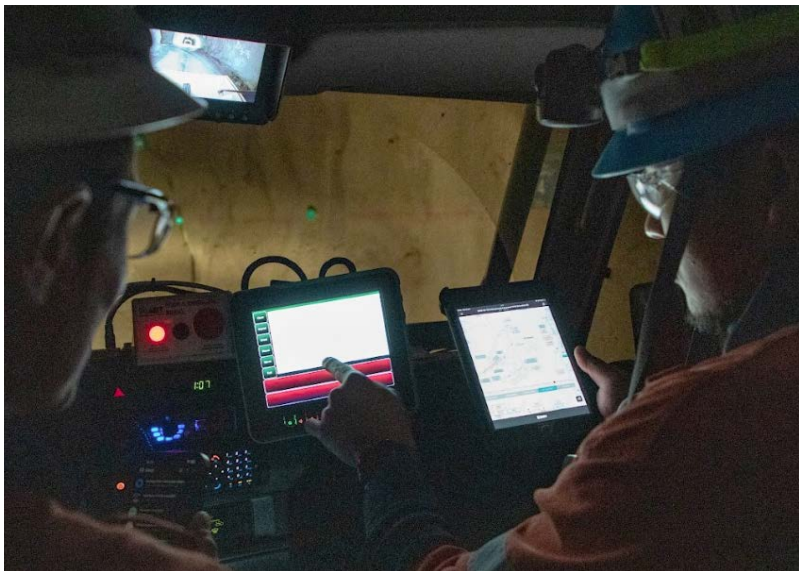
VisionV2X enhances safety by providing heavy equipment operators with improved situational awareness. Its detection and ranging capabilities have proven to be reliable and predictable, performing well in the challenging underground environment.

VisionV2X was implemented at the Oyu Tolgoi underground operation at the onset of the COVID pandemic.

'This meant we had to develop our local team capability to successfully implement and maintain the system, with remote support from Maptek,' said Russell Kennett, Oyu Tolgoi Underground Technology Manager.

Kennett has been involved in the underground mining automation and technology domain for more than 20 years, primarily working on underground mobile equipment automation, IS&T infrastructure and digital and data projects, so his expertise was invaluable to oversee implementation and use of the VisionV2X system.

'After initial implementation and stabilisation, VisionV2X has been reasonably cost-effective to maintain—ease of use has resulted in good operator acceptance, and Maptek has provided good support,' said Kennett.



Maptek initially customised the solution to operational requirements, adding compatibility to the Cohda V2X technology. Maptek has further improved the data integration options since implementation, allowing the data to be ingested and used in decision support tools.

'Cohda V2X technology leverages the market scale of the surface automotive industry, improving reliability and interoperability, and reducing cost compared with bespoke mining solutions,' said Kennett.

VisionV2X provides operators of heavy equipment with awareness of surrounding personnel and equipment, allowing them to safely operate equipment with limited field of view. The system provides data that can be used to validate traffic management controls and workforce exposure to vehicle and driving risks.

> Prevention of safety incidents has a positive flow-on effect to productivity and cost.

Kennett sees collaboration and interoperability as being important in the underground mining technology space, especially for safety technology.

The importance of data sharing was highlighted by a recent report of a heavy vehicle to light vehicle incident at another mine.

Oyu Tolgoi was able to use the data from the VisionV2X system to verify that their traffic management plan and administrative controls were successfully minimising the exposure to similar scenarios.

Analysing the data and verifying that the two classes of vehicle had been in close proximity for only a very small period of time per shift increased confidence in their own safety measures.

Thanks to
Russell Kennett
Underground Technology Manager
Rio Tinto Oyu Tolgoi Mine

Partnering for success

The Maptek™ Technical Services team worked in close collaboration with Rio Tinto to solve critical operational challenges to deliver a successful project.

A strategic partnership between Rio Tinto and Maptek™ provided technical expertise and consulting services, while simultaneously upskilling Rio Tinto teams.

In late 2023, Rio Tinto approached Maptek with several requests relating to time-sensitive and intricate design tasks for their Simandou project in the Republic of Guinea in West Africa. The Simandou mountain range subsoils contain a world-class high-grade iron ore reserve.

The project involved accessing and designing haul roads in challenging terrain—a task made more difficult by equipment limitations. With the complexity of the work at hand, and strict deadlines for completion, Rio Tinto sought support from Maptek to ensure the project's success.

A subject matter expert from the Maptek Technical Services team was appointed as a consultant to oversee and execute the project. Mining Engineer Adrian Solorzano worked closely with Rio Tinto to meet their operational deadlines, providing technical assistance for Maptek™ Vulcan™ as necessary.

> Technical expertise around advanced haul road design proved to be invaluable to the success of the project.

Solorzano managed the technical aspects of the operations and also provided Rio Tinto with insights that aided their decision making throughout.

Future-proofing

Prioritising knowledge transfer and upskilling within Rio Tinto embodies the Maptek principle of being Smarter Together.

Training sessions are planned with the Rio Tinto team in their London office, where reflection on the Vulcan methods applied during the Simandou project will equip them with skills to tackle similar challenges in the future.

This commitment underscores the Maptek approach to long term client success—providing tools to enable miners to make better decisions today to future-proof their operations—rather than focussing on short-term problems.

The partnership between Maptek and Rio Tinto extends beyond individual projects. Maptek regularly invites Rio Tinto product users to regional workshops, providing a platform to exchange valuable feedback and ideas.

Close collaboration between Maptek technical teams and Rio Tinto product users reinforces the strong partnership that has developed between the two companies. Continuous engagement is mutually beneficial, with Rio Tinto gaining access to innovative tools and Maptek receiving input to modify and enhance its solutions.

The collaboration between Maptek and Rio Tinto on the Simandou project is a clear example of how strategic partnerships can lead to success in the mining industry.

Maptek continues to play a pivotal role in helping companies navigate difficult challenges. Partnering with Maptek offers access to cutting-edge solutions, expert consulting and a commitment to ensuring sustainable success.

Thanks to
Rio Tinto, Simandou

Rio Tinto Simandou geologists visited Maptek Edinburgh office in October

Inducting Hall of Fame 2024

Maptek™ acknowledged individuals who have made significant contributions in their fields and have inspired others through their achievements.

Announcing the 2024 inductees during MINExpo International in Las Vegas in September, Maptek™ CEO Eduardo Coloma thanked nine customers who have championed Maptek products.

'They have made lasting industry contributions and inspired others through their passion,' said Coloma. 'They display a willingness to lead by example so that our solutions are widely understood and easily adopted at their operations.'

Senior Mine Engineer at Freeport McMoRan, **John Combs** has led innovations in geomechanics and slope optimisation using LiDAR and drone photogrammetry technologies. His work has significantly impacted mine reclamation and design conformance across various roles during his 15-year career.

John Combs

Bill Everett

Toby Prior

Shaun Leary

John Florek

Patrick Ruffridge

Brent Van Dijken

Andrew Vidale

Andre Leite

With more than 50 years of experience in mine management and geology, **Bill Everett** has championed the use of modern technologies in the iron ore industry, including computer-based truck dispatch and mine engineering. As Manager of Mining & Mineral Resources at Mesabi Metallics, he continues to promote sustainable mining practices.

President & CEO of Emperor Metals, **John Florek** brings more than 35 years of expertise in geology and mining, having held senior roles with major companies like BHP and Barrick. Known for his innovative use of machine learning in exploration, he continues to drive advancements in the development of high-grade gold deposits.

As General Manager of Technical Services at Whitehaven Coal, **Shaun Leary** has over 30 years of experience in leadership and technical roles across various sectors, including mining and finance. He has played a key role in advancing the use of Maptek solutions in coal mining and remains committed to leveraging cutting-edge technologies for future growth.

Vice President of Ontario Operations for Agnico Eagle, **Andre Leite** has more than 20 years of operational, technical and project management experience in the gold, base metals, uranium and iron ore industries. A Maptek customer for over a decade, he uses applications for geological and resource modelling, short and long-term mine planning, geotechnical modelling, and drill and blast processes.

With nearly 30 years of industry experience, **Toby Prior** is a Resource Geologist and co-owner of Measured Group. A dedicated Vulcan user since 2003, he excels in applying stratigraphic modelling tools to create more accurate, reliable models, especially for structurally complex mining projects.

Head of Mineral Resource Management at Nevada Gold Mines, **Patrick Ruffridge** brings a wealth of experience in resource geology and ore control across multiple mining districts. A strong advocate for data-driven workflows and team development, he has been instrumental in enhancing geology's role in maximising mining value.

With 25 years of experience in geology across gold, nickel and iron ore operations, **Brent van Dijken** is Principal of the Problematic Ore Project at BHP. He has been a key leader in leveraging Vulcan 3D modelling tools to improve drill design, resource modelling and materials handling, while also driving product enhancements through close collaboration with Maptek.

Managing Director of AVCS, **Andrew Vidale** has nearly 40 years of expertise in open pit mine evaluation, covering pit optimisation, design and cost modelling. His 30-year collaboration with Maptek continues as he leverages Evolution for medium-term scheduling across diverse mining projects.

Maptek values connections with customers—their feedback and collaboration has helped to refine our tools and enhance applications for all industry users.

Automate and orchestrate

Maptek™ Vestrex creates extraordinary value for miners to improve efficiency, transform data into actionable insights and revolutionise the mining industry.

Vestrex

MDS
Maptek Data System

MCF
Maptek Compute Framework

MOE
Maptek Orchestration Environment

Maptek™ Vestrex connects multiple data sources, mining processes and system outputs, without constraints of product, application, process or format. Data in the cloud encourages stakeholders across roles, teams and businesses to collaborate and use their technical data beyond traditional applications.

Announcing the new ecosystem for automation and orchestration after a soft launch at MINExpo in Las Vegas in September, Maptek commented that Vestrex encourages collaboration on multiple levels, fostering discovery of new and unexpected use cases, limited only by imagination.

Automation streamlines operations through real-time data and process integration, and accelerates decision-making processes. Orchestration builds on computational power and automated workflows to unlock value from technical data and mining systems.

Consider a scenario where measurement while drilling data can add value to the void modelling process.

Data from various sources, including measurement while drilling is imported into MDS. This invokes transformation of data into a format that can be ingested by DomainMCF for modelling.

The DomainMCF model is converted into the customer defined format, in this case GeoTiFF. These files are then sent to the customer data lake.

The GeoTiFF files are automatically converted into polygons and pushed into Vulcan as design file layers or into GeologyCore for incorporation in the void modelling process.

All steps are automated, with no manual intervention required once the specifications are set up.

The versatile platform incorporates data from desktop applications, drillholes in a third party application, and existing models. Simulations can be run in MCF, with multiple block models feeding into MDS. Geologists can be alerted by MOE to review models and publish to downstream processes for additional automations such as reserving or grade control.

Three key pillars—data services, cloud computing and orchestration—share a common platform for solution integration and inter-process workflows.

Maptek Data System (MDS) is the integration hub for ingesting data from anywhere through open APIs. MDS manages data and publishing permissions, supported by access to Maptek desktop applications through Maptek Account.

Maptek Compute Framework (MCF) already powers machine learning and optimisation in Maptek scheduling, domain modelling and blast design solutions. Calculations can be completed on scalable resources for rapid results.

The newest pillar, Maptek Orchestration Environment (MOE) is the key to unlocking value through collaboration. Vestrex connects algorithms, executables and transformations to leverage computational power, scalability and parallelisation across business and technical systems. If the format can be ingested into the centralised data hub, Vestrex can act on it.

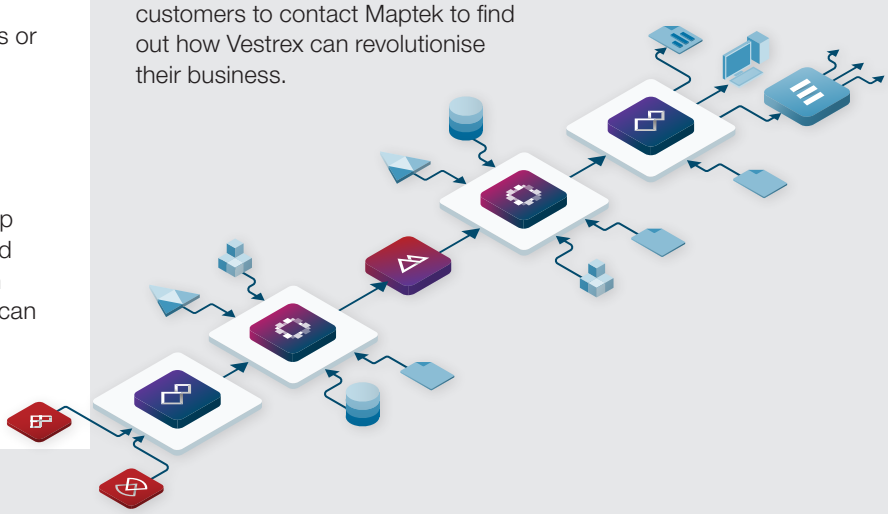
Triggers for ‘human in the loop’ review and analysis can be built into any stage during an automated process. Customisation of decision trees and unrestricted complexity provide for limitless use cases.

The true power of Vestrex is the ability to bind data and computations to create automations that streamline processes and data pipelines, integrating them within broader operational workflows.

Incorporating decision making and publishing within automated processes provides the flexibility that miners require.

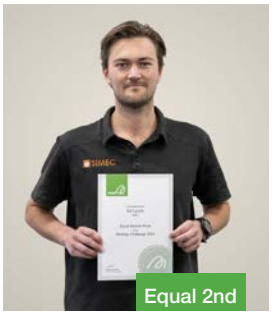
Vestrex enables effortless data transfer across cloud and desktop environments, with secure data access and management from a centralised platform. Encryption and backup protocols protect sensitive information for operational continuity.

An early access program encourages new and existing customers to contact Maptek to find out how Vestrex can revolutionise their business.



Solving challenging geology

A competitive field of entries saw a multivariable modelling study for an orogenic gold deposit win the Maptek™ Geology Challenge for 2024.



First prize in this year's Maptek™ Geology Challenge has been awarded to Miguel Aliaga Oblitas who demonstrated how Maptek DomainMCF improved model consistency and reduced processing time in advanced multivariable geological modelling.

Senior Geomodeller with Newmont Mining Corporation, Oblitas received a personal prize of US$500 and a 6-month DomainMCF subscription for his company.

In his winning report, Oblitas defined the challenges of accurately predicting vein behaviour at depth, especially with limited data, and noted significant improvements in model accuracy and efficiency.

> The reduction in processing time from weeks to just a few hours greatly facilitated model updates and timely decision making in exploration and resource estimation.

Oblitas noted the flexibility of the Domain Manager in Maptek GeologyCore, enabling the creation of custom rules and rapid testing of different structural scenarios, as key to overcoming the deposit complexity.The integration of multivariable inputs, including lithological, vein intensity and mineralogical data, allowed for a more accurate and detailed representation of the deposit's structural framework—something that was challenging to achieve with traditional methods,' Oblitas commented.

Submissions displayed a range of modelling techniques and applications, and judging was tight, resulting in a tie for second place between Ed Lynch of SIMEC and Danielle Karbishev from Fortescue.

Resource Estimation Geologist, Karbishev trialled GeologyCore and DomainMCF to increase efficiency for the Fortescue resource modelling and estimation team and assess the potential applications of machine learning. Her biggest surprise was the ability of DomainMCF to rapidly generate grade estimations comparable to those produced via established estimation methods such as kriging.

'Geological volume model outputs and grade predictions drastically improved with more detailed geological input data, however purely data-driven models can also be used to identify trends and structures prior to interpretation and domaining,' Karbishev said.

'More testing is required but it is clear that machine learning could revolutionise resource modelling and estimation as technology advances!'

The 3D drillhole visualisation options in GeologyCore proved particularly useful for validation of drillhole coding against modelled surfaces, as well as for stratigraphic domain interpretation using multi-element geochemistry and downhole geophysical data. The speed of DomainMCF in creating 3D block models allowed Karbishev to rapidly analyse vast databases and test alternate scenarios.

Superintendent Exploration Geologist, Ed Lynch was keen to apply DomainMCF to specific situations in the SIMEC haematite and magnetite operation, to test whether it could make things easier for geologists on site.

'The complexity of the geological setting presents significant challenges to our geologists when it comes to 3D modelling and grade control,' Lynch said.

'DomainMCF was simple to use and incredibly fast. When given enough data it was able to produce similar results to more traditional human-driven modelling processes. It seems particularly suited to grade control type modelling scenarios,' he concluded.

Now in its fourth year, the Challenge encourages experimentation and is transformative for resource modelling and production applications. The theme for 2024—geological control for geological models—saw participants combine their expertise with smart techniques to create accurate models directly from raw data.

Maptek provided GeologyCore and DomainMCF, as well as documentation and technical assistance. Entrants tackled problems that were difficult to solve with traditional methods. Their feedback for software improvements is being incorporated into our development roadmap.

Empowering future generations

Undergraduate students are given access to cutting-edge technology and resources to ensure a responsible future for mining in Indonesia.

Indonesia is a country rich in natural resources and needs skilled professionals who can handle the complexities of the mining industry.

Maptek™ supports the next generation of geologists, mining engineers, surveyors and geodetic engineers by providing student licences to Indonesian universities.

This initiative reflects a dedication to enhancing educational development and empowering graduates.

PT Asaba, Maptek reseller in Indonesia, conducts training sessions and mentoring programs for university students and lecturers, focusing on the practical applications of Maptek™ Vulcan™ and PointStudio™.

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'Vulcan provides UPN Veteran Yogyakarta and Sriwijaya University with integrated solutions knowledge for the validation and transformation of data into dynamic 3D models, mine designs and operational plans,' said Zulfa Nindya, Technical Sales Geologist for PT Asaba.

The relationship between Maptek and PT Asaba dates from 2014 and has been extremely effective at delivering training, solution rollout and ongoing technical support to Maptek customers in Indonesia.

In the latest news, Gadjah Mada University Geodesy Department will teach Maptek™ PointStudio™ in their geodetic engineering courses.

'These new initiatives extend our partnership to actively support mining undergraduates looking to boost their skills and career prospects,' said Maptek Technical Services Manager, Simon Johnston.

Partnerships provide transformative opportunities for aspiring mining professionals.

Students gain access to industry-standard software, allowing them to engage in hands-on experiences that deepen their understanding of geological modelling, resource estimation and mine planning. This practical engagement enhances their educational journey and also bridges the gap between theory and real-world applications.

'We understand that technology is one of the key pillars in the advancement of education and research. By investing in education, we're equipping future generations with the skills necessary to tackle the evolving challenges of the industry,' said Madiono Lie, General Manager of PT Asaba.

> Access to cutting-edge technology and resources equips students with the skills they need to excel in a rapidly evolving industry.

Maptek's commitment to fostering strong partnerships with universities will ensure that together, we nurture innovative thinkers who will drive the future of sustainable mining practices.

With each step, we're not just investing in education—we're investing in a brighter, more responsible future for the mining sector in Indonesia and beyond.

Lecturers and students from the Geology and Mining Engineering Department (01) UPN Veteran Yogyakarta and (02) Sriwijaya University, and (03) Geodesy Engineering Department, Gadjah Mada University

Training the trainers

Annual workshops give professors and teaching assistants across North America knowledge that empowers their curriculum and research.

Train the Trainer workshops allow university faculty to work with experts to hone their skills with Maptek™ products and develop a curriculum that integrates industry standard software. Maptek offers sessions in-person and remotely to schools in North America. The hands-on learning experience teaches ways they can leverage the tools for their purpose.

Maptek provides training data, reference material and licensing, and helps adapt the tools for academic purposes, which may differ from industry use. Attendees prepare for the sessions by selecting from various courses available to them as academic professionals in our Online Training Program.

This hybrid approach allows both attendees and Maptek to focus on advanced topics, and workshop how to generate engaging courses.

Working with mining professionals helps Maptek appreciate the skills gaps in the industry talent pipeline, and tailor courses appropriately.

Maptek course topics include Pit Optimisation, Open Pit Design, Stope Optimisation, Underground Design, Grade Estimation Basics and PointStudio, helping prepare students for jobs as mine planners, resource modellers, surveyors and geotechnical engineers.

Dr Kelli McCormick, Senior Lecturer at the South Dakota School of Mines and Technology said that access to Maptek software licences means they can introduce widely used 3D mine design software to undergraduates and graduates.

'We teach mainly Vulcan and PointStudio in the undergraduate core course, Computer Applications in Mining. Students believe this helps them get an internship and directly applies to what they will do upon graduation,' McCormick said.

'Graduate students note that many job advertisements require mine software proficiency—my graduate level computer applications course helps them stand out as applicants for mining engineering roles.'

Train the Trainer workshops help McCormick learn the software to a level that allows her to answer questions and troubleshoot without having to reach out to Maptek.

'It's also useful to sit through a module that I've taken in the past, but never used,' McCormick said.

Instructors commit significant time keeping up to date on new versions and tools in order to create new labs with new data or refresh old labs.

'For example, I worked through the Block Model Reserves online training in my summer break. Most of that module was new to me and I integrated some of what I learned into a new lab for this semester,' McCormick added. Dr Andrea Brickey affirms the value of Maptek university partnerships and Train the Trainer workshops.

'Providing faculty and students with access to advanced software used in mining ensures that our curriculum remains relevant and up to date with industry standards,' Brickey said.

'Train the Trainer workshops ensure that we, the instructors, understand and teach the breadth of the features. Furthermore, learning these tools equips our students with practical skills that are highly sought after in the job market.'

> Incorporating industry software packages into the curriculum bridges the gap between theoretical knowledge and practical application, giving students hands-on experience with tools they will use in their professional careers.

'This practical experience enhances their technical skills, boosting their confidence and employability. Students gain a better understanding of mine engineering complexities and challenges, making them more effective problem solvers and innovators,' concluded Brickey.

South Dakota School of Mines and Technology considers it is vital for mining engineering students to learn at least one industry mine design package. Even if it's not the one they use when they graduate, learning one software package teaches them typical tools and workflows to expect in others.

Celebrating five years of innovation

Maptek™ supports innovation by rewarding the achievements of women who promote technology in mining to benefit their companies and the wider community.

Each year the Minerals Council of Australia recognises women in resources who promote technology in mining. **Dr Evelyn Ng**, Group Manager Materials and Innovation from the Callidus Group was recently awarded the Maptek™-sponsored Woman in Resources Technological Innovation for 2024.

Evelyn has developed four patents, with two already commercialised, for high-end flow control solutions. She holds degrees in Materials Engineering from the University of Toronto, and her professional journey spans five continents, including roles in Canada, Japan, Finland, Zambia and Australia.

Receiving the award, Evelyn said, 'I'm thrilled and honoured to be a part of this dynamic industry, filled with innovation, passion and endless possibilities.'

Maptek CEO Eduardo Coloma thanked all of the 2024 national finalists and acknowledged Evelyn's outstanding leadership, dedication and innovation.

> Evelyn Ng joins an elite group who have won the Maptek Woman in Technological Innovation award since 2020.

Previous winners spoke about the lasting impact of the award on their careers and the ways they've sought to build on that recognition.

Larnie Mackay, General Manager of MyneSight has maintained her focus on safety since winning the inaugural Maptek category in 2020. She won for pioneering digitisation of underground coal mining at Anglo American Metallurgical Coal, having developed a tablet app which improved productivity and safety.

The award has expanded Larnie's network and positioned her as a champion for innovation and diversity in the mining industry. Her biggest takeaway about positive transformation using innovation is to work back from the end user to build a workable, environmentally friendly system. She has continued mentoring other women and introducing digital change to improve efficiencies and cost control.

In 2021, **Alison Van Lent** was acknowledged for her work on FUSE, a sophisticated 4D digital twin platform created by the Intelligent Assets team at Woodside Energy. Alison has since joined their New Energy team, leading technology pilot projects with various companies to mature technology needed to support the energy transition. Alison is currently on sabbatical, returning to Woodside in Q3 2025.

In 2022, Plant Metallurgist **Emily Jaques** was recognised for an innovative ore flotation circuit that fundamentally changed the optimal economic grind at Newcrest Cadia Valley Operations. As project lead for a digital solutions suite, she found a unique way to harness existing data to focus on key areas of the ore processing plant to ensure stability and optimised performance.

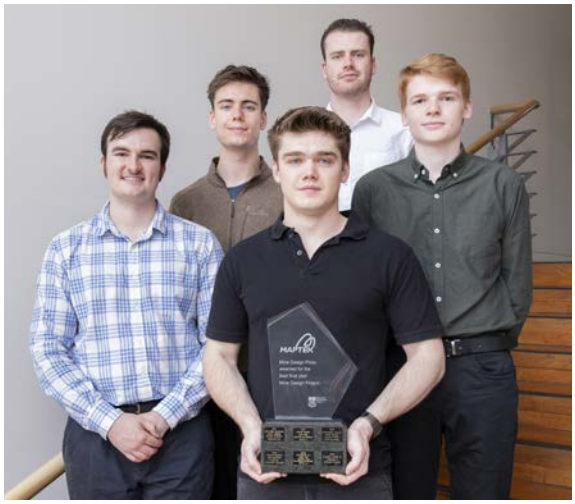
Emily (above) said the award prompted reflection on her career and professional goals, and she broadened her exposure to non-technical positions as a Regional Specialist in Health & Safety Systems for Newcrest, Western Canada. Emily recently joined the Capstone Copper Technical Services team, supporting sites by implementing novel processes and technology to improve performance across the Americas. She continues to help empower women in STEM and inspire students and graduates.

Machine Learning specialist **Joana Sousa** received her award in 2023. As Lead Data Scientist at BMA, Joana spearheaded the pursuit of machine learning and data science excellence. Joana sees the award as a pivotal moment in her career in terms of recognition for her technical contributions and for opening doors to develop professionally. From leading the department data science stream she now manages a technical team developing multiple products that enhance site safety and productivity.

Joana continues to advocate for women in technology and mining, supporting Queensland Resources Council and BHP initiatives in STEM education and career pathways. The award has given her a stronger voice around diversity, inclusion and innovation within the sector.

Mine design team smarter together

Maptek™ has awarded the 2024 mine design prize to a student team from the University of Adelaide who worked together to display their technical skills.



Maptek Mine Design 2024 winning team (L-R) Ben Barrow, Guillaume Stander, Mitchell Jakab, Mitchell Roberts, Ryan Braes

Maptek™ has awarded the 2024 Mine Design prize to University of Adelaide Mining Engineering students Ryan Braes, Ben Barrow, Mitchell Roberts, Guillaume Stander and Mitchell Jakab for their outstanding effort.

Estimates of the mine life capital expense and operating costs, along with internal rate of financial return, were determined based on principles taught during the semester.

Students noted that the project was the most realistic, real-world application of their learnings, and they gained additional value when applying it to their honours studies.

Maptek Senior Technical Solutions Specialist Steve Sullivan said the winning team demonstrated superiority over their immediate peers and suitable technical skills to transition to full time employment with the mining industry.

'The group covered the project scope comprehensively for designing and planning both open cut and underground operations, and the critical transition between them,' Sullivan said.

'They produced an easy-to-read and comprehensive feasibility study. The quality of their report puts them in good stead to apply their university learnings to the global mining industry.'

Maptek staff taught five weeks of mine design during the first university semester of 2024 and helped judge the student reports alongside Associate Professor Dr Chaoshui Xu.

Innovation and collaboration

The 20th Maptek™ User Conference, held in Viña del Mar, Chile, brought together more than 200 professionals and experts from the mining sector.

The XX Maptek™ User Conference, held at the Casino in Viña del Mar, represented a unique opportunity for sharing technical knowledge, with a focus on the latest technological innovations transforming mining.

Topics included artificial intelligence applied to data analysis, advanced stockpile monitoring, and managing uncertainty in mining.

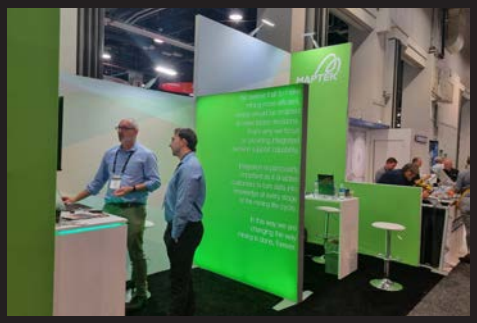
A highlight was the presentation by Nicolás Massú, Olympic medallist, who shared his vision on motivation, perseverance and resilience, principles that align with the Maptek philosophy.

Important announcements included opening up all Maptek products to universities to bring cutting-edge technological solutions to the academic field, and a new Diploma in Open Pit Mine Planning that will provide the tools to equip professionals to face the current challenges of large-scale mining.

Maptek was excited to announce a strategic alliance with the Colorado School of Mines to collaborate around education and training initiatives across the range of Maptek technology solutions.

The conference consolidated Maptek as an industry leader, reaffirming our commitment to sustainability, education and continuous innovation, essential for the future of mining.

Participants left with a renewed sense of purpose and equipped with new knowledge and tools to face the challenges of modern mining.



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