





2023 AGENDA

DAY 1 : NOVEMBER 21

Tuesday, November 21, 2023






8:00 AM - 9:00 AM	Registration and Morning Coffee
9:00 AM - 9:10 AM	Welcome from Mining Innovation Network
9:10 AM - 9:20 AM	Welcome to Country
9:20 AM - 9:30 AM	Chairperson's Opening Remarks  Karen Moffitt, Women in Open Pit Mining Network
9:30 AM - 10:00 AM	Opening Keynote: Western Australia - The Future of Technology in the State <ul style="list-style-type: none"> • Exploring the advancements made in Western Australia's mining sector • Looking at technologies and innovations developed within the state • Understanding how digital technology is shaping the energy transition domestically and globally  Hon. Bill Johnston MLA, Western Australia



10:00 AM - 10:40 AM	<p>Opening Panel: The Future of Deployment, Adoption, and Implementation of Technologies in Mining</p> <ul style="list-style-type: none"> • Discussing how the industry can improve the deployment, adoption, and implementation of mining technologies • Understanding the challenges and how to tackle them • Exploring how we can make technology and innovation sustainable in the long-term • Assessing the Journey to Success • Looking at practical examples and best practices <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <p>Katie Collins, Hot Chili Limited Mark O'Brien, CITIC Pacific Mining</p>
10:40 AM - 11:10 AM	<p>Keynote: Staying Ahead – The Future of Digital Transformation and Innovation in Mining</p> <ul style="list-style-type: none"> • Looking at current trends and discussing where technology is heading • Boosting operational efficiency through Digital Twins • Understanding challenges and how to overcome them • Exploring the best way to deploy these technologies • Integrating technology and processes into the mining value chain – best practices
11:10 AM - 11:40 AM	Morning Coffee and Networking Break





AI & Data Track

Tuesday, November 21, 2023

11:40 AM - 11:45 AM	<p>Chairperson's Opening Remarks</p> <div style="display: flex; align-items: center;">  </div> <p>Karen Moffitt, Women in Open Pit Mining Network</p>
11:45 AM - 12:15 PM	<p>Case Study: Digital Twins - Exploring its true value for the mining industry</p> <ul style="list-style-type: none"> • Assessing application areas across the value and supply chain • Looking at real-life success stories • Glancing at the future and discussing future applications
12:15 PM - 1:00 PM	<p>Panel Discussion: Applying the power of data analytics and AI across the mining value chain</p> <ul style="list-style-type: none"> • Assessing how advanced analytics can improve the efficiency of the value-chain • Understanding why we should be sharing more data and not less • Exploring cost-effective and sustainable solutions • Debating on challenges and opportunities • Looking at real-life case studies <div style="display: flex; justify-content: space-around; align-items: center;">    </div> <p>Brigitte Hendersonhall, MATRIX DATA PTY LTD Karen Moffitt, Women in Open Pit Mining Network Dr Ali Soofastaei, Newmont</p>
1:00 PM - 2:00 PM	<p>Networking Lunch</p> <div style="display: flex; align-items: center;">  </div> <p>(/dma23/2897520?i=zRMUh7Se2fvQdXJ9hDyObdP4O-PpUDj-) i=zRMUh7Se2fvQdXJ9hDyObdP4O-PpUDj-)</p>



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2:00 PM - 2:30 PM	<p>Strategic Insight: Revolutionising process control: Harnessing physics-informed AI models for enhanced profitability, robustness, and sustainability in the mining industry</p> <p>We are now witnessing a tremendous surge in AI technology, particularly in language models such as ChatGPT. As AI-powered copilot systems increasingly enter our lives in software development and as chatbots, an even larger revolution is on its way:</p> <ul style="list-style-type: none"> • Discovering AI-powered control of dynamic systems - changing the way we control complex production processes • Exploring the next-generation process control system, utilising physics-informed models, generative transformers, and other cutting-edge AI methods developed over the past few years • Understanding how this enables faster deployment, cheaper maintenance, greater robustness, and maximum productivity • Best practices and lessons learned from the AI process control system that is already deployed within more than ten factories and is helping our clients to generate \$120 mn in profits annually  <p>Konstantin Kiselev, Conundrum Industrial</p>
2:30 PM - 3:00 PM	<p>Case Study: Vision to Value: Changing the face of mining with Artificial Intelligence</p> <ul style="list-style-type: none"> • Implementing Artificial Intelligence into AngloAmerican's mining practices through the FutureSmart Mining™ approach • Understanding how this is revolutionising mining operations • Exploring how to face increasingly technical complexities, including strata and gas-related environmental challenges, which demand enhanced safety, sustainability, efficiency, and data-driven decision-making • Capitalising on the talented workforce, cutting-edge automation technologies, strong data analytics culture and tools, coupled with comprehensive risk mitigation processes • Pioneering advanced longwall mining practices, paving the way for a safer, efficient, and sustainable future, enabled by a dedicated and high-performing central team specialising in data analytics, automation, and remote autonomous frameworks • Case Studies and Examples  <p>Moe Amanzadeh, Anglo American</p>
3:00 PM - 3:20 PM	<p>Lighting as a conduit of technological disruption</p> <ul style="list-style-type: none"> • Understanding how digitalisation disrupts and shapes the future of the mining sector • Learn about the possibilities of IoT technologies and their implications in the mining industry • Explore how digitalisation can be achieved on complex mining and underground sites through the use of a basic prerequisite – lights.  <p>Andrew Orkin, Coolon</p>
3:20 PM - 4:00 PM	<p>Afternoon Networking Break</p>
4:00 PM - 4:40 PM	<p>Panel Discussion: Implementing and deploying AI – Best practices and lessons learned</p> <ul style="list-style-type: none"> • Assessing the importance of AI for the mining and resources industry • Exploring deployment and implementation challenges and how to overcome them • Looking at real-life case studies  <p>Dr. Khushaal Popli, Teck Resources</p>
4:40 PM - 5:00 PM	<p>Presentation: Leveraging data and analytics to accelerate operational excellence</p> <ul style="list-style-type: none"> • Discussing the connection between analytics and operational excellence • Looking at a real-life case study • Understanding the challenges and how to overcome them • Exploring the opportunities and critical success factors






Tuesday, November 21, 2023

11:40 AM - 11:45 AM	Chairperson's Opening Remarks
11:45 AM - 12:15 PM	<p>Strategic Insight: Onsite challenges to assist new operations in the planning stage of Autonomous Haulage projects</p> <ul style="list-style-type: none"> • Understanding how to accelerate the rollout and minimise inefficiencies • Challenges faced on site, mitigations to date, and proposed further investigations
12:15 PM - 1:00 PM	<p>Panel Discussion: Solving collision avoidance systems hurdles</p> <ul style="list-style-type: none"> • Understanding the technologies behind sensors, radars, cameras, lasers, GPS, and much more • Exploring underground vs. open pit challenges and how to solve them • Tackling maintenance costs • Looking at best practices and case studies <div style="display: flex; justify-content: space-around;">   </div> <p>Peta Chirgwin, PETEC Patrick Marshall, MacLean</p>
1:00 PM - 2:00 PM	Networking Lunch

ESG Tech Track**Tuesday, November 21, 2023**

2:00 PM - 2:30 PM	<p>Strategic Insight: Emerging Tech: Integrating Your operations in real-time with an Event Mesh</p> <p>A better ability to leverage analytics, AI, and ML to improve automated operations and remote equipment will sustain your mining business and uplift your competitive edge, transparency of your operations, governance capabilities, and timely delivery of your products to customers.</p> <ul style="list-style-type: none"> • Discovering next-gen technology, like the event mesh, that can help achieve the above benefits and enables real-time digital supply chains from pit to port • Understanding why and how to leverage the event mesh for a simplified architecture helps to reduce the unit cost of production • Securing IT/OT integration to optimise value-chain and provide real-time operation data exchange • Looking at real-life case studies <div style="text-align: center;">  </div> <p>Phil Scanlon, Solace Corporation</p>
2:30 PM - 3:00 PM	<p>Strategic Insight: Boosting and supporting ESG initiatives through automation</p> <ul style="list-style-type: none"> • Debating the importance of trust in automation and solving the lack of it to promote ESG initiatives • Understanding how it can improve accuracy • Exploring how ESG auditing can be improved • Looking at practical examples <div style="text-align: center;">  </div> <p>Mohsen Yahyaei, The University of Queensland</p>

3:00 PM - 3:20 PM	<p>Case Study: The key to reducing energy costs and improving safety in underground mines</p> <ul style="list-style-type: none"> Identifying the most effective tactics to reduce your energy cost in underground mining Accelerating energy savings with innovative solutions Enhancing safety for workers through advanced technological features Looking into the cutting-edge tools in development to improve energy savings and safety in underground mining Showcasing case studies of successful implementation  <p>Jose H. Leiva, Howden</p>
3:20 PM - 4:00 PM	Afternoon Networking Break
4:00 PM - 4:40 PM	<p>Panel Discussion: Mines and minerals downstream carbon tracking and reporting</p> <ul style="list-style-type: none"> Looking at the current regulatory landscape and where things are heading Impacts downstream along the value chain Discussing how the mining and metal industry can work together to achieve the ambitious net-zero targets Understanding the technology behind Technology deployment challenges   <p>Mohsen Yahyaei, The University of Queensland Muchtazar, Nickel Industries Limited</p>
4:40 PM - 5:00 PM	<p>Presentation: End of Life: How technology is disrupting mine closure</p> <ul style="list-style-type: none"> Discovering the technologies available Improving land management, sinkhole, and groundwater remediation Debating challenges and how to overcome them


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


5:00 PM - 5:10 PM	End of Conference Day 1
5:10 PM - 6:10 PM	Networking Drinks

DAY 2 : NOVEMBER 22

Wednesday, November 22, 2023



8:00 AM - 9:00 AM	Registration and Morning Coffee
9:00 AM - 9:10 AM	Welcome from Mining Innovation Network





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9:10 AM - 9:20 AM	<p>Chairperson's Opening Remarks</p>  <p>Dr. Jacqui Coombes, Sage Ability</p>
9:20 AM - 10:00 AM	<p>Opening Panel: Developing Strategic Partnerships and Industry Collaborations to Drive Innovation</p> <ul style="list-style-type: none"> • Discussing the importance of strategic partnerships for the industry • Assessing common challenges and how the industry can collaborate to tackle them • Debating in which areas the sector can collaborate • Exploring the critical success factors in successful industry collaborations   <p>Dr. Jacqui Coombes, Sage Ability Rob Johnston, Citic Pacific Mining</p>
10:00 AM - 10:30 AM	<p>Collision avoidance or Collision warning – what should be the way forward</p> <ul style="list-style-type: none"> • Current processes in mining • Problem statement – edge cases • Applicability of collision warning and collision avoidance • Types of technologies • What future looks like  <p>Chirag Sathe, BHP</p>
10:30 AM - 11:00 AM	<p>Morning Coffee and Networking Break</p>

Robotics & Automation Track/AI & Data Track

Wednesday, November 22, 2023


11:00 AM - 11:10 AM	<p>Afternoon Chairperson's Remarks</p>  <p>Anil Subramanya, Amira Global</p>
11:10 AM - 11:50 AM	<p>Panel Discussion: Scaling up automation and robotics projects</p> <ul style="list-style-type: none"> • Understanding the challenges facing the industry and discussing potential solutions • Addressing interoperability challenges and how to solve them • Looking at the newest technologies and other practical solutions • Uniting technology and people - Assessing the human factor in Robotics & Automation  <p>Peta Chirgwin, PETEC</p>

11:50 AM - 12:20 PM	<p>Strategic Insight: The importance of robots in future mining scenarios with a focus on suitable excavation tools</p> <ul style="list-style-type: none"> • Understanding the importance and advantage of using robots in harsh environments to reduce personnel risks. • Looking at potential tasks that robots can execute in a more efficient and predictive way. • Exploring what tools and equipment will be needed to make robots perform mining and its auxiliary tasks in various rock conditions.  <p>Michael Berner, University of Leoben</p>
12:20 PM - 1:30 PM	Networking Lunch
1:30 PM - 2:00 PM	<p>Tackling the energy metals and mining supply crisis in the pathway to net-zero</p> <ul style="list-style-type: none"> • Finding critical minerals and associated critical metals such as copper, zinc, nickel, and steel, which underpin our decarbonised future, requires a fast and innovative response • Accessing vast amounts of data and making geological sense of it all to accelerate discovery is now accepted as a massive lever to success • The Geological Survey SA has been and continues investing heavily in providing geological data via digital platforms to support the whole ecosystem, juniors, mid-stream, and majors alike. • Current geoscience focussed projects such as South Australian Discovery Mapping, Gawler Phase 2 Project, and Critical Minerals SA Project are all underpinned by a robust digital delivery strategy to provide these pre-competitive data sets to our mineral explorations via the South Australian Resource Information Gateway • Current and future projects focus on ingesting all of our existing publicly available data into the cloud • And even more importantly, "filling the gaps," which will mean systematically digitising remaining core and retrieving data from the industry to provide a complete data set for the state and securing this highly valuable asset in perpetuity • Delivering geoscience products to the industry to accelerate discovery  <p>Dr. Bronwyn Camac, Department for Energy and Mining, South Australia</p>
2:00 PM - 2:40 PM	<p>Panel Discussion: Sustainable Mining with Artificial Intelligence</p> <ul style="list-style-type: none"> • Understanding the challenges that the industry is facing and how to tackle them through AI and other technologies • Technology and ESG requirements • Debating when AI will mature for adaption • Understanding how AI and other technologies can boost transparency in the supply and value chain • Utilising technology to accelerate outcomes • Stimulating the talent factory (within organisations and outside) to work on ESG  <p>Moe Amanzadeh, Anglo American</p>




2:40 PM - 3:10 PM	<p>Case Study: Interaction between Artificial Intelligence and Advanced Process Control for optimal plant operations</p> <ul style="list-style-type: none"> • Synergy and Integration: Explore the powerful synergy between AI and APC for optimising plant operations in the mineral processing industry. • Predictive Analytics: Utilise AI to analyse real-time data and historical records for accurate predictions and improved production scheduling in mineral processing plants. • Fault Detection and Diagnostics: Leverage AI-driven fault detection to identify anomalies, detect potential faults, and prevent equipment failures in mineral processing plants. • Recommendation Systems: Develop AI-based decision support systems that provide real-time insights and recommendations for optimising operational decisions and enhancing productivity and profitability. • Information Technology (IT) and Operational Technology (OT) Interaction: Highlight the importance of seamless integration and collaboration between Information Technology (IT) and Operational Technology (OT) systems in leveraging AI and APC for optimal plant operations in the mineral processing industry  <p>Dr. Khushaal Popli, Teck Resources</p>
3:10 PM - 3:30 PM	Afternoon Coffee & Networking Break
3:30 PM - 4:00 PM	<p>Strategic Insight: Generative AI in Resources – Application areas, lessons learned and best practices</p>  <p>Ashley Walker, Amazon Web Services</p>
4:00 PM - 4:40 PM	<p>Roundtable Discussions</p> <ol style="list-style-type: none"> 1. Incorporating an AI Strategy Across the Mining Value Chain 2. Producing quality data and making the most of it 3. Next steps in Electrification – Challenges and Opportunities
4:40 PM - 5:00 PM	Roundtable Summaries

ESG Tech Track

Wednesday, November 22, 2023

11:00 AM - 11:10 AM	<p>Afternoon Chairperson's Remarks</p>  <p>Dr. Jacqui Coombes, Sage Ability</p>
11:10 AM - 11:40 AM	Strategic Insight: Increasing slope stability through technology and innovation



11:40 AM - 12:20 PM	<p>Strategic Insight: Essential skills needed to succeed in digitisation in mining projects</p> <ul style="list-style-type: none"> • The challenges of digitisation in mining and how these might be addressed. • A framework for digitisation in mining skill development • Initiatives at the University of Queensland to address this challenge  <p>Ross McAree, The University of Queensland</p>
12:20 PM - 1:30 PM	Networking Lunch
1:30 PM - 2:00 PM	<p>Panel Discussion: Hauling with Hydrogen – Powering the Fleet of the Future</p> <ul style="list-style-type: none"> • Exploring the current regulatory landscape and where things are heading • Assessing what opportunities are out there for the mining industry • Understanding possible infrastructural, technological, and practical challenges • Debating how green hydrogen can be part of the industry's decarbonisation efforts  <p>Alex Bertram, First Mode</p>
2:00 PM - 2:30 PM	<p>Presentation: The Future of Automated and Electric Fleets</p> <ul style="list-style-type: none"> • Understanding the challenges and how to tackle them • Looking at the technology behind • Debating the next steps and where things are heading
2:30 PM - 3:10 PM	<p>Case Study: Mining, Sustainability and Digitalisation Challenges in Indonesia</p> <ul style="list-style-type: none"> • Exploring ESG best practices • Looking at digital transformation across parts of the operations • Understanding the challenges and debating how to tackle them • Discussing next steps and future developments  <p>Muchtazar, Nickel Industries Limited</p>
3:10 PM - 3:30 PM	Afternoon Coffee & Networking Break
3:30 PM - 4:00 PM	<p>Strategic Insight: Building Cyber Resilience Across the Whole Organisation and Mining Value Chain</p> <ul style="list-style-type: none"> • Understanding and characterising the risks • Preparing an organisation for potential cyber risks • Debating how we can build a cyber-resilient organisation • Looking at the needed tools and technology
4:00 PM - 4:40 PM	<p>Roundtable Discussions</p> <ol style="list-style-type: none"> 1. Technology, Diversity & Inclusion 2. Integrating Digital Assets with Scope I, II & III Targets 3. Increasing Mine Safety - Best Practices



4:40 PM - 5:00 PM

Roundtable Summaries

Wednesday, November 22, 2023

5:00 PM - 5:05 PM

End of Conference

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