

SUDBURY FORUM PROGRAM

DAY 1 — TUESDAY, SEPTEMBER 12	
8:30-8:45	<p>Collaboration Driving Industry Innovation</p> <p>Global Mining Guidelines Group provides a collaborative and innovative space for stakeholders across the mining industry to share knowledge, expertise and experience to develop operator-driven guidance, resources, and common practices in response to industry demand. Learn more about how you can make an impact through GMG.</p> <p><i>Heather Ednie, CEO, Global Mining Guidelines Group</i></p>
8:45-9:15	<p>Learning and Innovations in Fleet Level BEV Deployments</p> <p><i>Alexander Lenz, Product Manager – Electrification, McLean Engineering</i></p>
9:15-9:45	<p>Our First Electrified Mine, and We Are Going All In</p> <p><i>Keith Bowness, Innovation Manager, Glencore</i></p>
9:45-10:30	<p>Panel: Accelerating progress in electrification</p> <p>Most underground mining operations today make extensive use of diesel-powered mobile vehicles. As battery technologies advance, many companies are seeing the benefits of replacing diesel-powered vehicles with BEVs in underground mining operations. How do you solve some big challenges like integrating a mixed fleet, solutions from a variety of OEMs, building your charging infrastructure to serve a mixed fleet environment? OEMs are working together to enable the safe deployment and use of BEVs make things happen safely – how to make things work, battery handling and safety from those deploying.</p> <p>Hear from a panel of OEMs involved in the deployment of BEVs on how they are integrating a mixed fleet, what is and isn't working, how they are tackling things like battery handling, and what's required to enable successful implementation.</p> <p>Panellists:</p> <ul style="list-style-type: none"> • <i>Alexander Lenz, Product Manager – Electrification, McLean Engineering</i> • <i>Brian Huff, Vice President of New Technology and Innovation, Sandvik</i> • <i>Dave Schmidt, Engineering Manager, Kovatera</i> • <i>Shawn Samuels, Business Line Manager Rocvolt Canada, Acting Global Business Manager Rocvolt, Epiroc</i>
10:30-11:00	<p>Coffee Break</p>
11:00-12:00	<p>Working Session: Achieving the vision of the net zero mine</p> <p>What is it going to take to achieve emissions targets for 2030 and beyond that to net zero goals? How are we going to get there considering the current global supply chain issues? During this working session participants will work together on how to achieve success.</p>
12:00-1:00	<p>Lunch Break</p>
1:00-1:30	<p>Vale's BEV Journey and Key Learnings</p> <p><i>Sanket Patel, Program Manager, Mining Technology and Innovation, Vale</i> <i>Ryan Jakov, Mine Engineering Solutions Specialist, Worley</i></p>
1:30-2:00	<p>Designed and Ready for BEV Operations: Torex's Media Luna</p> <p><i>Gertjan Bekkers, VP, Mines Technical Services, Torex Gold</i></p>
2:00-2:45	<p>Panel: Don't let the Bad Guys Stop your Mine – Building Cyber Resiliency into your Operations</p>

	<p>Cyber criminals share knowledge and tools freely. Their attacks not only pose a financial and production risk, they also put our shared progress in safety and sustainability at risk. Hear what you can do to improve the cyber resiliency of your operations and prevent incidents that impact safety, environmental sustainability, or operational productivity.</p> <p>Panellists:</p> <ul style="list-style-type: none"> • <i>Cherie Burgett, Director of Cyber Intelligence Operations, MM-ISAC</i> • <i>Rob Labbé, Founding Chair and CISO in Residence, MM-ISAC</i>
2:45-3:15	Coffee Break
3:15-3:45	<p>Trialing of the Komatsu MC51 Rock Excavation Machine at Vale’s Garson Mine <i>Andy Charsley, Principal Mining Engineer, Vale</i></p>
3:45-4:45	<p>Working Session: Where do we go from here? All the ingredients of the future of mining exist – from electrification to autonomous mining to AI and more. There is a sense of urgency in the industry for guidance on enabling the use of emerging technologies. In order to move forward, there are aspects needing to be addressed, such as:</p> <ul style="list-style-type: none"> • What do you do? • How do you de-risk it implementation and use? • How do you accelerate their implementation? <p>How do we, as an industry, drive this progression while maintaining safe practices? We’ll work together on a strategy, identify what exists and what is needed, and figure out how to merge plans to enable progress to happen.</p>

DAY 2 — WEDNESDAY, SEPTEMBER 13

8:30-9:00	<p>The Value of Fleet Automation in Underground Mines at Agnico Eagle Christian Quirion, Senior Advisor Innovation, Agnico Eagle Mines</p>
9:00-9:30	<p>Autonomous Mining Underground: Technology Roadmaps <i>JP Desmarais, Business Line Manager – Automation, Sandvik</i> <i>Martin Champagne, Business Line Manager - Digital Solutions Division, Epiroc</i></p>
9:30-10:15	<p>Panel: Autonomous Mining: Creating a Sustainable Future The mining industry is increasingly embracing automation as a safety and productivity enabler and as a critical factor in creating a sustainable future of mining. For these reasons, automation is a key part of many mining companies’ digital transformation roadmaps.</p> <p>As mines go deeper, autonomous solutions are seriously being looked at to solve big challenges like continuous productivity and safety. Underground mines are testing and deploying autonomous solutions. There are advanced technologies that exist today that would make it easier to tackle their challenges. This panel will be talking about the technologies available, the feasibility of their use in our mines, what it takes to be able to deploy and implement them, and some available solutions.</p> <p>Panellists:</p> <ul style="list-style-type: none"> • Christian Quirion, Senior Advisor Innovation, Agnico Eagle Mines • Natalie Hawkins, Principal Engineer, Technology & Innovation, Vale • Ron Bose, Principal Engineer, Glencore
10:15-10:45	Coffee Break
10:45-11:45	<p>Working Session: Autonomous Mining: Are you Ready for Deployment? Is your operation about to deploy autonomous equipment into a new or existing operation? What is everything that needs to be considered to ensure you can safely operate your mine?</p>

	Join others in identifying what needs to be considered, what can go wrong, what you need to be aware of, and more.
11:45-12:15	Advances in Swarm Robotic Mining on Earth and on The Moon Jim Keravala, CEO, OffWorld
12:15-1:15	Lunch Break
1:15-1:45	Vale's Approach to Mine Design Raphael Godard, Principal Engineer – Base Metals T&I, Vale
1:45-2:45	Working Session: Rethinking Mine Design As an industry we're challenged with meeting targets while maintaining safe operations. Innovative technologies from beyond mining are now available to our industry – but we're limited in what we can do as a lot of underground mine designs are based on technology that has not fundamentally changed in years. There are rules and standards to meet so the idea of mine design needs transformational work to enable optimizing new technologies and enabling such things as ESG-led mine design. No more square pegs in round holes!
2:45-3:15	Coffee Break
3:15-4:00	Panel: What could be done differently to make mining better? Panelists will discuss where limitations are in underground mine design and what can be done to enable the industry to take advantage of the advanced technologies available to us. Panellists: <ul style="list-style-type: none"> • <i>Chamirai Charles Nyabeze, VP Business Development, CEMI & Network Director, MICA</i> • <i>Michael MacFarlane, Director, MDM Mining Consulting</i> • <i>Trevor Kelly, Innovation Manager - Mining, ReThinkMining Powered by CMIC</i>