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Pre-Event Masterclass – Technology Innovation Focus Day * Tuesday, 6th October 2015	
8:30am	Registration and Morning Coffee
10:00am – 4:00pm	**Doing More with Less: Managing Efficiency under a Cloud of Low Commodity Prices** Learn the fundamentals of maximising resources coupled with practical tools that will enable you to increase efficiency and tackle production challenges to enable business to run as usual. • Getting more value from existing investments • Monetising Data • Becoming more efficient in the short term though technology and data • Realising cost savings and reducing costs but not productivity Continued investment in ever more data collection technologies, without a focus on using data, will further reduce the industry's current utilisation rate of its data asset. An unvarnished guide to this new generation of technology, and its application to mines is needed. **Dr Sean Dessureault** Associate Professor, Mining and Geological Engineering, **University of Arizona**, United States President, **Mining Information Systems & Operations Management (MISOM) Technologies**, United States *Dr Sean Dessureault is an Associate Professor in the Mining and Geological Engineering department at the University of Arizona. He received a B. Eng. in Mining Engineering from McGill University in Montreal Canada, and a M.Sc. and Ph.D. from the University of British Columbia in Vancouver Canada. Dr. Dessureault worked at mines in throughout Canada during his education while also engaging in part-time consulting. His appointment to the University of Arizona began in January of 2002.* *He teaches an Operations Management class, the only Engineering Sustainable Development course in the College of Engineering, as well as a Mining Technology class. His academic appointment is in the Mining and Geological Engineering department within the College of Engineering of the University of Arizona.*

Conference Day One * Wednesday, 7th October 2015	
8:30am	**Registration and Morning Coffee**
9:00am	Welcome from Beacon and Resourceful Events
9:10am	Welcome Remarks From the Chairperson **Feroz Ashraf**, CEO, **Uranium One**, Canada
9:20am	Keynote Presentation **Wearable, Drone, and Other Technology You Did Not Know You Need** **Daniel Koffler**, Senior Manager, Emerging Technology, **Rio Tinto** CTO/ Senior Principal Advisor – Operations Teachnology, **Rio Tinto**
9:50am	**Mining's Next Performance Horizon: Capturing Productivity Gains from Innovation** • Why technical innovation should be at the very top of your priority list • Finding a happy medium: User experience vs corporate culture and the decision maker

	• Why the mining industry is moving forward in the world of technical innovation **Richard Sellschop**, Expert Partner, MineLens, **McKinsey & Company**	
10:20am	Keynote Panel **Goldcorp-Éléonore Mine: Reducing Operational Costs & Optimizing Production with Ventilation Management** • Managing ventilation infrastructure • Utilization of VoD system & instrumentation technology • Fan ventilation design & models • Ventilation-On-Demand savings results • System integration & installation **Pascal Morin**, Technology and Communications Manager, **Goldcorp** **Michel Massé**, President, **Simsmart Technologies** **Phil Blankenship**, Technical Sales Manager, **Howden North America**	
11:00am	**Networking Coffee Break**	
11:30am	**Connected Mine: Transforming the Way Mines Work** Mines invest significantly in information systems that produce data used in planning, productivity, processing, and safety applications. However, these data assets remain locked in discrete systems resulting in suboptimization of data that could benefit other operational areas and the enterprise. This presentation will discuss the new, integrated Connected Mine approach to extract full value from every layer of technology from remote sensing systems to productivity applications to ERPs. Attendees will also learn about implementing a single information system to empower all professionals in the mining environment to make the best possible decisions for the business. **Glenn Kerkhoff**, Regional Business Director, **Trimble Mining**	
12:00pm	**Boliden's Approach and Vision for a Mine Operation and Automation Center – One Year On** • Outlining Boliden's MOC to control and manage daily shift activities in an optimal way – How has this fared in the past year? • How does Boliden utilize autonomous and remote controlled equipment? • Analyzing operative and prototyping in conjunction with manufacturers **Arne Renstrom**, Senior Project Manager, **Boliden**	
12:30pm	**Initial Design, Layout, and Implementation of Technologies Along with the Objectives, Challenges and the Resultant Impact on Operations and Associated ROI** • Original analogue system: History and associated challenges • Underlying reasons for updating the system: Aligning people and processes • Challenges: Cultural buy-in, the learning curve, change management • Larger business impact since conversion: ROI and larger corporate impact **David Klaas**, Chief Controls Engineer, **PotashCorp**	
1:00pm	Panel Discussion **How will OT, IT and IOT impact operations? What are the larger ramifications for organisations revising their strategy and implementing new technologies to enhance production and save money?** Moderator: **Feroz Ashraf**, CEO, **Uranium One**, Canada Panelists: **Nathan Flesher**, Director of Operations, **MineLens** **Perry Zalevsky**, Industry Principle – Mining, Metals and Materials, **OSIsoft** **Arne Renstrom**, Senior Project Manager, **Boliden**	
1:30pm	**Networking Lunch**	
	Stream A: Optimizing Your Extraction Processes to Enhance Your Productivity and Lower Costs	**Stream B: Optimizing Your Asset Management and Loading & Hauling Processes So that Your Organization Can Reduce Downtime and Enhance Productivity**

	Stream Chairperson	Stream Chairperson: **Richard Sellschop**, Expert Partner, MineLens, **McKinsey & Company**
2:30pm	**Convergence of IT & OT: Providing the Benefit of Improvement to Mining Operations** • Optimising the traditional mixed technology landscape and associated data uses • Making use of the opportunity go unconventional with the integration of IT systems to support operation technology (OT) system selection and their implementation • Learning from the experiences of companies with an advanced integration of IT/OT landscape, which helps drive business and cross-site synergies **Pascal Morin**, Technology and Communications Manager, **Goldcorp**	**The Technical Information System as a Critical Component to Core Mining Business Functions** • Optimizing data collection, management, and use • Data interchange standardization • Foundation technology selection and implementation • Automation opportunities and autonomous technologies • Technical training and skills development • Support (application, vendor relationship management, stakeholder management) **Dr Sean Dessureault**, Associate Professor / Director Mine Intelligence Research Group, **University of Arizona**
3:00pm	**Drill Blast Downstream Contribution to the Bottom-Line: Utilizing Continuous Photo Analysis of Fragmentation as a Blast / Crush Improvement Tool - A Case study of the Lafarge NA Ravena site** Introducing a new methodology of improving drill blast downstream contribution by: • Presenting a mining dashboard that collects data by utilizing an automated fragmentation photo analysis system • Benchmarking the drill/blast process; monitoring the work being done by the primary crusher; and measuring gradation changes in the crusher feed resulting from changes in drill/blast • Measuring the subsequent changes in further size reduction done by the primary crusher **Ran Tamir**, Quarry Manager, **Lhoist**	**What Impact Has the Current Climate Had on Asset Management?** • How has the current price of commodities impacted spend on asset management? • What are some of the innovative solutions organisations are employing to combat this? • How are technical directors, innovators and maintenance and operations getting buy-in from the executive corporate body? • Illustrating the business case: Why innovation in asset management is more crucial than ever Moderator: **Anthony Vaccaro, CFA, MBA** Group Publisher, The Mining Group **Glacier Media (GVC-T)** Panelists: **Joseph Ashun**, Senior Manager Global Maintenance Systems and Data, **Barrick Gold** **Gordana Slepcev**, Manager – Technical Services, **Anaconda Mining** **Luke Jalsevac**, Director, Business Optimization, **Kinross Gold**
3:30pm	**Networking Coffee Break**	
4:00pm	**Crushing, Conveying and Grading: How Do You Decide where to Prioritize Optimization to Increase Efficiency in the Processing Stages?** • How can you achieve maxima efficiency in your crushing process? • How do you decide what grading methods you should be using? • How do you decide which technologies are right for your mine? Evaluating high-	**Project Value Assurance – Bringing a Business Lens to Technical Projects** • An overview of various tools used to bring value assurance to projects • Putting business components into the fore of technical plans to avoid wasted effort and expense • Optimizing internal resources and managing timelines to ensure projects can be

	pressure grinding roll mills, gravity and electromagnetics, pre-concentration of ore at mine operating faces and in situ leaching and processing • Examining the value of in-pit crushing and conveying and whether it is justified for your company's operations: Analysing determining factors such as rock type, size, looseness and sequence Paul Chawrun VP Technical Services Teranga Gold	operationalized **Luke Jalsevac**, Director, Business Optimization, **Kinross Gold**
4:30pm	**Deploying Medium Term Underground Coal Mine Equipment through Mathematical Modelling** • Determining the factors that influence the deployment of resources • Formulating a mixed integer programme for the placement of assets • Performing analyses to identify the best positioning of equipment Vijay Banty, Operations Manager, Tata Steel	**Effectively Using Mine Grade Control to Optimize Operations – The Pine Cove Experience** • Increasing gold grade and recovery while decreasing dilution • Data analysis of blasthole and what it means • Pit mapping and understanding controlling feature/structures and mineralization **Gordana Slepcev**, Manager – Technical Services, **Anaconda Mining**
5:00pm	Chairman's Closing Remarks	Chairman's Closing Remarks **Richard Sellschop**, Expert Partner, MineLens, **McKinsey & Company**
5:10pm	**End of Day One**	

Conference Day Two * Thursday, 8th October 2015	
8:00am	**Registration and Morning Coffee**
9:00am	Remarks from the Chairperson
Developing a Robust Strategy on Operational Excellence and Optimization Across the Value Chain	
9:10am	Keynote Presentation: **How Can You Optimize the Project Management Capabilities of Your Organisation so that You Can Mitigate Against Cost Overruns and Project Failures?** • Implementing strategies to enable you to build a global risk management capability in your organisation • Determining ways to develop a well-defined project execution plan so that you can stay abreast of all deliverables effectively • Examining mitigation strategies for specific challenges such as remote locations, lack of trained resources and capacity constraints • Assessing the optimum way of integrating CSR as part of your project development plan • How can you optimize the transition from construction to commissioning and to extraction so as to maximize your profitability? **Feroz Ashraf**, CEO, **Uranium One**, Canada
9:40am	**Keynote Presentation 1: Smart Mining Complexes and Value Chains: A technological perspective on risk management and sustainability** **Roussos Dimitrakopoulos** **Canada Research Chair (Tier I)** **Sustainable Mineral Resource Development and Optimisation Uncertainty** **Director of the COSMO Laboratory, McGill University**, Montreal, Canada

	• A mining complex may be seen as an integrated business starting from the extraction of materials to a set of sellable products delivered to various customers and/or the spot market. • Underlying uncertainties (stochasticity) related to the materials produced from the mines and the metal's spot market price are critical facets of this integrated business. • New optimization technologies maximize shareholder value, manage risk intelligently and address pertinent aspects of sustainability. • Improve reliability in an operation meeting production forecasts. • Generate larger amounts of metal to be produced from the same mineral resource due to improved ability to understand spatial connectivity of high-grade materials. • Higher economic value than with existing approaches due to the ability of new smart technologies to directly manage risk
10:10am	**Innovation in the Arctic Environment** **Steven Bowles**, Manager, Mining Operations and Technical Service, Mine Raglan, **Glencore**
10:40am	**IoT services enabled by integrated Wi-Fi networks** IoT services will become more widespread in 2015 and enterprises will need to ensure their Wi-Fi networks are up for the challenge • Connect endpoints above and below the ground in real-time • Seamless connectivity to manage the networks from one central location • Keeping track of your assets underground **Mark Gelsomini**, Corporate Director – IT, **Dundee Precious Metals**
11:10am	Networking Coffee Break
11:40pm	**The Promine Mine Planning Process: From Concept to Drawings to Charts** • Creating a superior mine design • Scheduling the mining activity • Getting the essential numbers to track progress • Following up on the progress to attain project goal realisation **Yvan Dionne**, CEO, **Promine** **Shaun Gage**, Mine Manager, Canada, **Fluorspar**
12:10pm	**Get the Complete Picture: How Barrick Implemented an Enterprise-wide Trimble Mine Management Reporting System Across Multiple Mining Operations** Barrick Gold selected the Trimble Mine Management Reporting System to standardize on one central data source of KPIs and business metrics used across 10 operations and its Toronto head office. This case study will review: • The goals, developing requirements, designing to specifications • Consensus building to accelerate adoption • Implementation milestones and initial result **David Prance**, Director of Business Development, **Trimble Mining**
12:40pm	**Integrated Operations Intelligence - The Foundation for Optimization** Optimization means many things to many different people. In this presentation, we will focus on the value of integrating operational data from many different sources, to create actionable information with context. This could include establishing KPI's for Production Energy Optimization, which provides insight into relationships between Production, Inventory, Quality, Energy Events/Consumption, Downtime - and conformance to plan. This is the foundation upon which a more comprehensive Optimization solution can be used to break down operating silos, and multiple planning horizons within a mining resource-to-market value chain. You will see several examples of where this has been done, and the business case for embarking on a program to gain 'Operations Intelligence'. **Keith Donovan**, Director, Business Development - Optimization Solutions, **Schneider Electric**
1:00pm	**CAPEX to OPEX**

	• Being ready for operations • Financial challenges • Equipment reliability vs a reliability culture • Developing a reliability culture in a CAPEX phase • Doing the right things at the right time **Serge Mathieu**, President, **PROSYGMA**
1:20pm	**Networking Lunch**
2:20pm	**Case Study Presentation 2: Application of stochastic mine optimization technique for determining optimal open pit to underground mining transition depth at a large gold mine** • Produce mine plan which substantially increases value and mitigates risk • Address key issue of ore production deficiency throughout life-of-mine • Observe benefits of stochastic mine planning over traditional methods • Make well-informed strategic decisions using state-of-the-art mine optimization techniques James MacNeil Senior Research Assistant COSMO Stochastic Mine Optimization Laboratory
Technical Efficiency within Operations and HSE	
2:50pm	**Anaconda Mining Inc: A Growth Oriented Gold Producer in Newfoundland** • Extending the life of Point Rousse project by over ten years • How we doubled project production to 30,000 oz by expansion and development • Increasing company annual production via mergers and acquisitions **Dustin Angelo**, CEO & President, **Anaconda Mining**
3:20pm	**Networking Coffee Break**
3:50pm	**Nordgold's Efficiency Programme in West Africa** • Creating integrated capital project delivery systems and process • Optimising traditional mixed technology landscape and associated data uses • Driving business and cross-site cooperation through the application of best-practice systems integrations practices **Yury Lopukhin**, Senior Financial Manager, **Nordgold**
4:20pm	**Chairman's Closing Remarks**
4:50pm	End of Day Two and Close of Conference

Post-Conference Masterclass – On-site Mine Optimization Strategy* Friday, 9th October 2015	
8:30am	Registration
Strategic decisions made with limited information carry higher financial risk. Software that optimizes alternative mine plans can be used to explore a wider range of options in a consistent and thorough manner, to support evidence-based strategic decision-making. How can the Schedule Optimization Tool (SOT) inform the strategic planning of underground mines? Morning session hosted by **Lorrie Fava**, VPO Director, MIRARCO / President, **Revolution Mining Software**	
9:00am	**Strategic Mine Planning** Decision-support in mine planning Optimization methodologies: benefits and limitations
9:45am	**Mine Schedule Optimization** The Schedule Optimization Tool (SOT)

	Schedule optimization integrated into the planning cycle Metrics: NPV, cash flows, utilization, mine life
10:30am	**Networking Coffee Break**
11:00am	**Scenario Evaluation** Scenarios: fleet size Sensitivity analysis: operating costs What-If analysis: potentially-economic material Timing decisions: capital expenditures
11:45am	**Robust, Optimized Mine Plans** Assessment of robustness Enhancing robustness
12:30pm	**Networking Lunch**
Optimizing the mine planning process by utilizing industry best-practices and recent sector innovations so that you can begin the mining value chain cost-effectively Afternoon Session Workshop leader: **Alexander Hagan**, Technical Services Director, **Nordgold**	
1:30pm	**How can you utilize stochastic mine planning techniques to enhance mine project valuations?** • Assessing the value in using multiple probable models when estimating orebody projections • How should you utilize accurate uncertainty estimations when planning the value of a minesite? • Examining the benefits over single precise estimations • Examining the uncertainty of ore deposits and identifying the value in such uncertainty for effective mine projections • How can you effectively use models of uncertainty in open pit and underground mining scenarios when optimizing the mine planning process**?**
2:15pm	**Assessing the crucial elements in the mine planning stage which will enable you save money** • Discerning the key differences in short, mid and long term mine plans • Integrating fleet selection studies, feasibility and pre-feasibility studies, scheduling, resource optimization, block and margin ranking studies and more • Determining when cost reduction and productivity optimization studies should be incorporated into your mine plan
3:00pm	**Networking Coffee Break**
3:30pm	**Incorporating simulation strategies in your organisation so that you can map out all contingencies when in the mine planning stage** • How should you build customized simulations for your mine-site? • How can you effectively utilize simulation services to provide data on stockpile qualities and sizes, truck movements and more, which span the entire life of mine? • To what extent can you use simulation capabilities to plan for exogenous events such as weather and asset breakdown?
4:15pm	**Building best-practice processes to control and manage your cash flow** • How can you most effectively manage your cash flow in an environment of fluctuating commodity prices? • Implementing mine planning assumptions which are adaptive to changes in the market so that you can quantify the NAV
5:00pm	End of Workshop Day