

FINAL
AGENDA

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2ND ANNUAL

ALTA AMERICAS

Innovation in Mining & Metallurgical Processing

December 8-10, 2026

San Diego Convention Center | San Diego, CA

DECEMBER 8-9



**Lithium &
Rare Earths**

DECEMBER 9-10



**Nickel-Cobalt-
Copper**

2026 CONFERENCE TOPICS:

- Lithium Ore and Brine Processing Methods
- Rare Earths Processing
- Nickel / Cobalt / Copper Ore Processing
- Plant Design, Construction, and Performance Improvements
- Modeling and Artificial Intelligence in Process Optimization
- Market Trends Driving Extraction Operations
- Solvent Extraction and Ion Exchange Technology and Processes
- Life Cycle Assessments and Feasibility Studies in Metallurgical Operations
- Pretreatment and Lixiviants– Processes and Development
- Solid/Liquid Separation Processing Advancements
- Sustainability and ESG in Mining and Mineral Operations
- Deep Sea Nodule Characterization and Processing
- Comminution, Physical Processing, and Froth Flotation
- Leach Processes for Mineral Ores–High Pressure, In-Situ, Bio-, Atmospheric, Pressure Oxidation and Heap
- Pyrometallurgical Processing and Advancements
- Impurity Removal to meet Commercial Specifications
- Tailings and Waste Streams–Management and Reclamation
- Safety Considerations in Metallurgical Processing



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LITHIUM & RARE EARTHS

Advances in Mining & Metallurgical Processing Methods for Extraction, Recovery & Recycling Critical Minerals

DECEMBER 8-9, 2026

Tuesday, December 8

7:00 am Registration and Morning Coffee

LITHIUM EXTRACTION AND COMMERCIALIZATION

7:50 Organizer's Remarks

Sarah Stockwell, PhD, Conference Producer, Cambridge EnerTech

7:55 Chairperson's Remarks

Nicolas Grosso, PhD, Director Innovation, Lilac Solutions

8:00 Commercial Deployment of Electrochemical Lithium Refining Technology

David St. Angelo, MS, CTO, Operations and Technology Development, Mangrove Lithium

Mangrove Lithium is advancing a new approach to lithium refining through the commercial operation of its lithium hydroxide monohydrate (LHM) production facility in British Columbia, Canada. The plant, designed to produce 1,000 tons per annum of battery-grade LHM, represents a significant milestone in the commercialization of electrochemical lithium conversion technology for the North American battery materials supply chain.

8:30 Development of Ion-Exchange Sorbents for the Recovery of Lithium from Brines

Daniel Alessi, PhD, Professor and Getty Oil Company Centennial Chair in Geological Sciences, University of Texas

By some estimates, lithium found in sedimentary brines could provide over 10% of short-to-medium-term global supply. Because lithium is present at low concentrations relative to traditional resources such as salars and pegmatites, highly selective Direct Lithium Extraction (DLE) technologies are required. This talk discusses the development of advanced ion-exchange sorbents designed to be sufficiently robust for economic use at industrial scales.

9:00 Application of Ion Sieve Sorbent Derived from Mineral Residuals Associated with Rare Earth Extraction in Direct Lithium Extraction

Chin-Min Cheng, PhD, Environmental Geochemist, Leidos; Senior Research Contractor, National Energy Technology Laboratory

As demand for lithium continues to grow, innovative approaches to direct lithium extraction (DLE) are essential for improving efficiency and sustainability. This presentation explores the development and application of ion sieve sorbents derived from mineral residuals generated during rare earth extraction.

9:30 Grand Opening Coffee Break in the Exhibit Hall with Poster Viewing

LITHIUM REFINING AND PROCESS DEVELOPMENT

10:10 Lithium Purification—Scaling Multiphase Chemistry from Lab to Plant

Wolfgang Keller, Vice President & Head of R&D, EKATO RMT GmbH, Germany

Battery-grade lithium-carbonate production involves converting Li_2CO_3 into soluble lithium bicarbonate for impurity removal. Scaling this process is complex due to three-phase interactions. A case study using original products presents pilot tests in a scalable stirred reactor, modeling, and scale-up methodology. Key parameters—pressure, temperature, stirring, and gas injection—were analyzed. The study validated process conditions and developed a commercial reactor design, demonstrating a safe and reliable scale-up approach.

10:40 Design and Production of Battery-Grade Lithium Carbonate from Lithium-Sulfate Eluates at the Great Salt Lake

Nicolas Grosso, PhD, Director Innovation, Lilac Solutions

This presentation examines the extraction of lithium from Great Salt Lake brine, and the production of battery-grade lithium carbonate. A joint perspective between Lilac's direct lithium extraction (DLE) ion-exchange system, which produces lithium sulfate via sulfuric-acid elution, and JordProxa's downstream process to produce lithium carbonate is presented. The work highlights flowsheet design, equipment considerations, and trade-offs associated with sulfate-based DLE pathways, including implications for product qualification and offtake.

11:10 Sponsored Presentation (Opportunity Available)

11:40 Networking Lunch

12:10 pm Dessert Break in the Exhibit Hall with Poster Viewing

RARE EARTH PROCESSING

12:40 Chairperson's Remarks

David St. Angelo, MS, CTO, Operations and Technology Development, Mangrove Lithium

12:45 Autoclave Reaction Yield Optimization

Rob Mock, Director, R&D, NOVA Hydromet

Optimizing autoclave performance is essential for improving metal recovery, reducing operating costs, and supporting the commercial viability of hydrometallurgical processes. This presentation examines strategies for maximizing reaction yields through the optimization of process parameters, reactor conditions, and operating practices.

1:15 Flowsheet Development of the Lofdal Xenotime Rare Earth Project: Recent Updates and Advances

Eileen Espiritu, PhD, Senior Metallurgist, SGS Société Générale de Surveillance SA

The Lofdal Heavy Rare Earth Project in Namibia is a xenotime-dominant rare earth deposit and a potential source of critical heavy rare earth elements. Comprehensive test programs over the years have supported the development of an integrated flowsheet from beneficiation through hydrometallurgical processing. This presentation provides an update on recent progress in flotation and hydrometallurgical development, including pilot-scale testing and key outcomes supporting overall flowsheet advancement.

1:45 Rapid Sensing to Facilitate Production of High-Rare Earth Element Content Solids from Process Streams Arising from Ion Exchange and Membrane-Assisted Solvent Extraction Processes

Ward Burgess, PhD, NETL Research Associate, Leidos, National Energy Technology Laboratory

In this work, a method is presented to facilitate the production of high-rare earth content solids through the rapid sensing of their presence in natural waters and streams, arising from rare earth purification processes.

2:15 Refreshment Break in the Exhibit Hall with Poster Viewing

2:45 Designing NdFeB Magnet Recycling Facilities under Realistic Feedstock and Operating Conditions

Jonathan Radcliffe, Specialist Process Technologist, Worley

Growing demand for permanent magnets, coupled with supply-side constraints and mineral sovereignty objectives, is driving investment in regional NdFeB magnet recycling. Unlike conventional hydrometallurgical operations, long loop recycling facilities must accommodate variable feedstock quality, relatively low processing volumes, and operation in high labor and operating costs jurisdictions. This presentation explores design considerations required to develop robust, sustainable, commercially viable, and investible recycling facilities.



LITHIUM & RARE EARTHS

Advances in Mining & Metallurgical Processing Methods for Extraction, Recovery & Recycling Critical Minerals

DECEMBER 8-9, 2026

3:15 An Alternate Approach: Heap Leach Flowsheet Development for ASM's Dubbo Rare Earths Project

David Hunter, PhD, Senior Metallurgist, Tech Services Group, Core Resources Pty. Ltd.

Core Resources has completed hydrometallurgical testwork for ASM's Dubbo Project, validating a hydrochloric acid heap leach flowsheet achieving 65–85 wt.% Nd/Pr extraction. The program progressed from bench-scale testing through commercial-height column leaching. Subsequent impurity removal testwork successfully produced a high-purity Mixed Rare Earth Precipitate (MREP), demonstrating efficient recovery of critical magnetic rare earths while minimizing losses during downstream precipitation and refining stages.

3:45 Sponsored Presentation (Opportunity Available)

4:15 PANEL DISCUSSION: Mine to Market: Critical Battery Minerals in a Changing Global Landscape

Moderator: David Anonychuk, Senior Vice President Advisory and Growth, DRA Global

The race to secure critical battery minerals extends far beyond mining and processing. From lithium and rare earth elements to nickel, cobalt, and copper, supply chains are increasingly shaped by geopolitics, industrial policy, investment, and ESG expectations. This panel explores the mine-to-market value chain, examining how governments, investors, technology developers, and manufacturers are responding to shifting trade dynamics, domestic supply initiatives, and demand for responsibly sourced battery materials worldwide.

Panelists:

Andrew Nissan, PhD, Senior Director, Battery Strategic Sourcing, Lyten
Adele Rouleau, Senior Environmental Consultant, Geosyntec Consultants

5:15 Networking Reception in the Exhibit Hall with Poster Viewing

6:15 Close of Day

Wednesday, December 9

8:00 am Registration and Morning Coffee

STRATEGY, SUSTAINABILITY, AND PROJECT DELIVERY

8:20 Organizer's Remarks

Sarah Stockwell, PhD, Conference Producer, Cambridge EnerTech

8:25 Chairperson's Remarks

David St. Angelo, MS, CTO, Operations and Technology Development, Mangrove Lithium

8:30 Sponsored Presentation (Opportunity Available)

9:00 Navigating Global Challenges in Critical Minerals Project Development

David Anonychuk, Senior Vice President Advisory and Growth, DRA Global

Developing critical minerals projects has become increasingly complex as geopolitical uncertainty, evolving government policies, supply chain localization, and heightened ESG expectations reshape the global landscape. This presentation examines the key challenges influencing project development and delivery, exploring strategies to manage technical, commercial, and regulatory risks while positioning projects to meet the growing demand for secure, sustainable, and responsibly sourced critical minerals.

9:30 From Mine to Market: ESG Stewardship throughout Critical Mineral Supply Chains

Adele Rouleau, Senior Environmental Consultant, Geosyntec Consultants

ESG continues to spark controversy and pushback with changing political landscapes shifting the dial on opinion and policy. The trends, however, are clear that ESG continues to play an important role in securing project

finance and derisking projects. An overview of the ESG trends impacting mineral supply chains will be covered, along with strategies which mining companies can implement to ensure sustainable and ESG-friendly operations.

10:00 Sponsored Presentation (Opportunity Available)

10:30 Coffee Break in the Exhibit Hall with Poster Viewing

PLENARY KEYNOTE

11:15 Organizer's Remarks Chairperson's Remarks

Craig Wohlers, General Manager, Cambridge EnerTech



11:20 How GM is Driving Battery Development and Enabling an All-EV Future

Kurt Kelty, Vice President, Battery, Propulsion, and Sustainability, General Motors

GM has established a foundation to accelerate the investment in—and development of—battery technology with a robust supply chain to support its growth over the next decade. In this talk, Kurt will discuss GM's strategies for investing in new technologies and how its in-house capabilities enhance those efforts, with an overview and rationale behind key investments made to date.

11:50 PANEL DISCUSSION: Same Road, New Rules: EV, ICE, and the Race to Redefine Automotive Value



Moderator: Christina Lampe-Önnerud, PhD, Founder and CEO, Cadenza Innovation

Technology disruption is rewriting the automotive playbook—accelerating innovation cycles, compressing model timelines, and redrawing manufacturing footprints across both EV and ICE platforms. This incisive panel discussion featuring leaders from key organizations examining which features matter most in today's market and where the industry is headed. The conversation will also confront a defining tension: intensifying price pressure colliding with a thriving luxury segment—reshaping fortunes for iconic brands and ambitious newcomers alike.

12:50 pm Networking Lunch

1:50 Dessert Break in the Exhibit Hall with Poster Viewing

2:20 Close of Lithium & Rare Earths Conference



NICKEL-COBALT-COPPER

Advances in Mining & Metallurgical Processing Methods for Extraction, Recovery & Recycling Critical Minerals

DECEMBER 9-10, 2026

Wednesday, December 9

THE FUTURE OF CRITICAL METALS: MARKETS, TECHNOLOGIES, AND SUSTAINABLE PRODUCTION

2:20 pm Organizer's Remarks

Sarah Stockwell, PhD, Conference Producer, Cambridge EnerTech

2:25 Chairperson's Remarks

Michael Dry, PhD, Owner, Arithmetek, Canada

2:30 Nickel, Cobalt & Copper Markets: Navigating Supply, Demand, and the Energy Transition

William Talbot, Research Manager, Benchmark Mineral Intelligence

This presentation will examine global nickel, cobalt, and copper market trends, exploring supply-demand dynamics, investment drivers, geopolitical influences, and the evolving role of these critical metals in the energy transition.

3:00 The Atlas Materials Process for Nickel, Cobalt, and Magnesium-Metal Recovery

David Dreisinger, PhD, Professor, Materials Engineering, University of British Columbia

Atlas Materials' process extracts nickel, cobalt, and magnesium from saprolite ores. Nickel and cobalt are recovered as Mixed Hydroxide Precipitate (MHP) for Li-ion battery precursor production. Magnesium is recovered via pyrohydrolysis and aluminothermic reduction, with HCl recycled. The silica-rich residue serves as a supplementary cementitious material (SCM) for concrete, enabling zero solid waste. Process development and current deployment status will be presented.

3:30 Sponsored Presentation (Opportunity Available)

4:00 Refreshment Break in the Exhibit Hall with Poster Viewing

4:30 Too Good to Be True? Clean, Sustainable Metals Processing through Low-Cost, High-Performance, Rock-Breathing Bacteria

Eric Macris, CEO, Viridian Biometals

Viridian Biometals is developing proprietary critical minerals refining technology that is 2x more profitable and far cleaner than conventional processing. The technology harnesses bacteria that breathe ore and extract metals with no toxic waste, no fossil fuel combustion, and no need for a freshwater supply, solving the most pressing environmental and economic problems with conventional refining.

5:00 Nickel and Manganese from Sea Nodules (Part 2): Novel Technologies

Michael Dry, PhD, Owner, Arithmetek, Canada

This paper examines various processing options for extracting battery metals from sea nodules, with the Mn product being manganese sulfate. The techno-economics of various proposed routes are examined via process modeling and estimation of the capital and operating costs associated with the routes examined. The routes are ranked via cash flow modeling. The limitations of the battery market are also examined.

5:30 The Piauí Nickel Project: Advancing Sustainable Low Carbon Nickel Heap Leach Production in Brazil

Omar Caceres, General Manager, Project Development, Brazilian Nickel

The Piauí Nickel Project demonstrates a pathway toward sustainable, low-carbon nickel production through the application of heap leach technology in Brazil. This presentation will explore project development, process innovation, and sustainability initiatives supporting the delivery of battery-grade nickel. Key challenges and opportunities in advancing responsible nickel supply for the energy transition will also be discussed.

6:00 Close of Day

Thursday, December 10

8:00 am Registration and Morning Coffee

LEACHING OPERATIONS, HPAL, AND PROCESS SCALE UP

8:20 Organizer's Remarks

Sarah Stockwell, PhD, Conference Producer, Cambridge EnerTech

8:25 Chairperson's Remarks

David Dreisinger, PhD, Professor, Materials Engineering, University of British Columbia

8:30 Sponsored Presentation (Opportunity Available)

9:00 Autoclave Discharge Line Design and Operation

Johann Verster, Chemical Engineer, Process, Caldera Engineering

An autoclave discharge line is arguably the most critical pipeline in an HPAL or POX plant. Its design requires careful consideration of numerous process, mechanical, and operational factors. Equally important is the development of robust operating procedures to ensure safe, reliable, and efficient operation. While several design configurations and operating philosophies are used across the industry, each has distinct advantages and limitations.

9:30 Reduced Scaling and Erosion in HPAL

Katsuhide Takenaka, PhD, Manager, Technology Development, SHIPE-STC Cooperation GmbH

Advanced impeller design creates a stable and uniform flow pattern across the entire autoclave compartment, ensuring effective suspension without excessive local shear peaks. By combining moderate tip speeds with controlled hydrodynamics, the system minimizes both particle-induced erosion and deposit formation on impellers and vessel walls. This leads to reduced scaling, lower wear, longer operating campaigns, and improved HPAL process reliability.

10:00 Presentation to be Announced

10:30 Coffee and Bagel Break in the Exhibit Hall. Last Chance for Poster Viewing.

SPXFLOW

11:00 Lining and Relining Strategies for Pressure Vessels

Daniel Keßler, PhD, Managing Director, DSB Säurebau

This presentation reviews lining and relining strategies for HPAL and POX pressure vessels, including autoclaves and flash vessels. Focus is placed on membrane systems and acid-resistant brick linings. Key aspects include material selection, design considerations, degradation mechanisms, and maintenance approaches. Practical relining strategies and operational experience are discussed to improve equipment lifetime, reliability, and shutdown efficiency in highly corrosive and mechanically demanding hydrometallurgical environments.

11:30 Fine-Tuning the Sledgehammer

Simon Purkiss, Director, SDD Metals

Nickel-laterite hydrometallurgical use of high temperatures, high pressure, and copious amounts of sulfuric acid can be described as using a sledgehammer to release the nickel. SDD has rejigged the process and repurposed the autoclaves to better utilize the sulfuric acid, lowered temperature, and pressure of the autoclaves to reduce acid consumption and reduce the waste production while maintaining the nickel recovery.

OPTIMIZING HYDROMETALLURGICAL OPERATIONS

12:00 pm Milling Isn't Magic: Capturing Opportunity through Functional Performance Analysis

Kyle Bartholomew, Chief Metallurgist, Metcom Technologies, Inc.

Maximizing profits means getting grinding right. Throughput, recovery, and efficiency depend on comminution circuit performance. Interactions between the ball mill and the classification system (e.g., pumps and cyclones) are not intuitive. Trial and error generally leads to suboptimal results. Functional performance analysis provides practical, quantitative insight into the distinct functions of milling, classification, and aggregate closed-circuit efficiency. This makes circuit optimization science, not serendipity.



NICKEL-COBALT-COPPER

Advances in Mining & Metallurgical Processing Methods for Extraction, Recovery & Recycling Critical Minerals

DECEMBER 10-11, 2025

12:30 Enjoy Lunch on Your Own

1:30 Chairperson's Remarks

Michael Dry, PhD, Owner, Arithmetek, Canada

1:35 Driving Efficiency in Hydrometallurgy through Diluent Selection

Danielle Singleton, Customer Application Developer, ExxonMobil

Choosing the right diluent is key to optimizing solvent extraction performance in hydrometallurgical systems. Escaid 110 fluid enables faster, more consistent phase separation due to its optimized viscosity, density, and low aromatic content. These properties also enhance safety and operational efficiency, making diluent selection critical for the recovery of Rare Earth Elements (REEs) and critical battery materials such as lithium, nickel, and cobalt.

2:05 Increasing Nickel and Copper Production in the Face of Declining Ore Grades through D-Solve

Kent S. Sorenson, PhD, CTO, Allonnia

Allonnia's D-Solve technology leverages recyclable Biosolutions that both remove impurities (gangue) from ore concentrates and upgrade the target metal. In 2026, D-Solve was employed at pilot scale on nickel concentrate at the Humboldt Mill in Michigan. The results demonstrated almost 30% magnesium removal while upgrading nickel by 1-2%. Laboratory results will also be presented showing compelling value propositions for the use of D-Solve in the processing of copper-molybdenum concentrates.

2:35 Session Break

CLOSING PLENARY KEYNOTE

2:45 CLOSING PLENARY PANEL DISCUSSION: Charging Forward: Batteries at the Center of a Shifting World



Moderator: Christina Lampe-Önnerud, PhD, Founder and CEO, Cadenza Innovation

As geopolitical shifts and an evolving policy landscape redraw the battery supply chain, EVs, BESS, and AIDC have emerged as critical pillars of global energy security. Dr. Christina Lampe-Önnerud, Founder and CEO of Cadenza Innovation, opens AABC with a candid look at where growth is accelerating across materials, components, battery systems, and applications—and why this industry must now decide, together, how it builds the next era of global energy.

3:45 Close of Conference

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Cambridge EnerTech encourages attendees to gain further exposure by presenting their work in the poster sessions. To secure an onsite poster board and/or ensure your poster is included in the conference materials, your full submission must be received, and your registration paid in full by **November 6, 2026**.

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Discounted Room Rate: \$285

Discounted Room Rate Cut-off Date: November 10, 2026

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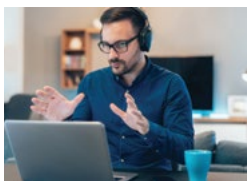
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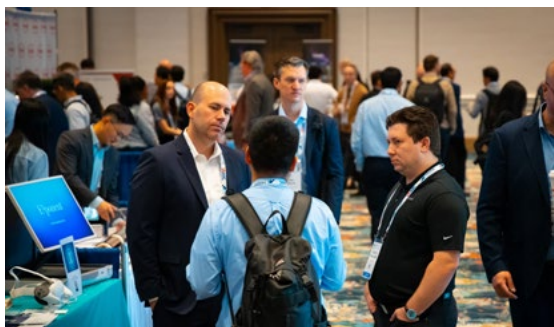
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