FINAL AGENDA

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Register by October 23

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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CO-LOCATED WITH:

26th Annual advanced automotive battery conference

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 Lithium-Selective Electrodialysis for Downstream Lithium Refining

Yong Gao, PhD, Prof, Chemical & Biomolecular Sciences, Southern Illinois Univ Carbondale

Conventional chemical treatment for downstream lithium polishing becomes increasingly challenging for feedstocks containing high concentrations of magnesium, calcium, and sodium, often requiring multiple reagent-intensive purification steps. Our electrodialysis process employs lithium-selective cation-exchange membranes to continuously polish lithium products while reducing chemical consumption, minimizing waste generation, and improving lithium recovery.

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 Presentation to be Announced

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 Li2CO3 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 From Ion-Exchange to Solvent Extraction: Technology Selection for Rare Earth Processing

Ben Kronholm, Dir Process R&D, Process R&D, USA Rare Earth c o Gateway Grp

Economic production of rare earth elements requires rigorous evaluation of separation technologies. This presentation examines USA Rare Earth's assessment of continuous ion exchange (CIX) and solvent extraction (SX) for processing Round Top ore, comparing technical performance, capital requirements, and operating costs. Pilot campaigns and mass-balance modeling identified SX as the preferred pathway, demonstrating improved recovery, purity, and economics while supporting a more efficient and sustainable US critical minerals supply chain.

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.

3:15 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.

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

5:45 Close of Day

Wednesday, December 9

7:45 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 Coffee Break in the Exhibit Hall with Poster Viewing

PLENARY KEYNOTE

10:45 Organizer's Remarks Chairperson's Remarks

Craig Wohlers, General Manager, Cambridge EnerTech

10:50 How GM is Driving Battery Development and Enabling an All-EV Future

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

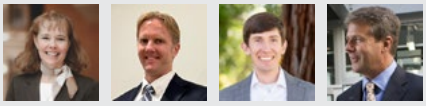
GM has established a foundation to accelerate the investment in—and development of—battery technology with a robust supply chain to support its growth over the next decade. In this talk, Kurt will discuss GM's strategies for investing in new technologies and how its in-house capabilities enhance those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

11:10 Speed, Flexibility and Innovation in a Rapidly Evolving Battery Market

Robert Lee, President, North America, LG Energy Solution

Given the slower-than-expected pace of EV adoption in the U.S., LGES has pivoted to new battery applications like ESS. We've quickly retooled existing North American production lines to satisfy demand for U.S. made LFP. We are also working more closely than ever with our EV customers on cell design – both form factors and chemistry formulae – to increase their products' competitiveness.

11:30 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.

Panelists:

Troy Hayes, PhD, Director of Quality, Tesla

Julian Bigi, PhD, Senior Battery Technology Engineer, Battery Engineering, BMW Group

Ted Miller, Senior Principal Advisor, Pacific Northwest National Laboratory

12:20 pm Networking Lunch

1:10 Dessert Break in the Exhibit Hall with Poster Viewing

1:40 Close of Lithium & Rare Earths Conference

Wednesday, December 9

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

1:40 pm Organizer's Remarks
Sarah Stockwell, PhD, Conference Producer, Cambridge EnerTech

1:45 Chairperson's Remarks
Michael Dry, PhD, Owner, Arithmetek, Canada

1:50 Market Overview for the Energy Transition - Nickel, Cobalt and Copper
Taylor Shively, Principal Consultant, CRU Group

2:20 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.

2:50 Sponsored Presentation *(Opportunity Available)*

3:20 Refreshment Break in the Exhibit Hall with Poster Viewing

4:30 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.

5:00 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.

5:30 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.

5:20 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 Optimized Up/Down Pumping Agitator Design for Moderate Oxygen Flow Pressure Leaching
Jason Giacomelli, Mgr, Mixing Solutions, ITT Flow Technology
Freeport-McMoRan's Morenci, Arizona copper operation uses two pressure leach vessels (PLVs) for copper recovery. As throughput increased from 11 to 18 stph per vessel and the process evolved from partial oxidation (2005) to full oxidation (2015), oxygen demand and gas flow rates rose significantly. Evaluation of the existing LIGHTNIN agitators led to a novel design replacing the upper up-pumping wide blade hydrofoil with a down-pumping impeller. The resulting impinging axial flow improved gas dispersion, solids suspension, and gas handling capacity while significantly reducing headspace fouling. Successfully operating since 2024, the design is now being further characterized for performance, power consumption, erosion resistance, and blade life optimization in pressure oxidation autoclaves

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

11:00 The Albion Process™ for Copper: A Framework for Choosing Between Hydrometallurgy and Smelting
Andrew Yang, Sr Metallurgist, Glencore Technology Pty Ltd
Recovering copper from increasingly complex concentrates requires robust process selection. This presentation examines the Albion Process for Copper, focusing on the leach chemistry and operating variables that govern subsequent metal recovery. These mechanisms are linked to impurity deportment and downstream recovery. Finally, a technical-economic framework is presented for identifying when Albion Process leaching can outperform smelting, and where a conventional pyrometallurgical treatment remains preferred in project flowsheet selection.

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.

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

Present a Poster and Save $50

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.**

Register and indicate that you would like to present a poster. Once your registration has been fully processed, we will send an email with a unique link and instructions for submitting your abstract and other materials. Please see below for more information.

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Conference Venue:

San Diego Convention Center

111 Harbor Drive
San Diego, CA 92101

Host Hotel:

Hilton San Diego Bayfront

One Park Boulevard
San Diego, CA 92101

Discounted Room Rate: $285
Discounted Room Rate Cut-off Date: November 10, 2026

For hotel reservations, please go to the Travel page of Altamet.com

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- Prime waterfront location with stunning views of San Diego Bay
- Direct access to the San Diego Convention Center for ultimate convenience
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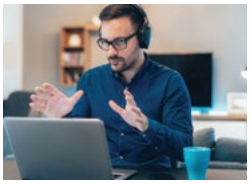

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