LithTech Industries

# A patented technology for processing minerals, mining waste, wastewater & hydrogen production

## Corporate Presentation

LithTech Industries Pty Ltd | ACN: 631 223 302
Commercial in Confidence | January 2024

# A Novel Separation Solution for Industrial-Scale Industries

## Mineral Extraction

95%-plus perseveration of minerals including Nickel, Cobalt, Lithium.

## Mining Waste

Clean disposal of mining waste such as the 217trn litres of tailings in storage.

## Water Treatment

Improves the efficiency of water treatment & desalination plants.


## Clean Hydrogen

Commercial grade hydrogen is produced as a by-product in all use cases.

## Green Steel

Hydrogen can be used to replace coal in the steel manufacturing process.

# Investment Highlights

**Patented Technology:** IP for the best-performing processing product in minerals, mining waste and water treatment, which reduces OPEX due to low electricity use.

**Third-Party Validation:** Independently endorsed from both a technical and economic perspective by the University of Queensland's Dow Centre.

**Turns Waste-To-Revenue:** The versatile technology can be used to sustainably remove mining waste streams and treat water, while producing hydrogen all use cases.

**ESG Benefits:** Improved efficiencies reduces emissions, increases supply for EVS, sustainably removes waste, creates clean water, sequesters carbon and produces clean hydrogen.

**High-Growth Resources:** Substantially increase the yield on the extraction of minerals for sustainable applications.

**Founder Funded:** Founders have invested $500,000 to develop a patented, lab-proven product.

**Clear Pathway IPO:** Board have a proven track record in identifying high-value technologies, commercialising them and delivering liquidity events for investors.

**Commercial Interest:** The Board have an established network in Australia's resources industry and are currently in advanced conversations with mining & water treatment companies.

# Best In Class Partners

Australian Government | ANSTO

QUT Queensland University of Technology

AJJA Technologies

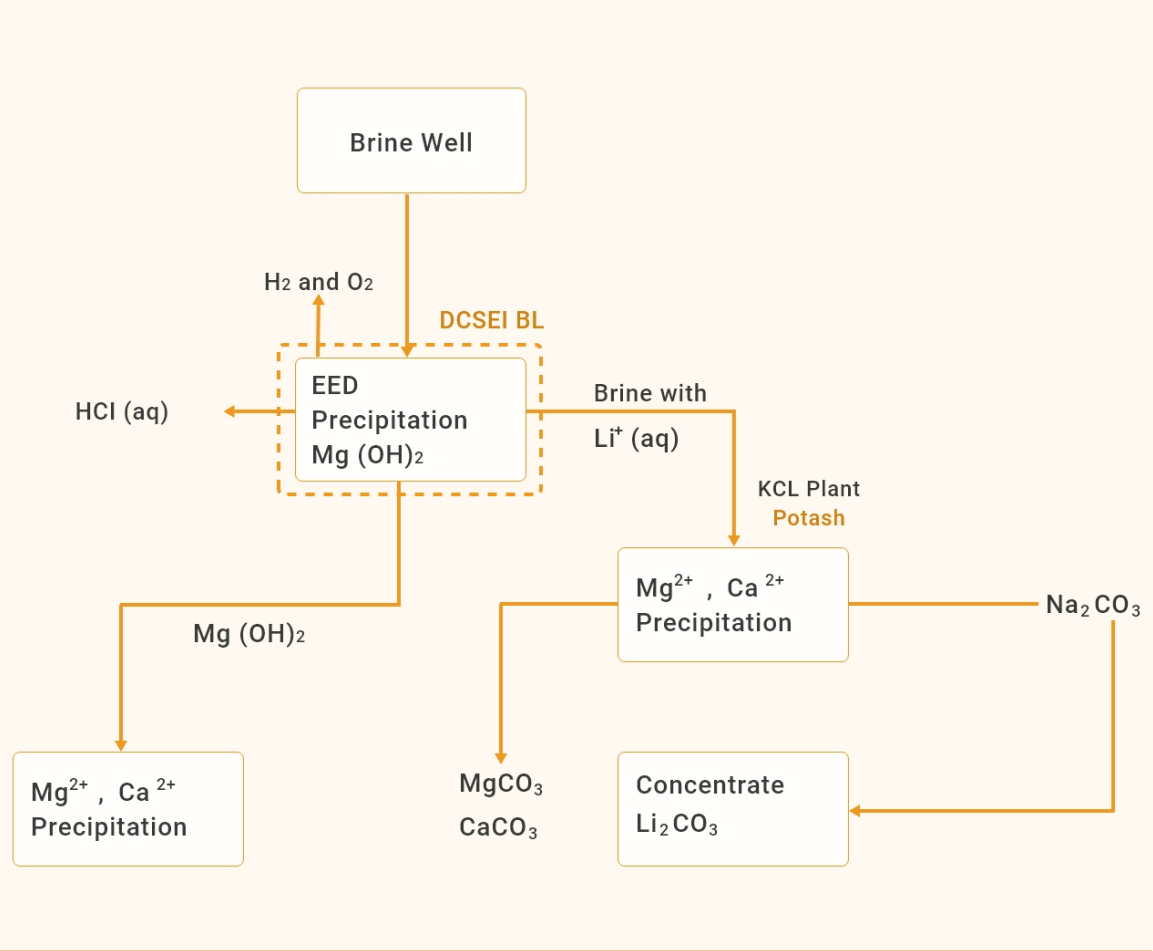
Massive Intelligence

forecast

KEOPS GROUP

# Technology Overview

- LithTech has developed a patented process technology that selectively separates magnesium ions from solutions.
- The process uses an electro-electrodialysis cell (EED) comprising of three chambers separated by membranes.
- Utility in critical raw material brine operations, mining waste, hydrogen production, green steel and water desalination/treatment plants.
- 95% plus preservation of minerals means a longer life of mines as less resources are needed to produce quotas.
- Reduces maintenance requirements and lengthens life of infrastructure as less power generation is required due increased in efficiencies.
- Reduces energy costs.
- Can be retrofitted onto new and existing infrastructure.
- Technology will be ready for a pilot project in 2024




*Block Flow Diagram of co-production of lithium carbonate and magnesium hydroxide.*

# University of Queensland Trial Results

Labe scale trials by Arraway with analysis by the UQ Dow Centre for Sustainable Engineering Innovation provides third party verification of the technology.

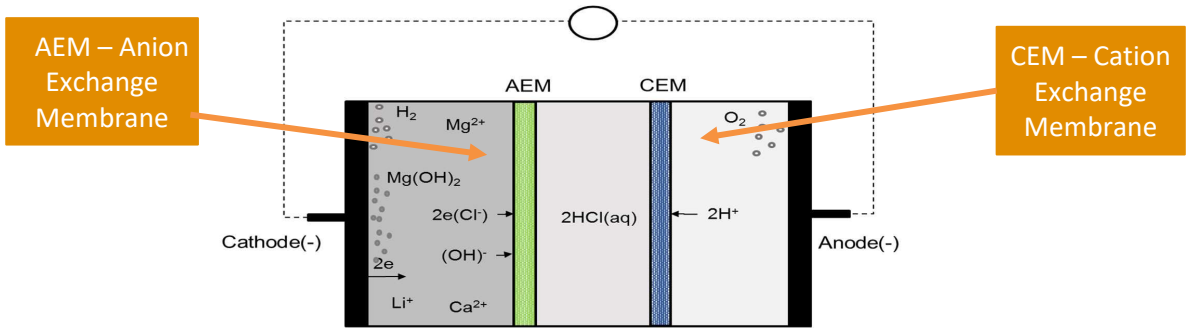
Findings:

- 95% and over lithium preservation.
- 90% recovery of magnesium hydroxide.
- No caking of magnesium hydroxide at electrode.
- No membrane fouling.
- Technology is likely to deliver the same results on a commercial scale.
- Can generate a NPV of US$336m and an IRR of 20.4 per cent on a 35kta plant lithium plant .
- Conclusion; “Overall, the process model and techno-economic analysis demonstrate a compelling case for the continued development of the process.”

DOW CENTRE FOR SUSTAINABLE ENGINEERING INNOVATION

THE UNIVERSITY OF QUEENSLAND AUSTRALIA
Create change

TECHNO-ECONOMIC MODELLING FOR A NOVEL ELECTRODIALYIS PROCESS SEPARATING MAGNASIUM FROM LITHIUM CONTAINING BRINES




Extract from UQ report, including a diagram of the single Electro-Dialysis Cell for separation of magnesium from brines contains lithium ions using ion exchange membrane.

# Independent Testing: Proving Continuous Operation

Independent lab trial under 40-hour continuous operation proved the commercial viability of the technology.

- Magnesium was separated from lithium without precipitation, which aligned with the results previously found by the University of Queensland of 95% lithium preservation and over.
- Commercial-grade gaseous hydrogen was produced continuously, with 98% captured (measured via faradaic efficiency).
- Consistent production of 101 litres of hydrogen over 40 hours, confirming the potential feasibility of the technology in large-scale, cost-effective hydrogen production.
- Acid recovery over the entirety of the test was as high as 89%, which will reduce harmful chemicals run off into the environment from brine operations.
- Power consumption over 40 hours was 1378 watts, which has the potential to save users a significant amount on energy costs.
- One of the most significant advantages of the technology is the use of electricity to perform several functions concurrently. This innovative approach drastically reduces the costs associated with power consumption, making it more economically viable for users & giving LithTech a competitive advantage.

An image from the independent lab trial.

# Next Steps: Preparing For Pilot Project

Overall, the recent test results are highly encouraging and validate the potential of the disruptive processing technology.

In the next round of lab testing, LithTech will be preparing the technology for a pilot project in 2024:

- Optimise process design for cost reduction, membrane selection for efficiency improvement and acid concentration improvement.
- Demonstrate multi-cell stacks for increased operation & identification of scale-up engineering requirements for a pilot project.
- Reduce chamber thickness to reduce cell voltage, which will reduce energy costs.
- Develop a 1:10 scale up to allow operation on larger volumes for validation of costs and product quality.
- Select for maximum efficiency of anion transport and proton blocking.
- Select for maximum acid concentration.
- In conjunction with testing, LithTech's corporate team will be progressing a pilot project with one of the interested parties.

An image from the independent lab trial.

# Experienced Board & Management Team

## Andrew Mortimer

### Executive Chairman

- With over 20 years' experience, Andrew is a thought leader in mining exploration & metallurgy, with a proven track record in creating/structuring the necessary strategic alliances to build strong businesses and deliver liquidity events for his investors.
- Andrew has advised numerous companies on ASX listings, including Citadel Mining Group Ltd (acquired by Equinox Minerals for $1.25bn) and Talisman Mining Ltd (ASX: TLM). He has assisted these companies and others including Cudeco Ltd (ASX: CDU) with capital raisings and corporate strategy. For
- Andrew has performed executive roles for several public companies as well as being an experienced Chairman and non-executive Director. Andrew is a specialist executive in battery metal commodities.
- For several years Andrew was also on the 'buyside' as a member of the investment committee of a managed fund. Andrew holds a BA and LLB from Sydney University and has been a member of the Australasian Institute of Mining and Metallurgy for over 10 years.

## David Vinson

### Non-Executive Director

- David is a seasoned director and Investor in the Australian chemical and new technology industries, who has 20 years' experience as a pioneer in biochemical indsutry.
- He has been instrumental in launching and operating numerous companies in the chemical, marketing services, biofuel, and recycling industries.
- Managed the construction and operations of one of Australia's first biochemical-based fuel plants.
- David has wide experience in the commercialisation, design, construction, and operations of chemical and processing facilities.
- Director of Oceania Biofuels which is constructing a $500m renewable diesel and sustainable aviation fuel biorefinery in Gladstone.

## Adam Blunn

### Chief Technical Adviser

- Adam is an industrial chemist with over 20 years' experience in chemical process technology development across mineral processing, agriculture and environmental fields.
- Adam has managed technology development and commercialisation at Australian Biorefining; having securing several patents and commercial deals as well as extensive industrial chemistry experience which includes large scale manufacturing.
- Adam has developed multiple novel solutions, including industrial sensor development, separations technology for hydrometallurgy, water treatment and recovery, industrial resource recovery, and hydrogen production.
- Adam is leading the development of the LithTecn technology and managed the patent process.

# Dedicated Executive Team

No Board Member or staff are drawing a salary from the business with all funds being diverted towards developing the technology.

**Henry Okoye**

**Executive General Manager**

- Henry has an Honours Degree in Chemical Engineering from UNSW and has been involved in multiple mineral processing/ mining projects in the public and private sector for over several years; a member of Engineers Australia.
- Experienced investment consultants and strategists with expertise in a variety of industries including mining and mineral exploration, energy & resources, consumer goods and real estate projects.
- Background in managing projects/compacccccnies from inception through to commercialisation and liquidity for shareholders.
- Henry is able to leverage these skills garnered from his background as a corporate consultant while also possessing valuable institutional links to project commercialisation.

**Angus Kennelly**

**Director of Corporate Affairs**

- Experienced corporate affairs executive with a proven track record in working with renewable energy companies to deliver significant value to its shareholders.
- A key member of the UHL leadership team which generated A$650m in market capitalisation across the group and $24m in returns to shareholders.
- Built a highly successful corporate affairs firm which was shortlisted as the Boutique PR Agency of the year for ANZ region in 2023.
- Extensive knowledge of the renewable energy industry and a global network of relationships.
- Worked with some of the world's largest companies, including Alibaba Group, GHD Group and Qatar Airways.

# Indicative Use Of Funds

LithTech Industries Pty Ltd is seeking to **raise $500,000** via the **placement of 25,000,000** fully paid ordinary shares at a **price of 2c per share**.

| Application | Allocation | Percentage |
|---|---|---|
| Final Lab Testing | $150,000 | 30% |
| Commercial Pilot Project | $250,000 | 50% |
| Business Development & Administration | $100,000 | 20% |
| Total | $500,000 | 100% |

Mineral processing plant at a mine in Western Australia.

# Indicative Capital Structure

| Indicative Capital Structure | Quantum |
|---|---|
| Funds Invested By Founders (Financed tech development, patent, lab testing & third-party validation) | $500,000 |
| Current Shares On Issue | 110,000,000 |
| Pre-Money Valuation | $2,200,000 |
| Shares To Be Issued In Placement ($0.02) | 25,000,000 |
| Shares on Issue After Placement | 135,000,000 |
| Post-Money Valuation | $2,700,000 |

Historic mineral in Western Australia.


# Corporate Directory


## Company Contact

invest@lithtech.com.au

+61 433 894 923

invest@lithtech.com.au

## Corporate Advisory

henry.okoye@keops.com.au

+61 470 242 446

www.keops.com.au

## Investor Relations

angus@massiveintelligence.com.au

+61 413 541 301

massiveintelligence.com.au