Iondrive's Sustainable Battery Recycling Progressing to Meet Expanding Global Demand

Iondrive Limited (ASX: ION) ("Iondrive", "ION" or the "Company"), formerly Southern Gold Ltd, is pleased to provide an update on commercialisation progress relating to its exclusively licensed battery technologies.

Highlights

- **Iondrive has engaged highly respected battery supply chain consulting firm Rho Motion to assist with completion of a Prefeasibility Study ("PFS") for it Deep-Eutectic Solvent ("DES") battery recycling technology**
- **The PFS includes a Technical Review (Gap Analysis) by Lycopodium, focusing on DES process analysis, upstream feed material evaluation from an Australian supplier, and downstream eco-friendly waste treatment investigation**
- **The comprehensive PFS is being undertaken to establish the optimum commercialisation path for its DES battery recycling technology and is expected to be completed during Q1 2024**
- **ION's DES battery recycling technology is proposed to outperform conventional battery recycling processes, with greater selectivity and recoveries of high-purity single valuable metal elements, while aiming to do so at lower cost**
- **Recently the Company rebranded to align with its strategic focus on downstream battery technologies and exploration for minerals critical to the clean energy transition:**
    - **Change of name to Iondrive Limited**
    - **Addition of two highly respected non-executive directors Jack Hamilton (ex- Calix Limited, Anteotech Ltd and currently NED of Hazer Group Limited) and Adam Slater (established multibillion dollar commodity trading division at SGX listed CWT Limited and with extensive venture capital network based in Singapore)**
    - **Appointment of Dr Ebbe Dommisse as interim CEO for ION subsidiary IonDrive Technologies, a chemical engineer with deep experience in scaling up early-stage chemical based technologies**
- **Dr Dommisse is now actively engaged with potential technological and commercial partners**
- **Dr Dommisse is also leading studies into the technical and commercial aspects of Iondrive's other next generation battery technologies; Iondrive's Aqueous Sodium-Ion Battery and NCM 811 cathode active material technologies**

Iondrive Technologies interim CEO Ebbe Dommisse commented:

"Since joining Iondrive a few months ago, my conviction in our technologies has only strengthened. The ingenuity of our DES battery recycling technology particularly stands out. It's imperative that we develop sustainable solutions as the demand for battery recycling grows with the increasing use of electric vehicles. We are actively pursuing partnerships to scale this technology and are progressing towards a prefeasibility study, anticipating meaningful developments in the near future. Our team will be a driving force as we navigate this crucial industry evolution."

Iondrive is pleased to announce the engagement of Rho Motion, a highly respected UK-based battery supply chain consulting firm, to assist with the completion of its Prefeasibility Study (PFS) for the commercialisation of its innovative DES battery recycling technology. The collaboration aims to refine the PFS, guiding Iondrive on the most effective commercial pathway to leverage its proprietary technology which is poised to redefine the battery recycling industry.

Concurrently, the Lycopodium Technical Review is undertaking a rigorous gap analysis to optimise the DES process. This includes a detailed assessment of the feed material sourced from a prominent Australian supplier and an evaluation of the potential for pre-treatment methods to enhance purity levels. Additionally, the review extends to scrutinising the downstream waste treatment processes, reinforcing Iondrive's commitment to an environmentally sustainable footprint.

Iondrive is making steady progress on its PFS, which is critical to determining the commercial pathway for its DES battery recycling technology. The study is designed to establish a method that could potentially improve upon current industry standards by focusing on the selective recovery of valuable metals.

In line with its strategic goals, the Company has undergone a rebranding to Iondrive Limited, which aligns with its strategic focus on downstream battery technologies and exploration for minerals critical to the clean energy transition. Dr. Ebbe Dommisse, who recently joined as interim CEO for ION subsidiary IonDrive Technologies, is actively applying his expertise to progress the Company's next-generation battery technologies. Iondrive is on track to complete the PFS by the first quarter of 2024, a significant step towards its goal of advancing battery recycling technology.

About Rho Motion

Rho Motion, recognised as an industry leader, provides detailed forecasts and analysis on electric vehicle and battery markets, as well as EV charging and energy stationary storage markets. Known for their comprehensive and informed insights, they offer flexible, dynamic reports that can be tailored to user specifications, making them a respected authority for actionable intelligence in the energy transition sector. Rho Motion also provides tailor-made consultancy and advisory services based on their clients' needs, covering the EV, charging and battery supply chains.

About Lycopodium

Lycopodium is an engineering firm that harnesses science to address complex challenges, enhance performance, and drive productivity and profitability for their clients. Established in 1992, they have become a global leader in providing integrated engineering, construction, and asset management solutions. Recognised for their vast expertise across a diverse range of industries, Lycopodium offers robust solutions to technical issues, ensuring the success of projects they undertake.

ION Hydrometallurgical Battery Recycling

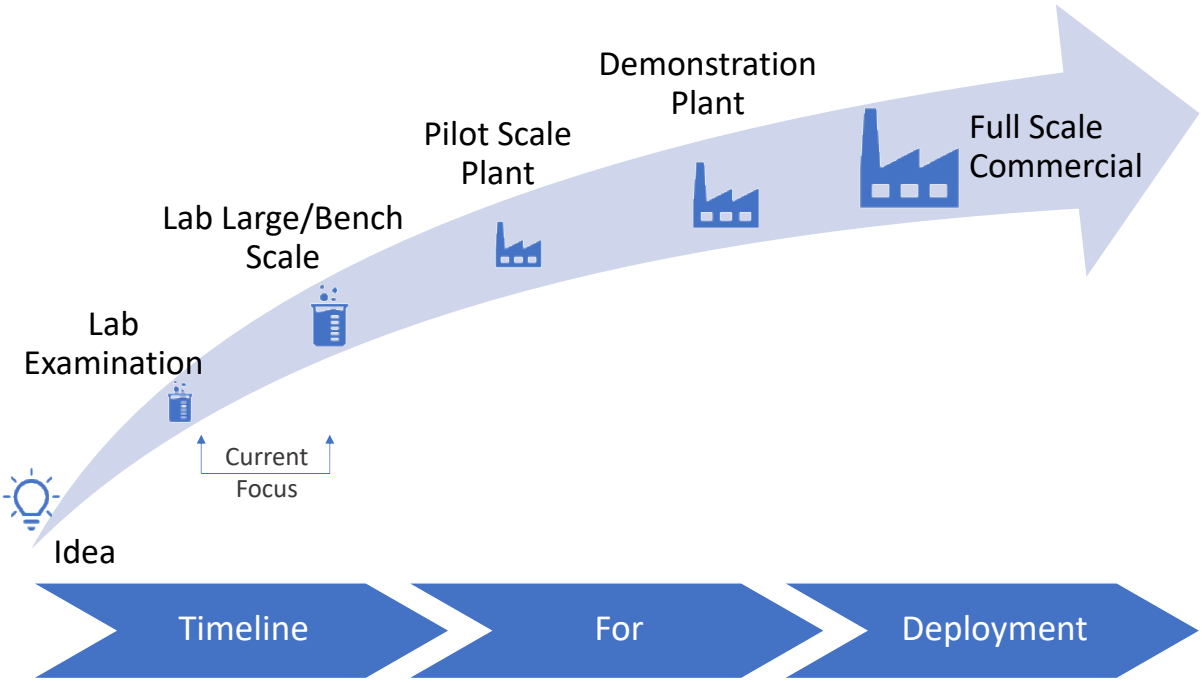
Lithium-ion battery recycling can be extremely inefficient, hazardous, and costly. Most recycling is accomplished through pyrometallurgical processes (incineration through extreme temperatures), or hydrometallurgical processes with powerful and toxic acids that are very corrosive and require waste treatment. Iondrive's Hydrometallurgical Battery Recycling process is designed to provide a better solution.

The Company's provisionally patented environmentally-safe solvent, can gently separate components of a battery such as lithium, nickel, cobalt, and manganese, without high energy requirements and/or corrosive acids.

Pathway to Commercialisation

The PFS is expected to be completed in Q1 of 2024.
Dr Dommisse is currently finalising discussions with our partner, The University of Adelaide, for commencement of large-scale laboratory work and trials, the next step in progressing our technology through to full scale commercialisation.

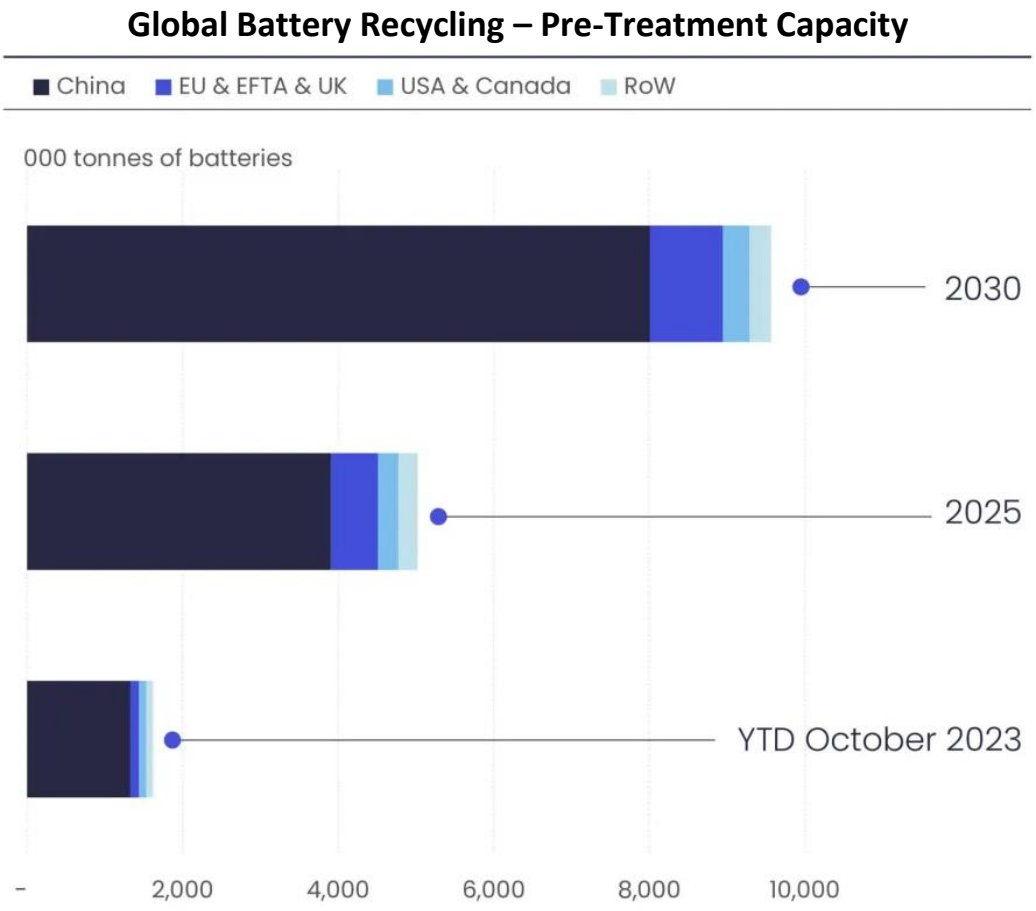
ION Direct Solvent Extraction (DES) battery recycling technology



Battery Recycling – Market Opportunity

Achieving high levels of Lithium-ion Battery recycling will be critical in the global transition to a renewable low carbon energy future, with battery recycling expected to grow exponentially over the coming decades. Current recovery processes have issues with both cost and their environmental footprint. Hence, the addressable market opportunity for ION's DES technology is expected to be extremely large.

Battery recycling pre-treatment capacity is forecast to grow circa fivefold through the remainder of this decade, reaching nearly 10 million tonnes by 2030.



Source: Rho Motion

Research from the University of Technology Sydney (UTS) suggests 30,000 tonnes of EV batteries will reach their end-of-life in Australia by as soon as 2030. This is forecast to blow out to 360,000 tonnes by 2040, and 1.6 million tonnes by 2050. [1]

It is estimated that the Australian market could miss a $603 million to $3.1 billion opportunity by not recycling batteries efficiently.[2]

[1] *https://www.abc.net.au/news/2023-06-01/electric-vehicle-battery-waste-projections-uts-research/102417114*
[2] *https://www.csiro.au/en/news/All/Articles/2021/March/super-charging-australias-lithium-ion-battery-recycling-industry*

Iondrive Commercialisation Team

https://iondrive.com.au/our-people/

Iondrive continues to assemble a team with extensive experience in transitioning advanced technologies from concept to commercial success. In addition to Dr Dommisse, recent additions include Jack Hamilton as a non-Executive Director and Adam Slater as an Advisor to the Board. They join experienced executives with relevant commercialisation experience such Dr JC Tan and Jeff Ritoe from the Technical Team and Keong Chan and John Rock from leading Venture Capital firm OTB Ventures.

The Company is confident that it is assembling an industry leading team, under the strategic guidance of Chairman Michael McNeilly and Managing Director Robert Smillie.

The World Class research that underpins our exclusively licensed next generation battery technologies has been developed, and continues to be supported, by Laureate Professors Prof. Shizhang Qiao and Prof. Zaiping Guo through our partnership with The University of Adelaide.

Authorised for release by the Chair of Iondrive Limited.

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Iondrive Limited: Company Profile

Iondrive is an emerging critical minerals exploration and battery technology commercialisation group listed on the Australian Securities Exchange (under ASX ticker "ION").
The mineral exploration business includes a 100% interest in a substantial portfolio of REE, Li and precious metals exploration projects in South Korea. Backed by a first-class technical team, Southern Gold's aim is to find world-class deposits in a jurisdiction that has seen very little modern exploration.
The commercialisation business holds three exclusive world-wide licences from The University of Adelaide comprising next generation battery technologies 1) an enhanced performance non-flammable lithium-ion based battery, 2) a low-cost, environmentally sustainable method for recycling lithium batteries, and 3) a low-cost, high cycle life water-based battery.