



# EXECUTING A CHINA-BASED, BATTERY GRADE HIGH-PURITY MANGANESE PRODUCTION STRATEGY

AUGUST 2024

ASX: FRB



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## JORC Compliance Statement

This announcement contains references to Exploration Results and Mineral Resource Estimates, which have been reported in compliance with ASX Listing Rules 5.7 and 5.8 and extracted from previous ASX announcements as referenced. The Company confirms that it is not aware of any new information or data that materially affects the information included in the said announcements, and in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed.

The Company confirms that the material assumptions and technical parameters underpinning the production target disclosed in the Company's announcement dated 7 May 2024 continue to apply and have not materially changed.

For full details refer to ASX announcements 10/3/22, 30/1/23, 23/3/23, 26/6/23, 30/8/23, 1/9/23, 18/10/23, 21/11/23, 13/12/23, 29/1/24, 13/3/24, 7/5/24, 14/5/24, 28/5/24 and 5/6/24.

Oakover Resource: Indicated Resource of 105.8Mt at 10.1%; Inferred Resource of 70.9Mt at 9.6% for global Resource of 176.7 Mt at 9.9% Mn

Hill 616 Resource: Inferred Resource of 57.5 Mt at 12.2% Mn

# CAUTIONARY STATEMENT – SULPHATE FEASIBILITY STUDY

The Feasibility Study referred to in this presentation is a Technical Feasibility of the establishment of the Battery Grade Manganese Sulphate Project Stage 1 Processing Plant in China (the Plant). The Feasibility Study is based on the material assumptions contained in the Feasibility Study document released to the ASX on 7 May 2024. These include assumptions about the availability of funding. While the Company considers all of the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the Feasibility Study will be achieved.

Notwithstanding the developments set out in this quarterly report, Investors should note that there is no certainty that the Company will be able to raise the amount of funding to develop the Plant when needed. It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of Company's existing shares.

It is also possible that the Company could pursue other 'value realisation' strategies such as a sale, partial sale or joint venture of the Plant. If it does, this could materially reduce the Company's proportionate ownership of the Plant. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Feasibility Study.

# CAUTIONARY STATEMENT- DMS CONCENTRATE SCOPING STUDY

The Updated Scoping Study announced to the ASX on 30 August 2023 has been undertaken for the purpose of initial evaluation of a potential development of the Oakover Manganese Project. The Scoping Study is a preliminary technical and economic study of the potential viability of the Oakover Manganese Project as a manganese producer. The Scoping Study outcomes, production target and forecast financial information referred to in this release are based on low accuracy level technical and economic assessments that are insufficient to support estimation of Ore resources.

The Scoping Study has been completed to a level of accuracy of +/- 35% in line with a scoping level study accuracy. While each of the JORC modifying factors was considered and applied, there is no certainty of eventual conversion to Ore Reserves or that the production target itself will be realised. Further exploration and evaluation work and appropriate studies are required before the Company will be in a position to estimate any Ore Reserves or to provide any assurance of an economic development case. Accordingly, given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Scoping Study. Given that the results of the Scoping Study are subject to the qualifications above (including assumptions as to accuracy), any results reported in this release should be considered as approximates and subject to variances having regard for the assumptions referred to in this release. The Company has reasonable grounds for disclosing a Production Target, given that approximately 99% of the Life-of-Mine (LOM) Production Target is in the Indicated Mineral Resource category, and 1% is in the Inferred Mineral Resource category. The production target stated in this announcement is based on Firebird's current expectations of future results or events and should not be relied upon by investors when making investment decisions. Further evaluation work and studies are required to establish sufficient confidence that the production target will be met. Firebird confirms that the financial viability of the Oakover Manganese Project is not dependent on the inclusion of Inferred Resources in the Scoping Study.

The Company considers all the material assumptions in this Study to be based on reasonable grounds. These include assumptions about the availability of funding. While Firebird considers all of the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the Scoping Study will be achieved. To achieve the range of potential outcomes indicated in the Scoping Study, funding of in the order of \$123 million (excluding working capital and finance costs) will likely be required. Investors should note that there is no certainty that Firebird will be able to raise that amount of funding when needed. However, the Company has concluded it has a reasonable basis for providing the forward-looking statements included in this announcement and believes that it has a "reasonable basis" to expect it will be able to fund the development of the Project. It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of Firebird's existing shares. It is also possible that Firebird could pursue other 'value realisation' strategies such as a sale, partial sale or joint venture of the project. If it does, this could materially reduce Firebird's proportionate ownership of the project. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Scoping Study.

The Mineral Resources underpinning the production target in the Scoping Study have been prepared by a competent person in accordance with the requirements of the JORC Code (2012). For full details of the Mineral Resources estimate, please refer to Firebird's ASX release dated 23 March 2023. Firebird has confirmed that it is not aware of any new information or data that materially affects the information included in that release. All material assumptions and technical parameters underpinning the estimates in that ASX release continue to apply and have not materially changed.



# BUILDING A LOW-COST, HIGH-PURITY MANGANESE SULPHATE PLANT



## **Unique, Low-Cost, Speed-to-Market Strategy**

Successfully executing a high-purity, battery grade manganese sulphate strategy to supply into the rapidly expanding LMFP battery market



## **Sustainable Economics and Perfect Timing**

Due to low-cost  $\text{MnSO}_4$  production profile, the Company will be in a competitive position across all market environments, at a time when the LMFP market is forecasted for exponential growth

Stage two of operations to be supplied by flagship Oakover Project (Western Australia)



## **Industry Leading Management, Board and In-Country Team**

Led by a Board and Management team with decades of manganese experience and proven abilities of building companies through the lifecycle and into production

Assembled a proven and high-quality team in China, who are leaders in the development and production of high-purity manganese



## **Well-Funded and Supported**

Strong cash position of \$5.1m (30 June 2024) to fund key workstreams across China strategy and at Oakover

Firebird has attracted a strong investor register supported by highly-reputable investor Canmax Technologies Co., Ltd who has a 9.7% holding in the Company

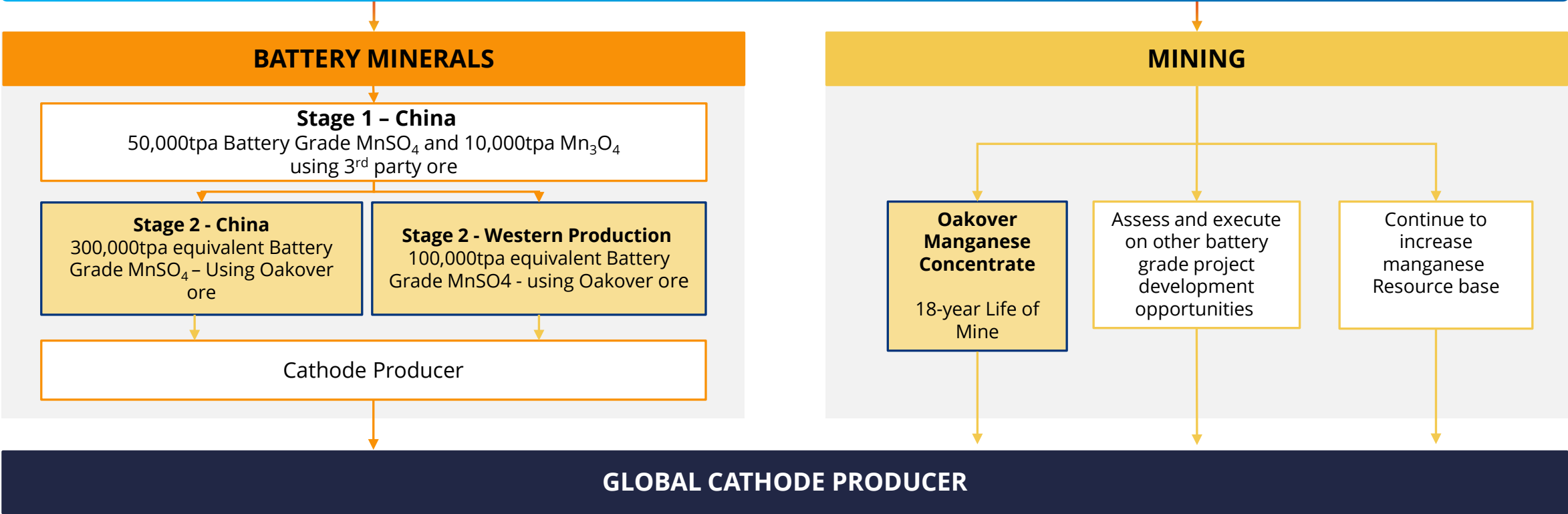
# DELIVERING ON THE FIREBIRD VISION



## COMPANY VISION

Become a global leader in the manganese industry by seamlessly combining mining and downstream processing, with a profound dedication to the advancement of Li-ion & Na-ion battery sectors.

By harnessing the power of innovation and sustainability, Firebird aims to play a pivotal role in shaping the future of energy storage solutions and significantly contributing to a more sustainable and electrified world.



# INDUSTRY LEADING MANGANESE TEAM

- Board brings impressive credentials, leveraging previous successes moving companies through development into operations
- **Firebird boasts extensive manganese experience:**
  - **Peter Allen** (Managing Director) has **more than 20 years' experience in the marketing and development of manganese projects**
  - **Wei Li** (Finance Director and Managing Director of China Subsidiary) has **extensive manganese battery experience** and **assisted in commissioning an A\$150 million Electrolytic Manganese Dioxide (EMD) plant** in Hunan China
- **In China, HFBT has recruited two key highly-experienced technical professionals:**
  - **Mr Zhou 20 years' experience in battery grade MnSO<sub>4</sub> production.** Mr Zhou was a part-owner of a battery grade MnSO<sub>4</sub> plant, consulted to many existing MnSO<sub>4</sub> plants in China and involved in development, optimisation and commercialisation of technologies for MnSO<sub>4</sub> processing (including patents)
  - **Mr Tang has significant experience in the design, engineering and operation of MVR and sulphate production**
- Included amongst more than a dozen patents are the two significant energy savings patents of:
  - 5<sup>th</sup> Gen Crystallisation Reactor
  - Energy Efficient Multi-purpose Rotary Kiln



## BOARD



**EVAN CRANSTON**  
Non-Executive Chairperson



**PETER ALLEN**  
Managing Director



**WEI LI**  
Finance Director



**ASHLEY PATTISON**  
Non-Executive Director



**BRETT GROSVENOR**  
Non-Executive Director

## CHINA HUNAN FIREBIRD BATTERY TECHNOLOGY (HFBT)



**WEI LI**  
Managing Director



**MR ZHOU**  
Chief Operating Officer



**MR TANG**  
Operations Manager

# LMFP STRATEGY – FAST EXECUTION



## Completed

<b>September 2023</b> Release of China-Based High-Purity Manganese Sulphate Battery Strategy	<b>November 2023</b> Establishment of a World-Class Technical Team	<b>January 2024</b> Commencement of Pilot Plant Operations	<b>April and May 2024</b> Investor Site Visits	<b>May 2024</b> Financing Agreement for 60% or Required CAPEX with China Construction Bank
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## Looking ahead

<b>Mid-Q3 2024</b> Preliminary Engineering Design	<b>August 2024</b> Firebird-Sunward Kiln Testing	<b>Late H2 2025</b> Commencement of Operations
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<b>October 2023</b> Strategic Cornerstone Investment by Canmax Technologies	<b>December 2023</b> Location For Battery Grade Manganese Sulphate Plant Secured	<b>March 2024</b> Strategic Partnerships Established with China Chemical and Hunan Chemical Engineering Design Institute	<b>May 2024</b> Completion of Highly Successful Feasibility Study	<b>June 2024</b> Progressing Critical Permits & Sunward Agreement
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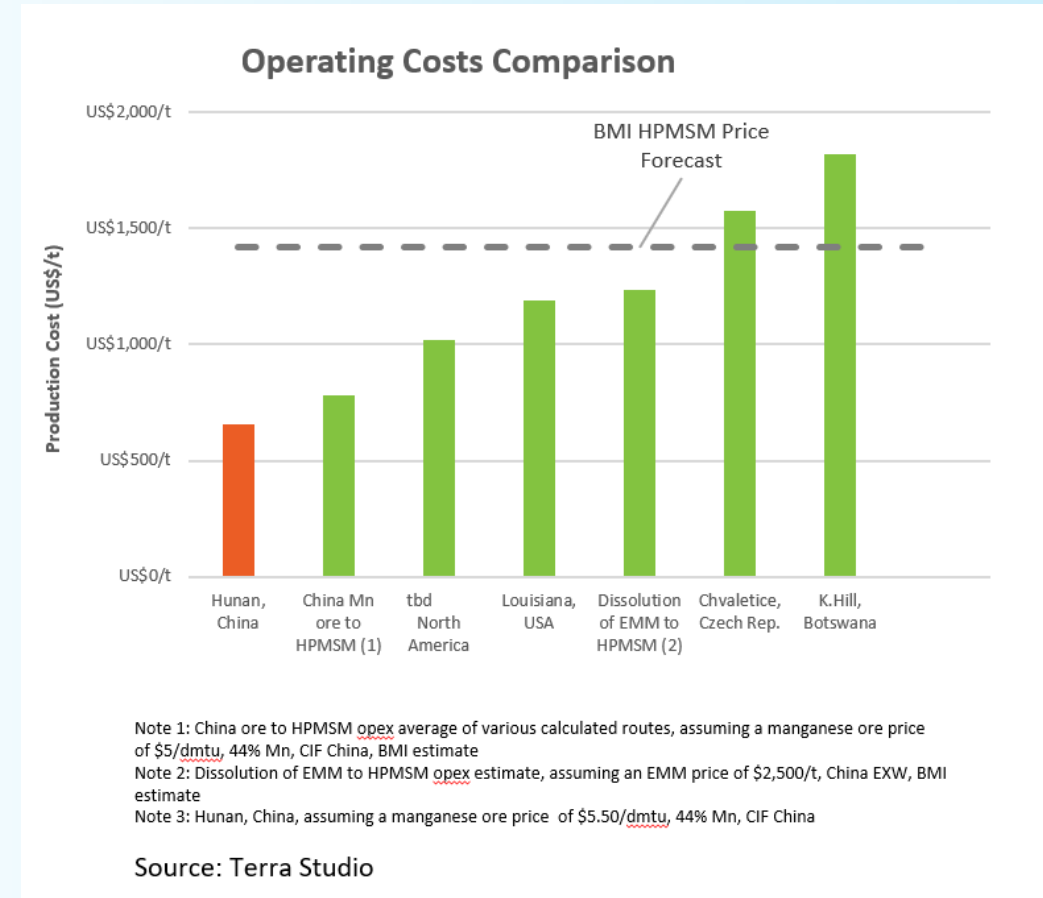


## Ongoing

**Government Support:** Jinshi Government continues to actively assist Firebird in the permitting process, offering substantial financial incentives, including a 62.5% land rebate in cash within 60 business days and six years of tax incentives from commercial production.

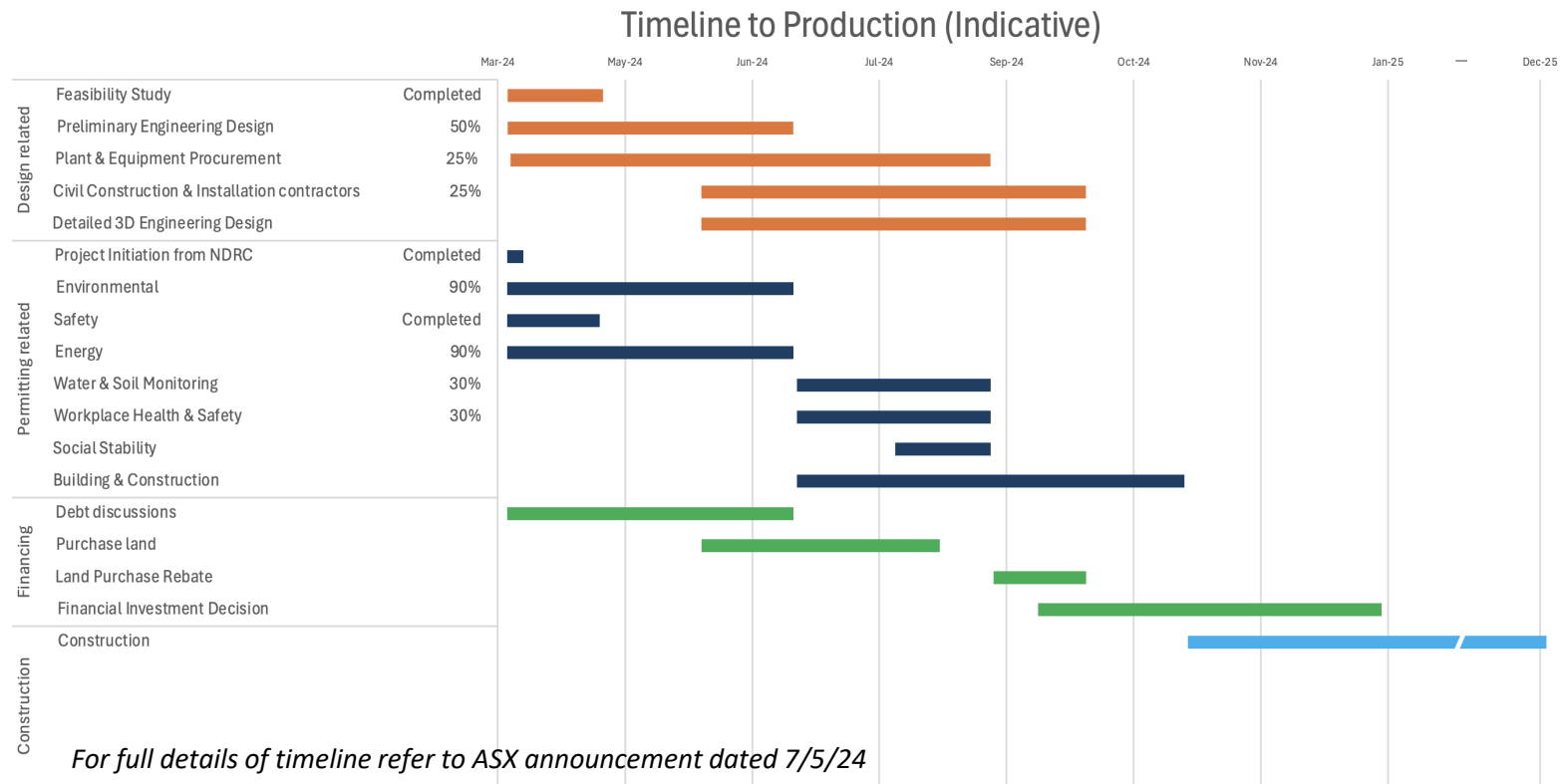
# STAGE 1 CHINA-BASED FEASIBILITY STUDY AND FINANCING

- **Feasibility Study confirmed unique opportunity to establish a near-term, highly competitive-cost, battery grade manganese sulphate operation.**
  - Projected CAPEX of US\$83.5M, working capital US\$10.7M
  - Plant Capacity: Battery Grade  $\text{MnSO}_4$  50kt/a &  $\text{Mn}_3\text{O}_4$  10kt/a or equivalent  $\text{MnSO}_4$  of 72.5kt/a
  - Environmentally friendly process with no wastewater and all residues consumed by cement plant
- **Significant cost, development and operational advantages through establishing operations in China**
- **FINANCING - Combined indicative and non-binding agreements for ~60% of the financing requirements for low-cost CAPEX of US\$83.5M:**
  - Non-binding indicative offer from **China Construction Bank to provide 50% of plant CAPEX requirements** (subject to conditions precedents), at very attractive terms plus 70% of required working capital
  - **Non-binding agreement with China Chemical to provide up to 20% of construction and installation costs** on a deferred payment basis, interest-free and repayable 12 months after the commencement of commercial production
  - **Binding Agreement with Jinshi local Government to receive a 62.5% rebate** (totalling ~US\$4.2 million) on the ~US\$6.8 million land purchase



# RAPID DEVELOPMENT PROGRESS BEING MADE ON-THE-GROUND IN CHINA

- Preliminary design work, R&D centre, equipment supplier due diligence & project permitting all being progressed at full speed
- Estimated permitting & design on track for completion by late Q3 2024
- European customer and investor site visits
- Formal advice from Jinshi Government & relevant departments confirming the process to repatriate profits and capital from operations in China - **Firebird successfully repatriated capital funds to Australia from China in early June**
- As further proof of the strong levels of support in China, Firebird will receive a preferential tax rebate for 6 years







## GROWING IMPORTANCE AND NEED FOR MANGANESE IN BATTERIES



# CRITICAL ROLE OF MANGANESE IN BATTERIES

## Traditional Uses

- Manganese has a long history of being a cathode material for batteries in the form of Electrolytic Manganese Dioxide (EMD)
- Current production market sizes are 482,000t in China and 107,000t for rest of the world

## Manganese Lithium-ion Batteries

- Mn is used in Li-ion batteries, including NCM, LMO and LMFP – due to significant benefits of LMFP, the use of this cathode mix is set for massive growth
- **Size and growth of LMFP market is potentially the largest in medium to long term (est. avg. 900kg of  $\text{MnSO}_4$  per 1 tonne of LMFP)**

## Na-ion Batteries

- Na-ion batteries inherently have lower density
- Sodium batteries contain around 30% Mn

**Research and advocates for manganese rich batteries is on the rise, due to manganese being abundant and relatively inexpensive compared with nickel and cobalt**

**Ford F150**  
65-95 kg/Mn



**VW ID.4**  
40-60 kg/Mn



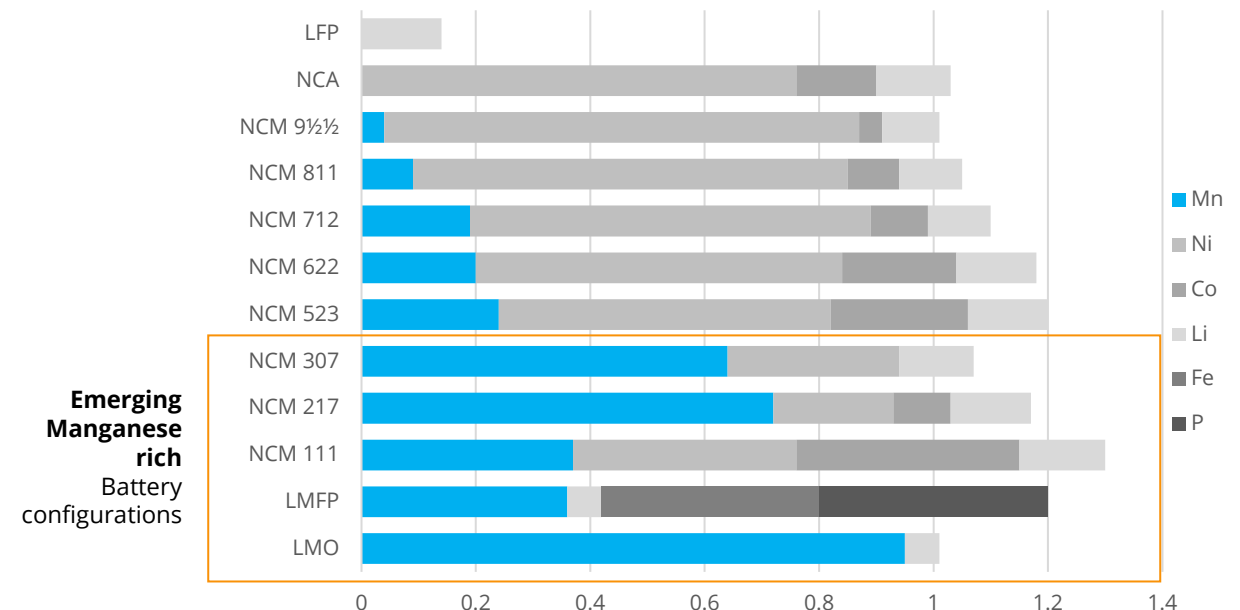
**Chevrolet Bolt**  
30-40 kg/Mn



Manganese content (kg) in per battery in each vehicle above

Source: Benchmark Mineral Intelligence

Indicative Metals Intensity By Battery Type



Source: Benchmark Mineral Intelligence and company research

# LMFP IS THE FUTURE CATHODE FOR EV BATTERIES



BYD's Chairman, Wang Chuanfu, emphasized the significance of their LMFP technology:

**"Our LMFP Blade Battery represents a significant leap forward in EV battery technology. We believe it will set a new standard for safety, energy density, and cost-effectiveness in the industry."**

Dr. Zeng Yuqun, Chairman of CATL, highlighted the importance of LMFP in their strategy:

**"LMFP technology is a key component of our next-generation battery solutions. It allows us to offer our customers a compelling combination of performance, safety, and cost, which is crucial for the mass adoption of EVs."**

Li Zhen, Chairman of Gotion High-Tech, commented on their LMFP strategy:

**"We see LMFP as a game-changer in the EV battery market. Our investments in this technology, both in China and internationally, reflect our confidence in its potential to meet the evolving needs of automakers and consumers."**

Yang Hongxin, President of SVOLT, stated in a press release:

**"Our LMFP technology represents a significant step towards more sustainable and high-performance batteries. We believe it will play a crucial role in the next generation of EVs, offering an excellent balance of cost, performance, and environmental considerations."**

Source: Giga-MANGANESE – The AWAKENING newsletter

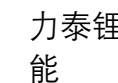
## EV manufacturers using LMFP



## Battery manufacturers using LMFP



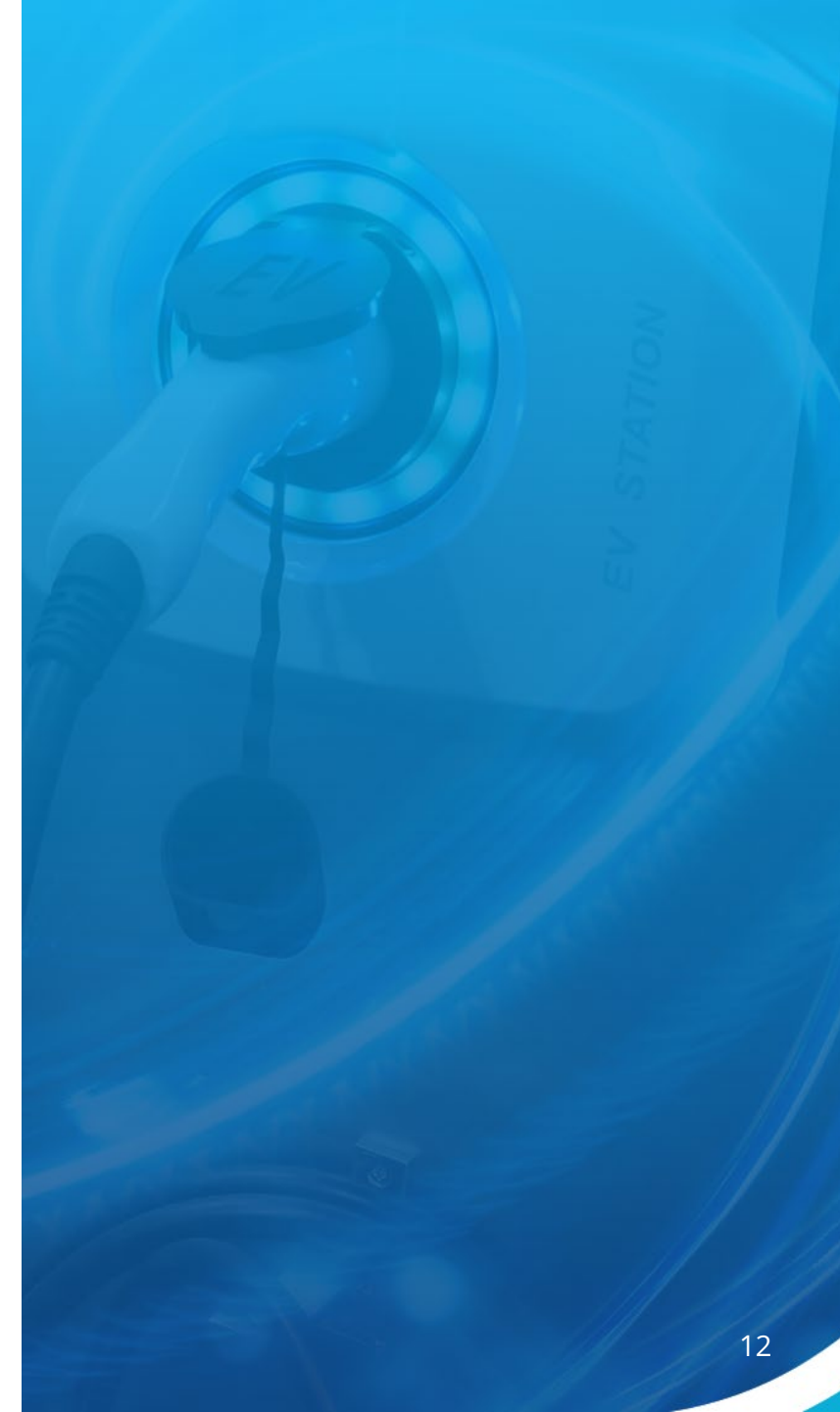
## Cathode material manufacturers using LMFP





# LMFP IS THE FUTURE CATHODE FOR EV BATTERIES

- Lithium Iron Phosphate (LFP) is the world's most used Li-ion cathode material for EV batteries
- Three critical key considerations for battery manufacturers when assessing and **developing a cathode mix is safety, cost and capacity**
- **Adding high purity manganese sulphate ( $\text{MnSO}_4$ ) to LFP, creates LMFP and delivers significant operational and safety benefits to a battery**
- **LMFP is an upgrade from LFP by introducing manganese to replace iron**
  - LMFP has a higher thermal run-away temperature than nickel-based batteries
  - LMFP costs approximately 30% of nickel-based batteries
  - Enhances the voltage platform and increases energy density by 15-20%
  - LMFP is flexible, used on its own or mixed with nickel-based batteries
- Soochow Securities forecast **LMFP will replace 50% of LFP batteries by 2030**
- Caitong Securities forecast **blending LMFP with nickel-based batteries in China to reach 30% by 2030**
- **Firebird is executing its LMFP battery strategy at the perfect time and will be well-positioned to supply into this rapidly growing market**





## CHINA OPERATIONS



# INDUSTRY LEADING MANGANESE PARTNERS

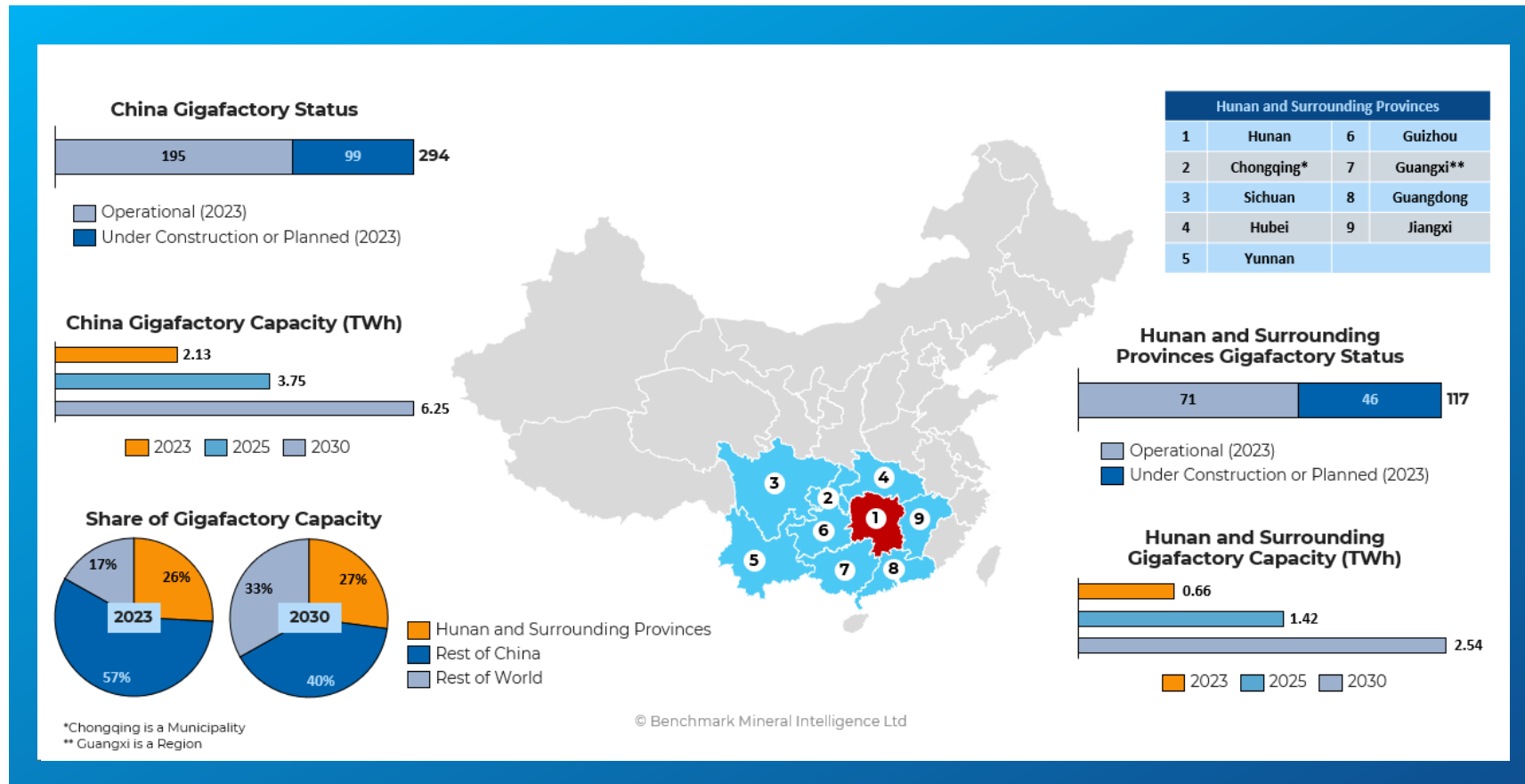
- Firebird's partners are leaders within their industries
- **Strategic Cooperation Agreement with China Chemical will deliver Firebird a significant amount synergies and advantages:**
  - China Chemical invested in and manages the Jinshi High-Tech Chemical Industrial Park, where the Company's plant and operations will be located
  - China Chemical has significant technical expertise and proven credentials in construction of chemical plants
  - China Chemical has the highest qualification for installation of chemical equipment
- **A dedicated technical team will be formed with China Chemical, once preliminary design work is completed**
- Hunan Chemical Engineering Design Institute (HCEDI) engaged to complete the Feasibility Study & Engineering Design
- **HCEDI is the leading  $MnSO_4$  project design institute globally and Firebird's in-country technical team have previously worked closely with HCEDI on several projects**





# OPERATIONS LOCATED IN THE EPICENTRE OF CHINESE $\text{MnSO}_4$ DEMAND

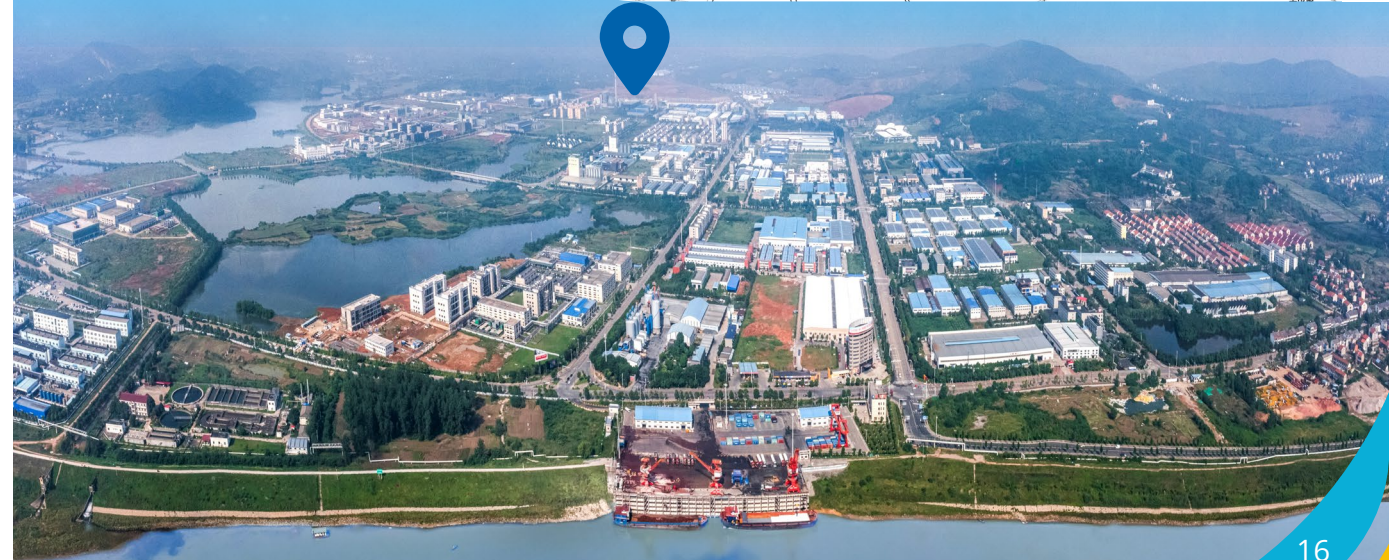
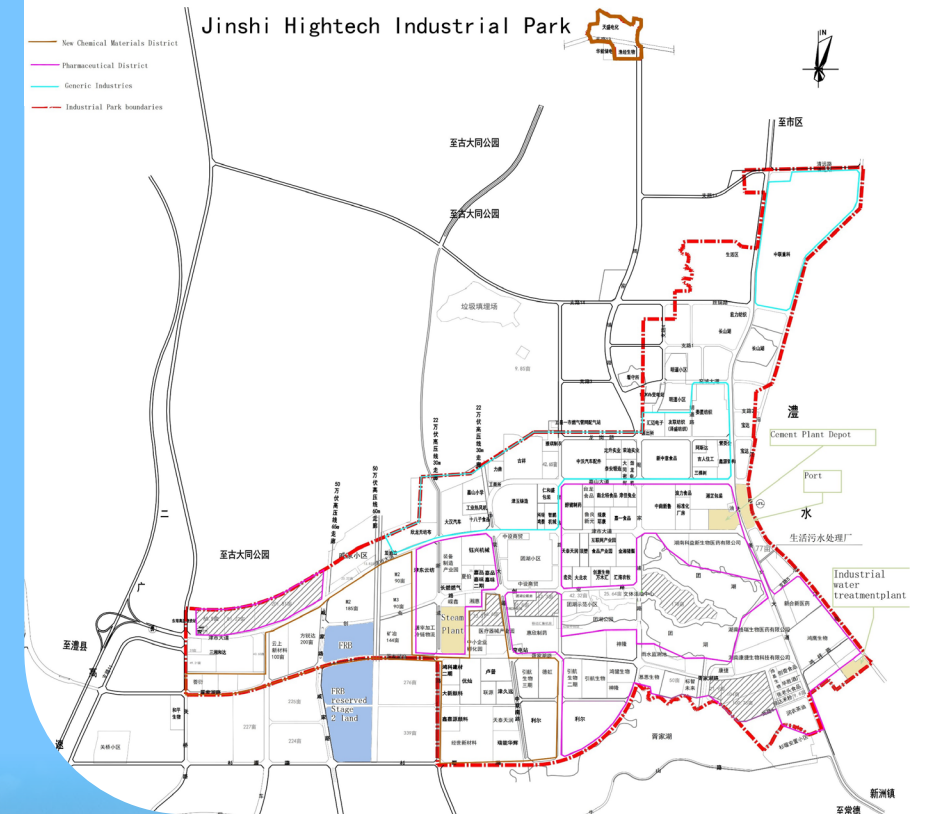
- Plant to be located in the world-class Jinshi High-Tech Industrial Park, Hunan Province, China
  - Strategic location and within close proximity (150km radius) to existing and potential customers - LFP capacity is just under 3Mt/a
  - Even if a fraction of conversion from LFP to LMFP is actioned, it will significantly exceed Firebird's production capacity



Source: Benchmark Minerals, Company Research

# JINSHI HIGH-TECH INDUSTRIAL PARK

- **The Park is ranked as one of the highest in the Hunan Province for its services and facilities**
- The Park is conveniently located on Lishui River, which connects onto the Yangtze River. The bulk terminal has a capacity of over 10 Mt/annum
- **Provides access to tier-one infrastructure such as a steam plant, dual power lines, water treatment plant, cement plant depot**
- **Attractive land price & tax incentive. Firebird has received better incentives than any other company in the Industrial Park** and qualifies for all Chinese domestic company grants
- **Strong support from local governments on foreign investment**
- Currently over 100 companies operate in the Park. Several new businesses have set up pilot plants within the development area and Firebird currently operates from the development area





**RAPID DEVELOPMENT PROGRESS BEING DELIVERED IN CHINA**



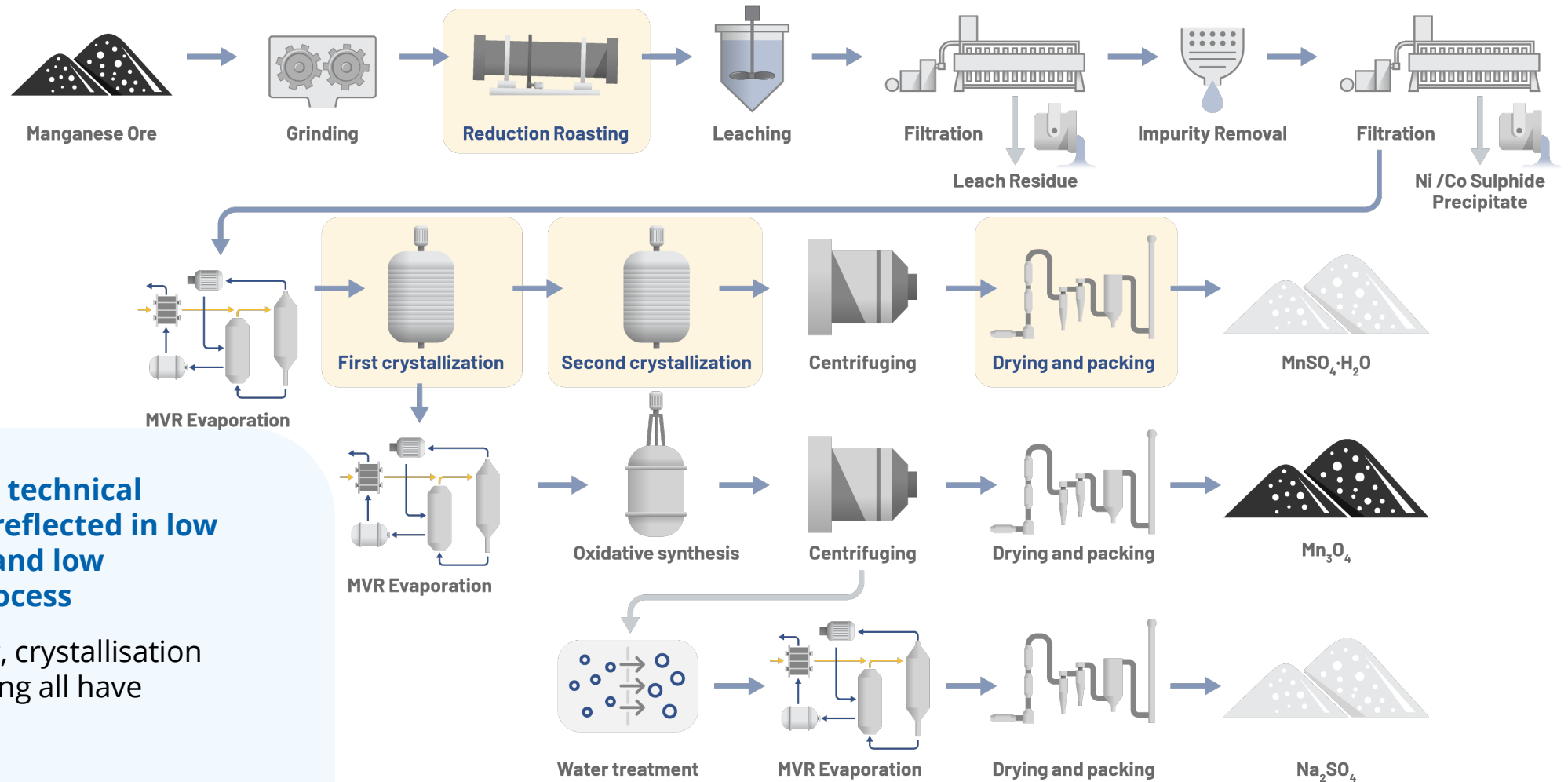


# R&D LAB COMPLETE, PILOT PLANT TRIALS UNDERWAY

- Firebird completed construction of the Research and Development lab in January 2024, ahead of schedule and under budget
- **Pilot Plant operational and producing samples of  $\text{MnSO}_4$  and  $\text{Mn}_3\text{O}_4$  for potential customers and offtake parties**
- Pilot Plant has design capacity to produce 10kg of battery-grade  $\text{MnSO}_4$  per day (can be increased to suit Company needs)
- The Pilot Plant will also be used to demonstrate the production process to financiers
- R&D lab will be used to complete testing on several other potential Mn rich precursor Cathode Active Materials (pCAM)
- [Video of Firebird Lab](#)



# HIGH-LEVEL PROCESS FLOW DIAGRAM - 50KTPA HIGH PURITY $\text{MnSO}_4 \cdot \text{H}_2\text{O}$ AND 10KTPA HIGH PURITY $\text{Mn}_3\text{O}_4$



- Firebird's Chinese technical team's expertise reflected in low capital intensity and low operating cost process
- Reduction roasting, crystallisation and drying & packing all have patents

# 5<sup>th</sup> GENERATION CONTINUOUS HIGH PRESSURE CRYSTALLISATION REACTOR IS WORLD LEADING

1<sup>st</sup>



**1<sup>st</sup> generation** Single effect evaporator  
• Indirect heating to concentrate solution

2<sup>nd</sup>



**2<sup>nd</sup> generation** Multi-effect evaporator  
• 60% energy use of 1<sup>st</sup> generation  
• Recycle residual heating to pre-heat incoming solution

3<sup>rd</sup>



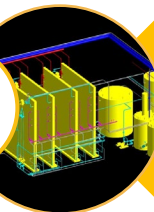
**3<sup>rd</sup> generation** MVR  
• 40% energy use of 1<sup>st</sup> generation  
• More efficient heating and recycle energy

4<sup>th</sup>

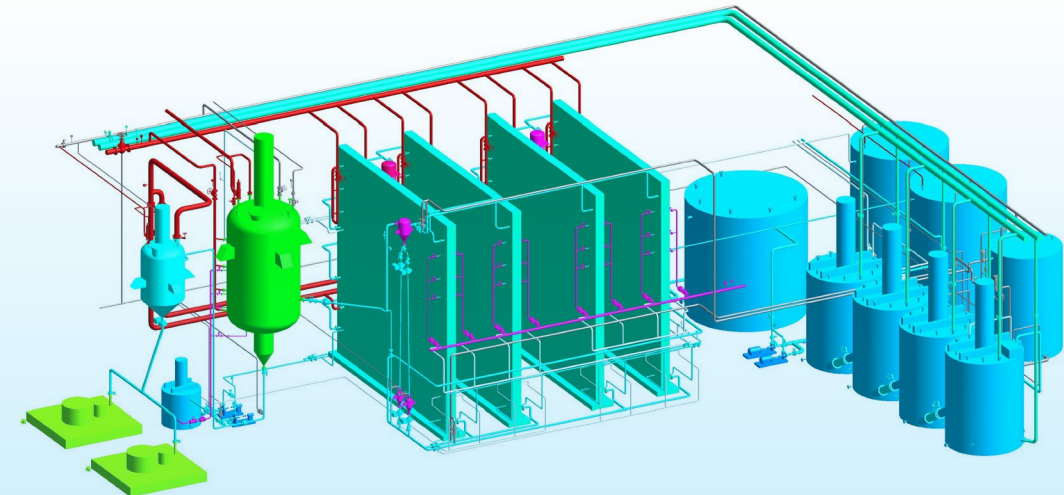


**4<sup>th</sup> generation** Single High pressure, high temperature reactor  
• 25% energy use of 1<sup>st</sup> generation  
• Like a pressure cooker, efficiency improved due to high

5<sup>th</sup>



**5<sup>th</sup> generation** (patent technology) Continuous high-pressure system, 8% energy use of 1<sup>st</sup> generation  
• 1/3 energy use of 4<sup>th</sup> generation  
• Based on 4<sup>th</sup> generation system, it operates continuously & residual energy is used in pre-heating feed solutions

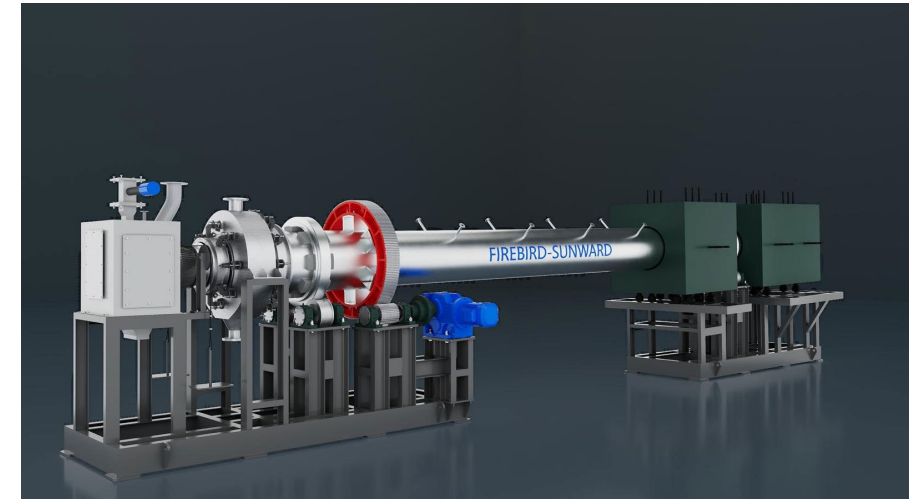
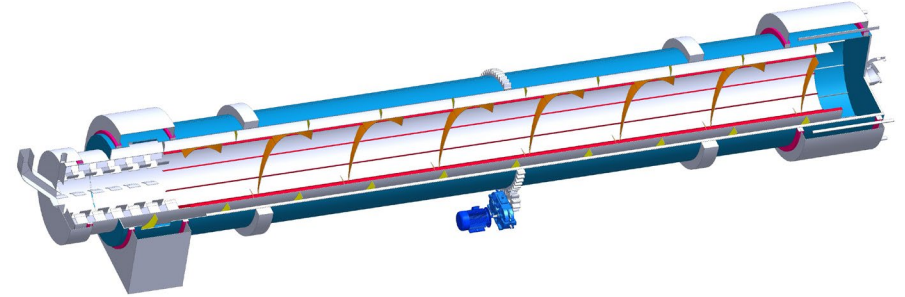


- Most Chinese companies currently using 1<sup>st</sup> to 4<sup>th</sup> generation
- **5<sup>th</sup> generation** is successfully used in Commercial Production



# CALCINING UNIT – SUNWARD AGREEMENT

- Conventional calcining technology consumes minimum 300kwh per tonne of feed, materials are heated to 900 degrees celsius and cooled down by using a combination of water and air - **energy is wasted during cooling**
- **Firebird's technology (patent application lodged) utilises heat from calcined material to pre-heat incoming material**, reducing energy usage by 80%, further enhancing the cost-efficiency of the Company's high-purity manganese plant
- **Development agreement signed with Zhongji Sunward Technology Co, Ltd ("Sunward"), a leading producer of rotary tunnel kilns used in many chemical plants across China**
- Energy Saving rotary kiln technology can be applied in various industrial applications
- **Sunward agreed to pay Firebird a 5% royalty on future sales revenue** and the Company retains the right to collaborate with other manufacturers
- **Sunward will fund 50% of the cost of a pilot plant which has a total cost estimate of US\$200,000** and is responsible for the detailed engineering design and manufacturing of the pilot plant
- Pilot plant construction is expected to be completed in August and data collected from testing will be used to inform the current project design



Detailed 3D Design of Firebird's Rotary Kiln

# ENGINEERING & PERMITTING - PROGRESSING AS PLANNED

- **Firebird currently focused on completing key preliminary engineering & civil work design works**
- **More than 50% of preliminary design work completed**
- Firebird has engaged several high-quality equipment suppliers
- Once completed, design work will be reviewed by relevant department for preliminary permitting of construction process
- Remaining critical Environmental and Energy permits are in the final stage of assessment
- **Safety permit awarded in May** which, along with Environmental and Energy, is required for construction and operation of the battery grade manganese sulphate plant
- **Government permitting is progressing rapidly**

	PERMIT	STATUS
1	Project Initiation Permit by the NDRC (National Development and Reform Committee)	Granted
2	Project Environmental Permit via the Environmental Impact Assessment (EIA) Document	EIA report complete and has gone through initial Expert Panel review; <b>Full approval expected imminently</b>
3	Project Safety Permit	Granted
4	Project Energy Permit via Energy Technology Evaluation Document	Energy consumption complete, has been lodged with Government and <b>expected to be approved in August 2024</b>
5	Water and Soil Monitoring Permit	30% complete, awaiting detailed design
6	Workplace Health and Safety Permit	30% complete, awaiting detailed design
7	Social Stability Permit	Work commenced
8	Building and Construction Permit	Following preliminary design



## OAKOVER PROJECT





# OAKOVER PROJECT



Over the medium to long term, Oakover will play an integral role in the delivery of Firebird's manganese battery material strategy

## Key Highlights

- Near-surface, gently dipping geology
- Metallurgical test work demonstrated saleable 30 - 32% Mn concentrate product achievable
- Hydrometallurgy test work demonstrated Battery Grade  $\text{MnSO}_4$  achievable
- Concentrate DMS Scoping Study – 18-year mine life, 1.2Mtpa with low strip ratio and mining costs

Mineral Resource Classification	Tonnes (Mt)	Mn (%)	Fe (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	P (%)
Indicated	105.78	10.1	8.9	39.2	9.8	0.10
Inferred	70.87	9.6	8.0	36.5	9.5	0.09
<b>Total</b>	<b>176.65</b>	<b>9.9</b>	<b>8.6</b>	<b>38.1</b>	<b>9.7</b>	<b>0.10</b>



# LARGE RESOURCE WITH STRONG GROWTH UPSIDE

- Through the successful exploration and development, Firebird has grown Oakover into a sizeable manganese project
- **Updated DMS Manganese Concentrate Scoping Study generated strong results and highlighted Oakover as a long-life, high-quality operation:**
  - **18-year Life of Mine**
  - **~A\$741.3 M NPV at a discount rate of 8%**
  - **Impressive IRR of 73.1%**
  - **CAPEX of A\$123M**
  - **Payback period of just 16 months**
- Company's primary focus is execution of the China-based battery grade manganese strategy. However, development and environmental work will continue over the next 18 months at Oakover, with key activities including:
  - Environmental surveys and studies
  - Diamond drill program for ongoing metallurgical test work
  - Pre-Feasibility Study metallurgical test work program
  - Hydrology/water monitoring
  - Finalisation of the Mining Lease Application, including native title and heritage negotiations

**Execution of these workstreams will see Firebird successfully deliver on its vision to become a global leader in the manganese industry, combining mining and downstream processing and building WA's next major manganese operation**



# INVESTMENT SUMMARY



## Proven Team

Leading experience across high-purity manganese sulphate development & production and growing projects through the mining lifecycle



## Leading Location

Stage one operations to be established in China, providing significant competitive advantages across key areas including cost, technology and financing



## Highly Competitive Cost Profile

Through building a plant in China, Firebird is on track to become one of the lowest cost battery grade  $\text{MnSO}_4$  producers by late 2025



## Environmental Benefits

Development of zero waste process through numerous synergies and commercial opportunities available through Chinese chemical parks



## Right Timing

The LMFP market is forecast to experience exponential growth and become a >\$US20 billion market by 2030

# ASX:FRB

Share price as of 1 August 2024	\$0.115
Shares on issue	142.36 M
Market capitalisation	\$16.4 M
Options @ \$1.00	12.0 M
Performance rights	2.2 M
Options @ \$0.30	12.5 M
Options @ \$0.40	12.5 M
Cash on hand (30 June 2024)	\$5.1 M

## Major Shareholders

Canmax Technologies	9.7%
Tolga Kumova	9.5%
Mining Equities	3.2%
Board (incl. related parties) & management	15.05%





**ASX:FRB**

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