

FIREBIRD METALS



CRITICAL MINERALS
AUSTRALIA
CONFERENCE & EXHIBITION

From Concentrate to Cathode: A Fully Integrated Western Battery Materials Platform

Critical Minerals Australia 2026 | 20 May, Perth, Western Australia
ASX: FRB

firebirdmetals.com.au

TRANSFORMING A FRAGMENTED, MULTI-FACILITY, MULTI-COUNTRY CRITICAL MINERALS AND BATTERY SUPPLY CHAIN INTO A SINGLE INTEGRATED PROCESS

Why Firebird, why now

Four catalysts converging behind a single, sovereign manganese-to-cathode platform.



World-first plant secured

Australian Demonstration Plant (ADP) site executed in Osborne Park, Perth. The only fully integrated manganese-to-CAM facility outside China.



A\$2M ARENA grant

Non-dilutive Federal Government funding via the Battery Breakthrough Initiative (BBI), independent technical and commercial validation of Firebird's IP.



Global patented IP through 2045

Five core LMFP patents under exclusive ex-China licence. Energy-saving kiln (-70% electricity) and 5th-gen crystalliser (-90% energy).



At the forefront of the cathode shift

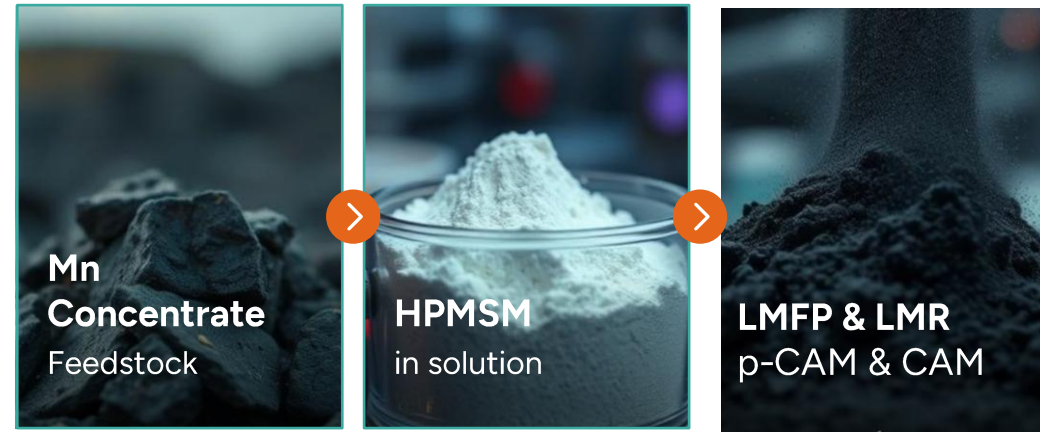
BYD Blade 2.0 (Mar 2026) validates LMFP at scale. GM and Ford committed to LMR. Manganese is moving from steel to batteries.

INTEGRATED PROCESS

From concentrate to cathode in one circuit



FIREBIRD PROPRIETARY MN CONCENTRATE TO CAM PROCESS



Sovereign western HPMSM & cathode production

Battery materials processing is concentrated in China. Western OEMs, energy storage developers and governments need an alternative.



TODAY

Concentrated, dependent supply chain

- ✓ Virtually all global battery materials produced in China
- ✓ Fragmented, multi-facility, multi-country processing
- ✓ Critical vulnerability for Western OEMs, ESS developers and governments
- ✓ Identified as a strategic priority across AU, US, EU, Japan, Korea

WITH FIREBIRD'S ADP

First credible Western pathway

- ✓ Only fully integrated Mn-to-CAM facility outside China
- ✓ First-tier mining jurisdiction (Australia)
- ✓ Aligned with AU Critical Minerals Strategy and Net Zero 2050
- ✓ Commercial pathway via licensing, JVs, equipment sales and CAM offtake

AUSTRALIAN DEMONSTRATION PLANT SITE SECURED



World First: concentrate to cathode in one circuit



- 

Energy-efficient

Patented kiln uses 70% less electricity. 5th-gen crystalliser uses 90% less energy than conventional single-effect evaporators.
- 

Capital-light

Removes conventional intermediate steps and inter-facility logistics, lowering capex and opex versus the standard split supply chain.
- 

Zero-tailings design

Modified Australian feedstock pathways and circular by-product recycling allow the ADP to operate as a zero-tailings system.

AUSTRALIAN DEMONSTRATION PLANT

A world-first, end-to-end manganese cathode facility

From manganese concentrate to high purity manganese sulphate to advanced cathode active material (CAM) in a single integrated process line, the first outside China.

1st

Outside China

100%

Integrated process

1st

Quartile of the
technology cost curve

150+

Batches outperforming
China Industry Standards

WHY IT MATTERS

De-risked

China-developed process know-how with Western engineering, safety and regulatory standards.

Proven

End-to-end process demonstrated across multiple campaigns at our wholly owned Hunan pilot plant.

Flexible

Ore-agnostic feedstock; circular by-product recycling for a zero-tailings system.

WHAT IT PRODUCES

HPMSM

High-purity manganese sulphate monohydrate.

p-CAM

Precursor cathode active material.

CAM

Finished LMFP and LMR cathode active material for OEM qualification, licensing and product sales.

Perth lease executed

Osborne Park

30 April 2026

Multi year lease over a 775 sqm purpose-fit facility, satisfying Milestone 1 of the ARENA BBI grant.

SITE SELECTION RATIONALE

- | | |
|--|---|
| ✓ Sufficient three-phase grid power (+ solar) | ✓ Proximity to engineering services and skilled workforce |
| ✓ Light industrial zoning aligned to planned activities | ✓ Excellent access for customer, OEM and investor site visits |
| ✓ Suitable building footprint, layout and scale-up flexibility | ✓ Capital-light pathway from demo to commercial deployment |

Source: ASX announcement, 30 April 2026

13 Sangiorgio Court

Osborne Park, Perth WA



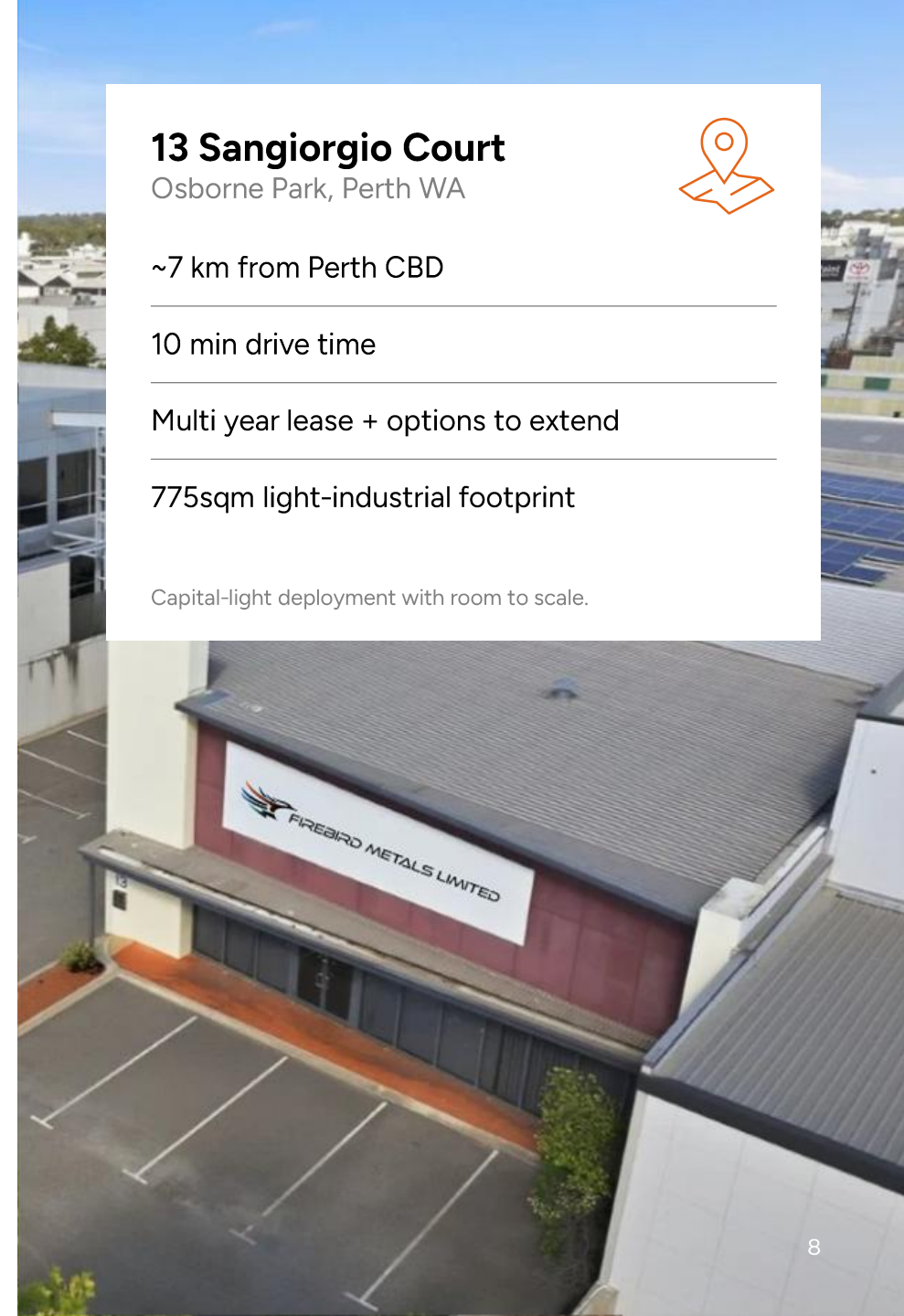
~7 km from Perth CBD

10 min drive time

Multi year lease + options to extend

775sqm light-industrial footprint

Capital-light deployment with room to scale.



Australian Demonstration Plant 2026 Development Timeline

ACTIVITY

Q1

Q2

Q3

Q4

IP Licence Agreement ✓



Federal Government Grant Funding ✓



Site Selection ✓



Equipment Order



Equipment Delivery



Site Readiness



ADP Commissioning



ADP Sample Production



Customer / Investor / Govt Site Visits



Australia Patent Application



China Pilot Plant LMR Development



AUSTRALIAN FEDERAL GOVERNMENT A\$2M GRANT SECURED



A\$2,000,000 ARENA grant secured

FEDERAL GOVERNMENT BACKING

Non-dilutive funding under the Battery Breakthrough Initiative, independent validation of Firebird's technology platform



A\$2.0M

ARENA grant funding

Non-dilutive • No IP rights granted • Matched 1:1 by Firebird

Battery Breakthrough Initiative

Federal Government Program | National Battery Strategy

WHAT THE GRANT VALIDATES

Technical viability

Independent technical review confirms the integrated manganese-to-CAM platform is credible and commercially relevant.

Strategic alignment

Direct fit with Australia's Critical Minerals Strategy, energy storage priorities and Net Zero 2050 commitments.

Commercial pathway

Endorses Firebird's pathway from pilot to demonstration to commercial scale, and the team executing it.

Acceleration

Funds equipment procurement, construction and commissioning across three milestones.

ARENA CEO Darren Miller: "...an important step toward building domestic capability to convert Australian manganese into battery cathode materials."

[Source: ASX announcement, 23 April 2026](#) ↗

THE INTEGRATED PROCESS

Delivering significant cost savings and exceptional performance metrics benchmarked against China Industry Standards

FIREBIRD METALS
LIMITED

TECHNOLOGY FOUNDATION

Proven, patented, ready to deploy

ADP de-risked by an operating pilot plant, an extensive patent portfolio and a sector-leading technical team

650 sqm

HUNAN
PILOT PLANT

Operating since Dec 2023
with multiple successful
concentrate-to-cathode
campaigns

5+1

LMFP &
KILN PATENTS

Five core LMFP patents
under exclusive ex-China
licence through 2045,
plus high-efficiency
electric calcination kiln
patent

+50 yrs

MANGANESE
EXPERTISE

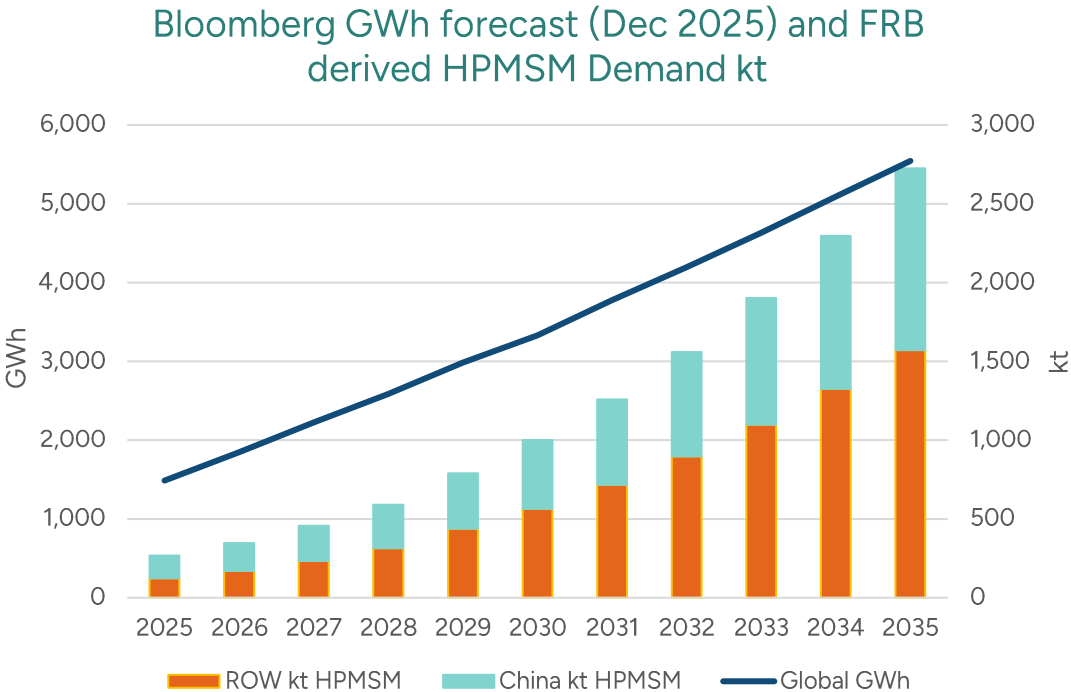
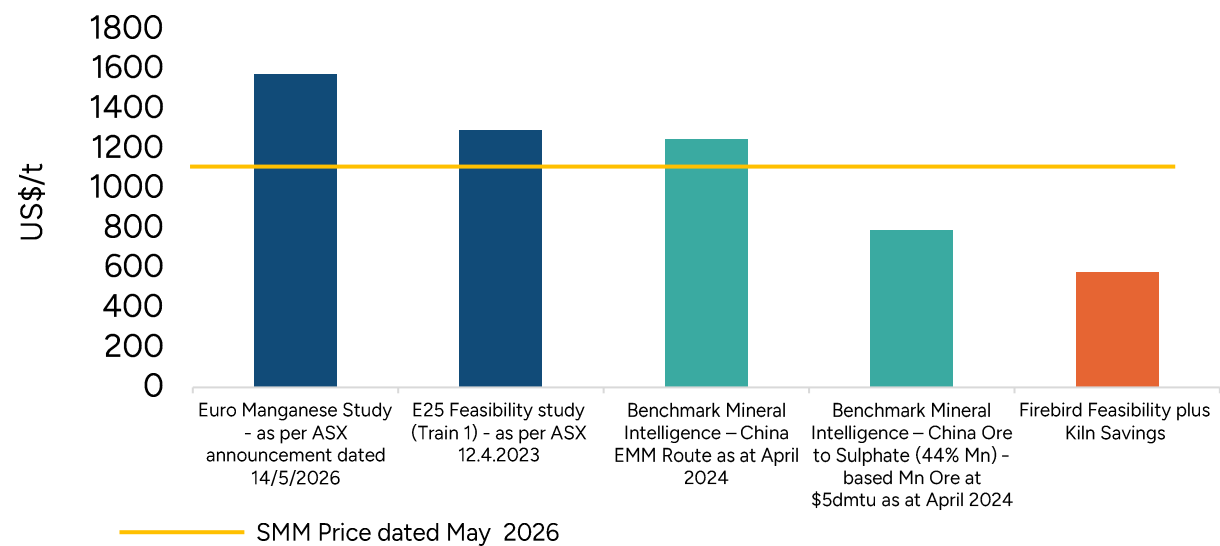
Combined manganese,
battery and resource
sector experience
across the team that
is unmatched in Western
markets



TECHNOLOGY POSITIONED ON THE FISRT QUARTILE OF THE COST CURVE IN A MARKET THAT IS GROWING SIGNIFICANTLY

Commercial Opportunity

US\$579/t¹ Firebird maintains the lowest OPEX among global manganese sulfate producers



THE MARKET DRIVERS



MARKET DRIVER

The shift to manganese-rich cathodes

Manganese is cheaper, safer, more abundant and supply-secure, and it is moving up the cathode mix

TODAY

LFP

Lithium Iron Phosphate dominates ~80% of cathode market.

EMERGING

LMFP

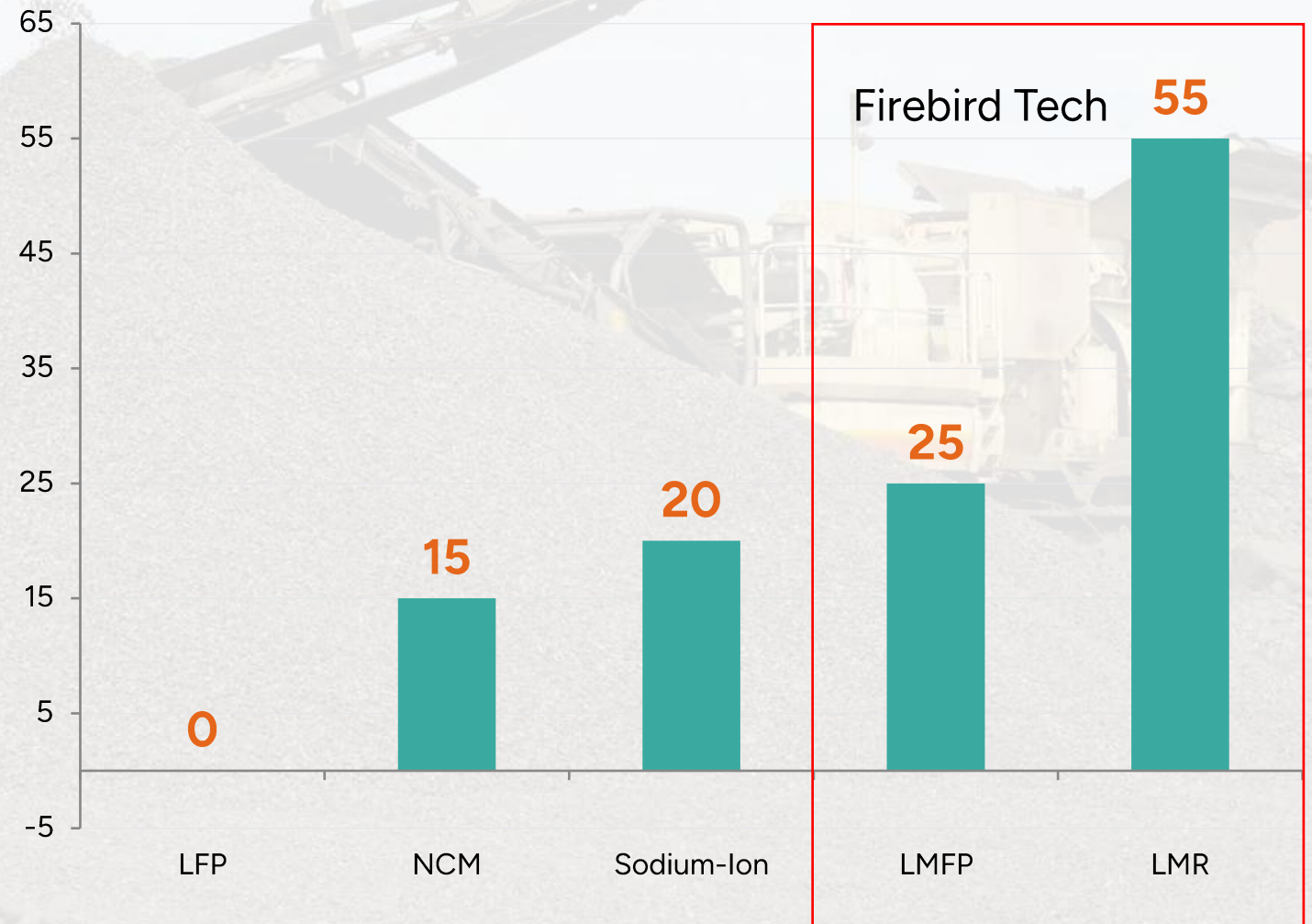
Lithium Manganese Iron Phosphate, rapid adoption from 2028.

THE FUTURE

LMR

Lithium Manganese Rich, mass adoption after 2030.

Manganese content of cathode (%)



MARKET VALIDATION

BYD Blade 2.0 validates the LMFP transition

March 2026: the world's largest EV manufacturer launches a next-generation LMFP cathode at scale

BYD BLADE 2.0

Next-generation LMFP performance

10% → 70% in 5 minute charge

10% → 97% in 9 minute flash charge

190 – 210 Wh/kg energy density

> 1,000 km single-charge range

~ 15% lower production cost



WHY THIS MATTERS

From technology shift to demand driver

BYD scale

4.55M vehicles sold in 2025; 25M+ BEVs cumulative, the world's largest EV manufacturer.

Western OEMs follow

GM and Ford have publicly committed to LMR cathodes to cut nickel and cobalt dependence.

Manganese demand step-change

Even modest LMFP/LMR adoption rates translate into significant new manganese sulphate demand.

MARKET DRIVER

LMR delivers ~1/3 the p-CAM raw-material cost

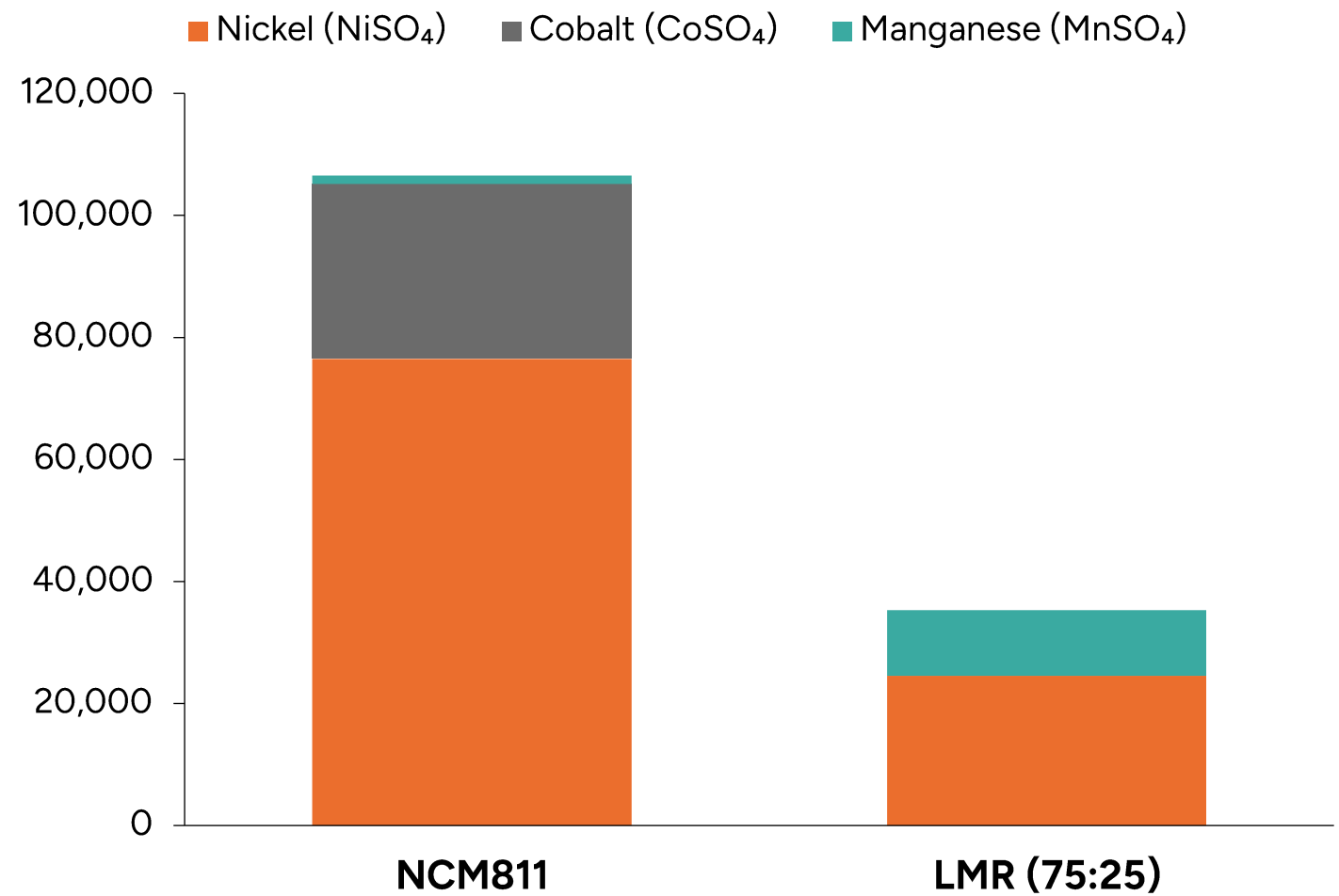
vs high-nickel NCM811; same high energy density at a fraction of the input cost

NICKEL
NiSO₄ NCM811: ¥76,494 → LMR: ¥24,525

COBALT
CoSO₄ NCM811: ¥28,637 → LMR: —

MANGANESE
MnSO₄ NCM811: ¥1,400 → LMR: ¥10,787

Raw-material cost per tonne of pCAM (¥)

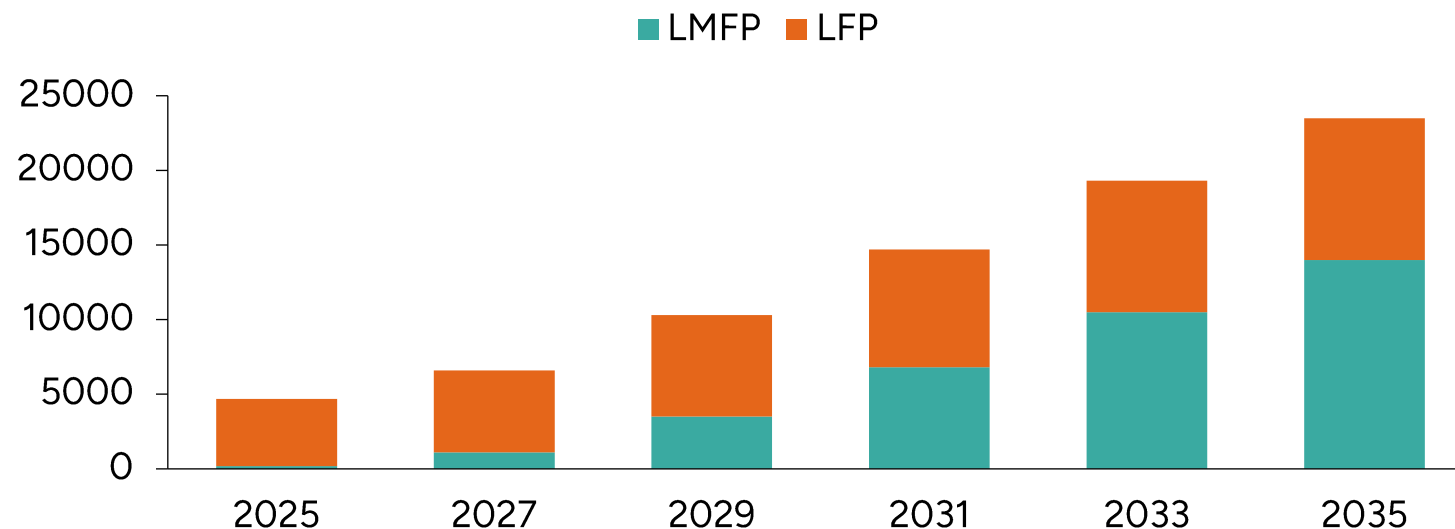


MARKET FORECAST

Manganese-rich cathode demand outpaces other chemistries

Within 10 years, battery-grade material is forecast to become the largest segment of the global manganese market

Forecast cathode demand (kt)



BY 2035

\$60B

p-CAM powders TAM

On a value basis, battery-grade material is forecast to become the largest segment of the global manganese market within ten years.

Sources: CRU, Project Blue, Traubenbach

EXPANSION INTO DEFENCE: A DUAL-USE CHANNEL FOR FIREBIRD'S MANGANESE PLATFORM ALONGSIDE CORE EV AND ESS MARKETS

Defence as a third channel

Four reasons defence is the right adjacent market for Firebird to enter now.



US\$2.9B addressable market

Defence battery TAM today, growing rapidly with drones, autonomous systems and electrified platforms. Manganese chemistries underrepresented, first-mover opportunity.



Sovereign supply chain credentials

Reduced reliance on nickel and cobalt. Aligned with US NDAA, DoD Battery Strategy and Australia's Critical Minerals Strategy. ADP delivers proof-of-concept platform.



Chemistry fits the spec

LMFP and LMR satisfy MIL-STD-810 and MIL-PRF-32383 on safety, thermal stability, cycle life and shock resistance. US DoD requirements are performance-based, not chemistry-specific.



Sector is moving fast

Sion Power's full pivot to defence (LG-backed, Mar 2026); Neo Battery MOU with ROK Army (Mar 2026); InterBattery Seoul 2026 named defence electrification its headline theme.

DEFENCE APPLICATIONS

Strong fit across the defence battery value chain

LMFP and LMR address distinct defence requirements, from low-cost attritable drones to high-energy missile-replacement systems.

Soldier systems

Portable power. LMFP for safety, durability and portability.

Remote power

Strongest LMFP use case — long-duration reliability for forward operating bases.

Swarm / attritable drones

Cost-driven, high-volume LMFP deployment for thousands of units.

Loitering munitions

LMFP for mass-attritable strike; LMR for high-performance, longer-range systems.

Military vehicles

Dual chemistry pathway — LMFP safety with LMR energy density for ground platforms.

Naval / submarines

LMFP thermal stability for safety-critical applications below deck.

Western chemistry. Sovereign supply.

Defence-ready platform

OAKOVER MANGANESE PROJECT

100% owned
Granted mining lease
176Mt JORC resource
Tier 1 mining jurisdiction



UPSTREAM SECURITY

100% Owned Oakover Manganese Project

234 Mt of manganese resources in Western Australia provides long-term feedstock optionality for the ADP

176.65 Mt

Oakover JORC Resource
@ 9.9% Mn

73%

IRR
(DMS scoping study, 2023)

A\$741M

NPV
@ 8% discount rate

18 yrs

Life of Mine

Source: ASX announcement, 23 March 2023 (Oakover Mineral Resource) ↗

Mineral resource estimate

Classification	Tonnes (Mt)	Mn (%)	Fe (%)	SiO ₂ (%)	Al ₂ O ₃ (%)	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
Total	176.65	9.9	8.6	38.1	9.7	0.10

HILL 616 +

57.5 Mt

@ 12.2% Mn (Inferred)

Total 234 Mt
across Firebird's WA portfolio.



LEADERSHIP & CORPORATE



LEADERSHIP

Sector-leading Australian-Chinese team

Over 50 years of combined manganese expertise paired with deep battery materials and capital markets experience

**Evan Cranston**

Executive Chairman

Mining executive; corporate & mining law background.

**Ron Mitchell**

Chief Executive Officer

25+ yrs commercial, strategy & BD; 15 yrs in lithium and battery materials.

**Wei Li**

Executive Director

Chartered Accountant; led commissioning of A\$150M EMD plant, Hunan.

**Ashley Pattison**

Non-Executive Director

Chartered Accountant; 20+ yrs in resources operations, finance & strategy.

**Brett Grosvenor**

Non-Executive Director

25+ yrs mining & power industry; engineering & MBA qualified.

**Ken Hoffman**

Special Advisor (Board)

Former Global Head of Battery Materials, McKinsey; battery value chain strategy.

**Peter Allen**

Key Consultant

20+ yrs marketing manganese, lithium and other commodities.

**Mr Zhou Qiyun**

China CTO

20+ yrs in Mn sulphate processing; MVR crystalliser design and patents.

**Mr Tang**

Chief Executive Officer

Mn sulphate plant operations & engineering; MVR commissioning and process optimisation.



Central South University partnership, global leaders in Li-ion battery materials processes; alumni founded BYD and Ronbay Technology.



Corporate Snapshot

Global technology platform



Scalable IP model designed in China, owned in Australia, deployable worldwide



\$0.195

Share price

19 May 2026



182.36 M

Shares on issue



\$35.93 M

Market capitalization



49 M

Options
@ \$0.3 to \$1.00



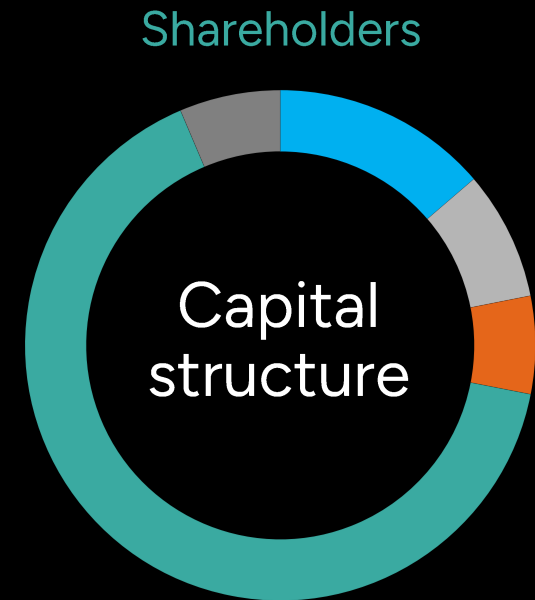
0.8 M

Performance rights



\$5.1 M

Cash on hand:
31 Dec 2025



Board & Management

13.64%



Tolga Kumova

8.14%



Westbeck Capital Management

6.40%



Canmax Technologies

6.20%



Other Shareholders

65.62%

WHY FIREBIRD

At the forefront of manganese battery innovation

A focused Australian processor pairing proven IP with the only Western fully integrated manganese-to-CAM facility



World-first ADP, secured

Perth lease executed, fit-out and equipment procurement underway.



Government-validated

A\$2M ARENA grant, non-dilutive, anchoring capital-light delivery.



Defensible IP to 2045

Five core LMFP patents under exclusive ex-China licence; high-efficiency kiln patent.



Multiple revenue paths

Licensing, JVs, equipment sales, HPMSM, p-CAM and CAM offtake.



Upstream optionality

234 Mt of WA manganese resources at Oakover and Hill 616, ore-agnostic flowsheet.



Demand-side validated

BYD Blade 2.0 at scale; GM and Ford committed to LMR; manganese demand inflecting

Concentrate. Process. Cathode.
All in one Australian facility

THANK YOU

Critical Minerals Australia 2026 | **20 May, Perth**
ASX: FRB

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IMPORTANT INFORMATION

Disclaimer

This presentation contains summary information about Firebird Metals Limited (Firebird) (ABN 24 610 035 535) and is current as of 20th May 2026. The information in this presentation is of a general background and does not purport to be complete. This presentation is not investment or financial product advice (nor tax, accounting or legal advice) and is not intended to be used for the basis of making an investment decision.

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This presentation contains certain “forward-looking statements”. Forward looking statements can generally be identified by the use of forward-looking words such as, “expect”, “should”, “could”, “may”, “predict”, “plan”, “will”, “believe”, “forecast”, “estimate”, “target” and other similar expressions. Indications of, and guidance on, future earnings and financial position and performance are also forward-looking statements. Forward-looking statements, opinions and estimates provided in this presentation are based on assumptions and contingencies which are subject to change without notice, as are statements about market and industry trends, which are based on interpretations of current market conditions. Forward-looking statements including projections, guidance on future earnings and estimates are provided as a general guide only and should not be relied upon as an indication or guarantee of future performance

This presentation contains statements that are subject to risk factors associated with Firebird and the mining exploration industry. It is believed that the expectations reflected in these statements are reasonable, but they may be affected by a range of variables which could cause actual results or trends to differ materially. Firebird disclaim any intent or obligation to publicly update any forward-looking statements, whether as a result of new information, future events or results or otherwise. To the maximum extent permitted by law, Firebird, their related bodies corporate (as that term is defined in the Corporations Act 2001 (Cth) and the officers, directors, employees, advisers and agents of those entities do not accept any responsibility or liability including, without limitation, any liability arising from fault or negligence on the part of any person, for any loss arising from the use of the presentation or its contents or otherwise arising in connection with it. This presentation has been approved by the Board of Firebird.

JORC COMPLIANCE

This presentation 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.

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

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, 5/6/24, 10/9/24, 12/9/24, 24/9/24, 2/10/24, 21/10/24, 28/10/24, 9/12/25, 10/2/25, 20/2/25, 18/3/25, 12/5/25, 24/6/25, 21/7/25, 30/7/25, 5/8/25

CAUTIONARY STATEMENTS 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.

IMPORTANT INFORMATION

Cautionary statements

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.