



At the forefront of critical metals for advanced manufacturing

May 2021

Summary

- Introduction
- Corporate Profile
- ASM Vision and Advantage
- Market Analysis
- Sustainable Business
- Delivering: A Secure, Stable and Sustainable Alternate Supply



Disclaimer

This presentation contains certain forward looking statements and forecasts, including possible or assumed reserves and resources, production levels and rates, costs, prices, future performance or potential growth of Australian Strategic Materials Ltd, industry growth or other trend projections. Such statements are not a guarantee of future performance and involve unknown risks and uncertainties, as well as other factors which are beyond the control of Australian Strategic Materials Ltd. Actual results and developments may differ materially from those expressed or implied by these forward looking statements depending on a variety of factors. Nothing in this presentation should be construed as either an offer to sell or a solicitation of an offer to buy or sell securities.

This document has been prepared in accordance with the requirements of Australian securities laws, which may differ from the requirements of United States and other country securities laws. Unless otherwise indicated, all ore reserve and mineral resource estimates included or incorporated by reference in this document have been, and will be, prepared in accordance with the JORC classification system of the Australasian Institute of Mining, and Metallurgy and Australian Institute of Geosciences.

Competent Person

Unless otherwise stated, the information in this presentation that relates to mineral exploration, mineral resources and ore reserves is based on information compiled by Mr D I Chalmers, FAusIMM, FAIG, (director of the Company) who has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Ian Chalmers consents to the inclusion in the presentation of the matters based on his information in the form and context in which it appears.

Corporate Profile

Capital Structure

Ordinary Shares	139.5 million
Share Price (7 May 2021)	A\$4.52
Market Capitalisation	A\$630.6M
52 week low/high	A\$0.84/\$6.84
Cash – pro forma post raising (April 21)	~\$100m
Enterprise Value	A\$530.6M
Average Daily Turnover (3 Months)	A\$3.0 million

Source: Bloomberg

Board

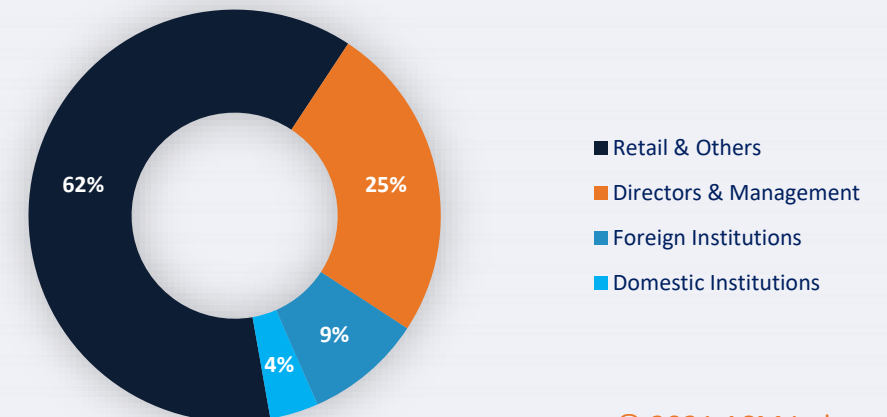
- **Ian Jeffrey Gandel** (Non-Executive Chairman) LLB, BEc, FCPA, FAICD
- **David Woodall** (Managing Director) BSc (Mining Eng) MSc (Mineral Economics) and Graduate Diploma (Business), Curtin University
- **Nic Earner** (Non-Executive Director) BEng (Hons)
- **Ian Chalmers** (Non-Executive Director) MSc, FAusIMM, FAIG, FIMMM, FSEG, MSGA, MGSA, FAICD
- **Gavin Smith** (Non-Executive Director) B.Com, MBA, MAICD



Share Price and Volume (6 Months)



Shareholders 31 December 2020



The Vision for ASM

Dubbo Project

Rare earths to Oxides

- Development of the long-life **Dubbo Project** in a tier one jurisdiction, to produce high-quality oxides of zirconium, rare earths, niobium and hafnium
- Current resource supports **extensive project life**
- ASM plans to develop Dubbo into a **net zero** carbon emissions project

Integrated Global Critical Metals Business

**Strategically located speciality Metals
Plants and downstream opportunities**

Development of ASM into an independent,
long-term, net zero-carbon supplier of
critical metals

Metallisation

Oxides to Critical Metals/Alloys/Powders

- To produce **high-purity metals** from oxides, using significantly less energy than conventional methods with significant environmental and cost benefits
- Develop Korean Metal Plant (KMP) in **key industrial zone** in Korea delivering directly into the growing Korean market
- Develop other metal plants in **strategic global locations**

External Sources

Feedstock to metal plants

The ASM Advantage



Integrated mine to manufacture business model

- Potential for Dubbo **oxide products** into the Company's **metal plants**
- Third party oxides, strategic plants provide further growth opportunities



Full value captured along the supply chain

- **Full value captured** as metals, alloys and powders delivered direct to manufacturing consumers
- Metal products can be **adjusted to demand** and customer specifications



Total Supply Chain Solution

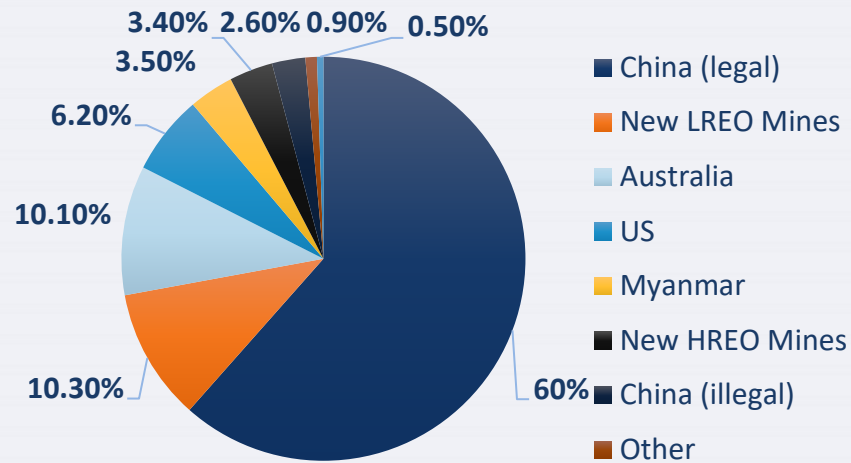
- Market opportunity for a competitive metals supplier outside the traditional supply chain
- Geopolitical and process **risk mitigation**

Market Analysis – Need for Diversity



Critical Materials Supply

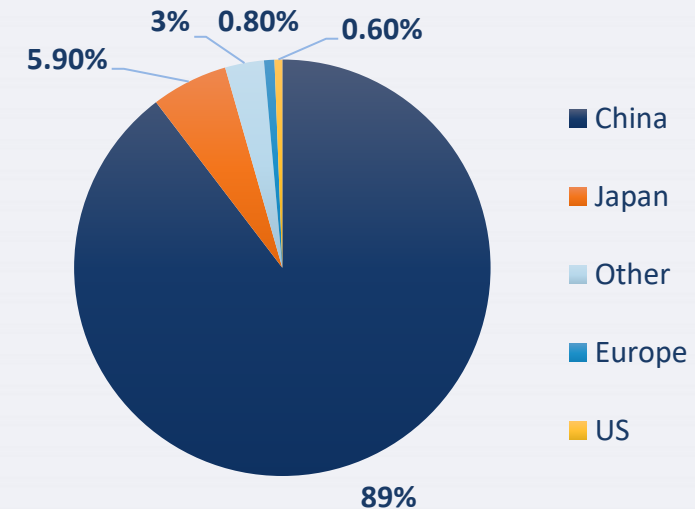
Projected Regional Production of Rare Earth Oxides (2030)



Forecast Production 2030: ~90 ktpa

Source: Adamas Intelligence

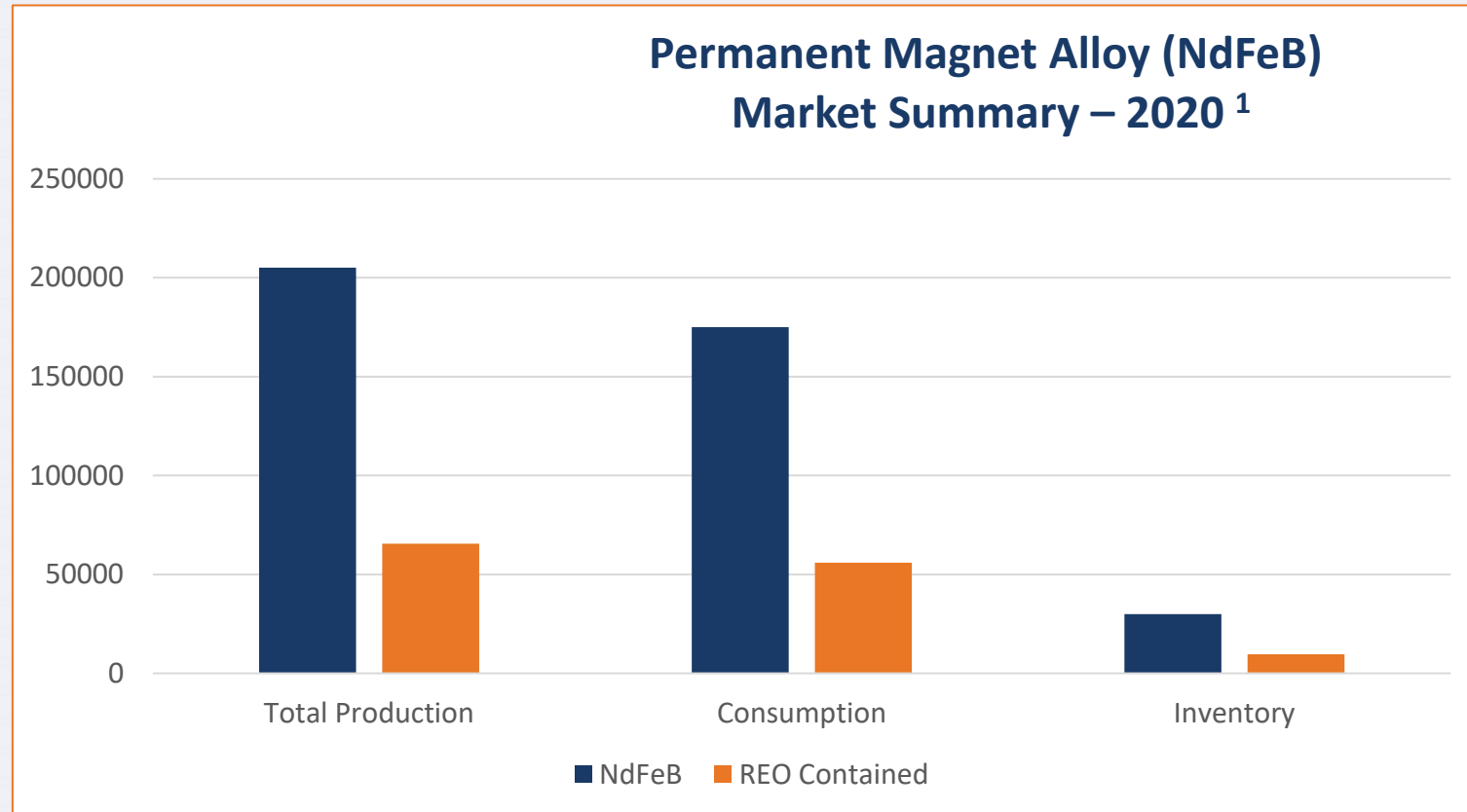
Projected Regional Manufacturing of Permanent Magnets (2030)



Source: Adamas Intelligence

- Production of oxides, metals and metal powders is **highly concentrated**.
- Suppliers of concentrates and oxides receive **discounted realised pricing** i.e. they are price takers.
- **Value maximised** where metals and powders are integrated within manufacturing i.e. the ASM strategy.

Market Demand for Permanent Magnet Alloy



Drivers of Demand for Permanent Magnet Alloy¹

Renewable energy

- Global record 93 GW of wind power generation installed in 2020 - a 54% increase year-on-year
 - 98% growth driven by China
 - 78% increase in the US

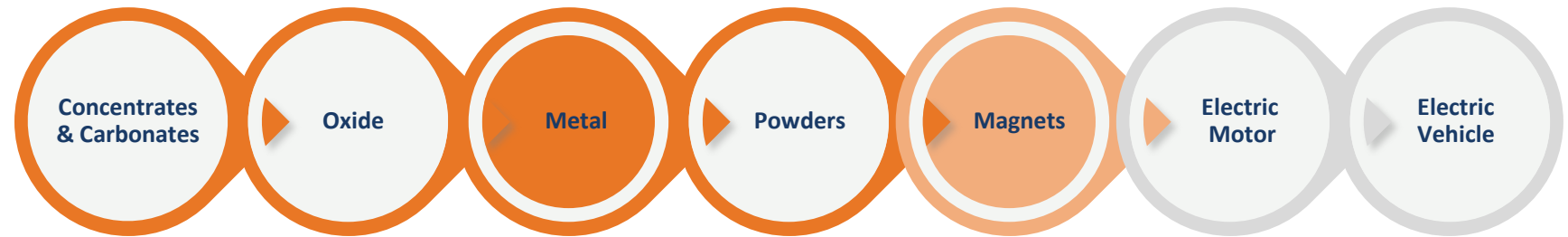
Passenger EVs

- 5.3 million passenger EV's sold globally a 16% increase year-on-year
 - Europe – 64% increase year-on-year
- NdFeB alloy in EV Traction motors – 31% increase year-on-year

Well positioned in the critical metals value chain



Opportunity for ASM to produce products direct to end users



Neodymium (US\$)

US\$5.89/kg¹

US\$99.88/kg²
less discount

US\$124.61/kg²

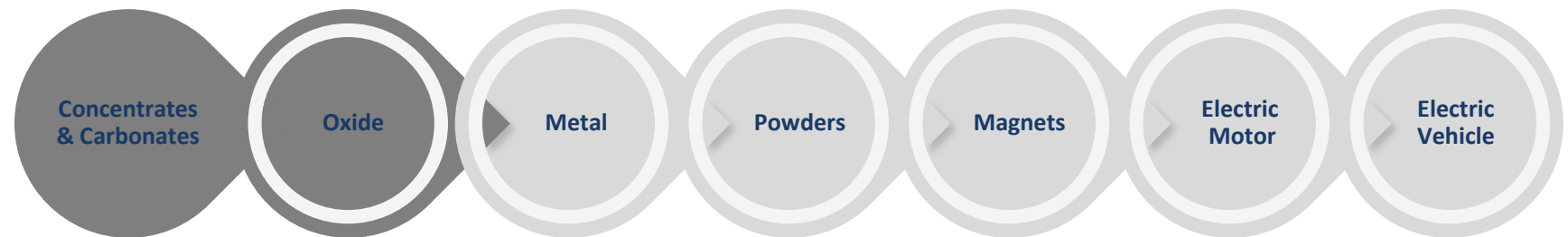
US\$140 to 190/kg²

US\$330/kg³

Non-Chinese producers

Oxides mostly sent to China and Japan

Concentrates and carbonates mostly sent to China



1. MP Materials average sale price REO March 2021
2. Adamas Intelligence – March 2021

3. Magnets sell for ~US\$100/kg but contain ~30% of Nd, giving Nd a price of ~\$330/kg

Advancing the strategy for sustainable growth

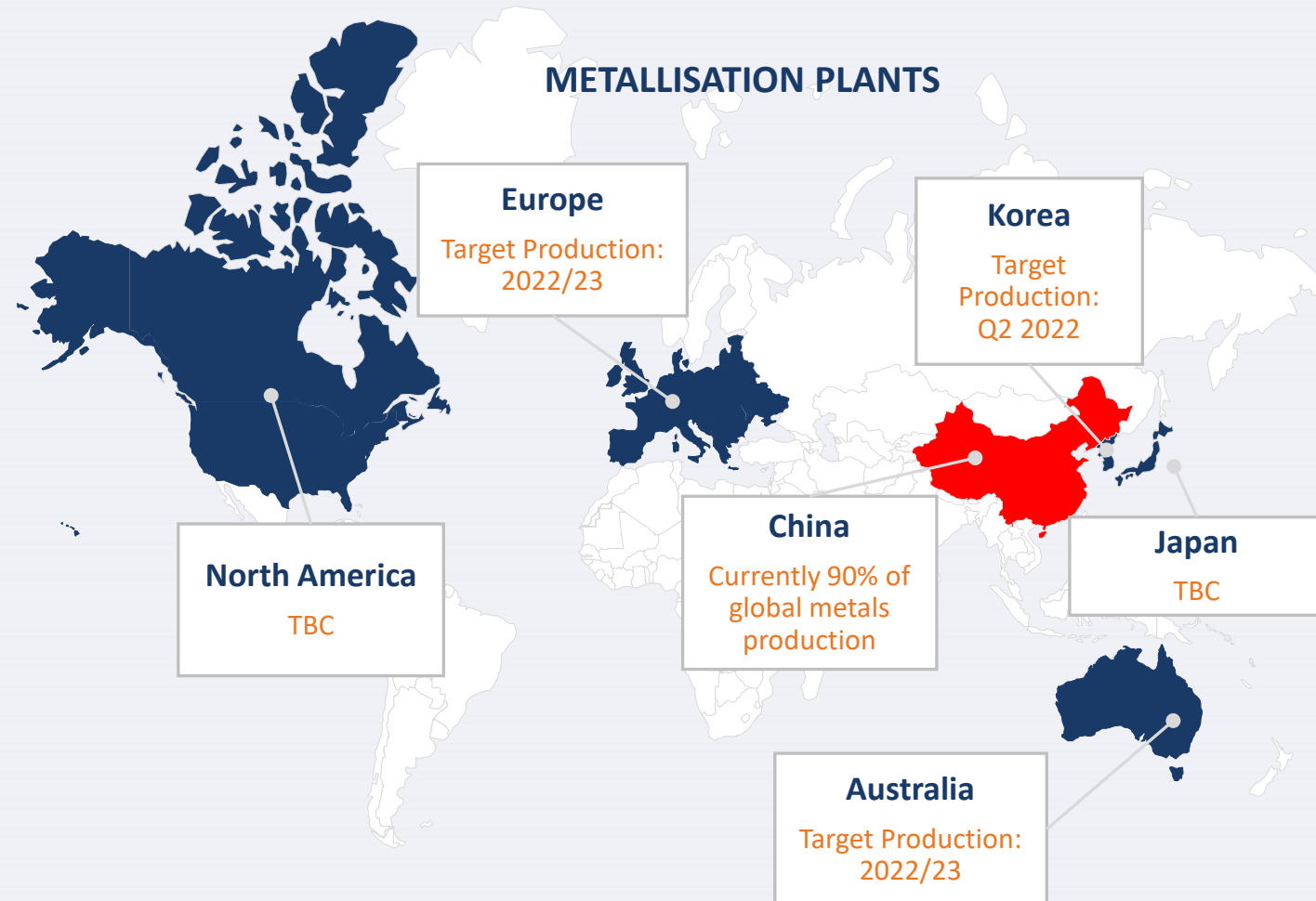
ASM is positioned to become a global, independent and integrated metals producer by 2025

Dubbo Project

- Optimisation study to be completed end of 1st half 2021, followed by Front End Engineering Design
- Metal offtake and financing agreements targeted for 2021
- Final Investment Decision on Dubbo by end of March quarter 2022, target production in 2024

Metallisation

- Detailed engineering on KMP (underway)
- Location of plant selected with Provincial Government MoU executed
- Metal production progress from mid-2021 to 5,200t metals facility by mid 2022
(see Scoping Study Announcement 2 March 2021)



A Truly Sustainable Business



A sustainable path from mine to manufacturing

Dubbo Project

Targeting zero carbon emissions

- Powered by large scale renewables, with energy co-generation from the processing plant

Minimising our environmental footprint

- Halved water usage through the mine design phase
- Progressive rehabilitation at the Dubbo mine

Community

- We engage our local community as a source of local job and business opportunities
- Our social investment program helps build community capacity and resilience



Metallisation

Commercialising a new metallisation process

- Ziron Tech innovation:
 - Titanium power consumption less than 30kW per kg versus 110kW for current industrial process
 - Neodymium – 220g CO₂ per kg
- **Environmentally responsible process** that recycles key inputs
- **No harmful waste** (compared to conventional production processes)

**Delivering:
Secure, Stable and Sustainable
Alternate Supply**



Accelerating ASM's Mine to manufacturing

- **The Q1 2021 equity raising provides sufficient funds to commence metallisation and to take Dubbo Project through detailed design and to FID and awarding of major EPC / EPCM contracts**
- **ASM will be positioned to commence revenue generation and earnings through:**
 - Conversion of KMP pilot plant into commercial production
 - Commencement of supply of critical metals and products to key suppliers in Q3 2021
 - Construction of KMP commencing H2 2021 (subject to FID)
 - Potential for significant cashflow generation from KMP in 2022
- **Next steps:**
 - FEED for the Dubbo Project
 - Financing agreements
 - Offtake agreements

From mine to manufacturing

Building a unique position across the critical metals value chain

Dubbo Project (100% ASM)

- **A long-life, quality, polymetallic project** in a tier one mining jurisdiction
- **Environmental approvals** and **ready for construction**
- **Attractive economics**
- **Sustainable source** of zirconium chemicals, rare earth elements, niobium and hafnium oxides, targeting net-zero carbon emissions

Metallisation

- **Ziron Tech (95% ASM)**: an innovative, patented and commercially proven process that delivers a step-change reduction in energy use, environmental impacts and costs
- **Korean Metals Plant (KMP) (100% ASM)** ASM's first proposed plant to produce high purity metals, alloys and powders
- **A springboard for proposed global expansion** in strategic locations, identifying **partnership opportunities** to push further downstream into magnets and other applications

The Vision for ASM: 2021 to 2025

Dubbo Project

Oxides Sourced

- Titanium
- Zirconium
- Rare Earths
- Ferro-niobium
- Hafnium

External Sources

ASM Integrated Global Metallisation Business

Metal Production

Metal Alloy,
Powders



Proposed
Production
2022



Proposed
Production
2022-23



Proposed
Production
2022-23



Proposed
Production
tbc



Proposed
Production
tbc

High Purity Metal Products

- Titanium
- Titanium Powder
- Titanium Alloy
- Permanent magnet alloy
- Dysprosium metal
- Terbium metal
- Zirconium metal
- Ferro-niobium
- Niobium
- Hafnium

Initial Korean plant proposed production - 5,200tpa

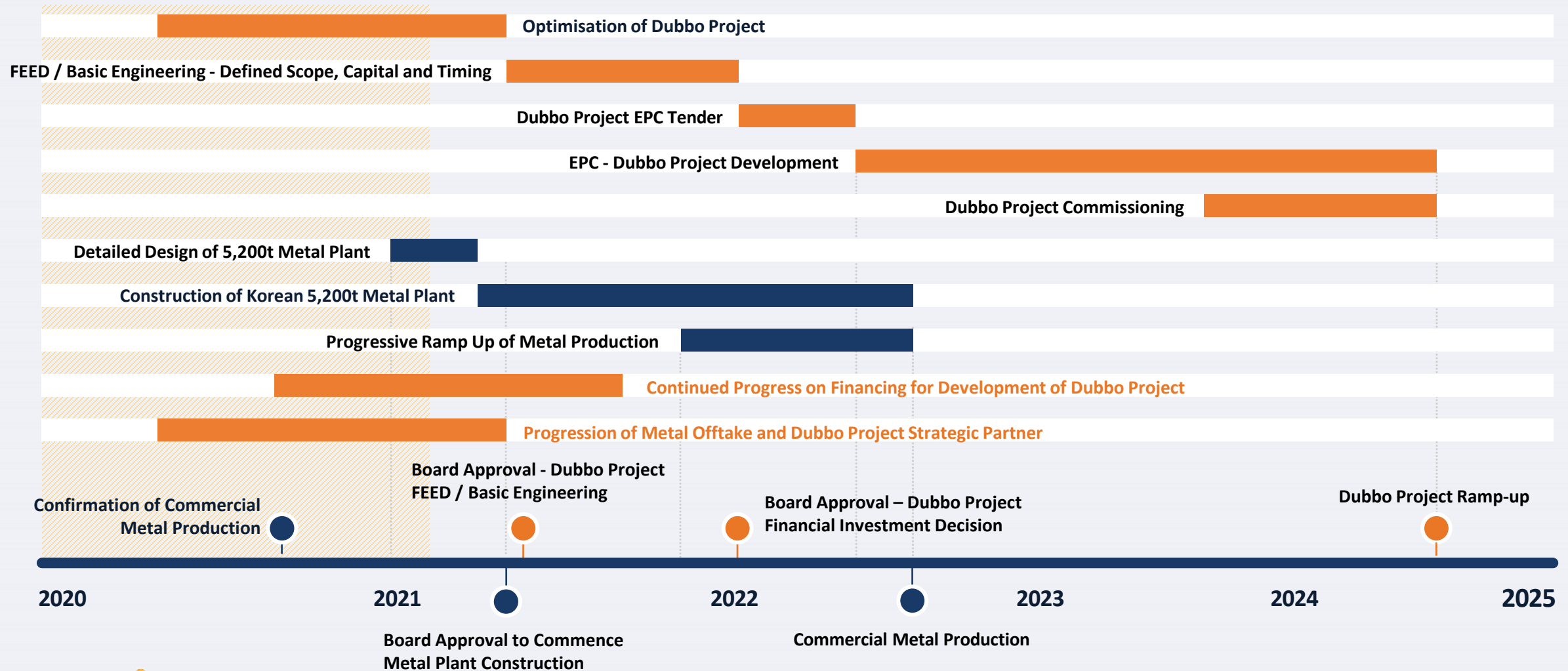
Progressing to Australia's Only Critical Metal Producer

Korean Metal Plant		
Metal Products	2021	2022
Titanium Metal	0t	380t
Titanium Alloy	0t	280t
Titanium Powder	500t	2,200t
NdFeB Alloy	40t	1,900t
Dysprosium	42t	72t
Zirconium		110t
Total Metal Production	582t	4,942t

- Detailed Engineering of Korean Metal Plant near completion
- Board has committed US\$ 9.9 million for the initial phase
- Commercial production from pilot plant (H2 CY2021)

Dubbo Project Optimisation Study
<ul style="list-style-type: none">• Significant opportunity for a third party to build, own, and operate a renewable power and chlor-alkali plant to supply Dubbo.• Potential Korean involvement in engineering and equipment manufacture – solidifying our partnership• Optimisation study completion planned for Q3 2021

Potential Timetable: Sustainable, Secure and Stable Supply





Dave Woodall

ASM Managing Director



asm-au.com



[ASM_au](https://twitter.com/ASM_au)

Dubbo Project Resources & Reserves

Dubbo Project – Mineral Resources

Resource Category	Tonnes (Mt)	ZrO ₂ (%)	HfO ₂ (%)	Nb ₂ O ₅ (%)	Ta ₂ O ₅ (%)	Y ₂ O ₃ (%)	TREO* (%)
Measured	42.81	1.89	0.04	0.45	0.03	0.14	0.74
Inferred	32.37	1.90	0.04	0.44	0.03	0.14	0.74
Total	75.18	1.89	0.04	0.44	0.03	0.14	0.74

*TREO% is the sum of all rare earth oxides excluding ZrO₂, HfO₂, Nb₂O₅, Ta₂O₅, Y₂O₃,

Dubbo Project – Ore Reserves

Reserve Category	Tonnes (Mt)	ZrO ₂ (%)	HfO ₂ (%)	Nb ₂ O ₅ (%)	Ta ₂ O ₅ (%)	Y ₂ O ₃ (%)	TREO* (%)
Proved	18.90	1.85	0.04	0.440	0.029	0.136	0.735
Total	18.90	1.85	0.04	0.440	0.029	0.136	0.735

*TREO% is the sum of all rare earth oxides excluding ZrO₂, HfO₂, Nb₂O₅, Ta₂O₅, Y₂O₃,

Note: Full details including Competent Person statements are included in the Company's annual governance statement in the Annual Report released to the ASX on 7 October 2020 - the Company confirms that it is not aware of any new information or data that materially affects the information included in that original market announcement and that all material assumptions and technical parameters underpinning the estimated Mineral Resources and Ore Reserves, as disclosed in that original market announcement, continue to apply and have not materially changed

