

# Rare Earths. Critical Minerals. High-Tech Metals.

31 October 2022

# Disclaimer & Competent Person's Statement

## Forward Looking Statements

This presentation contains certain statements which constitute “forward looking statements”. Often, but not always, forward looking statements can generally be identified by the use of forward looking words such as “may”, “will”, “expect”, “plan”, “believes”, “estimate”, “anticipate”, “outlook” and “guidance”, or similar expressions, and may include, without limitation, statements regarding plans; strategies and objectives of management; anticipated production and production potential; estimates of future capital expenditure or construction commencement dates; expected costs or production outputs; estimates of future product supply, demand and consumption; statements regarding future product prices; and statements regarding the expectation of future Mineral Resources and Ore Reserves.

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Information on likely developments in the Group's business strategies, prospects and operations for future financial years and the expected results that could result in unreasonable prejudice to the Group (for example, information that is commercially sensitive, confidential or could give a third party a commercial advantage) has not been included below in this presentation. The categories of information omitted include forward looking estimates and projections prepared for internal management purposes, information regarding the Company's operations and projects, which are developing and susceptible to change, and information relating to commercial contracts.

## Competent Person

The information in this Presentation that relates to ASM's Mineral Resources or Ore Reserves is extracted from ASM's ASX announcement titled “Information Memorandum and Demerger Booklet” released to ASX on 29 July 2020 and is available at [www.asx.com.au](http://www.asx.com.au). ASM 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 estimates in that announcement continue to apply and have not materially changed. ASM confirms that the form and context in which the findings of the Competent Person are presented have not been materially modified from the original market announcement.

## Previously reported information

Information prepared and disclosed under the JORC Code has not materially changed since last reported in Company's ASX announcements available to view on the Company's website. The Company is not aware of any new information or data that materially affects the information included in this presentation and confirms that the material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed.



# ASM

Building a global rare earths and critical minerals business to provide the high-tech metals needed to solve the challenges of today and the future.



# From mine to metals

## DUBBO PROJECT



Mining



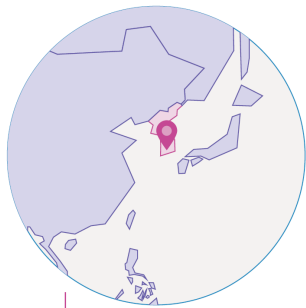
Separating  
& Refining



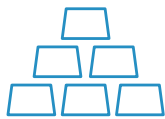
Products  
Metal oxides &  
mixed chlorides

Shipped to Korean Metals  
Plant & Global Customers

## KOREAN METALS PLANT



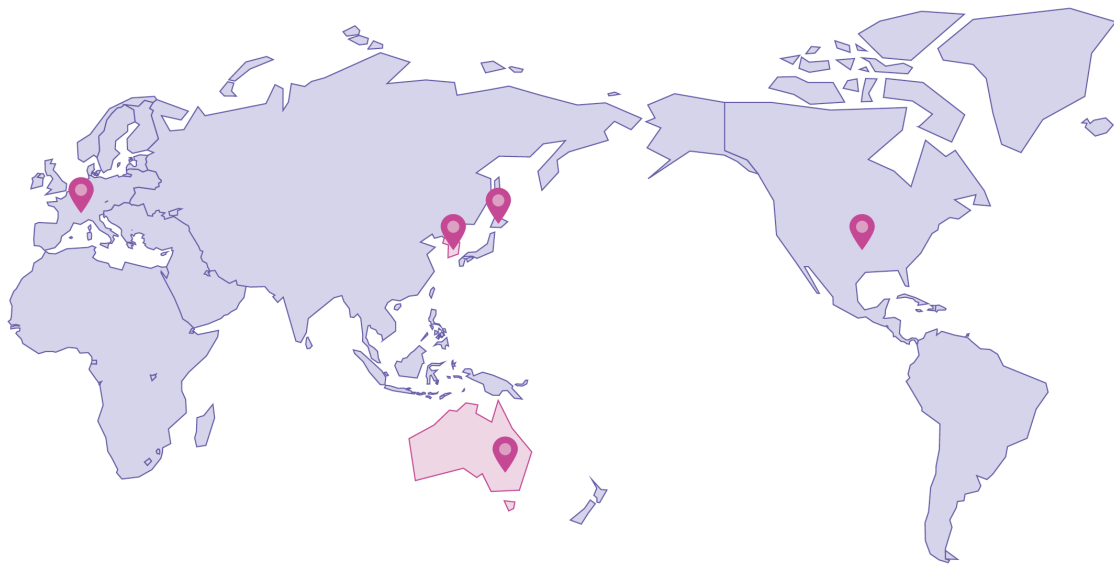
Metallising



Products  
High-tech  
metals & alloys

Shipped direct to  
Global Customers

## GLOBAL CUSTOMERS



Advanced  
manufacturing



New growth  
industries



Sustainable  
energy industries



Electric  
vehicles



Wind  
turbines



Semiconductors



Medical devices



Batteries

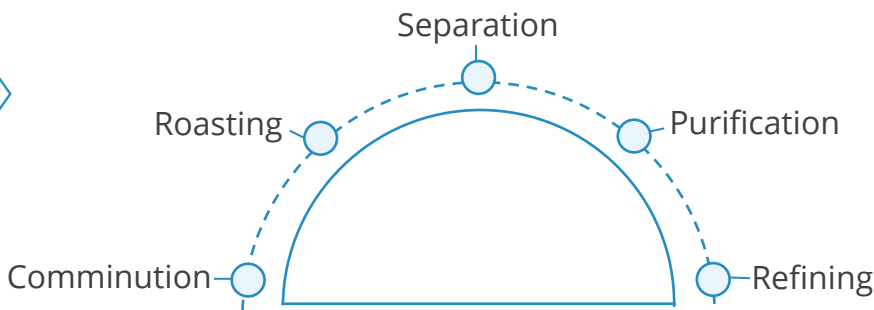
# Establishing an integrated supply chain

## DUBBO PROJECT

### Mining



### On-site Processing

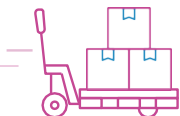


### Products

- Neodymium praseodymium oxide
- Terbium oxide
- Dysprosium oxide
- Zirconia
- Hafnia
- FerroNiobium

### Status

- Optimisation Study delivered
- Approvals in place
- EPC Definition awarded to HEC
- Engaging with strategic investors
- Securing offtakes



## KOREAN METALS PLANT

### Feedstock

3rd party feedstock until Dubbo Project on-line

### Metallising

Enhancing established processes

### Products

- Neodymium praseodymium metal
- Neodymium iron boron alloy

### Status

- Sales commenced
- Finalising alloy commissioning
- Building customer base

3rd party feedstock

Using innovative LK Process

- Titanium alloys
- Titanium powders

- Alloy development underway
- Building customer base

3rd party feedstock until Dubbo Project on-line

Developing innovative LK Process

- Terbium metal
- Dysprosium metal
- Zirconium metal
- Hafnium metal

- Future development



# Corporate profile

## Board of Directors



**Ian Gandel**  
Non-Executive  
Chair



**Gavin Smith**  
Non-Executive  
Director



**Nic Earner**  
Non-Executive  
Director



**Kerry Gleeson**  
Non-Executive  
Director

## Executive Management



**Rowena Smith**  
Chief Executive  
Officer



**Jason Clifton**  
Chief Financial  
Officer



**Julie Jones**  
General Counsel  
Joint Company Secretary



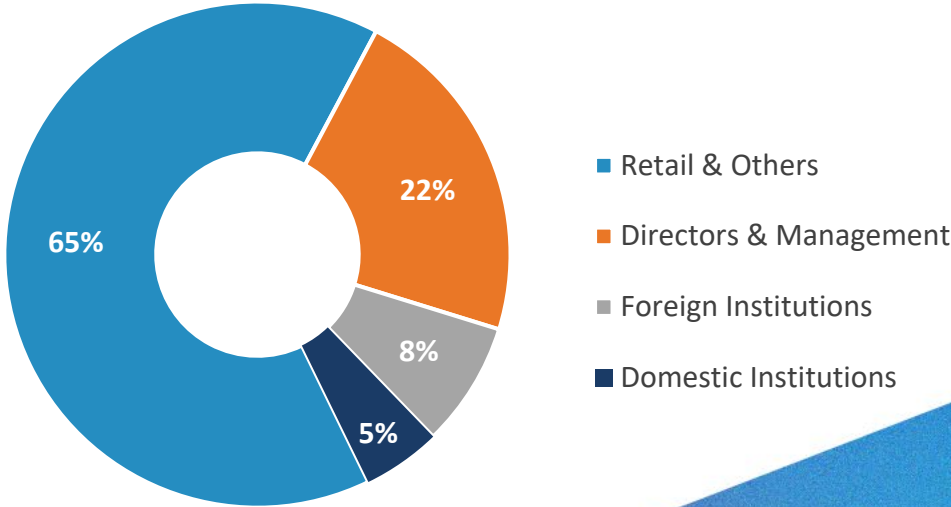
**Frank Moon**  
President, ASM  
Asia

## ASX:ASM

Ordinary Shares (m)	142.0
Share Price	AUD 2.15
Market Capitalisation	AUD 340m
52 week low/high	AUD 1.82 - 14.14
Cash (at 30 Sept 2022)	AUD 38.6m

Except where stated, all data is as at 27 October 2022

## Share register profile (at 30 Sept 2022)





# Sustainability

ASM wants to leave a legacy that delivers enduring benefits to the communities and regions where it operates.





# Compelling ESG credentials

People and community



Health and safety



Renewable energy



Biodiversity management



Water management



Emissions reduction



# Korean Metals Plant

Rare earths and  
critical minerals metallisation

From ground breaking  
to first delivery in 15 months





# Korean Metals Plant key facts



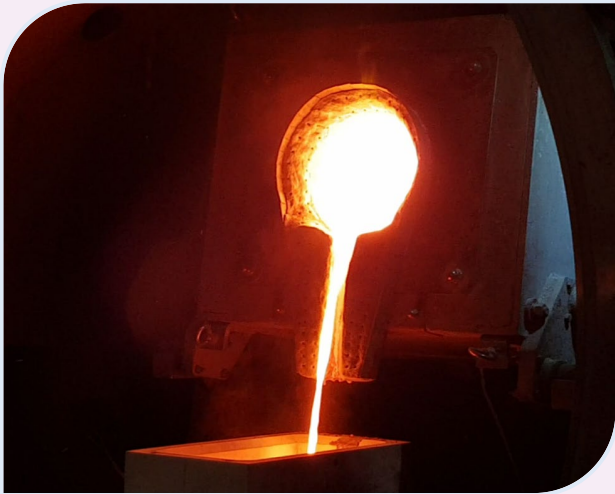
**Located in Ochang Foreign Investment Zone**

Approximately 115 kms south of Seoul, Korea

**Opened**   
12 May 2022

  
**Neodymium products initial focus**  
NdPr metal & NdFeB alloy

**Titanium alloys in development**   
CuTi alloy using LK Process





# Korean Metals Plant milestones and targets

## Milestones achieved

- ✓ Nov 2020 Acquired Ziron Tech<sup>1</sup> and R&D team joined ASM  
Progressed development of LK Process
- ✓ Mar 2021 Signed MOU with Chungbuk-do Province for KMP site<sup>2</sup>
- ✓ July 2021 Commenced construction
- ✓ Apr 2022 Completed construction<sup>3</sup>
- ✓ May 2022 Opened KMP<sup>4</sup>
- ✓ Jun 2022 Completed phase 1 equipment installation  
Secured KDB credit facility for AUD 24.4 million<sup>5</sup>
- ✓ Jul 2022 Commenced NdPr metal production and ramp up
- ✓ Sep 2022 Signed first sales agreement<sup>6</sup>  
Delivered first saleable product  
First CuTi production using LK Process

## Targets

- 2H 2022 Complete NdFeB strip caster commissioning  
Secure first sale NdFeB alloy
- 1H 2023 Ramp up production of NdFeB alloy to 600 tpa, aligned to sales
- 2H 2023 Install Phase 2 NdPr equipment for a NdFeB alloy capacity of 3,600 tpa  
Secure sales of CuTi alloy
- 1H 2024 Ramp up to 5,200 tpa production, aligned with customer sales (comprising 3,600 tpa NdFeB alloy and 1,600 CuTi alloy)

# Korean Metals Plant targeted financials

Targeted financials based on  
5,200 tpa production comprising:

3,600 tpa NdFeB alloy	+	1,600 tpa CuTi alloy	=	USD 40 million annual EBITDA	USD 270 million annual revenue
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## Assumptions:

- Final Production mix, revenue and EBITDA are estimates only and will be subject to customer demand and could include Nd, NdPr, CuTi and NiTi metals, NdFeB alloy or Ti powder.
- Reliable published benchmark data for KMP end products is not available. Raw materials and sales price assumptions are based on key raw material inputs from Argus (5 May 2022) and Adamas (April 2022) and ASM's assessment of achievable sales pricing. This remains uncertain until customer sales contracts are secured.
- A summary of risks is provided in ASX Release: 26 Oct 2022, *Quarterly Activities Report to September*.



# Dubbo Project

The right project,  
in the right place,  
at the right time.



# Dubbo Project key facts



## Close to established infrastructure

25kms from Dubbo, NSW Australia  
400kms northwest of Sydney



## Rare earths and critical minerals resource



## Advanced flowsheet

Developed in partnership  
with ANSTO over 16 years



## 20-year life of mine

Further 50 years of  
resource<sup>1</sup>



## Workforce opportunities

Up to 1,000 local jobs during  
construction

270 ongoing local jobs



## Construction readiness

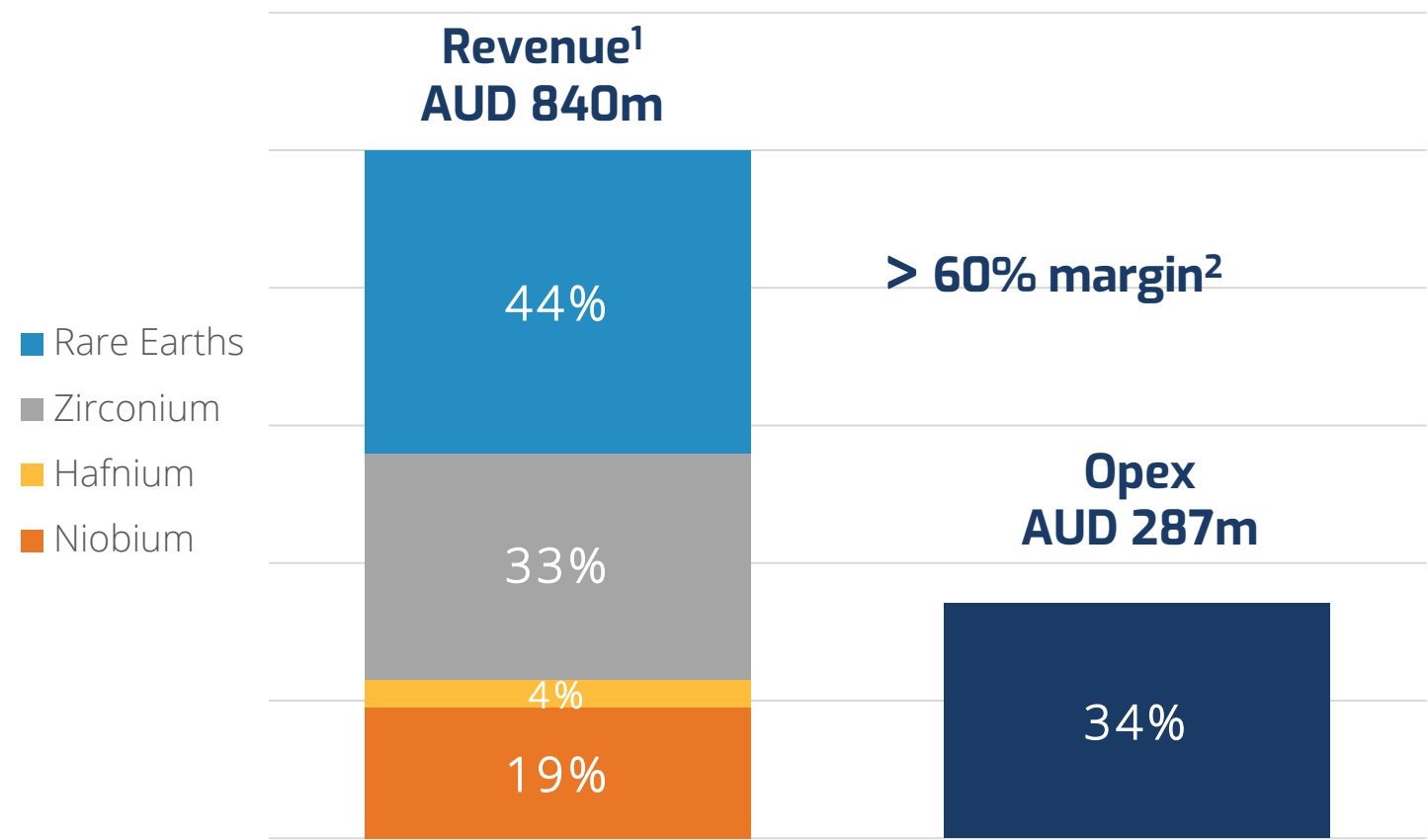
All major approvals in place  
Land and water licences owned



## Compelling ESG credentials



# Dubbo Project delivers strong financials



**23.5%**

Pre-tax IRR

**AUD 2,361 million**

Forecast pre-tax NPV

**AUD 425 million**

Annual Free cash flow¹

**AUD 1,678 million**

Capital cost estimate  
including contingency

Refer: ASX Release: 7 Dec 2021, *Dubbo Project Optimisation Delivers Strong Financials*.

All data and financial information on this slide is taken from the Optimisation Study Work. The Company confirms that the material assumptions underpinning the estimates in the Optimisation Study Work announcement continue to apply and have not materially changed. Key assumptions are: Exchange Rate (A\$:US\$) - 0.75; Discount Rate (real, post-tax %p.a.) 8.0%; Corporate Tax Rate (%) 30%, Long Term Real price assumptions used in the 2021 Optimisation Study table 9, capital estimates in section 13.4, and matters described in Annexure A.

¹This amount represents the average of years 7-10 in the Optimisation Study Financial Model.

²Margin is defined as revenue minus opex.

# Dubbo Project milestones and targets

## Milestones achieved

- ✓ Jun 2021 Received AUD 200m Letter of Support from Export Finance Australia<sup>1</sup>
- ✓ Jul 2021 Signed a conditional framework agreement with South Korean consortium (KCF)<sup>2</sup>
- ✓ Dec 2021 Finalised Optimisation Study Work<sup>3</sup>
- ✓ Dec 2021 Signed a Joint Statement of Cooperation with KOMIR<sup>4</sup>
- ✓ Feb 2022 Received Lol from K-Sure to consider Project for export credit support<sup>5</sup>
- ✓ May 2022 Received USD 15m from KCF Energy  
Revised the conditional framework agreement with KCF and removed exclusivity<sup>6</sup>
- ✓ Jun 2022 Awarded EPCD contract to HEC<sup>7</sup>
- ✓ Sep 2022 Signed non-binding MoU with KDB to establish a rare earths global supply chain<sup>8</sup>

## Targets

- 2H 2023 Secure bankable offtakes  
Equity from strategic partner(s) /government(s)  
HEC commence EPCD work  
Commence Korean and Australian ECA covered debt process
- 2H 2024 HEC complete EPCD work and submit EPC offer  
Complete Project Financing  
Take FID  
Award EPC  
Commence construction
- 2H 2026 Complete construction
- 2027 First production and revenue

<sup>1</sup>ASM ASX Release: 28 Jun 2021, *Export Finance Australia issues letter of support for the Dubbo Project* / <sup>2</sup> ASM ASX Release: 7 Jul 2022, *ASM signs \$US250m framework agreement with South Korean consortium for 20% in Dubbo Project and offtake from Korean Metals Plant* / <sup>3</sup> ASM ASX Release: 7 Dec 2021, *Dubbo Project Optimisation Delivers Strong Financials* / <sup>4</sup> ASM ASX Release: 14 Dec 2021, *Joint Statement of Cooperation on Critical Metals signed between ASM and KOMIR (KORES)* / <sup>5</sup> ASM ASX Release: 29 Apr 2022, *Quarterly Activities Report to 31 March 2022*. Note: the Lol is now expired, but parties continue to explore opportunities for K-Sure to support ASM. / <sup>6</sup> ASM ASX Release: 16 May 2022, *USD 15 million Subscription Agreement at AUD 8.90 per ASM share* / <sup>7</sup> ASM ASX Release: 9 Jun 2022, *Hyundai Engineering Co., Ltd. awarded conditional contract for design work for the Dubbo Project* / <sup>8</sup> ASM ASX Release: 23 Sep 2022, *ASM signs MOU with Korean Development Bank for rare earths supply chain*



# Dubbo Project funding structure

## PROJECT FINANCING

### Equity

- Targeting Korean and global partners
- Exploring government participation

### Offtake

- Korea
- United States
- Japan
- Europe

### Debt

- Targeting Korean ECA (K-Sure/KEXIM) funding guarantee
- Syndicate banks
- EFA Letter of Support AUD 200m
- ANZ appointed as lead advisor



# Dubbo Project diversified revenue

Dubbo Products	Production	Revenue	Potential end users
Nd/Pr Oxide Tb Oxide Dy Oxide	1,342 tpa 22 tpa 142 tpa	<b>44%</b> Rare earths	GM Hyundai Marubeni Noveon NS World Samsung C&T Tesla Other OEMs
Zirconia Dehafniated Zirconia	13,500 tpa 2,500 tpa	<b>33%</b> Zirconium	ATI Framatome Gulbranson Imerys Itochu Iwatani KNFC LG Westinghouse
FerroNiobium	2,650 tpa	<b>19%</b> Niobium	Hyundai Steel Nippon Steel Blue Scope Steel Arcelor Mittal SeAH Steel POSCO Thyssen Krupp Kobe Steel
Hafnium Oxide	30 tpa	<b>4%</b> Hafnium	ATI Framatome KNFC LG Mitsubishi Electric Rolls Royce Samsung Westinghouse



The Dubbo resource offers a diversified product suite, de-risking exposure to single commodity price volatility





*Australian Strategic Materials*

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Rare Earths.  
Critical Minerals.  
High-Tech Metals.