

# Bell Potter Unearthed Presentation

Rowena Smith  
7 February 2023

Rare Earths.  
Critical Minerals.  
High-tech Metals.

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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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## 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.

## Registered office and principal place of business

Level 4, 66 Kings Park Road West Perth WA 6005 Telephone: +61 8 9200 1681



# 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.



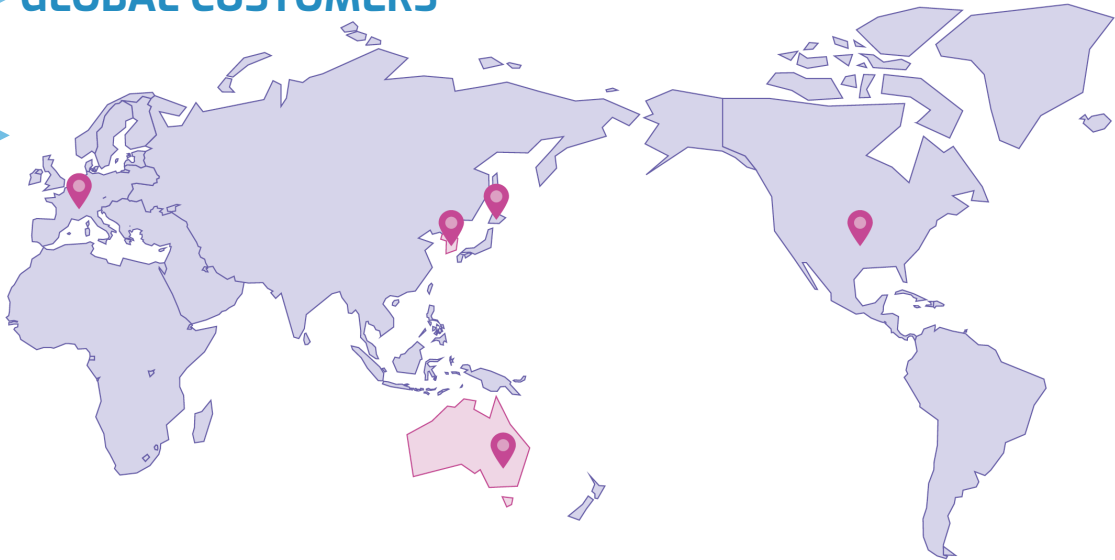
# From mine to metals

DUBBO PROJECT

GLOBAL CUSTOMERS



KOREAN METALS PLANT



Mining



Separating  
& Refining



Products  
Metal oxides &  
mixed chlorides



Metallising



Products  
High-tech  
metals & alloys



Advanced  
manufacturing



New growth  
industries



Sustainable  
energy industries



Electric  
vehicles



Wind  
turbines



Semiconductors



Medical devices



Batteries

Shipped to Korean Metals  
Plant & Global Customers

Shipped direct to  
Global Customers



# 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



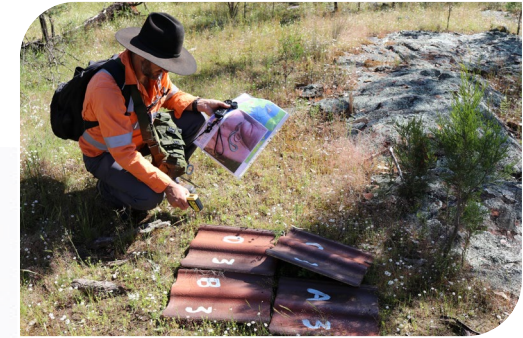
## Health and safety



## Renewable energy



## Biodiversity management



### MEMBER



### PARTICIPANT

UN Global Compact

# 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



**Annaliese Eames**  
General Counsel  
Joint Company Secretary



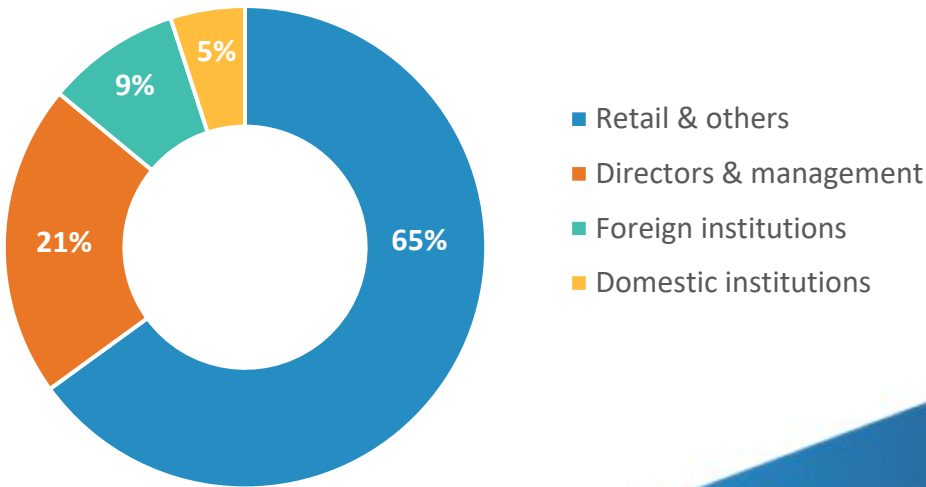
**Frank Moon**  
Chief Development  
Officer

## ASX:ASM

Ordinary Shares (m)	166.7
Share Price	AUD 1.795
Market Capitalisation	AUD 318m
52 week low/high	AUD 1.350 - 9.420
Cash (at 30 Dec 2022)	AUD 71.9m

Except where stated, all data is as 31 Jan 2023

## Share register profile (at 30 Dec 2022)



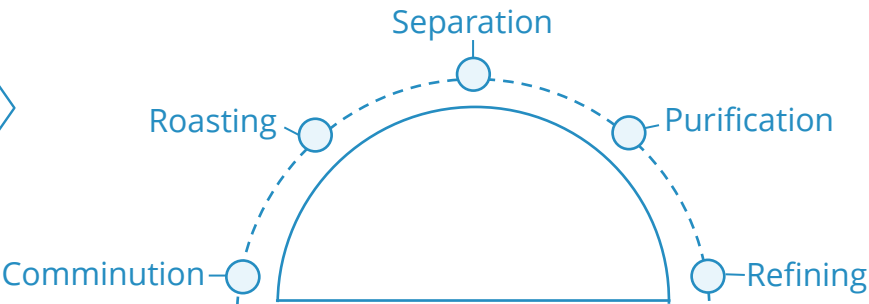
# Establishing an integrated supply chain

## DUBBO PROJECT

### Mining



### On-site Processing

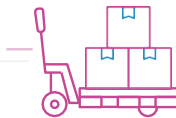


### Products

- Neodymium praseodymium oxide
- Terbium oxide
- Dysprosium oxide
- Zirconia
- Hafnia
- Ferro Niobium

### Status

- Optimisation Study delivered
- Approvals in place
- EPC Definition with HEC commenced
- 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



# Korean Metals Plant

Rare earths and  
critical minerals metallisation.

From ground breaking  
to first delivery in 15 months.





# Korean Metals Plant key facts



**Opened**

12 May 2022



**Neodymium  
products initial focus**

NdPr metal & NdFeB alloy



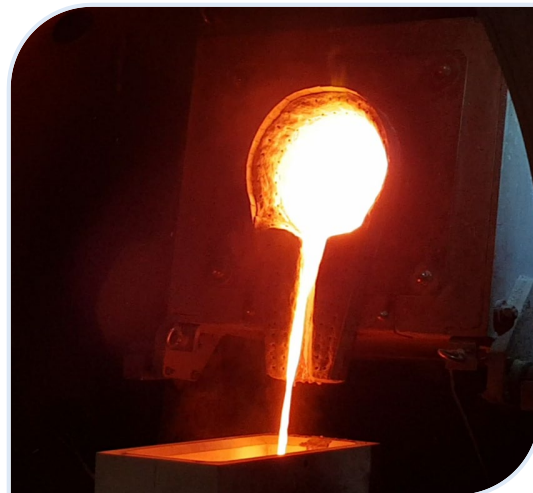
**Titanium alloys  
in development**

CuTi alloy using LK Process



**Located in Ochang Foreign  
Investment Zone**

Approx. 115 kms south of Seoul





# 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
- ✓ July 2021 Commenced construction
- ✓ Apr 2022 Completed construction<sup>2</sup>
- ✓ May 2022 Opened KMP<sup>3</sup>
- ✓ Jun 2022 Completed phase 1 equipment installation  
Secured KDB credit facility for AUD 24.4 million<sup>4</sup>
- ✓ Jul 2022 Commenced NdPr metal production and ramp up
- ✓ Sep 2022 Signed first sales agreement and delivered first product<sup>5</sup>  
First CuTi production using LK Process
- ✓ Dec 2022 Signed agreement with VTRE to establish a rare earths supply chain<sup>6</sup>

## Targets

- 1H 2023 Complete NdFeB strip caster commissioning  
Secure first sale NdFeB alloy  
Ramp up production of NdFeB alloy to 600tpa, 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)

# 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

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

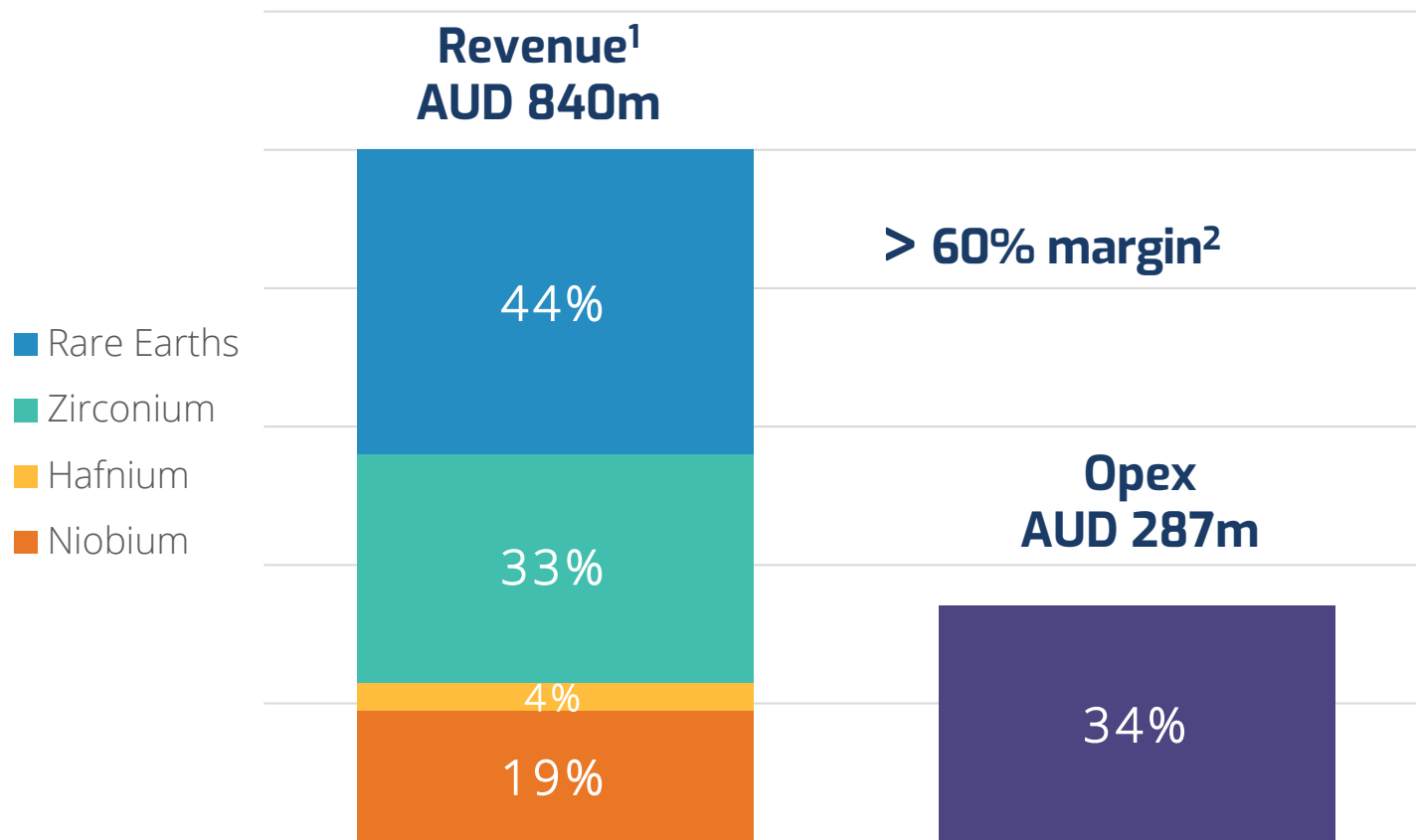
Land and water licences owned

EPC Definition commenced

## 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 flow³

**AUD 1,678 million**

Capital cost estimate  
including contingency

<sup>1</sup> 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.

<sup>2</sup> Margin is defined as revenue minus opex / <sup>3</sup> This amount represents the average of years 7-10 in the Optimisation Study Financial Model



# Dubbo Project milestones and targets

## Milestones achieved

- ✓ Jun 2021 Received AUD 200m Letter of Support from Export Finance Australia<sup>1</sup>
- ✓ Dec 2021 Finalised Optimisation Study Work<sup>2</sup>
- ✓ May 2022 Received USD 15m from KCF Energy<sup>3</sup>
- ✓ Jun 2022 Awarded EPCD contract to HEC<sup>4</sup>
- ✓ Sep 2022 Signed MoU with KDB to establish a rare earths supply chain<sup>5</sup>
- ✓ Dec 2022 Awarded \$10.5m grant funding from NSW government
- ✓ Jan 2023 HEC commenced Phase 1 of EPC Definition<sup>6</sup>

## Targets

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

<sup>1</sup>ASX Release: 28 Jun 2021, *Export Finance Australia issues letter of support for the Dubbo Project* / <sup>2</sup>ASX Release: 7 Dec 2021, *Dubbo Project Optimisation Delivers Strong Financials* / <sup>3</sup>ASX Release: 16 May 2022, *USD 15 million Subscription Agreement at AUD 8.90 per ASM share* / <sup>4</sup>ASX Release: 9 Jun 2022, *Hyundai Engineering Co Ltd awarded conditional contract for design work for the Dubbo Project* / <sup>5</sup>ASX Release: 23 Sep 2022, *ASM signs MOU with Korean Development Bank for rare earths supply chain* / <sup>6</sup> ASX Release: HEC to commence contract for Dubbo Project design work

# 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





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