



Rare earths, critical minerals & high-tech metals for the world

Ian Gandel, Non-Executive Chairman

NSW Mining and Exploration Conference, Orange NSW

13th October 2022

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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 (the Company), 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.

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Competent Person

The information in this document that relates to the Ore Reserves and Mineral Resource Estimates of the Dubbo Project are extracted from the Company's ASX Announcement dated 29 July 2020 titled "Information Memorandum and Demerger Booklet" available to view on the Company's website (www.asm-au.com) and www.asx.com.au and was completed in accordance with the guidelines of the JORC Code (2012).

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the Ore Reserves and Mineral Resource Estimates in the relevant market announcement continue to apply and have not materially changed.

The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

Leadership



Ian Gandel
Non-Executive Chair

Gavin Smith
Non-Executive Director

Nic Earner
Non-Executive Director

Kerry Gleeson
Non-Executive Director



Rowena Smith
Chief Executive Officer

Jason Clifton
Chief Financial Officer

Julie Jones
General Counsel
Joint Company Secretary



Tess Lackovic
Chief Culture Officer

Peter Simko
Chief Information Officer

Frank Moon
President, ASM Asia

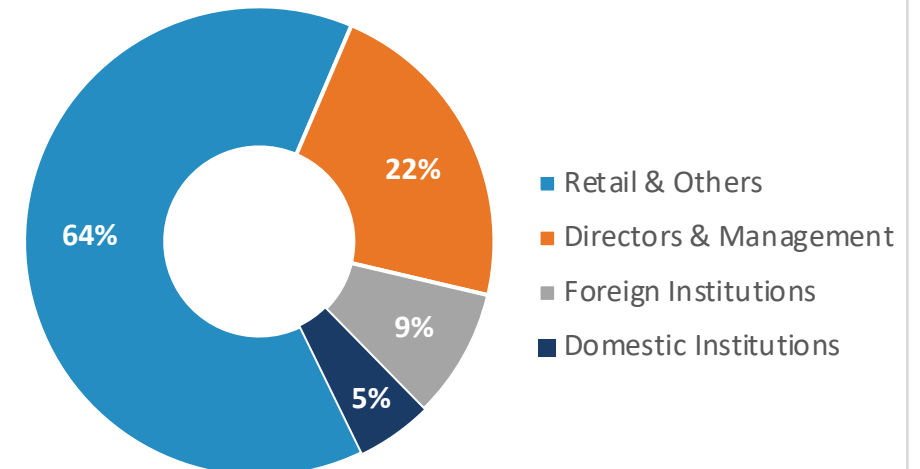
ASX:ASM

(at 20 September 2022)

Ordinary Shares (m)	143.0
Share Price	A\$2.64
Market Capitalisation	A\$ 380 M
52 week low/high	A\$2.33/A\$14.09
Cash (at 30 June 2022)	A\$60M

Shareholders

(at 20 September 2022)

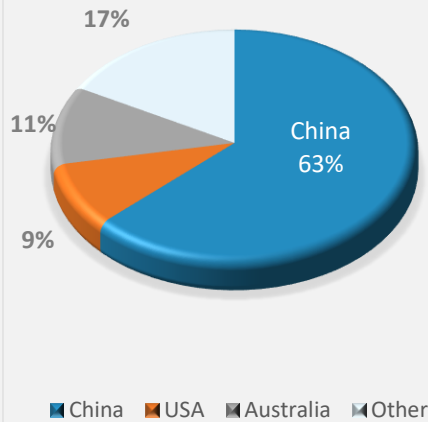


De-risking the Global Supply Chain¹

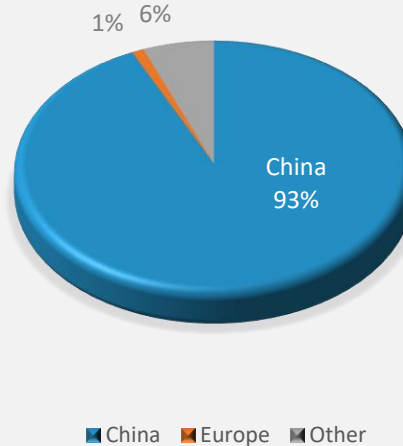
Global supply chain

- Concentrated
- Lacks transparency
- Significant risk across all stages

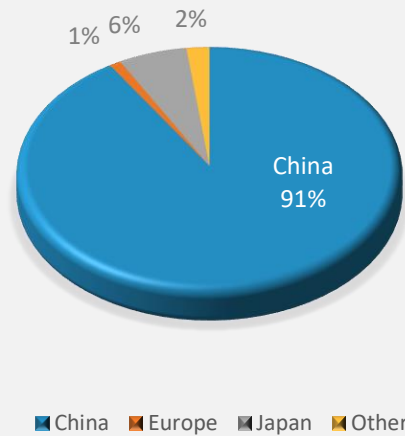
Upstream¹
Mining & Extraction



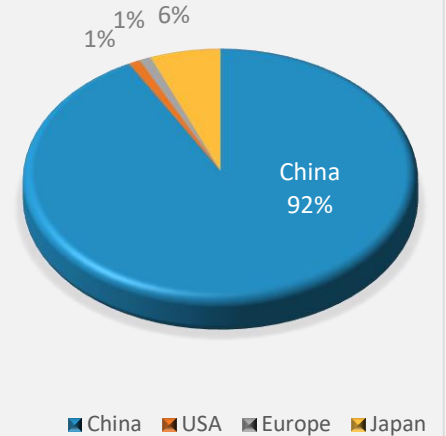
Midstream¹
Separation & Refining



Downstream¹
Metallisation & Alloying



End Use¹
Magnetisation & Forming



Rare Earth Products→

2021 Annual Production→

2030 Forecast Production→

Concentrates/Carbonates

280,000 t²

Oxides

55,952 t³

103,342 t¹

Metals and Alloys

205,000 t³

NdFeB Magnets

175,000-180,000 t³

341,950 t¹

¹ All pie chart data and 2030 forecast production extracted from Adamas Intelligence, *Rare Earth Magnet Market Outlook to 2035*

² U.S. Geological Survey, Mineral Commodity Summaries, 2022

³ Adamas Intelligence, *Rare Earth Magnet Market Outlook Update - April 2021*

ASM's vertically integrated solution

Dubbo Project
NSW, Australia



Korean Metals Plant
Ochang, South Korea



Critical Metals for Advanced Technologies

Zr

Zirconium

- Ceramics - refractories; SOFCs
- Nuclear and speciality alloys
- Thermal barrier coatings (turbines)
- Hydrogen fuel cells
- Chemicals
- Fibre optical connectors/amplifiers

Hf

Hafnium

- Aerospace alloys (high temperature)
- Super alloys
- Nuclear control rods
- Plasma cutting tips
- Semiconductors
- Ferroelectric data storage devices
- Thermoelectric applications

Nb

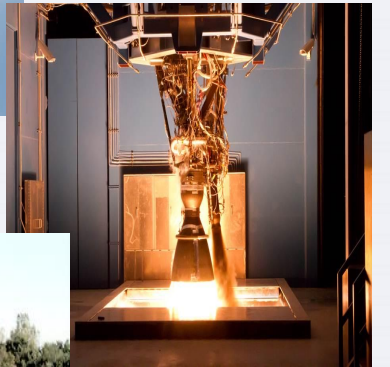
Niobium

- Various steel alloying applications
- Improves strength / reduces weight increasing fuel efficiency in transport applications
- Superalloys; incl rocket nozzles
- Electrodes in Li-ion batteries
- Superconductors

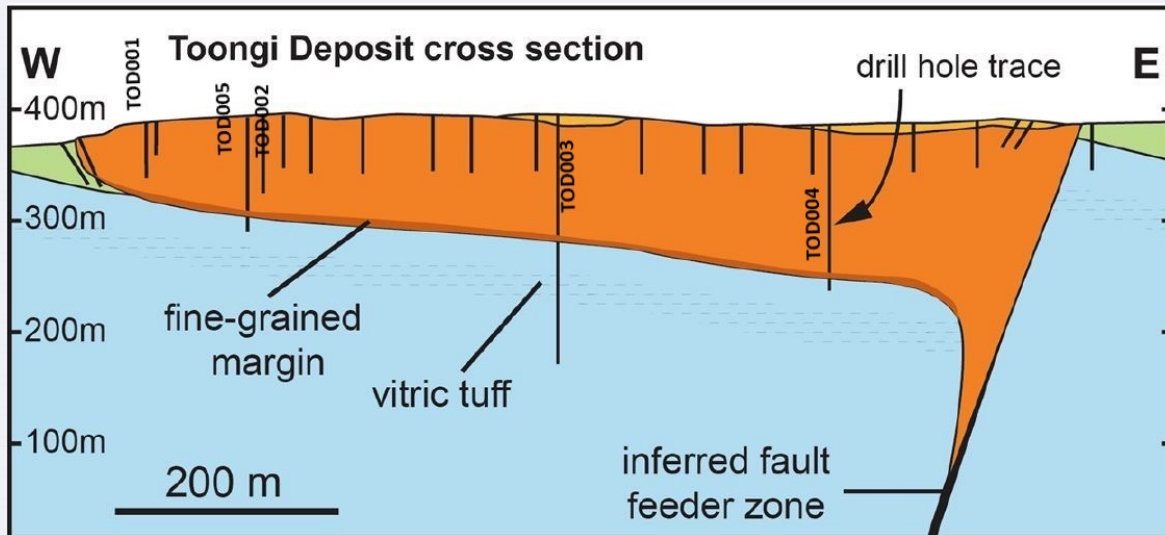
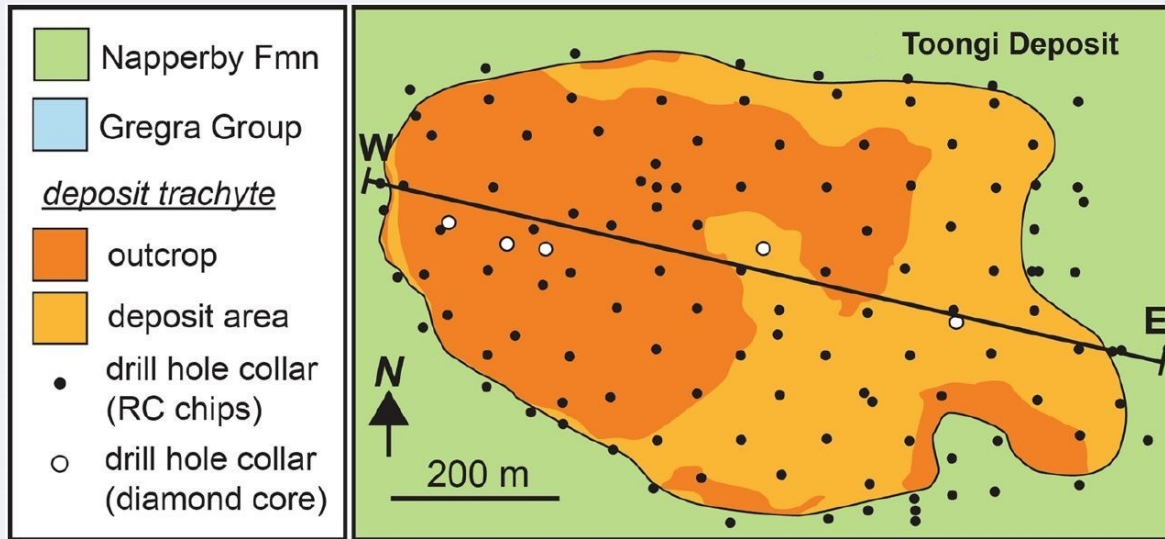
REE

Rare Earths

- NdFeB permanent magnets
- Catalysts
- Phosphors
- EV, general auto and wind generators; robotics
- Special alloys
- UV Glass



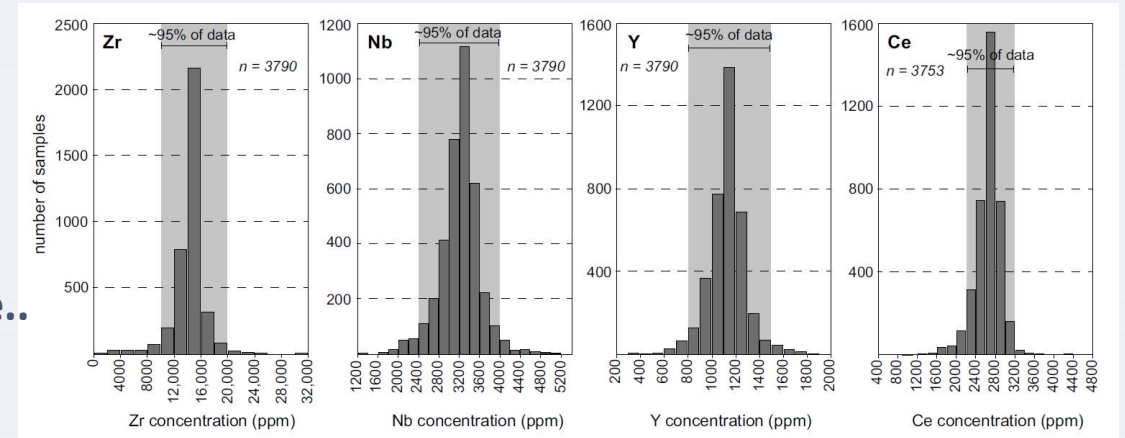
Toongi Geology



Resource drilling

- Resources defined over 850m by 450m outcrop
- 122 RC & 5 core holes in 50m x 100m staggered drill pattern
- RC drilling averages 50m in depth to provide an initial 40 year open pit life
- Three core holes penetrated the base of the body to determine mineralogical or grade variations, and demonstrate the lopolith (laccolith) shape

Remarkable grade continuity laterally and at depth



The..

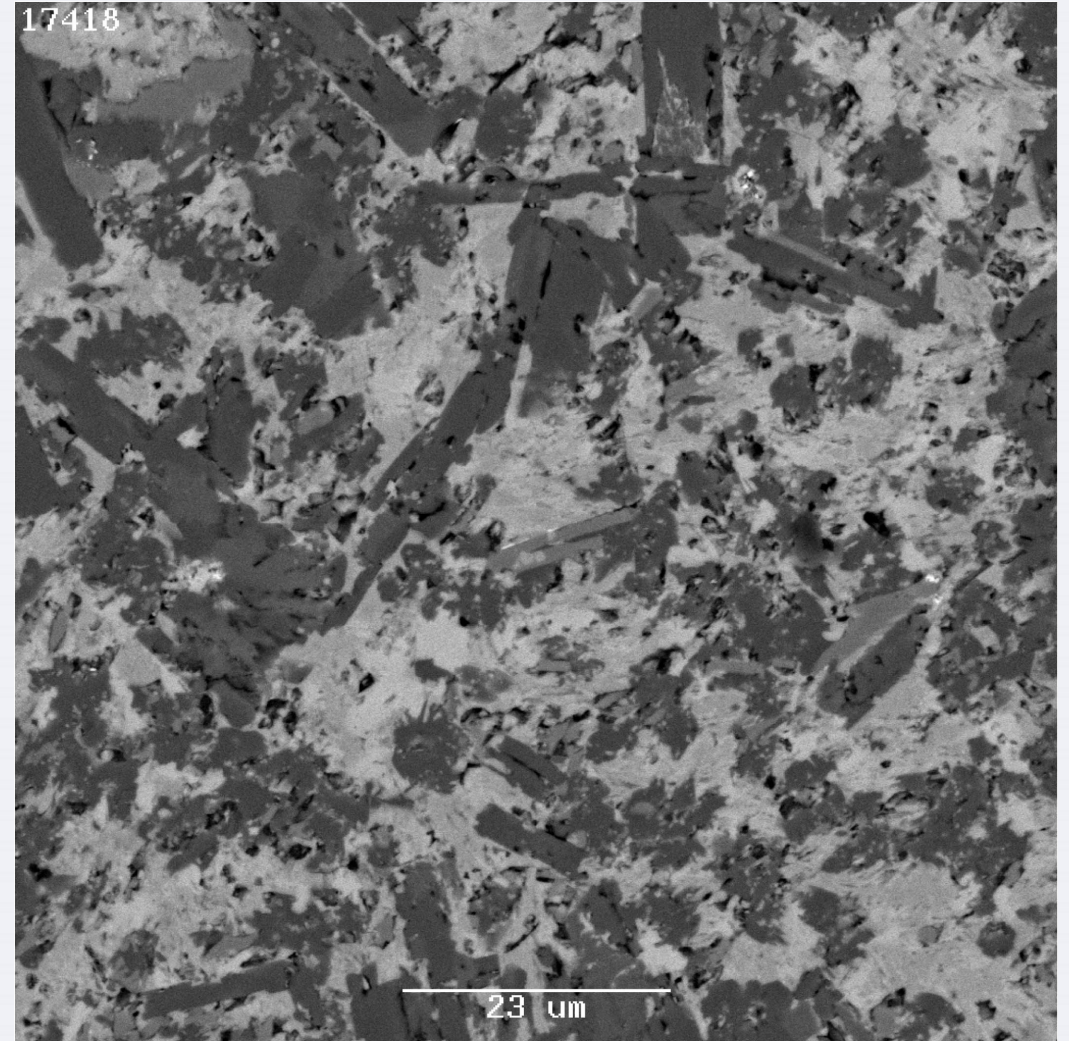
Trachyte Petrology

- K-feldspar - partly sericitised ~30 - 40%
- Albite (sodic feldspar) ~30 - 40%
- Aegirine (sodic clinopyroxene) ~15 - 20%
- Minor calcite, siderite, quartz, rhodocrosite

Weathering down to ~15 metres depth.
No impact on mineral assemblage.

Major chemistry:

61.7% SiO₂; 12.5% Al₂O₃; 7.03% Fe₂O₃; 0.85% CaO;
6.55% Na₂O; 4.48% K₂O; 0.31% MgO; 0.51% MnO;
0.05% P₂O₅; 0.12% TiO₂; 2.54% LOI.
3.33% ore elements

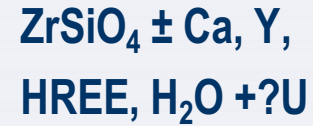


Prince – ANSTO 2007

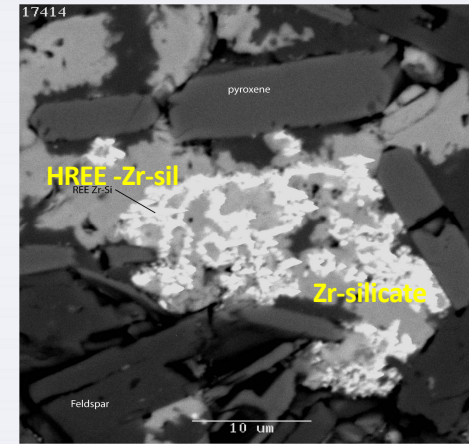
Ore Mineralogy

Zirconium
Heavy REs

eudialyte group



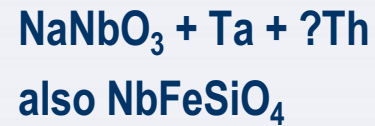
< 2 μ m - 50 μ m



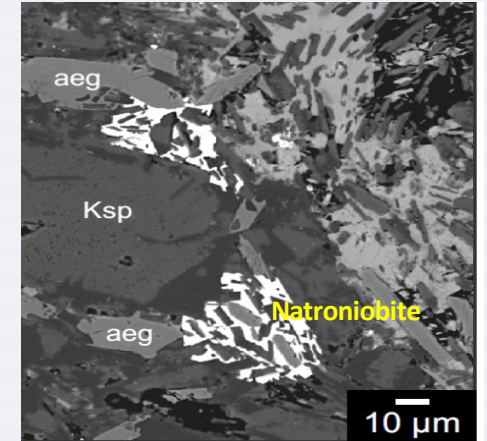
Prince – ANSTO 2007

Niobium/
Tantalum

natroniobite



< 30 μ m



Spandler & Morris 2016

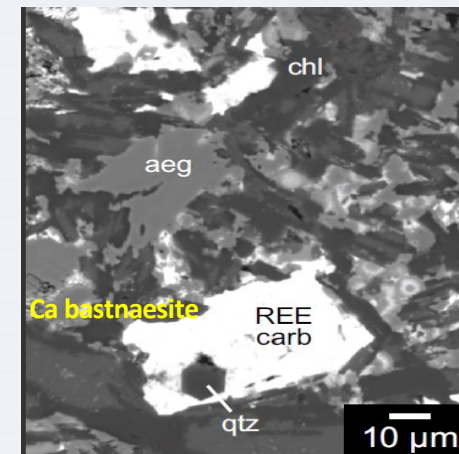
Rare Earths

calcian
bastnaesite



< 100 μ m

rare Sr minerals



Spandler & Morris 2016

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, Nb₂O₃, Ta₂O₅, Y₂O₃

Dubbo Project – Ore Reserves

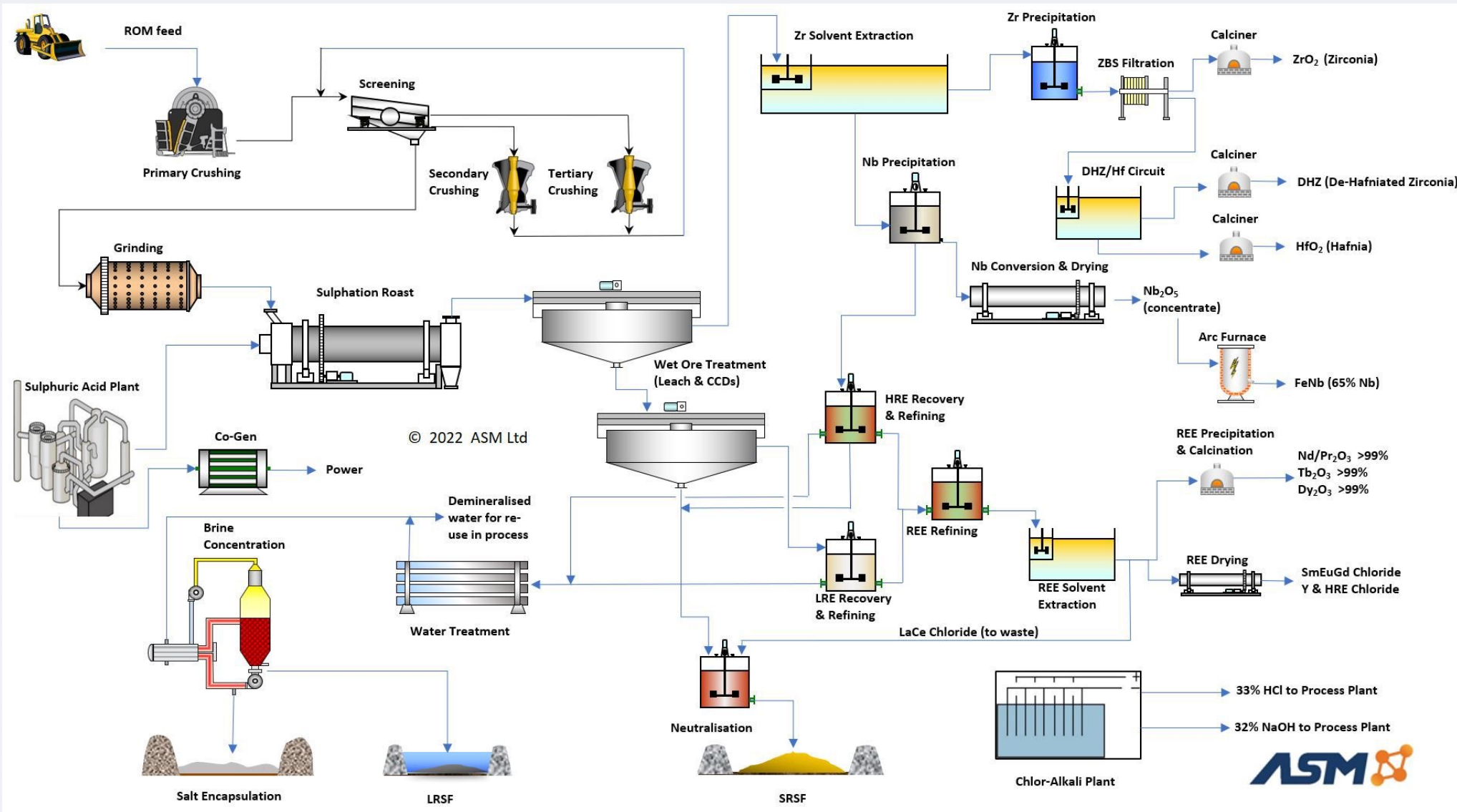
Reserve Category	Tonnes (Mt)	ZrO ₂ (%)	HfO ₂ (%)	Nb ₂ O ₅ (%)	Ta ₂ O ₅ (%)	Y ₂ O ₃ (%)	TREO* (%)
Proved	18.90	1.85	0.04	0.440	0.029	0.136	0.735
Total	18.90	1.85	0.04	0.440	0.029	0.136	0.735

*TREO% is the sum of all rare earth oxides excluding ZrO₂, HfO₂, Nb₂O₃, Ta₂O₅, Y₂O₃



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Development – the 2021 Flow Sheet



Products

Zirconia

De-hafniated zirconia

Hafnia

Ferro-niobium

Neodymium-praseodymium oxide

Terbium oxide

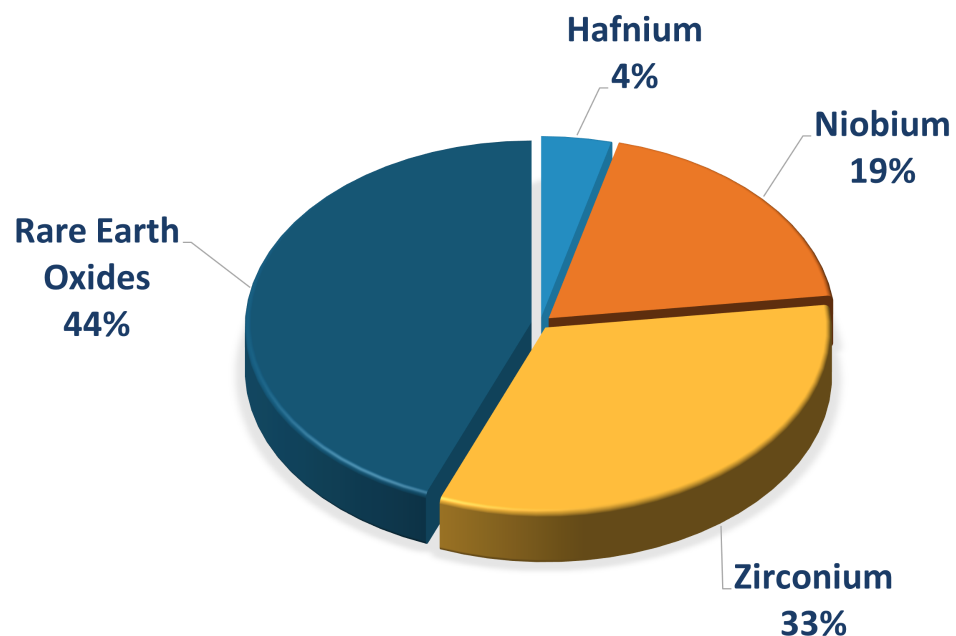
Dysprosium oxide

Samarium-europium-gadolinium chloride

Yttrium-heavy rare earth (Ho-Er-Tm-Yb-Lu) chloride

Dubbo Project - optimised for strong financials

Diversified Revenue



2021 Optimisation Study¹

Key Outputs ¹	US\$M
Gross Revenue	\$11,851
Capex	\$1,259
Total undiscounted pre-tax Free Cash Flow	\$5,581
Annual Free Cash Flow (full ramp up)	\$319
Pre-tax Project IRR %	23.5%
Post-tax Project IRR %	20.1%
Pre-Tax NPV	\$1,770
Post-tax NPV	\$1,186

Hyundai Engineering awarded EPCD contract



Includes:

- FEED services
- Early engineering of major vendor packages
- Operating cost estimate
- Detailed project schedule
- Major project plans and FEED-stage engineering documentation

Korean Metals Plant

- In Ochang Foreign Investment Zone
- Phase 1 commissioning underway
- Neodymium products initial focus
 - NdPr metal
 - NdFeB alloy



First metal sale and delivery



- Binding sales agreement signed with NS World Co. Ltd
- Agreement for:
 - 10 tonnes of neodymium praseodymium metal
 - delivered September - December 2022
- First delivery occurred in September 2022
- Metal used in bonded magnets

ESG



Renewable energy



Education programs



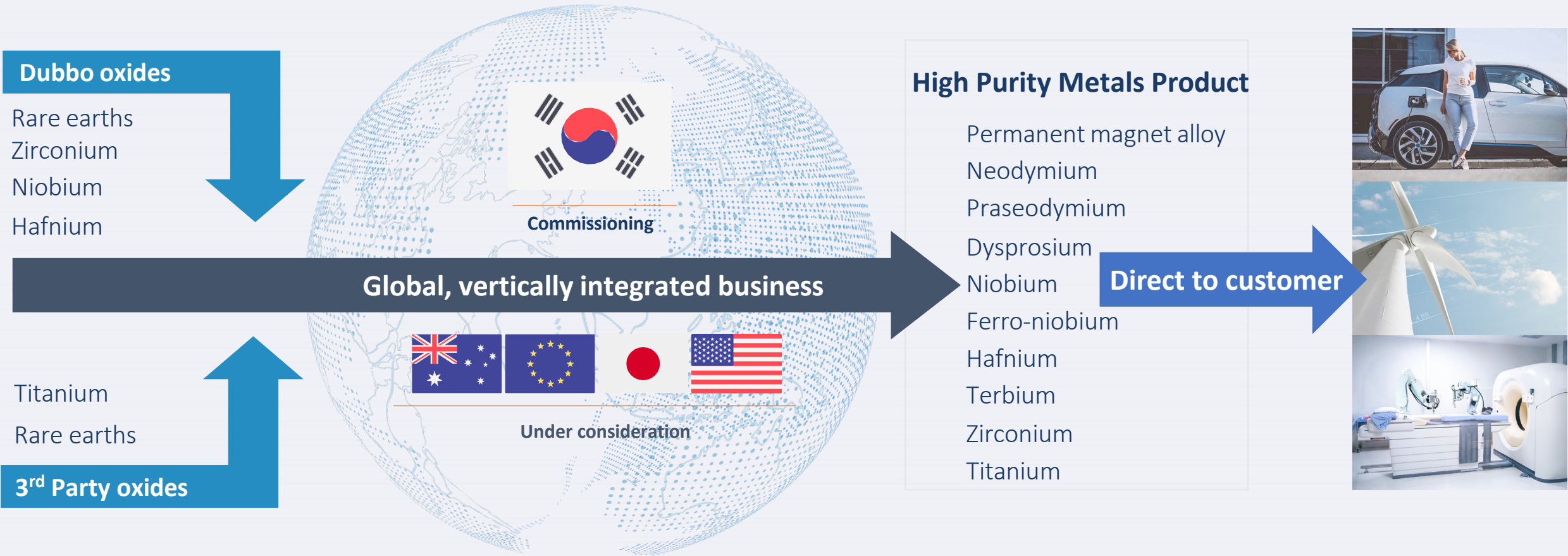
Protecting biodiversity



Sharing culture

Our Vision

“To provide an alternative, secure and environmentally responsible supply of strategic materials to the world”



Thank You



Australian Strategic Materials

www.asm-au.com