



# **HARENA RARE EARTHS PLC**

*LON:HREE | OTCQB:CRMNF*

**Corporate Presentation – December 2025**

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# HARENA RARE EARTHS PLC

## overview

Harena Rare Earths Plc is a London Stock Exchange listed natural resources company that is **strategically positioned to supply critical rare earth magnet metals**, neodymium, praseodymium (NdPr) and dysprosium, terbium (DyTb) into supply chains that underpin national defence, advanced technology industries, and long-term supply chain resilience.

<p><b>Globally Significant Resource</b></p> <p>606,000 tonnes JORC-compliant Total Rare Earth Oxides with premium heavy rare earth mix</p>	<p><b>Development Ready</b></p> <p>Pre-feasibility study (completion November 2025), Feasibility Study (Q1 2026), mining licence application advancing; operations targeted for 2028</p>	<p><b>US-Focused</b></p> <p>Ongoing discussions with US government agencies</p>	<p><b>Backed by Leading US &amp; UK Investors</b></p> <p>Wexford Capital in Connecticut, Fondren LLP in Houston, and RAB Capital in London</p>	<p><b>Unique Market Position</b></p> <p>One of the only large ionic clay rare earth deposits outside of China; only pure ionic clay Rare Earth Elements company on London Stock Exchange, OTCQB</p>
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# AMPASINDAVA PROJECT

## *at a glance*

**100%** Working Interest in  
Ampasindava Project  
in Madagascar

**NOT** an exploration  
company, is a **MINING** project

One of the most **significant**  
**Ionic Clay Rare Earth deposits**  
**in the world** outside of China



# HARENA CORPORATE OVERVIEW

100% Owner of the Ampasindava Ionic Clay  
Rare Earth Deposit in Madagascar

## HARENA SNAPSHOT

LSE Main Market Ticker	HREE
OTCQB	CRMNF
Shares On Issue	562.65m
Share Price @ 26 Nov 25	2.00 pence
Market Cap @ 26 Nov 25	£10.69m
Joint Brokers	Allenby Capital (UK) / Muriel Siebert & Co. (US)
Key Advisors	Dentons (France) / Evolutis (Madagascar)/ Stryk Global Diplomacy (US)

## SGS IRS Commented:

**"The Ampasindava Project is one of relatively few projects of ionic clay hosted REE deposits outside of China. This sets it apart from most of the developers vying to be a stable source of these metals (particularly the HREE) for the western world."**

## BOARD & EXECUTIVE MANAGEMENT

Ivan Murphy – Executive Chairman  
Allan Mulligan - Executive Technical Director  
Paul Richard - Non-Executive Director  
Tim Morrison - Non-Executive Director  
Stephen Weir - Non-Executive Director



# POSITIVE MEETINGS WITH DFC & MADAGASCAN OFFICIALS

Harena Executive Chairman **Ivan Murphy** was recently in Washington D.C. meeting officials from the Development Finance Corporation (DFC) and the US State Department.



Ivan was also recently in **Antananarivo**, holding meetings with Madagascar's new Minister of Mines & Chief of Staff and officials at the US Embassy in the country.



*Allan Mulligan Executive Technical Director and Ivan Murphy Executive Chairman met with new Minister of Mines in Madagascar and his team*

# STRATEGIC IMPORTANCE TO THE U.S.

## ***Non-Chinese Supply Source:***

Harena provides one of the world's very few proven ionic clay rare-earth deposits outside China, offering the U.S. a critical alternative source. This strengthens supply-chain diversification and reduces U.S. vulnerability to foreign control.

## ***Defense & Technology Applications:***

Heavy rare earth elements from the Ampasindava deposit are essential for next-generation U.S. defence platforms, advanced aerospace systems, secure communications, precision guidance, and other high-performance technologies fundamental to national security.

## ***Supply Chain Resilience:***

Harena's concentrate is designed to feed directly into U.S. refining capacity, reinforcing secure, transparent, and reliable rare-earth supply lines.



# ONGOING U.S. SUPPORT FOR GLOBAL RARE EARTH PROJECTS

*Examples of U.S. agency-backed funding from the last 12 months*

## MP Materials

10 Jul 2025

- US Department of Defence (DoD) announced a multibillion-dollar public-private partnership, including a \$400m equity investment

## Critical Metals Corp

26 Aug 2025

- Signed a 10-year supply agreement to deliver concentrate to Ucore – a US processing facility backed by US government funding

## Aclara Resources

2 Sept 2025

- US International Development Finance Corporation (DFC) committed up to \$5m in project development funding

## Mkango Resources

29 Sept 2025

- US International Development Finance Corporation (DFC) committed \$4.6m in project development funding

### MINING.COM

#### Critical Metals surges on second US rare earth offtake deal for Tanbreez

Staff Writer | October 8, 2025 | 9:44 am Critical Minerals Europe Rare Earth



### FINANCIAL TIMES



The MP Materials rare earth mine in Mountain Pass, California © Steve Marcus/Reuters

Rare earths + Add to myFT

#### The small mining company that won backing from the Pentagon – and Apple

MP Materials secured investment as Donald Trump sought to counter China and take a new approach to national defence

### Energy Capital & Power

#### Malawi's Songwe Rare Earth Project Secures \$4.6M DFC Funding



### MINING.COM

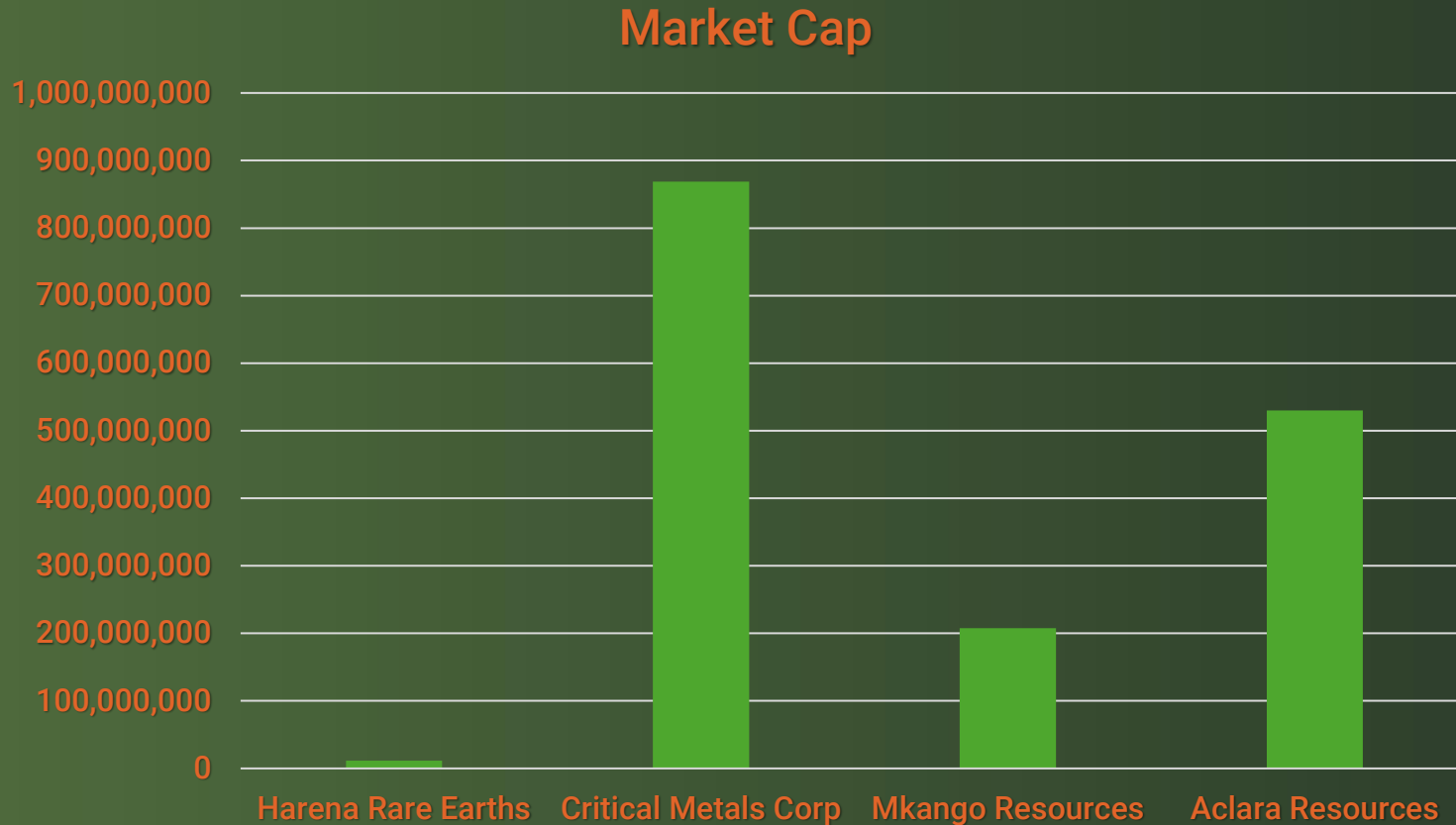
#### Critical Metals, Ucore ink 10-year offtake deal to supply rare earths to US plant

Amanda Stutt | August 27, 2025 | 1:21 pm Critical Minerals Suppliers & Equipment Europe USA Rare Earth





# RARE EARTH COMPANIES WITH U.S. SUPPORT



Harena is LSE's only pure ionic clay rare earth project

Attractively valued at £13 per tonne of contained rare earth oxides ("reo")

Harena has a clear route to build value by unlocking the project towards development



# **AMPASINDAVA IONIC CLAY RARE EARTH ELEMENT PROJECT OVERVIEW**





# INVESTMENT OVERVIEW

## Ampasindava Ionic Clay Rare Earth Element Project (Madagascar)

SGS commented - *"The Ampasindava Ionic clay project displays a **pervasive and well-balanced rare earth distribution** that is prevalent throughout the deposit. The deposit includes appreciable amounts of the critical magnet rare earths dysprosium, neodymium, praseodymium, and terbium as defined by the U.S. Department of Energy."*



Globally significant REE Project  
(Large ex-China Ionic Clay deposit  
based on JORC (2012) Resource)



Geographically neutral supply of critical  
magnet metals



606kt of Rare Earth Oxides In-Situ



Mining Licence Conversion Application at  
Ministry (subject to completion of Pre-  
Feasibility Study and EISA )



Base Line Metallurgical Test Work  
Completed



Rapid Remediation - Zero-Harm  
Environmental Model

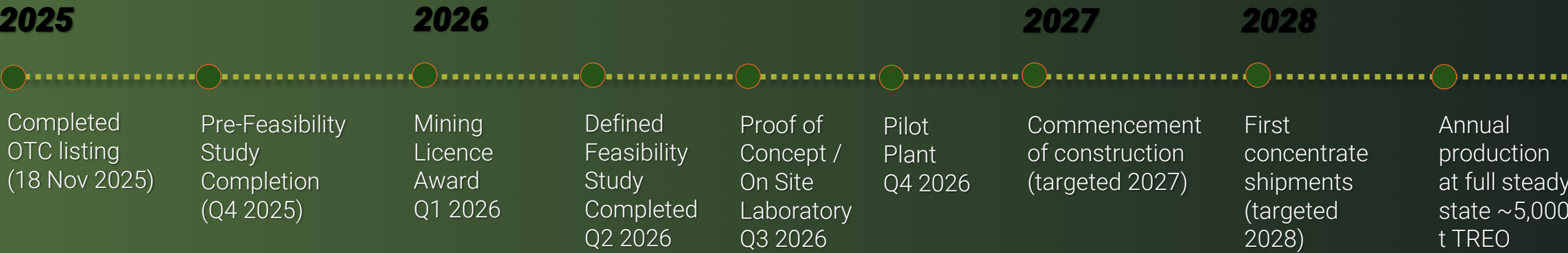


High recovery of magnet metals



EIS and FS

# TARGET PROJECT TIMELINE



## ROAD TO PRODUCTION

**Convert completed Pre-Feasibility Study to a Feasibility Study**

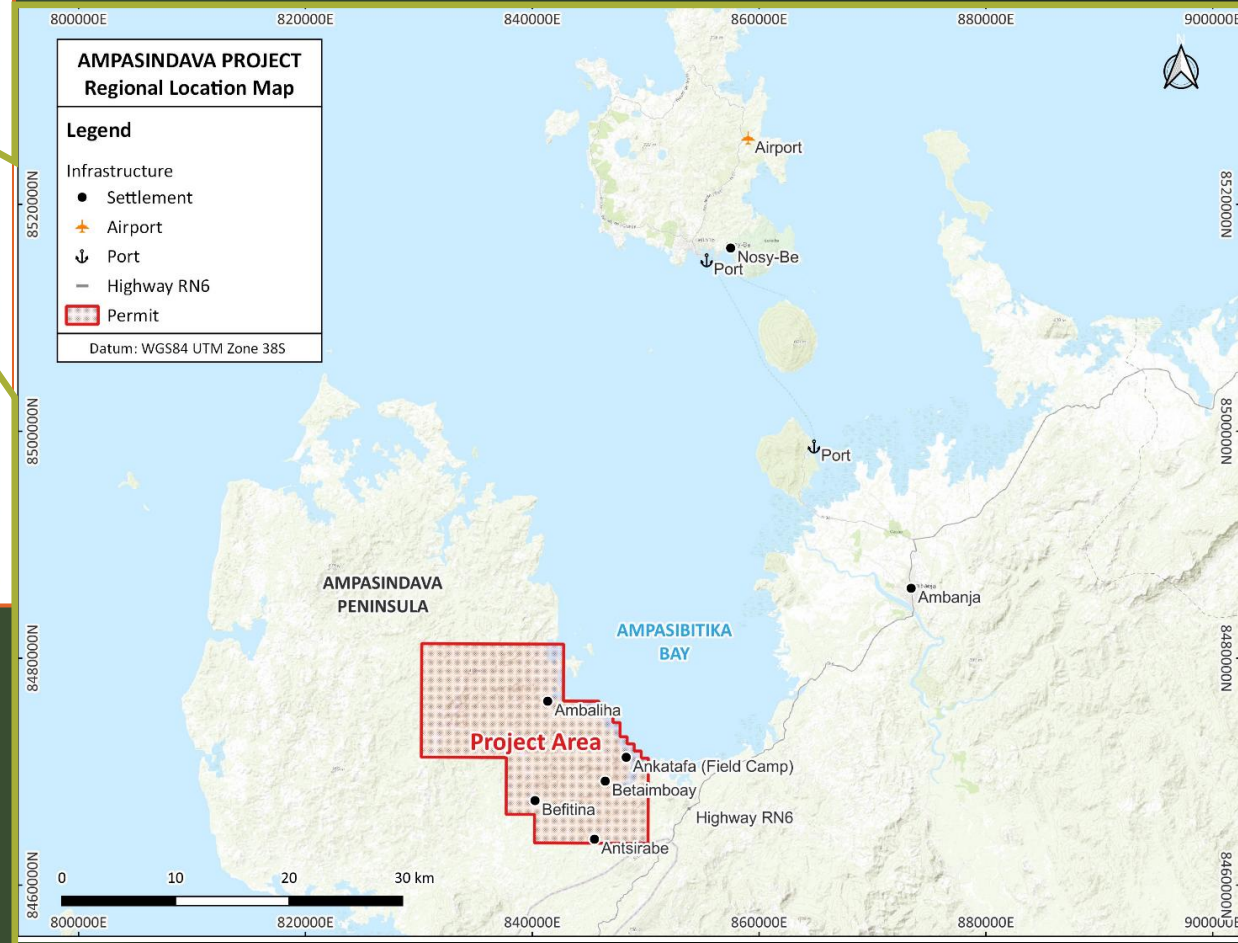
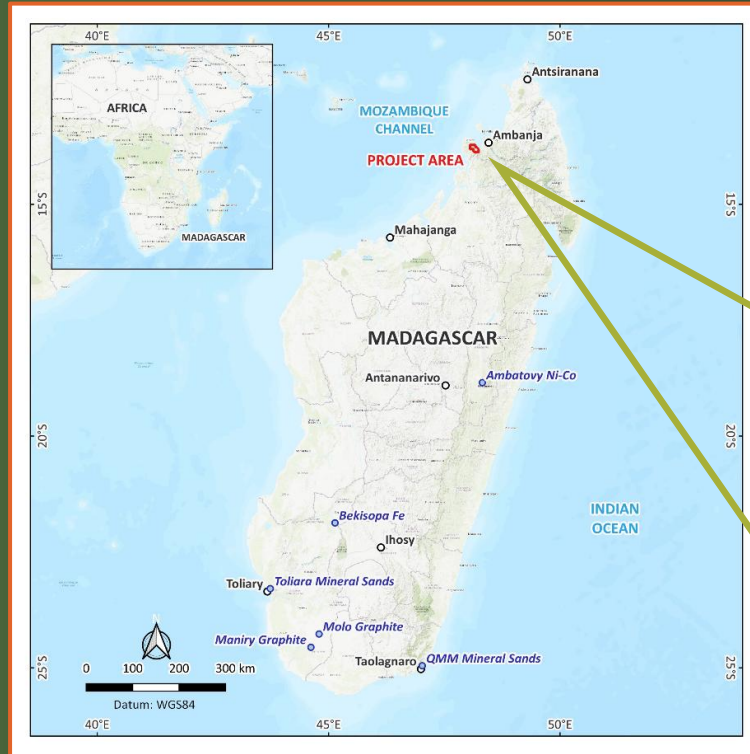
**Finalise proof-of-concept for efficient concentrate production**

**Complete laboratory testing and process optimisation**



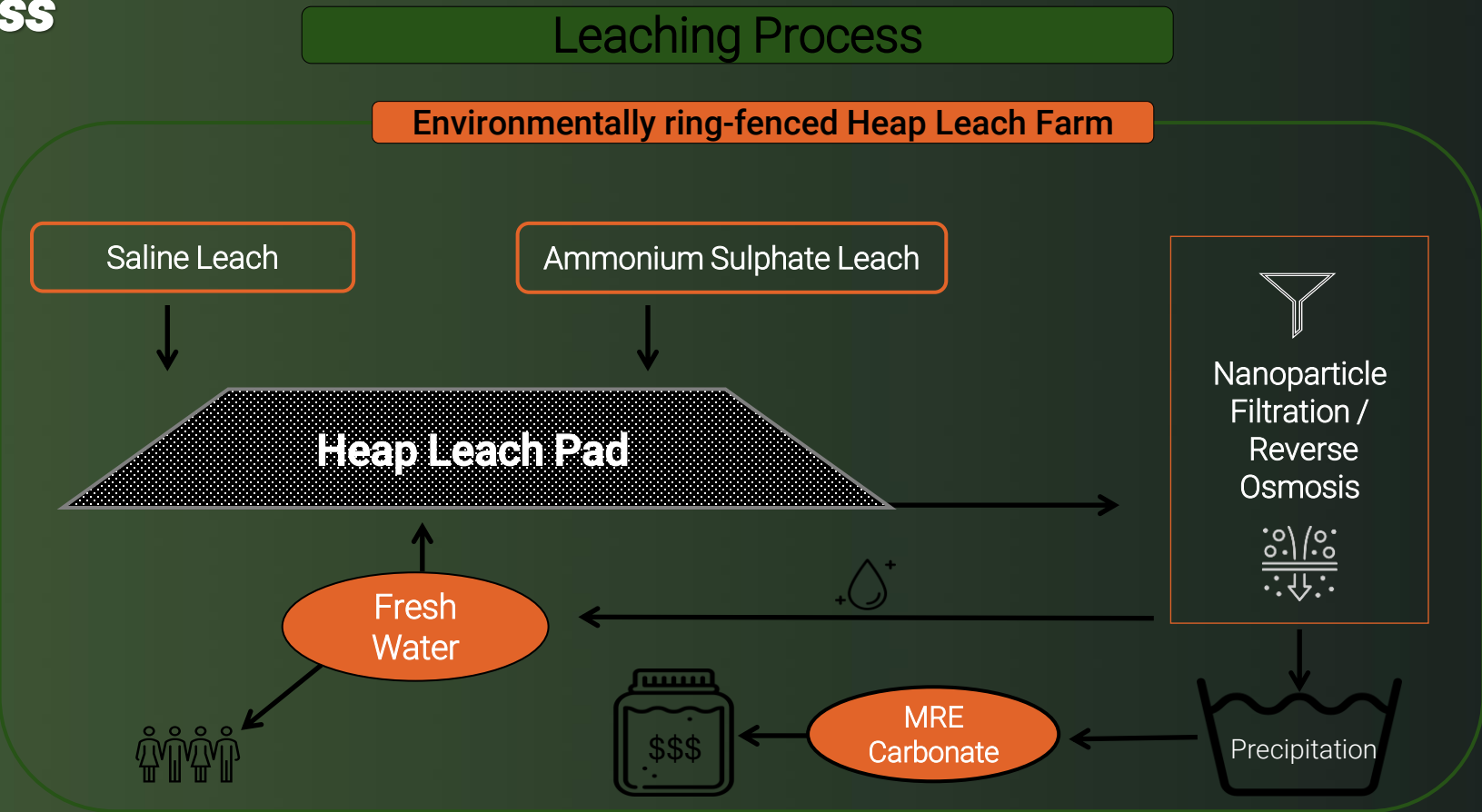
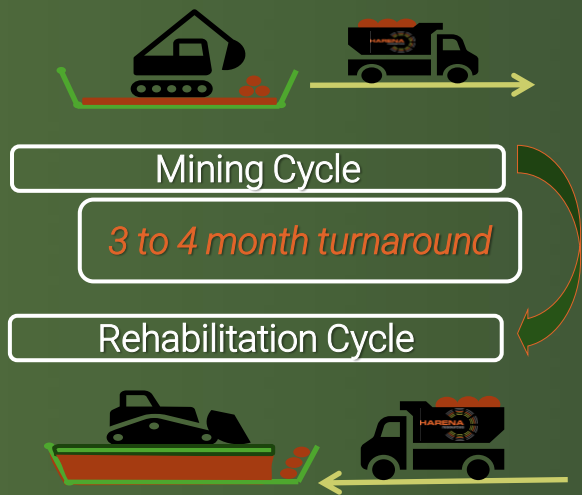
# PROJECT LOCATION, KEY INFRASTRUCTURE

✓ Access to established infrastructure including an international airport and shipping container ports



# RAPID REMEDIATION

## Zero impact *mining process*



Please note this is for simplified illustrative purposes only and does not represent the full flowsheet. Flowsheet developed utilising testwork programmes as detailed in the section 5.5.4.4 SGS Lakefield ISR Report August 2024





# APPENDIX



# PERMANENT MAGNET USAGE

*AI enabled robotics an emerging demand driver*

Permanent magnet synchronous motor used by Unitree robots

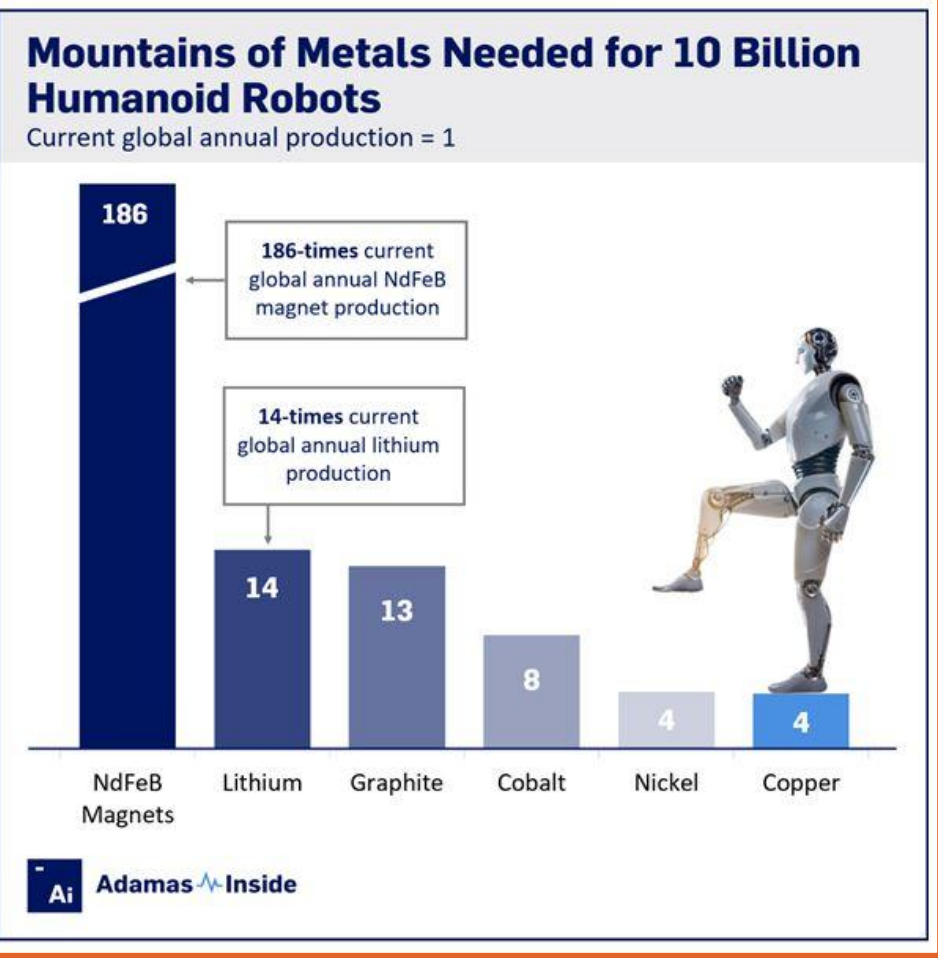


Source: Unitree, February 2025

Tesla self-developed permanent magnet motors



Source: Tesla, February 2025





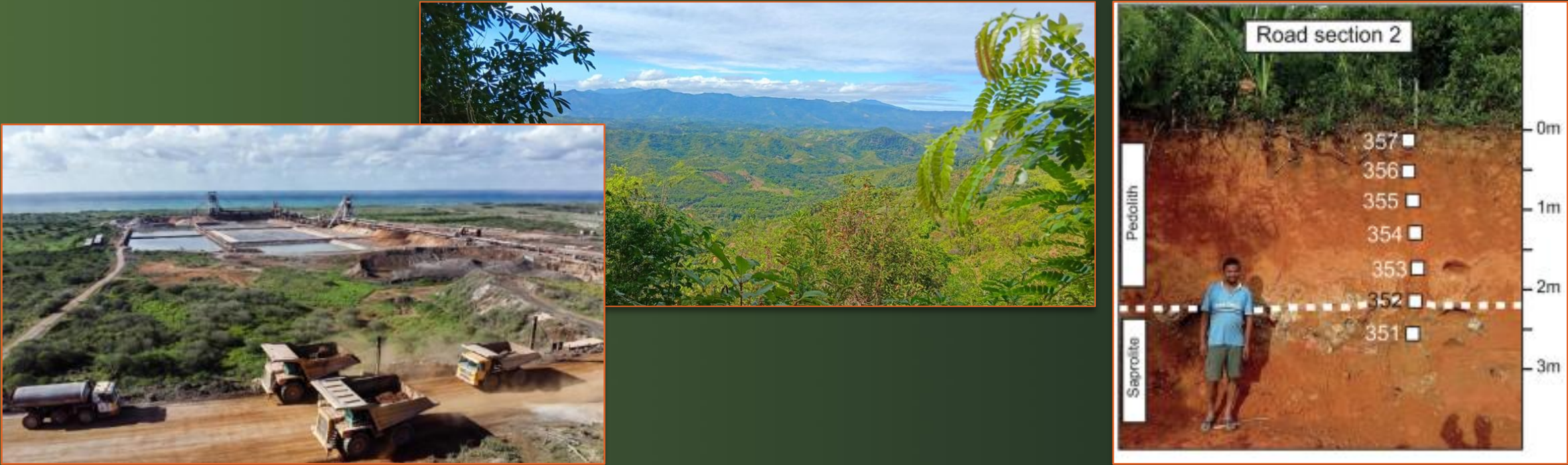
# SUBSTANTIAL JORC 2012 MINERAL RESOURCE

***Mineral Resource with premium neodymium and praseodymium ("NdPr") and dysprosium, terbium ("DyTb")***

CLASSIFICATION	TONNAGE (mt)	THICKNESS (m)	MREO (ppm)	CONTAINED MREO (t)	TREO (ppm)	MREO/ TREO%	CONTAINED TREO (t)
MEASURED	42.5	5.5	221	9,400	958	23	40,700
INDICATED	184.0	6.7	178	32,700	842	21	154,800
<b>MEASURED + INDICATED</b>	<b>226.5</b>	<b>6.4</b>	<b>186</b>	<b>42,100</b>	<b>863</b>	<b>22</b>	<b>195,500</b>
INFERRED	472.0	5.4	189	89,000	870	22	410,500
<b>TOTAL</b>	<b>698.5</b>	<b>5.7</b>	<b>188</b>	<b>131,100</b>	<b>868</b>	<b>22</b>	<b>606,000</b>

1. The Mineral Resource Estimate (MRE) has an effective date of the 1st November 2023. The Competent Person for the MRE is Mr. Yann Camus, P.Eng., an employee of SGS Canada Inc. - SGS Geological Services.
2. The classification of the current Mineral Resource Estimate is consistent with the 2012 Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code).
3. All figures are rounded to reflect the relative accuracy of the estimate and numbers may not add due to rounding.
4. All Resources are presented undiluted and in situ, constrained within a 3D model, and are considered to have reasonable prospects for eventual economic extraction.
5. Mineral resources which are not mineral reserves do not have demonstrated economic viability. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.
6. Bulk density values were determined based on physical test work from each part of the deposit.
7. The base cut-off grade of 500ppm TREO considers a mining cost of US\$1.40/t mined, a processing cost of \$8.00/t mined and G&A cost of US\$0.75/t mined.
8. TREO = Y<sub>2</sub>O<sub>3</sub>+Eu<sub>2</sub>O<sub>3</sub>+Gd<sub>2</sub>O<sub>3</sub>+Tb<sub>2</sub>O<sub>3</sub>+Dy<sub>2</sub>O<sub>3</sub>+Ho<sub>2</sub>O<sub>3</sub>+Er<sub>2</sub>O<sub>3</sub>+Tm<sub>2</sub>O<sub>3</sub>+Yb<sub>2</sub>O<sub>3</sub>+Lu<sub>2</sub>O<sub>3</sub>+La<sub>2</sub>O<sub>3</sub>+Ce<sub>2</sub>O<sub>3</sub>+Pr<sub>2</sub>O<sub>3</sub>+Nd<sub>2</sub>O<sub>3</sub>+Sm<sub>2</sub>O<sub>3</sub>
9. MREO = Pr<sub>2</sub>O<sub>3</sub>+Nd<sub>2</sub>O<sub>3</sub>+Tb<sub>2</sub>O<sub>3</sub>+Dy<sub>2</sub>O<sub>3</sub>
10. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.

# PHOTOS FROM AMPASINDAVA SITE





# HARENA BOARD



**Ivan Murphy**  
*Executive Chairman*

For over 25 years Ivan has sourced, structured and raised public and private equity for various companies in the natural resources sector



**Allan Mulligan**  
*Technical Director*

Mining Engineer with extensive experience at operating, exploring and developing mines in Africa. Recent experience working on an Ionic Clay Rare Earth Project in Uganda.



**Tim Morrison**  
*Non-Executive Director*

Tim is an experienced finance professional with over 20 years experience in private and public listed markets, securing equity and project finance to bring mining projects into production



**Stephen Weir**  
*Non-Executive Director*

Stephen has more than 25 years of experience in equity capital markets and an extensive background in mining and finance



**Paul Richards**  
*Non-Executive Director*

Paul is a qualified Solicitor with over 25 years of experience, he has worked on dozens of IPOs and private fund raisings across a range of sectors including natural resources