



# Acquisition Presentation Dalkeith Capital

## Minerals for an electric future

West Australian focused Rare Earth Elements (REE's)  
and High Purity Alumina (HPA) exploration projects



# Disclaimer

---

## Cautionary Statement

### Corporate Presentation

The information contained in this presentation is provided by Dalkeith Capital Limited (“Dalkeith”) and its related bodies corporate (the “Group”) for background informational purposes only. The information in this presentation is not investment advice, is not intended to be used as the basis for making an investment decision and does not constitute an offer to issue or arrange to issue, or the solicitation of an offer to issue, securities of Dalkeith. Dalkeith has made reasonable efforts to ensure that the information contained in this presentation is accurate as of the date hereof, however, there may be inadvertent or unintentional errors. No representation or warranty, express or implied, is made as to the fairness, accuracy, completeness or correctness of the information contained in this presentation. To the maximum extent permitted by law, none of Dalkeith nor its directors, officers, employees or agents, nor any other person, accepts any liability, including, without limitation, any liability arising out of fault or negligence, for any loss arising from the use of the information contained in this presentation.

### Technical Information

This presentation includes disclosure of scientific and technical information. The information in this document is based on, and fairly represents information and supporting documentation reviewed by Mr William Oliver, a Competent Person who is a Member of the Australian Institute of Geoscientists. Mr William Oliver is not a Director of the Company. Mr William Oliver has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the “Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves”. Mr William Oliver has approved this document as a whole in the form and context in which it appears.

### Forward-looking statements

Certain information contained in this presentation may contain “forward-looking statements”. Forward-looking statements may include, but is not limited to, information with respect to the future financial and operating performance of Dalkeith, its subsidiaries and affiliates, the estimation of Mineral Reserves and Mineral Resources, realization of Mineral Reserve and Mineral Resource estimates, costs and timing of development of Dalkeith’s projects, costs and timing of future exploration, timing and receipt of approvals, consents and permits under applicable legislation, results of future exploration and drilling and adequacy of financial resources. Forward-looking statements are often characterized by words such as “plan”, “expect”, “budget”, “target”, “project”, “intend”, “believe”, “anticipate”, “estimate” and other similar words or statements that certain events or conditions “may” or “will” occur.

Forward-looking statements are subject to known and unknown risks, uncertainties and other factors that may cause actual results to be materially different from those expressed or implied by such forward-looking statements, including: risks associated with investments in publicly listed companies; risks associated with general economic conditions; fluctuations in commodity prices; the inherent risks and dangers of mining exploration and operations in general; the possibility that required permits may not be obtained; environmental risks; uncertainty in the estimation of Mineral Resources and Mineral Reserves; general risks associated with the feasibility, development and production of each of Dalkeith’s projects; the risk that further funding may be required, but unavailable, for the ongoing exploration, development and production of Dalkeith’s projects; changes in laws or government regulations, policies or legislation; unforeseen expenses; fluctuation in the exchange rate of the Australian dollar; litigation risk; risks of being unable to sell production resulting from the development of a project; uninsured hazards; disruptions to Dalkeith’s supplies or service providers; reliance on key personnel; retention of key employees; absence of dividends; and competition.

Forward-looking statements are based on the reasonable assumptions, estimates, analysis and opinions of management made in light of their experience and their perception of trends, current conditions and expected developments, as well as other factors that management believes to be relevant and reasonable in the circumstances at the date that such statements are made, but which may prove to be incorrect. Dalkeith believes that the assumptions and expectations reflected in such forward-looking statements are reasonable.

Readers are cautioned that the foregoing list is not exhaustive of all factors and assumptions which may have been considered by Dalkeith. Although Dalkeith has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking statements, there may be other factors that cause results not to be as anticipated, estimated or intended. There can be no assurance that such information will prove to be accurate, as actual results and future events could differ materially from those anticipated in such information. Accordingly, the forward looking information contained in this release is expressly qualified in its entirety by this qualifying statement and readers should not place undue reliance on forward-looking statements. Dalkeith does not undertake to update any forward-looking statements, except in accordance with applicable securities laws.



# Introduction

---

Dalkeith Capital (DC) Projects focus on meeting the growing demand associated with the 'electrification' of world economies

**Gascoyne Rare Earth Element's (REE) Project** exploring for rare-earth's neodymium (Nd<sub>2</sub>O<sub>3</sub>) + praseodymium (Pr<sub>6</sub>O<sub>11</sub>) critical to the production of magnets with demand set to increase 5x by 2030<sup>1</sup>

Gascoyne REE Project adjoins the world-class Yangibana Deposit (ASX.HAS ~AUD \$270 million market capitalisation) set to be the next REE producer outside of China by 2023, NPV AUD \$549 million, IRR 21%<sup>2</sup>, and proximal to recent REE discoveries by Dreadnought Resources (ASX.DRE ~AUD \$120 million market capitalisation)

**Koolya Kaolin-Halloysite-High Purity Alumina (HPA) Project** 240km<sup>2</sup> prospective for bright white kaolin and High Purity Alumina (HPA). Planning shallow low cost Aircore drilling program to commence on tenement grant to investigate thickness and purity of kaolinised granite over the project area. Tenure supportive for large scale development, with no competing land ownership of Pastoral Lease or freehold farmland minimising barriers and costs of development compared to other ASX-listed projects

Global push for carbon neutrality driven by Electric Vehicle (EV) adoption and renewable energy (particularly wind turbine) installations driving global demand for the combination of rare earths, in particular neodymium and praseodymium that make permanent magnets

The Australian Government has highlighted the growing importance of REE's as we 'electrify' the world's economies by putting REE's at the top of the list in the Outlook for Selected Critical Minerals in Australia 2021 Report<sup>3</sup>





# Gascoyne Rare Earth Element's (REE) Project

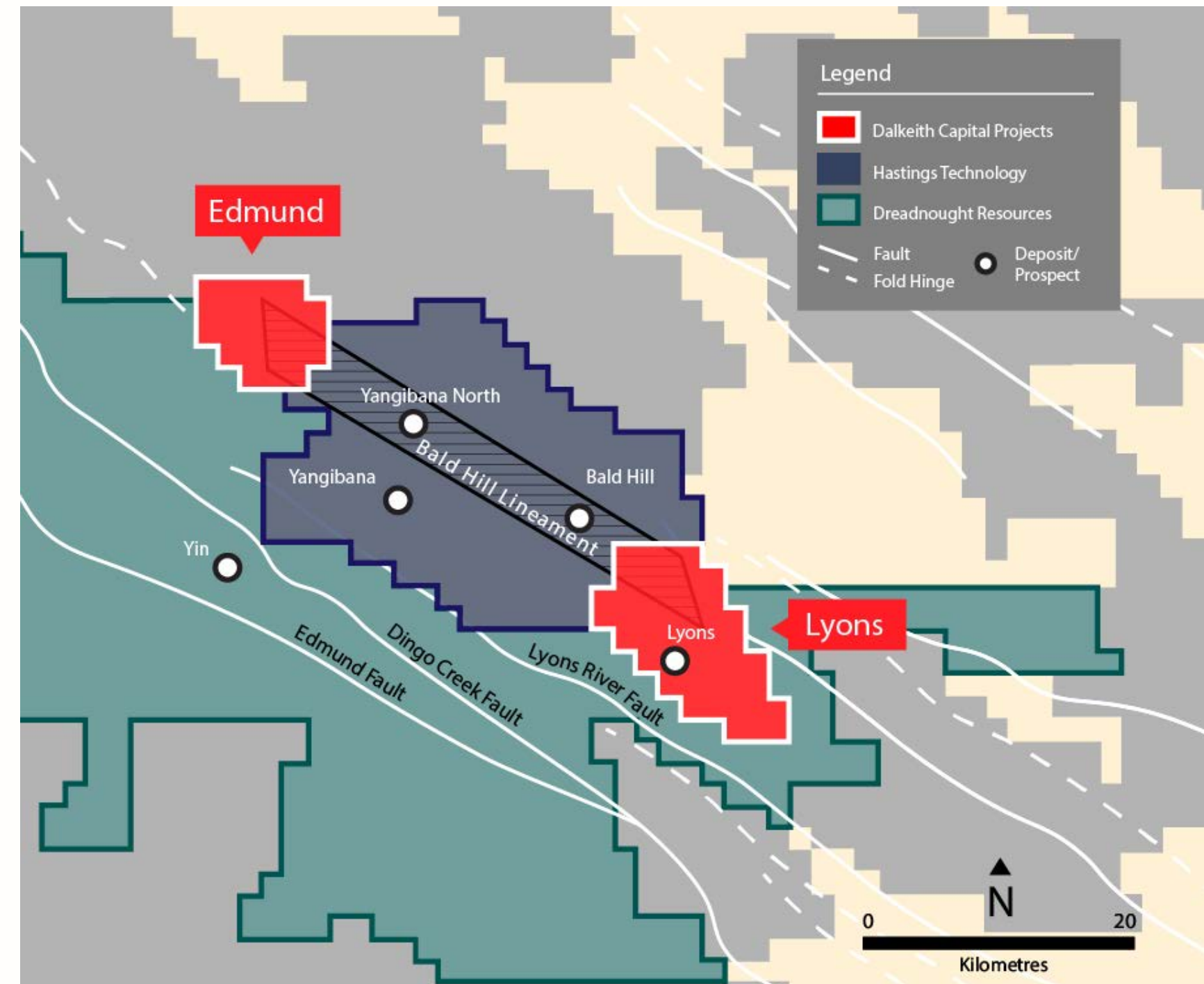
230km<sup>2</sup> of Proterozoic Durlacher Supersuite lithology, host to the adjacent world-class Yangibana NdPr REE Deposit (ASX.HAS)

Large land position with very limited historical exploration on the mineralised Bald Hill Lineament stepping out from the world class Yangibana REE deposit

Geophysical surveys (Radiometric and Magnetics) planned to commence early November 2021, to assist with target definition within the prospective Durlacher Supersuite rock type on DC's tenure

Shallow alluvial cover in most parts has led to the area being overlooked historically, although the south eastern tenement has small areas of outcrop, where the historic copper prospect (Lyndon) occurs

Renewed focus exploring for REE's in the region, Dreadnought Resources (ASX.DRE) recently discovering 12 REE prospects ~15kms southwest of Yangibana with rock chips from outcropping ironstones at the 2.5km Yin prospect returning assays up to 11% Total Rare Earth Oxide (TREO), including 3.6% Nd<sub>2</sub>O<sub>3</sub>+Pr<sub>6</sub>O<sub>11</sub><sup>1</sup>



<sup>1</sup> ASX.DRE: 11 June 2021 "High-grade Rare Earth Element Ironstones outcropping at Mangaroon"





# Gascoyne Rare Earth Element's (REE) Project

The REE-bearing Yangibana ironstones within the Durlacher Supersuite were first targeted by prospectors in 1972 as base metal bearing gossans. The REE potential of the ironstones wasn't assessed until 1985 and remained underexplored until Hastings acquired the project in 2011

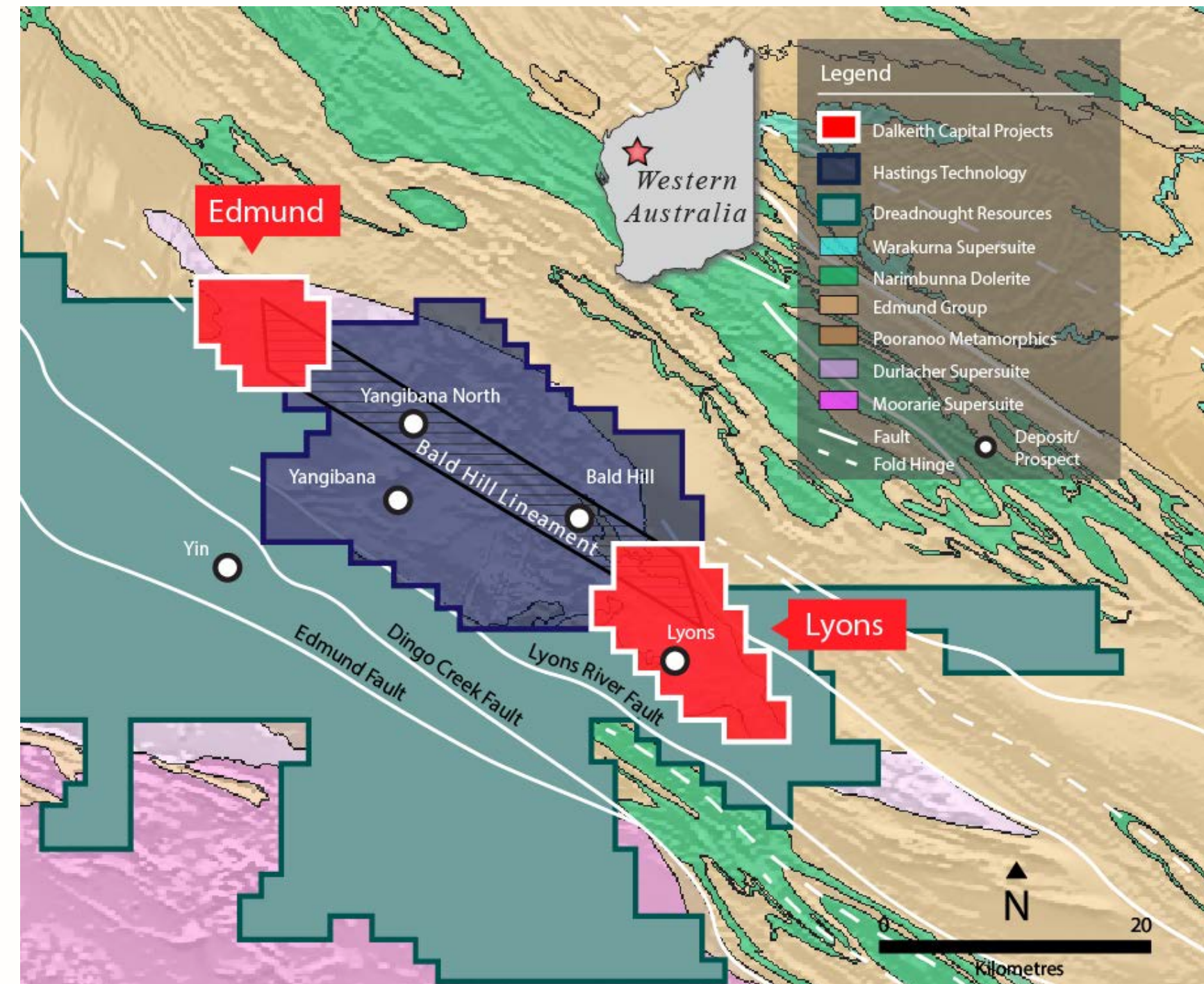
Hastings has since delineated a world-class JORC 2012 Mineral Resource<sup>1</sup> of 27.42Mt @ 0.97% TREO with 0.33% Nd<sub>2</sub>O<sub>3</sub>+Pr<sub>6</sub>O<sub>11</sub> and a ratio of 52% NdPr:TREO making it one of the highest value REE projects for ore value per kg

Despite the regional prospectivity for REE's, no significant exploration has been undertaken at the Edmund and Lyons Project areas

Renewed focus on REE's is an exciting opportunity on DC's tenure with the potential for discovery of economic REE mineralisation

The project areas are easily accessible from gazetted well-maintained Shire roads, located on Edmund and Wanna Pastoral Leases

<sup>1</sup> ASX.HAS: 5 May 2021 "Yangibana Project updated Measured and Indicated Resource tonnes up by 54%







# World Class Yangibana (REE) Project (ASX.HAS)

All of the Yangibana project deposits start from surface, with no overburden and contain large coherent domains comprising mostly of a high-value rare earths dominated mineral assemblage

World leading grade of neodymium (Nd<sub>2</sub>O<sub>3</sub>) + praseodymium (Pr<sub>6</sub>O<sub>11</sub>) = 52% of the TREO (total rare earth oxides) values

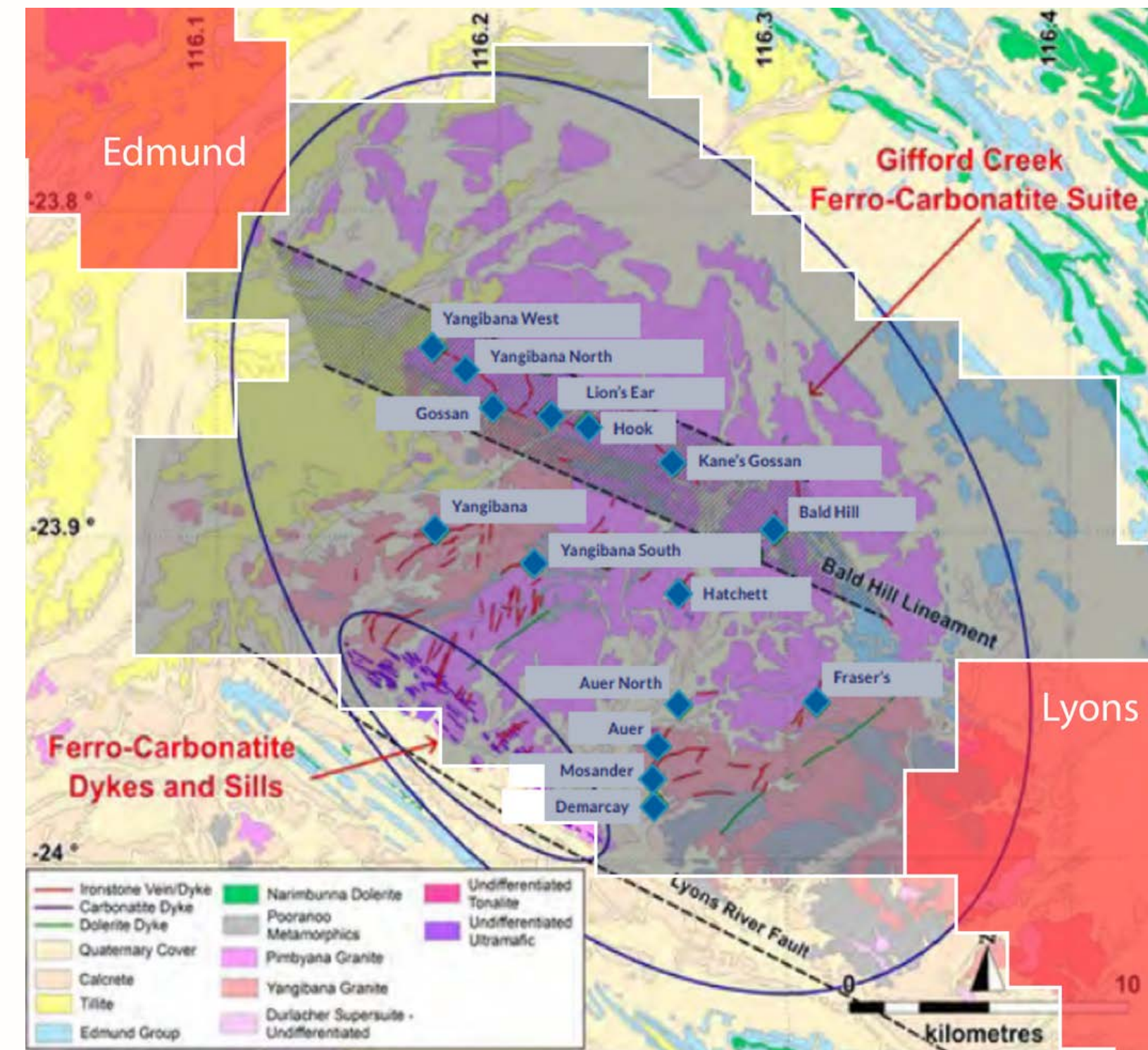
2020, 28,000m RC Drilling Program confirmed further zones of economic mineralisation at Simon's Find, highlighting the resource potential that still remains in the project area

REE trend now forms an 8km-long economic mineralised corridor

Hastings intends to continue to progress additional drilling programs across all Yangibana deposits in due course

Fully permitted to long-life production and with project finance and offtake talks well advanced, Yangibana's construction is due to start in 2021 ahead of first output in 2023<sup>1</sup>

<sup>1</sup> ASX.HAS: 5 May 2021 "Yangibana Project updated Measured and Indicated Resource tonnes up by 54%"







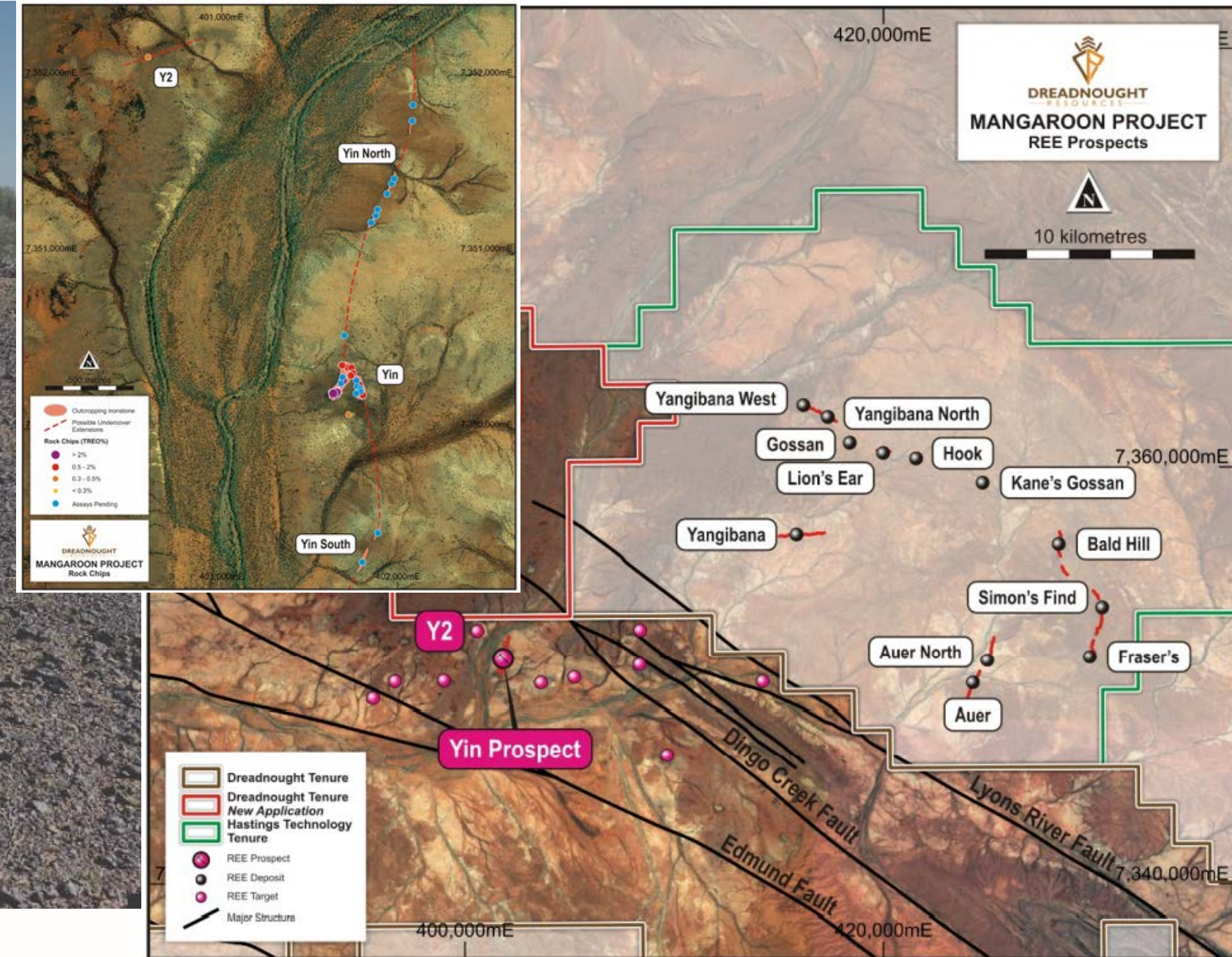
# New discoveries being made - Yin Project (ASX.DRE)

Dreadnought Resources (ASX.DRE) recently discovered twelve Rare Earth Element (REE) prospects at their Mangaroon Project located ~15kms southwest of the Yangibana REE Resource<sup>1</sup>

Rock chips from outcropping ironstones at the 2.5km long Yin prospect have returned assays up to 11.2% TREO, including 3.6% Nd<sub>2</sub>O<sub>3</sub>+Pr<sub>6</sub>O<sub>11</sub>

The TREO and the Nd<sub>2</sub>O<sub>3</sub>+Pr<sub>6</sub>O<sub>11</sub> results from Yin exhibit similar characteristics to Yangibana

DC's tenure is adjacent to both the Yin and Yangibana REE projects.



<sup>1</sup> ASX.DRE: 11 June 2021 "High-grade Rare Earth Element Ironstones outcropping at Mangaroon"





# REE market and forecasts

Global magnet rare earth oxides consumption will rise 5x by 2030, from US\$2.98B in 2020 to US\$ 15.65B by 2030<sup>1</sup>

Forecasts global shortages of NdFeB alloy and powder will amount to 48KT p.a. by 2030 equals to approx 25 to 30 million EV traction motors<sup>1</sup>

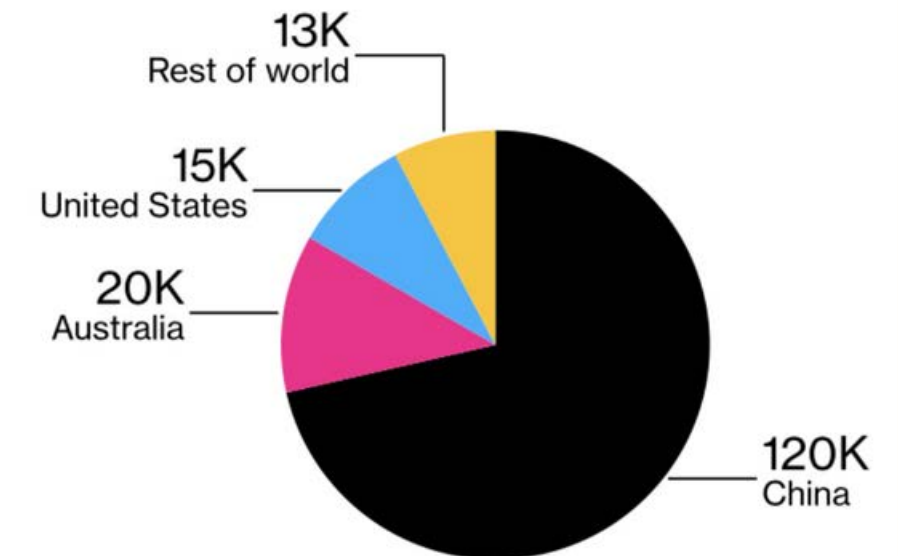
Global shortages of NdPr and Dy oxide will collectively rise to 16KT tonnes in 2030, an amount equal to approximately 3x Lynas annual output<sup>1</sup>

Passenger EVs are forecast to grow at over 26%pa over the next decade, by 2022, EV demand for NdFeB magnets to be double wind turbines and dominate the industry towards the end of the decade, accounting for over 40% of demand<sup>2</sup>

Uncertain, tenuous supply, potentially subject to “trade wars” & tariffs affecting international market demand and risks because of pandemic and trade tensions – Anticipation that Chinese government will launch a stockpiling program for light rare earth due to strong domestic demand<sup>3</sup>

## Chinese Dominance

Global mined rare-earths production in 2018



Source: BloombergNEF, USGS

If you're reading this story on a smartphone, you probably have China to thank for it. The Asian nation generates about 70% of mined rare earths and controls 90% of a \$4 billion global market for materials used in magnets and motors that power phones, wind turbines, electric vehicles and military hardware.

*China's dominance poses a considerable economic and national security risk to the U.S., one that's become all the more apparent in the months since trade relations between Beijing and Washington turned sour. "Control of the rare earth supply gives Beijing both economic and military advantages over the U.S.," writes Michael Silver, CEO of American Elements, in a [Wall Street Journal op-ed](#).*

In conclusion, until the rest of the world starts investing in the critical downstream linkages that take rare earth mine outputs and upgrade them into market-desired materials, such as NdFeB magnets, **end-users outside of China will remain reliant on (and vulnerable to) China's monopoly into the foreseeable future** – irrespective of how many new mines are brought online elsewhere.

Source: Adamas Intelligence

<sup>1</sup> Adamas Intelligence September 2020 <sup>2</sup> Roskill Aug 2020 <sup>3</sup> S&P Global Market Intelligence Sept 2020





# REE market and forecasts

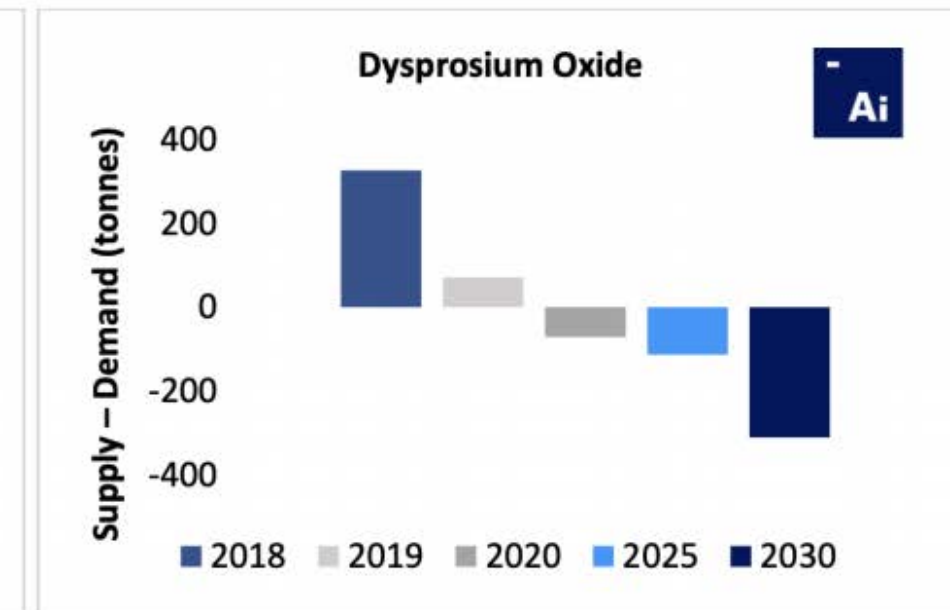
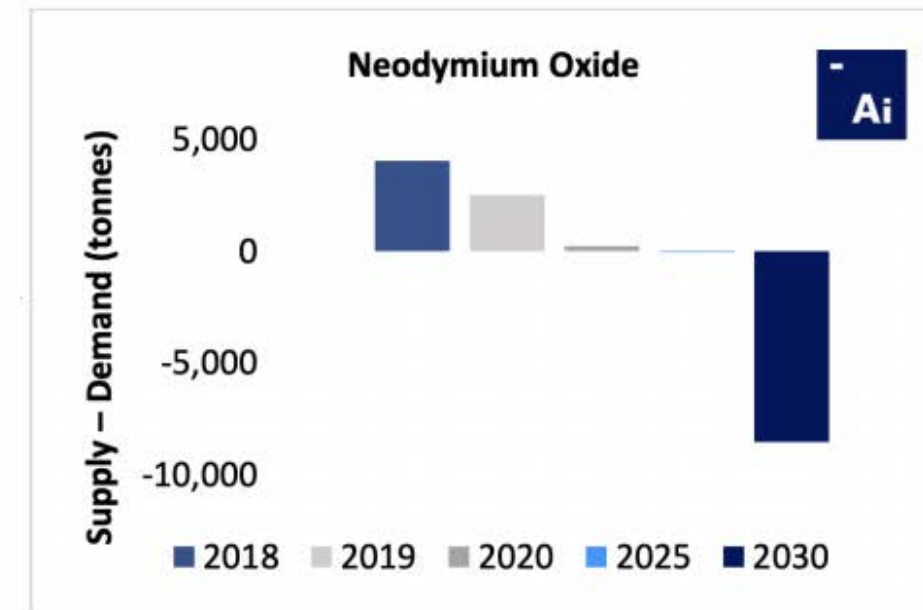
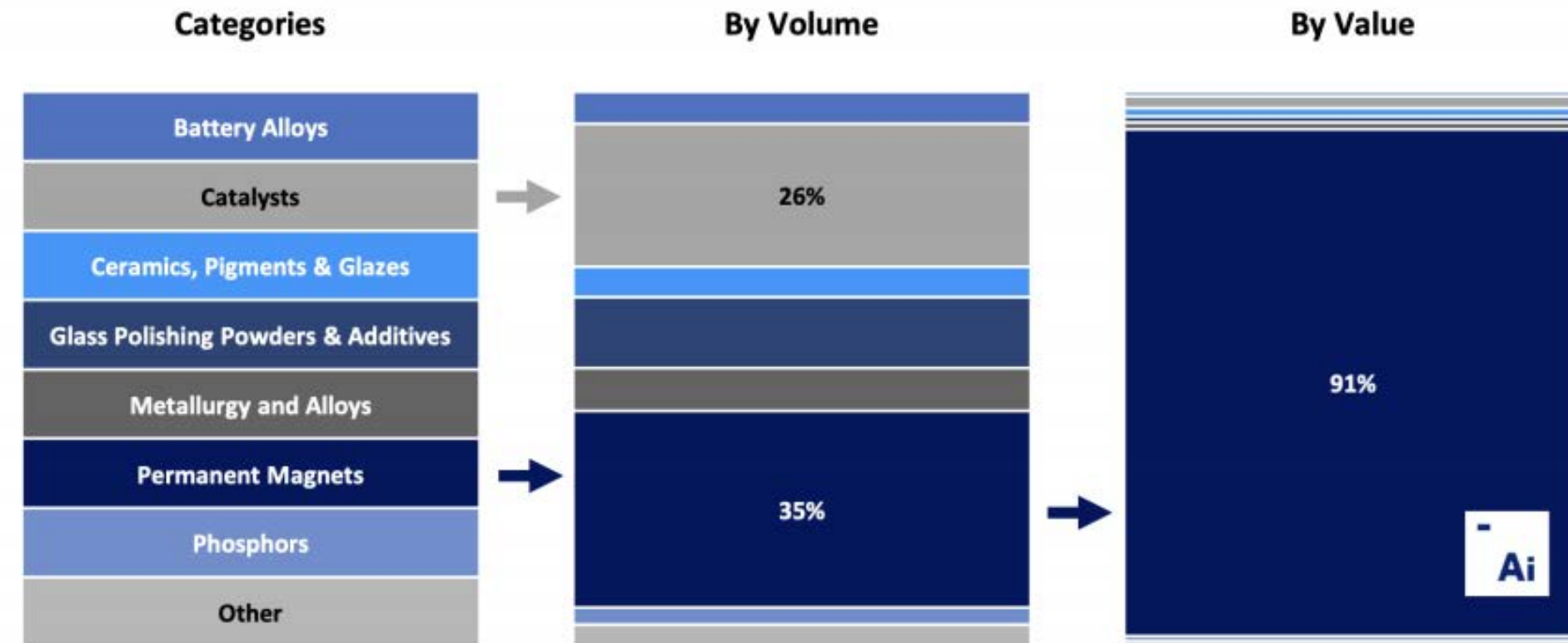
Permanent magnet applications such as in electric vehicles and clean energy are the dominant demand drivers<sup>1</sup>

Supply will struggle to keep up with the rapidly rising demand for critical magnet elements such as Neodymium (Nd), Praseodymium (Pr), Terbium (Tb) and Dysprosium (Dy)<sup>1</sup>

Demand growth for rare earths is strong and increasing

Applications will continue rapid development especially as a dependable, cost effective, high quality<sup>2</sup> supply is established outside of China

Customers need secure, dependable, timely source of rare earth products, with fair and predictable material costs, and a flexible supply chain with minimised risks due to geopolitical landscape



Source: Adamas Intelligence

<sup>1</sup> Adamas Intelligence September 2020 <sup>2</sup> Roskill Aug 2020





# MAGSPEC Airborne Survey

Airbone Geophysical Survey Agreement signed for 5,189 line kilometres to acquire detailed airborne magnetic-radiometric data over entire tenement area

Data acquisition is anticipated to commence in early November 2021

Final processed data will be made available within approximately 10 days after acquisition completion

Geophysical survey data will better define high priority targets for follow up sampling and drilling

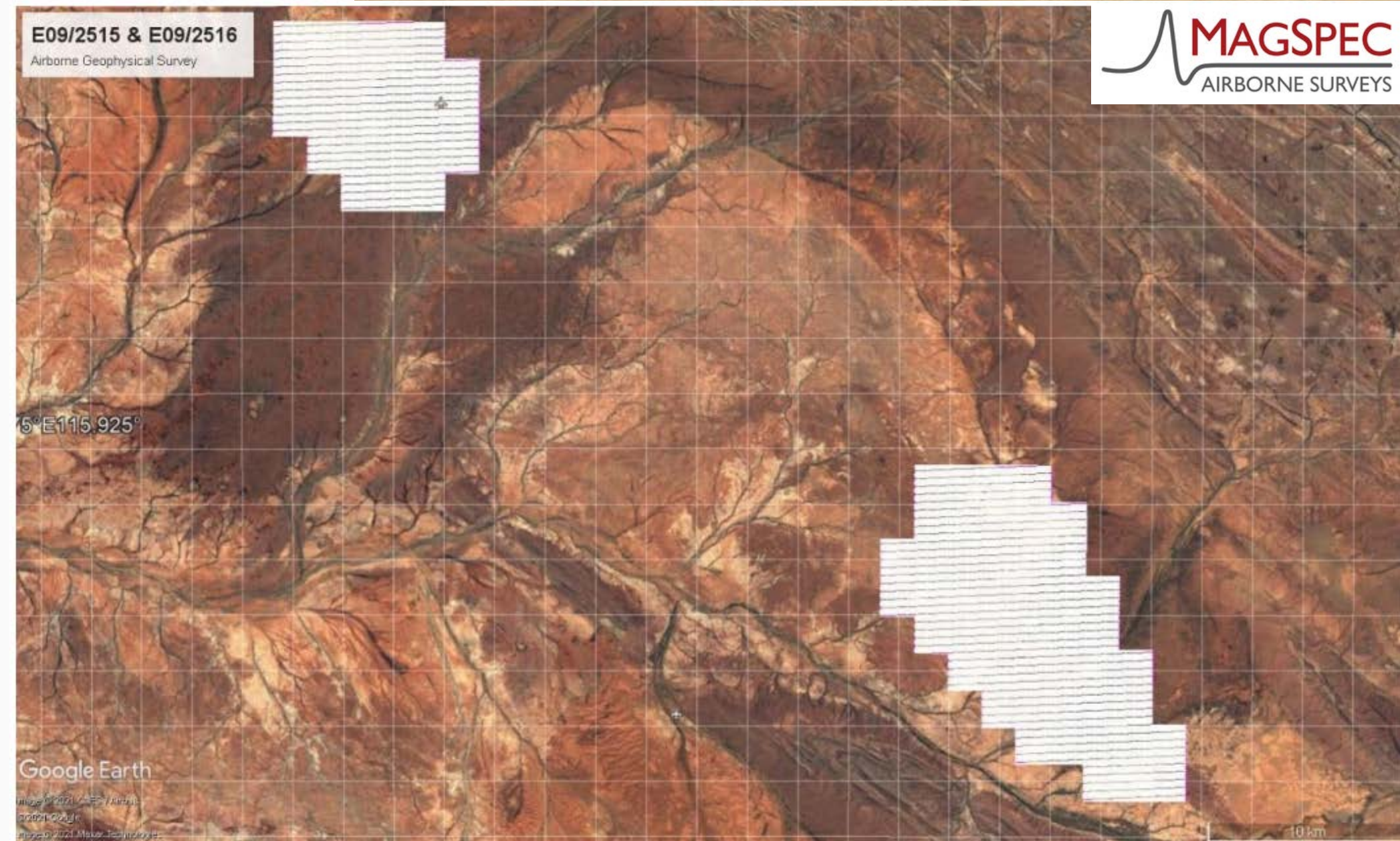


Photo (top): Survey Aircraft Cessna 206 Photo (bottom): Survey Area with flight lines marked east-west





# Gascoyne Project Newsflow

---

Tenement grant early December 2021

Field crew to be mobilised to site immediately for reconnaissance geological mapping and rock-chip sampling

Geophysical surveys planned to initially focus on magnetics and thorium radiometric anomalies coincident with geochemical anomalies or any apparent ironstone outcrops

Systematic geochemical sampling and drill definition programs to confirm continuation at depth of any geochemical anomalism and/or geophysical targets

Key stakeholder engagement and ongoing open dialogue with Traditional Owners, Pastoralists and the Shire of Upper Gascoyne



Photo (top): Mount August, Western Australia, ~50km east of Dalkeith's tenure

Photo (bottom): Yangibana Ironstones outcropping at Hastings tenure





# Koolya Kaolin-Halloysite-High Purity Alumina

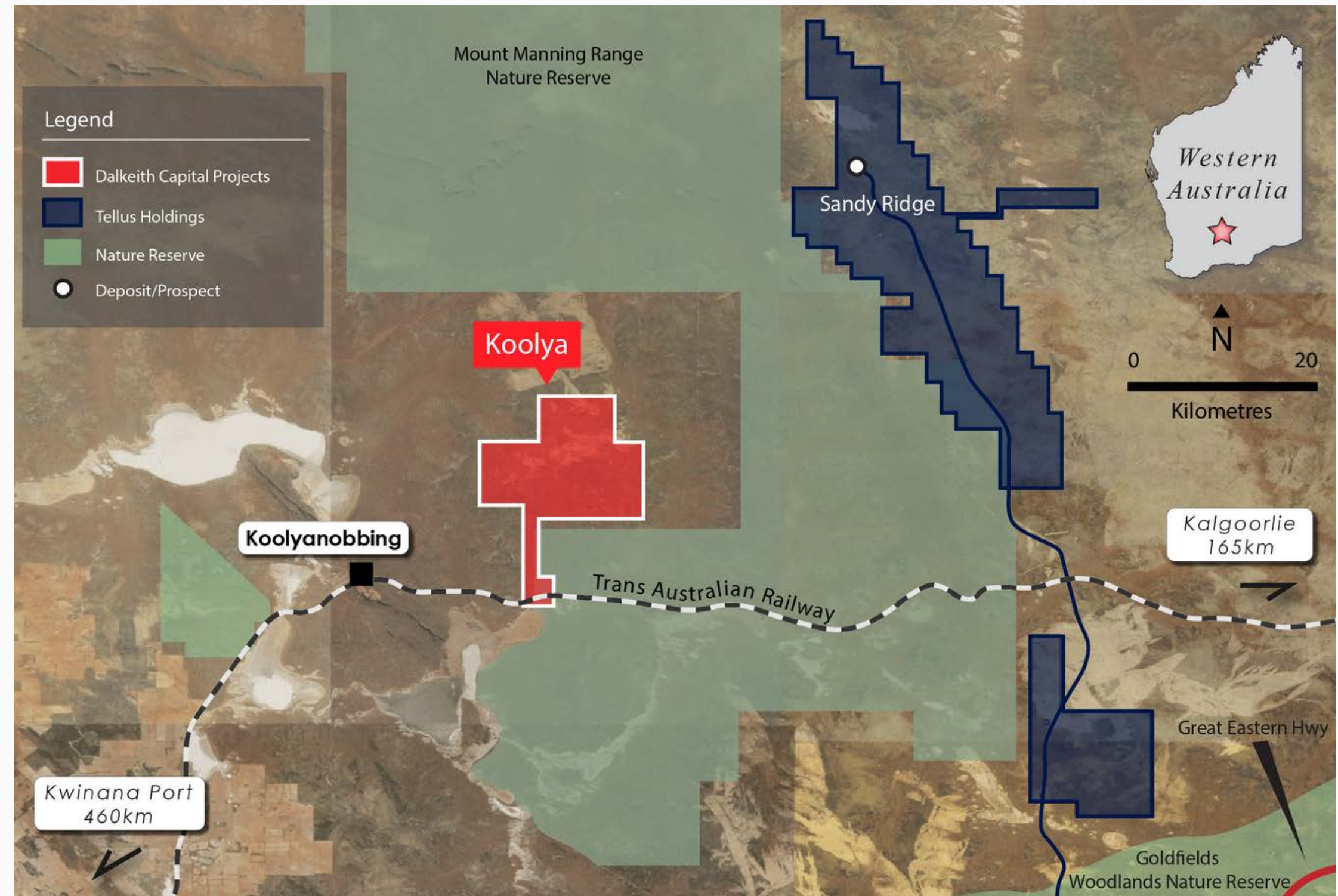
240km<sup>2</sup> of kaolinised granite prospective for sought after bright white kaolin clay and High Purity Alumina (HPA)

Tenure supportive for large scale development, with no competing land ownership of Pastoral Lease or freehold farmland compared to other ASX-listed projects

Excellent infrastructure with Trans Australian Railway adjoining project area allowing for bulk transport of up to 5,000t per train movement resulting in better economies of scale than other WA based projects

Kaolin market is growing with High Purity Alumina investment in EV and battery market for ceramic coated separators driving global demand

Unprecedented development of electric vehicles and static energy storage sector being undertaken propelling the growth of HPA







# Koolya Kaolin-Halloysite-High Purity Alumina

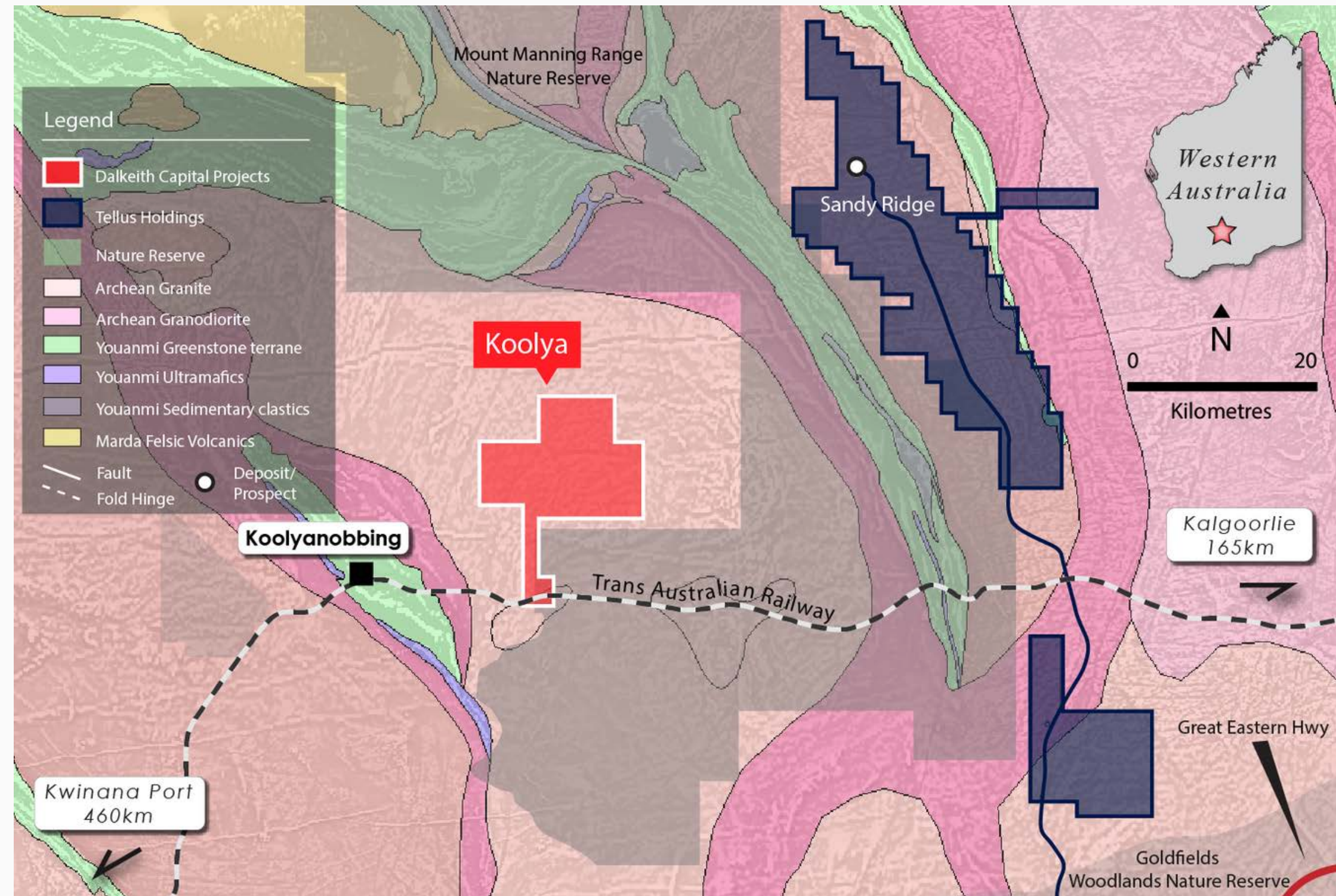
Proven kaolin producing region with Tellus Holdings Sandy Ridge kaolin mine 30km away to the north-east and Kula Gold's recent discovery 80km south

Sandy Ridge open pit mine recording very high grade ISO Brightness of 83-86%

Koolya is a drill ready project with reconnaissance drilling to be undertaken immediately on tenement grant to investigate the depth, thickness, ISO brightness, mineralogy and alumina content over the project area

Further extensive drilling programs to follow to define the extent of kaolin leading into a JORC resource and feasibility studies

Our aim is to delineate a giant world class kaolin deposit with minimal barriers to market, supplying a high quality and highly sought after HPA and Halloysite product to meet growing global demand







# Kaolin market and forecasts

## Overview

A platy white clay derived from the mineral Kaolinite formed by hydrothermal weathering of igneous rock such as granite. A common mineral however, rarely occurs in large high-grade and low impurity deposits

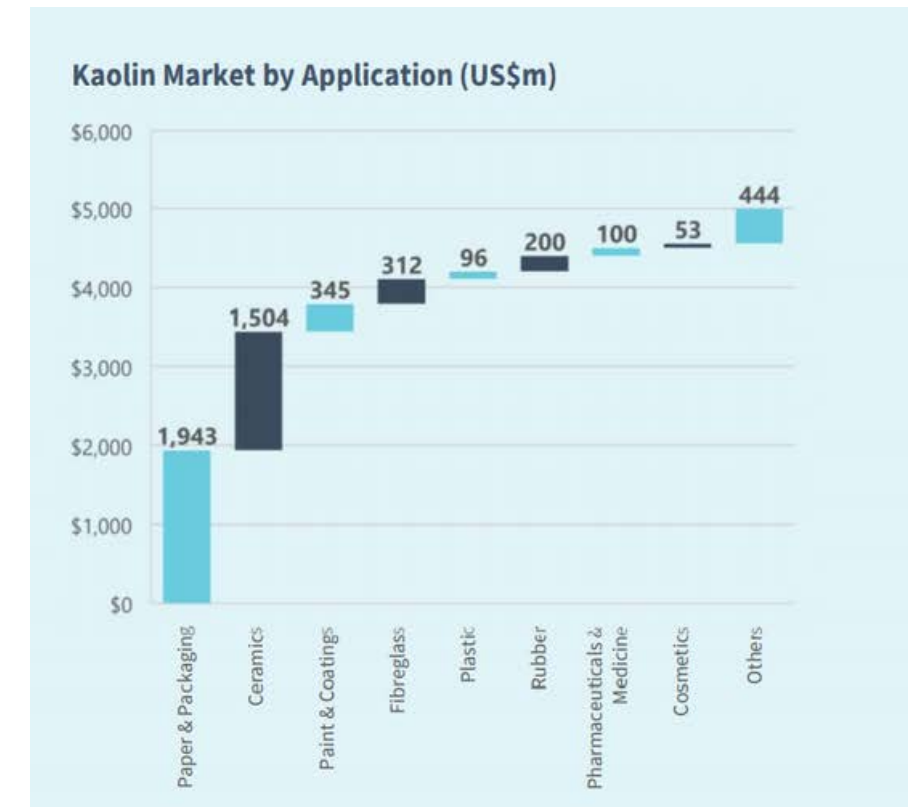
**Estimated US\$4.76 billion market and growing. Projected to reach US\$6.3 billion in 2027<sup>1</sup>**

## Current Application Industries

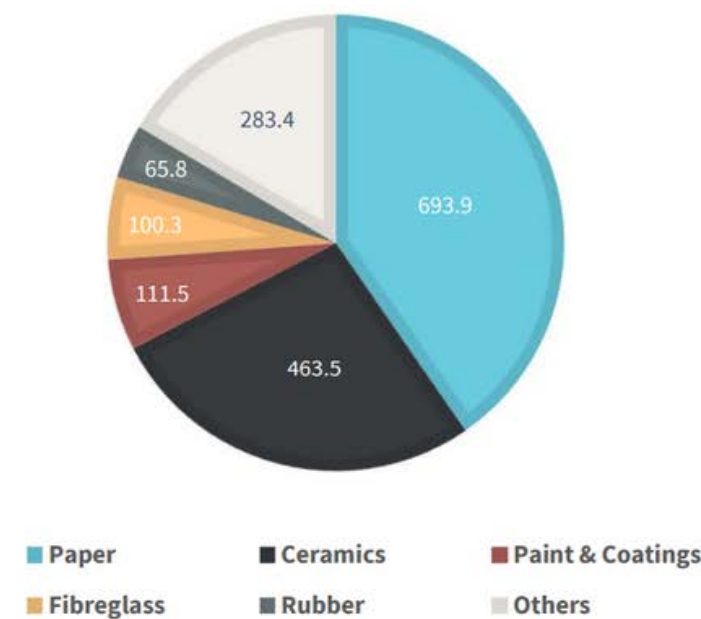
Paper and packaging, ceramics, paints and coatings, fibreglass, plastics, rubber, pharmaceuticals, cosmetics, concrete and agriculture

## Future Applications

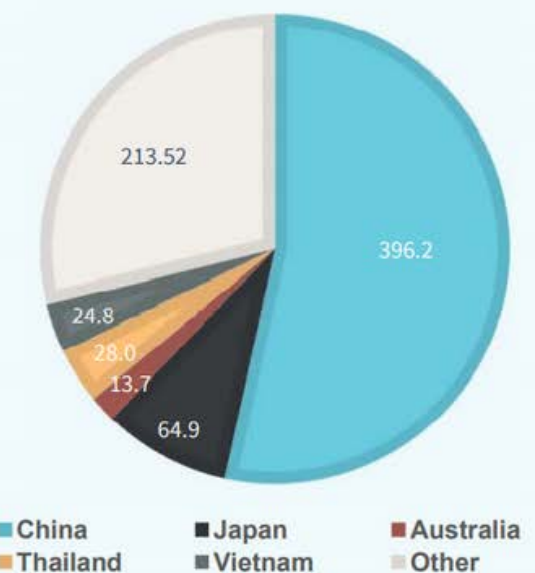
Feedstock for High Purity Alumina (HPA) production. Kaolin deposits with low impurities are an optimal feedstock for the direct synthesis of HPA 4N and 5N from kaolin ore



APAC Market Revenue by Application (US\$m)



APAC Vertical Markets by Country (US\$m)  
Ceramic, Fibreglass, Paint, Rubber



Source: Grand View Research report, Kaolin Market Update

<sup>1</sup> Grand View Research report, Kaolin Market Update, September 2020





# High Purity Alumina Market

## Overview

HPA growth has been invigorated in response to global investment in EV's as post COVID19 stimulus incentives. New applications and technologies have created increased demand and market opportunities

The current global 4N HPA market demand is ~60ktpa 2021; this is **expected to increase to >140ktpa by 2025**<sup>1</sup>

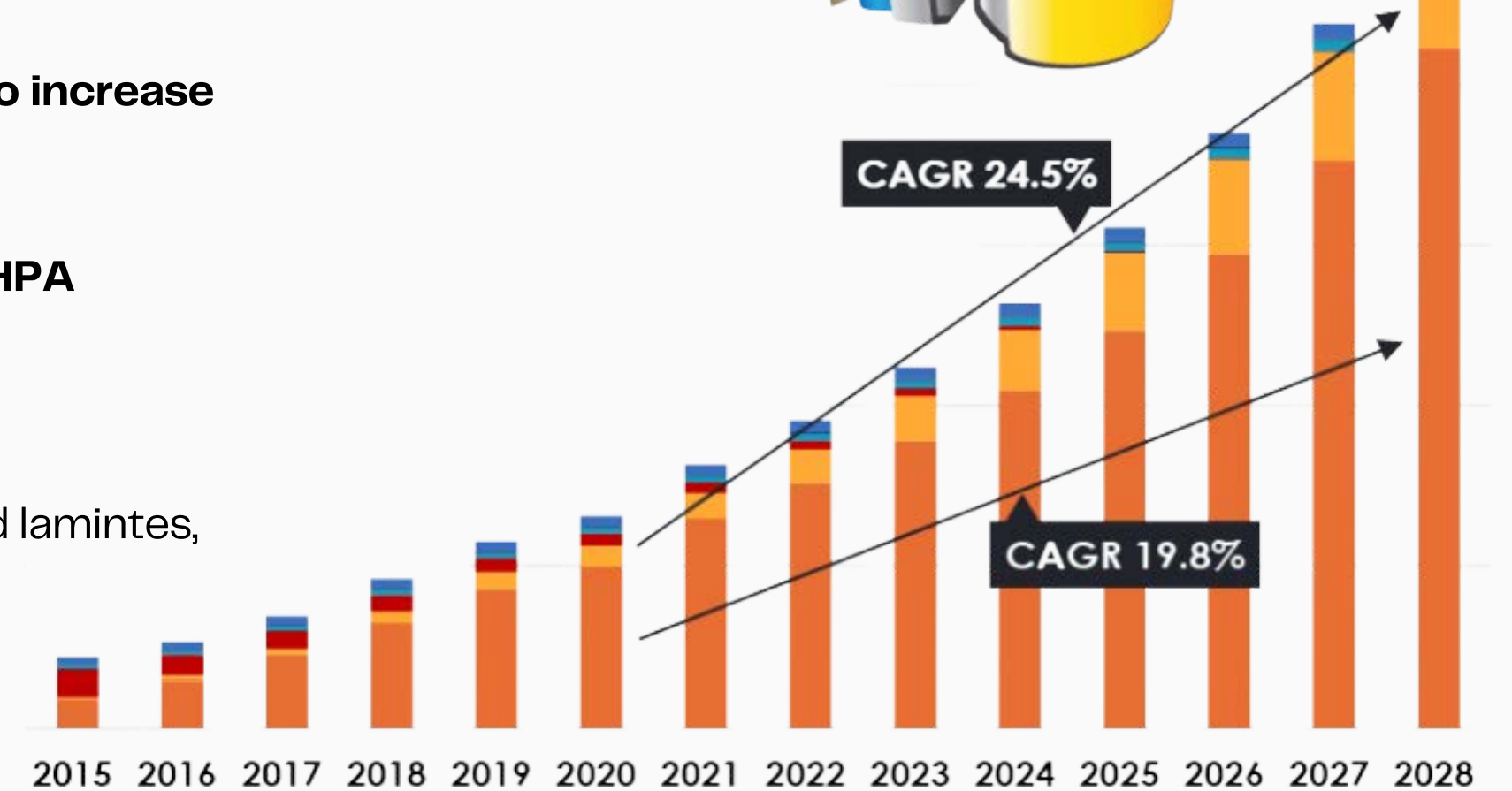
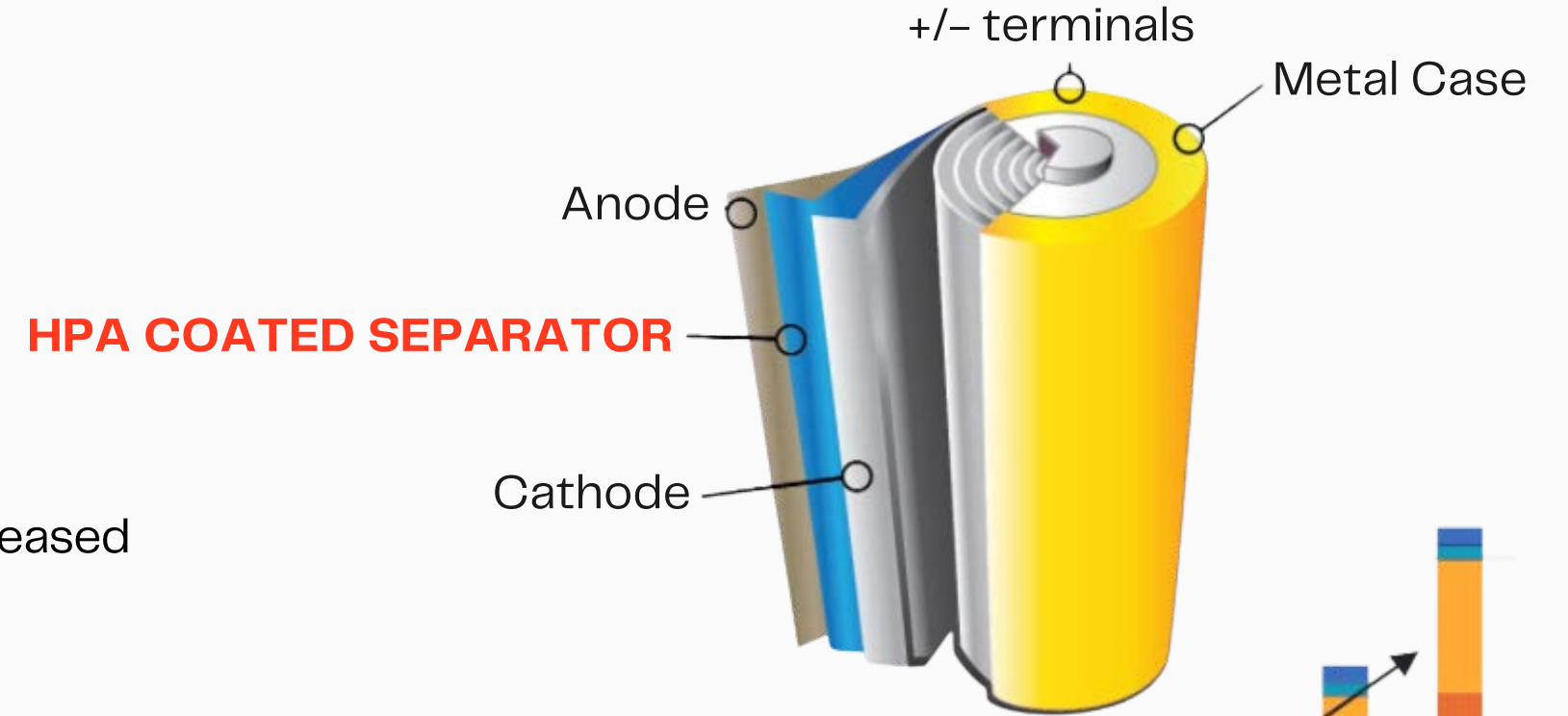
The market for HPA is witnessing dramatic consumer driven growth, with the **HPA market forecasted to be US\$4.49Bn by 2022**<sup>2</sup>

## Batteries and E-Mobility

Already established market used in separators: coatings, solids, interwoven and lamintes, and developing use in coatings: cathode, anode, battery cell lining, ceramic cell, electrolytes and nanotech

## Sapphire Glass and Ceramics

LED & consumables: LED lighting, plasma display, substrates, electronics, and industrial application: optical lenses, specialty glass, abrasives, aeronautics and artificial gems



Source CRU, Global HPA Market Outlook

<sup>1</sup> CRU HPA Market Research July 2019

<sup>2</sup> Allied Market Research, World High Purity (HPA) – Opportunities and forecasts 2015–2022





# Sandy Ridge Tellus Holdings

Sandy Ridge Facility represents a critical long-term infrastructure asset that will help solve hazardous waste challenges for large scale infrastructure, construction and mining projects around the country

ISO Brightness 84–86% (Optical Unfired) up to 36m thick, 290,000tpa of kaolin clay, commissioning a 40,000–tonne kaolin clay plant (within five years), with initial 25 year mine life but the potential to be multi-generational with rolling approval extensions<sup>1</sup>

Recent approval from the WA Government to fully operate a dual-purpose commercial kaolin mine and Class IV and Class V hazardous waste facility, the first of its kind in Australia. Tellus is the only company in Australia that can issue a Permanent Isolation Certificate (Tellus PICTM), which provides a basis for derecognising a liability provision on financial statements under accounting standard AASB 137<sup>2</sup>

Mission to clean up hazardous waste across Australia, meaning that waste that was previously exported can now be treated and disposed of in Australia as part of our best practice circular economy obligations. This will deliver a significantly lower carbon footprint than offshore forms of disposal<sup>2</sup>

A total of 6.6 million tons of tracked hazardous waste was generated in Australia in 2012. The total cost of regulating, transporting, treating and disposing of this waste is estimated to have been \$2,417 million<sup>3</sup>

During 2018–19, this figure had rose to 8 million tons of hazardous waste generated, increasing by 23% since 2016–17<sup>4</sup>

<sup>1</sup> Premium Kaolin for Ceramic Applications – Tellus Holdings    <sup>2</sup> Tellus' Sandy Ridge Facility Approved for Surface Storage of Low Level Radioactive Waste – Tellus Holdings

<sup>3</sup> Cost of Hazardous Waste (environment.gov.au)    <sup>4</sup> Waste Account, Australia, Experimental Estimates, 2018–19 financial year | Australian Bureau of Statistics (abs.gov.au)





# Koolya Project Newsflow

Tenement grant expected in mid December 2021

Reconnaissance drilling program to investigate thickness and purity of kaolinised granite over the project area

SEM imaging at the CSIRO to confirm the qualitative nature of Halloysite within drill samples

Extensive drill definition programs to infill previous reconnaissance drilling and to extend known areas of kaolin resource

Scoping and Pre Feasibility studies to commence as soon as practical following the resource drilling programs

Metallurgy and Pilot plant studies to ensure offtake product specifications are achievable prior to full scale mine development

Engage in product marketing and secure offtake agreements

Investigate potential hazardous waste storage facility



Photo (top): RC drilling in Kalgoorlie Region

Photo (middle) Tellus Holdings Sandy Ridge Kaolin Mine

Photo (left): Kula Gold, discovery drillhole recording +42m average vertical thickness white kaolin clays (BMRC001)



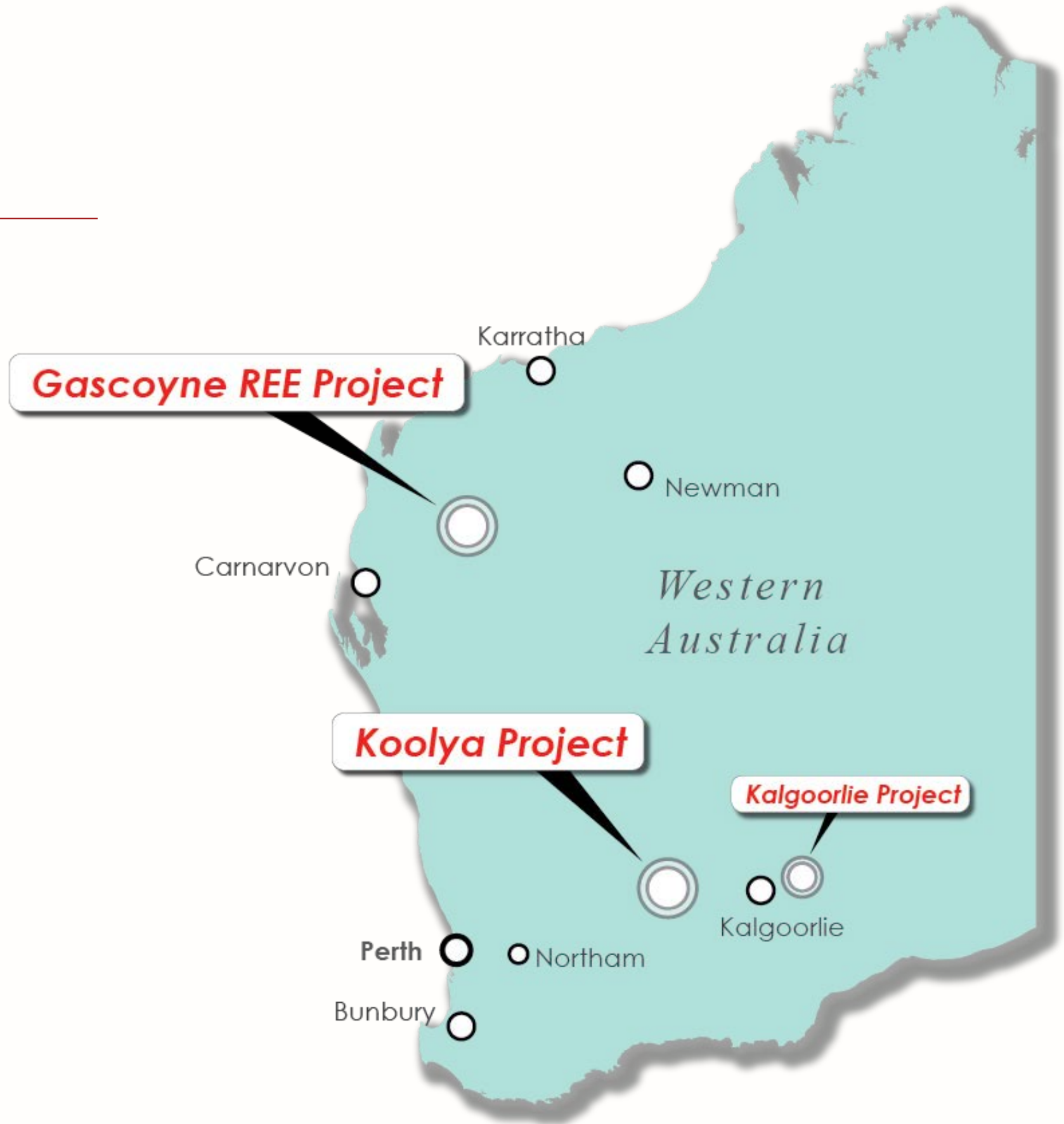


# Kalgoorlie Project - Gold

The Kalgoorlie Project consists of one exploration tenement application E 27/648, which is located 50km east of Kalgoorlie, 5km southwest of the Jubilee Mining Centre and 6km northeast of the Queen Lapage Mining Centre

Initial exploration work will focus on the site of historic prospecting activity that covers the now surrendered lease P 27/2131

An extensive geochemical sampling program is planned to cover the entire tenement upon tenement grant, with Air Core drilling to follow pending positive results





# Connect

---

Thank you, for enquiries please see  
contact details below

## **Frontier Resources**

Level 8, 99 St Georges Terrace  
Perth WA 6000

+61 (08) 9486 4036

[www.frontierresources.net.au](http://www.frontierresources.net.au)

