

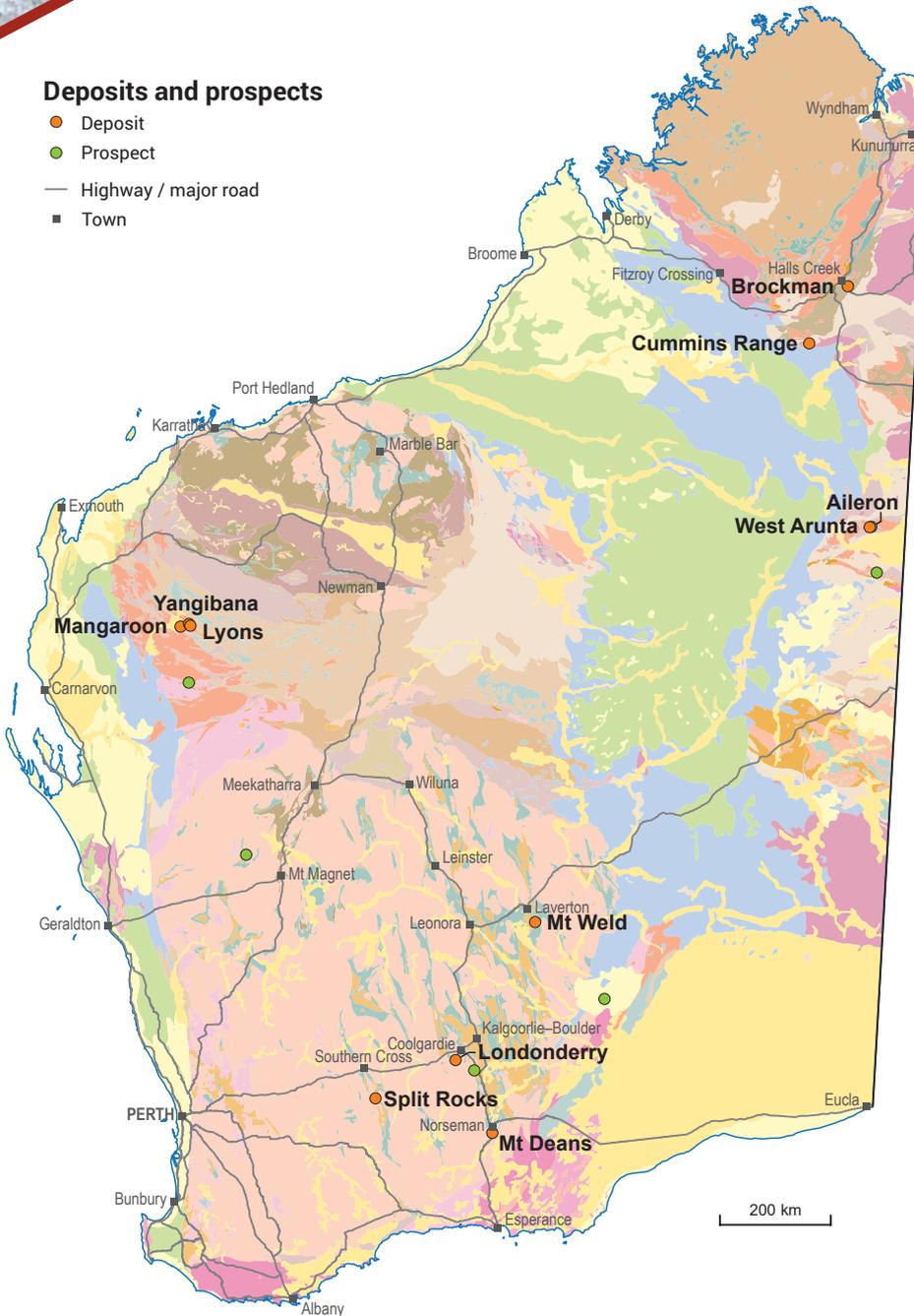
# NIOBIUM

## INVESTMENT OPPORTUNITIES

**WORLD-CLASS RESOURCE PROVINCE | SECURE INVESTMENT LOCATION  
WORLD-LEADING GEOSCIENTIFIC DATA | GLOBAL MINING SERVICES INDUSTRY**

### Deposits and prospects

- Deposit
- Prospect
- Highway / major road
- Town



### Western Australia has the potential to host world-class niobium deposits

- Niobium in Western Australia occurs in economic concentrations across several geological settings, including alkaline intrusive and carbonatite-related systems in provinces such as the Gascoyne and West Arunta in association with Rare Earth Elements, and additional concentrations occur in rare-element LCT pegmatites
- At the West Arunta Project (WA1 Resources), Luni is the most significant niobium discovery in more than 70 years and is one of the world's major critical mineral deposits. Metallurgical test work has produced the first ferroniobium from refined concentrate from Luni

### Resources

- A Maiden Mineral Resource Estimate (MRE) was released for Luni of 200 Mt at 1%  $Nb_2O_5$ . The MRE is constrained to shallow, weathered mineralisation, starting from 30 m. Mineralisation is open at depth
- A Maiden MRE was announced for the Yangibana (Hastings Technology Metals) Project of 6.7 Mt at 0.23%  $Nb_2O_5$  for 15.5 kt. An Updated MRE was announced for the Cummins Range (RareX Ltd) Project
- A maiden MRE was released in May 2025 of 19.2 Mt at 1.74%  $Nb_2O_5$  at the Aileron Project (Encounter Resources)

### Exploration

- Recent geological, mineralogical and metallurgical studies have revealed a promising pathway for extracting high-grade niobium concentrate from the Yangibana Project
- Several discoveries include Stinger and Rocky Road at the Mangaroon (Dreadnought Resources) Project, and Crean and Green at the Aileron (Encounter Resources) Project
- At the Mangaroon Project, wide-spaced drilling over ~25% of the ~17 km-long Gifford Creek Carbonatite has already identified multiple zones of critical metal (rare earth, niobium, titanium, phosphate and scandium) mineralisation. This makes for a critical mineral mix of coproducts
- Drilling at the Mangaroon Project was co-funded by the Western Australian Government's Exploration Incentive Scheme under its Co-funded Drilling Program



Department of Mines,  
Petroleum and Exploration

[dmp.e.wa.gov.au](http://dmp.e.wa.gov.au)



Geological Survey of  
Western Australia

# Niobium projects with resources ranked by contained Nb<sub>2</sub>O<sub>5</sub> as at August 2025

Mineral Resource Estimates reported in accordance with JORC (2012) unless otherwise stated

Project	Status	Owner	Resources (Mt)	Av. grade Nb <sub>2</sub> O <sub>5</sub> (%)	Contained Nb <sub>2</sub> O <sub>5</sub> (kt)	Resource date
West Arunta	Exploration	WA1 Resources	223.00	0.99	2 207.4	30/06/2025
Mt Weld*	Operating	Lynas Rare Earths	37.70	1.07	404.7	06/10/2024
Aileron	Exploration	Encounter Resources	19.20	1.74	336.2	14/05/2025
Cummins Range	Scoping	RareX	524.30	0.06	306.2	25/01/2024
Brockman	Scoping	Hastings Technology Metals	41.60	0.35	145.6	30/09/2021
Mangaroon	Exploration	Dreadnought Resources	10.84	0.22	23.8	28/08/2023
Yangibana	Feasibility	Hastings Technology Metals	6.74	0.23	15.5	04/09/2024
Lyons	Exploration	Lanthanein Resources	0.69	0.23	1.6	25/10/2023
Mt Deans*	Exploration	Strindberg family	9.10	0.01	1.1	31/01/2002
Londonderry	Exploration	ARM Mining	10.30	0.01	1.1	28/07/2018
Split Rocks	Exploration	Zenith Minerals	11.90	0.01	0.1	28/09/2023

Resource estimates have been rounded

\* Mineral Resources reported in accordance with JORC 2004, and is the niobium–tantalum rich subset (Mingiri-Marloo) of the Mt Weld Project

# Mineral Resource is not reported in accordance with the JORC code

Spatial and resource estimates data sourced from WA Mines and Mineral Deposit database (MINEDEX)

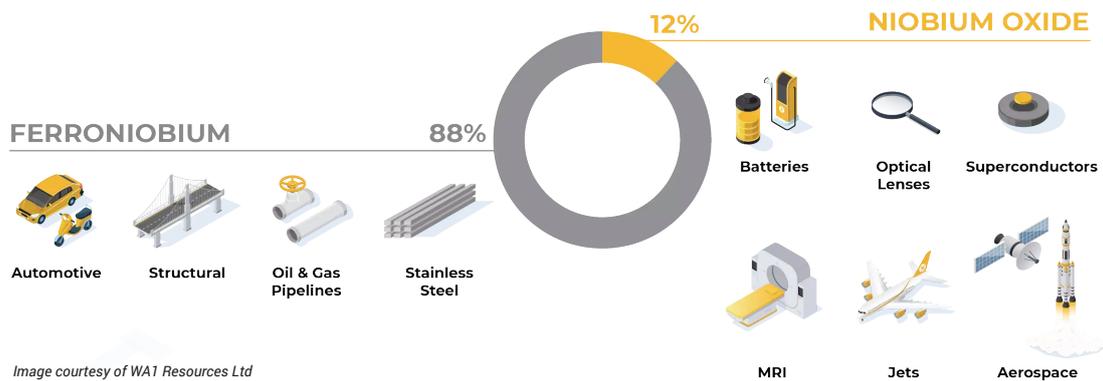
 Trachytic tuff host rock

 Regolith and/or carbonatite host rock

 Pegmatite

## Properties and uses

- Niobium is a lustrous, grey, ductile, paramagnetic metal in group 5 of the periodic table. Group 5 contains vanadium (V), niobium (Nb), tantalum (Ta) and dubnium (Db)
- Due to the concentration of supply, niobium has been identified as a critical mineral by many jurisdictions including USA, the European Union and Australia
- The primary niobium product is ferroniobium (FeNb, 65% Nb), which accounts for approximately 90% of all niobium mined, and is used in high-grade structural steel. Ferroniobium is primarily utilised as a micro-alloy in steel production, which significantly increases yield and tensile strength while retaining its formability and weldability. Small amounts of niobium (less than 1%) significantly increase the strength and decreases the weight of steel products, leading to substantial economic benefits in the construction industry. Through the use of this higher quality steel, there is potential to lower the costs and carbon emissions of steel used in construction
- The second-largest application is superalloys. Niobium alloy superconductors and electronic components account for a very small share of the world production. These superalloys are used for such applications as jet engine components, gas turbines, rocket subassemblies, turbo charger systems, heat resisting, and combustion equipment
- Niobium oxide (Nb<sub>2</sub>O<sub>5</sub>) represents a key growth market through its use in niobium battery technologies. Recent research into the use of niobium in electric vehicle batteries has shown significant potential benefits including a 10x longer life than traditional batteries, the reduction in charge times down to six minutes or less and increased stability and performance



## For more information

MINEDEX is a spatial and textual database of mining and exploration activity

**MINEDEX**

[www.dmpe.wa.gov.au/minedex](http://www.dmpe.wa.gov.au/minedex)

GeoVIEW.WA is a free GIS-based spatial viewer

**GeoVIEW.WA**

[www.dmpe.wa.gov.au/geoview](http://www.dmpe.wa.gov.au/geoview)



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