



Iluka Resources Limited

Delivering value through an integrated processing model

Mineral Sands Conference 2021

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This document provides an indicative outlook for the Iluka business in the 2021 financial year. The information is provided to assist sophisticated investors with the modelling of the company, but should not be relied upon as a predictor of future performance. The current outlook parameters supersede all previous key physical and financial parameters.

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Non-IFRS Financial Information

This document contains non-IFRS financial measures including cash production costs, non production costs, Mineral Sands EBITDA, Underlying Group EBITDA, EBIT, free cash flow, and net debt amongst others. Iluka management considers these to be key financial performance indicators of the business and they are defined and/or reconciled in Iluka's annual results materials and/or Annual report. Non-IFRS measures have not been subject to audit or review.

All figures are expressed in Australian dollars unless stated otherwise.

Mineral Resources and Ore Reserves Estimates

As an Australian company with securities listed on the Australian Securities Exchange (ASX), Iluka is subject to Australian disclosure requirements and standards, including the requirements of the Corporations Act and the ASX. Investors should note that it is a requirement of the ASX listing rules that the reporting of ore reserves and mineral resources in Australia comply with the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the "JORC Code") and that the Ore Reserve and Mineral Resource estimates underpinning the production targets in this presentation have been prepared by a Competent Person in accordance with the JORC Code 2012.

Information that relates to Mineral Resources estimates has been previously announced to ASX on 25 February 2021 in 2020 Annual Report, on 18 February 2020 in Eneabba Mineral Sands Recovery Project Ore Reserve Estimate, 24 July 2019 in *Eneabba Mineral Sands Recovery Project Updated Mineral Resource Estimate*, and on 20 February 2017 in *Updated Mineral Resource and Ore Reserve Statement*, all available at www.iluka.com/investors-media/asx-disclosures. Iluka 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 estimates continue to apply and have not materially changed. Iluka confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.

Production outlook

Production outlook and the basis thereof are noted within the relevant disclosure. The outlook included in this presentation is indicative only and should not be construed as guidance. The information is subject to changes in market and operating conditions; political risk; and any significant unplanned operational issues.

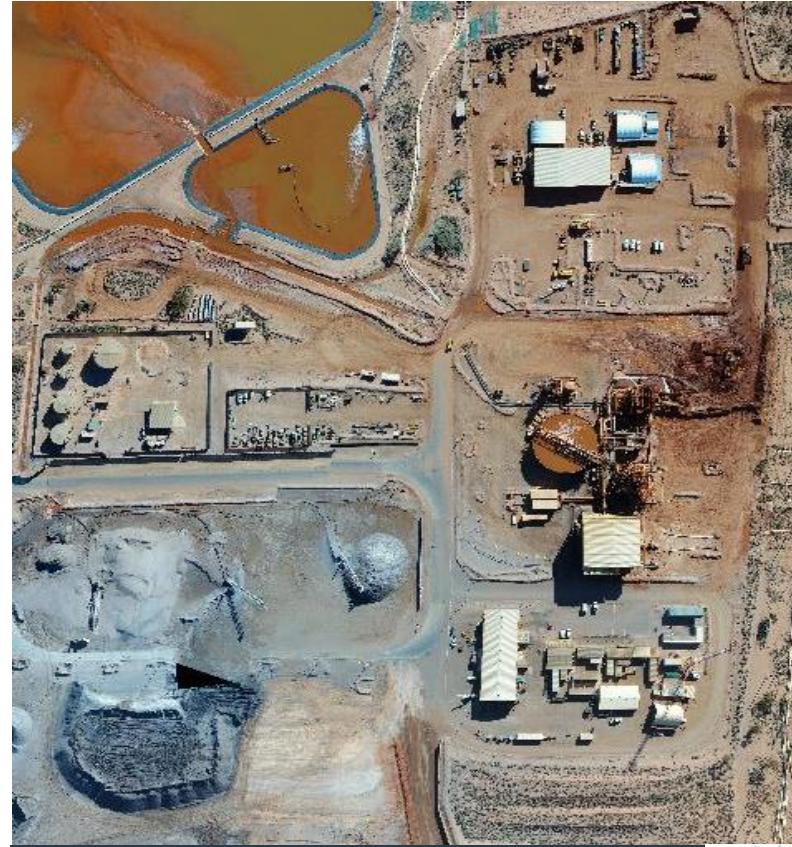
Australian operations



Cataby / South West



Large chloride ilmenite rich mine, commissioned in 2019. Ilmenite feeds Synthetic Rutile Kiln 2 at Capel, with material zircon and rutile production processed at Narngulu mineral separation plant.



Jacinth-Ambrosia / Mid West



One of the world's largest zircon mines, discovered and developed by Iluka and operating since 2009. The Narngulu mineral separation plant processes Jacinth-Ambrosia and Cataby non-magnetic products (zircon and rutile).



Eneabba



World's highest grade rare earths operation, based on strategic stockpile of monazite. Phase 1 operations began April 2020. Phase 2 is under construction (commissioning H1 2022). Feasibility study for Phase 3 – a fully integrated rare earths refinery – scheduled for finalisation early 2022.

Return to maximum settings in H1 2021

- Australian operations returned to maximum settings following decisions in 2020 and early 2021 to manage inventory levels
 - Synthetic Rutile Kiln 2 at Capel returned to full production in Q2 following its idling in Q1
 - Narngulu mineral separation plant returned to full capacity in Q1, processing both Cataby and Jacinth-Ambrosia material

Key pillars of Iluka's sustainability approach

Health and safety

Our people

Our communities


Environmental stewardship

Governance and integrity

Value creation



Member of
Dow Jones Sustainability Indices
Powered by the S&P Global CSA



FTSE4Good

1.7 TRIFR
(H1 2020: 3.2)
(Total Recordable Injury Frequency Rate)

43%
female representation
Executive and Board

MSCI
ESG RATINGS **A**

CCC	B	BB	BBB	A	AA	AAA
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26%
Indigenous employment at
Jacinth-Ambrosia

319ha
rehabilitated in H1 2021

BRONZE
2021
ecovadis
Sustainability
Rating

**Inaugural
Modern Slavery
Statement**

Zero
major (level 5)
environmental incidents

Jacinth-Ambrosia - hybrid power evolution

Iluka commissioned its first solar farm at Jacinth-Ambrosia in Q3 2021 with the plant expected to produce power from Q4 2021. The project is now being used as a template for future developments across Iluka's sites

3.5MW
solar farm

1460MW hours
Forecast production for
November and December
2021

Energy from waste
(exhaust recovery)

ETC technology
(electric turbo
compounding)

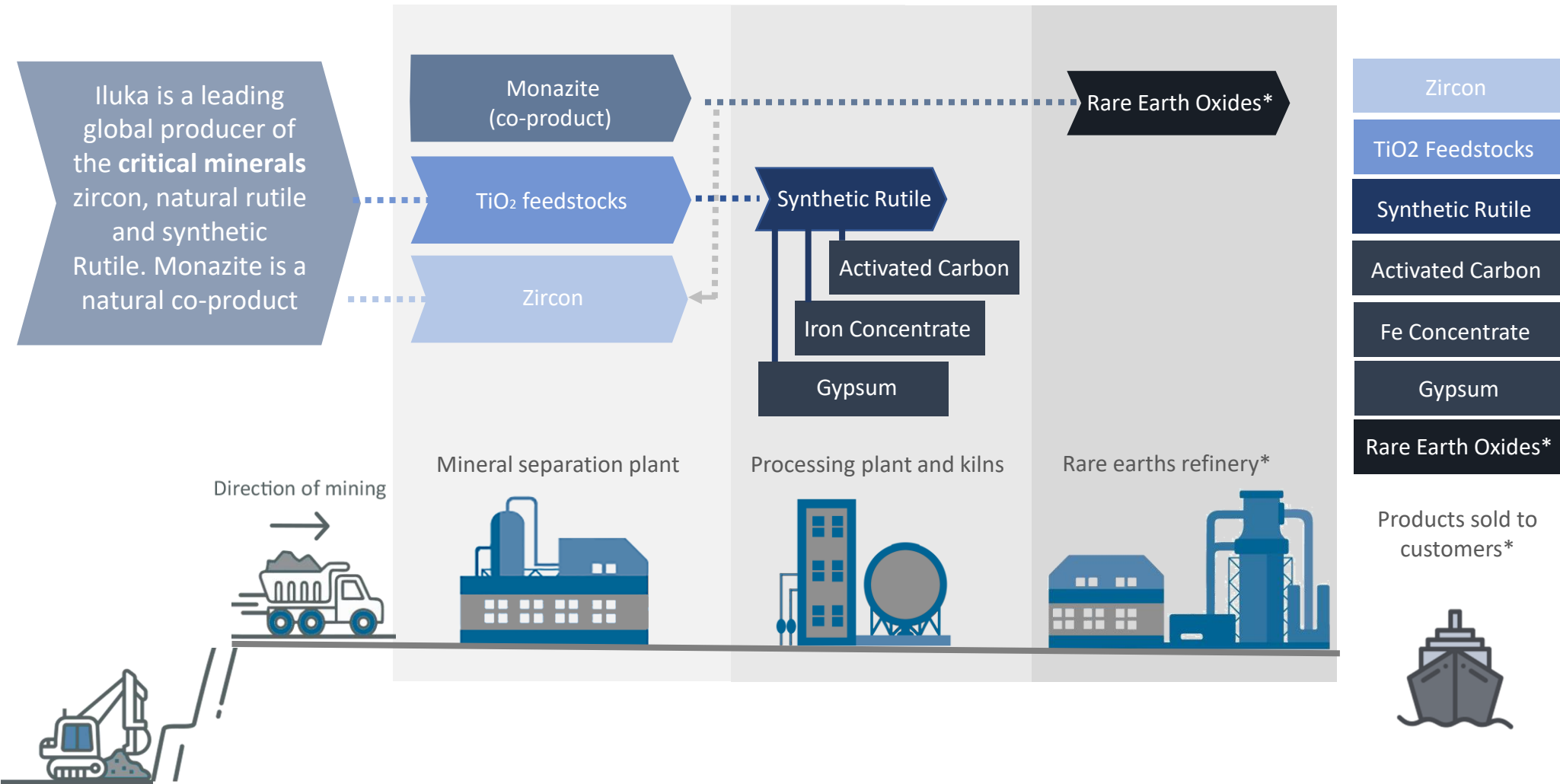
~18%
of consumed power at
Jacinth-Ambrosia

5,500 tonnes
of CO₂ expected to be saved
per annum



Co-products of mineral sands delivering value

Iluka continuously seeks to maximise resource efficiency, reduce waste at source and increase our contribution to the circular economy



Notes: *A potential rare earth refinery is currently the subject of a feasibility study with a Final Investment Decision (FID) expected in 2022

A global distribution network

Iluka's global distribution network provides confidence for customers and delivers value for shareholders



Iluka supplies more than 250 direct customers in over 40 countries



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Markets



Result

- Q3 21 YTD sales 266kt (Q3 20 YTD: 142kt)
 - Q3 sales of 89kt (+40% YoY) after Q2 sales of 91kt
- Demand in key markets reflecting a return to pre-pandemic production levels

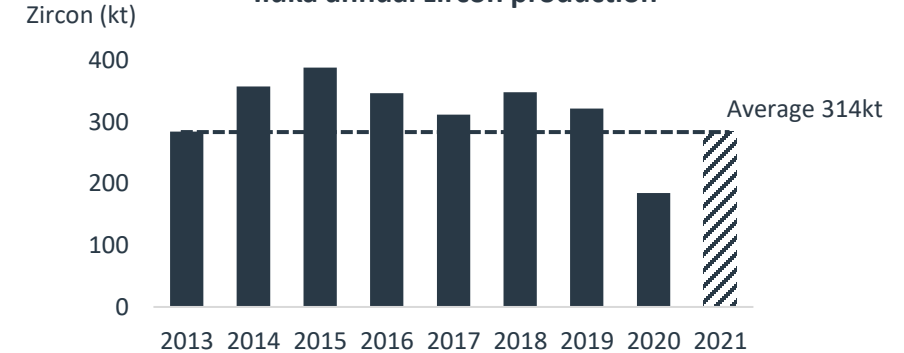
Pricing

- Q3 21 YTD weighted average received zircon (premium and standard) price US\$1,372/t
- Zircon sand prices increased US\$125/t in Q3, with a further US\$120-\$170/t increase effective 1 October
 - continued focus on delivering sustainable pricing

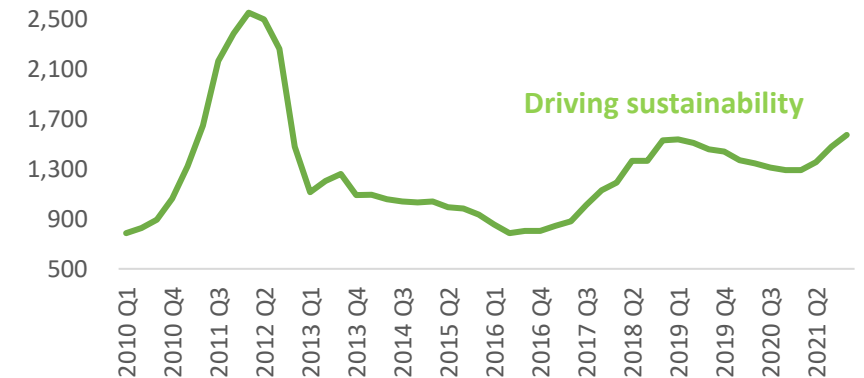
Supply/Demand

- Chinese tile production was steady and tile production rates in key tile producing countries in South America and in Turkey returned to pre-pandemic levels
- Tile production rates in India continue to recover despite exports being negatively impacted by container shortages and subdued domestic tile demand while European tile production continued to outperform
- Overall, the ceramics industry is experiencing sustained growth in sales. However, profitability is being challenged by increasing costs throughout the supply chain
- Ongoing supply-side tightness in the market with Iluka's Q4 21 sales volumes fully committed

Iluka annual zircon production



Iluka zircon sand net realised FOB price USD/t



High-grade titanium feedstocks



Result

- Q3 21 YTD sales 410kt (Q3 20 YTD: 209kt)
 - Q3 sales of 129kt after Q2 sales of 152kt
- Demand in all regions outpacing supply

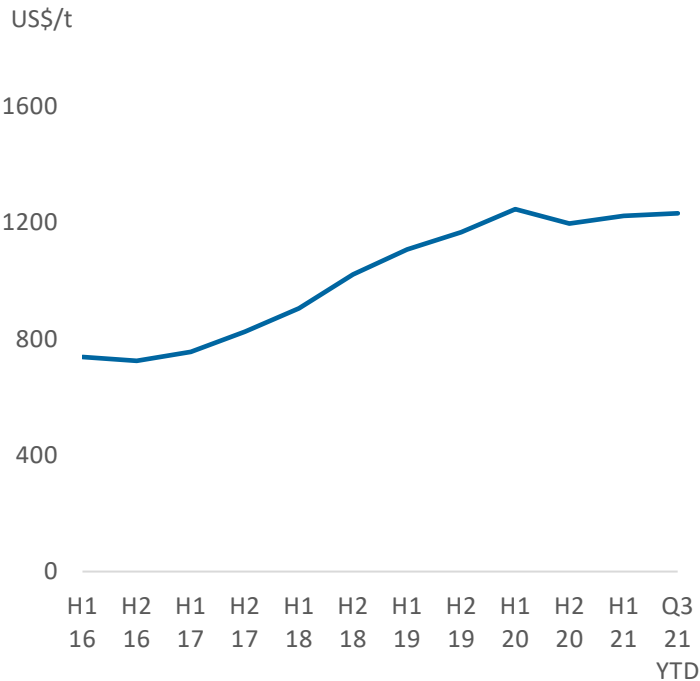
Pricing

- Q3 21 rutile price up 1.5% to US\$1,242/t¹
- Pigment pricing momentum continues with increases of US\$175-200/t announced by all major producers for Q4

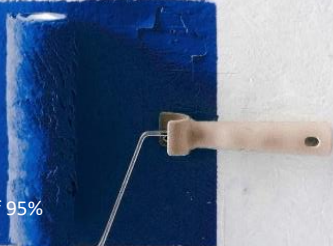
Supply/Demand

- Chinese Production of pigment and titanium feedstocks impacted by unprecedented logistics costs associated with container shortages
- Pigment inventories well below seasonal norms and long lead times persist as North American and European pigment producers continue to face shortages of chlorine
- Pigment producers are increasingly looking to boost head grades in order to reduce requirements for chlorine, driving increased demand for high grade feedstocks such as synthetic rutile and natural rutile
- All of Iluka’s synthetic rutile and natural rutile is under contract for the remainder of 2021

Rutile net realised FOB price US\$/t



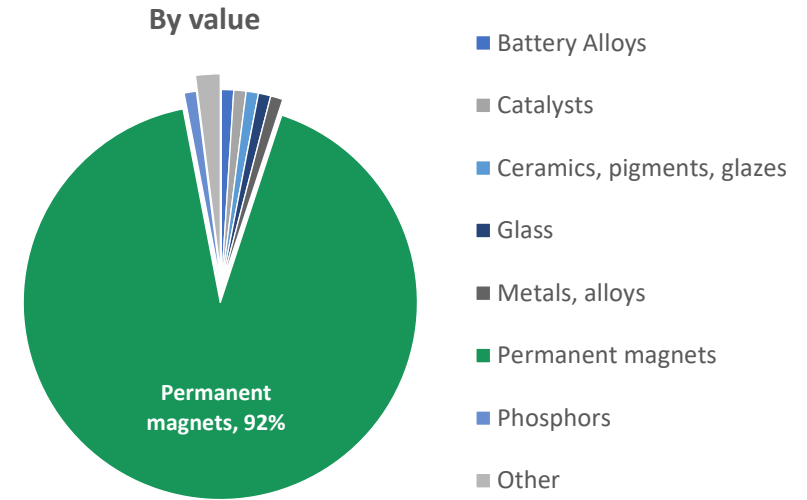
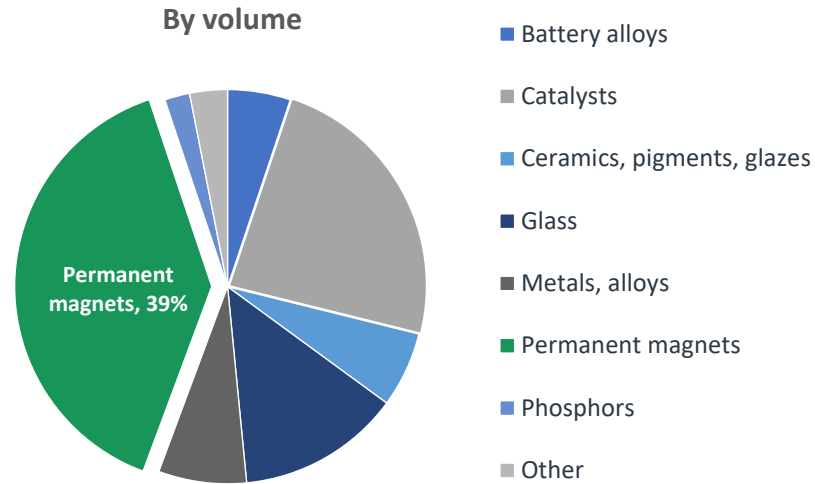
Notes: 1. Excluded from rutile sales prices is a lower value titanium dioxide product, HYTI, that typically has a titanium dioxide content of 70-90%. This product sells at a lower price than rutile, which typically has a titanium dioxide content of 95%



Rare earths – increasing global demand

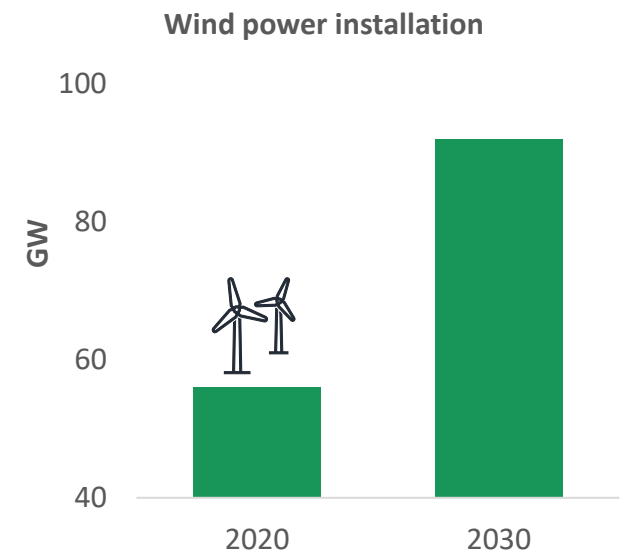
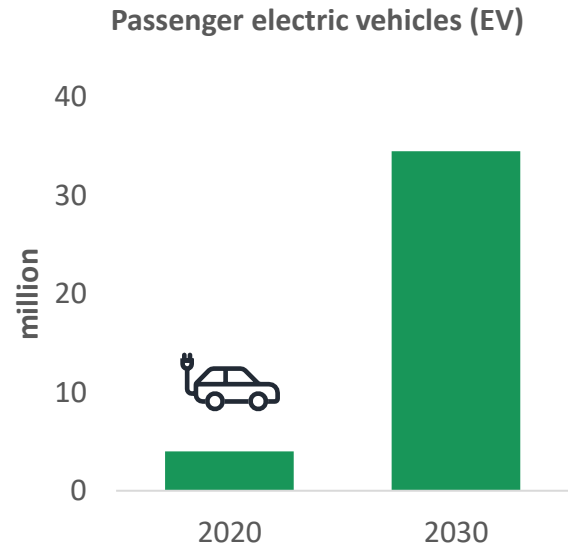
2019 rare earth use

- By volume permanent magnets accounted for nearly 40% of global consumption in 2019
- By value permanent magnets accounted for over 90% of consumption and this is forecast to grow further

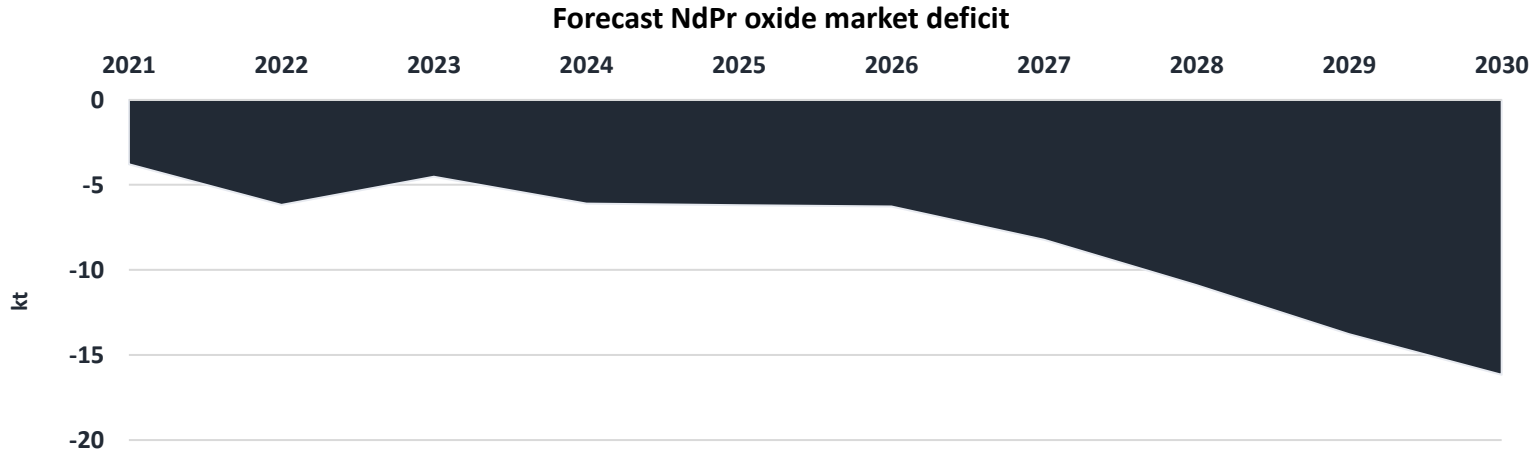
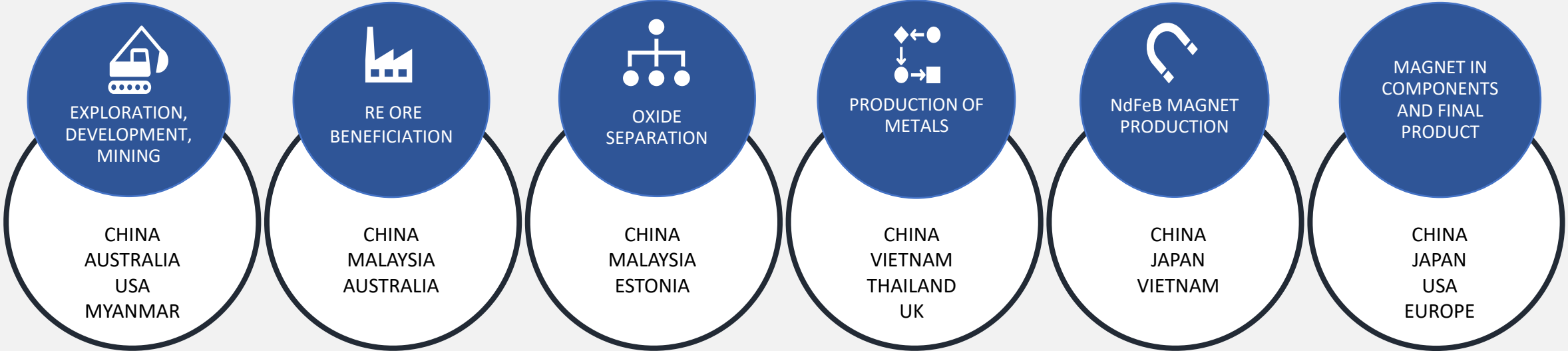


Forecast rare earth demand

- Strong end market demand growth from electric vehicles and wind turbines
- Rapid growth in rare earth oxide demand forecast – a key input to permanent magnets used in EVs and wind turbines



Rare earths – global magnet supply chain



Source: Adamas Intelligence, Roskill (2021). Department of Industry Science, Energy and resources (2021), MARC Group (2021)



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Projects



The company develops and progressively gates projects towards execution subject to: improving confidence and satisfaction with the risk-return attributes; continued strategic alignment; and sequencing to take advantage of economic and market outlook

Region	Mineral Resource ¹	ASSESS Scoping Study	SELECT Preliminary Feasibility Study	DEVELOP Definitive Feasibility Study	EXECUTE Project execution	PRODUCING Operate and maximise
Eucla Basin	345Mt @ 4.8% HM for 16.6Mt In Situ HM		Atacama			Jacynth-Ambrosia
Murray Basin	195Mt @ 17.2% HM for 33.4Mt In Situ HM		Euston	Wimmera	Balranald	
Mid West / South West WA	986Mt @ 5.6% HM for 54.9Mt In Situ HM		South West Deposits	Eneabba (Phase 3)	SR1 Kiln Restart	Eneabba (Phase 2) Eneabba (Phase 1) Cataby
Sierra Leone	715Mt @ 1.1% Rutile for 7.9Mt In Situ Rutile		Sembehun			Lanti Gangama
	<i>Stage description:</i>	Determine what it could be	Determine what it should be	Determine what it will be	Deliver the project	Grow and improve
	<i>Estimate Accuracy Range (at end of phase):</i>	-30% to +60%	-15% to +30%	-10% to +15%	n/a	n/a
			No Resource estimate	Resource estimate	Reserve estimate	Other

1. Refer to the 2020 Annual Report for additional information. The Mineral Resource (MR) information on this indicative growth pipeline summary is extracted from the company's previously published MR statements and are available at: www.iluka.com.au. Iluka confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and, in the case of estimates of Mineral Resources or Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. Iluka 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. All Mineral Resource figures are estimates. This slide should be read in conjunction with disclaimers and compliance statement on slide 2.



A capital efficient, incremental synthetic rutile production response, to deliver increased high grade titanium dioxide feedstock in supply constrained market



Project overview

- SR1 kiln is located at Capel, Western Australia, the same site as SR2
- SR1 has been on care and maintenance since 2009
- Restarting SR1 represents a low capital expenditure, low risk opportunity to produce an additional 110ktpa of synthetic rutile, with speed to market in light of industry supply constraints
- Initial SR1 campaign ilmenite feedstock secured from internal and external sources

Recent developments

- Board approval to execute project received in August
- Equipment ordered for refurbishment, engineering for restart complete

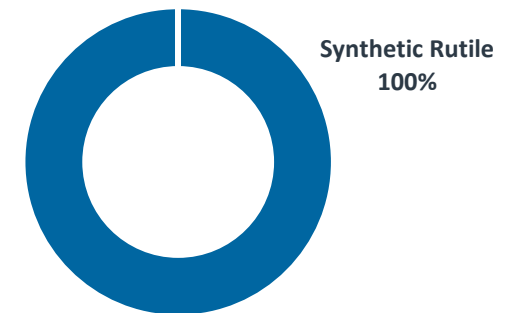
Outlook for H2 2021

- Verify detailed planning and design of refurbishment scope and commence works
- Advance engagement with customers

Parameters

Production rates	~110ktpa synthetic rutile
Capital expenditure	~\$38 million Payback period of < 1 year
Timing	Upgrading feedstock in Q4 2022

Indicative annual production mix



SR1 and SR2 kilns and SR2 stack, Capel, Western Australia



Third technology trial completed and confirmed effectiveness of the underground mining method; definitive feasibility study (DFS) approved



Project overview

West Balranald is a rutile-rich deposit in the northern Murray Basin, New South Wales. Owing to their relative depth, Iluka is assessing the potential to develop these deposits via a novel, internally developed, underground mining technology

Recent developments

\$23 million DFS funding approved by Board in August

Iluka completed the third trial (T3) of the underground mining method in late 2020. The trial confirmed the effectiveness of the underground mining method and validated key elements of the mining unit design. Growing confidence in the application of the underground technology was a key factor in DFS decision

Outlook for H2 2021

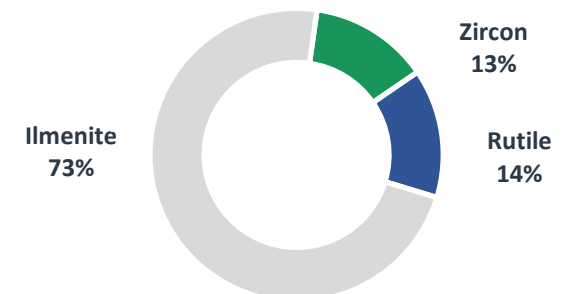
Awarding of DFS engineering contracts

Engagement with local stakeholders

DFS parameters and basis of design

Production rate	Iluka aims for each mining unit to produce ~180-200ktpa HMC per unit ^{1,2}
Mine life	Anticipated to be 8-14 years (pending production scale-up time) ^{1,2}
Capex	DFS to determine capex requirements in advance of any execute decision
Timing	FID H2 2022 Potential commissioning 2024

Resource assemblage (VHM)



- HMC production subject to study outcomes, mine plan and HM grade.
- The Mineral Resource for West Balranald has been previously announced to the ASX on 20 February 2017 in the announcement "Updated Mineral Resource and Ore Reserve Statement". Iluka 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 estimates continue to apply and has not materially changed.



Wimmera is a large-scale deposit with the potential to produce ceramic-grade zircon and rare earth products. Project work is focussed on finding a processing solution to remove impurities from the zircon



Project overview

The Wimmera project involves the mining and beneficiation of a fine grained heavy mineral sands ore body in the Victorian Murray Basin for the potential long-term supply of zircon and rare earths

One characteristic shared by the fine-grained mineral sands deposits located in Western Victoria (those held by Iluka and other project proponents) is higher levels of impurities in their zircon. Absent a processing solution to remove these impurities, the zircon is ineligible for sale into the ceramics market

The rare-earth bearing minerals within the Wimmera deposit are very similar to Iluka's stockpiled minerals at Eneabba (though slightly higher in the heavier rare earths dysprosium and terbium); and would supplement feed to the company's potential downstream refining activities at Eneabba in future years

Recent developments

Iluka's study work for Wimmera is focussed on testing and validating the novel zircon processing solution, the results of which continue to be pleasing. The company is also progressing baseline environmental studies

Outlook for H2 2021

Equipment to pilot the zircon processing solution on a larger scale is expected to be commissioned in Q4 2021. The processing of Wimmera's rare earth minerals through a potential Eneabba refinery would simplify the Wimmera development



The Wimmera deposits were discovered in 1982 and significant investment has been made to date. If solved, a processing solution for Wimmera has the potential to unlock other deposits in the region



Timeline

1982	WIM150 discovered by CRA (a subsidiary of The Rio Tinto-Zinc Corporation (RTZ))
1987	CRA commences intensive research and development program in the Wimmera region
1990	CRA announces discovery of WIM50, WIM100, WIM200 and WIM250
1995	RTZ and CRA announce merger (subsequently renamed Rio-Tinto in 1997)
1998	Rio Tinto surrenders mining leases
1998	Basin Minerals exploration program commences
2002	Iluka acquires Basin Minerals (WIM50, WIM100 and Goschen South)
2005	Iluka commences mining at Douglas, near Horsham
2007	Iluka completes construction of mineral separation plant at Hamilton
2009	Iluka commences mining at Kulwin, near Ouyen
2012	Iluka commences technical studies on Wimmera
2014	Iluka completes Wimmera scoping study
2018	Iluka commences Wimmera PFS
2021	Iluka testing of novel zircon processing solution and environmental studies continue



Eneabba Phase 1 operational. Phase 2 under construction. Phase 3 – a fully integrated rare earths refinery – feasibility study progressing



Project overview

The Eneabba development in Western Australia involves the reclaiming, processing and sale of a strategic stockpile high in monazite (a mineral containing rare earth elements) and mineral sands. Eneabba is currently the highest-grade rare earths operation globally

Phase 1 is operational and produces a mixed monazite-zircon concentrate (~20% monazite)

Phase 2 is under construction and will produce two separate concentrates

- ~90% monazite concentrate, suitable as a direct feed to a downstream rare earths refinery
- zircon-ilmenite concentrate to be processed into finished products

Phase 3 – a fully integrated rare earths refinery – is currently the subject of a feasibility study

Recent developments

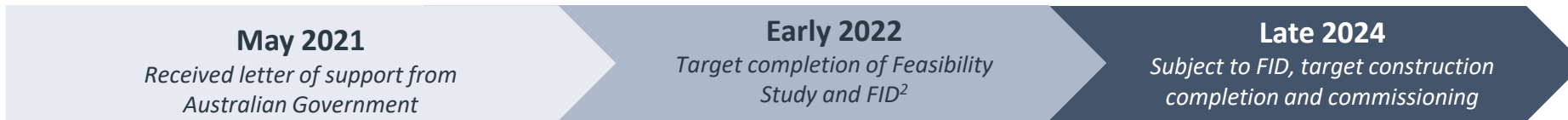
- Phase 2 site works have commenced and upgraded high voltage infrastructure has been commissioned
- Letter of support from the Australian Government (disclosed to market in May 2021)
 - alignment Iluka's Phase 3 development plans with the Government's policy objectives regarding critical minerals and modern manufacturing
- Engagement with customers, including on quality and volume of Phase 2 product

Outlook for H2 2021

- Fabrication of third-party vendor packages for Phase 2 is continuing off-site
- Phase 3 engineering, market assessment and studies progressing
- Engagement on risk sharing for Phase 3 ongoing

Iluka is progressing a ~\$20 million feasibility study¹ on Eneabba Phase 3, a fully integrated rare earths refinery. Most work is scheduled for completion by the end of 2021, in advance of finalisation of the feasibility study in early 2022

Delivery timeline



Australian Government letter of support notes

- alignment of the Eneabba Phase 3 development with the Government's critical minerals and modern manufacturing policy objectives
- potential for Export Finance Australia (EFA) to provide financial support to the project, including Iluka seeking a non-recourse loan facility
- capability to process third party rare earth concentrate feedstocks

Current workstreams include

- dedicated project team supported by carefully selected experts/ practitioners within owners team
- technical engineering studies, market assessment and regulatory/ environmental approvals processes being advanced through reputable project partners
- active engagement with EFA to progress the terms of the proposed loan facility

Eneabba rare earths refinery

- ✓ Domestic production of rare earth oxides
- ✓ Advantaged position utilising Iluka's existing Eneabba monazite stockpile
- ✓ If developed, Wimmera would serve as long life rare earth concentrate feed source³

Feasibility study key partners



1. Expenditure from early 2021 to early 2022. Excludes other study expenditure on Wimmera PFS and Eneabba Phases 1 and 2 and early stage technical work with ANSTO (from 2016 to 2020).
2. FID remains subject to feasibility study, the terms of any EFA loan facility and Iluka Board approvals. Any EP3 investment will also be assessed against the advantaged position Iluka currently has in the high value existing monazite stockpile at Eneabba and the potential value of EP2.
3. See slide 19 regarding Wimmera development status.



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