

Rio Tinto approves \$2.6 billion investment in Koodaideri iron ore mine

29 November 2018

Rio Tinto is to develop its most technologically advanced mine following the full approval of a \$2.6 billion¹ (A\$3.5 billion) investment in the Koodaideri iron ore mine in Western Australia.

Koodaideri will deliver a new production hub for Rio Tinto's world-class iron ore business in the Pilbara, incorporating a processing plant and infrastructure including a 166-kilometre rail line connecting the mine to the existing network. Construction will start next year with first production expected in late 2021. Once complete, the mine will have an annual capacity of 43 million tonnes, underpinning production of the Pilbara Blend, Rio Tinto's flagship iron ore product.

Koodaideri Phase 1 will help sustain Rio Tinto's existing production capacity by replacing depletion elsewhere in the system. The project will increase the higher-value lump component of the Pilbara Blend, subject to market conditions, from the current average of about 35 per cent to around 38 per cent. It is expected to deliver an internal rate of return of 20 per cent² and capital intensity of around \$60 per tonne of annual capacity, highly competitive for a new mine considering the additional infrastructure of rail spur, airport, camp and road access required.

The operation has been designed to utilise an increased level of automation and digitisation, helping to deliver a safer and more productive mine which is expected to be Rio Tinto's lowest cost contributor to its industry benchmark Pilbara Blend product. Through the use of digital assets, advanced data analytics and automation, Rio Tinto expects to significantly enhance the operation and maintenance of this new mine.

Rio Tinto chief executive J-S Jacques said "Koodaideri is a game-changer for Rio Tinto. It will be the most technologically advanced mine we have ever built and sets a new benchmark for the industry in terms of the adoption of automation and the use of data to enhance safety and productivity.

"As we pursue our value over volume approach, targeted high quality investments such as Koodaideri will ensure we continue to deliver value for our shareholders and Australians.

"This further investment in our iron ore business is also a multi-billion dollar vote of confidence in Western Australia. The project will also deliver significant opportunities for local companies and we expect more than A\$3 billion will be spent with Australian-based businesses, with opportunities for about A\$2.5 billion of spending for Western Australian-based businesses during its development."

The investment is underpinned by an ore body³ of high-quality Brockman ore more than 20 kilometres long and three kilometres wide. In addition to mine infrastructure, an airport, mine support facilities and accommodation for employees will be built. Throughout the construction period Rio Tinto expects to employ over 2,000 people with 600 permanent roles created once the mine is operational.

Since completion of the pre-feasibility study in 2016, additional capital has been included for productivity enhancements to increase capacity to 43 million tonnes from the 40 million tonne base case. The project scope

¹ Includes \$146 million of early works funding approved on 31 July 2018.

² IRR based on Wood Mackenzie price forecasts as at Q4 2018.

³ Koodaideri ore reserves as at 31 December 2017 were 598 million tonnes at 61.9% Fe. The reserves comprise 269 Mt of Proved Reserves and 329 of Probable Reserves. The Koodaideri Ore Reserve estimates are reported on a 100% basis. The Ore Reserve estimates, together with the ownership percentages were set out in the Ore Reserve statements in the 2017 Rio Tinto annual report released to the market on 2 March 2018. The Competent Persons responsible for reporting of those Ore reserves are C Tabb and R Verma (AusIMM). Rio Tinto is not aware of any new information or data that materially affects the above estimates for 2017 as reported in the 2017 Annual Report and confirms that all material assumptions and technical parameters underpinning estimates continue to apply and have not materially changed. The form and context in which each Competent Person's findings are presented have not been materially modified.

was also broadened to incorporate significant safety improvements and the development of additional infrastructure such as an airport and site access roads. Cost inflation for labour and materials also contributed to the capital increase.

A \$44 million pre-feasibility study into *Koodaideri Phase 2* has also been approved. The expansion could increase annual capacity from the Koodaideri production hub to 70 million tonnes and beyond. A final investment decision is subject to study outcomes and Rio Tinto's value over volume approach.

Technology & Innovation

Koodaideri will feature technology already in use across Rio Tinto, such as autonomous trucks, trains and drills, and implement systems connecting all components of the mining value chain for the first time. The development will consolidate everything Rio Tinto has learned from its studies into finding advanced ways to extract minerals while reducing environmental impacts and improving safety, known as the *Mine of the Future™* programme.

Koodaideri has more than 70 innovations in scope including:

- a digital replica of the processing plant, accessible in real time by workers in the field;
- fully integrated mine automation and simulation systems;
- advanced automation including an automated workshop, and;
- numerous data analytics capabilities and control loops to optimise production and reduce downtime.

Notes to editors

Koodaideri, 100 per cent owned by Rio Tinto, is located approximately 35 kilometres north-west of Rio Tinto's Yandicoogina mine site, and about 110 kilometres from the town of Newman in the Pilbara region of Western Australia.

The majority of the approved capital for Koodaideri is included in Rio Tinto's existing guidance of \$2.7 billion of replacement capital from 2018 to 2020, with the remaining spend incurred in 2021 outside of the current guidance period.

The development remains subject to final Western Australian government approval.

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