

## Rio Tinto to expand autonomous fleet as part of \$5 billion productivity drive

18 December 2017

Rio Tinto will expand its fleet of autonomous haul trucks at its world-class iron ore operations in the Pilbara by more than 50 per cent by 2019 after signing agreements with leading manufacturers Caterpillar Inc. and Komatsu Ltd. to convert traditional trucks to autonomous vehicles.

A total of 29 Komatsu haul trucks will be retrofitted with Autonomous Haulage System (AHS) technology starting next year. The project at the Brockman 4 operation is scheduled for completion by mid-2019, allowing the mine to run entirely in AHS mode once fully deployed.

A further 19 Caterpillar haul trucks at the Marandoo mine will also be retrofitted starting mid-2018 for completion by the end of 2019. The retrofit is significant for Rio Tinto as it marks the first time AHS technology has been deployed by the company on Caterpillar haul trucks.

Once completed, the retrofit projects are expected to make a significant contribution toward Rio Tinto's \$5 billion productivity programme, helping to underpin the continued delivery of superior returns for shareholders.

Rio Tinto Iron Ore chief executive Chris Salisbury said "We are excited to be starting a new chapter in our automation journey with a valued long-term partner in Caterpillar and we are proud to be extending our successful partnership with Komatsu on this world-first retrofitting initiative.

"Rapid advances in technology are continuing to revolutionise the way large-scale mining is undertaken across the globe. The expansion of our autonomous fleet via retrofitting helps to improve safety, unlocks significant productivity gains, and continues to cement Rio Tinto as an industry leader in automation and innovation.

"We are studying future additions to our autonomous fleet in the Pilbara, based on value, to help deliver our share of \$5 billion of additional free cash flow for the company by 2021.

"Rio Tinto is committed to working closely with our workforce as we transition to AHS including providing opportunities for new roles, redeployment, retraining and upskilling."

Automation is helping to improve productivity and efficiencies across Rio Tinto's operations in the Pilbara. The retrofit programme will assist the iron ore business in delivering an additional \$500 million of free cash flow annually from 2021. As part of this initiative Rio Tinto is increasing scrutiny of each and every one of our cost components and have so far aggregated more than 3500 employee ideas in the company's productivity pipeline, many of which will deliver cost benefits.

Last year, on average, each of Rio Tinto's autonomous haul trucks operated an additional 1000 hours and at 15 per cent lower load and haul unit cost than conventional haul trucks. About 20 per cent of the existing fleet of almost 400 haul trucks in the Pilbara is AHS-enabled. Following the completion of the projects with Komatsu and Caterpillar, Rio Tinto will have more than 130 autonomous trucks, representing about 30 per cent of the fleet.

From a safety perspective, automation has been shown to reduce the number of people exposed to potential hazards as well as reduce the number of critical risk scenarios.

## Notes for editors

Komatsu, founded in 1921, has established a leading international market position in the areas of construction and mining equipment as well as industrial machinery. Rio Tinto has been partnering with Komatsu, using their advanced truck technology at our mines, for 20 years.

In September, Rio Tinto and Komatsu deployed the world's first retrofitted Komatsu autonomous haul truck at our Hope Downs 4 operation.

Rio Tinto's relationship with Caterpillar extends over 50 years. Caterpillar was founded in 1925 and is an industry leading manufacturer of construction and mining equipment, diesel and natural gas engines as well as gas turbines and diesel-electric locomotives.

AHS allows trucks to be operated by a supervisory system and a central controller, rather than a driver. It uses pre-defined GPS courses to automatically navigate haul roads and intersections and knows actual locations, speeds and directions of all vehicles at all times.

Rio Tinto started deploying autonomous technology in 2008. The iron ore business also operates six fully Autonomous Drill Systems (ADS) to drill production blast holes.

Rio Tinto's ran its first fully autonomous heavy haul train in September 2017, completing a 100-kilometre pilot run without a driver on board. AutoHaul® is on track for completion by the end of 2018, making it the world's first fully-autonomous heavy haul, long distance rail network.

The Perth Operations Centre is the nerve centre of Rio Tinto's autonomous operation with around 400 people monitoring our Pilbara operations in real time.

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