

Successful rollout of AutoHaul™ positions WA as global rail technology leader

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Rio Tinto was today joined by representatives from the government of Western Australia and lead project technology partner Hitachi Rail STS to celebrate the successful deployment of AutoHaul™, the world's first automated heavy-haul long distance rail network. AutoHaul™ trains, which deliver safety and productivity benefits for Rio Tinto's iron ore business, have also firmly positioned Western Australia and its heavy-haul rail industry as a global leader in the joint development and application of rail technology.

Today, 2.4 kilometre long trains, monitored remotely from an operations centre in Perth, travel across a vast network of 1,700 kilometres of track, delivering iron ore from 16 mines to ports in Dampier and Cape Lambert. These trains have now safely travelled more than 4.5 million kilometres autonomously since they were first deployed last year.

This world-first was made possible by the close collaboration with project partners from Japan, US and Australia. These include Hitachi Rail, Calibre, New York Air Brake, Wabtec and others who provided the necessary expertise, innovation and software to make AutoHaul a success. Several of these partners maintain a strong presence in WA and have committed to continuing to invest locally.

Rio Tinto Iron Ore managing director Rail, Port & Core Services Ivan Vella said the deployment of AutoHaul™ is a reflection of the incredible pioneering spirit of the project team and its valued partners.

"The success of AutoHaul™ would not have been possible without the expertise, collaboration and dedication of teams within Rio Tinto and our numerous partners. I'd also like to commend our train driving workforce for their support and professionalism during the transition period.

"This project has cemented Western Australia as a leader in the heavy-haul rail industry and has attracted interest from around the world. The successful deployment of the world's first heavy-haul long distance rail network demonstrates the potential for significant further improvement in such operations with others around the world looking to replicate."

WA Minister for Mines and Petroleum Bill Johnston said the AutoHaul™ project is a world-first and an example of the strength of Western Australia's resources industry, which continues to excel in technology and innovation.

"I'd like to congratulate Rio Tinto, Hitachi and all the other project partners for their hard work and dedication over the past decade to delivering this project, which really cements our State as a global leader in rail technology.

"AutoHaul™ has brought the rail freight industry in this country into the 21st century and is rightfully the subject of global interest. I'd also like to mention that the development of the world's biggest robot is such a success because of the contribution from Western Australia's skilled engineers and innovative workers."

Michele Fracchiolla, President Americas and APAC Business Unit, Hitachi Rail STS said: "Hitachi Rail STS is extremely proud of the lead technical and delivery role it played in enabling the deployment of the world's first fully-autonomous heavy haul, long distance rail operation."

"This is a new technical benchmark for the freight rail industry worldwide and the result of a long-established and collaborative partnership between Rio Tinto and Hitachi Rail STS. Now that the trains are running autonomously,

the levels of continuous improvement that can be achieved in safety, operational efficiency and sustainability are endless, and we look forward to continuing to collaborate with Rio Tinto to enhance the AutoHaul™ system.”

Early results from the deployment of AutoHaul™ highlight the technology’s potential to improve productivity, increase flexibility and reduce bottlenecks in Rio Tinto’s iron ore system. Rio Tinto’s Pilbara operations are being transformed to flex in line with market conditions and AutoHaul™ is a vital component in increasing flexibility and safety in the system.

Notes to editors

The \$940 million AutoHaul™ programme uses automated trains to transport iron ore to Rio Tinto’s port facilities in the Pilbara region of Western Australia, monitored from 1,500 kilometres away in Perth. Rio Tinto operates about 200 locomotives on what is the largest privately-owned rail network in Australia. In December, the deployment of software on Rio Tinto’s locomotives was completed.

Autonomous trains improve safety through reduced risk at level crossings and automated responses to speed restrictions and alarms. AutoHaul™ also removes the need for almost 1.5 million kilometres of road travel per year previously required to transport drivers to and from trains mid-journey.

All locomotives are fitted with AutoHaul™ safety systems including:

- Collision Detection Systems (CDS)
- Automatic Train Protection (ATP) technology controls train speed to ensure adherence to speed limits
- An on-board video camera to record the front view from the train.

The average return distance of these trains is about 800 kilometres with the average journey cycle, including loading and dumping, taking about 40 hours. Locomotives carrying AutoHaul™ software are fitted with on-board cameras allowing for constant monitoring from the Operations Centre in Perth. All public rail crossings on the network are fitted with CCTV cameras and have been upgraded to the highest safety standards.

Contacts

media.enquiries@riotinto.com
riotinto.com



Follow @RioTinto on Twitter

Media Relations, United Kingdom

Illtud Harri
M +44 7920 503 600

David Outhwaite
T +44 20 7781 1623
M +44 7787 597 493

Media Relations, Americas

Matthew Klar
T +1 514 608 4429

Media Relations, Asia

Grant Donald
T +65 6679 9290
M +65 9722 6028

Media Relations, Australia

Jonathan Rose
T +61 3 9283 3088
M +61 447 028 913

Matt Chambers
T +61 (0) 3 9283 3087
M +61 433 525 739

Jesse Riseborough
T +61 8 6211 6013
M +61 436 653 412

Investor Relations, United Kingdom

John Smelt
T +44 20 7781 1654
M +44 7879 642 675

David Ovington
T +44 20 7781 2051
M +44 7920 010 978

Nick Parkinson
T +44 20 7781 1552
M +44 7810 657 556

Investor Relations, Australia

Natalie Worley
T +61 3 9283 3063
M +61 409 210 462

Rachel Storrs
T +61 3 9283 3628
M +61 417 401 018

Rio Tinto plc

6 St James's Square
London SW1Y 4AD
United Kingdom
T +44 20 7781 2000
Registered in England
No. 719885

Rio Tinto Limited

Level 7, 360 Collins Street
Melbourne 3000
Australia
T +61 3 9283 3333
Registered in Australia
ABN 96 004 458 404