

The Rio Tinto logo is a red rectangle with the text "RioTinto" in white. The background of the entire slide is a photograph of a large open-pit mine with steep, layered rock walls under a blue sky with scattered white clouds. In the foreground, a large red and white Sandvik LH518B haul truck is parked on a dirt road, with its massive front tire and bucket visible. The truck has "LH518B" and "SANDVIK" written on its side.

RioTinto

Partnering with OEMs for decarbonisation

Innovation in Mining 2022 – SMRT
Conference

21 September 2022

Cautionary and supporting statements

This presentation has been prepared by Rio Tinto plc and Rio Tinto Limited (together with their subsidiaries, “Rio Tinto”). By accessing/attending this presentation you acknowledge that you have read and understood the following statement.

Forward-looking statements

This presentation includes “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. All statements other than statements of historical facts included in this report, including, without limitation, those regarding Rio Tinto’s financial position, business strategy, plans and objectives of management for future operations (including development plans and objectives relating to Rio Tinto’s products, production forecasts and reserve and resource positions), are forward-looking statements. The words “intend”, “aim”, “project”, “anticipate”, “estimate”, “plan”, “believes”, “expects”, “may”, “should”, “will”, “target”, “set to” or similar expressions, commonly identify such forward-looking statements.

Such forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of Rio Tinto, or industry results, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. Such forward-looking statements are based on numerous assumptions regarding Rio Tinto’s present and future business strategies and the environment in which Rio Tinto will operate in the future. Among the important factors that could cause Rio Tinto’s actual results, performance or achievements to differ materially from those in the forward-looking statements include, but are not limited to: an inability to live up to Rio Tinto’s values and any resultant damage to its reputation; the impacts of geopolitics on trade and investment; the impacts of climate change and the transition to a low-carbon future; an inability to successfully execute and/or realise value from acquisitions and divestments; the level of new ore resources, including the results of exploration programmes and/or acquisitions; disruption to strategic partnerships that play a material role in delivering growth, production, cash or market positioning; damage to Rio Tinto’s relationships with communities and governments; an inability to attract and retain requisite skilled people; declines in commodity prices and adverse exchange rate movements; an inability to raise sufficient funds for capital investment; inadequate estimates of ore resources and reserves; delays or overruns of large and complex projects; changes in tax regulation; safety incidents or major hazard events; cyber breaches; physical impacts from climate change; the impacts of water scarcity; natural disasters; an inability to successfully manage the closure, reclamation and rehabilitation of sites; the impacts of civil unrest; the impacts of the Covid-19 pandemic; breaches of Rio Tinto’s policies, standard and procedures, laws or regulations; trade tensions between the world’s major economies; increasing societal and investor expectations, in particular with regard to environmental, social and governance considerations; the impacts of technological advancements; and such other risks identified in Rio Tinto’s most recent Annual Report and accounts in Australia and the United Kingdom and the most recent Annual Report on Form 20-F filed with the United States Securities and Exchange Commission (the “SEC”) or Form 6-Ks furnished to, or filed with,

the SEC. Forward-looking statements should, therefore, be construed in light of such risk factors and undue reliance should not be placed on forward-looking statements. These forward-looking statements speak only as of the date of this report. Rio Tinto expressly disclaims any obligation or undertaking (except as required by applicable law, the UK Listing Rules, the Disclosure Guidance and Transparency Rules of the Financial Conduct Authority and the Listing Rules of the Australian Securities Exchange) to release publicly any updates or revisions to any forward-looking statement contained herein to reflect any change in Rio Tinto’s expectations with regard thereto or any change in events, conditions or circumstances on which any such statement is based.

Nothing in this presentation should be interpreted to mean that future earnings per share of Rio Tinto plc or Rio Tinto Limited will necessarily match or exceed its historical published earnings per share.

Disclaimer

Neither this presentation, nor the question and answer session, nor any part thereof, may be recorded, transcribed, distributed, published or reproduced in any form, except as permitted by Rio Tinto. By accessing/ attending this presentation, you agree with the foregoing and, upon request, you will promptly return any records or transcripts at the presentation without retaining any copies.

This presentation contains a number of non-IFRS financial measures. Rio Tinto management considers these to be key financial performance indicators of the business and they are defined and/or reconciled in Rio Tinto’s annual results press release, Annual Report and accounts in Australia and the United Kingdom and/or the most recent Annual Report on Form 20-F filed with the SEC or Form 6-Ks furnished to, or filed with, the SEC.

Reference to consensus figures are not based on Rio Tinto’s own opinions, estimates or forecasts and are compiled and published without comment from, or endorsement or verification by, Rio Tinto. The consensus figures do not necessarily reflect guidance provided from time to time by Rio Tinto where given in relation to equivalent metrics, which to the extent available can be found on the Rio Tinto website.

By referencing consensus figures, Rio Tinto does not imply that it endorses, confirms or expresses a view on the consensus figures. The consensus figures are provided for informational purposes only and are not intended to, nor do they, constitute investment advice or any solicitation to buy, hold or sell securities or other financial instruments. No warranty or representation, either express or implied, is made by Rio Tinto or its affiliates, or their respective directors, officers and employees, in relation to the accuracy, completeness or achievability of the consensus figures and, to the fullest extent permitted by law, no responsibility or liability is accepted by any of those persons in respect of those matters. Rio Tinto assumes no obligation to update, revise or supplement the consensus figures to reflect circumstances existing after the date hereof.

Our climate commitments

Our targets

50% reduction in emissions
by 2030

15% reduction in emissions
by 2025

Supported by

\$7.5bn investment
over the next eight years (2022-
2030) to decarbonise our assets

Ultimately

Ambition of net zero emissions
from operations by 2050





Decarbonising our business and value chain

15%

reduction in absolute
Scope 1 and 2
emissions by

2025

Net zero

ambition for our
operations by

2050 or sooner

Scope 3

work with partners
to reduce emissions
across our value
chains

50%

reduction in absolute
Scope 1 and 2
emissions by

2030

Carbon

neutral
growth overall

\$7.5 billion

in direct capital
expenditure to lower
emissions between
2022 and 2030

Rio Tinto future underground mines

Safer & More productive

Zero harm and minimal exposure to health and environmental hazards

Automated & Robotic processes to eliminate exposure of underground workers

Diesel Free Operations

Zero Emissions (CO₂ & NO_x) and energy efficient processes. No Diesel Particulate matter from equipment

Electric, Battery Electric, Fuel Cell Mining equipment – All Electric Mine

Fully Automated & highly productive

Making maximum use of mining assets with minimal downtime

Fully automated and continuous mining systems with minimal downtime maintenance Processes, rock cutting systems for access and footprint development

Designed for Depth
(High Stress Low Strength)

Challenges with depth, heat & stress as well as low rock strengths

Excavation design, Rock Support systems design, rock excavation technologies, new mining methods

Fully Connected & Integrated

Real Time digital Information from all processes.

Fully Integrated real time and optimised operations with integrated Artificial Intelligent Management systems

Environmentally & Sustainably
Designed and operated

Environmental footprint reduced

Energy & Water efficient mining Processing technologies, Ventilation & Energy on demand systems, Storage & Recovery systems

UG Mobile Equipment 2020 - 2030

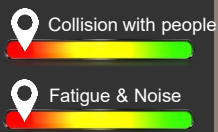
Safer and Cleaner Underground Vehicles

Underground mobile equipment is a major source of incidents and accidents. Diesel equipment produces hazardous fumes and gases, when inhaled could be detrimental in the long term to health.

1. VEHICLE INTERACTIONS



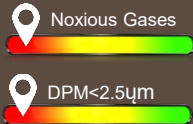
25% of all incident underground is vehicle related.



2. DIESEL PARTICULATE MATTER



Diesel Exhaust Gases are hazardous to our employees in the long term.



3. UNDERGROUND FIRES



Risk of UG Fires from Diesel Engines are high and catastrophic.



1. EQUIPMENT ELECTRIFICATION



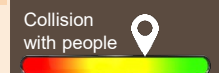
Battery and Electric mining equipment that produces no heat or noxious gases



2. COLLISION AVOIDANCE



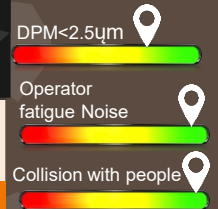
People are now protected against Vehicle collisions and interactions.



3. AUTOMATED MINING



Autonomous vehicles and remote controlled processes.

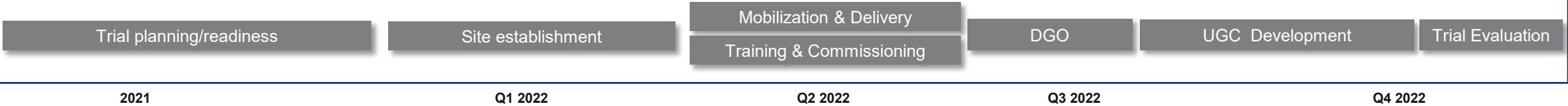


Join the **Underground Technology Mining** forum on Yammer to learn more about our safer, smarter and greener mining technologies.

Battery Electric Vehicles For KUC



Project Schedule



Full Battery Electric Vehicles in operation



Operational Readiness

We can just buy the equipment.....right?

1 Articulating the “why” and “what to expect”

- What the driving the decision to implement?
- If successful, what should we expect?
- What challenges can we expect see along the way?

2 Identifying **risks** associated with tech:

- What new risks are introduced?
- Are there controls already in place?
- If not, how do we manage these risks?
- What is the plan to implement controls?

3 Engineering for **success**:

- Location
- Layout
- Power supply
- Communications

4 Monitoring and responding

- Instrumentation
- Emergency response planning
- Training



8 Collecting and transferring of **data**:

- Leveraging existing systems
- Network infrastructure required
- Cyber security risk

7 Readiness to **maintain**:

- Right skillsets
- Safe work instructions
- Critical spares
- Logistics-moving battery cages

6 Readiness to **operate**

- Standard operating procedures
- Training
- Benchmarking/Lessons Learned

5 Impacts of **new designs**

- Ground control management plans
- Ventilation plans

Purpose built charge bays

Bay design is crucial to support the technology



1 Layout:

- Many different designs and dimensions- Allow enough space and design that supports simple swapping
- Ease of battery swapping can be the difference between achieving operator buy in or not

2 Concrete pads:

- Level loading/unloading
- Water management
- Housekeeping

3 Bring utilities into the bays

- Air- Cooling cube maintenance
- Water- pad cleaning
- Low voltage power supply
- Communications

4 Cable Management

- Organization-housekeeping
- De-weighting heavy cables-Ergonomics
- Extends cable and hose life

5 Health and Safety

- Fixed point Hydrogen Fluoride(HF) Monitoring
- Auxiliary charge start/stop outside of barriers
- Charger E-Stop outside of barriers

Future Considerations

Designing an operation to support the transition to electrification



| | |
|---------------------------|--|
| Battery cage part number | 2V01213-00 |
| Weight | 10 730 kg (23 650 lb) |
| Dimensions (L x W x H) | 2480 x 2790 x 1510 mm (98 x 110 x 60 in) |
| Quantity of battery packs | 2 |

Underground battery Transport



Back-up Power Supply

Thank you



A landscape photograph featuring a large array of solar panels in the foreground, tilted towards the sun. In the background, several wind turbines are visible against a clear sky. The sun is low on the horizon, creating a warm, golden glow and reflecting off the solar panels. The overall scene represents clean, renewable energy.

RioTinto