

IMPLEMENTING INNOVATION

Session 2



Angus Melbourne

Orica

Chief Commercial Officer



BLAST INFORMATION.
ANYWHERE, ANYTIME.

20 NOVEMBER 2018

COLLABORATION WORKS ORICA'S PERSPECTIVE



ANGUS MELBOURNE – CHIEF COMMERCIAL OFFICER



Improving productivity,
increasing reliability and
delivering safer operations.

Our industry is being reimaged and we're proud to be leading this change in digital, automated blasting

OPTIMISED BLAST DESIGN

Burden: 2.4 m

$PF \text{ kg/m}^3 = M_c / V_1$
Powder factor: 0.15 kg/m³

Technology and Innovation

Our focus

Digitally Enabled Better Blasting

Unlocking customers productivity





Dynamic drill & blast optimisation

Blast Automation

Step-change in safety, productivity and efficiency



ENABLING TECHNOLOGIES


Underground automation



Removing people from harms way

Product Portfolio Optimisation

Improved quality and agility



 SKU rationalisation

 Manufacturing optimisation

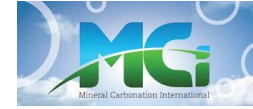
 Just in time supply chain

Competitive advantage

Research and Technical Collaboration

We partner with world-leading research, education and technical institutes.

We marry their specific expertise with our know-how to create practical solutions that are meaningful for our customers.

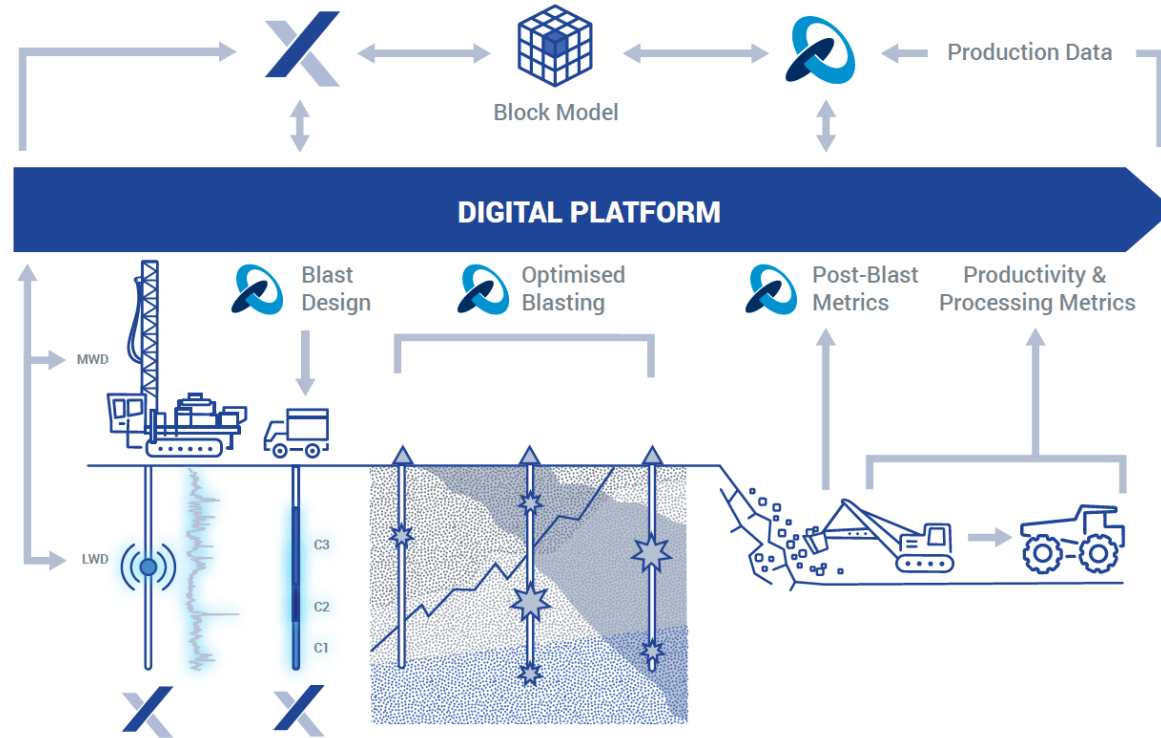


Industry Collaboration

Material characterisation for optimised blasting and material tracking



Teck



Start-up Collaboration Real-Time Logging While Drilling Technology

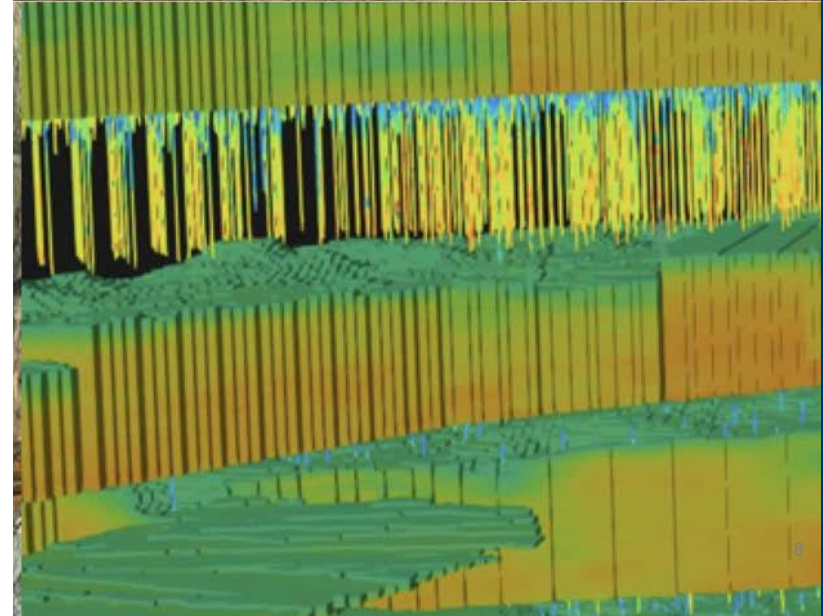


Measurements

- Rock Mechanical and Acoustic Properties
- Fracture Detection and Rock Quality Designation (RQD)
- Ore / Waste Boundaries in some Geologies
- Centimeter Level Resolution

Deployment

- Rotary today and upcoming Downhole Hammer Capable
- Production, Reverse Circulation
- Set and Forget Simplicity
- No Additional Steps or Personnel on the Bench



Supplier Collaboration

Smart, connected explosives delivery system

Bulkmaster[™] 7

ELPHINSTONE

Next generation MMU[™]

- Australian manufacturing excellence
- Latest sensor and actuator technology automates the delivery process and formulation management
- World-first seamless integration with BlastIQ[™]
- Productivity minimises the assets and labour required for delivery service
- Higher delivery rates and lower fleet costs



3. Drill and Blast Operations



Digitally Enabled Better Blasting

Customer Collaboration World-first fully wireless blasting system



GLENCORE

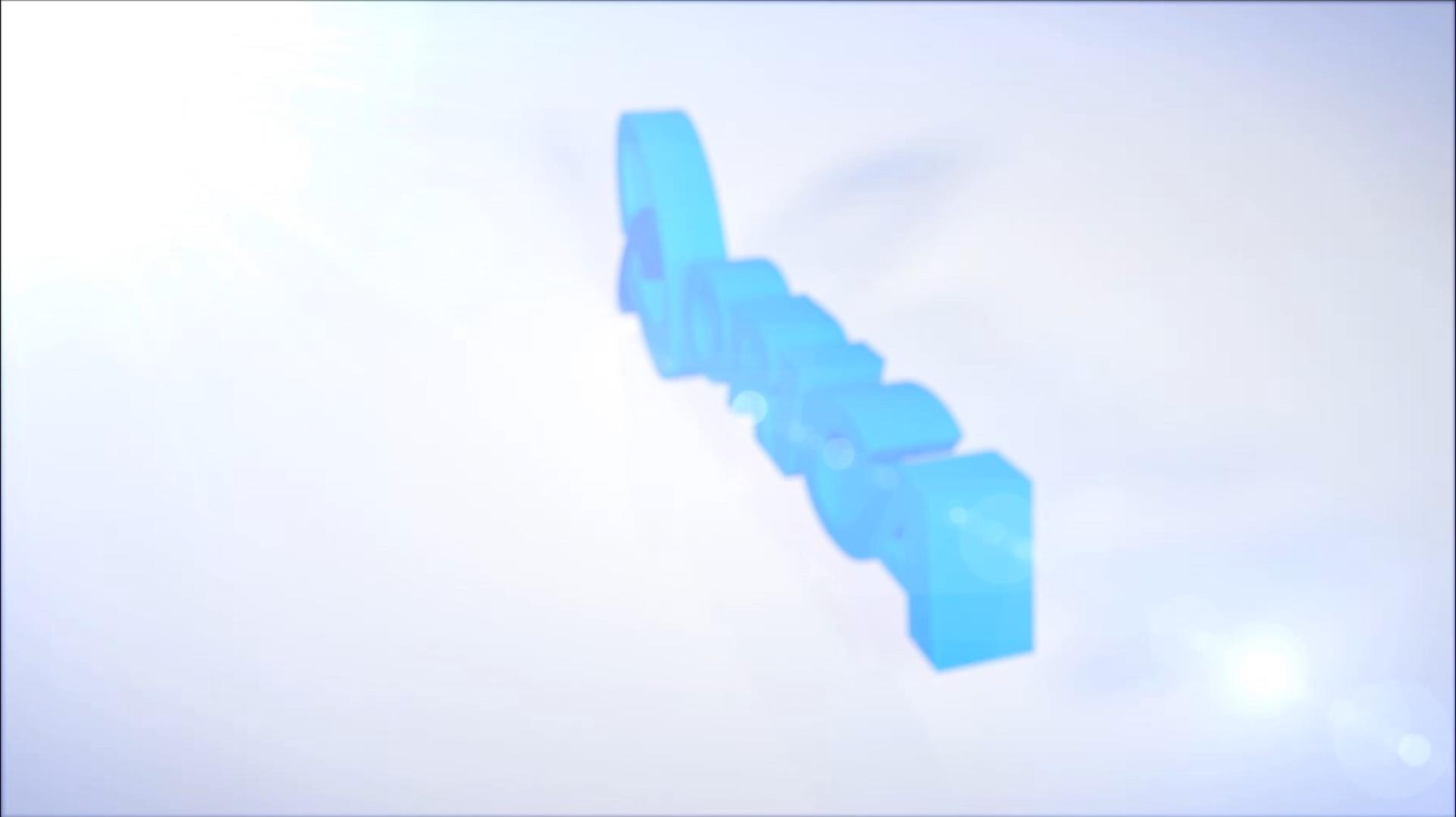


Without the constraints imposed by physical connections, wireless blasting can enable improvements in operator safety and mine productivity.

- Eliminates exposure to high risk activities
- Enables new mining methods and blasting techniques which aim to deliver, faster loading cycles, lower cost of production of metal and faster development
- Delivers improved, more flexible blasting reliability and management

WebGen is critical step towards full automation.





Community Collaboration

Proudly supporting the communities where we operate

We engage with stakeholders around our operations to gain insights into the issues that matter to them and better understand their expectations.

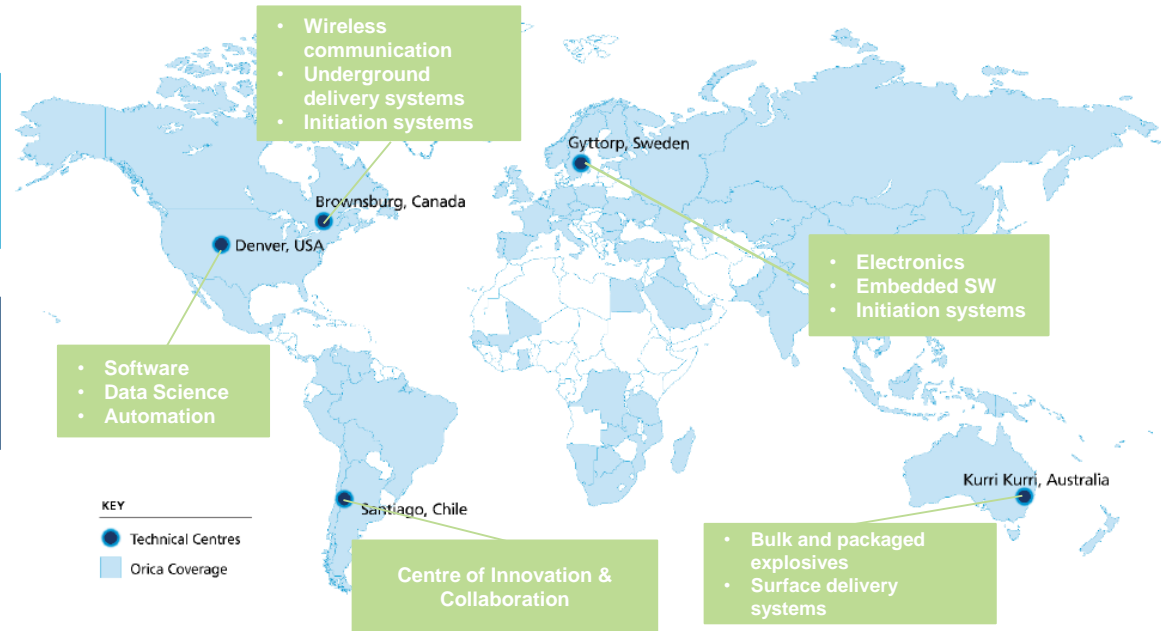
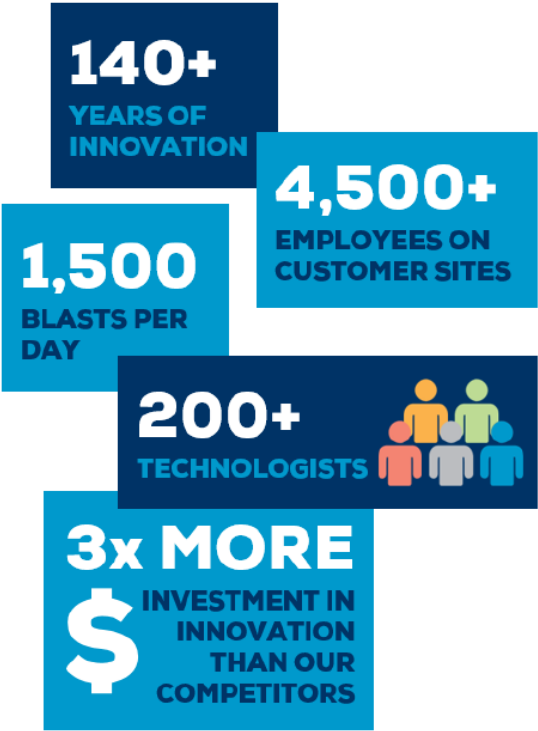
We're passionate about increasing the uptake of STEM education and developing tailored partnerships that benefit the local communities in which we operate.

Communities are essential to our industries success.



Bringing it all together

Centres of Innovation and Collaboration



Thank you



Connect with us:



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