



# WEBGEN™

## THE WORLD'S FIRST WIRELESS INITIATING SYSTEM

**COMPLETELY ELIMINATE THE NEED FOR DOWN-WIRES  
AND SURFACE CONNECTING WIRES**

WebGen™ communicates through rock, air and water to initiate blasts reliably and safely, removing people from harm's way. This industry-changing technology enables new mining methods and blasting techniques to increase productivity and reduce operating costs.

[orica.com/wireless](http://orica.com/wireless)

**WebGen™**  
Wireless Electronic Blasting Systems

**ORICA**

WebGen™ can deliver sustainable improvements that:



Improves ore recovery



Increases productivity



Improves safety



Reduces operation costs

## WEBGEN™ WIRELESS INITIATING SYSTEM ENABLED MINING METHODS

### SUB LEVEL CAVES (SLC)

Pre-charging blastholes with WebGen™ offers a significantly safer solution at SLC operations, reducing exposure of personnel at the brow and providing the opportunity to move more material per shift.

- **Safe pre-charging**  
Eliminate the need to work near rill or the brow
- **Reduced hole dislocation or loss**  
No lead damage or dislocation while eliminating rework
- **Improved flow and recovery**  
Producing more uniform fragmentation enables improved draw



### CASE STUDY - CMOC-NORTHPARKES MINES, NEW SOUTH WALES, AUSTRALIA

- 75% reduction of drill and blast crew exposure time at the brow
- 25% firing to schedule improvement
- 96% reduction re-work & eliminated redrills
- 37% increased drawpoint availability
- 15% cave flow performance improvement

Based on WebGen™ application at CMOC Northparkes, New South Wales, Australia 2019

### TEMPORARY RIB PILLAR METHOD (TRP)

WebGen™ has enabled new revolutionary mining methods to extract ore pillars that previously could not be recovered.

- **Improved safety**  
Operators do not have to work adjacent to the open stope
- **Increased productivity**  
Eliminate waste rehandling and improve truck fill factors
- **Improved ore recovery**  
Reduce waste dilution and improve wall conditions



### CASE STUDY - NEWMONT GOLDCORP, MUSSELWHITE, CANADA

- 34% reduction of waste dilution for improved ore recovery
- 20% improved mucking productivity
- Improved operator safety

Based on WebGen™ application at Newmont Goldcorp, Musselwhite, Canada 2019

## SUB LEVEL OPEN STOPE MINING

- **Improved safety**

Pre-charging with WebGen™ eliminates the need to work near the open stope or brow at the middle and upper levels of the stope

- **Maximise free bogging**

By pre-charging holes with WebGen™ primers, rings can be continually fired, optimising drawpoint availability and enabling a reduction in the use of tele-remote bogging

- **Improved ore recovery**

Post splitting perimeter of the stope with WebGen™ ensures full extraction of ore from the stope

## BLOCK CAVES

### DRAWBELL & UNDERCUT

- **Safe pre-charging**

Eliminate the need to work near rill or the brow and reduce the impact of brow loss

- **Reduced labour requirements**

Eliminate tie-up, speeding up your rate of advance

- **Increased cave draw reliability**

Faster and more reliable blasting with less disruptions, reducing risk of seismic related delays and providing consistent cave draw

### PRE - CONDITIONING

- **Improved safety**

Reduction in exposure of people in hazardous areas

- **Simplified bench operations**

Elimination of back-up detonators, simplified pre-stemming, no leakage and no misfires

- **Increased cycle time**

Time savings on pre-conditioning cycle

### HANG-UP BLASTING

- **Improved safety**

Eliminate operator exposure to load and tie-in

- **Increased drawpoint availability**

Adjacent drawpoints are often closed to loadout during hang-up charging. Tele-remote solution increases access to drawpoints by enabling less production disruption

- **Faster oversize removal**

Increase speed of hang-up turnover



Tether lock

Pentex™ W booster enclosing i-kon™ Plugin detonator

Battery and electronics

Communications port through which delay times are assigned

3 x Axis antenna

## STRANDED PILLAR RECOVERY

- **Reduced mining costs**

Reduction in extraction costs

- **Increased productivity**

Reduces "Stope Open Time" and creates opportunity for increased capacity for mine development elsewhere

- **Increased ore recovery**

Increases extraction of ore block to plan

## OPEN CUT MINING

- **Improved on bench safety**

Eliminates the interaction between heavy vehicles and initiating systems while also reducing people exposure to on bench hazards

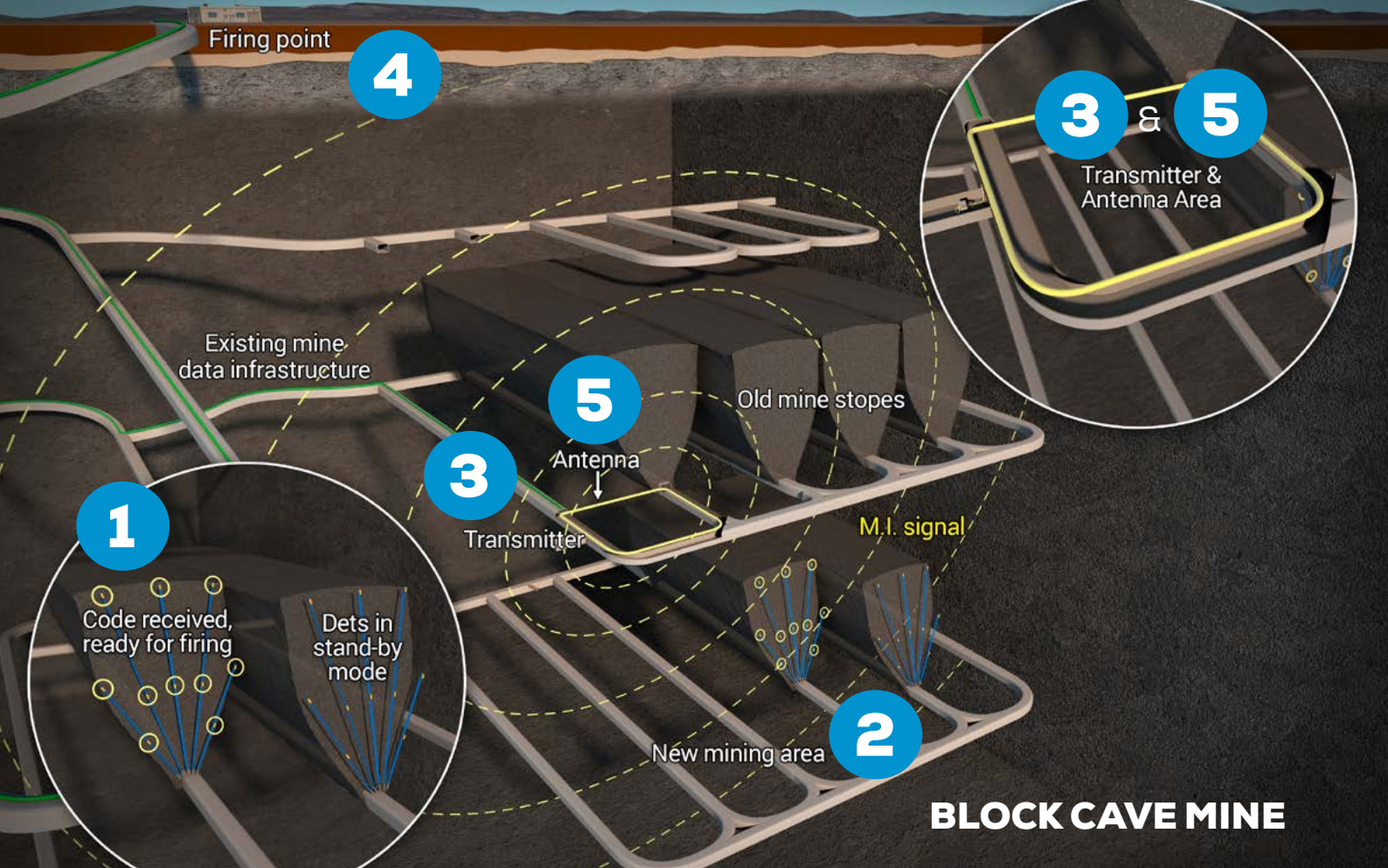
- **Simplified bench operations**

No tie-in process, reduced on bench resources, inventory and misfires from wire damage. Lower stemming costs and eliminate back-up inventory

- **Improved load and haul productivity**

Increased flexibility in pit planning, blasted inventory, reduced misfire zones and eliminate firing window variability and minimise impact of lightning production delays





## WEBGEN™ SYSTEM CONFIGURATION



## SAFEST COMMERCIAL EXPLOSIVES PRODUCT IN THE WORLD

WebGen™ is a Safety Integrity Level 3 (SIL 3) certified design which defines the probability of failure and ensures the system is always in a safe state until the firing command is transmitted. Every shipment is 100% tested to ensure components will function as designed. Over 240,000 tests were performed in TÜV Rheinland's evaluation of our Safety Integrity Rating.

© 2019 Orica Group. All rights reserved. All information contained in this document is provided for informational purposes only and is subject to change without notice. Since the Orica Group cannot anticipate or control the conditions under which this information and its products may be used, each user should review the information in the specific context of the intended application. To the maximum extent permitted by law, the Orica Group specifically disclaims all warranties express or implied in law, including accuracy, non infringement, and implied warranties of merchantability or fitness for a particular purpose. The Orica Group specifically disclaims, and will not be responsible for, any liability or damages resulting from the use or reliance upon the information in this document.

The word Orica and the Ring device are trademarks of Orica Group Companies.