



# SHOTPLUS™ PREMIER

## BLAST DESIGN AND MODELLING SOFTWARE TO OPTIMISE EVERY BLAST



Reduce the overall cost of drill and blast operations



Improve productivity



Improve safety



Facilitate regulatory compliance

SHOTPlus™ Premier blast design and modelling software enables users to design, visualise and analyse blast drilling, charging and initiation sequences across surface mining, quarry and construction applications.

### Precision design

- Full 3D design and viewing environment allows blast patterns to be created relative to surfaces, floors, walls and face profiles
- Blast timing managed manually or automatically, with traditional pyrotechnic or advanced electronic blasting systems
- Blasting simulations highlighting any problems and confirming the timing sequence, before applying to the blast
- Plan and Section views of blast holes and profiles, to optimise blasthole positions and check for problems prior to drilling
- Integration of drilling data, issuing designs to drilling systems and importing actuals for design adjustments
- Calculation tools provide angle of initiation, burden relief and first movement - burden relief tool calculates millisecond relief per metre of burden in the firing direction
- Single-click diagnostics show possible misfires, or booster assembly proximity to inert deck interfaces

### Efficiency

- Loading rules created and saved with specific blasthole parameters, including multiple decks and initiators - apply to select holes or the entire blast
- Advanced rules allowing loading designs based on Measure While Drill profiles
- A histogram display of nominal blasthole times, allows checking for any overlapping delays
- Automatic assignment of electronic blasting sequences, based on burden relief and desired firing directions
- Auto adjust electronic delay timings to meet desired firing windows for vibration control

### Flexibility

- Import designs and layouts from any mine design software
- Create loading sheets in Microsoft Excel or other packages by exporting charging data
- Separate blast files merged into a master blast plan for planning and reporting
- Import and export templates allow streamlining of routine data transfers between software
- Develop logging plans and upload data from loggers and blasters
- Direct interface with Orica's i-kon™ electronic blasting system, including a range of tools to manage blast movement, maximising on-bench efficiency

### WHO SHOULD USE SHOTPLUS™ PREMIER:

- Drill and blast engineers
- Drill and blast operators
- Blast operations manager
- Mining, quarry and civil engineers
- Mining, quarry and civil consultants

**SHOTPlus™ Premier** is Orica's advanced blast design package, providing design and modelling capability to manage more complex blasting scenarios.

### **Blast modelling**

Designs can be simulated on a hole by hole basis to predict resultant fragmentation profiles; allowing rapid calibration of fragmentation modelling for improved outcome accuracy when coupled with FRAGTrack™ shovel system.

### **Design to surfaces and strata**

A detailed geometrical representation of the blast is displayed, including horizons and surfaces in the blast block. Multiple seams can be included in the design for a surface mining application, with up to 12 strata surfaces enabled. View hole-to-hole burdens and spacing at all horizons along blasthole tracks. This advanced design feature can achieve a range of complex blasting objectives, when used in conjunction with specialised products and advice.

### **Loading rules**

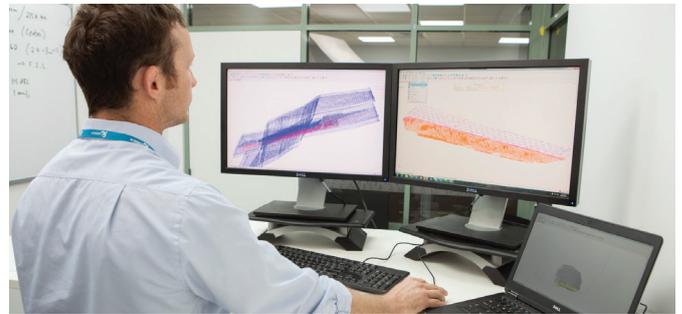
Use an extended range of parameters to develop loading rules, including bench height, burden & spacing, row number, hole parameters (including length, diameter, angle & type (e.g. pre-split)) and segments, or intercepts within a hole. Define a range of tolerances to maintain quality assurance of the blast and identify exceedances.

### **Drilling data integration**

Design blasts to send to drill systems, and retrieve as drilled data for detailed comparison to design and adjust loading and initiation parameters. Importing of Measure While Drill data allows complex loading rules to be easily created, enabling tailored blast hole charging using as drilled telemetry.

### **Blast design templates**

Individual blast design templates can be allocated for separate domains within a mine. Defined parameters can be assigned to a blast design template, based on the domain's specific geological and geotechnical requirements. Large mines with multiple pits can benefit from blast design templates for each pit and separate blast domains within the pit. The templates improve management, control and efficiency of each blast.



### **Advanced timing**

Users can create unique timing sequences for each horizon or strata in a blast with multiple horizons. Changes made to timing within an individual horizon will sync with other electronic devices in that horizon. These changes will not impact the timing of other devices outside that horizon within each hole. Engineers can modify their blast designs efficiently, with minimal chance of error.

### **Visualisation tools**

A comprehensive range of visualisation tools to assist with the development of drill plans, loading and firing sequences, ensuring optimisation of each blast. Blast patterns can be visualised in either plan view or in cross-section, with multiple views available including exceptions view, front row view, horizontal slice and row check view, over and under-drilling versus design view.

### **Reporting**

Various report templates designed to improve blast quality and productivity can be accessed, including Blasthole Design Summary, Blast Markout Calculations, Blast Quantity Usage Summary, Dip Record Sheets and Loading Sheet templates. These reports and blast plans can also be customised to suit user requirements, including company specific information.

### **Compatibility with other hardware and software**

Common and tailored file format compatibility allows importing of files from a range of sources including drill systems, fragmentation measurement software, geophysical hole logging and laser profiling systems for face or muck pile profiles and bore tracking hardware. Capability to import data using common file formats from mine planning packages. Ability to expand from a design application to a complete blast quality management system synchronised with field operations when configured as part of Orica's BlastIQ™ Blast Control solution.

**To learn more about SHOTPlus™ Premier or BlastIQ™ Blast Control solution, please contact your local Orica representative, or visit [orica.com/SHOTPlus](http://orica.com/SHOTPlus)**

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