



SHOTPLUS™

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™ and SHOTPlus™ Premier blast design and modelling technologies enable users to design, visualise and analyse blast initiation sequences across surface and underground mining, quarry and construction applications.

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Precision design

- A full 3D design environment, including rotation tool to view blastholes from any angle and proximity, including blast face and drill floor
- 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
- Horizontal and vertical views of blasthole profile, to optimise blasthole positions and check for problems prior to drilling
- 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
- Measurement tool to calculate dimensions
- 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 other 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™:

- 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.

Advanced modelling

Designs created in SHOTPlus™ Premier can be submitted to Orica's Advanced Vibration Modelling Online to receive vibration prediction simulations. The model provides a predicted full blast waveform based on the charging and timing information supplied.

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 expert people.

Loading rules

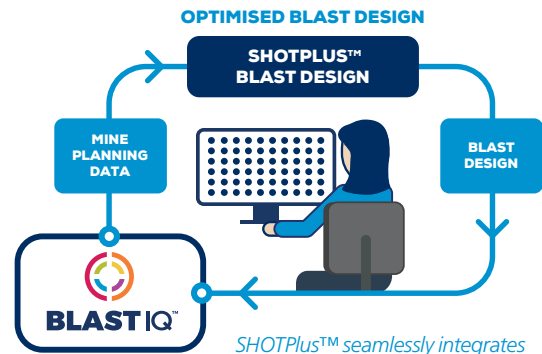
Use an extended range of parameters to develop loading rules, including bench height, burden & spacing, row number, hole parameters (including length, diameter, angle & type (eg. pre-split)) and segments, or intercepts within a hole. At the point of loading any modifications to hole designs can easily be uploaded to the BlastIQ™ Platform, maintaining control and efficiency of the blast. Users also have access to a range of pre-defined design rules eg. automatic backfill for overdrilled holes.

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.

SHOTPlus™ Premier delivers a full range of features to enhance the blast design process.

In addition to the features outlined above, Premier offers many other tools to assist users to meet design objectives. The Volume Wizard allows calculation of volumes from survey data, the Profile tool allows repositioning of front row holes relative to the face and the Mark Out tool allows users to adjust collar locations and angles of back row blastholes, plus many others.



SHOTPlus™ seamlessly integrates into the BlastIQ™ Platform.

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 can assist with the development of firing sequences, to ensure 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.

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

Import data and files from Orica's BlastIQ™ Mobile, a range of laser profiling systems for face or muck pile profiles and bore tracking hardware. Full capability to import data related to material type, hole ID, backfill and hole area from a range of mine planning software.

To learn more about SHOTPlus™ or BlastIQ™ Platform, please contact your local Orica representative, or visit orica.com/SHOTPlus

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