Optimise every blast with Orica’s SHOTPlus™ range of blast design and modelling software. Achieve accurate blast results every time in any blast situation.

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

With nearly three decades of continuous improvements, the advanced design capability of SHOTPlus™ allows greater control of the blast outcome. Accuracy can be achieved in more challenging blasting situations using the many refined features, including 3D virtual blasting, diagnostic tools, blasting sequence simulation and modelling. Analysis of the recorded and consolidated blasting data, enables improvements to be made to future blast designs.

Blasting productivity, safety and environmental performance can be significantly improved using Orica’s SHOTPlus™ software.

**PRECISION DESIGN**

- A full 3D design environment, including rotation tool to view blast holes 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**

- Importability of designs and layouts from other mine design software
- Creation of 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

The Blast IQ™ System delivers technology solutions across all areas of blasting, including Design & Modelling, Hole Survey & Loading, Environmental Monitoring, Blast Measurement and Reporting & Analytics. SHOTPlus™ and SHOTPlus™ Premier Design & Modelling software are a fundamental part of the Blast IQ™ System.
SHOTPlus™ Premier is Orica's advanced blast design package, providing design and modelling capability to manage more complex blasting scenarios. SHOTPlus™ Premier delivers a range of features additional to those in SHOTPlus™.

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

DESIGN TO SURFACES & 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, 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.

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 Blast Hole 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 DIPPlus field device, 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 Orica’s Blast IQ™ System, please contact your local Orica representative, or visit orica.com/blastIQ

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