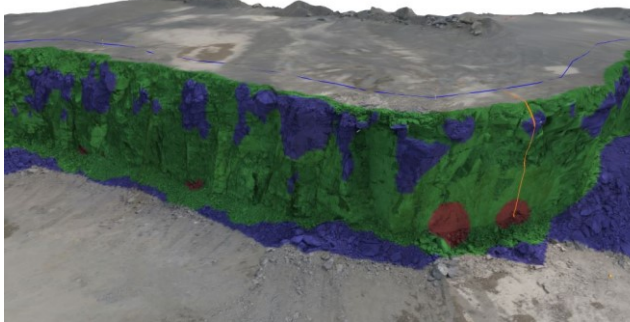


# BlastMetriX

## Blast Optimization using drone imagery



### Reproducible Design



### Objective Analysis



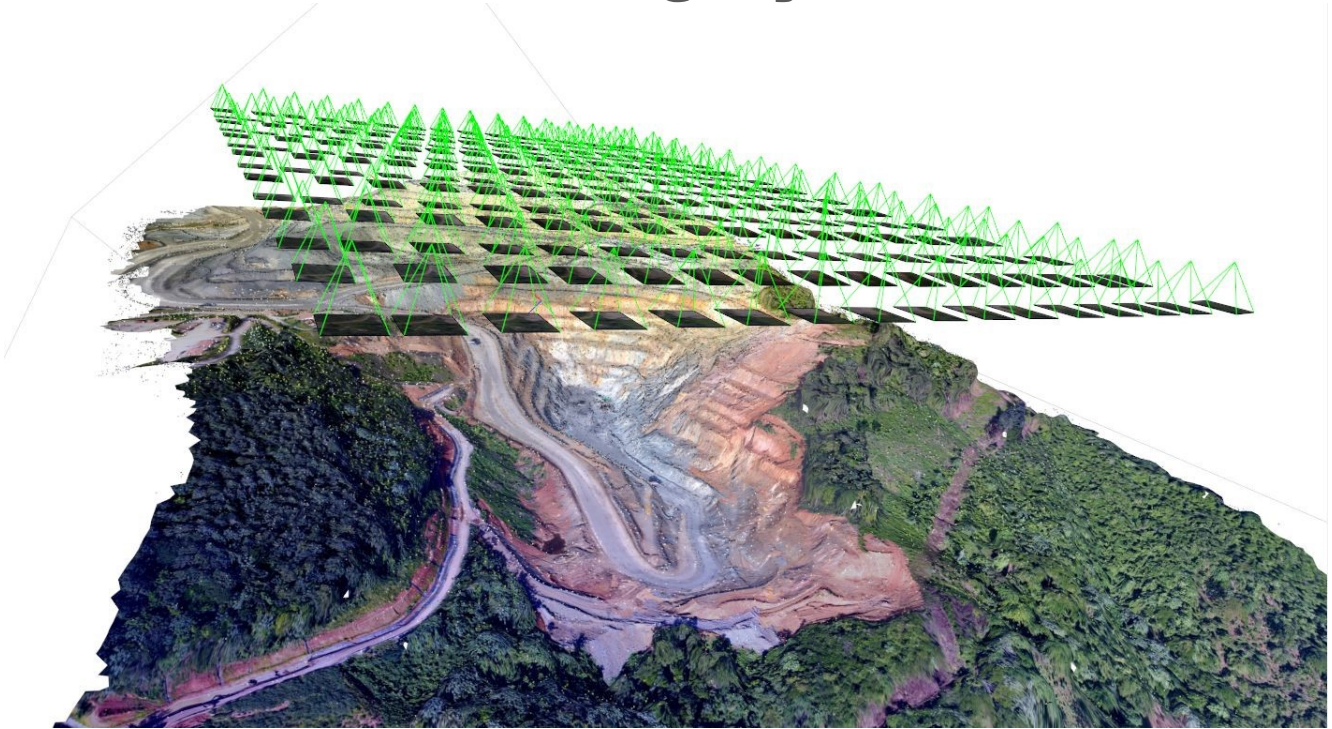
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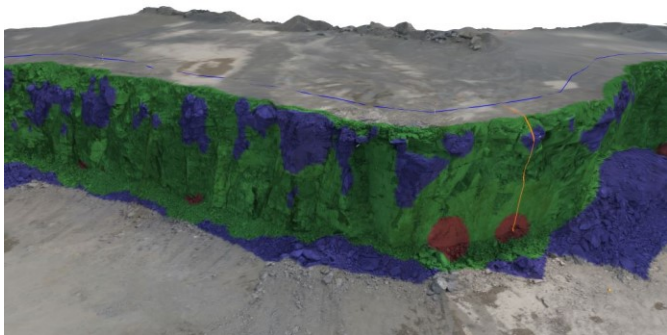
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# Multiphoto

## Powerful 3D model generator for aerial and terrestrial Imagery



**Used for BlastMetriX**



**Used for ShapeMetriX**



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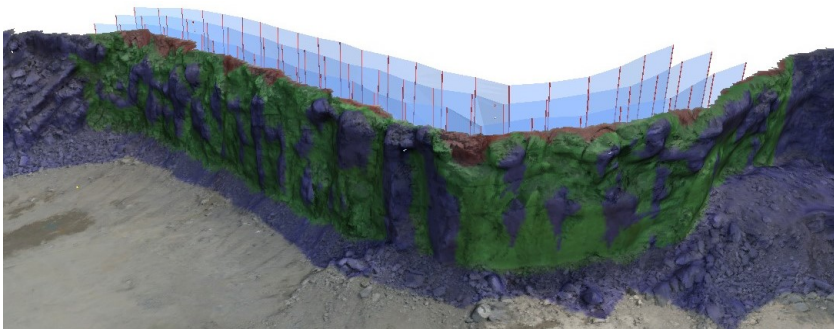
## Blast Optimization

**Blast design and analysis using aerial 3D models**



### Save money!

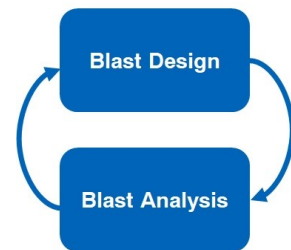
- Suboptimal blasting results lead to additional costs for loading, hauling, crushing, or secondary breakage.
- Besides, there are safety issues such as fly-rock or excessive vibrations to expect.
- Optimized blast layouts reduce the drawbacks and production costs sustainably.



### Procedure

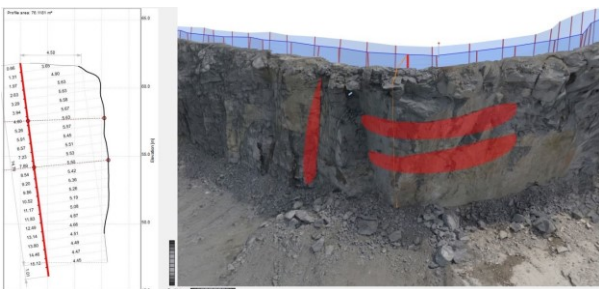
Use 3D models pre- and post blast. Adapt the blast layout based on the quantification of former blasting results. Improve successively!

#### Blast Optimization



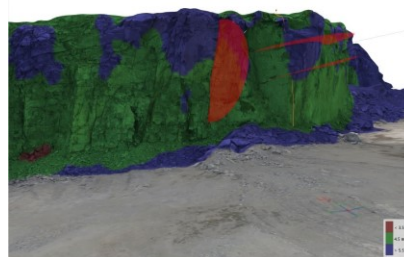
### Features

- Face profiles (burden diagrams and maps)
- Automatic borehole placement
- Quantification of muckpile (movement, volume, swell)
- Automatic fragmentation analysis in 3D
- Discontinuity Mapping



### Avoidance of

- Fly rock
- Poor fragmentation
- Poor diggability
- Wall damage
- Excessive vibrations



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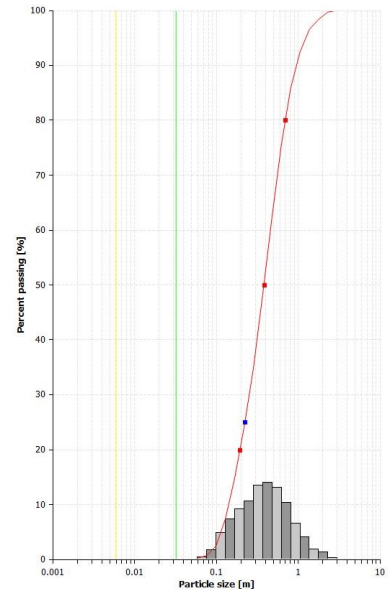
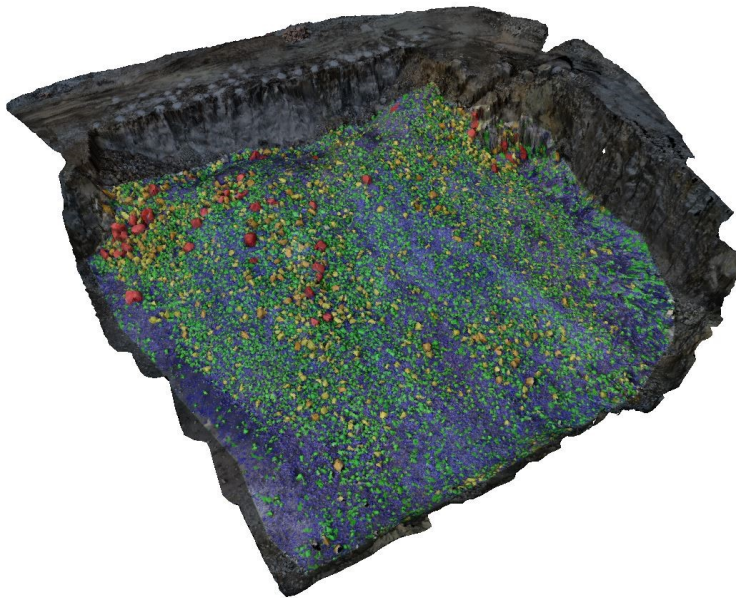
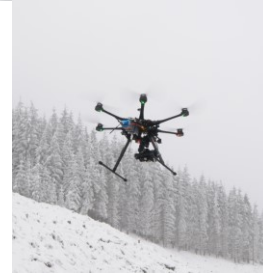
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# Fragmenter

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Software & Measurement

## Fragmenter

First real 3D fragmentation analysis  
from drone imagery

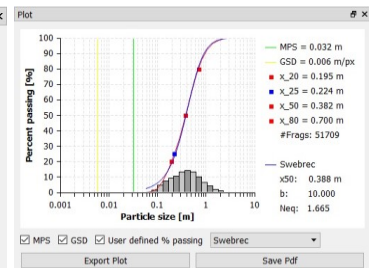
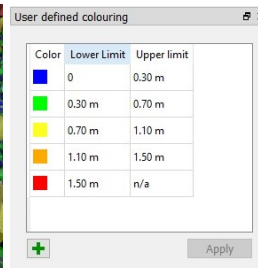
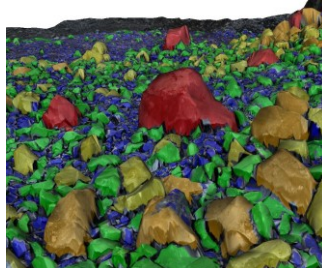
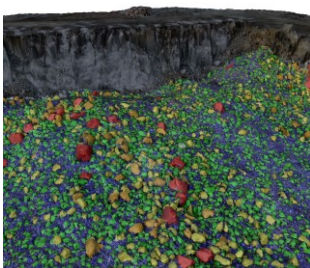


### Features

- Combined 2D and 3D analysis
- Fully automatic
- Scales automatically
- Oversize detection
- Fragmentation modelling
- PDF report

### Benefits

- Overcomes drawbacks of pure 2D analysis
- Fits perfectly for blast quality control
- Heavily stronger statistics due to larger amount of detected particles
- Integrates seamlessly with BlastMetriX UAV



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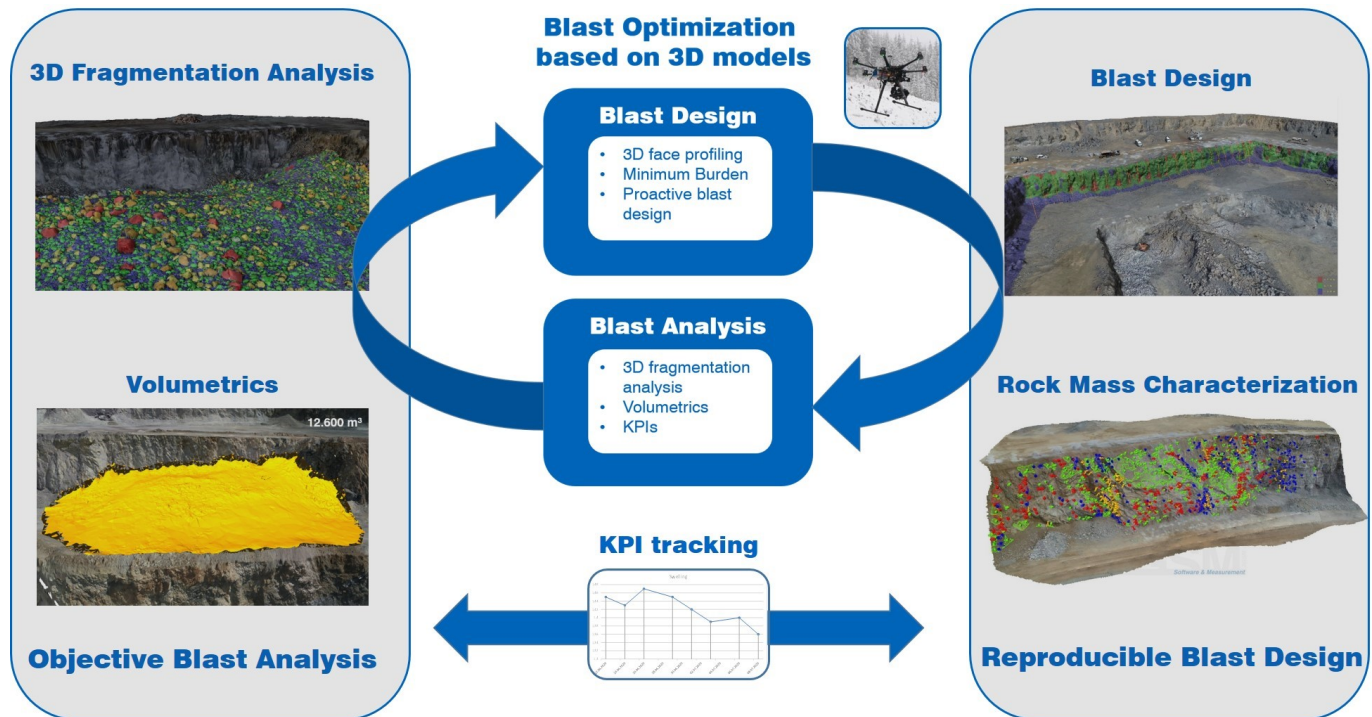
# Commander

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Software & Measurement

## New Component

### Commander

#### KPI Tracking and Data Management



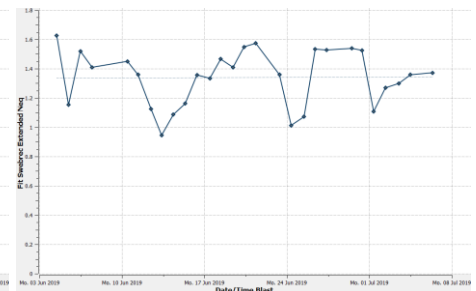
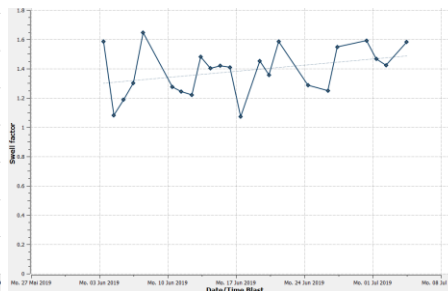
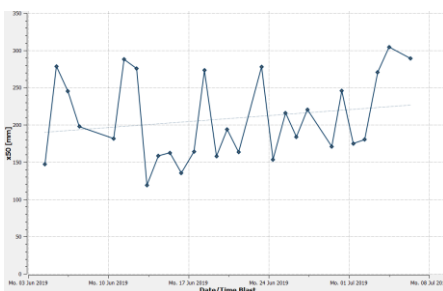
#### KPI Tracking

BMX Commander connects the blast design with the blast result. Tracking of according KPI's delivers an objective quantification of the quality of blasting works and enables

→ Stepwise Blast Optimization

#### Data Management

- Blast sites and users
- Simplified collaboration
- Dashboard
- Easy querying of production data over time and regions



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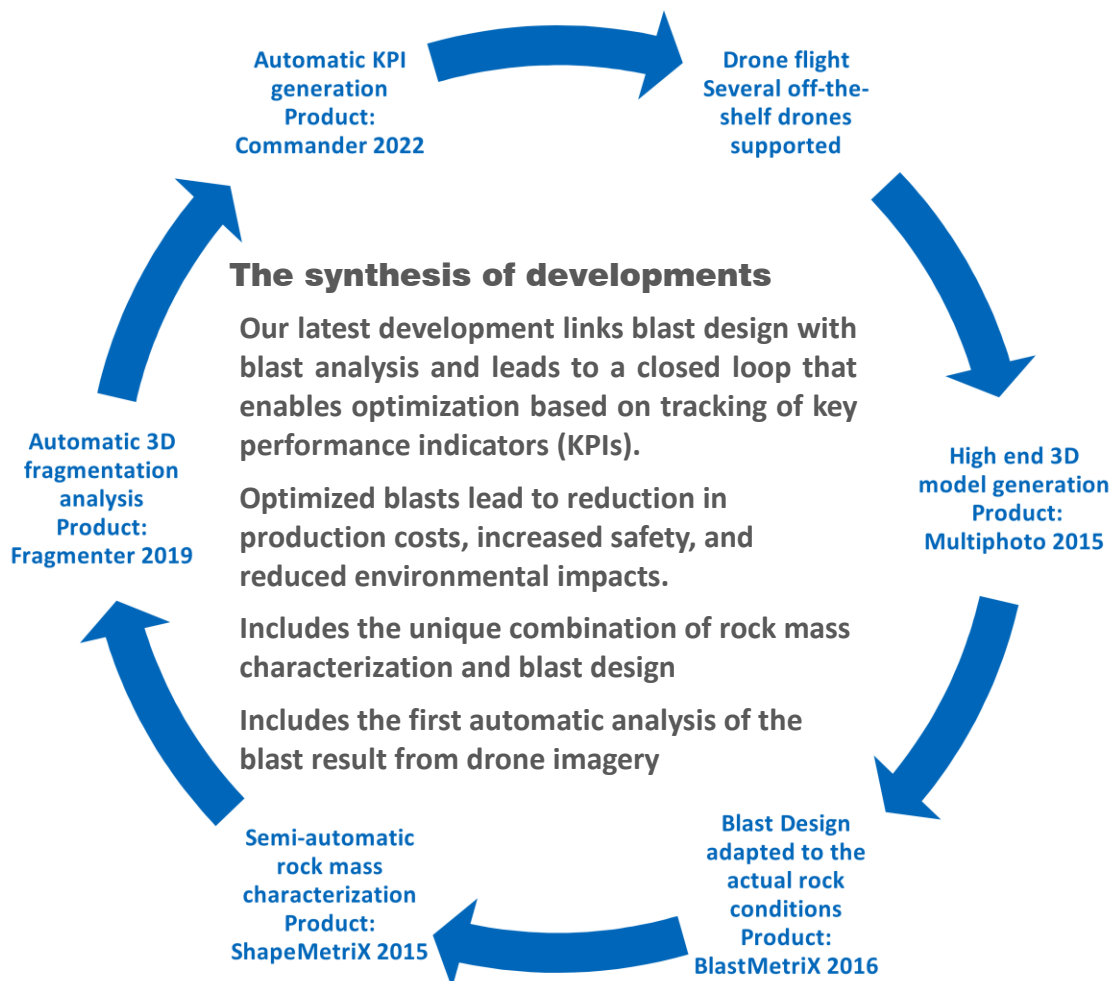
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## Blast Optimization

**Pro-active blast design and objective blast analysis using aerial 3D models**



## Blast Optimization Cycle



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