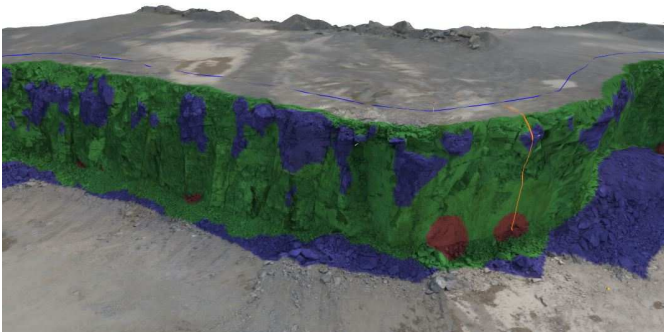


BlastMetriX

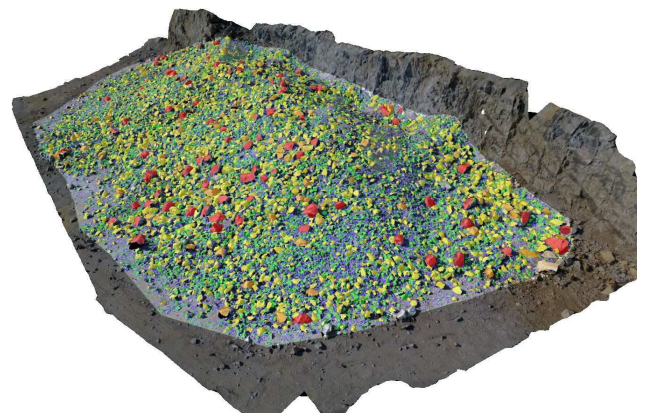
**Blast Optimization using
drone imagery**



Reproducible Design



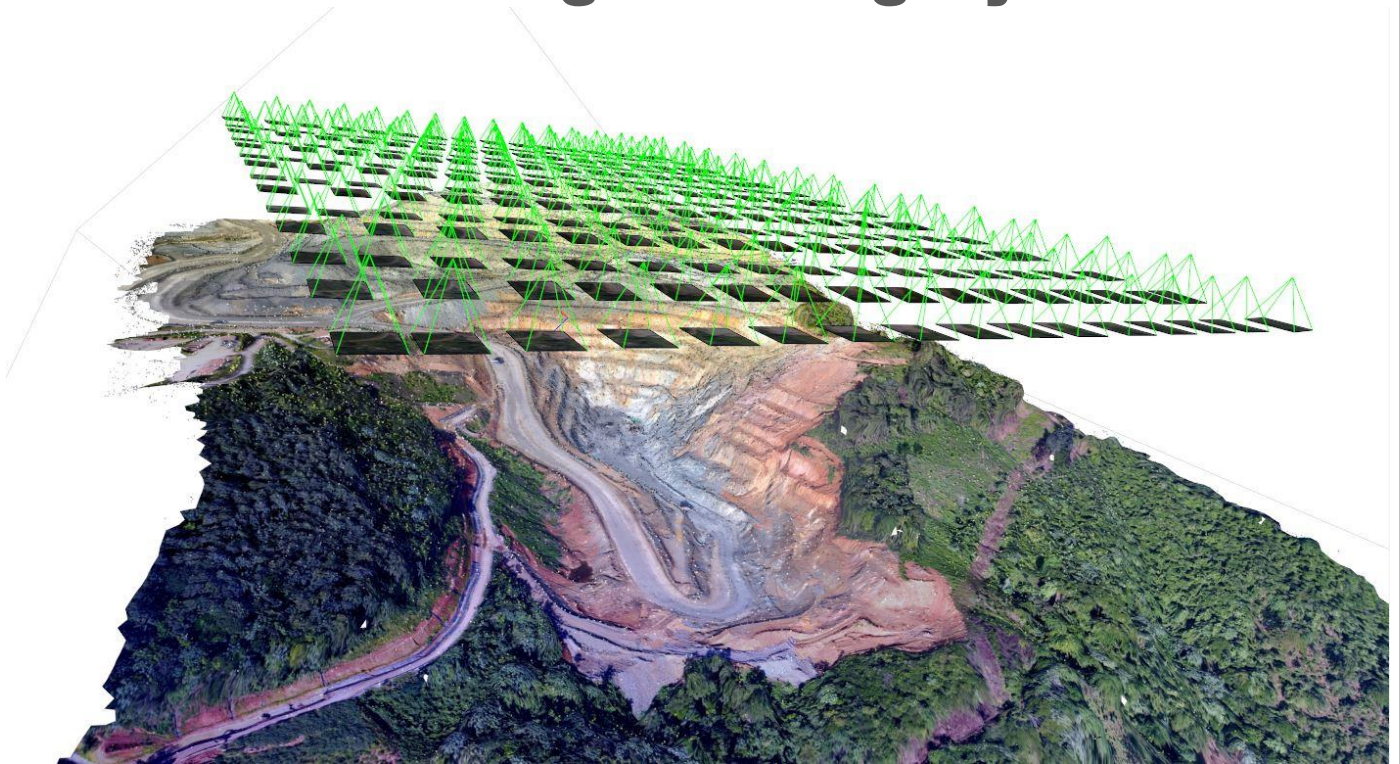
Objective Analysis



3GSM – Simply Measure!

Multiphoto

Powerful 3D model generator for digital imagery



Used on surface



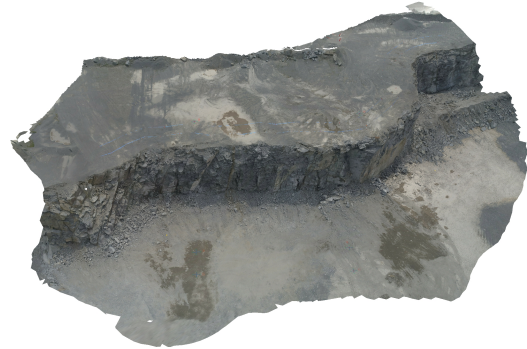
Used underground



3GSM – Simply Measure!

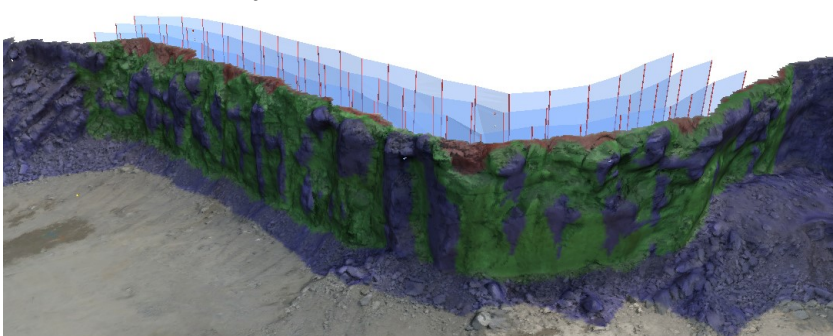
Blast Optimization

Blast design and analysis using aerial 3D models



Save money!

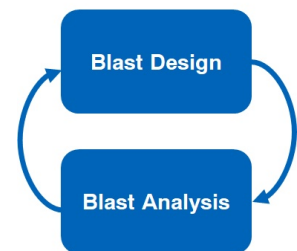
- Suboptimal blasting results lead to additional costs for loading, hauling, crushing, or secondary breakage.
- Besides, there are safety issues such as fly-rock or excessive vibrations to expect.
- Optimized blast layouts reduce the drawbacks and production costs sustainably.



Procedure

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

Blast Optimization

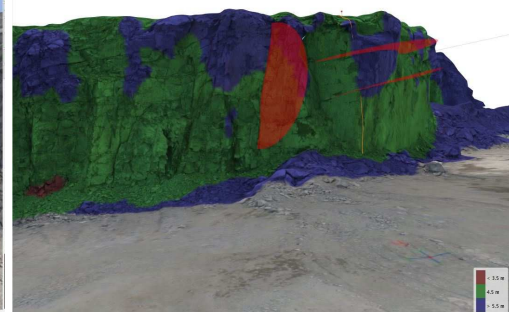
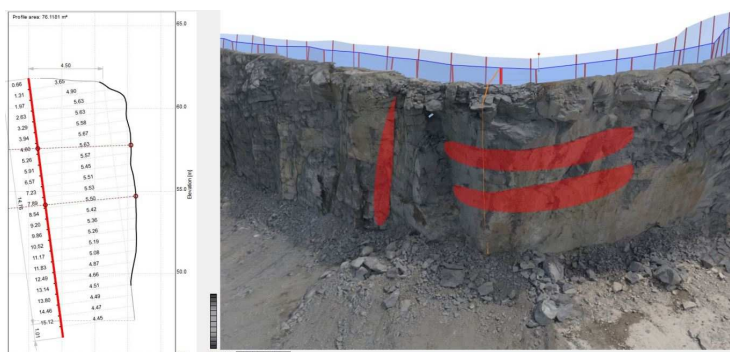


Features

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

Avoidance of

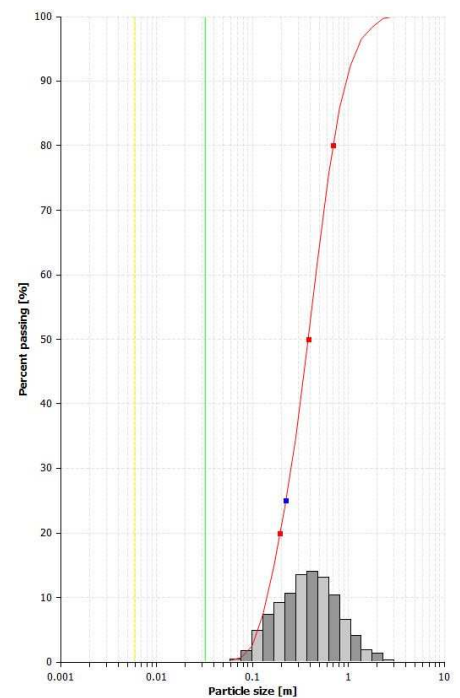
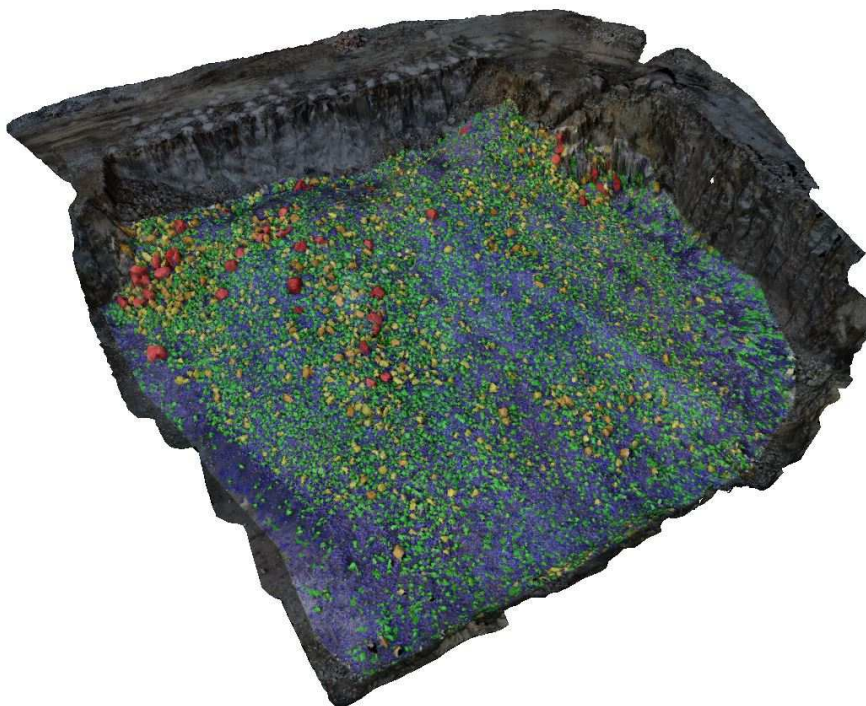
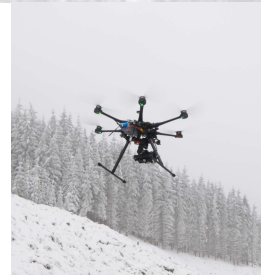
- Fly rock
- Poor fragmentation
- Poor diggability
- Wall damage
- Excessive vibrations



3GSM – Simply Measure!

Fragmenter

First real 3D fragmentation analysis
from drone imagery

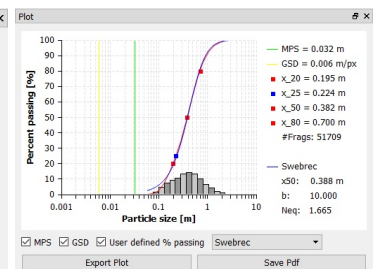
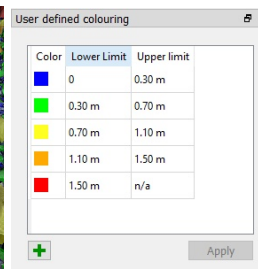
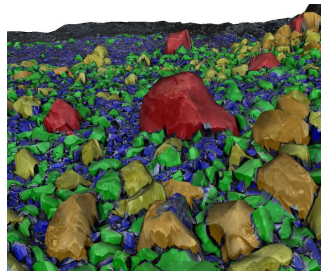
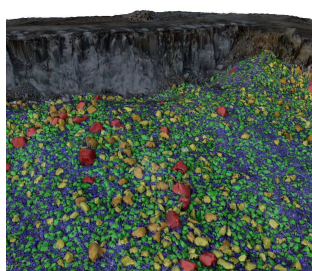


Features

- 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



3GSM – Simply Measure!

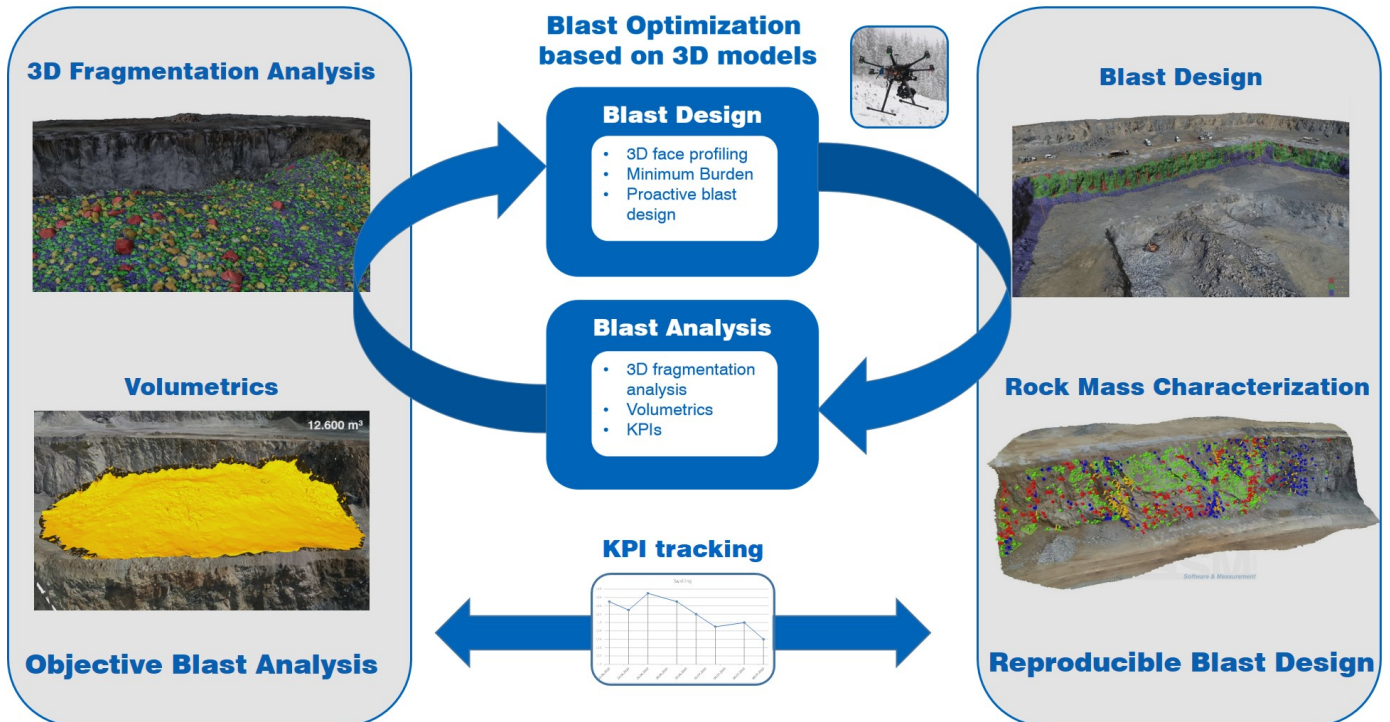
Commander

3GSM
Software & Measurement

New Component

Commander

KPI Tracking and Data Management



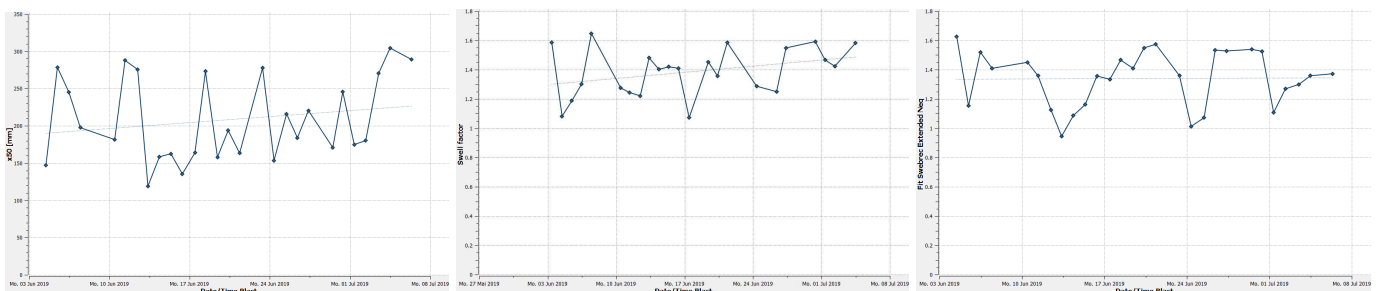
KPI Tracking

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

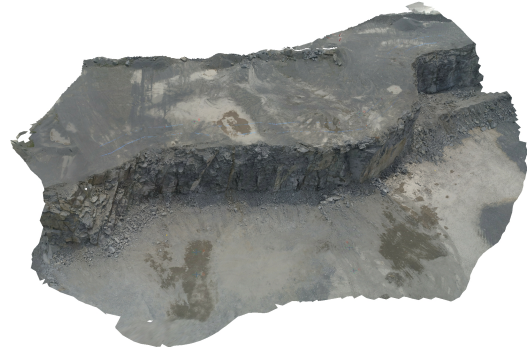


3GSM – Simply Measure!

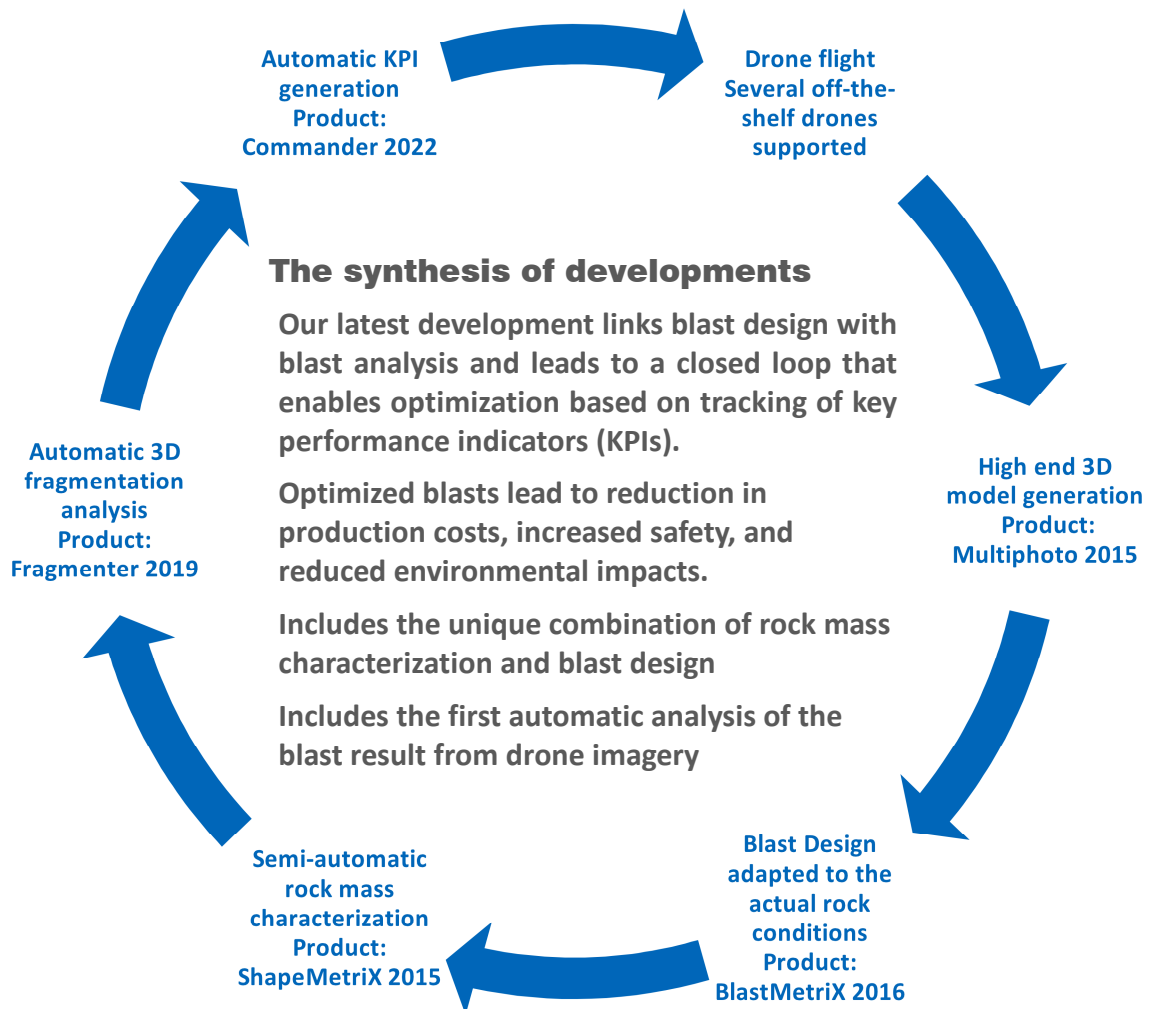
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Blast Optimization

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



Blast Optimization Cycle



3GSM – Simply Measure!