

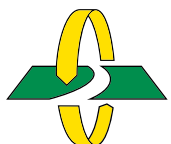
## System Solutions

# Blast planning for mining

Laser surveying, hole probes & GNSS



A precise survey of the quarry face is essential for safe and economical blasting. geo-konzept offers 2D and 3D systems for precise quarry face surveying. The gathered survey data forms the basis for optimum blast planning. Integration of GNSS and borehole survey data into existing quarry face surveys completes documentation for each blasting project.



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## System Solutions by geo-konzept

# 2D basic system - The entry-level model

The robust and easy-to-use 2D basic system is an affordable entry-level variant for quarry face surveying. It offers highly precise measurements and provides all data and planning options on site, instantly.

The 2D basic system can be easily upgraded to a full-featured 3D system, where all existing components can continue to be used.

**QuarryPocket** creates a graphic profile as well as a burden table. The information is available immediately after surveying.



## Advantages

- Easy to use
- Affordable
- Data is available immediately
- Can be manually upgraded to a full-featured 3D system
- Modular design

# Automatic 3D surveying for pros

**3D FastScan Profiler HP** is an automatic 3D laser scanning system. This extremely light and compact device measures the quarry face fully automatically and stores the data in a handheld. The device achieves a measurement rate/speed of up to 181 points/10° per second.

The system's modular design allows for easy and fast installation of updates and add-ons on the external data logger. Furthermore, the handheld can also be used in conjunction with other surveying instruments, such as borehole probes or GPS/GNSS receivers.

The device offers a distance measurement accuracy of 2.5 cm and is eye-safe as per laser class 1M.



## Advantages

- Excellent price-performance ratio
- Very high measurement precision
- Robust
- High measurement speed
- Modular design

## System Solutions by geo-konzept

# Borehole path measurement

**Blasthole Probe Mk3** is a light and compact borehole probe for the precise surveying of boreholes.

This measurement instrument allows you to verify hole angle, holedirection and hole depth. Deviations in the course of boreholes are easily identified and documented in our **QuarryPocket** and/or **QuarryX** software.

Integration of the hole deviation survey data into existing quarry face surveys enables complete documentation of each blasting project and reduces the risk of fly-rock to a minimum.



## Advantages

- Light and compact
- Full data integration
- Optional standalone software
- 360° measurement possible
- Easy to use
- Measurement Results Available On Site and Immediately

# GNSS surveying - Fast and precise

Precise data on hole collar position and elevation is available, thanks to the GNSS-supported staking out and/or surveying of actual hole collar positions. Furthermore, portions of the survey can also be incorporated into an existing mine plan. Of course, GNSS systems can be used for many other quarry-related surveying tasks, such as calibrating breaking edges, reference points or vibrographs.

Of course, stockpiles can also be surveyed using the GNSS system and calculated with **VolumeX** software.



## Advantages

- Very high measurement precision
- Integrated workflow
- Easy to use
- Fast and precise staking out of complex blasting projects
- Complete integration into **BlastManager** and **QuarryX**

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