



High-resolution radar system for early warning and real-time focus monitoring in open pits, quarries, strip coal mines and tailing dams.

IDS GeoRadar: Innovative Interferometric Radar for Mining, Environmental and Civil Engineering Applications

www.idsgeoradar.com

TACTICAL MONITORING RE-DEFINED

IDS GeoRadar, a leading provider of radar solutions for slope stability monitoring, has expanded its expertise to further applications of its revolutionary **ArcSAR technology**.

HYDRA-X is a high-resolution, high-accuracy, **quick-deployment monitoring radar system** designed to improve safety in open pits, strip coal mines, tailing dams, and industrial minerals operations.

SUB-BENCH FOCUSED MONITORING OF WORKING AREAS

HYDRA-X ensures a spatial resolution two times finer than any other slope monitoring radar on the market. By close monitoring of hanging benches over working areas or elements at-risk, **HYDRA-X can measure sub-bench scale instabilities**. With a max scan range of 800 meters, at-risk areas can be **safely monitored even for the smallest rock movement**.

PERFORMANCE FOR CRITICAL DECISIONS

Hydra-X features **on-site processing and alarming**, an **optical HD camera** with visual imagery linked to radar data and refreshed scans every **30 seconds**. Information is

always available for quick reaction even in case of sudden accelerations, and people immediately alerted in the field

COMPACT AND AUTONOMOUS SOLUTION

The compact and lightweight design makes HYDRA-X easily transportable with a light vehicle. One single person can operate the radar for **quick deployment in critical areas**.

Very **low in power demand**, HYDRA-X can be supplied with a combination of solar panels and fuel cells, providing **60 days full autonomy** with almost zero maintenance.

TAILINGS, QUARRIES AND STRIP COAL OPERATIONS

HYDRA-X represents the **perfect solution for monitoring quarries and small excavations** where radar monitoring can contribute to the optimization of slope design and extraction planning by improving the overall risk management.

The versatility of the systems makes it perfect for focused monitoring of **tailing embankments and working sectors in strip coal mines**.

BENEFITS



Measurement Accuracy and Resolution

Hyper spatial resolution (0.2m x 0.8m @100m scan distance) able to detect even the smallest moving rock element with sub-millimetric accuracy.



Real Time Results and On-site Alerts

Results provided in real-time with on-site processing. Alarms can be set based on specific velocity thresholds and alerts activated via pop-up, email, text messages and audio-visual siren.



Scan Range

Maximum scan range of 800 metres.



Compact and Portable Solution

Easily transportable from a location to another and installed by one single person.



Data Rate

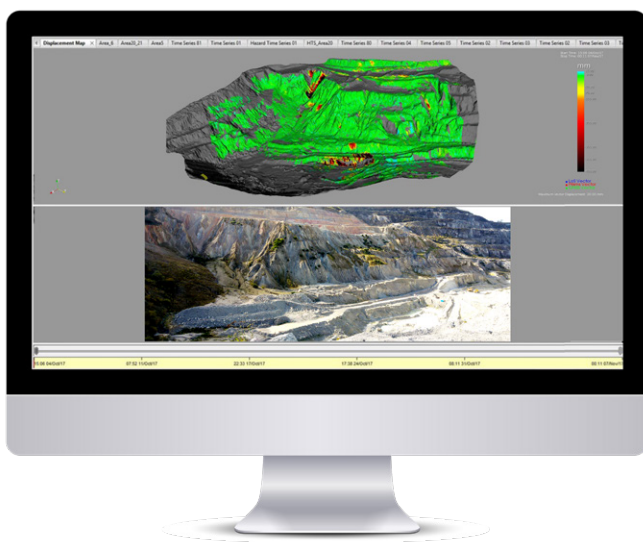
Fast acquisition: 30 seconds for a full resolution scan.



High Availability with Low Maintenance Costs

Minimal moving parts and low-profile design to guarantee robustness and maximum availability in all mining conditions.

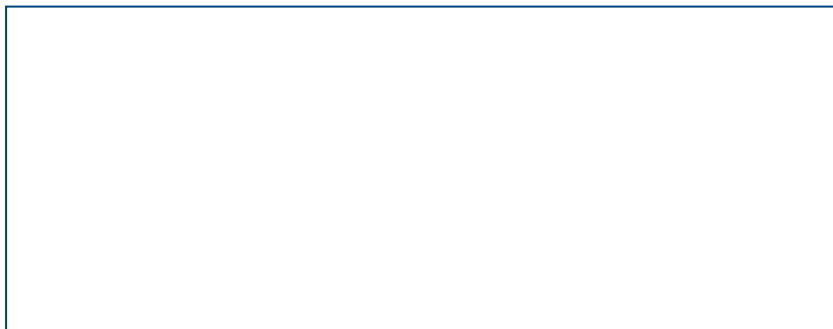
MODULAR COMPOSITION



Cut-slope monitoring: displacement map and picture of the area

FEATURES

- Spatial coverage: horizontal field of view up to 120° and vertical of 30°
- Scan speed: a new acquisition is performed every 30 seconds
- Accuracy: line of sight displacement with an accuracy of 0.1mm
- Internal rechargeable battery pack, optional power supply options (solar, fuel cells) and line power connection
- HD camera
- Operates in all weather conditions and temperatures (-20°C to +50°C), IP65
- Alert generation with user-defined displacement, velocity and inverse velocity criteria
- Instant data processing and on-site alarm generation
- Built-in geotechnical analysis tools



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