

HYDRA-G

Interferometric Radar for Real-Time Monitoring of Civil Structures and Cut-Slopes



High-resolution radar system for early warning and real-time monitoring of buildings, dams, tunnels, mining infrastructures, and cut-slopes.

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

www.idsgeoradar.com

REMOTE SENSING MONITORING

HYDRA-G is a compact, **remote sensing monitoring system** designed for early warning and real-time measurements of sub-millimetric displacements in buildings, dams, tunnels, mining infrastructures, and cut-slopes.

REAL TIME REPORTS AND ALERTS

HYDRA-G is able to provide **real-time monitoring** of civil structures and cut-slopes deformations and trigger **early-warning alerts in case of impending collapses to evacuate people and machinery at-risk.**

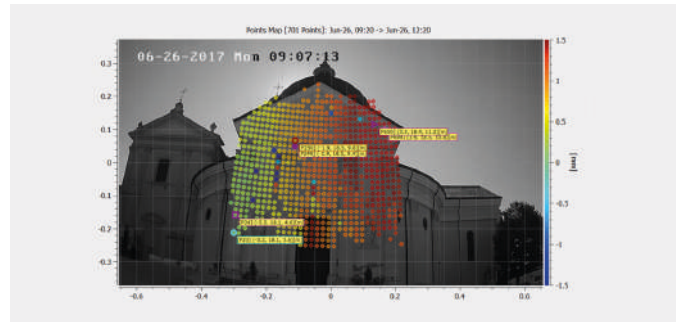
PERFORMANCE FOR CRITICAL DECISIONS

With a scan range up to 800 metres, the system provides the **high-accuracy and resolution radar technology.** HYDRA-G exploits the cutting-edge ArcSAR technology, providing a **spatial resolution of centimetres** with updated displacement information every 30 seconds.

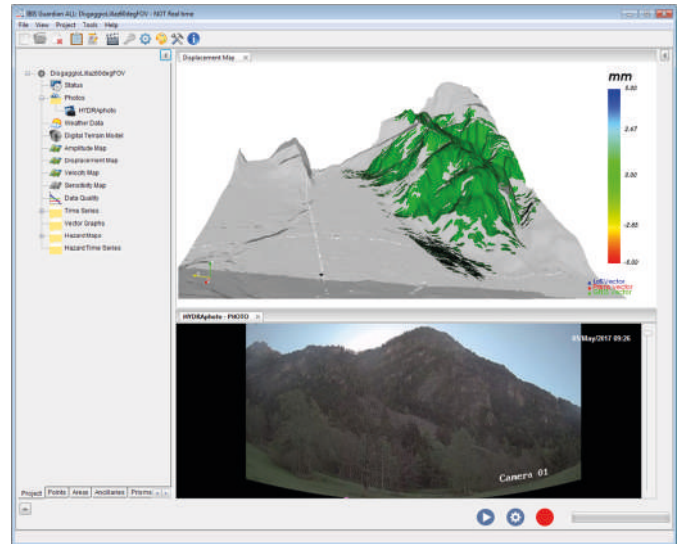
INFORMATION AT A GLANCE

An **optical and infrared HD camera** provides real-time visual inspection of monitored areas, and radar data are draped on a **3D model** of the scene created by the built-in laser.

The industry-leading HYDRA Guardian software provides an easy-to-use and powerful tool to visualize and interpret radar data, and perform **analysis of displacement trends of structure and cut-slope movements.** Moreover, SurfScan is a dedicated, **real-time building displacement and deformation analysis** software.



Building monitoring: real-time tracking of thousands of points in the monitored scenario



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

BENEFITS



Non-intrusive technology: no pointers or devices to be installed on the target.



Fast acquisition rate: 30 seconds for a full resolution scan.



On-site results: data provided in real time with instant processing.



Compact and portable solution: easily transportable from a location to another and installed by one single person.



Hyper spatial resolution: to detect even the smallest displacement with sub-millimetric displacement accuracy.



Short range and large angular coverage capability: to track in real-time thousands of points in the monitored scenario.



3D representation and visual imaging: to ease data interpretation of the monitored area.



High availability with low maintenance costs: minimal moving parts and low profile design to guarantee robustness and maximum availability in harsh environmental conditions.

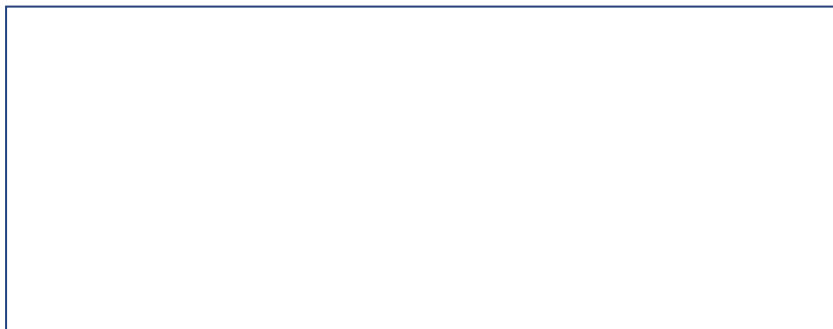
MODULAR COMPOSITION



Acquisition Unit

Supply & Control Unit

TECHNICAL SPECIFICATIONS		SOFTWARE SPECIFICATIONS	
ACCURACY	<0.1mm (Line of Sight.)	HYDRA Controller: Acquisition & system management software	<ul style="list-style-type: none"> Acquisition configuration and management Status information Preliminary data processing
SPATIAL RESOLUTION	Range 0.2 m, Azimuth: 8 mrad @10 m, 0.2 m by 0.08 m @100 m, 0.2 m by 0.80 m @500 m, 0.2 m by 4.00 m		
MAX OPERATING RANGE	200 m (Low Power configuration) 800 m (High Power configuration)	HYDRA Guardian: Real time processing, data interpretation & early warning software	<ul style="list-style-type: none"> Automatic atmospheric correction Alarm generation with user defined levels Multiple alarm criteria based on area definition Email and SMS alarm forwarding 3D interactive data handling Output exportation to external software (GIS) External DTM importation
FIELD OF VIEW	Up to 120° (Horizontal) x 30° (Vertical)		
OPERATING TEMPERATURE	-20°C to +55°C		
ACQUISITION TIME INTERVAL	30 seconds		
POWER CONSUMPTION	100W		
SUPPLY	110/220 V AC - 12/24 V DC		
SUPPLY AUTONOMY	2 hours without mains power		
ENVIRONMENT	IP65	SurfScan: 3D building monitoring software The software is also suited for the monitoring of mining infrastructures.	<ul style="list-style-type: none"> Single point of control for the complete monitoring system Customizable scanned area selection Point mapping over camera picture for easy data interpretation Quick campaign set-up procedure Flexible time series analysis panel for both real-time and post campaign analysis and reporting Easy report generation



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