IBIS-ArcSAR
The world’s most trusted slope monitoring radar

3D SAR RADAR FOR A STUNNING 360° OPEN-PIT COVERAGE

IDS GeoRadar: Innovative Interferometric Radar for Mining, Environmental and Civil Engineering Applications
www.idsgeoradar.com
THE RADAR THAT CHANGED THE INDUSTRY
IBIS-ArcSAR has set new standards in the mining industry, and with its outstanding performance has become the technological solution that leads and inspires the slope monitoring market. Whether it is a strategic or tactical positioning, IBIS-ArcSAR delivers unprecedented performance and data quality to make critical decisions.

MAXIMIZED FLEXIBILITY FOR THE LIFE OF MINE
To meet the industry’s demands for a very flexible system that can cover different mining conditions, IBIS-ArcSAR is offered in two configurations: Lite and Performance. IBIS-ArcSAR can be custom tailored to match any monitoring scenario, not locking you into one solution that doesn’t meet your current needs or future challenges. The upgrade from Lite to Performance can be made at any time with just a mouse click, resulting in maximum return of the initial investment and added value for the future of the mine.

THE HIGHEST DATA QUALITY FOR CRITICAL MONITORING
IBIS ArcSAR, with its proven 99+% hardware availability, provides outstanding data quality thanks to the unique IDS GeoRadar advanced atmospheric processing algorithm, result of years of development together with our customers. As a low maintenance but high-performance instrument, IBISArcSAR can operate without the use of a diesel generator up to 90% of the time, thanks to its very low power consumption, extended autonomy and integrated green energy solutions (solar and wind).

FULL 360 COVERAGE AT HIGH SPEED AND LONG RANGE
IBIS-ArcSAR provides continuous 360° scanning of pit walls with an end-to-end scan time that matches the radar acquisition time. By employing a fully rotation technology it maximizes robustness with minimal moving parts, getting rid of unwanted exposed cabling and expensive maintenance.

IBIS-ArcSAR can operate up to very long range (5000 meters), with a very short scan time (360° in 40s; 180° in 20s) always maintaining the highest resolution with light data for the mine network.

The exceptional spatial resolution of 10 million pixels defines the minimum extent of detectable area, even at high range and sub bench scale. One single radar pixel is enough to trigger an alarm, no artificial oversampling is needed to increase image definition.

3D DATA WITH REAL TIME IMAGES
IBIS-ArcSAR is also the first complete 3D SAR radar to use the proprietary mimo antenna array and DTM automatic generation. The system also features an integrated HD panoramic camera (85 Mpx for 180° panoramic view) that provides real-time images of pit walls and instant visualization of critical areas. The integrated GNSS sensor ensures on-the-fly automatic georeferencing of the radar unit during set-up.

Data quality is always guaranteed by IDS GeoRadar’s state-of-the-art atmospheric correction and intelligent data management system.

BENEFITS

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<th>Safety Critical Monitoring</th>
<th>Long-term Monitoring and Planning</th>
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<td>One single technology and equipment for strategic and tactical real-time monitoring</td>
<td>Early detection of slow movements, automatic integration with Total Stations &amp; GNSS data</td>
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<th>Total Coverage</th>
<th>Multiple Information at a Glance</th>
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<td>The widest field of view and highest spatial resolution for maximum flexibility and performance in all monitoring scenarios</td>
<td>Enhanced data interpretation with instant HD picture of monitored area. Built-in GNSS for automatic geocoding of radar data.</td>
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<th>Green Power</th>
<th>Reliable Data in All Weather</th>
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<td>Built-in hybrid solar – diesel generator supply system, with optional wind turbine, ensuring dramatic reduction of genset usage</td>
<td>The most advanced atmospheric correction algorithm available in the market</td>
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<th>High Availability with Low Maintenance Costs</th>
<th>Full integration with FPM360 TrueVector</th>
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<td>Minimal moving parts and low profile design to guarantee robustness and maximum availability in all weather and mining conditions</td>
<td>Integrating seamlessly into the Guardian FPM360 suite to exploit the unique TrueVector capabilities, delivering a rich geotechnical environment</td>
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MODULAR COMPOSITION

FEATURES

- Scan range:
  - Performance: up to 5000m
  - Lite: up to 2500m
- Maximum coverage: 360° H x 120° V (70° V per session)
- Scan time:
  - Performance: 360° in 40s; 180° in 20s
  - Lite: 360° in 4min; 180° in 2min
- Resolution:
  - Performance: 10 million pixels for full resolution scan
  - Lite: 5 million pixels for full resolution scan
- Integrated solar panels, diesel generator and optional wind turbine
- 3D SAR and automatic DTM survey
- Built-in HD camera\(^1\) on rotating radar head sync with radar maps
- Integrated GNSS
- Operates in all weather conditions and temperatures (-20°C/-50°C\(^2\) to +55°C)
- Fully remote operation (wireless radio link) and optimized file size for low bandwidth (<1Mbit/s)
- Alarm generation with user-defined levels and multiple alarm criteria

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\(^1\)Optional for Lite
\(^2\)With optional low-temperature kit