MSR^{IV} ESPRIT

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Safety and productivity through accuracy and reliability

MSR^{IV} Esprit®, the fourth generation MSR, is the fastest scanning radar on the market. Producing superior real-time movement data with an exceptionally accurate three- dimensional (3D) point cloud, and completing all of this for a full area 2D scan update in less than two seconds. This radar is the solution for mines that struggle with rapidly changing atmospherics and fast moving slopes.

As of its first release back in 2006, the renowned MSR earned a reputation of trust in the pit slope monitoring industry, providing the capability for both critical and strategic monitoring. Our radar products provide the key instrumentation required for informed and effective slope monitoring programmes, enabling risk management procedures and life-of-mine plans that limit personnel exposure to geotechnical hazards, increase productivity and allow for pit slope optimisation through design calibration and verification.

Welcome to the future of slope stability monitoring at the speed of light!

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Fastest scan time

The system is a staring radar which scans a fixed area comprising 90° in Azimuth and 60° in Elevation. Instead of scanning single points or sweeping over the slope, the system scans the whole area instantaneously and constantly.

MSR^{IV} Esprit® performs a single scan in under two seconds, the fastest scan time in the industry, eliminating the effects of rapidly changing atmospherics almost completely. Thus, producing the truest movement data possible.

Critical and strategic monitoring

A limitation in slope movement radars is the frequency they operate at which can only measure a few millimeters between scans. This cannot be changed, it is physics. But, with a scan speed of less than two seconds, fast moving slopes are effortlessly detected and the phenomena of phase ambiguity is reduced. Smaller movement measurements are obtained much faster and with greater accuracy, resulting in the early detection of potential slope failures.

True 3-Dimensional data

INSTANTANEOUS 3D AREA MEASUREMENT

RESOLUTION

Operating Range [m]	Range resolution [m]	Coarsest azimuth resolution [m]	Coarsest elevation resolution [m]
500	0.5	1.38	0.74
1 000	0.5	2.76	1.47
2 000	0.5	5.52	2.95
4 000	0.5	11.03	5.90

Software

360°

View multiple radars data on a 360° 3D scene with trends plots simultaneously.

Cross platform: the advanced web based software can be viewed on various platforms.

Windows Linux iOS android

The software can run on Windows, Linux, Android and iOS.

Additional features and benefits

- Fixed scan envelope of up to 90° (Azimuth) by 60° (Elevation)
- Operating range: 50 - 4 000m
- Power supply:
  - Integrated generator
  - Integrated solar panels
  - External power supply of:
    - 220V AC 50Hz
    - 110V AC 60Hz
- Deploy in less than 30 minutes
- Fully geo-referenced
- All-weather operation
  - Temperature: -30°C to + 55°C (-22°F to 131°F)
  - Wind: 120km/h (75mph)
- Complete remote operation through wireless link
- Highly customisable alarm settings
- Generate own 3D geo referenced synthetic map/survey

To view our full range of products and specifications, visit us at: www.reutechmining.com

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