



+ RGR-Velox

The RGR-Velox (Reactive Geohazard Radar) is a high-precision reactive monitoring and alarming tool for tailings dam breaches, landslides, avalanches, and large slope failures.

Military-grade hardware is combined with GroundProbe's powerful and proven software, alarming and systems to detect, track and alarm on moving geohazards in real time.

World-leading in every specification, the RGR-Velox is the highest precision, fastest

scanning and longest range doppler radar in the market, providing unrivalled confidence.

For a comprehensive approach to risk-based monitoring, the RGR-Velox can be combined with GroundProbe's predictive monitoring technologies and renowned support network, systems and services.

Together, they deliver a complete, state-of-the-art monitoring strategy to better manage risk and ensure maximum safety.

Features and Benefits

HIGHEST PRECISION

Leading with the smallest minimum object size, lowest minimum detectable speed and finest range resolution and angular precision, the RGR-Velox sees more and sees it sooner. It can detect a 0.3m x 0.3m object from 1km - moving at just 0.05m per second - and can correctly locate the object in space to a precision of 0.2° x 1.7m.

FASTEST SCANNING, REAL-TIME INFORMATION

The RGR-Velox completes four scans every second, capturing the entire area every time. GroundProbe's powerful software and alarming systems process the data, assess alarm conditions, and deliver alarm outputs in real time, to provide actionable information as it happens.

LONGEST RANGE, EXTENSIVE COVERAGE

Breaking ground with a 5.6km range and 90° x 40° scan area, the RGR-Velox offers the most extensive coverage across a far greater area than other dopplers on the market.

FIELD PROVEN RELIABILITY

Delivering long-term use and ultimate reliability, the RGR-Velox is power efficient and built for rugged environments. Powered by a world-leading military partner with a proven history in advanced detection and mission-critical applications, the system is precision military radar technology. The radar can be left out in all weather conditions and has no moving parts.

CUSTOMISABLE ALARM ZONES, TRIGGERS AND OUTPUTS

Customisable to suit every scenario, alarm conditions can be set using a multitude of stackable parameters and filters across multiple alarm zones. By allowing sites to design an alarm that balances the real movement of non-geohazards from the debris flow of real geohazards, users are empowered to not miss an alarm and avoid false alarms. When triggered, the system outputs alarms through a range of channels and devices for immediate action or evacuation.

BETTER ATMOSPHERIC CONTROL

The RGR-Velox is low frequency technology for longer range, better handling of atmospheric and fewer false



alarms. Penetrating further through rain, the system gives uninterrupted monitoring, even during rainfall. The lower frequency radar, combined with powerful signal processing and its suite of alarming tools, delivers much fewer false alarms than high frequency systems.

INTEGRATED ULTRA-HD IMAGE

RGR-Velox's integrated ultra-HD smart camera captures a wide dynamic range with stunning 4k resolution, 5x optical zoom and infrared mode for night vision. Incorporated into MonitorIQ®, the front-view image aligns with the radar image for a clear view of the monitoring area, allowing for real-time remote inspection and alarm verification.

POWERFUL VISUALISATION

MonitorIQ® provides powerful and easy-to-understand data visualisation paired with high-resolution imagery of the scene. Showcasing a plan view map with alarm zones overlaid, all tracked objects can be seen moving through the scene in real time alongside the front-view image of the monitored area from the ultra-HD camera.

Gathering and visualising all the alarm notifications from multiple devices on the one screen is GroundProbe's Alarm Centre. Safety-critical by design, it continues to run in the background even after closing MonitorIQ.

AUTOMATIC GEOREFERENCING

With built-in GNSS and North-finding capability, or the ability to survey in the device for fixed installations, the RGR-Velox automatically georeferences every object in the scene. With just one-click, users can determine the speed, radar cross section, direction, and location of objects in relation to the device, precisely visualised over a plan view map of the scene.