

# GROUND BREAKING

APRIL 2016 NEWS

## ACCESSORIES & SERVICES



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## CEO UPDATE

We have had a busy quarter at GroundProbe, focusing on several new releases.

With the release of our SSR Shelter, Extreme Cold Weather Shelter and SSR Hybrid Power Trailer, we've extended our range of product accessories to allow you to safely deploy, protect and maintain your radar.

The team at GroundProbe have worked hard to develop these accessories to ensure your radar runs smoothly in any environment, to protect your asset, and to enable a lower-touch solution. Ultimately, we want to ensure that our accessories will benefit you, and allow you to achieve your slope monitoring goals in a safe and productive manner.

As a technology agnostic company, and provider of all slope monitoring solutions, I am pleased to provide you with a new service offering: periodic health checks for the stability of dam walls and embankments.

By utilising our complete range of radars, services and accessories, we are able to provide a tailored and effective solution to suit your mine's requirements, in the circumstance of a potentially unstable dam wall.

With the challenges currently facing the industry around tailings dams stability, there is no time more fitting than now to capture this data. The stability of dam walls is crucial to monitor, not only to maintain the profitability and longevity of a mine, but most importantly, to protect assets and communities.

As a leading provider of safety solutions to the global mining industry, our vision is to make mining safer, and through our complete range of monitoring solutions, we are able to achieve this.



## SSR SHELTER

**OUR SSR SHELTER IS A CONVENIENT AND PROTECTIVE ACCESSORY THAT MAY ELIMINATE THE NEED TO REMOVE AN SSR DURING A BLAST, SAVING TIME AND CREATING PEACE OF MIND, KNOWING THE RADAR IS OUT OF HARM'S WAY**

Designed to withstand moderate impacts during scheduled mine site blasting, the shelter is used specifically to protect your SSR from small fly rock during the blasting process.

Product Manager, Albert Cabrejo, explains, "Our shelter is a safe haven for your SSR, and will prevent potential damage to the radar due to its rigid design and build. The durability of the shelter is excellent, as it is built using high quality materials, and is easy to operate by a single person."

Our SSR Shelter is compatible with fixed radars for long-term monitoring and mobile radars for short-term monitoring campaigns. It is specifically designed for our SSR-FX and SSR-MT.

## EXTREME COLD WEATHER SHELTER



For more information, scan the QR code.

Whether you are in the most northern or southern part of the world, our Extreme Cold Weather Shelter has got you covered. It has been designed to house your SSR and guarantee full protection in extreme wintry conditions, improving the performance of the system by keeping the radar within recommended temperature ranges.

With the ability to withstand extremely low temperatures, the shelter provides the right amount of insulation to optimise and maintain system health.

Our SSRs are built tough. For almost a decade, some of our SSRs have been operating in arctic conditions without a shelter, where temperatures can drop to minus 65 degrees Celsius with wind chill.

Senior Mechatronics Engineer, Brent De Gier, explains, "Even though our radars are designed to withstand the harshest and most extreme temperatures, it is always important to maintain and provide adequate care for your radar by sheltering it when necessary."

The way our Extreme Cold Weather Shelter works, is it provides a safe enclosure and allows for the right amount of heating inside, so personnel can work comfortably and safely. It has been designed for sites with temperatures lower than minus 40 degrees Celsius.

Our R&D team have designed the shelter using a specialised clear curved window at the front, which allows the camera and radar waves to see through the window, to accurately monitor and analyse the data.

## SSR HYBRID POWER TRAILER

Our SSR Hybrid Power Trailer is the industry's leading low-touch power generation system that allows you to utilise solar and wind energy, without the need to rely on a diesel generator as a sole power source.

An environmentally friendly and efficiency-focused piece of equipment, the SSR Hybrid Power Trailer has 1.2 kilowatts of solar panels on board, and is coupled with a 600 watt state-of-the-art wind turbine, which floats using the power of magnetic levitation for frictionless efficient power generation.

Product Development Manager, James Usherwood, explains, "As a perfect companion to the radar, the trailer charges a large bank of batteries to provide uninterrupted power, for up to five days of cloudy and rain periods, which gives customers peace of mind knowing their SSR will accurately monitor rock slope in all conditions."

Our SSR Hybrid Power Trailer allows you to save time and reduce costs by decreasing your reliance on the diesel generator. You save time by not having to refuel with diesel, and your running costs in diesel, labour, oil, and engine consumables are reduced.

Made with A-Grade material, our SSR Hybrid Power Trailer is truly built for tough mining conditions. It is a maintenance-free system that is rust, dust and waterproof, meaning there is no wear and tear in any given environment.



To learn more about the features and benefits of our SSR Hybrid Power Trailer, scan the QR code.



To learn more about our SSR Shelter, scan the QR code.





## MONITORING DEFORMATION OF TAILINGS DAMS

Scan the  
QR code to  
learn more.



### GROUNDPROBE OFFERS TWO TYPES OF MONITORING FOR THE STABILITY OF TAILINGS DAMS: PERIODIC MONITORING HEALTH CHECK SERVICE AND CONTINUOUS REAL-TIME MONITORING.

Our periodic monitoring health check service is specifically designed to detect the stability of dam walls at an affordable price over long periods. The all-inclusive service involves an SSR-SARx, periodically monitoring a dam embankment, with movement detectable not only while the radar is scanning, but also between visits.

SSR-SARx is available as a fixed installation, where it can be securely mounted in a specific location at a large stand-off distance, effectively monitoring entire dam walls quickly and easily with sub-millimetre precision.

Using our continuous real-time monitoring service, our SSR-XT can be effectively used to monitor the stability of tailings facilities in mines where a known risk or hazard has been identified.

SSR-XT is available as a mobile platform for quick deployments in high-risk areas, and as a fixed installation for longer-term monitoring.

Since 2004, our SSR-SARx technology has been widely deployed by our partners to periodically monitor dam walls.

LiSALab's Chief Executive Officer, Carlo Rivolta explains, "Our technology has been used extensively for monitoring dams and reservoirs, and can be applied to accurately monitor the stability of dam walls that specifically surround and threaten lives and production. Combining both GBInSAR with GroundProbe's technology, now known as SSR-SARx, there is no doubt that the monitoring capabilities of the system can be used without error in data accuracy."



## GROUNDPROBE PROVIDES SAFETY- CRITICAL ASSISTANCE TO SAMARCO FOLLOWING RECENT EVENTS

Within hours of recent events at Samarco, the geotechnical engineers from the mine reached out to GroundProbe requesting monitoring assistance. GroundProbe immediately arranged the deployment of two SSR-XT radars, to provide a complete risk reduction strategy for the mine to assess further risks and hazards.

The flexible scan angle area of the radars was put to great use, allowing the systems to be placed in strategic locations, to detect any future movement and instability of Santarém and Germano dams.

From day one, GroundProbe provided live, accurate data and alarms on the crisis centre to guarantee safety within the immediate area, using GroundProbe's highly advanced and intuitive software, SSR-Viewer. SSR-Viewer provides front

view photographs and 3D data, which specifically focuses on known risks, and instantly detects fast-occurring changes, allowing enough time for personnel to remove themselves from site before a failure occurs. GroundProbe has also been providing daily geotechnical reports, training and continued local support.

A recent example of GroundProbe providing safety-critical monitoring for a tailings dam was in September 2014, when the SSR-XT was used to further monitor and assess risks at Brazil's Herculano mine. GroundProbe Brazil and its global geotechnical support services team were able to provide 24/7 assistance to allow Herculano to rapidly collect the data they needed, to restore safety on site.



**HERCULANO, BRAZIL**

### SEE OUR SSR-XT IN ACTION AT SAMARCO



Scan the  
QR code  
to watch the  
full video.

As part of Samarco's continued efforts to successfully restore the environment and communities affected in Brazil's Minas Gerais state, they have focused on the safety-critical support of GroundProbe's SSR-XT.



**AS ESTRUTURAS DAS BARRAGENS  
EM GERMANO ENCONTRAM-SE ESTÁVEIS  
E SÃO MONITORADAS 24 HORAS POR DIA**



# CASE STUDY

## REMOTE MONITORING SERVICE: TELFER MINE, WESTERN AUSTRALIA

**OUR GEOTECHNICAL SUPPORT SERVICES HAVE EXPANDED TO FULL-TIME, 24/7 REMOTE SLOPE MONITORING FOR ALL THREE SSR-XT RADARS AT NEWCREST'S TELFER MINE IN WESTERN AUSTRALIA. WE ARE NOW PROUD TO ANNOUNCE THAT THIS SERVICE IS AVAILABLE GLOBALLY.**

Our remote monitoring team is staffed around the clock from one central location. The team are all fully qualified geotechnical engineers with extensive radar knowledge and experience.

Not only do they monitor live radar data, they also respond to alarms and wall movements and remain in close phone and online contact with site-based staff.

Principal Geotechnical Engineer, Peter Saunders, explains, "This is a step-change in radar monitoring practice for our customers, and is a natural extension of our services."

In order to provide this service, a project specific Trigger Action Response Plan (TARP) was developed in collaboration with site engineers to allow seamless integration with site processes and procedures regarding response to triggered alarms.

The Alarm Threshold Validation and Back Analysis service was provided as a precursor to the remote monitoring service in order to fully optimise the application of all six of the SSR-Viewer's stackable alarms, and to incorporate their use into site slope monitoring practices.




To learn more about our geotechnical support services, scan the QR code.




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# + MAKING MINING SAFER

FROM THE PRODUCTS WE DEVELOP,  
TO THE SLOPE MONITORING SOLUTIONS WE TAILOR,  
OUR VISION IS MAKING MINING SAFER

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