



# SSP



## Sub Surface Profiler

### Innovative Safety for Underground Mining

Our goal is to improve safety and productivity of underground mining operations through the implementation of innovative radar technology. The Sub Surface Profiler (SSP) is a ground penetrating radar that was developed with this in mind, whilst purpose recognising the harsh underground mining environment and the challenges faced there-in.

### Simplicity meets efficiency

The SSP allows for **real time** observation and analysis of geological structures at the **working face**. This information provides the user with the opportunity to make informed decisions in a small window of time that can enhance the safety and productivity of the mining personnel.

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## Application of the SSP

- Verification of numerical modelling input parameters
- Identify geological structures in the rock mass
- Quality assessment of preconditioning
- Mapping of fracture profile
- Assessment of face fragmentation
- Face advance cover



## Efficiency

The SSP is the lightest GPR designed for underground mining. A single operator can use the SSP to assess multiple survey sites in a day. Its broad frequency band makes the SSP versatile enough for a single system to be used in all underground GPR applications.

The unique technology used in the SSP requires low power consumption and therefore smaller batteries that last an entire shift.



Due to its versatility, the SSP system is well adapted for use in confined spaces as well as in larger tunnels. The sensor simulates a paint roller motion, with independent suspension, which allows for good contact over uneven surfaces. This results in quality data sets with every scan.



## Real time data acquisition and analysis

Data is transferred in real time from the radar sensor to the tablet and can be analysed directly after a scan has been completed. The radar sensor communicates via Wi-Fi to the tablet, eliminating the tripping hazard that cables create. Users are able to make immediate decisions to optimise support and safety.

### Data can be collected over the following surface:

- In proximity of bolts
- Uneven surfaces
- Geological structure
- Mesh and screen
- Shotcrete
- Mesh and screen behind shotcrete
- Fibrecrete
- Wet surfaces



## Intuitive Software

The SSP software follows an intuitive process where data can be analysed in less than two minutes. By using a few simple steps, an operator can interpret scanned data at the working area and make informed decisions. Data is displayed on the SSP software emulating the real world scenario for easier identification.



## Features and Certification

Bandwidth: 300 MHz - 1 GHz

Scan depth: up to 10m

Operator's required: 1

Data acquisitions: real time

Operating time: up to 4 hours

Intrinsic safe certification: Ex ia I Ma

FCC certified

Industry Canada

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