

# Staying on the radar for utility mapping

As the underground utility industry develops, so do its standards and technologies. To keep pace with modernisation, ImpulseRadar continues to offer the industry the familiar 2D systems and newer 3D models of its ground penetrating radar solutions.

**G**round penetrating radar (GPR) technology is vital to utility locating and mapping, with the non-intrusive method allowing for the surveying of sub-surface utilities. GPR collects important data concerning the presence and layout of buried utilities and other subsurface assets and infrastructure, while reducing costs from damage to utilities and creating more accurate mapping for future reference and future projects.

With such benefits, the surveying process has become so vital that many countries have deemed the use of GPR a mandatory requirement through the implementation of robust standards – such as Australian Standard's AS5488-2019 Classification of Subsurface Utility Information (SUI).

The AS5488-2019 is an updated version of AS5488-2013 and relies on utility owners and operators providing evidence of existing subsurface utilities. ImpulseRadar ANZ Sales Partner Anthony Johnstone says this includes some important changes for utility locators when using technologies, including GPR, pulse wave generators and gas pipe tracking equipment.

"All these technologies can now assist in improving a Quality Level C (QL C) designation," says Mr Johnstone.

"This further reduces costs in over utilising non-destructive digging devices and the costs associated with this along with improving accuracy with mapping data to QL C. The previous version AS5488-2013 did not allow GPR technology to be used to improve on



ImpulseRadar's PinPointR and Raptor system.

a QL C, and a QL D classification was used for all radar devices and other technologies."

Thanks to ImpulseRadar's modern technology and geophysical methods, underground assets can now be surveyed with the invaluable details of attributes and data that AS5488-2019 requires.

## Industry leading technology

ImpulseRadar's GPR utility locator, the PinPointR, was developed to maximise in-field productivity by using the company's innovative real-time sampling (RTS) dual-channel antenna technology. The RTS technology provides industry-leading bandwidth, speed and resolution, all controlled via an intuitive user interface.

ImpulseRadar says its PinPointR offers a straightforward and dependable way to locate, avoid or map underground utilities and offers market-leading performance and data quality while doing so quickly and easily. Despite not being new to the market, the PinPointR technology continues to boast the functionality required to meet approved industry standards.

"The PinPointR can be utilised onsite to further improve the accuracy of mapping to QL C on known points and unknown targets to QL D," explains Mr Johnstone.

"You can further increase project

management by utilising multi-channel GPR like the ImpulseRadar RAPTOR 3D GPR array solution. The advantage of 3D GPR arrays is that you can cover a large area faster, so it's an excellent option for larger projects.

"This gives a quick overview of a large area reducing further costs and improving speed in utilising other locating technologies."

The RAPTOR system is a high-speed 3D GPR array enabling the collection of 3D GPR data at speeds in excess of 130 km/hour and 5 cm point intervals. Its capability of survey speeds eliminates the need for traffic control and safety vehicles, with ImpulseRadar calling the system "arguably the best 3D GPR array available today".

Mr Johnstone says while a GPR can be used to improve a QL C result in line with AS5488-2019 whether using a single-frequency or dual-frequency 2D GPR system, or a 3D GPR array, it is important to note that numerous technologies should always be used to create the most comprehensive mapping possible.

"GPR should not be used by itself in any project and all locating technologies should be used to enhance and create more accurate utility detection and mapping," he says. •

For more information visit  
[www.impulseradargpr.com](http://www.impulseradargpr.com)

# Raptor

## 3D GPR Array

Raptor antennas offer a flexible way to configure multi-channel 3D GPR arrays from as few as 4-channels up to 30-channels as standard, or larger bespoke solutions upon request.

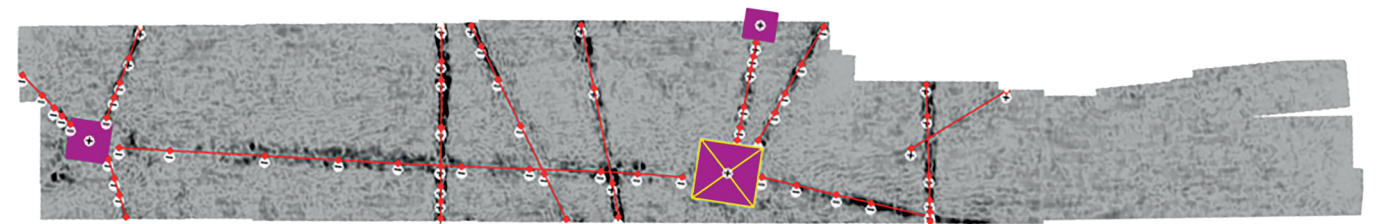
Raptor antennas use modern real-time sampling technology to support high-speed and high-quality 3D data acquisition at speeds up to 130 km/h at 5 cm point intervals. Backed by Condor, our new 3D GPR processing and visualisation software, Raptor is a highly productive end-to-end 3D subsurface mapping solution.

## Locate & Map Utilities Fast

- Reduce risk and costs
- Boost performance and improve workflows
- Minimise field time and optimise data processing
- Simplify GPR data interpretation for more effective decision making
- Flexible and modular antenna configurations allow switching between vehicle-mount or push-cart carriers

# NEW

## Condor 3D Processing & Interpretation Software for Raptor



To arrange a local demonstration, contact Access Detection at 02 9999 0777 | [info@accessdetection.com.au](mailto:info@accessdetection.com.au)

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ImpulseRadar defines GPR