



Overview

Australia's largest water and wastewater service provider requested Altai's partner to upgrade their underground communication system that is used to communicate between the surface and the traverse teams and replace the old radio system. The old system was used for voice communications only with sketchy service and merely able to operate in short range. These issues placed limits on the amount of tunnel investigation work done underground.

After a site survey, Altai's partner, Powertec, suggested the client to use WiFi for the new communication network and recommended Altai Super WiFi's products due to their high-quality carrier grade and proven performance to increase capacity and extend coverage.

The installation process was completed in a quick and professional manner, for one reason due to Altai APs' long range coverage, which can reduce the number of devices needed and simplify the cabling process, at the same time, Altai's APs are all designed for simple-to-deploy solutions. Therefore, the deployment was completed smoothly in a short time with a robust and stable network ready. Now the workers are able to communicate through the new network without interference between the surface and the tunnel.

Customer Name:

Sydney Water

Deployment Location:

Australia

Application:

Private network

Products used:

A2, C1an/C1xan,

Result:

The Altai Super WiFi Underground Communication System was tested head to head with an alternative popular competitor and beat them across the board in terms of ease of operation, coverage and signal strength.

The client was blown away by the performance of Altai's network and the potential for voice, data and telemetry underground as well as the ability to monitor the network performance via Altaicare.

The Challenge

- Underground environment (1.9m H x 1.5M wide with a bend at 1000m, 70m beneath the ground)



The Solution

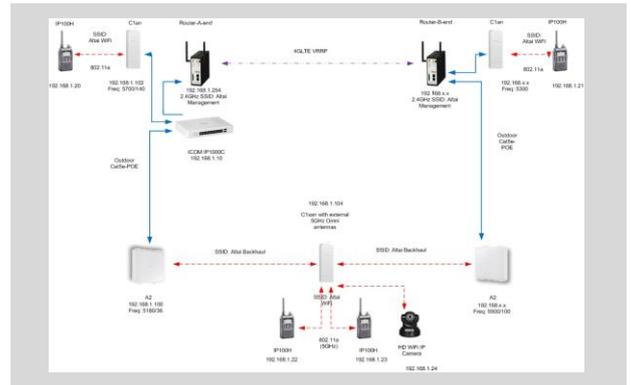
Altai's A2 was winched down on a tripod via the access entrance at each end of the tunnel, positioned to face each other. A router was positioned at the top of each access entrance along with an Altai C1an for surface access.

The staff can work with a backpack carrying their required items and a modified battery powered Altai C1xan with external antennas was included (adding no more than 1kg to the total weight). This acted as a repeater for the signal from the A2 that was positioned at the access point at the start of the tunnel entrance. As the team traverses the tunnel doing their investigation, the C1xan within the backpack reaches a predetermined threshold and then hands over to the next A2.

The handover threshold in this instance occurred at 1250 metres into the tunnel from the starting point.

The Result

Communication can now be done with relevant management, chemists, and engineers, providing live access but no need for staff to leave their offices. Project costs would be reduced. Safety standards have been improved for staff with access to live images and constant contact.



About Altai

Altai Technologies is a leading supplier of carrier-grade Wi-Fi products and technologies with a distribution network reaching 100 countries. Altai Super WiFi is the leading solution for vertical industrial markets, covering over 200 terminal ports and airports globally.

The Altai Super WiFi Solution includes a complete portfolio of indoor and outdoor products for carriers, WISPs, and enterprises to support a wide range of applications such as mobile data off load, public access, WLAN access, and backhaul.

Utilizing patented smart antenna technology, as well as a cloud-based management system called AltaiCare, the Altai Super WiFi Solution is designed from the ground up to deliver WiFi networks that have unprecedented performance, reliability, scalability, and manageability.

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