

Ekahau puts safety first for underground workers with emergency tracking system

“To install a proprietary system on a 25 km long tunnel would have been impossible. With Ekahau, however, it took only a few days to implement the software-based tracking solution on the existing Wi-Fi network to ensure the emergency tracking of employees and trains.”

Jose Luis Santos
Sales Manager, BAUTEL



Photo © Juha Simola

Challenge

Mining and construction companies are constantly looking for innovative solutions to locate their workers inside mines and tunnels in emergency situations and improve their safety. Fomento de Construcciones y Contratas S.A. (FCC) and Acciona Infraestructuras S.A. (NECSO), two major Spanish companies, involved in the construction of a railway tunnel in Northern Spain, contacted BAUTEL, which was already providing telecommunication solutions to find a solution which could utilize the existing infrastructure. In this challenge, Ekahau proved itself with flying colours.

Solution

Wi-Fi (wireless LAN) networks are being used increasingly in mining operations worldwide, especially for the provision of Voice over IP (VoIP) phones. This proliferation creates a ready-made standard wireless infrastructure for the Ekahau Real Time Location System (RTLS) to be used for safety tracking purposes. Ekahau's wireless tracker device is a small battery powered Wi-Fi tag (called the Ekahau T201) which features a call button. In case of emergency, a miner carrying such a device can push the call button and the tag will send an alarm as well as its exact location to a remote server located safely above ground. Other staff using wirelessly-connected computers can also access the location information on internal web pages from within the mines by simply directing their web browsers to the appropriate intranet page. The movement and location of each tagged miner is tracked in a database and shown on a visual map on a computer screen. In the event of a disaster, the last known location of the miners will be mapped, even if the Wi-Fi network has collapsed inside the mine thus greatly improving the chance of their recovery.





A railway construction tunnel in the North of Spain

Photo © Juha Simola

Value

The immediate value of the Ekahau Emergency Miner Location System is its ability to pinpoint with accuracy the location of employees trapped underground in an emergency situation. With time as the critical factor, rescue teams can as a result focus their energy on areas where people are known to be instead of searching in vain where they are not.

The Ekahau system can also be used effectively for locating personnel wandering in hazardous places or other underground areas where they have no authorisation.

Applications

The Ekahau Wi-Fi tags, carried by the personnel, communicate over standard wireless networks sending signal strength measurements to the Ekahau Positioning Engine (EPE), a software solution running remotely on a server offsite. The EPE calculates the position of the worker and reports that to another Ekahau product, Ekahau Finder. Ekahau Finder is a web-based application allowing users to see the worker's last known position on a map from their own workstation with a web browser. The third Ekahau application used is the Ekahau Device Manager (EDM). This software manages the configuration of T201 tags remotely via the Wi-Fi (wireless LAN) network. With EDM it is also possible to send warning signals directly (with inbuilt buzzer and LED lights) to the tags in case of an emergency.

All of these technologies fall under the umbrella of the Ekahau RTLS – the quick and easy way to locate people and assets. By streamlining operations, Ekahau RTLS allows decision-makers to make choices which save lives.

About BAUTEL

BAUTEL is a Spanish company specialized in offering innovative telecommunication and information solutions to its customers. For more details, please visit www.bautel.com



Solution Benefits

Quick and easy to implement

Affordable - no additional infrastructure investments needed since the Ekahau solution uses the existing Wi-Fi (wireless LAN) network

Guarantees the safety of mining and construction personnel working in hazardous environments underground ahead of any disaster



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