

Hytera PoC Solution Provides Robust and Reliable Communications for Rock Quarrying Operations in the UAE



Introduction

Stevin Rock is a major global provider of sand and rock products based in the UAE. The company wanted to deploy a reliable, robust and scalable communications system at its quarries in Ras Al Khaimah. Hytera supplied its HyTalk PoC system with PNC360S and PNC550 handheld and MNC360 mobile devices. The PoC system provides seamless communications across the quarries to deliver enhanced productivity and more efficient operations, as well as helping to boost safety standards.

The Background

Stevin Rock is one of the largest quarrying and crushed rock companies in the world. It is wholly owned by the Government of Ras Al Khaimah, one of the seven Emirates of the United Arab Emirates (UAE). Its product range includes fine sand to coarse aggregate for asphalt, ready-mix plants, land reclamation, white beach sand, core and armour rock for sea defence/breakwater marine

Customer Name

Stevin Rock

Project time

2024-2025

Industry

Mining

Products/Solutions

PNC360s Handheld PoC Radios
PNC550 Handheld PoC Radios
MNC360 Mobile PoC Radios
HyTalk Pro PoC Management System

projects for the construction industry. It also provides feedstock for the cement, steel, chemical, glass and mining industries. It has over 3,500 employees.



The Challenge

Quarrying is an inherently dangerous industry, so it is critical that a reliable and robust communications system is in place to ensure all mining operations including blasting, excavating and vehicle movements can be properly coordinated.

Stevin Rock wanted to implement a reliable, interference-resistant and scalable communications solution to enhance operational efficiency and safety. The solution also had to integrate with existing equipment, all of which would contribute to more productive and safer mining operations.

Scalability was important because Stevin Rock wanted to be able to expand or modify their communications network as and when required, but without incurring significant additional investment. The chosen communication devices had to be extremely robust so as to withstand the harsh desert mining environment. It was important, therefore, that the devices were dust, moisture, shock and vibration resistant to ensure their long-term reliability.

The Solution

Stevin Rock opted for a Hytera Push-to-Talk over Cellular (PoC) broadband solution, based on Hytera's HyTalk Pro PoC management platform. PoC technology operates over existing mobile network operators' nationwide 2G/3G/4G network infrastructure and local Wi-Fi networks. If required, the HyTalk platform can also interconnect with narrowband technology, such as two-way radios, and any IoT networks implemented by the mining company.

The PoC solution offers instant group, individual, broadcast and emergency push-to-talk (PTT) services comparable with traditional two-way radio networks. But as it is a broadband technology, it also offers

many additional features such as video calling, the ability to receive and transmit video files, and live video streaming to provide greater situational awareness to control rooms. PoC also supports other rich media applications, including bespoke advanced operational management tools deployed by Stevin Rock.

This solution is designed to streamline and optimize communications across the entire mining team, ensuring seamless coordination and enhanced operational efficiency. At the core of the system are Hytera's cutting-edge PoC devices, including the PNC550 and PNC360S handheld devices, and a significant number of MNC360 mobile units deployed in the cranes and mining vehicles.



The Benefits

Enhanced Communications

Hytera's tailored PoC solution addressed the critical communication challenges faced by Stevin Rock. PoC technology has significantly improved communications reliability and operational productivity across its mining operations. It is also a cost effective solution as it does not require investment in any new network infrastructure. It can also be easily expanded without the need for major investment.

Greater Integrated Functionality

The broadband-narrowband converged solution interconnects different types of network and also integrates terminals, platforms, network/device management, dispatch facilities, and upper-layer applications. The HyTalk Pro platform is capable of providing not just mission-critical voice calls, but also rich multimedia data services such as video calling services.

Loud, Clear Audio

The Hytera PoC devices are all specifically engineered to deliver loud, crystal-clear audio thanks to noise cancelling technology and distortion suppression. The MNC360 mobile radio has a 4W speaker, for example, so drivers can hear messages over noise of the vehicle and in the quarries. This enables teams to collaborate effectively even in the most demanding environments such as noisy excavation work in an open cast mine.

Products

- PNC360s Handheld PoC Radios
- PNC550 Handheld PoC Radios
- MNC360 Mobile PoC Radios
- HyTalk Pro PoC Management System



Worker Safety

Various combinations of GPS, BDS, GLONASS and Galileo satellite technology in the radios enables higher-precision positioning, so dispatchers and supervisors can quickly and more precisely locate a user's device for more efficient dispatch or to send help if a worker is in trouble.

Rugged and Durable Radios

The PNC360S is certified with an IP67 rating and meets the MIL-STD-810H standard, while the PNC550 is IP68 certified. The radios are therefore very tough and able to withstand water, dust, shock, extreme temperatures and sudden drops of up to 1.2 meters. This means they will always perform as expected in the harsh environment of the UAE.

Versatile PNC550

The PNC550 supports dual-card and dual-standby, which makes it not only a PoC device, but also a 2G/3G/4G/Wi-Fi smartphone. Its 13MP rear camera and 8MP front camera provide customers with a wide range of image and video services, including live video streaming.



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