WHITE PAPER
Push-to-Talk Over Cellular (PoC)

Embrace Hytera PoC, Enjoy Worldwide Communication,
Reach Unlimited Possibilities

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What is PoC?

Push-to-Talk over Cellular (PoC) provides two-way radio services over 3G, and LTE technology, creating a worldwide radio network that utilizes the cellular infrastructure of Mobile Network Operators. This enables radio networks with very wide coverage areas. Radio users are untethered by the range of repeaters and base stations used in traditional radio networks.

> **PoC utilizes the 3G and LTE cellular infrastructure of Mobile Network Operators, creating a wide-area radio network that provides global coverage with the bandwidth for data and video applications.**

The concept of Push-to-Talk over Cellular was introduced by Nextel in 1987 as an alternative to two-way radios. Nextel revolutionized business communication when it started to pass small voice packets from radios across their iDEN network. Prior to cellular push-to-talk, business communication was dominated by two-way radios on peer-to-peer and local radio networks. Nextel was acquired by Sprint, and in 2013 Sprint decommissioned the Nextel iDEN network because it could not support modern LTE data and video bandwidth requirements.

Today, PoC provides the best of both narrowband digital radios and broadband 3G/LTE networks. PoC radios support the advanced features of Private Mobile Radio (PMR), including messaging, instant group/individual calling, GPS location tracking, and emergency notifications. Combining this functionality with 3G/LTE cellular networks provides the bandwidth required for modern data, photo, and video applications, along with the global coverage area of 3G and LTE.

How PoC Works

PoC devices connect to the cellular infrastructure networks of Mobile Network Operators, using a SIM card identical to those installed in cell phones. PoC network services are hosted in the Cloud. The Cloud services are located on privately hosted servers owned and operated by the PoC platform. Gateway routers provide connectivity between the Mobile Network Operator networks and the PoC servers.

The advantage is a highly reliable network that requires no network infrastructure investment and maintenance. An app on the radio (typically an Android operating system) provides simple and convenient access to PoC services.

PoC Radios also support WLAN connectivity. The WLAN capability enables calls inside buildings with WLAN network coverage that fill gaps where an LTE network has limited connectivity. PoC radios automatically and seamlessly switch to an LTE network when a caller moves outside WLAN network range.

PoC Market Growth

Growth in PoC services is being driven not just by the technology, but also by the increase in mobile workforces, and the global adoption of the Internet of Things (IoT). There is proven demand for PoC services. At its peak, Nextel had over twenty million subscribers in the United States.

According to Persistence Market Research, the PoC market will grow at a Compound Annual Growth Rate (CAGR) of 9.7% from 2019 to 2029; with the market value increasing from $3.2 billion to $10 billion over the next 10 years. The market is shared by public safety & security, transportation & logistics, energy & utility, construction, manufacturing, defense, travel & hospitality and others.

The PoC market will increase in value from $3.2 to $10 billion over the next 10 years, and grow at a Compound Annual Growth Rate of 9.7%

9.7%

Who Uses PoC

Industries which use PoC services are looking for wide-area communications with a low startup cost. These industries include transportation and logistics, security, construction, government organizations, hospitality, manufacturing, retail, and others.

PoC is particularly useful for organizations and businesses needing to communicate across widely dispersed sites or with mobile work forces, such as service companies with vehicle fleets and logistics firms. These are companies with service fleets and multiple locations that don't want to invest capital in the infrastructure required for wide-area radio networks.

| Public Safety & Security | Property Management | Energy & Utility | Manufacturing |
| Municipal Management | Transportation & Logistics | Construction | Travel & Hospitality |

PoC also provides a cost-effective solution for smaller organizations, such as retail outlets or hospitality, where traditional Private Mobile Radio (PMR) solutions might be more than is required or too high of an investment.

OPEX vs CAPEX Model

Traditional wide-area private radio networks require significant up-front Capital Expenditures (CAPEX), that include base stations, repeaters, routers, and antennas. PoC is based on Operational Expenditures (OPEX) with a low-cost, subscription-based service. The only up-front investment is the PoC radios and SIM cards.

PoC Radios vs. Phones

Employees can use personal cell phones, company issued cell phones, or PoC radios for internal company business communication. Providing an employee with a dedicated PoC device ensures employees use the devices exclusively for business-related communications.

There are several advantages to PoC radios:

- Large PTT button for instant group calls, no dialing the phone number, no waiting for the phone to ring

- 2W audio power and noise cancellation for using in noisy conditions

- Reliable and durable enough to be used in harsh environments

- Simple designed UI, more work oriented and professional

- Provides one touch emergency alarms

There are several drawbacks to cell phones:

- No instant group calling

- 0.5-1W audio power, not loud enough to hear clearly in noisy surroundings

- Distract users with diverse entertainment functions

- More suitable for daily leisure, easily damaged in harsh environments

PoC Radios vs. Traditional Two-Way Radios

Two-way radios are limited in range, and the radio coverage is dependent upon investment in infrastructure equipment like repeaters, power supplies, antennas and in securing a spectrum license. This can be expensive to purchase and maintain.

PoC leverages existing cellular and WLAN networks, providing instant nationwide communications, without having to spend on infrastructure.

However, if there is already a significant investment in a radio communications system, PoC can be deployed in an integrated hybrid solution that enables existing radios to be connected to PoC radios and devices. Besides, based on broadband network, PoC solution can provide you with not only voice calls, but also videos calls, multimedia messages, video dispatch, etc.

POC FEATURES AND BENEFITS

- **Worldwide Coverage**

PoC leverages 3G/LTE and WLAN networks to provide a secure, instant, and global communications solution for today's mobile workforce.

- **No Infrastructure Required**

The customer no longer needs to purchase, operate and maintain any infrastructure, as this is all done by the Mobile Network Operators. This gets rid of the day-to-day responsibilities of owning and maintaining the infrastructure, reduces operating costs and dispenses with the need for frequency licenses for PMR systems.

- **Rapid Deployments**

Since the radio network infrastructure already exists, PoC systems can be deployed very quickly. PoC radios can work out-of-the-box with SIM cards pre-installed, and system configuration such as call groups, emergency alarms, and geo fencing can be easily done through a web-based dispatch application.

- **Unlimited Bandwidth**

LTE networks support bandwidth-hungry applications like video calling and video streaming. Besides, unlike PMR networks where channel capacity is finite, PoC platforms allow any number of virtual channels and as many call groups as required to be created, including the ability to create dynamic call groups.

- **Push-to-Talk Individual and Group Calling**

PoC technology enables subscribers to make one-to-one (individual) calls or one-to-many (group) calls to different groups of people at the same time over a mobile operator's network. One press of a button on a rugged handheld device and you are talking to your group or an individual.

- **GPS Location Tracking**

PoC devices with integrated GPS enable location tracking via a dispatcher. This is an essential tool for managing, scheduling, and tracking remote teams. PoC dispatch application like geo fencing enables the alarm to trigger when employees enter hazardous areas, or when remote service employees stray from defined territories. Dispatching platform is typically web-based, allowing for easy deployments and minimal start-up costs.

POC DEVICES AND SOFTWARE APPLICATIONS

Hytera HyTalk

Hytera HyTalk is a multimedia communication solution based on the 3G/LTE and WLAN networks. It provides different types of rich communication services including voice, video, and data. To use Hytera HyTalk, you only need to install the app on Hytera's PoC radios or body worn cameras. Through the network, you can perform one-to-one or one-to-many communication fast.

Hytera HyTalk also supports Bring Your Own Device (BYOD) cell phones with the appropriate app installed, providing flexibility for users who may also need cellular access.

Hytera PoC Radio

Hytera **PNC360S PoC Radio** provides nationwide communication services over 2G, 3G, LTE, or WLAN network. Rugged, compact and superbly portable, the PNC360S is easy to use in various challenging situations.

PNC360S PoC Radio

- Ergonomic design for comfortable grip.

- Push to talk upon power-on.

- 4,000 mAh battery for 20-hour work time (10-10-80 duty cycle).

- 3 W built-in speaker to deliver loud and clear audio.

- IP67 rated.

- 1.2 meters drop resistant.

- High-performance antenna for reliable communication.

Hytera **PNC380 PoC Radio** combines the instant communication and multimedia applications into a single device. Over the 3G, LTE, and WLAN networks, the device delivers rich multimedia data services, including video transmission, location sharing, and instant messaging.

PNC380 PoC Radio

- Sleek, compact and durable devices designed specifically for business PoC communications

- Supports both Push-to-Talk over Cellular (PoC) and phone calls

- On-site video to the dispatcher or supervisor in real time over LTE or WLAN networks, improving situational awareness and facilitating decision-making

- Certified with IP67 rating, fully protected from dust and is water-proof up to 1 meter for 30 minutes

- Meets MIL-STD-810G standard, withstanding 1.2-meter drop

- 4,000 mAh Li-ion battery offering over 24 hours of talk and standby time on a 5-5-90 duty cycle

Hytera **PNC460 XRugged Smart Device** has both smartphone and push-to-talk over cellular (PoC) radio capabilities, empowering your team to connect and collaborate more seamlessly at work. Moreover, the PNC460 is truly rugged to brave any harsh environments. Where there is tough work, there is the PNC460.

PNC460 XRugged Smart Device

- Android 12 OS
- Hytera-developed Toolkit
- IP68
- Large FHD Screen
- Dual-frequency GPS (L1+L5)
- Push-to-Talk
- Professional Acoustic System
- External Antenna
- Powerful Camera System
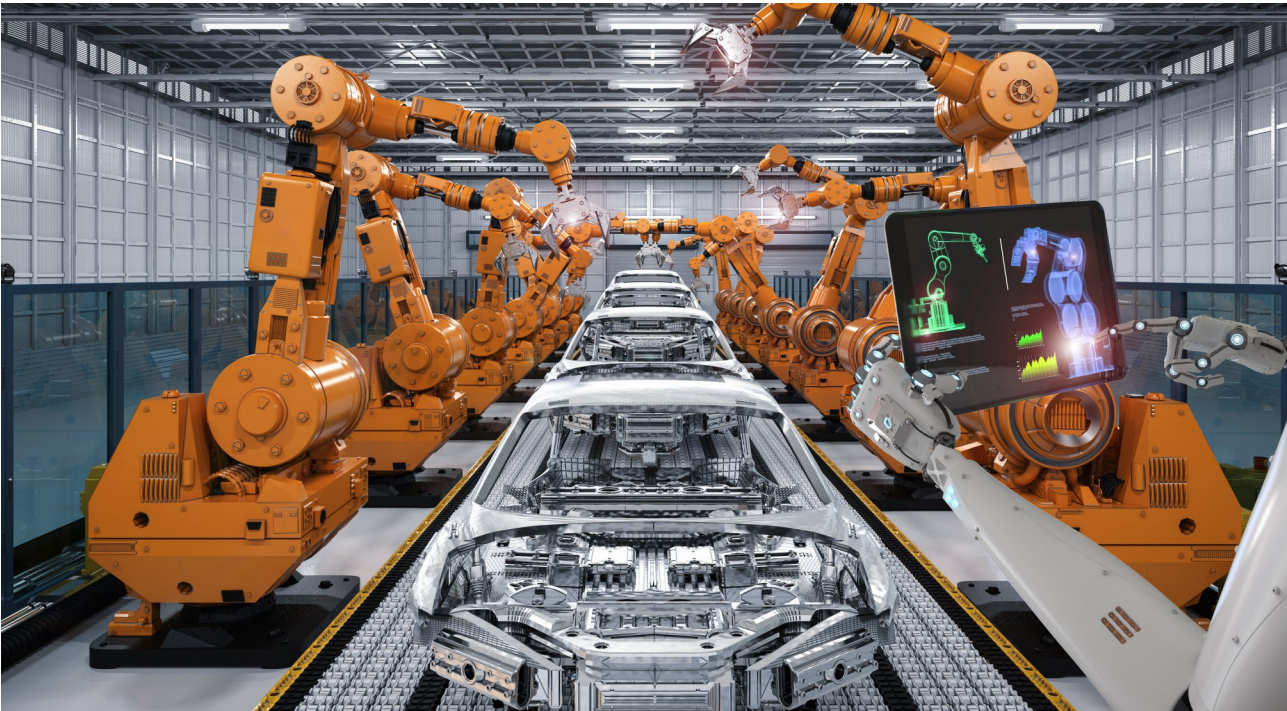
Hytera **PNC560 5G XSecure Rugged Device** built right for the field workers to keep connected through reliable, secure, and efficient communications in any situation. It unlocks the full power of 5G for super-fast data services and gets the best of two-way radio for instant voice communications including group and emergency calls.

PNC560 5G XSecure Rugged Device

- 3GPP MCX services
- Dedicated PTT & alarm button
- Loud & clear voice
- IP68 dust & water proof
- SW tamper-proof
- HW tamper-proof
- Safebox
- Smart MDM
- Dual domains
- Android 12
- 6.3-inch FHD+ full-screen
- Qualcomm 8-core platform
- 3 High-resolution cameras
- Barcode/QR code scanner*

Hytera **MNC360 PoC Mobile Radio** designed for in-vehicle communication. With Hytera innovative design, it provides reliable, loud & clear voice service for various field communication scenarios. Working as a professional business-ready PTT radio, MNC360 is the ideal group communication device for vertical markets.

- Two external LTE antennas improve RX sensitivity
- Android system
- Standard APIs
- Over-speed alarm
- Fatigue driving alarm
- Easy to install and use
- Rich accessories
- Human-centered designs

MNC360 PoC Mobile Radio

Hytera **HyTalk PMR Gateway** has the capability to seamlessly connect the narrowband radios and broadband radios. Use existing public network resources to help narrowband users communicate with each other anywhere.

HyTalk PMR Gateway

- Simple but intuitive, it is easy to deploy and use.

- Enable different user groups to seamlessly communicate with each other in a unified way.

- Protect existing investments

Hytera **PDC550 Smart PoC Radio** unifies narrowband DMR and broadband LTE. Get the best of both technologies to meet our customers' requirements of versatile voice and data services.

PDC550 Smart PoC Radio

- Enables the collaboration of multiple communication modes including broadband and narrowband networks as well as public and private networks in multiple scenarios

- AI-powered noise reduction and up to 2.5W speaker provides loud and clear audio quality for versatile voice service

- 5-inch multi-touch display, visible under strong sunlight, supports wet hand and glove operation

- With exquisite structural technology, IP68, military standard (MIL-STS-810G) and 1.2m drop-proof-design

- Features instant voice and video group calling

- Supports Android apps, including Hytera apps and third-party apps

- Send, receive, and view text messages between dispatcher and other Hytera PoC devices

Hytera Body Camera

Hytera **VM780 4G Body Camera** integrates a body camera with Push-to-Talk over Cellular (PoC) voice communications to capture, store, and share video, audio, and image evidence in the field. The VM780 features video transfer, evidence collection, and dispatching software applications.


VM780 4G Body Camera

- All-in-one design reduces equipment costs and simplifies communications

- Full duplex voice and video calling

- 2.8-inch touch display

- Full HD 1080P video recording with AES256 advanced encryption

- Stream video over LTE or WLAN networks for nationwide monitoring of events

- GPS built-in and Hytera HyTalk Dispatch application compatibility

- Supports individual and group calls between dispatch, VM780, and other POC devices

- IP68 and MIL-STD-810G rated to withstand harsh environments

- Powerful battery life supporting up to nine hours continuous video recording

Hytera HyTalk Series

Brief Introduction
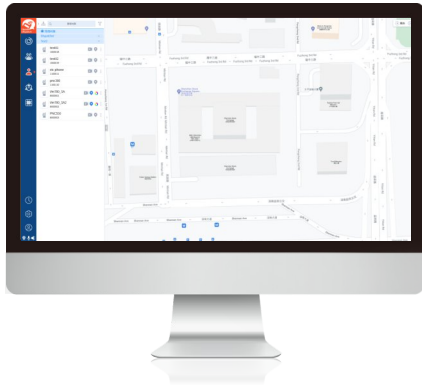
Hytera HyTalk series, as multimedia communication solution based on the public network, provides different types of communication services such as voice, video, and data. Based on 3G/LTE/Wi-Fi, users could easily initiate one-to-one or one-to-multi communication with Hytera Terminals(including PoC Radio/Dual-mode Rugged Device/Body Camera), BYOD and adapted terminals from 3rd-parties.

It helps operators, dealers and organizations to start business or PTT service rapidly, as easy as installing a software or an APP. To help organizations migrating from legacy PMR system, Hytera HyTalk series is capable to interconnect with many systems, including DMR, Tetra, etc.

Key Features

• **Rich Services**

The system provides voice, video and data services. Moreover, it gives rich dispatching service, including dynamic grouping, location subscription and real-time photo/video upload. In case customer needs to trace back, MRPS (Media Recording & Play System) records every conversation, SMS, MMS, logging, etc..

• **National-wide Coverage**

Initiates communication from wherever has 3G/LTE/5G and Wi-Fi.

• **Parallel Connections to Public and PMR Networks**

Dual-mode Rugged Device can connect to 3G/LTE and PMR (Private Mobile Radio) in parallel. When one network has poor connection, service could switch to another one automatically.

• **Quick Start Business at Ease**

Not only could customer start business rapidly without building infrastructure, but also easily with open accounts.

• **Robust Hierarchical User Model**

Hierarchical design, including operator, multi-level dealers and customers with their hierarchical organization. Each role has different but just needed authorization, and data is restrictively isolated among dealers from different level and customers.
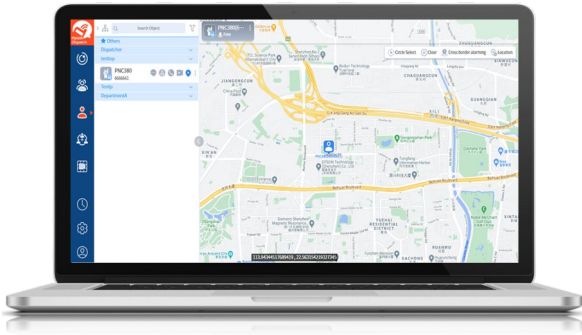
• **Interconnection with other system**

The system has the ability to interconnect not only legacy PMR system, like DMR & Tetra, but also common IT systems, such as CCTV, PSTN, etc.

# Hytera HyTalk Dispatch Application

Brief Introduction

Hytera HyTalk solution includes a powerful voice dispatch, video dispatch and team management application. Hytera HyTalk Dispatch is available as a web-based application accessed through a web browser.

The dispatch application provides tracking of member locations and travel routes with time stamps. It also supports geo fencing capabilities, enabling the alarm to trigger when employees enter hazardous areas, or stray from defined territories.

It offers instant voice and video group/individual calling. Dynamic call groups can be quickly created with a simple list selection or geographically by selecting an area on the dispatch map. The dispatcher may stun (turn off) and reactivate a radio, receive emergency alarms, along with full call recording, logging and playback.

Hytera PoC Technology Delivers Enhanced Safety and Video Functionality to Power Generation Company in Turkey
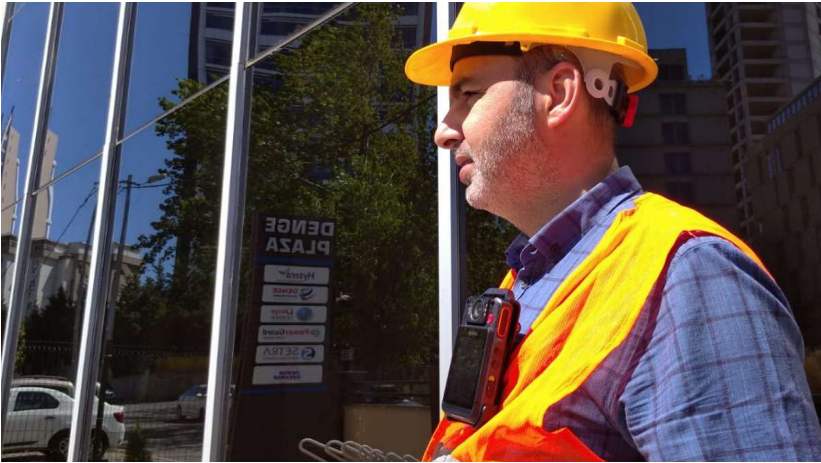
User
Power Generation Company in Turkey

Market segment
Energy

Project time
2019

Products
VM780 bodycam
PNC550 PoC terminal

Introduction ≫

Hytera supplied its PoC technology, including devices and bodycams, to deliver instant PTT voice and real-time video streaming for front-line maintenance and headquarters staff at Turkish power generation company.

Background ≫

This power generation company is now the biggest private sector power supply company in Turkey with around 3,600 MW of installed capacity. The company distributes its electricity to 21 million people in 21 provinces. It is also involved in the trading of electricity and natural gas and generation of steam.

The Challenge ≫

The power generation company's power plants, power transmission infrastructure and other facilities are dispersed across Turkey. Ensuring safe and reliable communications between the different sites and teams spread around the country is critically important. The front-line maintenance personnel urgently need reliable voice and video communication systems to keep in contact with different types of teams in the field and to liaise with headquarters. Its facilities are often located in harsh environments, so the working conditions are often challenging for personnel. Staff, therefore, need sturdy, dust- and water-resistant smart radio terminals to ensure reliable communications and to help protect them if they get into trouble.

Working in the energy sector is a high-risk occupation. In order to ensure the safety of front-line personnel, the company wanted to deploy an on-site video solution during maintenance work, which was capable of streaming video images back to headquarters in real time. The video solution was also needed to enable managers at headquarters to conduct real-time remote guidance and to hold multi-party meetings with front-line personnel whenever necessary.
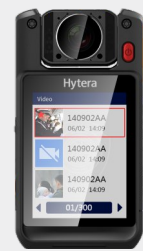
PNC550   VM780

The Solution ⟫

Hytera's smart Push-to-Talk over Cellular (PoC) technology was chosen as the solution. PoC provides strong mobile communications using commercial mobile operator broadband networks. The choice of PoC meant the power generation company could access a much wider area network than if it had chosen a land mobile radio (LMR) solution and it saved money as it did not have to deploy its own base stations and other LMR network infrastructure.

Two types of Hytera devices have been deployed. Front-line maintenance staff have been issued with Hytera's top-of-the-range VM780 4G body cameras (bodycams). The VM780 has a small, slim, lightweight and portable design suitable for front-line maintenance personnel to use.

As well as integrating a body camera with a remote speaker microphone to provide video dispatch and real-time video streaming over 3G/4G/Wi-Fi, it also doubles as a PoC device, so users can make push-to-talk (PTT) voice calls and initiate an emergency alarm in mission critical conditions.

The device features a 216° rotatable camera, 1080p high definition image and video capture. The VM780 also supports AES256 advanced encryption technology to protect all the captured evidence in local storage or during transmission.

Headquarters staff were issued with Hytera's PNC550 smart PoC radio.

The device adopts a smartphone form factor with a full 5-inch multi-touch screen and IP68 rated and has a 1.2m drop-proof design.

The Results ⟫

The choice of Hytera's versatile and flexible PoC technology helped the power generation company reduce the cost of network construction, as PoC operates over existing public mobile network operator infrastructure. The PoC solution provides safe, encrypted communications and a reliable, highly available network.

The PoC solution has helped improve daily work efficiency in the field and at the company's headquarters. The PNC550 and VM780 help keep front-line maintenance staff safe by providing instant PTT communications and supporting additional safety measures such as Man Down, Lone Workers and GPS location-based services.

Hytera entered the Turkish market in 2006 and is now widely recognized by clients in many different industries as a highly reliable provider of professional communications solutions, including the energy sector. Hytera was also able to customize its solution and add industry specific apps to greatly improve the customer experience and user satisfaction.
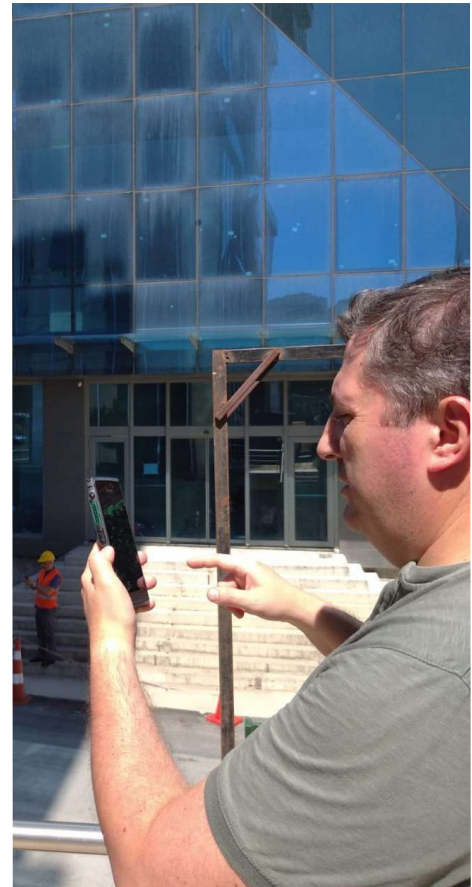
Hytera PoC Solution Boosts Efficiency at Kazakhstan Gold Mine

User
JSC AK Altynalmas, Kazakhstan

Market segment
Energy

Project time
2019

Products
PNC380
PNC550
Hytalk

Introduction ≫

Hytera's Hytalk Push-to-Talk over Cellular (PoC) platform and terminals have enabled Kazakhstan mining company JSC AK Altynalmas to upgrade its communications system with a digital multimedia solution supporting voice, video and data..

Background ≫

JSC AK Altynalmas is one of the best known gold producers in the Republic of Kazakhstan. It undertakes geological exploration and gold ore extraction using both deep mining and open cast methods. It also carries out smelting and processing operations to produce 'Doré' gold, a semi-pure alloy of gold and silver. Doré gold is then transported to a refinery for further purification.

The company owns nine deposits in the Akbakai region in the Zhambyl area of Kazakhstan, along with the Pustynnoye deposit and the Karyernyi site in the Karaganda area. The company employs 2,000 highly qualified engineers and technicians and deploys more than 60 mining equipment units. It produces approximately 149,000 ounces of gold per year.

The Challenge ≫

Some of the gold mines reach depths of 500 meters underground. It is a harsh and difficult environment to operate in and and there is no public communications network coverage available. JSC AK Altynalmas has deployed a company intranet using WiFi. An analogue two-way radio network was also installed, but it can only be used for voice services, so the company wanted a more modern digital solution that could handle data as well.

PNC550   PNC380

The Solution »

Hytera worked with a local agent to come up with a solution that would provide the company with a multi-media communications network service. It was suggested that Hytera's new Hytalk Push-to-Talk over Cellular (PoC) platform could be used. The server for the PoC platform was implementedusing the existing intranet WiFi network.

The prototype was trialled for three months after which JSC AK Altynalmas declared it was "very satisfied" with the performance of the platform and the PoC terminals provided by Hytera. It ordered a PoC platform and more terminals for a large-scale trial. JSC AK Altynalmas plans to continue expanding the capacity of the platform in 2020.

The Results »

Thanks to the efforts of the Hytera team, the intranet WiFi can now meet the demands for a public network supporting the Hytera solution. The mining staff are using Hytera PNC380 and PNC550 PoC devices. The PNC380 adopts the form factor of a compact two-way radio with display screen and full keypad. The PNC550 adopts a cellular smartphone form factor with full 5-inch touchscreen. Both enable PTT group and individual voice calls. Hytera noise cancelling technology enables improved audio to cope with the noisy mining environment.

The devices offer 2G, 3G, 4G and Wi-Fi services. Cameras enable live video streaming and the devices support positioning services using GPS, GLONASS, and BDS in combination, together with the assisted GPS technology. The PNC380 is IP67 rated and the PNC550 is IP68 rated for dust and water resistance. Both meet MIL-STD-810G standards for shock, drop and vibration resistance.

The Hytalk dispatch platform enables the command and control centre to be in constant communication with staff via their PoC terminals and to carry out a variety of functions remotely. An orange emergency button on the top of the radio enables staff to send an emergency call to a dispatcher or supervisor in case of an emergency, thus boosting worker safety. Hytalk can be easily adapted to support future large screen terminals thereby providing the customer with a flexible, future-proof solution.

The Benefits »

The Hytera PoC solution helps customers to save costs on network construction, improve the efficiency of communications and meet their demands. The Hytalk platform and terminals can be used for a long time and the maintenance cost is very low. Different terminals can be assigned to leaders and employees at different positions to meet different needs. It also greatly improves the communication efficiency between the command center and the front-line staff.

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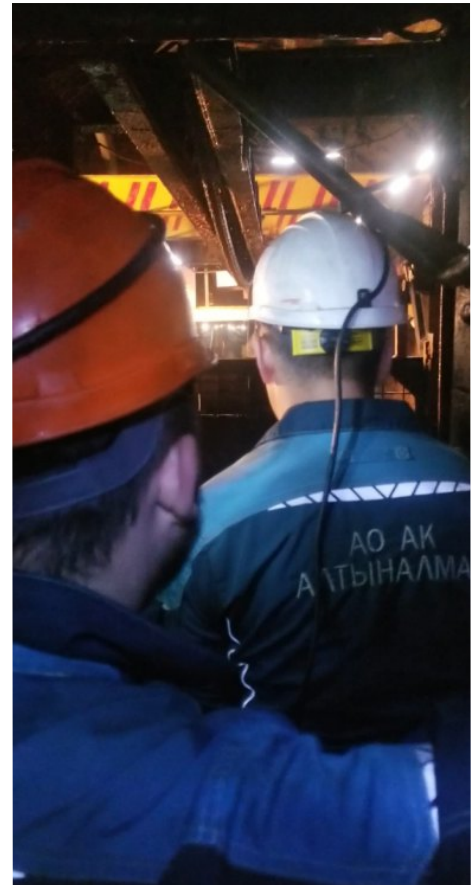
Hytera PoC Fleet Management and Dispatching Solution Boosts Productivity of Turkish Taxi Companies

Client
Otogar Taxi, Kemer Taxi, Güneş Hal Taxi

Industry
Transportation

Project time
2019-2021

Products
Hytera PNC370 radio
Hytera PoC3000 HyTalk system

Introduction ▶▶

Hytera's PoC3000 platform and PNC370 radios have greatly enhanced the way taxi companies in Turkey are able to communicate with and accurately locate their drivers, thereby resulting in a much better service for customers.

Background ▶▶

Turkish taxi companies are privately operated businesses. Each taxi company employs approximately100 people and is responsible for providing services in specific areas of a particular city. However, it is not that easy for potential passengers to call a taxi.

Taxi-hailing software apps such as Uber are not much used in Turkey due to legal restrictions and technology limitations. If someone wants to take a taxi, they have to make a phone call to the central taxi control station or go there by themselves and tell the staff that they want a taxi. The station controller informs the taxi driver by phone that a fare is waiting and the taxi driver returns to the station to pick the passengers up.

The Challenge ▶▶

1The current system has a number of challenges. If a passenger wants to order a taxicab, the controller has to notify the taxi driver by calling their mobile phone. But if the taxi driver happens to be occupied, the controller has to keep calling other drivers one at a time until he finds a driver available to accept the job.

The other main problem is the fact that controllers do not have a clear idea about the location of each taxi in the city. This makes it difficult to find the closest available taxi driver for the job and can mean passengers are unnecessarily delayed waiting for their ride.

Hytera PoC3000 HyTalk system PNC380

The Solution ≫

Hytera provided a Push-to-Talk over Cellular (PoC) solution to solve the communication issues facing the taxi companies. The staff in the central taxi station are equipped with Hytera PNC370 PoC radios and a dispatching system, while each taxi driver is also issued with a PNC370.

PoC provides all the advantages of private two-way radio systems, but operates over existing cellular and WLAN networks to deliver wide area coverage. PoC supports one-to-one and one-to-many group calling.

When a job comes in, the controller initiates a group call over the dispatch system, which can be heard by all the drivers, to see who is available. In-built GPS technology enables the controller to see the location of each taxi through the dispatching system and quickly assign the job to the nearest available driver.

The PoC solution has a number of advantages over mobile smartphones. For a start, the controller can group call all the taxi drivers by simply pressing the dedicated push-to-talk (PTT) button, which will initiate a call much faster than a mobile phone. Mobile phones are also restricted to one-to-one calling.

The audio quality of PoC radios is louder and clearer than mobile phones, as they feature a 2W professional speaker, which reduces audio distortion and background noise. The user interface of the PNC370 is simple and easy to use and drivers are not distracted by entertainment apps found on smartphones. The PNC370 also features a high capacity battery, which ensures drivers can continue to communicate throughout the length of a long shift.

1Unlike a smartphone, the PNC370 is both rugged and durable, as it has IP55 levels of protection against dust and moisture ingress and it meets MIL-STN 810 G standards for shock, drop and vibration resistance. The PoC3000 (Hytera HyTalk) platform provides a reliable service and supports unified management, so radios can be remotely controlled from the central taxi station.

The Benefits ≫

The main benefit of the Hytera PoC system is that it greatly improves the efficiency of communications between central controllers and taxi drivers. Taxi companies can now provide a much more efficient and faster service for customers and reduce passenger waiting times.

The ability to make group calls cuts the cost of one-to-one calls using smartphones. As there is no need to invest in spectrum or infrastructure, this makes PoC a very cost effective solution.

The PoC dispatch function available through the Hytera PoC3000 system and PNC370 radios means central controllers now know the exact position and status of each taxi, making their job easier and the service more efficient.

The PNC370 radio also provides enhanced safety protection for taxi drivers as they can make an emergency call at a single click of the button. Finally, Hytera's policy of providing an open API platform means that taxi companies can customize their solution.

Hytera improves efficiency and safety of electricity meter readings and repairs in Turkey

Client
Dicle Elektrik Dağıtım A.Ş (DEDAŞ)

Industry
Electricity Distribution

Project time
2020-2021

Products
PNC550 LITE
PNC550

Introduction ≫

Hytera's PNC550 PoC terminal has enabled Turkish electricity distributor DEDAŞ to overcome coverage issues, reduce device and service costs, and greatly improve the efficiency of meter readings thanks to a bespoke smart meter reading app.

Background ≫

Dicle Electricity Distribution (Dicle Elektrik Dağıtım A.Ş.), or DEDAŞ, is an electricity distribution system operator in southwestern Turkey. The region it operates in includes the cities of Diyarbakır, where the company is headquartered, and Şanlıurfa, Mardin, Siirt, Şırnak and Batman.DEDAŞ is the second largest electricity distribution company in Turkey with around 5,500 employees.It serves more than 1.8 million subscribers across an area covering more than 60,000km2. One of its key tasks is reading the electricity meters of its customers, as well as carrying out electrical maintenance and repairs..

The Challenge ≫

The ability of DEDAŞ field staff to conduct meter readings and undertake repair and maintenance of electricity infrastructure was being hampered by the poor quality of their existing communications products. This was leading to slower and poorer quality services and higher costs.

In addition, it was not always easy for staff to conduct inspections and carry out work, as equipment was sometimes hard to access making it difficult to inspect. Sometimes staff had to undertake electricity maintenance operations without first being able to properly assess the state of the equipment they were working on. This increased the chance of accidents and threats to the health and safety of the workforce.

PNC550

Lte™

Another difficulty was that electricity meters are usually read manually. But if the meter was in a difficult to reach location, it took inspectors longer to take the reading, as well as making it easier to tamper with the data or lose it. A further problem facing personnel was the poor mobile network coverage in places and the fact that coverage in some areas was provided by a different mobile operator, so DEDAŞ staff had problems communicating at times.

As a result of these issues, DEDAŞ wanted to update its communication devices. It was looking for a durable device with a long battery performance, replaceable battery, and with a high degree of water and dust proofing. The company also wanted to deal with a device manufacturer who had a local office in Turkey. As well as looking at device performance and price, DEDAŞ also wanted to be able to develop bespoke solutions and to be able to access customer service support whenever they needed it.

The Solution ▶▶

DEDAŞ decided to choose Hytera's PNC550 Push-to-Talk over Cellular (PoC) terminal as the new device for its staff. More than 2,000 PNC550 and PNC550 LITE terminals were supplied.

A Hytera solution was chosen partly due to the high level of brand awareness and the company's strong reputation for reliability and robustness of its devices. Hytera also had an office in Turkey, as the customer required, and it was able to offer the right level of service quality and speed of service, as well as having the ability to provide special solutions support when needed.

The PNC550 is a smart PoC Android-based terminal, integrating smart phone and professional PTT functionality with a 5-inch multi-touch screen and 2W high fidelity speaker. The inspectors use a separate electric meter reader to take the meter reading. The data is then automatically transferred via Bluetooth to the meter reader app on the PNC550.