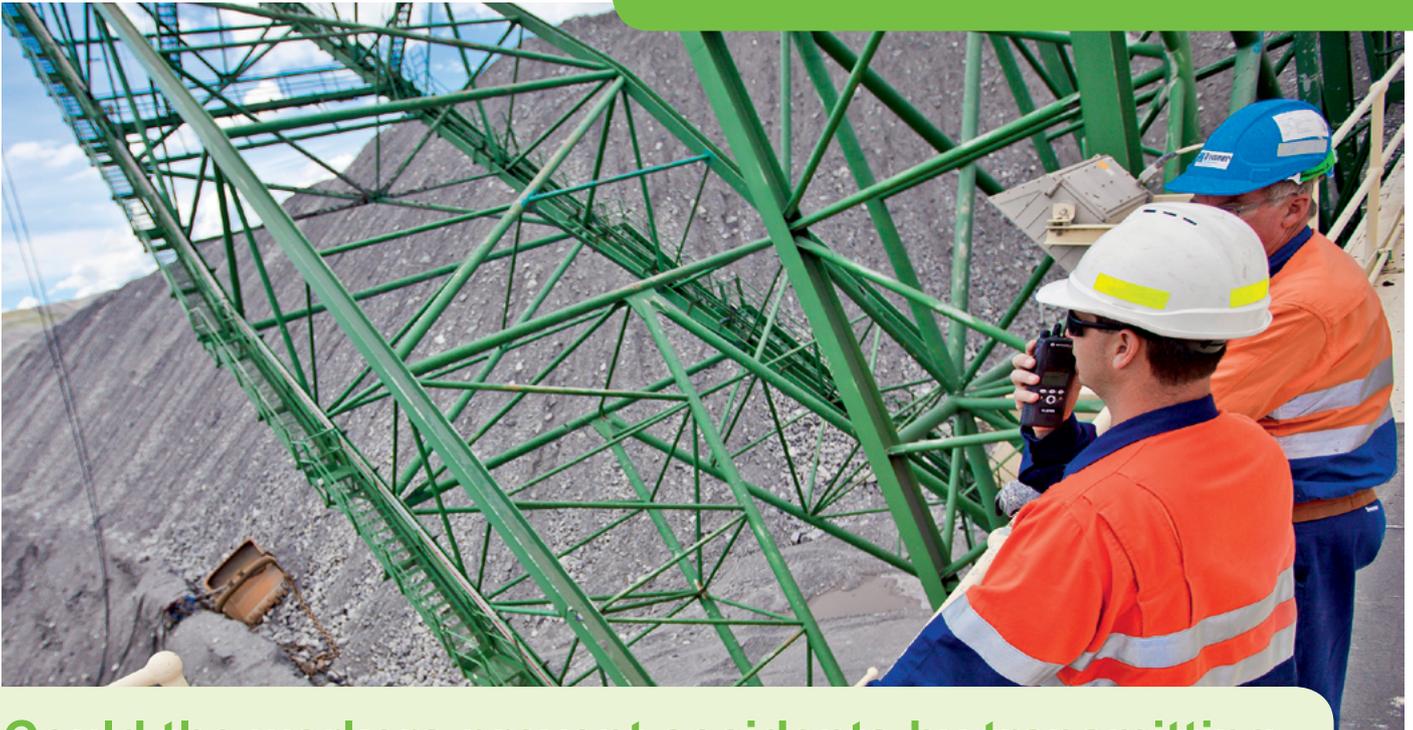




INTEGRATED SOLUTION FOR MOTOTRBO™

SmartPTT

RADIO COMMUNICATION SOLUTION
FOR MINING INDUSTRY



Could the workers prevent accidents by transmitting blast alarms and weather notifications?

When an incident does occur, is the emergency response time fast enough to rescue the worker?

How to reduce queues, inactive shovels and fuel consumption to maximize productivity?

THE SOLUTION IS INSIDE



SmartPTT for Mining Industry

Emergency Management

Worker safety is the greatest challenge for mine operators. When an incident does occur, dispatchers need to be able to respond in the quickest manner possible. An emergency condition can be initiated by the miner pressing the emergency button, a Man Down option board or using the SmartPTT lone worker functionality. Once the emergency is initiated, SmartPTT can immediately identify to the dispatcher the identity and GPS location of the worker in distress. The voice recordings and event log can be used to investigate the details of an incident.

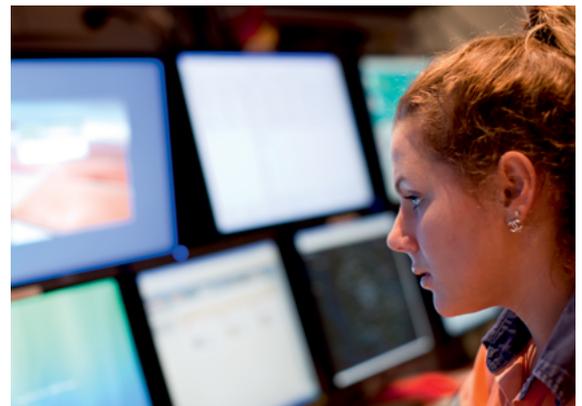


Alarm Notifications

To help prevent accidents mines can use the notifications in SmartPTT for blast alarms, weather notifications and channel markers. Prior to a blasting crew initiating an explosion, the crew contacts dispatch for the SmartPTT dispatcher to transmit a blast notification over the MOTOTRBO radio network. If lightning or other dangerous weather is in the area, the dispatcher can initiate weather notifications to warn workers to seek shelter. During emergencies, SmartPTT dispatchers can have a channel marker transmit repeatedly to alert workers to keep off the radio system.

Efficient Use of Resources

Using the GPS capabilities of the MOTOTRBO radios, SmartPTT dispatchers can create routes for vehicle drivers. If a driver deviates from the assigned route the subscriber/dispatcher can be notified. This can help reduce fuel consumption and vehicle wear-and-tear. Geo-fences can be used to confirm when a driver departs from a load site or arrives into a dump site. If too many trucks are queued at one load or dump site, dispatchers can reassign trucks to another site to maximize productivity by reducing queues and inactive shovels.



Migration

As mines migrate their radio systems from analog to MOTOTRBO, interoperability needs to be maintained between the old and the new systems. SmartPTT enables dispatchers to create a cross-patch to provide communications between talkgroups on different radio systems.

Nui Phao Mining Company in Vietnam

Providing safety and ensuring discipline on the mine with the help of SmartPTT

System description

- MOTOTRBO Capacity Plus system
- SmartPTT Basic
- 1 site, 255 subscribers

Solutions



Radio
Dispatch



Rules
and Alerts



Voice
Recording



Challenges

- The vast territory of the mine requires control of the movements of the operating units, providing their safety and ensuring discipline
- Existing analog radio system provided very limited opportunities for workers' efficient coordination
- Demand of an effective communications system facilitating stable connection even in the lower parts of the mine

Benefits

- Flexible and extended voice calls opportunities
- Convenient interface for a dispatcher for their control and monitoring of the subscribers, as well as securing their safety
- Customizable consoles for the most frequent operations and subscribers or groups spoken to
- Various rules setting for automated actions and alerts to leave out personal activity in controlling the situation
- Visualization of subscribers tracks on the map together with a system of statuses gives understanding of the subscribers' workload
- Effective workers coordination, incidents analysis and maintaining discipline at the mine

KINROSS Gold mine in Minas Gerais State, Brazil

With SmartPTT the security of KINROSS Gold mine are able to combat criminals more effectively

System description

- MOTOTRBO IP Site Connect system
- SmartPTT Enterprise
- 1 site, 140 subscribers

Solutions



Radio
Dispatch



Lone
Worker



Voice
Recording



Challenges

- Migration from analog to digital
- Not sufficient safety and control of the team on the field
- Illegal gold mining by criminals
- The security could never catch the criminals as they monitored analog radios of security employees

Benefits

- Increased safety and control of the team on the field
- The main routes can be monitored
- When a security guard is captured by a criminal, he presses emergency button in silence mode and the dispatcher automatically starts to hear what is happening by the remote monitoring
- Increase of guard's efficiency: now they are able to combat criminals more effectively

Urgalugol coal producing enterprise in Russian Far East

SmartPTT and MOTOTRBO™ solution for a surface coal mine led to lower communication costs

System description

- MOTOTRBO IP Site Connect system
- SmartPTT Enterprise
- 2 sites, 195 subscribers

Solutions



SmartPTT
Monitoring



Radio Network
Bridging



Telephone
Interconnect



Challenges

- The need for stable communications with working crews
- Safety of the workers in extreme weather conditions with temperatures ranging from -50°C in winter to +30°C in summer was to be provided
- Existing cellular communication system couldn't provide high speed of reaction in case of emergency
- The network coverage was insufficient and didn't provide prompt personnel communication
- Absence of calls recording and event log made investigations of accidents and injuries complicated

Benefits

- Stable operational radio communication with working crews in low temperatures and severe conditions across a coverage area of 25-30 km
- Double call capacity
- Group and all calls, voice call recording, GPS tracking and connection to telephone network provide higher personnel safety and operational efficiency
- Efficient interaction between mine administration, production managers, technical personnel, and teams within the plant and the mine
- Reduced interaction time in work teams and good discipline
- Redundancy of the two base stations and communication between the subscribers of different networks
- Cost-effective solution resulted in lower communication costs and higher return on investment



- Two-way radio systems integrator and software developer
- Motorola professional radio application partner
- 21 years in the market
- More than 220 qualified employees
- Customers in over 65 countries worldwide

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