CZECH REPUBLIC OIL GIANT DEPLOYS MOTOTRBO™ IP SITE CONNECT

TO INCREASE OPERATIONAL EFFICIENCY AND SAFETY DURING THE STORAGE, DISTRIBUTION AND TRANSPORTATION OF PETROLEUM PRODUCTS

ČEPRO, A.S.

ČEPRO, a.s. (originally Ceske produktovody a ropovody, a.s.) was established when the former state-owned company Benzina was privatised in 1994. ČEPRO's main activities are focused around the storage, distribution and transportation of petroleum products. It also provides freight, storage and other specialised services to third parties, as well as operating the EuroOil fuel stations network and being responsible for the management and protection of stocks of critical state reserves. To this end, ČEPRO has built 16 dedicated warehouses and over 1,100km of pipelines across the Czech Republic to enable the direct pumping and delivery between individual storage units for an uninterrupted supply. Each warehouse area consists of overground and underground reservoirs, operational tanks, filling pipe systems for road and railway tankers, administrative buildings, labs, a control room and a fire service unit.

CHALLENGE

ČEPRO had been utilising an analogue radio system, but this system was not providing sufficient coverage at some sites and had limited functionality. Moreover, there was no connection between the control rooms and the radios in the field and no radio signal in any of the storage units' underground areas. As radios are the key communications tool for ČEPRO's field workers, the company decided to update to a more effective digital system incorporating underground antennas. ČEPRO needed a safe radio system, with ATEX radios for use in potentially explosive areas, such as near to its transportation tankers, plus advanced functionality such as GPS monitoring and call recording to improve operational efficiency. Finally, ČEPRO needed interconnectivity with the national fire brigade, which operates on an analogue system. As Marek Leichman, Fire Protection Unit Manager at ČEPRO, explains: "Our main concern is safety. Not only on-site, but also beyond, as our warehouses are often positioned very close to cities or villages. Therefore, it is essential that our staff have the right tools to solve potential emergency situations; and a reliable communications system is the first step towards effective incident management".

CUSTOMER PROFILE

Organisation:
ČEPRO, a.s.

Partners:
- Reseller: KOMS Mělník a.s.
- Distributor: UltimaTel, s.r.o.

Industry:
Utilities: Oil & Gas

Location:
Czech Republic

Motorola Solutions Products:
MOTOTRBO Digital Two-Way Radio System comprising:
- IP Site Connect
- 20 x SLR 5500 Two-Way Repeaters
- 240 x DP4801 Ex ATEX Portable Radios
- 50 x DM4601e Mobile Radios
- 20 x DM4600e Mobile Radios
- Fall Alert (Man Down)
- Lone Worker
- Restricted Access to System
- Accessories including IMPRES™ chargers, batteries and PMMN4067 and PMMN4094 ATEX Remote Speaker Microphones (RSMs)

MOTOROLA SOLUTIONS KOMS Mělník a.s. ULTIMATEL ČEPRO

"Motorola Solutions partner KOMS helped us to identify suitable MOTOTRBO technology and then deploy a complete turnkey phased solution. Thanks to that, we now have independent and reliable radio coverage across the operational side of our business, even in our underground areas. We can also use the additional functionality of the digital system such as Man Down and Lone Worker. This new technology has significantly increased the security of our operations and the safety of our employees."

Marek Leichman, Fire Protection Unit Manager, ČEPRO, a.s.

SOLUTION

KOMS Mělník a.s. and ČEPRO have been working together for about 12 years, with KOMS initially providing service support to the original analogue network, before collaborating to upgrade ČEPRO's networks to digital. This upgrade took place progressively, in five stages, over a period of five years, and, during the deployment, KOMS worked closely with local distributor UltimaTel. The turnkey solution features MOTOTRBO IP Site Connect (IPSC) with TRBOnet. Each individual site has been equipped with one or two repeaters, as well as antenna systems to ensure network coverage in underground zones. Meanwhile, workers were supplied with DP4801 Ex ATEX-certified portable radios, which can be safely operated in the vicinity of the petroleum, whilst 50 DM4601e mobile radios were installed in vehicles transporting the petroleum and 20 DM4600e mobile radios deployed as base stations in ČEPRO's depot control rooms. KOMS provided training for both the radio operators and the teams managing the network, to ensure operational efficiency as well as staff safety, especially relating to ATEX zone radio communication.

Repeaters in some of the depots operate in IPSC mode for reliable radio communications across all areas. The TRBOnet control room software, meanwhile, has been installed on ČEPRO's corporate network and enables dispatchers to both operate and manage communications in their own depots, as well as to connect with dispatchers in the other depots and further radio users in depots and in the field. KOMS has secured the same frequencies for all depots and various talk groups have been programmed, such as operations, railways and unit fire teams. Utilising this common approach means radios can be deployed at any of the depots as required. ČEPRO also uses TRBOnet to monitor voice traffic and record and time-stamp voice calls, for easy searching and play back, if needed, as well as tracking radio users via the handsets' integrated GPS. This, together with the Emergency Button, Fall Alert (Man Down) and Lone Worker, enhances worker safety.

The MOTOTRBO radios support operation in analogue too, to enable direct communication with external state fire brigade crews over a separate dedicated channel.

The 1,100km of pipeline is managed by a central dispatch unit that controls technical parameters and security aspects to prevent any external pipeline disruption; extensive control procedures are conducted at regular intervals requiring real-time communication back and forth to the control room, which is why an integrated voice and data system is of so much benefit to ČEPRO. As Jaroslav Janda, General Manager at KOMS, comments: "MOTOTRBO is a key tool for the integration of voice and data technology, so we can deliver unified, high-performance, reliable communications systems".

System security, meanwhile, is enhanced by MOTOTRBO's Restricted Access to System (RAS) capability, enabled on both the repeaters and the radios. This provides additional protection of data and voice communications by preventing unauthorised radios from accessing the network. Finally, in case of any issues with the system or infrastructure, KOMS provides 24/7 service and support 365 days a year.

BENEFIT

Alexandr Švercl, project manager at KOMS, summarises: "Integrated, effective and reliable communications are more important than ever. ČEPRO's recently deployed MOTOTRBO network integrated with TRBOnet enables digital communication with all the functionality ČEPRO needs in all areas required. This is critical, especially for field workers providing daily maintenance to the crucial hi-tech equipment and for pipeline security." Indeed the significantly improved coverage, audio quality, functionality and safety features are enabling ČEPRO to boost both operational efficiency and worker safety. The reliable radio communications also mean the company feels better equipped to manage any potential incidents effectively. Moving forward, it is expected that further repeaters and mobile radios to be used as base stations will be installed in some depots, as operations expand.

Control Room Solution:

- TRBOnet software application with Dispatch, Voice Recording and GPS

Benefits:

- Increased operational efficiency due to the significantly improved coverage and improved audio in both above ground and underground areas
- Enhanced safety through ATEX-certified radios for use in hazardous areas, features such as Emergency Button, Fall Alert and Lone Worker and reliable, effective communications
- Integrated voice and data systems with additional functionality and system security
- Interconnectivity with national fire brigade for swift, coordinated response during any incidents
- 24/7, 365-day service and support to ensure optimal uptime and availability

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