



MISSION CRITICAL VOICE

DOW CHEMICAL ENHANCES OPERATIONS AND WORKER SAFETY WITH TETRA NETWORK AND ATEX RADIOS



DOW CHEMICAL

Founded 117 years ago, the Dow Chemical Company is the world's largest chemical company. It combines science, technology and chemistry to resolve some of the world's greatest challenges – such as optimising farm production, generating affordable energy and creating clean drinking water. It operates in 180 countries, employs 58,000 people (2,100 in the Benelux region), with earnings of \$58 billion in 2014. Its products are used in a huge range of consumer and industrial goods.

Terneuzen, in the Netherlands, is Dow's second-largest plastics and chemicals production facility in the world. The Terneuzen site was running an analogue radio system to enable its employees to communicate. However, this system was coming to end of life and, with Dow Chemical's number one priority being the safety of its team, it set out to install a new network that is specifically designed to protect employees.

Indeed, Terneuzen, like many of Dow's sites, is an industrial facility, where vapours can create the risk of explosion, noise is ever present, and vehicles are working in close proximity to staff. To help ensure the safe operation of its facilities, the project team at Terneuzen worked with Motorola Solutions and its local partner, Flash Services. Flash Services is the market leader in the Benelux for deploying and running communications networks used in the Chemical and Industrial market, and worked with Motorola to install Dow Chemical's new Terrestrial Trunked Radio (TETRA) network.

The rugged, reliable and secure system, built around Motorola Solutions' Dimetra IP Compact TETRA network, supports 883 users with safe, instant communications and clear voice calls against a high degree of background noise. The users' ATEX radios are designed to minimize the risk of electrical discharge and can therefore be used in areas where explosive vapours are present. This means that employees can keep their radios with them at all time times providing the continuous lifeline of mission critical communications.

CUSTOMER PROFILE

Organisation:
Dow Chemical

Location:
Benelux

Industry:
Chemical production

Partner:
Flash Services

Motorola Solutions Products:

- Dimetra IP Compact network
- Redundant network (for backup)
- 2X MTS4 and MTS1 TETRA base stations
- 800 MTP850Ex ATEX portable radios with microphone accessories
- 60 MTM5400 TETRA mobile radios

“We connect chemistry and innovation to create new ways to solve global challenges and improve the work of our employees around the world. With the safety of our employees our number one consideration, we selected Motorola Solutions’ TETRA network to provide communications across the Terneuzen site. Priority one for us is protecting our employees and the reliable TETRA network, connected to ATEX radios that can be carried across all areas of the site, means our people are equipped to complete their tasks as securely, efficiently and safely as possible.”

Kees Deurloo, project manager, Dow Chemical, Benelux



CHALLENGE

The Terneuzen site is a heavy industrial facility. To help ensure its safe operation Dow Chemical wanted to install a scalable future-proof communications network; a network that offered mission critical reliability, security and audio performance to optimise workflows and better protect users.

SOLUTION

The Terneuzen project team worked with Motorola Solutions and Flash Services, a certified partner of Motorola Solutions, to deploy the Dimetra IP Compact network built around two MTS4 and two MTS1 TETRA base stations. The combination of base stations provides a comprehensive coverage solution that was rapidly installed and commissioned. The network is constantly monitored and maintained by Flash services.

Flash services conducted a full site survey, prepared a fleet map, and programmed the mobile and personal radios used by subscribers. It also worked with Motorola Solutions to conduct a factory acceptance test and preconfigure the network before it was delivered to site – so accelerating installation. In addition, Flash tested network coverage prior to releasing the network, produced all network documentation and provided face-to-face training for every department to familiarise users with their devices and key features.

Dow worked closely with Flash to select the best radios for its facility. Dow selected the MTP850Ex – a rugged ATEX compliant radio that can be safely used in areas where explosive vapours might be present – for the majority (800) of its users. The radio also includes audio accessories with integrated microphone (which can fit inside fire helmets) so users can keep hands free.

In addition, vehicles and trains that are used to transport goods to and from the site have mobile radios installed. The MTM5400 has an integrated gateway that connects users operating in direct mode with control room staff and other colleagues on the TETRA network.

With a global technology agreement in place with Motorola Solutions, Dow Chemical has the option to deploy similar TETRA networks at local sites around the globe, where and when needed.

BENEFIT

Users can make instant and clear calls on a highly reliable network – anywhere on the site. Thanks to the ATEX certification on users’ radios this includes areas where explosive vapours might be present, ensuring that employees always have the lifeline of communications with them. And, should there be an incident on-site, the system provides the platform for emergency teams to effectively manage the response.

In addition the new, more reliable, communications help dispatchers and managers coordinate the smooth running of this busy site and ensure the safety of personnel. There are 114 talk groups set on the network so that individual teams can collaborate together more effectively. The availability of instant calls also ensures that teams can work more efficiently and report back to dispatch when they have finished tasks.

Based on a flexible IP architecture, the Dimetra IP network can be easily scaled and new services – such as data applications – can be added as needed to provide a future-proof platform to support any changes in operational requirements.

The combination of the rugged Motorola IP Dimetra network, online monitoring of the system, and the immediate support of Flash Services should there be a problem, ensures that Dow Chemical benefits from an optimised network to ensure the safe operation of its Terneuzen site.

Applications:

- Instantaneous voice services

Benefits:

- **Safe operation:** ATEX radios can be used in environments where potentially explosive vapours are present
- **Clear audio:** Clear, interference-free audio for high-quality voice calls against background noise
- **Reliable secure network:** A secure, reliable, and robust network for assured communications
- **Flexible architecture:** The IP architecture allows for seamless expansion and is fully scalable

For more information on how our TETRA networks can help you enhance the efficiency and safety of your facilities, please visit us at www.motorolasolutions.com/en_xu/products/dimetra-tetra.html or contact us at: www.motorolasolutions.com/contactus. You can also visit us at www.linkedin.com/company/motorolasolutions, and [@MotPublicSafety](https://twitter.com/MotPublicSafety).

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