



IFM PROVIDES TOP LEVEL SECURITY FOR THE FERRARA MULTI-CLIENT PETROCHEMICAL SITE

WITH A FAIL-SAFE MULTISITE MOTOTRBO™ CAPACITY MAX SYSTEM



IFM FERRARA S.C.P.A

IFM Ferrara is an integrated facility management company headquartered in Ferrara, Italy in the north-eastern region of Emilia-Romagna. IFM is a consortium of which all companies at the Ferrara petrochemical site are members. The site has a long and illustrious history in the polyolefin industry and is home to companies such as Basell, SEF, Yara, IFM, Celanese, Sapio and Versalis. IFM offers services such as general maintenance of the communal site infrastructure, gatekeeping, security and surveillance, the purification of wastewater from the plant, first aid, on-site medical care and a 30-strong internal fire & rescue service; indeed, the entire emergency management team at the plant is wholly made up of IFM personnel and vehicles. IFM also ensures the ordinary and extraordinary maintenance of the alarm and security systems installed both inside and outside, across the site, of the acoustic poles signalling network and the communications system.

CHALLENGE

IFM needed to update its ageing Motorola Solutions Smartnet VHF analogue radio system with the latest technology. Keen to deploy a Motorola Solutions system once again, it approached the nearby Bologna office of long-term Motorola Solutions partner, Sinora Srl. The key challenge IFM was facing was the sheer size and complexity of the area to be covered by a new radio network; the site covers 150 hectares (1.5km²), with hundreds of industrial

buildings and nearly 900 employees and contractors working in high noise level environments, often with highly flammable and potentially explosive materials. Having discussed and reviewed IFM's requirements, Sinora presented IFM with options from two suppliers. However, following successful coverage testing, IFM chose to deploy a multisite MOTOTRBO Capacity Max system with easy-to-use IP67-rated MOTOTRBO ATEX radios.

CUSTOMER PROFILE

Organisation:

IFM Ferrara S.C.p.A

Partner:

Sinora Srl

Industry:

Facilities Management
(Petrochemical Plant)

Location:

Ferrara, Italy

Motorola Solutions Products:

A multisite MOTOTRBO UHF Capacity Max system comprising:

- 11 x MOTOTRBO SLR 5500 two-way repeaters across 2 sites
- 2 x redundant Capacity Max System Servers (CMSS)
- 344 x DP4801 Ex ATEX-certified portable two-way radios with IMPRES™ batteries and Remote Speaker Microphones (RSM)
- 60 x DM4600e mobile two-way radios with tabletop microphone for the control rooms

“We had a Motorola Solutions network previously. We know and trust the brand and, although Sinora assessed all our requirements and consequently presented two possible systems, we were very happy to deploy an updated Motorola Solutions system. Safety and security are obviously key priorities at our plant. Therefore, we have to have a best-in-class, fail-safe communications system offering the latest technology and functionality to keep operations running smoothly and to enhance the safety of both our teams and on-site companies. This is a significant investment for us, but we’re pleased to say that our new MOTOTRBO Capacity Max system really does tick all the boxes.”

Federico Montanari, Resp. HSEQ IFM Ferrara S.C.p.A

SOLUTION

The new network comprises 11 SLR 5500 repeaters across two locations, four network switches, seven repeater bridges, an acoustic horn system, three new 30m radio towers, antennas, 38 GHz point-to-point microwave LAN links in a ring configuration and two Capacity Max System Servers (CMSS) at the main East Gatehouse. The installation, with alternative circuits, repeaters and servers, all complete with independent secondary power supplies, guarantees full system redundancy and continuity of service, whilst offering 100% reliable coverage across the whole plant, both indoors and out. There is also one external connection to the local fire station. The whole system has been installed and will be maintained on an ongoing basis by Sinora, with whom IFM has signed a 10-year maintenance contract.

IFM, as well as each of the six companies based at the site, uses DP4801 Ex ATEX-certified portable two-way radios with IMPRES™ batteries and noise-cancelling RSMs. Using the trunking controller, combined with the Radio Management application, Sinora has remotely programmed individual radios, as each company has varying, specific, often complex requirements and lists of permitted actions or call configurations. The different companies also have their own internal talk groups for both individual and group communications, as well as access to site-wide ‘all-call’ general and emergency calls (via the programmable orange emergency button to quickly send critical emergency messages to the rest of the fleet). The system is configured to allow 13 simultaneous communications, as well as having one control channel. IFM uses most of the Capacity Max system functionality and available applications, such as Radio Management for scheduled remote programming and updates, the IMPRES battery fleet management application, Radio Check and Remote Monitoring, all of which help to enhance the performance and safety of its radio fleet. System Advisor, meanwhile, which runs on both the primary and backup CMSS, provides a platform for monitoring the network’s operational status, comprehensive alarm reporting and visualisation of the capacity of available radio resources in real time.

The 24/7 control room and individual business sub-centres are equipped with DM4600e radios, and operators use TRBOnet PLUS dispatch applications to manage voice and data communications such as text messages or preconfigured status messages. TRBOnet PLUS is also used for dispatch,

geolocation of the radios (with reports of the radios’ GPS activity for specific time periods, including radio position, speed and more), call recording, Job Ticketing, Event Logging, management of radio coverage and emergency calls and alerts (such as Man Down tilt/non-motion/motion). Furthermore, the nine DM4601e radios, with RSMs and combined UHF+GPS vehicular antennas, are installed in IFM’s on-site vehicles, such as its fire-fighting vehicles and ambulance, so drivers are also linked into the network.

BENEFIT

The network is designed to provide an open, flexible and scalable solution and, consequently, is capable of evolving in accordance with IFM’s needs. For instance, group and individual telephone calling capabilities to and from the public or private phone network could be configured on the radios via the Telephone Interface (PABX), and through the integrated TRBOnet PLUS feature. Moreover, it is the specifications of the Motorola Solutions advanced infrastructure, software and hardware which make this deployment so successful; for example, the radios feature technology such as Text-To-Speech functionality, a powerful front-facing speaker, background suppression filters to remove unwanted noise, Intelligent Audio that automatically adjusts volume to compensate for all background noise and high receiver sensitivity for improved coverage. This, in conjunction with the noise-cancelling RSMs, ensures that operators can hear and be heard wherever they are in the complex. Feedback from end users has been excellent; they particularly appreciate the added functionality, such as text messaging and dispatch, as well as the safety enhancing features of GPS, Man Down and Emergency calling.

The resilience and redundancy of the network are also very important, as is the ability for high level remote programming, due to each group having such different characteristics, with regular changes and updates needed. Security is also a key issue; varying levels of encryption profiles (available up to AES 256 Bit), subscriber access control and radio authentication are all deployed, to further enhance system security. Finally, having the right companies involved was essential to the success of the deployment. Sinora has been collaborating closely with Motorola Solutions for over 30 years and is a platinum reseller and Safety Reimagined partner. These strong partnerships, together with Sinora’s experience, professionalism and strong focus on customer service, were all very important to IFM.

Motorola Solutions Products Continued:

- 9 x DM4601e mobile two-way radios for in-vehicle use, with RSM and combined UHF+GPS vehicular antenna
- Accessories including further noise-cancelling microphones, spare batteries, single and multi-unit chargers, belt clips and leather cases
- TRBOnet PLUS
- Radio Management software
- IMPRES battery fleet management software
- Motorola Solutions service contract for infrastructure
- Standard 2-year warranty for radios

Benefits:

- Reliable, clear communications across the site, even in the noisiest of environments, thanks to MOTOTRBO’s advanced noise suppression technology
- Maximum priority for emergency calls
- Full system resilience and redundancy
- Remote, bespoke programming via Radio Management
- Enhanced worker safety features
- Flexible and scalable solution
- Highly secure with Basic, Enhanced and AES 256 Bit (optional) encryption profiles available
- Possibility of future integration with phone system

