



BELGIAN PETROCHEMICALS MANUFACTURER DEPLOYS A FLEXIBLE DIMETRA™ EXPRESS TETRA SYSTEM

FOR SEAMLESS MIGRATION, EASY MANAGEMENT AND RELIABLE, SAFE, CLEAR CRITICAL COMMUNICATIONS



Ineos Aromatics Geel

INEOS AROMATICS

INEOS Aromatics, formerly part of BP, is a global leader in PTA (purified terephthalic acid) and PX (paraxylene) technology. From soft drinks bottles to packaging trays, from clothing to carpet, INEOS Aromatics makes the chemicals used to produce many of the things people use in their daily lives. INEOS Aromatics is part of INEOS, comprising 36 individual businesses across 194 facilities in 29 countries worldwide. For INEOS, the safety, reliability and excellence in its operations is fundamental to its success.

CUSTOMER PROFILE

Organisation:
INEOS Aromatics

Partner:
PS: Radiocom

Industry:
Petrochemical Manufacturing

Location:
Belgium

“We’ve worked with PS: Radiocom for years in the capacity of rentals for on-site contractors during our industrial turnarounds here at our Geel site and we’re delighted to be partnering with them again, for our new, permanent DIMETRA Express system. We like the trunking capability of TETRA, and their knowledge, proactivity, honest, tailored advice, and ongoing support and after-sales service have resulted in a wonderful collaboration. As for the DIMETRA Express system: the installation was exceptionally easy and fast, the system is really reliable, flexible and easy to manage, and the radios are robust and deliver much-improved audio quality. And it’s the small design features that make all the difference sometimes; like the radios’ screen at the top, which enables a quick view of channel and volume, and the quick buttons programmed, so users can easily switch between user groups. Overall, this is a long-term solution for us, which will adapt and grow in line with our needs.”

Mark Van Gestel, Site Shift Superintendent,
INEOS Aromatics



During installation

CHALLENGE

INEOS Aromatics relies on radio communications to maximise efficiencies and worker safety at its site in Geel. The ageing TETRA system required an update to a more flexible future-proof system that would offer improved audio clarity and network coverage. Due to site security, INEOS Aromatics wanted to retain a Local Area Network (LAN) and it also liked the trunking capability of TETRA. Having used MTP850Ex TETRA ATEX Radios previously, it discussed its needs with Motorola Solutions, who recommended a DIMETRA Express system and several local partners who could deploy and service such a system. However, the INEOS Aromatics management team was concerned about loss of service during the migration.

SOLUTION

The management team needn't have worried. INEOS Aromatics had decided to partner with PS: Radiocom, who seamlessly managed the migration in four steps to eliminate all risk. Firstly, PS: Radiocom utilised the existing system parameters to prepare a fleet map, to copy and upload the database into the new system, and to run a test system for two weeks, before conducting final on-site testing. Secondly, it migrated the previous system to the new DIMETRA Express system using the existing antennas and MTP850Ex Radios, without the need to reprogramme. Next, the PS: Radiocom team, who are all DIMETRA Express certified, replaced the antennas and installed new cabling. Finally, MTP850Ex Radios were deployed. Total downtime was less than 1.5 hours and radios were used in direct mode or in local trunking during

Motorola Solutions Products:

- DIMETRA Express TETRA system comprising:
- 2 x DIMETRA Express switch (geo redundant)
- 1 x MTS4 TETRA Base Stations with redundant site controllers
- 240 x MTP8500Ex TETRA ATEX Portable Radios
- 18 x MTM5400 TETRA Mobile Radios
- Range of accessories including remote speaker microphones (RSMs), belt clips, chargers and spare batteries
- RF Power Toggles
- Over-The-Air-Programming (OTAP)
- GPS
- Man Down
- 10-year service agreement including DIMETRA Controller refresh



the short installation period (which is possible due to the way the Motorola Solutions trunking system is designed, with the site controller in the base station), so users suffered no loss of service.

Every user in every department, for example security, crisis, transport, PP (polypropylene) 2 and PTA3, now has a Motorola Solutions TETRA radio for voice communications. There are thousands of radio conversations every day. INEOS Aromatics has 65 talk groups, trunked over 4 frequencies (15 channels and 1 control channel), all assigned in a fleet map according to the unique operational requirements of each department. In this way INEOS Aromatics can easily keep an overview of where the radios are deployed. For example, some departments, like transportation that is handling heavy machinery and big cranes, work in full duplex mode, so operators can communicate freely without PTT; 16 radios, meanwhile, have Man Down licences to enhance the safety of lone workers; other radios are enabled with emergency all-call functionality; and most have preconfigured access to scan groups and scan alarm groups and use hotkeys, so only the contacts relevant to that specific user appear. There are also 18 MTM5400 TETRA Mobile Radios built in to the control room's channel panels, so controllers can radio out to talk groups or individual users. Each radio has a Motorola Solutions RF Power Toggle licence, which raises the output power to 1.8W and which, along with updating new antennas and cabling and the harmony of using Motorola Solutions radios on a Motorola Solutions system, has significantly improved radio reception and audio clarity, without the need to install further infrastructure.

Four base stations were deployed, to future-proof the system for redundancy and expansion, as these offer capacity for up to 1,000 users. And, for security reasons, like most companies within this sector, INEOS Aromatics uses authentication licences, so only registered users can log in to the system, and has a closed network with no remote access. This makes remote management problematic. However, PS: Radiocom has supported INEOS Aromatics so it can run effective first line monitoring itself on-site; via the easy-to-use web-based Network Manager and Radio Control Manager software, INEOS Aromatics can access all information relating to the network, radios, talk groups and system usage, as well as enable or disable radios and register users' attendance, for example. Although currently using a bridge radio to send out SDS (Short Data Services) to the radios, INEOS Aromatics will also shortly start using the Over-The-Air-Programming (OTAP) functionality to send out updates and programme radio parameters, features and contact lists, for example. The system has a secondary site controller and power supplies for redundancy purposes, and the trunking enables the option of working peer to peer in direct mode up to 500m in emergency situations, should the system totally fail. The components are supported by a 10-year service contract with PS: Radiocom and Motorola Solutions, with 24/7 service (as the system is being used round the clock), hardware repair and advanced replacement to ensure uninterrupted uptime for these critical communications.

BENEFITS:

- Easy, fast, seamless migration and implementation; total migration switchover time under 1.5 hours, no reprogramming of radios needed
- Improved coverage, with crystal-clear, safe and secure high-capacity communications across the site; having both infrastructure and radios from Motorola Solutions ensures complete alignment for optimal voice quality
- Highly reliable, future-proof technology, designed for 100% uptime, redundancy, improved functionality and possibility of LTE integration and OTAP
- Flexible programming options and cloud-based software, resulting in an easy-to-manage, bespoke system tailored to INEOS Aromatics' exact requirements
- The ATEX radios are designed for use in the potentially explosive environment and features such as Man Down and GPS enhance worker safety



Working the night shift

BENEFITS CONTINUED:

- Sole supplier and partner, for both the infrastructure and the radios and both the permanent and rental installations, coupled with ongoing support and a 10-year service contract, ensures excellent total system knowledge, low cost of ownership and good ROI
- Network coverage extends to the adjacent INEOS Manufacturing plant, whose workers also use the network, and PS: Radiocom provides any additional hardware and support required at this site, too
- PS: Radiocom continues to supply rental radios to INEOS Aromatics for industrial turnarounds and can integrate these simply into the system
- Following this first installation, PS: Radiocom is keen to deploy further DIMETRA Express systems, due to the ease of installation, deployment and management

BENEFITS

And this is not all. In the near future INEOS Aromatics is looking to integrate the DIMETRA Express network with LTE, for interconnectivity with its existing phone systems, as well as the option to install Motorola Solutions' WAVE PTX™ broadband push-to-talk technology (for instance, for off-site managers to communicate on the network). The accurate GPS positioning, meanwhile, delivered by both the radios and the indoor GPS antenna, will be used to locate users in an emergency and to send out an SMS notification pinpointing any power supply or component failures. And INEOS Aromatics can add further components such as the web-based dispatch software by simply purchasing licences, to minimise cost of ownership.

Mark Van Gestel summarises: "Our end users have been resistant to change in the past. However, we've had no complaints this time. DIMETRA Express really is what it's made out to be. It's so easy to use and easy to manage. I really appreciate the flexibility and the vast opportunities we have with this system. We've got a complex fleet map, but no problem. Moreover, we know we've got a secure, redundant system which delivers optimal coverage and audio clarity across our whole site. And, most importantly, we have built very close ties with PS: Radiocom and Motorola Solutions during this project, which will drive collaboration on future requirements."

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