



GLOBAL CONSTRUCTION COMPANY DEPLOYS A MOTOTRBO™ CAPACITY PLUS SYSTEM

FOR RELIABLE, CLEAR COMMUNICATIONS AND CRITICAL SAFETY AT MAJOR EUROPEAN SITE



MACE CONSTRUCTION

Mace Construction is a global consultancy and construction firm headquartered in London, employing approximately 5,000 people, across five continents with a turnover in excess of £2 billion. Mace operates in 21 sectors, from fixed price contracting to construction management, and has been responsible for some of the most recognised, celebrated and extensive construction projects worldwide. Due to the large-scale nature of these projects, Mace needs robust communication systems in place to ensure internal teams and external contractors can perform their duties safely, while coordinating across complex sites. It often collaborates with its long-term partner and Motorola Solutions reseller Chat-Com for radio communication solutions on its sites.

CHALLENGE

Mace was brought in as the lead contractor for a major construction project in Europe to construct a 150,000m² facility. The project has continued to grow and now encompasses six new buildings, with more planned, and six separate access points. Up to 1,500 workers and 25 different contractor teams can be operating on-site at any one time, so Mace had a challenge to ensure every team could communicate across the 4km² area, for both general day-to-day communications and during emergency situations. Given the nature of the site and the project, the communication network had to be robust enough to work in the wet, dusty and harsh conditions, as well as remain operational for the five-plus years the project is expected to run.

CUSTOMER PROFILE

Organisation:
Mace Construction

Partner:

- Chat-Com Ltd
- Airsys Communications Technology Ltd

Industry:
Construction

Location:
Europe

Motorola Solutions Products:

- MOTOTRBO™ Capacity Plus UHF system comprising:
- 3 MOTOTRBO SLR 5500 repeaters
- 3 DM4600 series mobile radios
- 120 DP4800e portable radios
- 220 DP4400e portable radios

“Our approach to any project is ‘Safety First, Second Nature’ so we needed a communications network that not only helped us efficiently manage multiple teams across a large, complex site, but that also had safety built in. The capability offered by the MOTOTRBO system to communicate within teams or to all users during an ‘All-Call’ or emergency situation was a necessity for us, alongside the requirement for lone-worker functionality for those working in more isolated environments, away from the main site.”

James Cleary, Logistics Manager, Mace Construction



SOLUTION

Mace approached Chat-Com for this project and, having assessed Mace's requirements, Chat-Com recommended a UHF MOTOTRBO Capacity Plus system: UHF being selected due to the high-density and high-tech nature of the buildings and their contents. Working in close collaboration with Motorola Solutions distributor Airsys Communications Technology Ltd, which brings a wealth of technical experience to the table, Chat-Com managed the initial installation and the subsequent upgrades.

Indeed, the system has significantly grown since initial installation nearly five years ago and now comprises three SLR 5500 repeaters racked in the central site office, to enable six simultaneous calls to be made using the 340 radios on site. The DP4800e radios are used mostly by managers and team leaders for quick and easy private one-to-one calls, and both the DP4800e and the DP4400e radios are equipped with long-life IMPRES batteries – many with noise cancelling RSMs for clear, hands-free communications in even the noisiest of environments. Some 32 talk groups have been established – for contractor groups and project groups, such as roofing, flooring and cranes. A portable, extendable antenna, which has been moved around site as required, is currently located on the roof of the Mace office; it is connected to an antenna combiner and its signals radiate vertically to ensure reliable coverage, despite all the buildings and large machinery. There is a level of in-built redundancy too, with a six-hour back-up battery in case of power outages, the three repeaters and the option to use the radios in direct mode, if required.

The Motorola Solutions hardware is protected by the manufacturer's warranty and a strong service level agreement with Chat-Com for next day replacement, should a radio be damaged; Chat-Com also conducts regular site visits and remotely monitors the system via MOTOTRBO Radio Management, as well as providing system training to Mace and the numerous contractors, as there are very strict health and safety protocols to follow, especially with regard to the use of channel 16. Channel 16 is the all-call channel for emergency broadcasts, critical in ensuring effective coordination in accident or emergency responses or evacuations, for example. The call temporarily interrupts any existing communications and is transmitted to every single radio on-site. Although lone working is rare on a construction site of this type, the Lone Worker functionality is enabled on the radios, to enhance safety in more isolated areas, away from the main site.

BENEFITS

The MOTOTRBO system is not only delivering reliable high-performance communications on a daily basis, it has already proved invaluable during two emergencies that occurred simultaneously on-site at two different locations. One medical incident occurred on a roof, while the other happened in an internal switch room. Using the network, emergency response protocols were instantly enabled and Mace first aid teams, together with the emergency services, were deployed to the two scenes, coordinating with each other via the emergency broadcast systems on the two-way radio dedicated voice channel. In both instances the system provided real-time, reliable and uninterrupted communications, ensuring the two incidents were handled quickly and efficiently so both workers involved received the help they needed immediately.

And Chat-Com's ongoing support has also ensured the success of the deployment. As James Cleary summarises: “Over the past four years, the Motorola Solutions radio system from Chat-Com has grown with our needs and expanded to utilise new technologies. We've forged new relationships with our contractors to enable them to take advantage of this solution and experience all of the benefits that we have seen over the project life cycle.” Indeed, a key feature of this project is the ease with which the MOTOTRBO system and capacity can be configured and scaled to meet requirements and how the long-lasting hardware can be subsequently redeployed on other construction sites, whether by Mace or by contractors; and Chat-Com remains on hand to organise licences and reconfigurations, when needed, so ensuring a flexible, long-term investment.

Motorola Solutions Products: Continued:

- Range of accessories including 6-way chargers, remote speaker microphones (RSMs) and ear pieces, spare IMPRES™ batteries
- MOTOTRBO Radio Management application

Benefits:

- The MOTOTRBO Capacity Plus system ensures reliable, crystal-clear communications across the construction site and is fully flexible and scalable
- The system-wide emergency calling enables incidents to be dealt with effectively in line with health and safety protocols
- Robust, easy-to-use hardware and accessories are ideally suited to the harsh construction environment
- End-to-end service, training and support supplied by Chat-Com for optimal system usage and uptime
- Chat-Com supplies radios and systems, which can then be redeployed on other European construction projects, whether by Mace or contractors, ensuring a long-term investment and good ROI