



# KEEPING TRAINS RUNNING

CO-ORDINATING MAINTENANCE TEAMS SAFELY AND COMPETENTLY WITH MOTOTRBO™ CAPACITY PLUS



It's 19h00 and trains are starting to make their way through Bombardier Transportation's maintenance depot for routine servicing, refueling and cleaning. Strictly scheduled maintenance is essential to running a reliable railway service and it must be done with minimal disruption to daily operations. With just a three-hour window to get trains serviced and back on track, precision and timing are crucial for this global railway company.

Keeping trains moving smoothly through the depot and meeting stringent safety regulations requires meticulous co-ordination between drivers, maintenance teams, operations staff and management. A dependable, dedicated communications system is a prerequisite to getting the job done and this is achieved with MOTOTRBO Capacity Plus digital radio technology.

Bombardier Transportation offers complete rail solutions, from design to build, operation and maintenance. In the UK, it is responsible for maintaining the entire Virgin Voyager Cross Country Fleet, ensuring the smooth running of 78 Voyager trains covering 56 000 miles a day and transporting over 50 000 people.

#### CUSTOMER PROFILE:

**Company:**  
Bombardier Transportation

**Industry Name:**  
Transportation

**Motorola Solutions Partners:**  
Direct Telecom Services  
(Distribution Partner)  
Neocom Software  
(Application Development Partner)

#### Key Benefits:

- Clear, reliable audio across a greater range
- Increased channel capacity, separate talk groups
- Ability to override communications in an emergency
- Improved safety and co-ordination between multiple teams

#### Product Name:

- 2 DR 3000 Repeaters with Capacity Plus
- 55 DP 3400 non-display MOTOTRBO portable radios
- 8 DP 3600 display MOTOTRBO portable radios
- TRBOnet Enterprise dispatch software
- IMPRES batteries

**“The combination of MOTOTRBO Capacity Plus and TRBOnet Enterprise gives Bombardier Transportation a reliable, coherent and centralised communications system. The ability to override a conversation and possibly stop a moving train before an incident develops is vital and this couldn’t be achieved without Transmit Interrupt.”**

Simon Bingham, Account Manager, Direct Telecom Services



## THE CHALLENGE

Train drivers need to get the trains on and off stands in the maintenance depot as efficiently as possible, without compromising safety or routine checks and services. Any delays could cause bottlenecks or incidents which could have a serious impact on daily operations. Disruptions to services could also result in severe penalties, so it's crucial that all the different work groups collaborate to maximise productivity.

Bombardier Transportation needed a durable, reliable communications system that would enable numerous work groups to have their own dedicated channels and share voice and data communication, as well as the ability to have private one-to-one calls and to override communications in the event of an emergency. It also sought a solution to facilitate the monitoring, management and recording of all radio traffic.

Motorola Solutions distribution partner Direct Telecom Services spent a night observing operations at Bombardier's maintenance depot to determine how the MOTOTRBO digital radio system could enhance safety and productivity. They recommended MOTOTRBO Capacity Plus with Transmit Interrupt and TRBOnet Enterprise dispatch software.

## THE SOLUTION

Two Capacity Plus-enabled DR 3000 repeaters provide a scalable, single-site digital trunking solution that doubles the capacity of Bombardier's conventional MOTOTRBO system. This allows an increased number of radio users to share communication on the same system, without having to add new frequencies. It is cost-effective and provides a centralised communications system. An emergency power source is available as a 24-hour back-up in the event of a power failure.

A key feature of the system is Transmit Interrupt, which enables transmissions to be interrupted so that all talk groups can instantly and simultaneously receive a distress call in an emergency. This is vital to ensure staff safety and can help avoid an incident if a train needs to be stopped immediately.

Personnel are equipped with robust DP 3400 portable radios that have an emergency button to alert supervisors if an incident occurs and programmable buttons which make it possible to send text messages more quickly and use one-touch dialling. Management teams are using the DP 3600 model which has a display for easy navigation and quick reading of text messages. The radios' superior audio quality ensures that communications remain clear throughout the noisy depot.

A TRBOnet Enterprise dispatch software application, developed by Motorola Solutions' application partner Neocom Software, makes it possible for dispatchers to communicate with subscribers via a personal computer, identify which groups are communicating at any given time and which radios are turned on or off, improving the monitoring and management of radio traffic. It also enables Bombardier Transportation to record all voice communications for safety and training purposes.

## THE BENEFIT

With Capacity Plus, engineers, drivers, fuelers, cleaners, operations staff, maintenance and management teams now have their own separate talk groups, ensuring that everyone can have access to voice and data communication when they need to without disturbing other groups or having to wait for a channel to become available.

And to ensure that staff can keep in contact throughout the 12-hour work shift without worrying about running out of talk time, IMPRES batteries provide automatic, adaptive reconditioning to optimise the battery lifecycle.

“We have total confidence in the MOTOTRBO system and this is why we have offered Bombardier Transportation a two-way service contract, with 24-hour call out seven days a week. It gives them peace of mind that, in the unlikely case of a repeater failure, we will attend as a matter of priority to restore the system and have it ready for the next night shift,” noted Simon Bingham, Account Manager at Direct Telecom Services.

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BOMBARDIER/CASESTUDY\_UK104/13

