

# EEMITS COMMUNICATIONS DELIVERS TRBOCALL SYSTEM TO LEADING INTERNATIONAL TURBOCHARGER MANUFACTURER



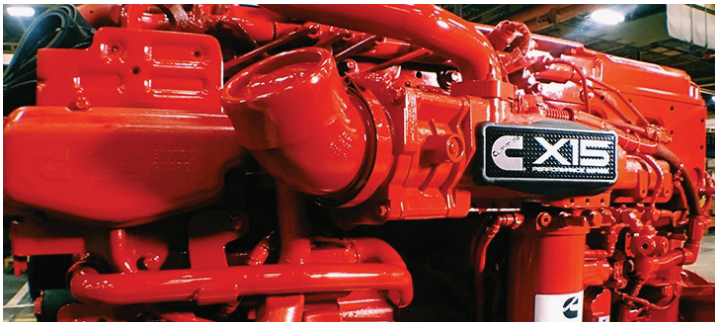
The turbocharger manufacturer is a leading manufacturer specialising in medium to heavy-duty diesel engine and turbo technologies. Engineering vital components from its facilities in Huddersfield, the company is recognised as the biggest industrial employer in its region.

## THE CHALLENGE

Having previously delivered a system for the turbocharger manufacturer research and development department, the company approached Eemits to provide a two-way radio system to be used throughout the full site to monitor the wellbeing of their employees performing lone worker tasks, particularly those working in high hazard environments. The system was required to be utilised by four teams – manufacturing, facilities, maintenance and security – working across three shift patterns.

The company required a system that would be suitable across ten buildings, including two office blocks, a technical area, four high voltage substations, two production building and a storage and logistics area.

The system, unlike the previous one installed by Eemits, was required to be used both internally and externally.



The nature of the site itself presented a series of unique challenges including:

- The fabric and structure of the main four-story building - which was previously a mill – meant that special consideration needed to be taken to ensure strong radio coverage was received across all individual rooms
- Receiving good quality radio frequency coverage would be difficult due to the site buildings being adjacent to each other
- Initial onsite testing highlighted that GPS could not be achieved internally due to the structure of the buildings.



**PRODUCTIVITY**  
up

...



**EFFICIENCY**  
raised

...



**SAFETY**  
increased

...

# THE SOLUTION

Prior to the installation a site survey enabled Eemits to develop a solution that would achieve very high-quality audio across all sites, as well as providing excellent coverage to facilitate external GPS tracking and internal location monitoring.

We integrated Eemits unique modular platform - TRBOCALL - comprising the following:



## INFRASTRUCTURE

The turbocharger manufacturer chose:

- Motorola SLR5500 digital repeater
- Installation of a down firing antenna

### The Benefits:

Due to the fabric and structure of the 10 buildings located on the turbocharger manufacturer site a UHF frequency was chosen for this application due to the penetrative nature of this frequency band. A single technically assigned on-site UHF frequency was applied for from Ofcom, which was all handled by Eemits Communications. A UHF Down firing antenna was installed to ensure efficient downward propagation of the radio signal in to the turbocharger manufacturer site, which would maximise penetration in the hard to reach places. The antenna and repeater locations were chosen in conjunction with the turbocharger manufacturer Facilities department so that existing cabling routes, power and IT points could be used to minimise any disruption to the fabric of the building.

The SLR5500 repeater was housed in a secure 19" wall mount cabinet and deployed in digital mode, which provides two independent channels from the single UHF 12.5KHz frequency. This allowed both the voice and data communications to be handled efficiently across the turbocharger manufacturer site. As the software This in turn was connected to a virtual server on the turbocharger manufacturer IT network where the TRBOCALL software is hosted.



## HARDWARE

The turbocharger manufacturer chose:

- Series of Motorola DP4801e digital two-way radios
- 50 indoor tracking beacons
- Dispatcher



### The Benefits:

As a trusted partner to Motorola we recommended the turbocharger manufacturer to utilise their robust hardware equipment which can withstand high pressures in even the most volatile environments. Due to the building itself constraining GPS tracking, 50 indoor tracking beacons were installed to overcome this problem meaning a worker's whereabouts could be monitored. The beacons could not be overlapped, therefore the setup of these was vital, ensuring the positioning is correct so each radio can identify with the beacons.

The radios themselves all have screens meaning that workers can visually see text, whilst also having access to a full keypad, allowing for calls to easily be made.



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## FEATURES

The turbocharger manufacturer chose the following features on their DP4801e radios:

- Push to talk
- Panic button
- Built in lone worker
- Man down software key licence
- Intelligent audio
- Text messaging
- Bluetooth
- GPS
- Rugged design



## SOFTWARE

The turbocharger manufacturer chose:

- Personal safety
- Telephone interconnect module
- Indoor positioning
- Voice recording
- Audit reports
- Geofencing

## The Benefits:

Safety features such as panic button which triggers an alarm if a worker was to have a trip or fall, as well as built in lone worker means that the safety of the staff at the turbocharger manufacturer has been significantly increased. Workers now receive a 15-minute welfare check in, signaled from the built-in lone worker function which will activate an alarm if workers fail to respond.

There are very noisy areas throughout the turbocharger manufacturer facilities and having the intelligent audio feature will allow the audio across the radios to be heard very distinctly despite background noises.

The GPS feature allows individual radios to be tracked with application software. The inclusion of Bluetooth as a feature on the radios was very important to connect to the i-beacons for internal GPS tracking to enable the turbocharger manufacturer to monitor its staff whereabouts for safety reasons.



## The Benefits:

The software enables the turbocharger manufacturer to have a graphical representation of the software applications. Personal safety applications enhance the safety features of the radio including the panic button, lone worker and man down functions. For additional safety indoor tracking software can be used to locate and track radio units when GPS is not available.

Reporting functionality allows full audit trails of verbal communications, text messages and GPS tracking.

For further peace of mind geofence allows a zone to be generated whereby an alarm will be raised if a worker is to enter or leaves this specified area.

# THE SOLUTION

Prior to the installation a site survey enabled Eemits to develop a solution that would achieve very high-quality coverage across all sites, as well as GPS coverage.

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## SERVICE WRAP

The turbocharger manufacturer chose:

- Preventative annual checks
- Reactive maintenance agreement plan



## ACCESSORIES

The turbocharger manufacturer chose:

- Lithium iron batteries

## The Benefits:

Eemits has provided the turbocharger manufacturer with a guarantee that it will respond to any major faults within a pre-agreed timeframe, meaning the company has full peace of mind that any problems will be dealt with very quickly.



## The Benefits:

The batteries supplied to the turbocharger manufacturer have extended battery life of up to 15 hours talk time on a typical 90:5:5 duty cycle (90% idle, 5% transmit, 5% receive).

# WHAT THEY SAY ABOUT US:

"Having previously worked with Eemits, we knew that we were dealing with a supplier that we could trust and one that could help us to significantly increase the safety of our lone workers with its unique solutions."

"The equipment supplied by Eemits is excellent. We have been greatly impressed by the knowledge and skills of their engineers who have carried out the onsite surveys and installation of the system."

"Eemits came up with an innovative approach to overcome challenges that we had with installing a system with the structure of our building, and as such, the quality of radio frequency is outstanding."

**Shiao C Lau, turbocharger manufacturer**

Since working with Eemits, the turbocharger manufacturer now have a state of the art two-way radio system that has significantly increased the safety, productivity and efficiency of workers throughout the company's full facilities.

The turbocharger manufacturer can rest assure that they have a fool-proof system. With a full comprehensive guarantee, Eemits will ensure any repairs or servicing required for hardware will be carried out extremely quickly, meaning very little, if any, downtime.

Eemits innovative modular platform TRBOCALL - a unique combination of hardware, bespoke software applications and digital features - together create an ultra-smart two-way radio system. Combined with unrivalled wide area network coverage, our customers have the flexibility to build their own system with all, or a combination of infrastructure, hardware, software service wrap, features and accessories that suite their individual business needs.

## EEMITS CLIENTS BENEFIT FROM:

Productivity increased by up to

# 40%

**PER SITE**

Efficiency raised by up to

# 1 hr

**PER EMPLOYEE PER DAY**

Safety increased for

# 100%

**OF YOUR WORKFORCE VIA DIGITAL RADIO WHERE EVER THEIR LOCATION**

**TRBOCALL - GREATER THAN THE SUM OF ITS PARTS**