EEMITS CREATES ULTRA-SMART DIGITAL RADIO SYSTEM FOR CONOCOPHILLIPS IN TEESSIDE

PETROCHEMICAL

Following a successful tender process, we created a new digital radio system for ConocoPhillips at Seal Sands. One that connects multiple sites together and has multiple layers of system redundancy, so no point of failure can bring the system down.

THE CHALLENGE

ConocoPhillips had an analogue radio system in place at Seal Sands, and it had been in operation for quite some time, so site-wide coverage was being impacted and radios could no longer be repaired as vital parts were no longer available.

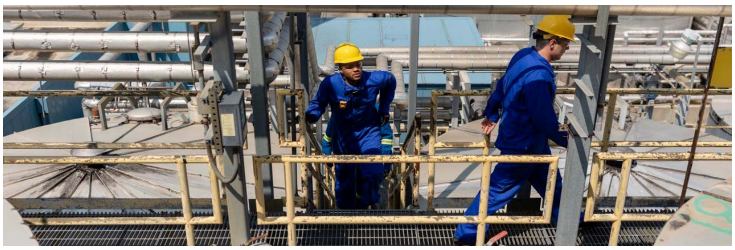
The system was also reliant on cabling which ran between all areas of the plant, so as it aged, system vulnerability increased.

The challenge was to upgrade their analogue radio system to a new digital solution that would give them site-wide coverage across multiple sites, multiple layers of system redundancy so there was no single point of failure that could bring the system down, and the latest software and features on digital radio devices.

The system architecture needed to be built on their internal network for full system visibility and monitoring, with the ability for us to remotely monitor the system at our HQ too (via a solution known as TRBOnet Watch) - creating a highly resilient 'they know, we know' process that complied with their IT security protocols.

There was also the requirement for ship-to-shore communication (UHF to VHF), as the team at the jetties site speak to vessels coming into the dock when receiving vital products, such as oil.

Utilising our award-winning TRBOCALL system, we were able to upgrade their analogue system to one that boasts a seamless network infrastructure with no single point of failure.



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TRBOCALL™
GREATER THAN THE SUM OF ITS PARTS

PRODUCTIVITY
up

EFFICIENCY
raised

SAFETY
increased

TRBOCALL – GREATER THAN THE SUM OF ITS PARTS

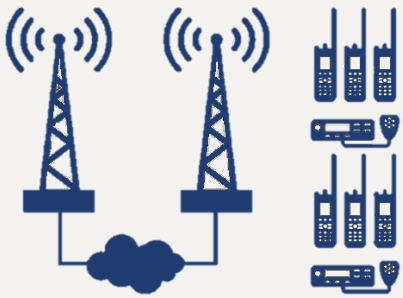
THE SOLUTION

We installed our ultra-smart digital two-way radio solution - TRBOCALL – a modular platform comprising the following:

INFRASTRUCTURE

ConocoPhillips opted for:

Linked Capacity Plus (Multiple Sites)



What is Linked Capacity Plus?

Linked Capacity Plus is a seamless network infrastructure that connects up to 15 sites at once –with the use of a digital trunking system, plus voice and data repeaters.

Operating from the Teesside oil terminal in Seal Sands, the ConocoPhillips team work across a 307-acre site to transport oil and natural gas from the Norwegian sector of the North Sea to the UK.

The stabilised oil is stored in a 375-acre tank farm just down the road at Greatham, and jetties are also in operation during the exportation process, so radio infrastructure and seamless communication was required across these three sites.

Their Wynard office also had to be factored in as a fourth site, as an emergency failback solution, should the system go down at the main site, Greatham, or the jetties.

So, to ensure ConocoPhillips have ultra reliable two-way digital communication, we installed a Linked Capacity Plus (Multiple Sites) system, and used antennas, repeaters, and combining units to create multiple layers of system redundancy - with no single point of failure.

Each of the four sites has its own radio equipment rack, with each one containing:

- 4 Motorola Solutions SLR5500 repeaters
- 2 frequency specific UHF antenna combining units

Each combiner is connected to its own dedicated external antenna

- 1 automatic power transfer switch

The rack at the jetties differs slightly to the main site and Greatham to accommodate for a digital UHF to analogue VHF gateway. This helps facilitate ship-to-shore marine communications.

Repeaters are used to re-transmit radio signals at a higher power so they cover a greater distance.

Antenna combining units convert multiple antenna input signals into one output signal, helping to maximise coverage.

An automatic power transfer switch is used in each rack to move power from repeater to antenna combiner (and vice versa) if power fails at the main source, thus using a secondary source to keep coverage ticking over.

THE SOLUTION

We installed our ultra-smart digital two-way radio solution - TRBOCALL – a modular platform comprising the following:

SOFTWARE & FEATURES

ConocoPhillips opted for:

- Voice Dispatch
- Text Messaging & Email
- GPS Tracking
- Enhanced Encryption
- Audit Reports
- Panic Alarm
- Lone Worker
- Man Down
- Fleet Administration
- Geofencing
- Voice Recording
- Extended Alarm Management

ConocoPhillips opted for a range of smart software and features from the TRBOCALL platform to help boost safety, productivity, and efficiency for their workforce.

The Benefits:

Voice Dispatch
ConocoPhillips have Voice Dispatch software to control and manage radio resources across their vast operations. They have six dispatchers at their key locations, including a security hut.

Text Messaging & Email
Moving to a digital solution allows ConocoPhillips to benefit from being able to send and receive text messages and emails directly to and from their fleet of radios.

GPS Tracking
GPS, built into the radios, allows ConocoPhillips to know exactly where their end users are on-site – helping to protect their workforce from a safety perspective.

Enhanced Encryption
With Enhanced Encryption, a 40-bit key is used to keep two-way communications on-site secure across talk groups, users, and channels.

Audit Reports
ConocoPhillips can log both data and voice communication to create audit reports and improve efficiency within the business.

Panic Alarm
An emergency button can be pressed to send an alarm to another radio user to let them know a staff member needs help.

Lone Worker
The whereabouts of workers in isolated environments can be monitored and an emergency alarm can be activated if they're unresponsive to radio requests.

Man Down
This is a safety feature that alerts another radio user that someone may have had a fall or are unresponsive, having not responded to repeated radio requests.

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SOFTWARE & FEATURES

- Fleet Administration
- Geofencing
- Voice Recording
- Extended Alarm Management

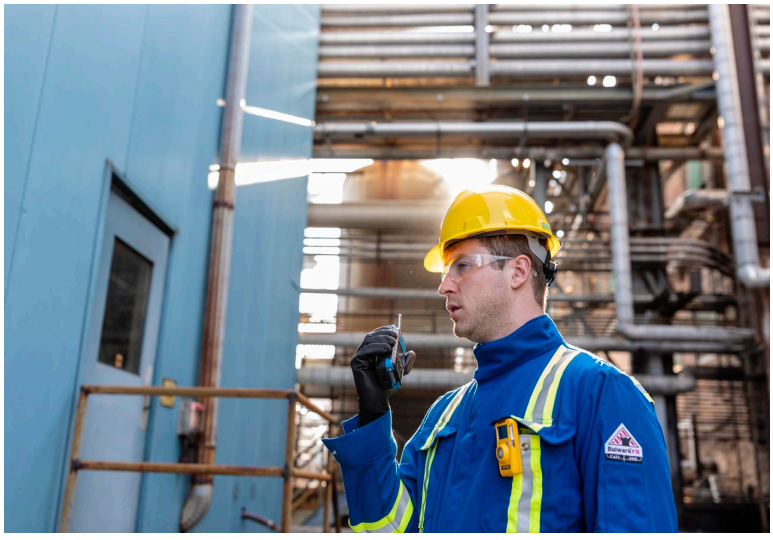
Continued:

Fleet Administration
This allows the efficient management of fleet operations to remotely control radios – enabling and disabling from the system when appropriate.

Geofencing
Geofences are created and used to map their sites into zones. This allows them to track movement and entry access at each zone.

Voice Recording
This provides ConocoPhillips with the ability to record calls and save them as MP3 files – giving them the opportunity to improve health and safety training and improve efficiencies on-site.

Extended Alarm Management
This feature is used to send plant alarms to dispatchers who can then use the information to alert the workforce to any issues that may have arisen.



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THE SOLUTION

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SERVICE WRAP

ConocoPhillips opted for:

Remote System Monitoring

24/7/365 Reactive Maintenance

Preventive Maintenance

HARDWARE & ACCESSORIES

ConocoPhillips opted for:

23 DM4600 Desktop Radios

300 Motorola DP4801Ex Full Keypad Radios

IMPRES Single Unit Chargers

IMPRES Six-Way Chargers

Spare Leather Cases and Straps

Spare Batteries

Heavy-Duty Headsets With Noise Cancellation Boom Mics

Omni Remote Speaker Mics Receive Only

Receive-Only Earpieces

The Benefits:

ConocoPhillips now benefit from a service that includes remote system monitoring, preventive maintenance in the form of an annual maintenance check, and 24/7/365 reactive maintenance support, where we can continuously monitor the system and the engineering team can be called out to site(s) to fix urgent issues any time of the day.

The Benefits:

DM4600 Desktop Radios

Equipped with small form factor antennas, DM4600 desktop radios were strategically located around the three main sites – and the fourth site located at Wynard.

Motorola DP4801Ex

The Motorola DP4801Ex Full Keypad Radio was the perfect choice, as it's ATEX certified, so it's safe to use in potentially explosive or hazardous environments – and its robust design means it can withstand harsh conditions.

Equipped with a full keypad, all of the latest features, including text messaging, are available at the touch of the button - and has enough battery power to last a full shift. Dedicated group channels are also used to avoid channel interference and congestion.

IMPRES Chargers

With shift patterns on-site, it's important that radios are charged and available to use 24/7. With a range of IMPRES single unit and multi-unit chargers, ConocoPhillips are well equipped for their day-to-day operations.

IMPRES accessories have smart energy systems that provide automatic, adaptive reconditioning, and optimised battery cycle life.

Spare Batteries

With radio transmission required at all times, it's important that battery performance doesn't suffer. With plenty of spares available, ConocoPhillips' fleet of radios will perform better for longer.

Remote Speaker Mics/Receive-Only Earpieces

Remote Speaker Mics are rigorously built and allow workers to still speak without having to remove their radio from their work belt. Receive only earpieces also ensure that ConocoPhillips staff can hear radio communication discreetly.

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WHAT THEY SAY ABOUT US:

SUMMARY

ConocoPhillips now has a digital system in place that gives them greater connectivity and functionality between their key sites within the Teesside area – helping to boost worker safety, productivity, and efficiency.

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

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