

Hemant Raste

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Dear Hemant,

TES & TIER III TECHNOLOGY – EXPERIENCE AND REFERENCE SITES**TES and Tier III Technology**

TES has been working with Tier III technology longer than most and, initially, our involvement was at manufacturer level. As you may know, TES was long associated with Fylde Microsystems, even to the point of co-ownership for a number of years. This meant that TES was the first choice when Fylde needed a partner to test the first evolution of Tier III technology before release to market.

Having deployed trunked radio technology across the globe and working closely with Brian Seedle (co author of the Tier III standard and Director of Fylde), this meant TES were able to gain knowledge of the technology not available to resellers.

Even after the sale of Fylde Microsystems to Sepura Plc last year, TES remain nominated technical experts in respect of trunking - offering manufacturer level technical support and maintenance. Fylde were one of the first to market with their offering and the infrastructure was often specified with a Hytera hand portable combination.

Technology Demonstration

Whilst the Tier III standard dictates seven core interoperable functions, a significant part of the product (including form and day to day function) are specific to different manufacturers. As such we are keen and able to arrange an on site demonstration of the proposed solution for you. However, we are also keen for that demonstration to reflect the actual combination of brand that is proposed.

To this end we have been able to secure both Tait and Motorola to provide a demonstration to you (on site or at TES if that is more convenient) of their specific Tier III infrastructure and hand portable offerings and I would be delighted to arrange this for you.

The demonstration is designed mostly to offer hands on experience of the feel and function of the solution and to provide the chance to operate the hardware at your convenience. Please let us know if this becomes something of interest.

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REFERENCE SITES – TECHNOLOGY & DEPLOYMENT

Tier III technology is being chosen by large blue chip organisations where functionality and reliability is key.

We have selected installations to bring to your attention that reflect the calibre of organisations that are currently choosing this technology, whilst being relevant to the scale and nature of your operation.

In addition, we have complimented the technology references by listing below a number of deployment reference sites.

In terms of deployment the delivery of a Trunked radio system is the same as delivery of a Tier III system. For example, project management, RF planning, physical delivery, installation, mast building etc., are all identical for both technologies. Tier III is the latest evolution of Trunked radio.

Technology Reference Sites

We present below relevant reference sites for your consideration:



Reference 1: Large Deployment of Tier III ATEX technology – French Government Space Agency (Commercial in Confidence)

Organisation: Centre National des Etudes Spaciales (www.cnes.fr)

French Ministry of Defence and Research

Deployment: 8 site DMR Tier III radio system with 518 terminals (incl. 305 ATEX Tait TP9361 hand portable radios). The system will shortly be expanded to accommodate 1,500 terminals.

Brand: Tait

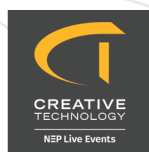
More Info: See attached: CNES DMR T3 System overview.pdf

**Reference 2: Large Deployment of Tier III technology – National System In Australia**

Organisation: Vertel (www.vertel.com.au)
Telecommunications carrier for corporations & government
Deployment: 24 site DMR Tier III radio system
Brand: Tait
More Info: <http://www.vertel.com.au/industry-insights/whats-new/dmr-network-launch>

**Reference 3: Deployment of Tier III technology – Oil Refinery in Australia**

Organisation: Exxon Mobil (<http://corporate.exxonmobil.com.au>)
Telecommunications carrier for Corporations & Government
Deployment: DMR Tier III radio system with 5 Talk groups on UHF.
Brand: Tait Radio
More Info: <http://corporate.exxonmobil.com.au/en-au/energy/oil/oil-operations/altona-refinery>

**Reference 4: Deployment of Tier III technology – Live Events UK**

Organisation: Creative Technology (<https://www.ct-group.com/eu/en>)
One of the worlds leading suppliers of audio visual technology for sports and entertainment industries.
Deployment: Multi-Site re-deployable DMR Tier III radio system with a large fleet of hand portables.
Brand: Tait Radio

Contact – Technology References

We have borne in mind your desire to speak with, and perhaps visit, users of the technology. To this end we are able to facilitate the following contact should you wish to seek a direct reference in relation to the technology selection and its performance:

1. Bruce Quail, LMR Business Manager, Vetel Australia

Our contact has been involved in the roll out of one of the world's largest Tier III radio systems, which includes ATEX terminals. Extremely well placed to discuss the success of the project and give an open view on being a user of Tier III technology. TES can arrange contact at a mutually convenient time.

2. Tristan Bickerton, Creative Technology Group

Our contact has been involved in one of the largest Tier III deployments in the UK. The system is one which needs to be transferred between events and locations – this tests the robustness of the hardware and the reliability of the software. TES can arrange contact at a mutually convenient time.

Deployment Reference Sites

We present below relevant reference sites for your consideration:



Reference 1: Deployment of Trunked technology – Chemical Manufacturer (ATEX)

Organisation: Astra Zeneca (www.astrazeneca.co.uk)
Deployment: single site incl. RF over fibre repeaters and c100 radios. Used for day to day communications. Includes user groups and command control functionality via dispatcher in the event of major incident.
Brand: Fylde infrastructure & Motorola Radios



Reference 2: Deployment of Trunked technology – Oil Refinery (ATEX)

Organisation: BP Hull (www.bp.com)
Deployment: single site incl. RF over fibre repeaters and c200 radios. Used for day to day communications. Includes user groups and command control functionality via dispatcher in the event of major incident.
Brand: Zetron infrastructure & Motorola Radios

**Reference 3: Deployment of Trunked technology – Biofuels (ATEX)**

Organisation: VFL (www.vivergofuels.com)
Deployment: single site with c50 radios. Used for day to day communications. Includes defined user groups and lone worker applications.
Brand: Fylde infrastructure & Motorola Radios

**Reference 4: Deployment of Trunked technology – Manchester Metrolink (Safety Critical)**

Organisation: VFL (www.vivergofuels.com)
Deployment: seven sites with c200 vehicle radios. Used for day to day communications. Requires 100% coverage of tram network.
Brand: Fylde infrastructure & Motorola & Tait Radios

**Reference 5: Deployment of Trunked technology – National Express Midland Metro (Safety Critical)**

Organisation: National Express (<http://nxbus.co.uk/the-metro/>)
Deployment: two sites with c40 vehicle radios and 40 hand portables. Used for day to day communications. Requires 100% coverage of tram network.
Brand: Fylde infrastructure & Simoco Radios

**Reference 6: Deployment of digital radio technology – UBS AG, London**

Organisation: United Bank of Switzerland (<http://www.ubs.com>)
Deployment: Original deployment of 13 site trunked radio system in 2007 followed by digital upgrade in early 2016. This was a project requiring multi-site, multi-group, and wi-fi/cellular connected radio system access.
Brand: Motorola

Contact – Deployment Reference Sites

To compliment the technology reference contacts we have approached existing clients who have radio systems deployed and maintained by TES:

1. Terry Cook, S&T Engineering Manager, Manchester Metrolink

Terry is responsible for the oversight and maintenance of the safety critical trunked radio system in an environment where coverage planning is key. TES have worked with Metrolink for c15 years and TES can arrange contact for you at a mutually convenient time.

2. Peter Goodwin, Security Manager EMEA Region, UBS Bank AG

Peter is responsible for security at the banks locations across the city of London. Peter oversaw TES's installation of a high tier linked capacity plus solution. He is well placed to provide an honest option of how the project was delivered and TES can arrange contact for you at a mutually convenient time.

Please contact me any time if I can provide any further assistance or clarification whatsoever.

Yours sincerely,

A handwritten signature in dark ink, appearing to read "K.A. Edwards".

Keith Edwards

Director

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