# Commtel delivers Communication networks for Western Sydney Airport Metro Rail Link

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Commtel Network Solutions

# Presentation Agenda

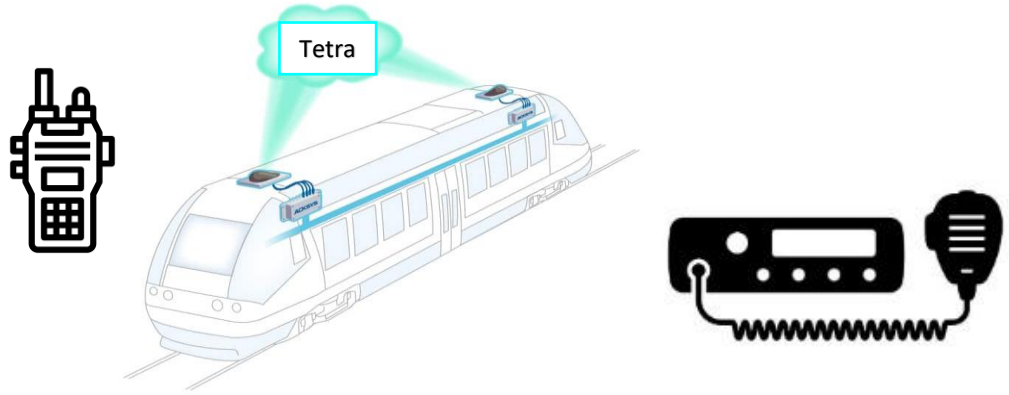
- Project Details
- Deliverables and applications
- Key Differentiating points
- High Level Solution Descriptions
- Coverage Design highlight
- Network Components
- Glimpse of Factory Acceptance Testing at Commtel
- Key Takeaways

# Project Details

- 23-kilometer Metro link St Marys to Bradfield via Airport
- 12 New Metro Trains
- 12km of Twin Bore Tunnels
- 11km of elevated track
- 6 new stations
- Stabling and Maintenance Facility
- $11 Billion project one of the mega project in Australia
- Will be fully operative in Q4 2027
- Stations, Systems, Trains, Operations and Maintenance (SSTOM) Package was won by Park Life Metro i.e Consortium comprising Plenary (investor), WeBuild (civil) Siemens (transport solution) & RATP Dev (rail operator).
- Siemens awarded turnkey communication package to Commtel in Sept 2023 which is one of the biggest outsourced contract by Siemens for this project.

# Applications in Comms Package

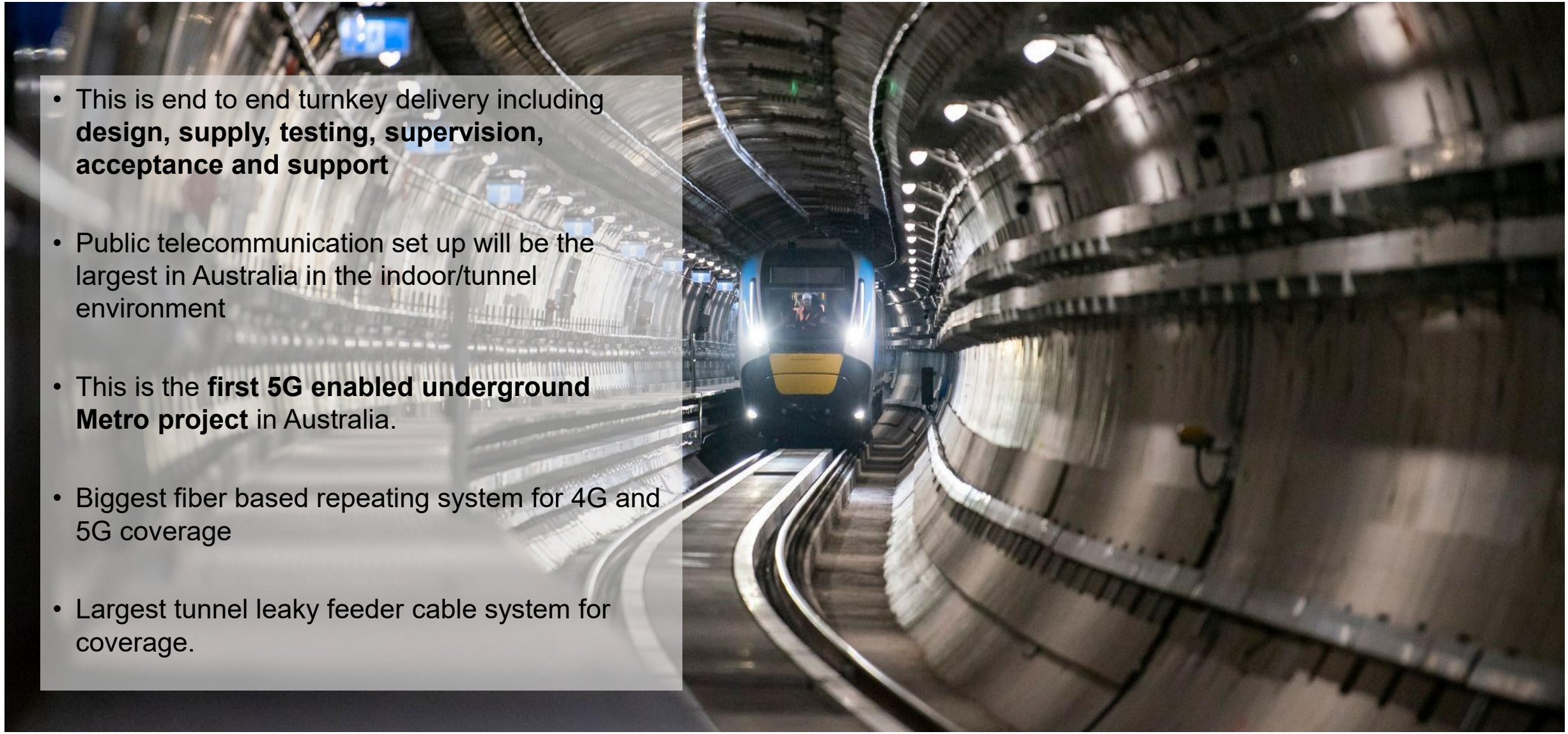
**Tetra Radio Network (Station, Tunnel DAS and Outdoor Track)**
For Rail Operator to operate the train operation




**Public cellular Network 4G & 5G (Indoor Station & Tunnel DAS)**
Public carrier network in tunnel and underground station

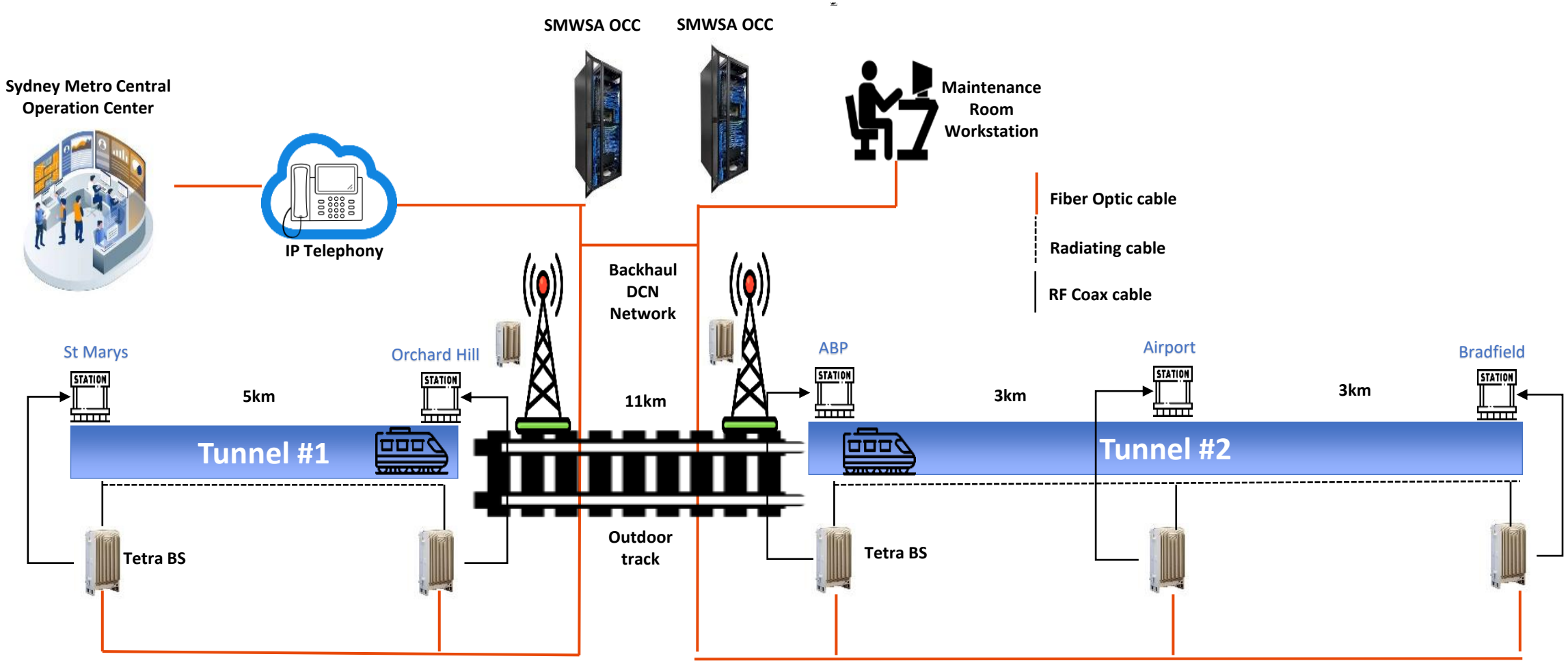
**Emergency Services Network : NSW GRN PRN**
**Indoor Station & Tunnel DAS**
Fire, Ambulance and Police radio network in tunnel and station

# Key Differentiating points



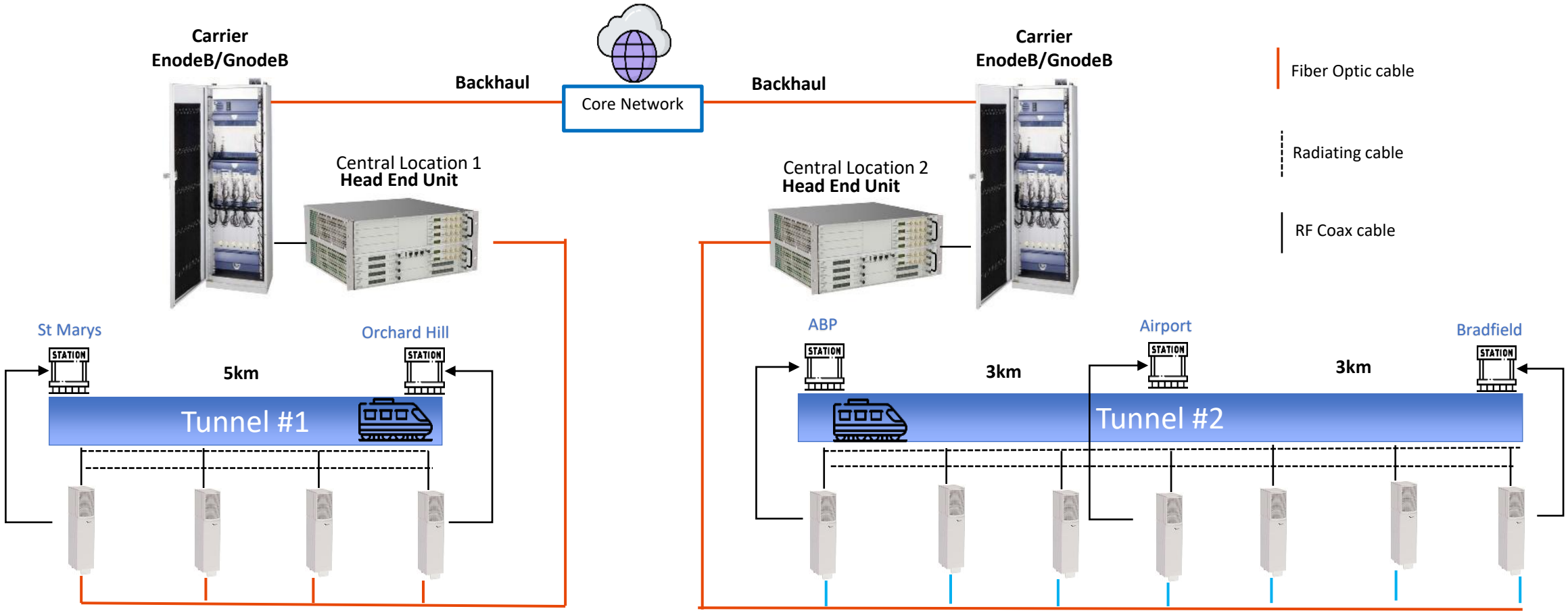
- This is end to end turnkey delivery including **design, supply, testing, supervision, acceptance and support**
- Public telecommunication set up will be the largest in Australia in the indoor/tunnel environment
- This is the **first 5G enabled underground Metro project** in Australia.
- Biggest fiber based repeating system for 4G and 5G coverage
- Largest tunnel leaky feeder cable system for coverage.

# HLD – Tetra O&M Radio Comms



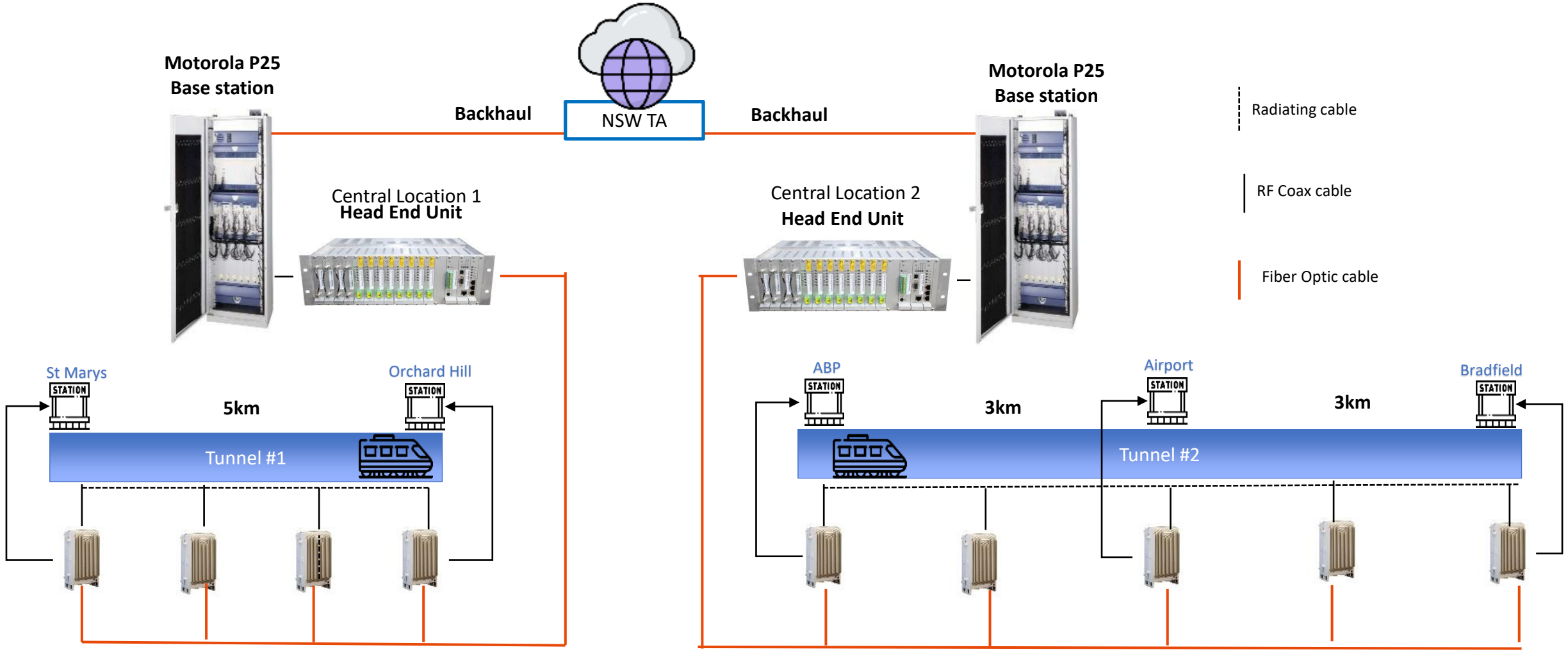

**18x Tetra Base station, 4x Macro Towers for outdoor track, 24000m of radiating cables for tunnel and 100+ indoor Antenna for stations**
**Fully Distributed Architecture(No Central Controller Required)**

# HLD – Public Telecommunications




**2x Master Units Site, 330x Remote Units, 48000m of radiating cables for tunnel and 400+ indoor Antenna for stations**

# HLD – Public Safety Networks




**2x Master Units Site, 9x Remote Units, 24000m of radiating cables for tunnel and 100+ indoor Antenna for stations**

# Network Components

**Full Active 4G & 5G DAS**
**Supporting C-RAN**
**Master Units & Remote Units**

**Full Outdoor Damm Tetra Network for O&M**

**Tetra Trackside Tower and Antenna System**

**Train Onboard Radio System & MCX**

**Tunnel Coverage for 4G, 5G 2x2 MIMO, Tetra and P25**

**Full Active P25 DAS**
**For NSW Public Safety Network**
**Master Units & Remote Units**

**Servers for Tetra Core Network**

**Indoor Station DAS**

# Technology Partners



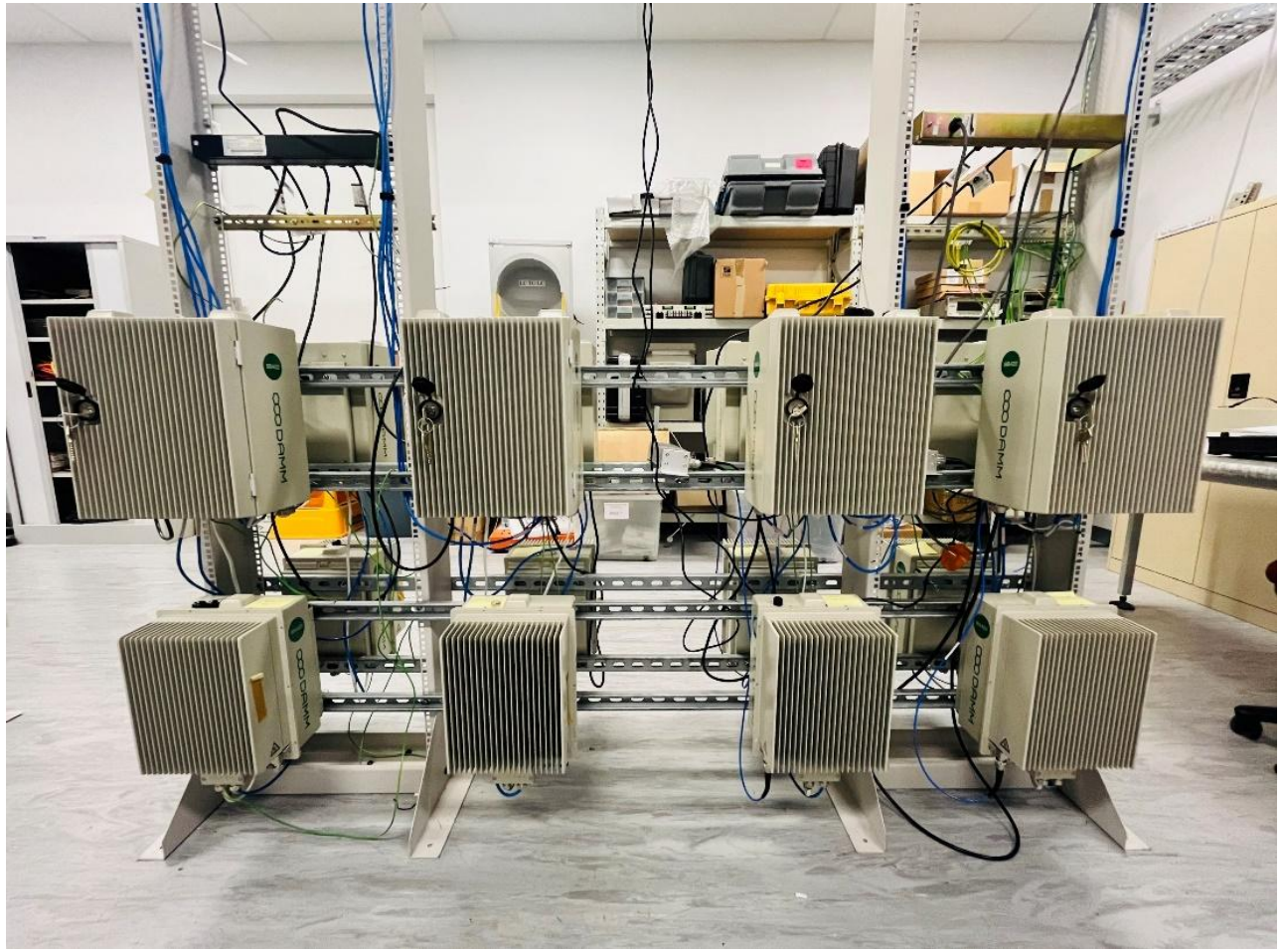




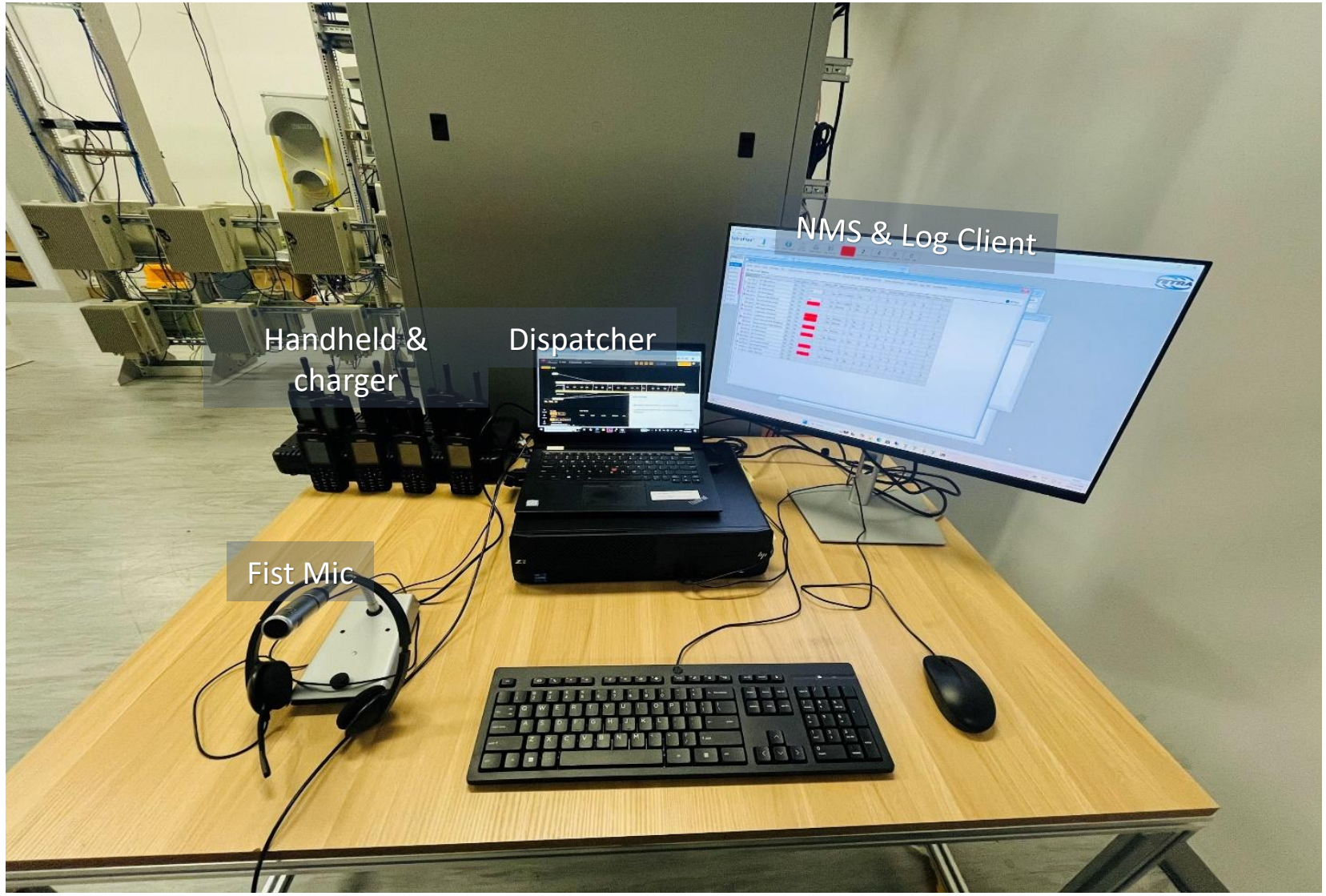


# Highlights for Factory Acceptance Testing at CommTel Melbourne

# Mission Critical O&M Radio 9x BS(1+1)



# Maintenance Room Workstation



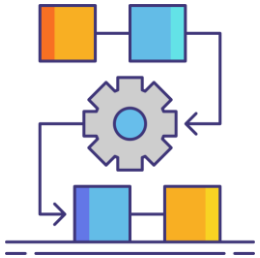

**Workstation for O&M Radio System**
Tetra Network Management System
Sepura Radio Manager
Charging Station
Handheld Radio Assignment
Core System - NMS

# Public Cellular Network

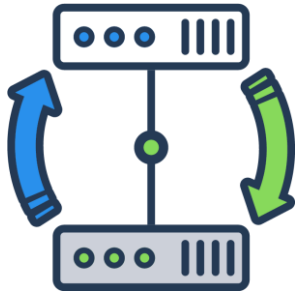
## Master Unit Site at two central locations

## Remote Unit Site in tunnel and every station

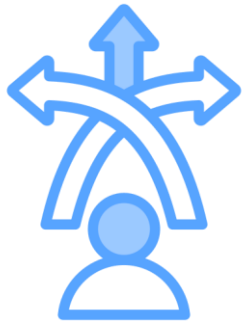
# Key take aways



**End to End Solution**



**High Reliability**



**Flexible**

**15+ Technology Partners**

**Strictly Compliant**

**Seamless**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