

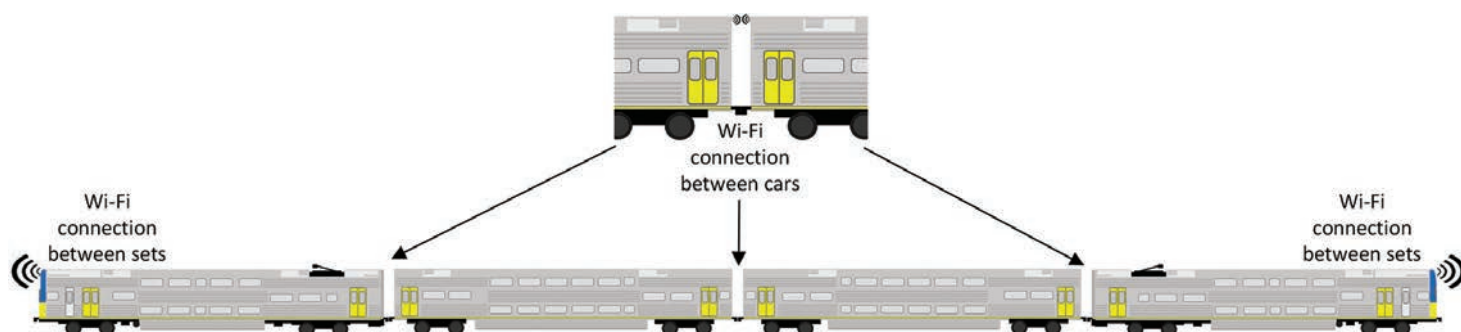
# Wireless Train Communications Backbone



## Suitable for:

- Train Management
- Selective Door Override
- Condition Monitoring
- Passenger Information
- Energy Metering
- Security Surveillance

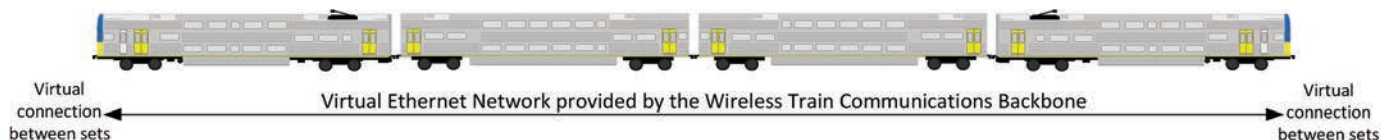
## Wireless Train Communications Backbone



The OEM Technology Solutions “Wireless Train Communications Backbone” (WTCB) is designed to be installed in each car of the rail vehicle to provide a “Virtual Ethernet Network” throughout the vehicle. The wireless data throughput rate of the WTCB is capable of speeds up to \*450 Mbps which is suitable for applications such as Train Management, Selective Door Override, Condition Monitoring, Passenger Information, Energy Metering and Security Surveillance.

## Virtual Ethernet Network

A virtual Ethernet network is established between cars and between sets using the IEEE 802.11 wireless technology.



## Coupling and De-Coupling Sets

Two sets are capable of being connected as one network. When one set is in wireless range of another set, the Smart Redundant Carriage Coupling (SRCC) technology will verify the other set's credentials and if acceptable then the two will become connected together (one Virtual Ethernet network).



## Wireless Network Security

The Smart Redundant Carriage Coupling (SRCC) technology only connects with other CRCC technology with the correct credentials. A Pre-Shared Key (PSK) provides a very high level of security for the system with a password (PSK) of 8 to 63 characters long being utilised. Furthermore, the radio links are protected by Wi-Fi Protected Access 2 - Pre-Shared Key (WPA2-PSK). WPA2 provides government grade security by implementing the National Institute of Standards and Technology (NIST) FIPS 140-2 compliant AES encryption algorithm and 802.1x-based authentication.

## Wireless Network Configuration

The IEEE 802.11 Wireless Local Area Network operates in the 5 GHz unlicensed Low Interference Potential Devices (LIPD) band. The Smart Redundant Carriage Coupling (SRCC) is utilised for inter-set connectivity.

Features include:

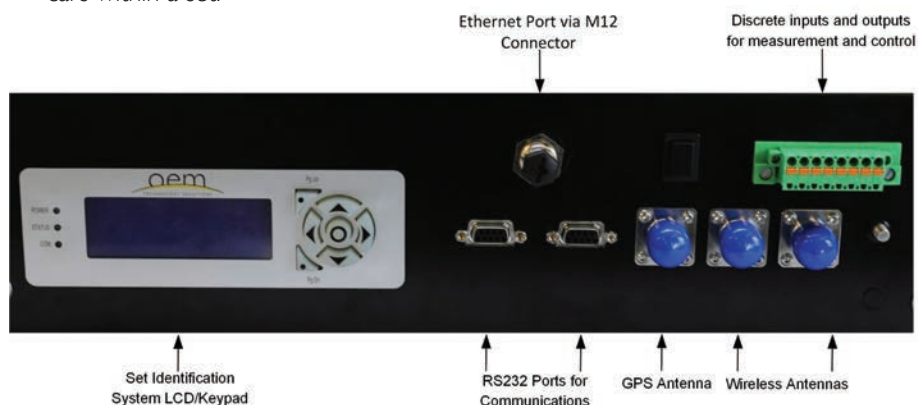
- High speed Ethernet communications.
- Global Positioning System (GPS).
- Set Identification System LCD/Keypad for seamless installation and removal of cars within a set.
- Discrete inputs and outputs for measurement and control.
- Rugged rack mounted enclosure.
- Pre-certified and EN50155 compliant.



Rugged rack mounted equipment mounts easily into each car.

\* Data speeds are estimates only and depend on system configuration and design

\*\* The WTCB is not designed for safety or critical infrastructure



### Australasia

Unit 13, 82 Reserve Road, Artarmon  
Sydney NSW 2064 Australia  
T: +61 2 9966 9424  
F: +61 2 9966 9429  
E: sales@oem.net.au

### Europe

Zeppelinstr: 71-73  
Munich 81669 Germany  
T: +49 89 4583 5457  
F: +49 89 4488 896  
E: sales@oem.net.au

### North America

511 Shannon Drive North  
Greencastle, PA 17225 US  
T: +1 319 455 2977  
M: +1 724 866 7347  
E: salesna@oem.net.au



[www.oem.net.au](http://www.oem.net.au)  
[www.teso.com.au](http://www.teso.com.au)