Mitsubishi Electric is providing TCMS based on train-wide Ethernet communication and train to wayside wireless communication for reliable and efficient train operation.

**Ethernet (100BASE-TX) network**

- High-speed and open network
- IEC61375 (Ethernet Train Backbone/Ethernet Consist Network)

**Network Topology**

- Data transmission through two independent networks
  (Train-wide Network/Consist Network)

**Reduction of Hard-wires**

- Reduced in-car hard-wires by transmitting the control command and applying the Remote I/O

**Data transmission to WMDS**

- Remote monitoring, diagnosis and parameter setting of onboard equipment

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**Network Configuration**

- **VCU**: Vehicle Control Unit
- **BECU**: Brake Electronic Control Unit
- **ATO**: Automatic Train Operation
- **DCU**: Door Control Unit
- **HVAC**: Heating, Ventilation, and Air Conditioning system
- **WMDS**: Wayside Monitoring and Diagnostic System
- **APU**: Auxiliary Power Supply Unit
- **ATP**: Automatic Train Protection
  - Remote I/O: Remote Input / Output Unit
High bandwidth train-wide network enhances all TCMS functions; equipment monitoring, maintenance support, train testing support, service equipment control and integrated control.

Data communication to WMDS enhances two TCMS functions; equipment monitoring and maintenance support.

Eco Changes is the Mitsubishi Electric Group’s environmental statement, and expresses the Group’s stance on environmental management. Through a wide range of businesses, we are helping contribute to the realization of a sustainable society.