

IoT-Integrated Level Crossing Barrier Machine



Actual Machine on Display

IoT-Integrated Level Crossing Barrier Machine NIPPON SIGNAL

Sensors installed in the barrier machine transmit measurement data to control centers, enabling automated periodic inspections.

Challenges for railway operators

Countermeasures for
labor shortage

reduce periodic
inspection workload

Maintain safety

Enables centralized data monitoring
at control and maintenance centers

IoT-Integrated Level Crossing Barrier Machine

Remote monitoring
of measurement data

Automation of
periodic inspections

Real-time monitoring
of equipment status

IoT-Integrated Level Crossing Barrier Machine

Configuration

NIPPON SIGNAL

Measurement data (current, voltage, etc.) from sensors installed in the barrier machine are aggregated and analyzed in the Traio cloud

→ Transmitting operational status to control centers enables automated periodic inspections.

Measurement Items

- Operating current
- Current during lower position
- Operating voltage
- Power supply voltage
- Residual voltage (control circuit)
- Rising time
- Lowering time
- Operation times

Data Transmission

Individual Communication

- ① **LoRa wireless connection**
→ Automated periodic inspections
- ② **Wired connection (optional)**
→ Continuous monitoring

Traio cloud

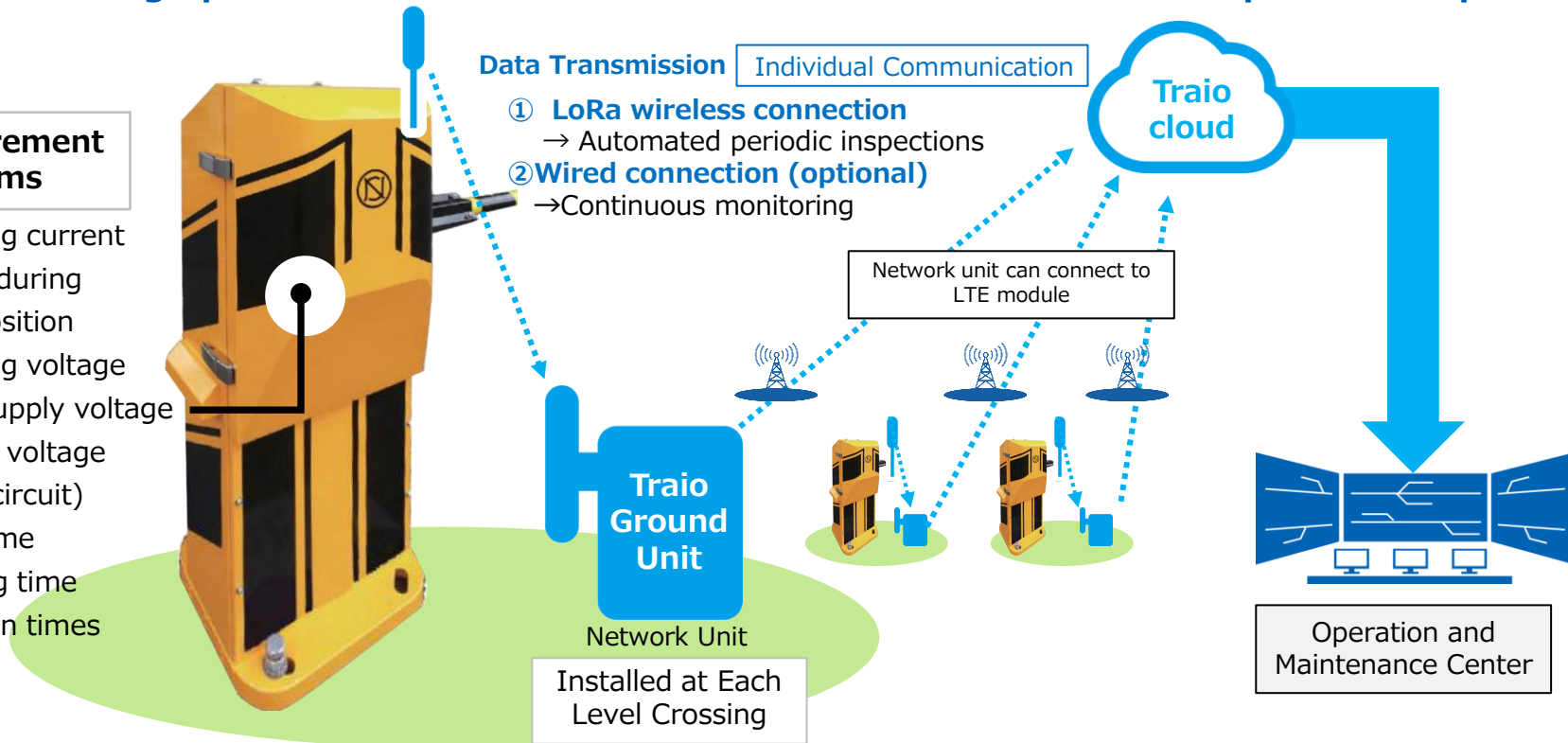
Network unit can connect to LTE module

Traio Ground Unit

Network Unit

Installed at Each Level Crossing

Operation and Maintenance Center



Please See the demo machine.

Demo machine

Actual unit operating



**Displaying operating Status
on monitor**