



# Optimized Network Infrastructure for Public Transit

## Company Overview

For over 35 years, Allied Telesis has been delivering reliable, intelligent connectivity for everything from enterprise organizations to complex, critical infrastructure projects around the globe.

The Allied Telesis solution for the Public Transportation (PT) domain provides the foundational communication network designed to interconnect all critical components of a modern transit system.

The scope of this network extends from passenger info-centres to operations control centres, being engineered to reliably carry data for a diverse range of applications, serving as the digital backbone for integrated transit management, operations, maintenance, and security.

## Relevant Compliances

**NEMA TS 2** Traffic controller

**IEC 62236-4, EN 50121-4**  
Railways signaling and telco

**IEC 62498-3, EN 50125-3**  
Railways signaling and telco

**IEC 62236-5, EN 50121-5**  
Railway fixed power supply

**IEC 62498-2, EN 50125-2**  
Railway fixed power supply

Allied Telesis follows the ARC-IT framework to meet transportation industry requirements, ensuring ITS solutions grow safely, smoothly, and reliably. By providing a common blueprint for seamless collaboration among all stakeholders, ARC-IT drives coordinated development aimed at enhancing safety, mobility, and the overall travel experience.

### Customers' pains

Lack of real-time visibility into vehicle locations and network conditions

Difficulty in optimizing schedules and dispatch

Concerns about passenger, driver, and asset safety and security, especially in dynamic road conditions and work zones

Poor coordination and communication with external agencies (traffic, emergency, media)

### How Allied Telesis addresses them

By delivering a high availability network infrastructure both on centres and on the field that allows the real-time tracking of vehicle locations, enabling superior decision-making, optimized traffic operations, and accurate traveller information dissemination.

By providing high performance networks for all the centres involved creates the environment where the information is available to efficiently plan and execute transit operations with dynamic capabilities to create, update, and monitor both fixed and flexible schedules.

By enabling the collection of data from any type of sensors leads to proactively monitoring of vehicles, stations, and infrastructure, providing immediate insights into road conditions and significantly boosting physical security for all participants.

By interconnecting and interoperating seamlessly with the networks of other agencies the scope of data communications is expanded, integrating effortlessly with traffic, parking, emergency, and media centres, ensuring timely alerts, coordinated responses, and consistently updated traveller information for the public.

## Customer Benefits

**Improved transit operations and planning:** operations become more efficient with near-real-time data from all transportation infrastructure components, enabling better decision-making and maximizing the number and types of delivered services.

**Reduced congestion & increased operability:** data sharing with other transportation operators minimizes congestion risks and enhances the ability to manage complex routes, by alleviating urban traffic bottlenecks.

**Enhanced resiliency & operability:** near real-time data from key system points facilitates better maintenance practices, increasing vehicle uptime and overall system performance.

**Increased safety:** continuous monitoring of vehicles and transit areas ensures a safer environment for passengers, drivers, and vehicles across the network.

**Timely traveller information:** high customer satisfaction is maintained by providing up-to-date traffic and transit data, along with critical information during emergency situations.

**Minimised environmental impact:** operational control given by the data collected and processed from the routes keeps under control the ecological footprint of transit operations.

**Precise maintenance:** ability to respond to any monitoring and management activity (Day 2), with all the data on a single-pane of glass and easy to apply controls.

**Easy deployment and extension:** intelligent and homogenous infrastructure provided with the necessary tools for design and deployment, expandable in terms of coverage, traffic and services.

## Key Differentiators

**Technology deployable in both indoor (centres) and outdoor (roads, transit areas) environments,** with same Operating System and UI.

**Simple and efficient management** for thousands of remote nodes.

**Streamlined Day1 and Day 2 processes,** for installation, replacement, and administration.

**Robust data security** across all the network.

**High-available infrastructure** on node and media level ensuring business continuity.

**Scalable infrastructure** designed to connect virtually any type of device or sensor across wide areas.

**Easy expandability** and growth, both horizontally (in terms of # nodes) and vertically (in terms of area and applications).

**Seamless integration** with existing standard-based networks and applications.

**Advanced networking** functionalities on Layer 1, Layer 2 and Layer 3, including specialised industrial protocols, ready to fit any public transport project requirements.

## Possible Service-Oriented Use-Cases

- Transit Vehicle Tracking
- Transit Fixed-Route Operations
- Transit Security
- Intermittent Bus Lanes
- Multimodal Coordination

Rev A