



smart railways

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reshaping cities through sustainable, smart mobility

With the increase in population and urban growth, and as cities transform to become hyper-connected smart cities, the need to adopt a holistic integrated view moving beyond the traditional functional approach is now more crucial than ever.

At the heart of this new smart transport service-based approach is technological innovation, adaptability, connectivity, safety, reliability and resilience. They are key in reshaping our cities, meeting tomorrow's economic and environmental needs, and redefining the mobility of people.

smart rails – staying on track for tomorrow

Smart railways are integral to smart cities and offer opportunities for greater mobility and connectivity, as well as environmental and economic advantages for smart cities.

The increasing shift towards smart rails as means for transportation of passengers, freight and logistics to handle urban mobility challenges from congestion and dangerous emissions to safety and improvement of networks and infrastructures calls for the adoption of emerging technologies, improved sustainability and higher connectivity and resilience.

At the core of smart rails is network connectivity, data, smart sensing, business collaboration, and smart services for better planning of operations and predictive maintenance, improved management and monitoring in real-time, higher level of service for passengers and operators, higher safety and reliability, increased adaptability and sustainability.

The transformation to smart rails hinges on the adoption of systems such as Telecommunication Systems, SCADA, Power and Building Automation Systems to enable sustainable mobility; efficiency of operations, control and monitoring; critical real-time information, information access and comfort for passengers, and reliability and safety to the staff, passengers, and goods.

pulse by solutions smart railways offerings

telecommunication systems & network infrastructure including:

- Microwave, MPLS & VHF/UHF
- Multiservice Network including Data Center, LAN & WAN
- Passive Infrastructure including LAN Infrastructure & Data Center Infrastructure
- Operational & Administrative Telephone, Contact Center and Voice Recording
- Master Clock System

cybersecurity solutions & services

operation management system using:

- Artificial Intelligence and IoT Solutions for Railway Operations

SCADA systems

Automatic Fare Collection (AFC)

- Ticket Vending Machines
- Gates
- Payments & Integrations
- Passenger Information Systems (PIS/PIDS)

security, surveillance & analytics

- CCTV Systems
- AI Video Analytics for Incident Tracking, People Tracking and Counting
- Access Control & Intrusion Detection System
- Fire Detection Systems

public address & digital signage

- Public Address Systems
- Digital Signage and Advertising Systems

power substations

service offerings:

- Overhead Catenary System (OCS) Installations
- Signaling Installations
- MEP