



Solution Brief: **Guarding Public Safety with Edge AI and Intelligent Video Surveillance**

Problem

Intelligent Transportation Systems faces critical safety challenges due to increasing security threats and the limitations of traditional surveillance. Operators, particularly in Europe, require advanced solutions to ensure rail safety and operational efficiency. Key concerns include the vital need for foreign object detection on tracks, preventing platform injuries, managing in-carriage emergencies, and securing restricted areas. Traditional systems lack the comprehensive, real-time monitoring capabilities needed to address these threats proactively.

Challenges

Comprehensive Video Coverage

IP cameras are installed at key locations, including outside the train, by the train doors, inside passenger carriages, and in the first/last carriages, to provide 360-degree, blind-spot-free monitoring and capture real-time video data.

Powerful Central Processing

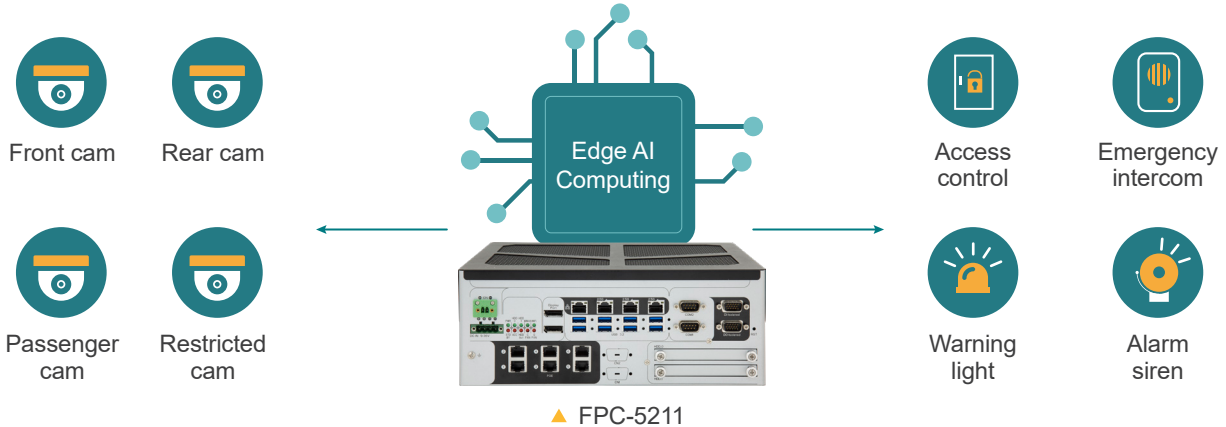
The train computer series serves as the core processing unit, responsible for receiving, processing, storing, and analyzing video data from all IP cameras. It handles large-scale video data management.

Notification Mechanism

The integration of emergency intercoms allows passengers or staff to immediately report urgent situations to the control center or relevant personnel, facilitating quick response.

Solution

At the core of our solution is the ARBOR FPC-5210 Series, a robust Edge AI Box PC engineered to address the complexities of edge computing and IP camera integration. Powered by an Intel® 14th/13th Gen. Core™ processor and a NVIDIA® RTX A4500 GPU, this system forms the backbone of an advanced video surveillance platform, seamlessly managing and processing data from a multitude of IP cameras.



Key Advantages

Comprehensive AI-Powered Safety & Security: Our system utilizes multi-channel IP camera integration and powerful AI vision analytics to provide comprehensive, blind-spot-free surveillance. It can detect foreign objects on tracks, identify dangerous behavior on platforms, and spot suspicious items or activities inside carriages in real time, ensuring the safety of both passengers and railway operations.

Centralized Processing & Seamless Integration: With the ARBOR FPC-5210 series train computer as the core processing unit, the system efficiently handles and stores large-scale video data from all cameras. It seamlessly integrates with emergency intercoms, backend control centers, and warning systems, creating a unified and responsive smart safety network.

Real-Time Response & Proactive Protection: Through continuous real-time monitoring, intelligent AI detection, and automated alert mechanisms, the system immediately notifies the control center of abnormal events. This proactive threat protection enables timely intervention by staff, significantly enhancing public transportation safety and operational efficiency.

Benefits

- ▶ **AI-Powered Proactive Safety & Security:** Leverages multi-channel IP camera integration and powerful AI vision analytics.
- ▶ **Superior Performance for Massive Data:** Ensure complex AI models can run in real-time and providing a robust foundation for edge computing applications.
- ▶ **Seamless Integration & Real-Time Response:** enabling a quick and coordinated response that enhances operational efficiency and overall security.

Contact our team of experts today to learn how the FPC-5210 can revolutionize your smart transportation project.

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