INTELLIGENCE-BASED RAIL SOLUTIONS

Trusted by transit and freight operators across North America
INVESTING IN TRUSTED SOLUTIONS TO OPTIMIZE YOUR OPERATIONS

Transit and freight railroad operations are extremely complex environments that have to be safe, efficient, secure, highly connected, easy to maintain and cost-effective, all at the same time. Supporting these operations requires the intimate knowledge and experience of an end-to-end solutions provider able to focus on the big picture while relentlessly looking for answers to specific challenges.

Collins Aerospace has been delivering our trusted ARINC rail solutions to the industry for more than 40 years. We are at the forefront of the critical rail associations that help shape transit and freight. Today, Collins designs, builds, operates and maintains intelligence-based rail solutions that achieve 99.999% reliability and business continuity. We are always reinvesting in the solutions you trust so they’ll continue to suit your needs as the industry moves forward.
Rail systems integration

From capturing requirements to implementation, from formal engineering to commissioning, the Collins rail team will work with you throughout your systems integration project. We’ll plan and design a solution to meet all your objectives, coordinate interfaces, implement the system and train your staff for operations and maintenance.

Centralized Traffic Control and SCADA

Collins designs and integrates state-of-the-art rail control solutions using our ARINC Advanced Information Management (AIM®) platform. AIM serves as an end-to-end solution for all rail control requirements, including SCADA, Centralized Traffic Control, Positive Train Control (PTC) and control center integration. Highly flexible and feature-rich, AIM enables railroads to maximize operational efficiency, cost-effectiveness and safety, all while providing an environment protected by the latest tools and techniques in cybersecurity.

KEY AREAS OF EXPERTISE

- Public address and signs
- Data communication network management system
- Onboard networking and cell router integration
- Onboard messaging
- PLC control systems
- Wireless communications
- Voice switch
- Voice logging recorder
- IP video
- Physical and cybersecurity
- Field telephone equipment
- UPS
- Professional training

KEY AREAS OF EXPERTISE

- Train monitoring and control
- Automatic train tracking
- Automatic route setting/automatic routing
- Automatic traffic regulation and schedule deviation
- Schedule management
- Integrated yard management
- Bulletins, authorities and restrictions management
- Employee in Charge (EIC) terminals
- Emergency Operating Procedures (EOP)
- Power planning
- Playback and simulation
- Data acquisition
- Interface integration
SEAMLESS AND SECURE
PTC MESSAGING

ARINC RailwayNet℠

ARINC RailwayNet℠ provides mandate-compliant, secure and fully managed PTC messaging solutions through a node we built on the Class I Interoperable Train Control Federated Network. We leverage our own high-reliability global aviation network of very high frequency (VHF), cellular, Wi-Fi and Multiprotocol Label Switching (MPLS) to allow seamless communications from your back office to the locomotive and between operations.

PTC SIMULATOR

Test environments can be challenging or unsafe to create using production configurations. PTC simulators can be used to support multiple segment, nearest-neighbor and end-to-end configurations across the planned test environment. They can also support simulated input, intermediate and output components as needed to make the system under test function and appear to be in its intended operating environment.

SAFETY PLAN SUPPORT

We can help expedite completion of PTC implementations for short line railroads and their host railroads. We create template documents to use as safety-related documentation required by PTC hosts to obtain permission to operate over their territory. The templates are based on both PTC host railroad requirements and applicable regulations.

Collins Aerospace ARINC RailwayNet is built on our proven, high-reliability network that supports hundreds of transportation customers and delivers billions of mission-critical messages each year.
Data management

Bringing together operational technology (OT) and information technology (IT) is critical for a successful digital transformation. We’ll integrate your operations, rolling stocks and fixed asset infrastructure, including signaling, maintenance, scheduling and other legacy systems into large data warehouses which are foundational to business intelligence. With advanced analytics in preventive and predictive maintenance, planning and scheduling, we can help you improve reliability, safety and your passengers’ experience. Our intelligence-based solutions help your railroad achieve greater capacity, optimized asset utilization and better energy efficiency as well as lowered and controlled costs.

Customer information systems

Our integrated audio and visual enterprise messaging solutions help railroads drive operational efficiencies across multiple transportation modes, including commuter, light rail, street car and even bus rapid transit. Predictive arrival/departure enables a seamless passenger experience that keeps operations flowing smoothly and cost-effectively. Advanced train location and scheduling keeps passengers informed in real time.

**KEY AREAS OF EXPERTISE**

- Predictive Arrival/Departure system
- Automated and ad hoc messaging
- Message control and routing
- Redundancy of all critical system components
- Centralized/distributed station management
- Web-based user interface
- Alarm monitoring
- Multiple signage and vendor support
- Full audio support
- Device status and health monitoring
- Full ADA compliance
- Onboard cell router integration
- Onboard messaging
- Data logging
- Administrative reports
- Preventive maintenance
- Predictive maintenance
- Right-of-way (ROW) drone surveys
- AIM custom solution for legacy data systems integration
A COMPLETE SUITE OF CYBERSECURITY SOLUTIONS

Cybersecurity

Our comprehensive cybersecurity solutions are designed by a team of cyber engineers to provide proactive threat protection and support continuity of operations. We’ll help your railroad assess, harden and secure your existing systems, implement our fully managed Cybersecurity Operations Center (CSOC) and put in place a tailored life cycle management solution that meets your needs.

KEY AREAS OF EXPERTISE

- Assessment services
- Harden and secure systems
- Intrusion detection and prevention system
- Firewall and antivirus
- Security information and event management
- Hosted 24/7 Cybersecurity Operations Center
- Life cycle management
- Compliance to APTA guidelines, NIST and other industry standards
- Experienced cybersecurity analysts

ASSESSMENT SERVICES  DESIGN AND BUILD  COLLINS CSOC  LIFE CYCLE MANAGEMENT
Life cycle management (LCM)

Implementing a preventative LCM plan is the most efficient way to keep your operations running smoothly. It enables you to outsource time-consuming tasks while reducing overall costs. It also helps plan, measure and track equipment more effectively, integrates system maintenance and evolution, and increases productivity with detailed plans for technical and management teams.

**KEY AREAS OF EXPERTISE**

- Preventive maintenance
- Corrective maintenance
- Software patch management
- Toll-free trouble reporting
- Extended warranty
- Hardware refresh
- Historical data storage
- Training