Proven Technology that Sets the Standard

Worldwide, TransCore has distributed millions of RFID tags and thousands of readers to 51 countries to automatically identify, track, and monitor vehicles. TransCore’s AEI solution meets worldwide railway AEI standards and has been adopted by nearly all countries around the world, including China, England, Australia, South Africa, Canada, Mexico, Brazil, South Korea, and the USA.
TransCore’s radio frequency identification (RFID) automatic equipment identification (AEI) solutions can help improve operational efficiency for freight rail systems. Location and time data collected from our technology enables better management and improves performance to increase train operation monitoring and control functions to achieve safe functional operations.

Railroads have demonstrated high levels of cost effectiveness but are constantly challenged to improve operating capabilities and improve service metrics and cost management. TransCore systems provide capabilities that will increase equipment utilization and reduce rehandles, dwell time, and overhead. Through seamless and efficient equipment tracking, TransCore’s proven Amtech® radio frequency identification (RFID) systems offer a reliable and cost-effective way to improve the productivity of freight rail operations.

TransCore’s wireless solutions electronically identify and monitor rail and intermodal equipment in real time. Our AEI system eliminates error-prone manual data entry by collecting data electronically, providing faster and more reliable data collection. These tracking and monitoring systems are an important element to managing the vast, interconnected rail system, which in the U.S. alone is covered by more than 600 freight railroads across 150,000 miles of railroad tracks, generating more than $50 billion in annual freight revenues.

**How the TransCore Solution Works**

Tags attached to locomotives and railcars provide equipment-specific information. Readers are placed at strategic locations along each line and in yards, and as tagged equipment passes a reader, valuable asset data stored in the tag is collected in real time. The data is transmitted to your host system, automating and simplifying system management functions. The system can also monitor critical operating information, such as fuel and water levels, and oil pressure. Neither extreme weather conditions nor temperatures reduce the system’s accuracy or performance.

**On-going Commitment to the Rail Industry**

Product development and support have been top priorities for TransCore. We deliver new, enhanced products specific to the rail industry’s needs and ensure compatibility with existing infrastructures.

**New Readers:**

- Multiprotocol Rail Reader (MPRR), providing more effective multi-track configuration support. This reader, through advanced multiplexing techniques, will manage up to four antennas, allowing two track operations with a single MPRR. This means less hardware to install and maintain. Advanced technology includes software managed frequency selection and RF power settings for improved flexibility. The design features an integrated package of both the reader and RF modules, resulting in a compact, easy-to-install unit.
  - Train Recording Unit (TRU®), a new, powerful processor based reader system that captures tag and other data to generate an accurate railroad standard S-918 consist report and transmits this data to one or more host computer systems. Located at the AEI site along with RFID readers, antennas, wheel detectors, and the host of peripherals, the TRU captures and records all detailed information required to create “clean consists.” Maintenance is supported for both local and remote access.
  - Encompass® Readers including handheld models (E1i, E1d, and E1150).
  - AP4118 Rail Tag Programmer in concert with a new permission tag provides increased data content security.

**New tags:** A new generation of the standard rail tag, with read/write capability built in for when you’re ready to implement new applications. Other special purpose tags have also been updated, including high temperature and end of train (EOT) tags. All are compatible with the extensive reader infrastructure now in place and are programmable via RF (“over the air”). The programming plug is no longer required!

**Key Applications: Automatic Equipment Identification (AEI)**

- Railcar and equipment tracking
- Yard management and equipment inventory control
- Gate control access
- Fuel terminal authorization
- Assessing locomotive, generator, or refrigerator fuel levels
- Ensuring load integrity

**Key Benefits:**

- Allows real-time classification, tracking, and status
- Improves data collection accuracy
- Streamlines data collection and record management
- Reduces maintenance
- Automates wayside detection and railcar weighing
- Reduces dwell time and labor cost

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- Robert Lease, Director of Transportation Customer Service and Support, Burlington Northern Santa Fe (BNSF)
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Freight Rail Readers:
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Freight Rail Tags:
- AT518 Harsh Environment Transportation Tag
- AT5831 Location Transponder
- AT5417 Externally Powered Signal Tag
- AT5412 Transportation Tag

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