

# Configuration Management, Improved Safety and ROI Can Go Hand-In-Hand

Many industries confront the need for configuration management of assets, and the most complex configuration management scenarios often involve electronics. Electronic systems are typically complex by nature, and that complexity is exacerbated by pluggable and programmable features and capabilities.

Because of the vital nature of signaling systems, railroad C&S departments face additional and unique realities that make their configuration management challenges quite profound.

Railroad signal systems must be trusted to work almost completely autonomously — and to always fail in a safe manner. Historically, vital signal systems have been based upon the design and operating characteristics of the vital relay. Rules, regulations and operating practices that steer the design and maintenance of these systems have been formed over many decades and are based on many lessons learned, but by and large they revolve around the functionality of the vital relay.

We should all be proud to work in an industry that is older than almost all those that remain vibrant in the economies of the Western world. However, we must also recognize that the designers of our most critical systems faced a very different reality than we face today, and we must address these new realities with the same values and vigor that led to the standards of credibility and safety our industry has enjoyed for many years.

Even though the practice of using electronics in place of vital relays has been ongoing for years, regulations and best practices for maintaining the safety and integrity of these electronic systems have only begun to take shape.

In support of our industry's evolution into better maintaining the safety, vitality and credi-

bility of modern, electronic signaling and communications systems, and in response to new rules and regulations established by the FRA, 10East has developed information systems and methods to help our customers succeed at configuration management, and to do so as efficiently as possible. 10East's RailDOCS



Configuration Management System builds upon the RailDOCS Mobile Business Platform, and equips skilled maintenance workers with proven mobile computing technologies, coordinated by sophisticated central data systems that are purpose-built to address our industry's unique requirements.

## 'Metadata' management

RailDOCS CMS facilitates participation from the supply side. Equipment manufacturers are the best equipped to understand their product lines, and are best able to provide data about what chassis, cards and other components have been made, and will be made going forward. They also are in the best position to articulate revisions made to their products, and to describe the valid ways that the components they manufacture can come together to provide intended functionality.

We refer to this data from equipment suppliers as "metadata," a computer science term meaning "data about data." RailDOCS' Configuration Management System uses this metadata to build data collection screens that are pertinent to and customized for each type of equipment. Field workers can then collect

and maintain very accurate configuration data, because RailDOCS' CMS understands intimately what "assemblies" are valid, and what information needs to be collected about each component part.

Once location-specific data has been collected and is under configuration management control, many other things become possible. Understanding the scope of responding to manufacturer service bulletins becomes easy, and can be known quickly. In fact, service bulletin remediation is a natural byproduct of well-designed configuration management, and is just part of an ongoing process, rather than the big "events" of the past that typically required monumental efforts.

Configuration management is a leap forward in establishing control over a railroad's infrastructure, and can deliver a huge return on investment. It will also help ensure that we carry our tradition of safety forward to future generations of railroaders, as we also continue our long tradition of innovation.



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