



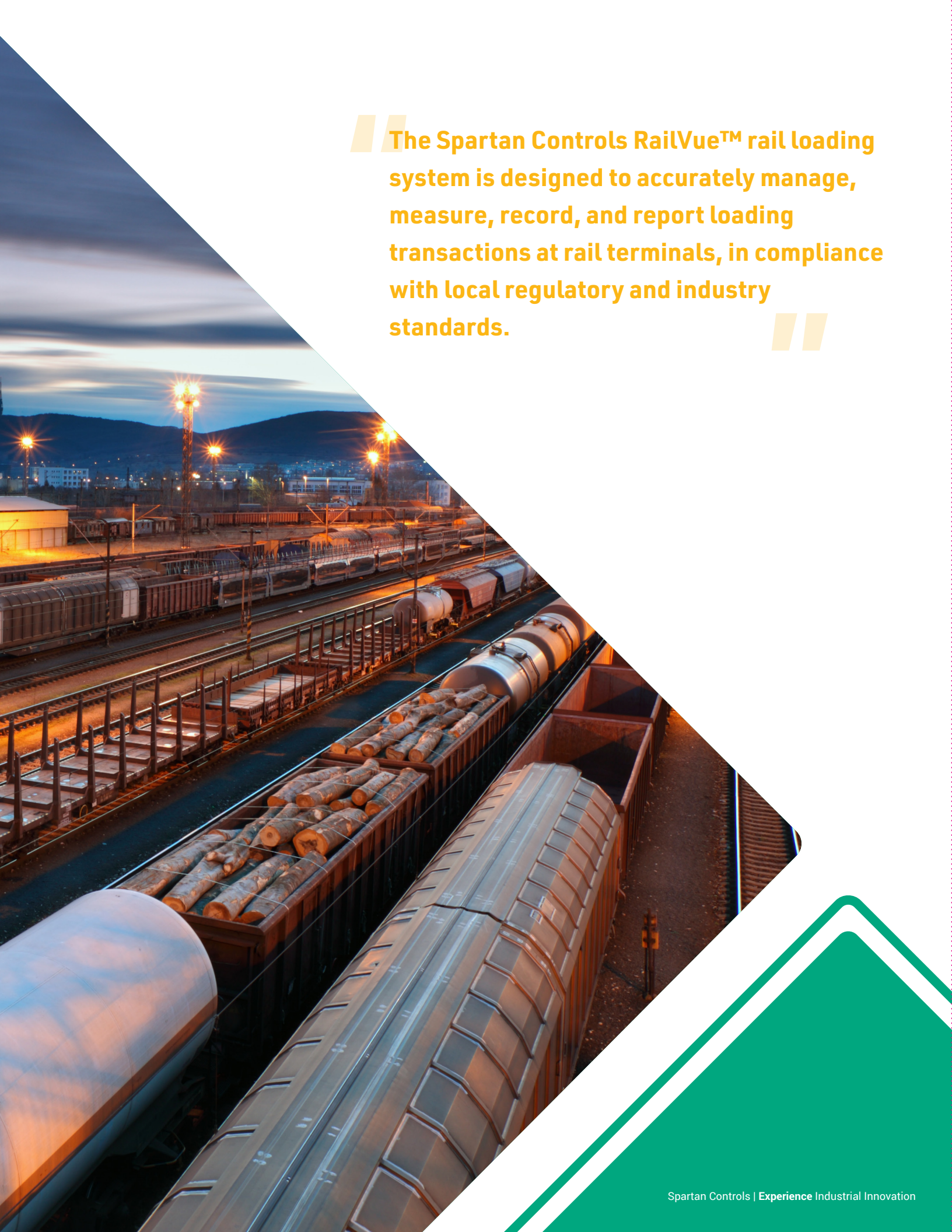
**SPARTAN
CONTROLS**

Experience Industrial Innovation



INDUSTRY APPLICATIONS

RailVue™ Rail Loading System



The Spartan Controls RailVue™ rail loading system is designed to accurately manage, measure, record, and report loading transactions at rail terminals, in compliance with local regulatory and industry standards.



With 30+ years of experience in supplying fluid transport solutions, Spartan Controls has created unique solutions for rail and truck terminals.

From transloading solutions for initial smaller sites, to large unit train loading projects that will assist in moving the product to market, the RailVue™ solution can be customized to meet and exceed your needs.

Spartan Control's fluid transport solutions are based on best-in-class technologies and user interfaces purpose-built to handle truck and rail terminal applications across the full hydrocarbon spectrum (heavy oil to liquefied natural gas) as well as pure products as well to serve the Chemical market (alcohols, ammonia).





The RailVue™ application goes beyond Spartan Controls' TruckVue™ platform by providing additional features which relate specifically to rail-based solutions.

Capabilities of the System

- Up to 16 transfer points per panel, expandable to multiple systems per site
- Ability to automatically email production day reports and transaction files
- Optional on-board FloBoss S600+ / ROC 800 Flow Computer providing master meter proving functionality
- Additional screens to account for additional requirements related to rail loading (i.e. tare weight, tank volume capacity, railcar weight capacity, railcar tank type, railcar heel height)
- Blending and Odorization capabilities to ensure proper quality specifications for loading
- Gas Chromatograph / Analyzer integration to ensure product meets specifications before offloading

Safe Rail tank car loading:

- Integrated mass/volume safety factors to ensure no overloading of railcars
- Compliant with rail car loading standards, and conforms to API RP 3000 for Classifying and Loading of Crude Oil into Rail Tank Cars
- Web Service interface to external rail logistics software
- Integration with wireless tablets, certified for Class 1 Div 2 hazardous area to allow operator to safely enter railcar information from anywhere along gantry

Integrated Web Service Options for Railcar Logistics:

- Integration with Yard Management software to know which car is in each loading bay – preventing operator error from manual entry
- Local storage of rail tank car strapping tables to ensure data availability in the case of network issues



How it Works

The TMS Server 2020 software for the rail terminal is designed to automatically measure quantities of the fluids being loaded on to the rail tank car and is in compliance with API RP 3000 (2014). The system also determines gross and net volumes of oil and produced water and compensates these volumes for temperature and pressure per API Chapter 11.1 (2004) calculations. It provides an unlimited audit trail for all transfer transaction measurements and provides electronic files for retrieval by the Customer's networked production accounting system while integrating seamlessly into the Customer's data historian.

The RailVue™ system is designed to monitor the loading of multiple rail transfer points from small to large rail loading facilities. Designed specifically for rail loading applications, the RailVue™ System performs all of the related functions and tasks required by Customers including accurate measurement of water cuts, density and volume determination, industry compliance calculations, real time data management, system control and more. The RailVue™ system has an extensible architecture platform capable of supporting multiple panels at site, interfacing to sophisticated rail logistics system, and fully integrating with corporate enterprise systems. After the rail cars are finished loading the product, the system prints out an 8½ x 11 full page ticket and stores the detailed information into a transaction scan file.

Key Features & Benefits

The RailVue™ system contains a number of features consistent with Spartan's TruckVue™ platform and more. It provides operations personnel with an intuitive user interface to efficiently load and offload railcars at their facility, giving superior measurement capabilities and custody transfer approved calculations.

Compliant with:

- Alberta Energy Regulator – Directive 17
- BC OGC Measurement Guideline
- Saskatchewan – PNG 017
- API Chapter 11.1, 11.2, 12, 21
- Conforms to API RP 3000 (2014)
- Measurement Canada* (when used with compliant end devices/flow register)



Handles a Wide Variety of Fluid Types

Our original software was built around oil & gas upstream measurement, providing superior watercut measurement using our Autocomp technology. It has since been expanded to cover a variety of fluid types from across the hydrocarbon spectrum (heavy oil, emulsion, NGL, propane, etc.) to pure products as well to serve the Chemical market (alcohols, ammonia).

Data Analytics, Audit Trails

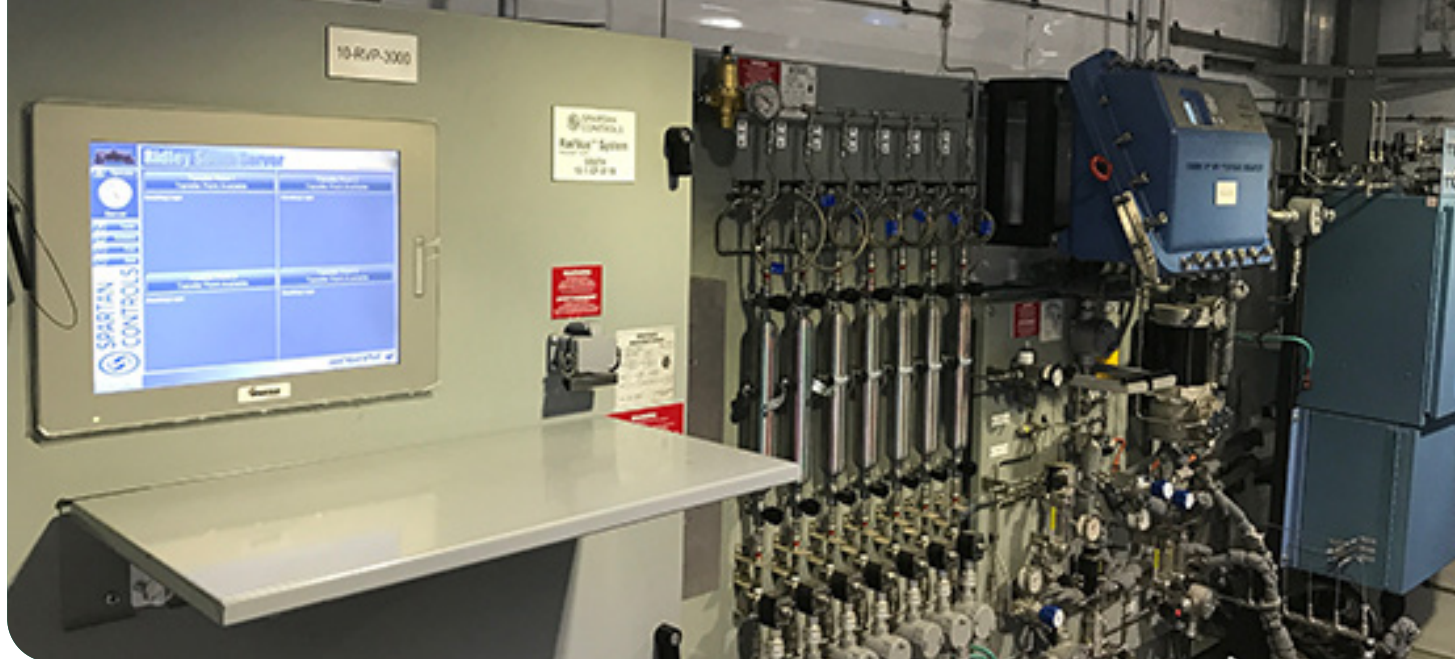
The RailVue™ system is designed to deliver superior audit trail, data entry, diagnostic, maintenance, and measurement capabilities. The solution offers numerous built-in features including measurement device diagnostics, calibration, verification and auditing. Device monitoring (ground permissives, plant and transfer point ESD, tank levels), annunciator generation (alarm signals, horns, beacons), and controller activities (valve sequencing, pump activation and VFD control, valve throttling) are all easily supported. Data management is distributed, robust and reliable – offering transaction reporting, ticket printing and electronic storage, post transfer data analysis and transfer data trending.

Flexible Hardware Options

Plant Control System Interface

Spartan's RailVue™ system offers flexible options to interface to plant control systems including a DeltaV PK Controller or PLC in the panel, to a DeltaV DCS using DeltaV electronic marshalling, and other plant PLC/RTU/DCS.





Service and Support

Spartan Controls offers unparalleled service and support capabilities for the RailVue™ system. Our factory-trained technicians will assist with all commissioning and start-up of the system, from the touchscreen display to the measurement end devices represented by Spartan Controls – all with a single point of contact.

Spartan Controls offers a Preventative Maintenance Agreement (PMA) program that strives to provide the best support and service throughout the lifecycle of the RailVue™ system. Enrollment to this program provides the site preferred access to customer support, software hot fixes, upgrades, and Spartan's hot spare inventory. PMA also grants members access to request for software re-configurations, providing flexibility for the system to accommodate for any changes to site requirements. Through scheduled site visits, factory-trained technicians can help optimize system performance and extend the life cycle of the hardware by identifying problems early that may affect future system performance or ongoing measurement uncertainty.

All RailVue™ system components provided by Spartan Controls are supported and warranted for 18 months from date of shipment, or 12 months from installation. Should you experience a problem with your system, help is just one phone call away, 7 days a week, 24 hours a day, courtesy of our 24/7 program.



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Call us or request a quote online 24/7

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