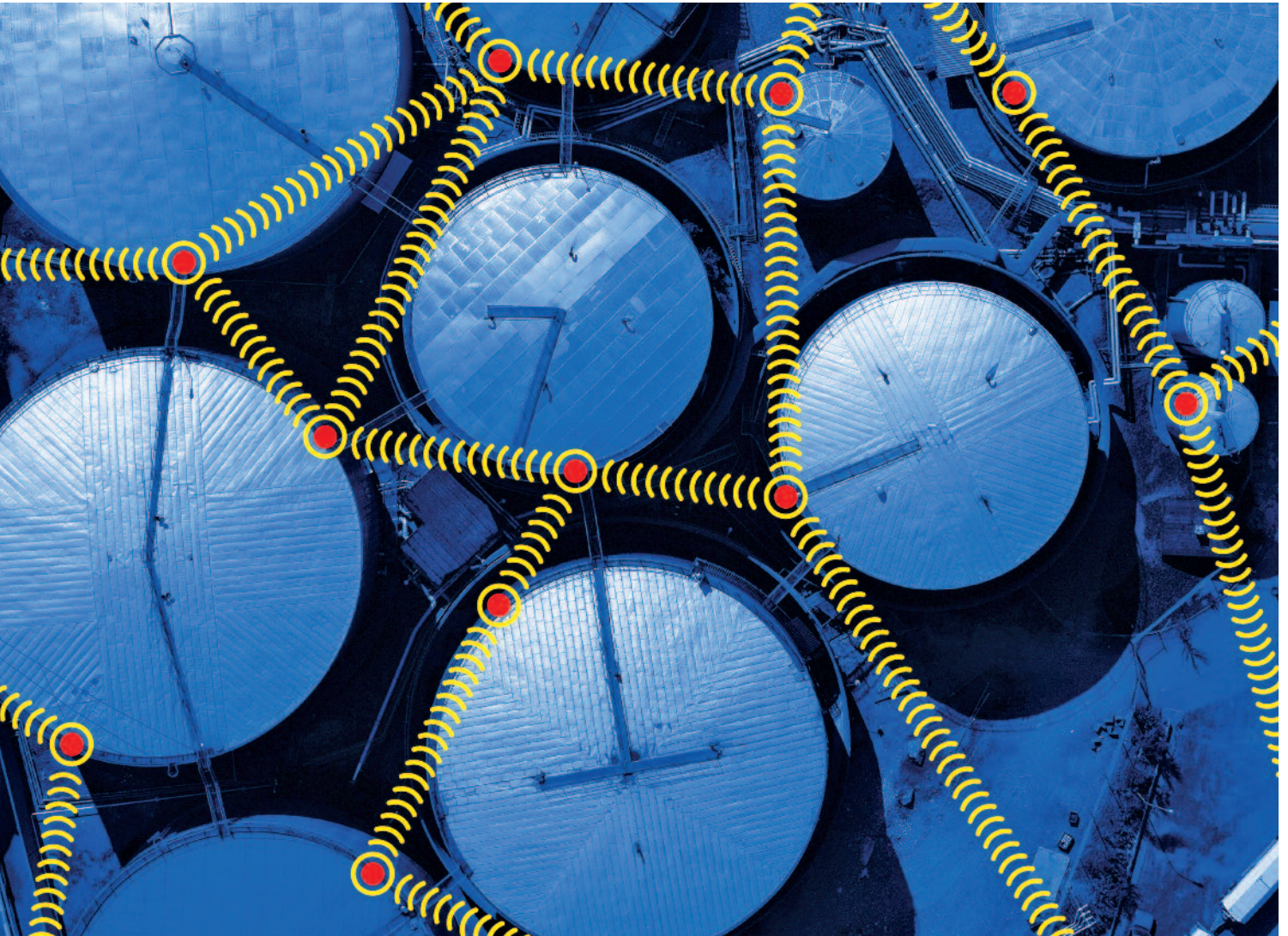


Smart Wireless Tank Gauging from Emerson

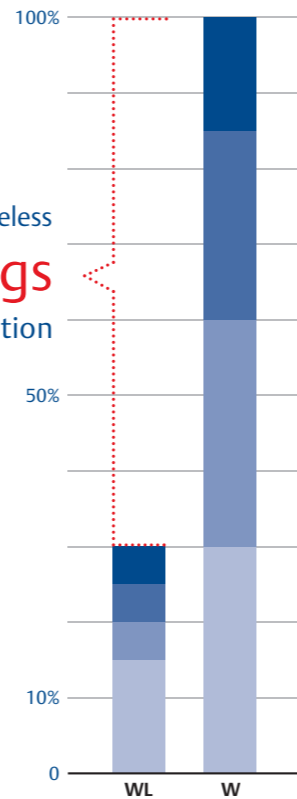
Reach more tanks at less cost





Emerson's Smart Wireless
70% Savings
 over wired installation

- Installation, Commissioning
- Labor
- Engineering
- Materials



Enhance your tank gauging benefits – without heavy expenses

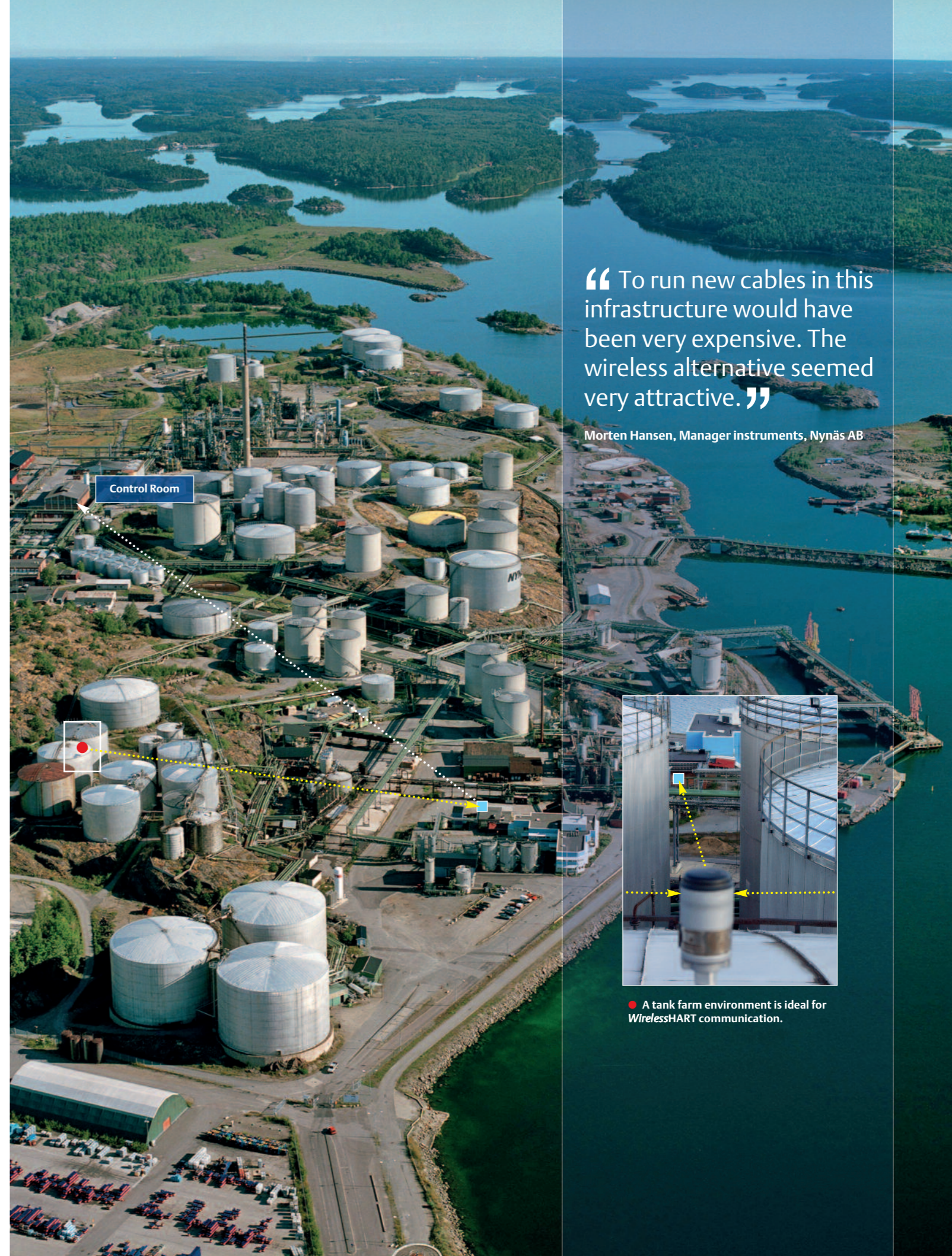
Now you can integrate Rosemount Tank Gauging with Emerson's Smart Wireless into one outstanding solution. This not only combines the benefits of the two concepts, but also enhances them even further. You'll get better control of your assets with less investment.

Reducing field wiring leads to huge savings in infrastructure, design and the labor required for installation and commissioning. At installation costs up to 70% less than wired systems, Emerson's Smart Wireless solutions give you access to tank gauging data that previously was either technically or economically out of reach.

But lower CAPEX is only part of the equation. No hot work is required and production downtime is minimized. In addition, compared to other systems, the time between project start-up and

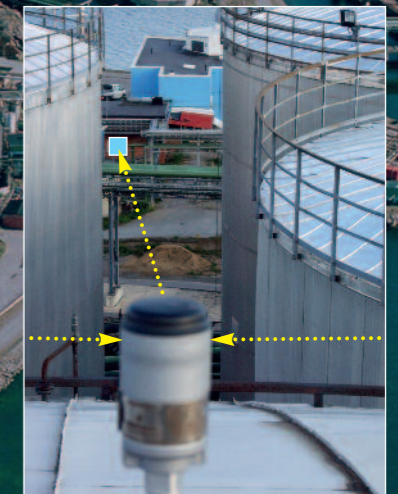
an up-and-running wireless system is drastically reduced. No costly site surveys are required.

Rosemount Tank Gauging, with the well-known TankRadar Rex and Pro gauges, is the world-leading tank gauging system and the industry's benchmark. The Smart Wireless technology from Emerson is based on IEC 62591 (*WirelessHART*), the open communication standard that is used at thousands of industry plants all over the world.



“ To run new cables in this infrastructure would have been very expensive. The wireless alternative seemed very attractive. ”

Morten Hansen, Manager instruments, Nynäs AB



● A tank farm environment is ideal for *WirelessHART* communication.

Where you might see a problem, we have a solution

Tank gauging data from your remotely located tanks, previously collected manually or not at all, can now be integrated into your existing tank management system. This will result in more efficient tank capacity utilization, more accurate inventory and better loss control.

“ Data from our distant tanks is really difficult to collect. ”
Not anymore. The Smart Wireless Gateway can communicate with remotely located tanks using the self-organizing network. No wiring is needed for communication, only for power supply.

“ A major investment in new infrastructure is not within our budget. ”

The Smart Wireless infrastructure is not expensive. Only one gateway is needed for up to 100 devices. The network expands itself as new devices are added, so you can “start small”.

“ We can't do a site survey right now. ”
There is no need for costly site surveys. All you need to start with is a plant drawing and the AMS Snap-On software to plan

your site. The self-organizing network is automatically formed.

“ Why should I retrofit wireless devices in my existing tank gauging system? ”
For several reasons. Your old wiring might need replacement, or you might want to increase reliability with redundant communication. In applications using emulation, you'll

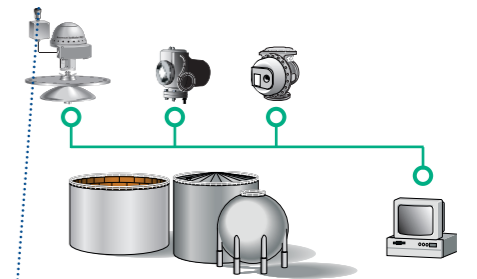
get the full capacity of the Rex gauges and also add the possibility of remote servicing.

“ My project schedule is too tight for testing new concepts. ”
Which makes Emerson Smart Wireless an excellent choice. The system is tried-and-tested in thousands of sites. With the AMS Configurator, the setup for a whole site is done in hours instead of days.

“ Our tank site has obstacles that might affect the system's reliability. ”
Not at all. There is no need for line of sight between the gate-

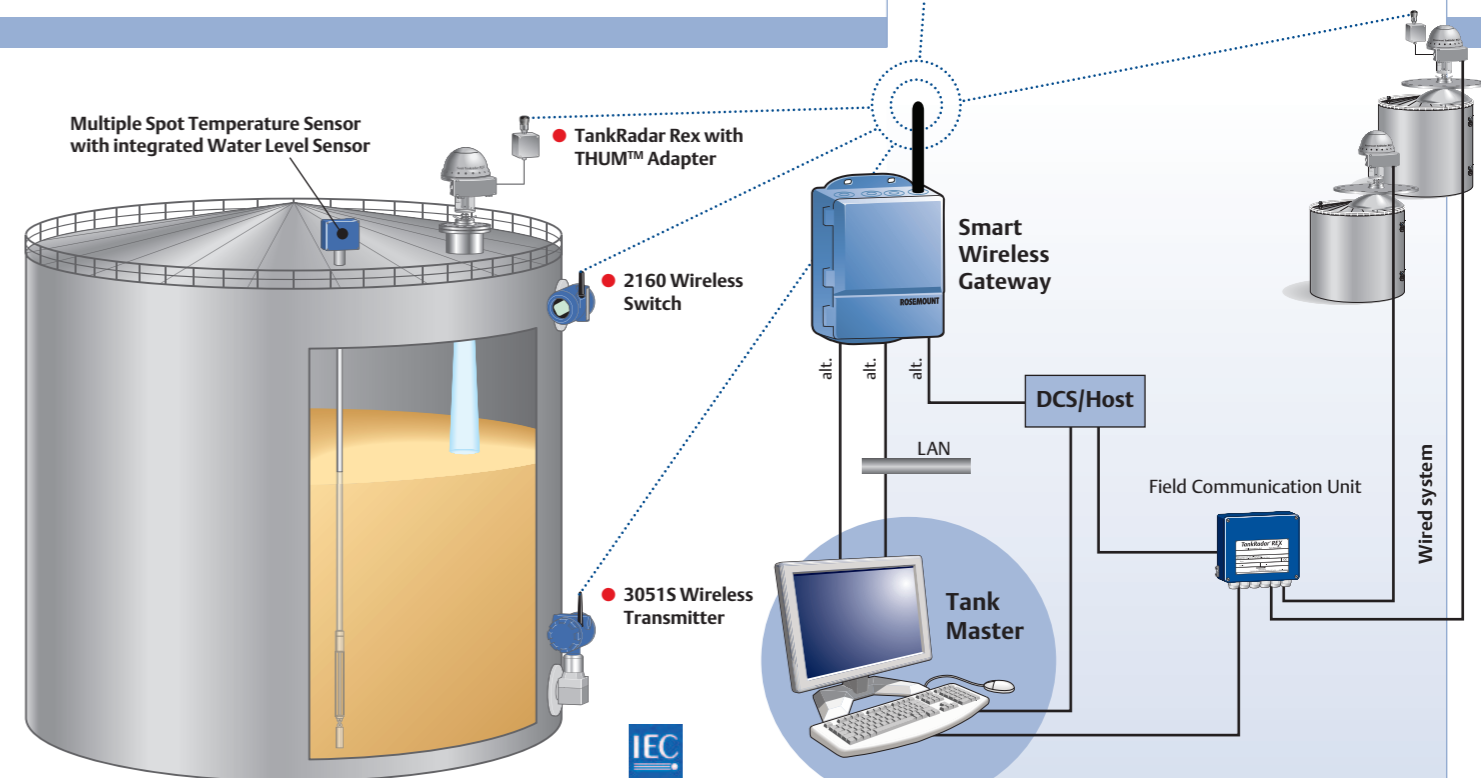
way and each device. All devices act as mesh network nodes, and can relay data around obstacles.

“ Will this wireless stuff match our safety and security demands? ”
Most certainly. The system uses *WirelessHART* technology with digital communication, protected by 128-bit encryption, authentication, verification, anti-jamming and reliable key management.



Redundant communication: Emulation + Smart Wireless
Emulation is when a gauge seamlessly replaces another device, independent of measurement technology, electrical interface, communication protocol or power source.

- Unlocks stranded data provided by the Rex gauge
- Adds advanced diagnostics and configuration
- Increases communication reliability



• Data is received by the Smart Wireless Gateway and fed into the Rosemount TankMaster or a DCS system. In addition to level, all relevant data from pressure transmitters, multiple spot temperature and water level sensors are transmitted.

Redundant communication: Wired TRL2 bus + Smart Wireless

- Delivers new/additional connectivity to a host/DCS system
- Increases communication reliability

Wireless tank gauging instrumentation

Emerson's Smart Wireless radar level gauges provide the same data as traditionally wired devices. Additional devices such as temperature sensors and pressure transmitters can be added anytime.



● **Smart Wireless Gateway**
The Smart Wireless Gateway is the network manager in a wireless tank gauging system from Emerson. It provides an interface between the field devices and the TankMaster inventory software or host /DCS systems.



● **Rosemount 702 Wireless Discrete Transmitter**
The Rosemount 702 has an extended range antenna, and can be used to relay all measured data within the Smart Wireless network. The 702 transmitter, powered by a long-life power module, is a good choice for flexible and easy installation of a repeater within the network.



● **Smart Wireless THUM™ Adapter**
The Smart Wireless THUM™ Adapter is integrated with a connection box, which allows the THUM Adapter to be installed away from the radar gauge at the best possible tank roof position. It can be vertically or horizontally installed on a 2-in. pipe or railing. The THUM Adapter acts as the wireless data link between the radar level gauge and a Smart Wireless Gateway in an IEC 62591 (WirelessHART) network.

● **Rosemount 3051S Wireless Pressure Transmitter**
The Rosemount 3051S Wireless Pressure Transmitter delivers cutting edge pressure measurement performance and innovative features. It is powered by a long-life power module. One or more pressure transmitters can be used on the same tank to measure vapor and liquid pressure.



● **Wireless TankRadar Rex**
TankRadar Rex is designed for refineries, tank terminals and the petrochemical industry. It is the high-precision system for custody transfer, process control, inventory control and overfill prevention. TankRadar Rex with a Smart Wireless THUM™ Adapter provides highly accurate level and temperature values by utilizing modern wireless technology.



● **Multiple spot temperature sensor, with an optional integrated water level sensor**
These high quality sensors are used to measure liquid temperature and free water level in order to provide input for inventory and custody transfer volume calculations in bulk liquid storage tanks.

● **Rosemount 2160 Wireless Vibrating Fork Liquid Level Switch**
The Rosemount 2160 liquid level switch combines Emerson's wireless expertise with the Rosemount 2100 series vibrating short fork technology. It is suitable for virtually all liquid applications, including coating liquids, and can be used as a high or low level alarm to complement a level gauge. Rosemount 2160 is powered by a long-life power module.



● **Wireless TankRadar Pro**
The powerful multi-purpose radar level gauge is excellent for operational control in all types of bulk storage applications. TankRadar Pro with a Smart Wireless THUM™ Adapter, provides a cost-efficient and easy way to include the measured level and temperature values by utilizing modern wireless technology.

Full compatibility with all standard fieldbuses

The Rosemount Tank Gauging system is compatible with all existing fieldbus standards. TankRadar Rex can communicate via the TRL/2 fieldbus and other buses, such as FOUNDATION™ fieldbus, Profibus, or proprietary fieldbuses from other tank gauging vendors.



TankMaster Operator Interface Software

TankMaster is a powerful Windows-based inventory management software package. It provides configuration, service and setup, inventory and custody transfer functions for Rosemount Tank Gauging systems.

Find out more about Rosemount Tank Gauging and Emerson's Smart Wireless at
www.rosemount-tg.com/products/wireless

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