



# Gain Better Insight from Your Wells

*Technical professionals may be spending as much as 60% of their time managing data before they are able to focus on the more critical, “value-added” work such as analysis and decision-making.*

**“Connecting the dots,”  
E&P Magazine**

## What if...

your operators and technicians didn't have to spend so much time dealing with unreliable or difficult-to-service equipment and could even resolve many issues before they become problems?

you had a steady flow of accurate, reliable, and up-to-date information on what's happening at each well?

You know how challenging it is to run a safe, efficient, and profitable operation across expansive and remote fields and many wells. In a perfect world, you'd have access to accurate, timely information to keep your fields optimally producing at levels that meet your production targets and extend the lifecycle of your reservoirs. You'd be able to spot a trend and identify the potential problems before they become issues.

But with limited personnel, the inefficiency of taking manual readings with gauges that get stuck, damaged, or malfunction, you are often left with outdated or inaccurate information and making costly trips to the field for trial-and-error troubleshooting. This means you are reacting instead of optimizing.

Automated wellhead monitoring can lessen the workload while ensuring wellhead data is collected reliably. It can be installed quickly, correctly and cost-efficiently. You can depend on Emerson automated wellhead monitoring to operate properly, consistently delivering timely, accurate information.

Get your information on-line, faster and easier

### **GETTING TO FIRST PRODUCTION IS TIME-CONSUMING AND EXPENSIVE.**

You are all too familiar with the time, effort and resources required for traditional installation of new automation. First, there's the planning and deploying of equipment and crews to dig trenches, getting heavy equipment on and off the site without damaging the existing installation. Then it takes experienced technicians to connect and troubleshoot the various components.

### **ONCE MY PRODUCTION SITE IS ACTIVE, MY OPERATING, MAINTENANCE AND COMPLIANCE COSTS ARE TOO HIGH.**

Without accurate, timely insight into field operations you have no idea if you're meeting your production plan and maximizing profitability. Worse yet, this lack of visibility can result in serious damage on the surface and below ground. Subsurface changes have the potential to damage formations and wellbores and result in costly workovers.

### **I'M UNABLE TO OPTIMIZE PRODUCTION AND YIELD**

Even though you know there is uncertainty and variability involved in production, you've had to rely on missing, untimely, or uncertain information to predict production rates at each well. It's impossible to optimize production and yield working with that many assumptions.

***“The project had a delivery time of no more than three months to be completed. It took us one day to install and commission the devices. The surprising aspect about this equipment is that it is so easy to configure the operating parameters.”***

**Odin Fernández**  
Production Manager

***“Wireless is great because operators don’t need a work permit if we are out in a remote field and see a problem with a loop. With wired instruments, we would need to go back to the office, write up a work order, and send a new crew. With wireless, anyone with a screwdriver can do it.”***

Operations Specialist  
Major Oil and Gas Company,  
USA

Automate your field faster and gain insight to remote operations with Smart Wireless. Reduce maintenance headaches, spend less time on site and reduce the risk of environmental issues while maximizing production.

### **GET TO FIRST PRODUCTION FASTER BY REDUCING TRENCHING, ELIMINATING REWORK AND REDUCING DELAYS FROM CREW SCHEDULING AND AVAILABILITY.**

Make installation easier on everyone with Emerson Smart Wireless technology. Eliminate site surveys, trenching, and the need for specialized crews with pre-configured, ready-to-install, reliable, wireless instrumentation. You’ll be able to automate multiple wells for what it used to cost for just one.

- Smart Wireless deploys faster allowing you to automate in 1-2 days vs. 7-14 days
- Pre-configured, integrated solutions are installation-ready out of the box
- Use same installation practices just without the wires
- Eliminate wiring troubleshooting problems
- No running for additional parts such as glands or conduits

### **REDUCE MAINTENANCE HEADACHES**

By adding Emerson Smart Wireless measurement points you can bridge your data gaps and enable timely, accurate, remote monitoring you can see and respond to production changes keeping maintenance to a minimum and maximizing productivity.

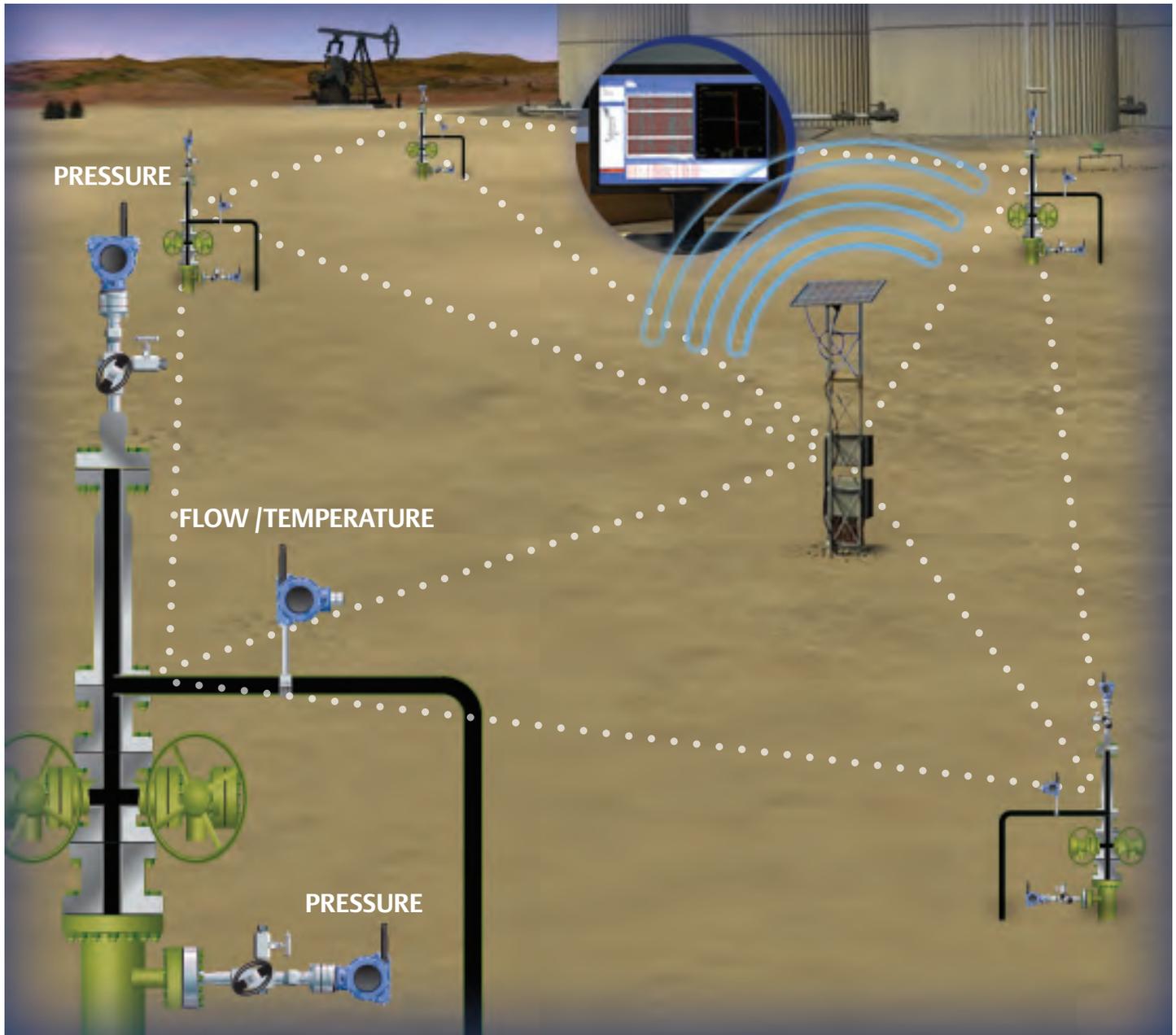
- Eliminate trips to the field to read local gauges and extra driving due to unknown maintenance issues
- Eliminate wire maintenance issues and troubleshooting
- Reduce costs with reliable, proven equipment built for use in Oil & Gas production sites.

### **MAXIMIZE PRODUCTION**

Emerson can give you a timely and accurate full picture of how your production sites are operating for better-informed decision-making and control. Smart Wireless instruments enable you to easily and cost-effectively add more measurement points or move existing ones for optimal performance.

- According to IEA, well production is declining by 6.7% annually - get the information you need to stay ahead of the curve
- Give the head office insight to changing field conditions to improve production
- Eliminate driving to read local gauges to identify when production changes and make corrections faster to get back on plan
- Reduce well shut-ins and workovers by operating at target setpoints

## WELL MONITORING AND INTEGRITY – PRODUCTION WELLS



### FROM THE FIELD TO THE OFFICE, EMERSON CAN HELP WITH A WIDE RANGE OF OIL AND GAS PRODUCTION MONITORING SOLUTIONS.

Emerson Measurement solutions including AP, DP and Temperature combined with field options such as RTU's with *WirelessHART* capabilities, SCADA interfaces and more, provide you more production data.

Emerson Smart Wireless offers you the total solution to access the most information on the safest wireless network to use.

#### Safe and Secure

- Hazardous area approved
- Mesh provides greater than 99% reliability
- Secure system architecture
- IEC62591 internationally approved communications standard
- Proven technology globally deployed

#### Easy to Expand Networks (Total Cost of Ownership)

- Fast, intuitive installation, commission and integration
- Better than 99% reliability
- Up to 10 year life Power Module
- Proven, easy integration with 8 major automation suppliers

# WELL MONITORING AND INTEGRITY – PRODUCTION WELLS

## SCADA SYSTEM



### OpenEnterprise

Powerful, robust SCADA solution scalable from a single well to an integrated field. Easy to operate, implement, and maintain, OpenEnterprise is a flexible SCADA system suited for the complex telemetry requirements and intermittent communications from the field to the control room.

## FIELD INTERFACE



### ROC 800 (RTU)

Take full advantage of the digital accuracy and device data reliability of the IEC 62591 Wireless Interface by digitally retrieving data from the field devices to deliver improved accurate measurements.

- Improves operational performance by delivering higher data quality
- Low power consumption
- Wide operation temperature -40 to 75°C
- Versatile serial and Ethernet communications
- Class I, Div. 2 & Zone 2 hazardous location approval
- Custom programming with Function Sequence Tables or DS800 IEC 61131-3 development suite



## NETWORK INTERFACE



### IEC 62591 WirelessHART Interface

- Cost-effective approach to wireless communication
- An interoperable solution that enables users to make use of their existing HART devices, tools and knowledge
- Easy to implement
- Self-organizing, self-healing network that allows for simple and flexible implementation



OR



### Emerson Smart Wireless Gateway

- Connects *WirelessHART*™ self-organizing networks with host systems and data applications
- Modbus communications over RS-485 or Ethernet provide universal integration and system interoperability
- The optional OPC functionality from the Gateway offers a means to connect to newer systems and applications while providing a richer set of data.
- Provides industry leading security, scalability, and data reliability
- Additional devices can be added at anytime quickly and easily. There is no need to configure communication paths because the Gateway manages the network automatically.

## DEVICES

### Rosemount Wireless Transmitters

When you invest in Rosemount instrumentation, you get much more than the world's most trusted measurement products. You harness the power of insight to run your operation to its full potential.

- Quickly connect to any installation
- Gain stable output in real-world conditions
- Reach remote fields with extended range antennas
- Know and fix problems faster with better diagnostics



### Rosemount Wireless Inline Pressure Transmitter

- Monitor tubing, casing and bradenhead measurements
- Overpressure protection from pressure spikes
- Up to 10 year stability and 12 year limited warranty
- Expansive wetted materials (SST, C-276, Monel, Gold-Plated)



### Rosemount 648 Wireless Temperature Transmitter w/0085 Pipe Clamp Sensor

- Detects flow line temperature to monitor well production
- Handles transients from lightning, corrosion and high vibration with no long-term maintenance required
- Works well in corrosive hydrocarbons environment, because direct process contact is not required
- Non-Intrusive measurements avoid the need to hot-tap as well as remove the risk of leak points and weakening pipes

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