

A large yellow offshore oil rig structure is shown against a blue sky and ocean. The rig has multiple levels with railings and a crane arm extending upwards. The ocean is visible in the background, and the sky is a clear blue.

# From Reservoir to Transmission. Consider It Solved.

Whether you need to reach first oil fast, or optimize a declining reservoir, Emerson helps you wring out the greatest value of your assets.

## OTC 2009

May 4-7

Houston, Texas USA

Booth #5571



**EMERSON**<sup>™</sup>

## What's New for Emerson at OTC 2009

Did somebody say *recession*? If you look at the pace and number of E&P projects, it is hard to imagine the Offshore Exploration & Production market is affected. The same challenges reign:

- Once new fields are found, how do we get them producing quickly?
- How to reduce project schedules and total installed cost?
- The further out I go, the less support I have.
- What are the best methods for maximizing production in declining reservoirs?
- Operations and maintenance costs are skyrocketing... how do I control them and still maintain throughput?
- How do I know I'm picking the right technology?
- How do I know I'm picking the right partner?

No other process control provider touches more of your operation with predictive intelligence than Emerson. And with our recent acquisition of Roxar, no one can provide you world-class operational excellence from reservoir through transmission than Emerson.

To learn how Emerson can help you achieve world-class performance while also lowering your costs, spend time with us at OTC 2009 in booth 5571. No automation provider can show you this much under one roof. Live demonstrations of a wide range of technologies will help you see precisely how your investment in the right automation strategy will make the difference today, tomorrow and years to come.

Here are some of the technologies on hand at OTC 2009:

- Subsea metering and actuators
- Reservoir profiling and management
- Multiphase flow metering
- Final control elements
- Temperature, pressure, level, and flow instrumentation
- Asset protection for process and rotating equipment
- Control systems
- Wireless

Read on to learn more...

### APPLICATION SEMINAR

#### ***Make Your Operations Use the Best Smart Automation and Measurement Technology Available to Reduce Operating Costs and Maximize Daily Production***

In these challenging times focus on all aspects of an oil and gas installation's operations, from drilling the well through to the delivery at the onshore receiving terminal, is crucial. Learn how your choice of automation and instrumentation supplier is paramount in solving operational efficiency issues that cost you both time and money by utilizing the technical knowledge and expertise available. We will discuss the pain points and issues that contribute to operational efficiency and how Emerson develops technical and economic solutions that address your operational efficiency needs.

### CUSTOMER CASE STUDIES

#### ***Getting CAPEX Savings by Applying Distributed Integrated Control and Safety System (ICSS) for a Greenfield FPSO/FLNG, Based on Emerson Process Management DeltaV Process Automation System***

This study outlines the differences and benefits of using a Distributed Integrated Control and Safety System (ICSS) design versus a centralized design and analyzes the CAPEX savings and the implications for the execution of a medium size FPSO/FLNG project. The distributed ICSS can include the utilization of HART and FOUNDATION fieldbus technology and also the use of Smart Wireless technology for monitoring applications. The concept and technologies will be reviewed and how these are used in the DeltaV system. In addition the estimated project savings are calculated and explained based on the objectives set for the Distributed Concept.

#### ***Comparison of CAPEX Savings Using WirelessHART vs. Conventional and FOUNDATION fieldbus on a Greenfield Offshore Manned Platform***

Clients can analyze the study of an offshore manned platform and review the quantified CAPEX savings using proposed combinations of wireless, wired, and fieldbus technology where Emerson can show savings of up to 40% by looking at a direct comparison of using either hard wired vs. hard-wired/ fieldbus vs. wireless technology. See how the results were calculated that equates to \$1.0M to \$1.4M of savings on the platform PCS installation, additional savings can also be realized of between 2 and 35 tons in weight and up to 129 m<sup>2</sup> of deck space in cabling, cable tray, junction boxes and cabinets.

### TECHNOLOGY DEMONSTRATIONS

See for yourself how Emerson's leading-edge technology can and will address your pain points and issues with these in-booth demonstrations.

#### **Systems and Solutions**

##### **Process Systems and Solutions**

- DeltaV™ is the heart of the smart platform, providing safe, high reliability control as part of the PlantWeb digital oilfield architecture. All subsystems are integrated into a single window, and its ease of use allows you to hit first oil faster. Predictive diagnostics in DeltaV provides your operators the tools to avoid unplanned shutdowns.
- DeltaV SIS utilizes smart field device intelligence to provide pinpointed diagnostics and extend testing intervals for higher on-stream time.
- DeltaV OTS is based on native DeltaV so it's easy to maintain and is the affordable solution for operator training and skill development.

##### **Asset Optimization**

##### **AMS Suite, CSI Technology, and PlantWeb Services**

- AMS Suite: Machinery Health Manager integrates data from various predictive maintenance technologies to create a complete view of the health of your rotating equipment.
- AMS Suite: Intelligent Device Manager offers a universal window into intelligent field devices that includes diagnostics, documentation, calibration management, and device configuration.
- CSI 6500 Machinery Health Monitor delivers both protection and prediction in a single chassis to your critical rotating assets.
- CSI 9420 Wireless Vibration Transmitter is the cost-effective solution for collecting vibration data in hard-to-reach locations.
- CSI 2130 Machinery Health Analyzer makes fast, accurate work of collecting and analyzing vibration data on the platform.

##### **Final Control**

##### **Fisher**

- Fisher® Anti-Surge Valve provides instant response to protect compressors and pumps against damaging surge conditions.
- Fisher FIELDVUE® digital valve controller built to survive rugged field conditions.
- Fisher C1 pneumatic controller reduces air/gas consumption up to 90%.

##### **Topworx**

- TopWorx Valvetop® DXS, ideal for offshore oil platforms, is a 316L stainless steel valve controller combining bus networking, pilot valve and position sensors into a single, globally certified explosion proof enclosure that can attach to any automated valve package.
- Topworx GO® Sub-Sea Proximity Switch offers superior waterproof performance for submersed applications up to 20,000 feet.

##### **Valve Automation**

- Dantorque helical subsea hydraulic actuator, for reliable ultra deep applications where real estate is a premium.
- Shafer rotary vane subsea hydraulic actuator for subsea applications where space is tight and service is severe.

- Bettis scotch yoke Subsea hydraulic actuator's high efficiency design provides a technological edge for any subsea gathering system and well operation valve actuation needs.

##### **Measurement**

##### **Daniel**

- Smart DanPac controller system minimizes uncertainty and improves reliability of process metering and measurement skids.
- Daniel Model 2000 Orifice Fitting delivers improved safety, maintenance, and up-time.
- Daniel ultrasonic technology lowers capital costs, delivering high accuracy, flow dynamics intelligence, and measurement reliability.

##### **Micro Motion**

- Micro Motion flow meters and Net Oil Computer in compact cyclonic separators deliver accurate, reliable and representative production data for optimal well production and availability.
- Micro Motion ELITE HC2/HC3 high capacity meters provide precise and sustainable flow/density measurements to help reduce non-productive time and well control events during drilling.
- Micro Motion in-line meter integrity verification reduces maintenance costs, improves safety, and provides added assurance of sustained measurement performance.
- Micro Motion CMFS Modular Flow Meter improves chemical injection program safety and reduces operations cost with accurate and low maintenance.

##### **Rosemount**

- The Rosemount® 3051S MultiVariable™ mass flow transmitter with compact conditioning orifice plate increases production availability and reduces the time to first oil.
- The Rosemount 648 wireless temperature transmitter with non-intrusive pip clamp sensor prevents paraffin/hydrate buildup and ensures platform safety.
- The Rosemount 5300 Guided Wave Radar decreases operations and maintenance cost while protecting the environment from overfills.

##### **Roxar**

- The Roxar state-of-the-art subsea Wetgas meter measures real-time flow rates of water, gas and condensate, providing operators with vital information for optimized reservoir and process management.
- Roxar subsea Singlephase sensor was developed in response to operator requests for an effective and low-cost alternative to venturi meters and is a compact instrument that measures the mass flow rates of fluids and gas on a continuous basis.
- Roxar subsea SenCorr PT sensors, utilizing well proven piezo-resistive technology, offer extreme accuracy and stability in dynamic temperatures and ultra-high pressures for long-life operations in harsh subsea production environments.

## INTEGRATED SOLUTIONS

Come join our industry experts as they bring together our technology and services to create best-in-class solutions.

### Marine & Offshore Solutions

Come see a demonstration of Emerson's marine and offshore solutions, including a console temporarily dry-docked at Emerson's OTC booth. Industry experts will be on hand to discuss your areas of interest. Check out the source for the industry's latest technology buzz.

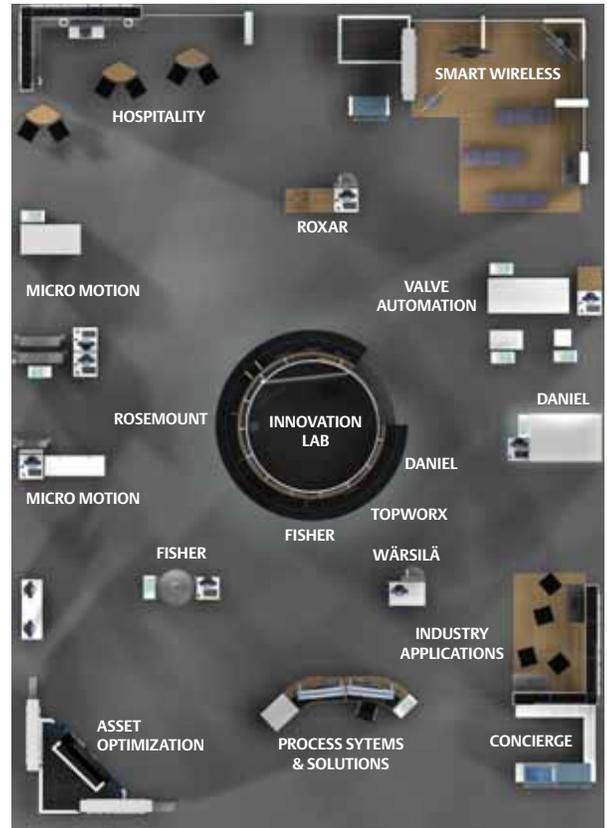
Get updated on the powerful global offshore alliance of Wärtsilä and Emerson Process Management. The expanded relationship combines the process automation knowledge and state-of-the-art measurements and digital automation technology of Emerson, with the high efficiency power-generation, power-distribution and vessel-automation systems and products of Wärtsilä. Combined, we offer a single point for serving the Floating, Production, Storage and Offloading (FPSO) segment and more recently the floating LNG segment. In particular, we offer all system engineering, purchases, installations, commissioning and servicing for this market.

### Roxar

Roxar Software Solutions provide integrated reservoir management solutions through the delivery of innovative technologies and professional services which enable our clients to realize the full potential of their reservoir and people assets. Roxar software and consulting solutions are specially designed to contribute to helping operators get more oil and gas production earlier with reduced lifting costs. The unique combination of software and professional services cover the majority of the upstream oil & gas life cycle. Emerson has the solution you need to make confident interpretations and build reliable reservoir models that honor their input data, truly reflect the reservoir properties, and support essential "minimum risk" decision making whether you are in field development planning, reservoir development or production optimization mode.

### Oil & Gas Upstream Automation Services

Emerson's Hydrocarbon and Energy Industry Center has the expertise to design, engineer, and deliver your automation project on time, on budget, and without safety incidents. Our solutions and lifecycle support provide the ability to manage, operate, and maintain your assets at the lowest cost with the best ROI.



### Smart Wireless

Emerson's Smart Wireless solutions enable oil and gas production operations to reach the next level of reliability and operational performance. Extending Emerson's PlantWeb® digital plant architecture, the field-proven Smart Wireless solutions deliver actionable information from offshore assets previously out of physical or economic reach, expanding predictive process and asset management.

**Register for a free OTC 2009 pass and create a custom itinerary at:**

[www.EmersonProcess.com/OTC2009](http://www.EmersonProcess.com/OTC2009)