Operational Excellence for Unconventional

Jose A. Jimenez Director O&G Industry Programs February 2018



2017 Emerson At-A-Glance

FOUNDED

1890

HEADQUARTERS IN

ST. LOUIS, MO

RECOGNITION

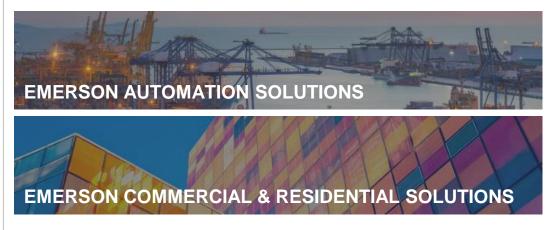
#139

FORTUNE 500AMERICA'S LARGEST
CORPORATIONS BY REVENUE

Top 50 EmployersWOMEN ENGINEERS MAGAZINE

America's Best EmployersFORBES MAGAZINE

TWO BUSINESS PLATFORMS



WORLDWIDE

76,500 EMPLOYEES

200

MANUFACTURING
LOCATIONS

\$15.3 **BILLION**

IN GLOBAL SALES FISCAL YEAR 2017



CONSECUTIVE YEARS OF INCREASED DIVIDENDS

INNOVATION

EMERSON EMPLOYEES WERE AWARDED MORE THAN

2,100 PATENTS WORLDWIDE IN 2017

NYSE:







Operational Certainty

Our technology- and engineering-based program is designed to help industrial companies achieve Top Quartile performance and recover more than \$1 trillion* in operational losses globally.

Project Certainty

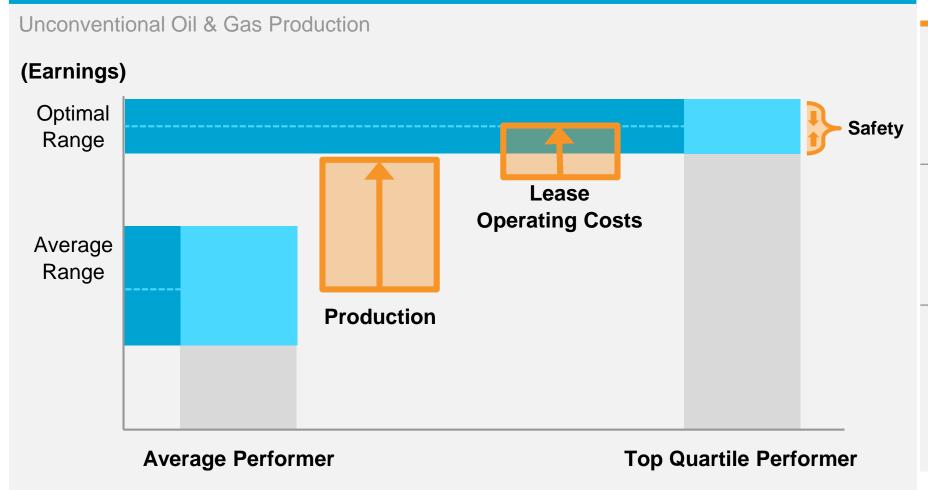
We combine innovative technology and engineering to improve **capital efficiency** and boost **project schedule** reliability—helping to address the billions of dollars lost due to project excesses each year.

Plantweb Digital Ecosystem

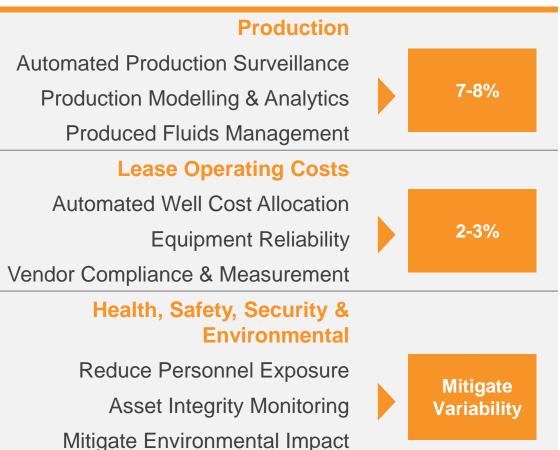
Our Plantweb digital ecosystem provides a robust portfolio of hardware, software, intelligent devices and services for securely implementing the Industrial Internet of Things, with measurable business performance improvement.

Operational Certainty Drives Top Quartile Performance & Enables Industry-Leading Business Results

6% EBITDAX Improvement Opportunity by Partnering on a Comprehensive Improvement Program



EBITDA Opportunity Breakdown



Source: Benchmarking Data & Internal Estimates; Note: EBITDAX has been used as a proxy for Business Performance (Earnings)

Top Quartile Performers Operate High-Performing Facilities while also Minimizing Costs and Eliminating the Risk of Catastrophic Events

Best-In-Class Operational Practices for Unconventional Producers

Link Strategy to Business Objectives



COLLABORATION

high quality collaborative efforts between people and work groups



WELL REVIEW PROCESS

are more efficient through near real-time analysis of financial & operating data

Operational leadership is committed to



MANAGE BY EXCEPTION

Demand a Culture of Accountability



Produced fluids are tracked to custody transfer producing real-time transaction data for

ROYALTY & VENDOR

information integrity



Performance is based on **PEER LEADERSHIP** not adherence to plan



Continuous improvement mindset with **ARTIFICIAL LIFT** SYSTEMS

Embed Expertise in Work Processes & Applications



STAFF PROFICIENCY

is accelerated through intuitive procedures enabled by technology



AUTOMATES OR ELIMINATES

personnel tasks in hazardous areas



REAL-TIME PRODUCTION MODELS

are used to optimize performance instead of comparable type-curves

Optimize with Real-Time Data



Work processes are **INTEGRATED** and data-driven



Work identification is driven by

WELL & EQUIPMENT PERFORMANCE



SAFETY INSTRUMENTATION

including relieving devices are monitored in near real time to ensure proper functionality

How Emerson's Operational Certainty Helps

Cross-Functional Consulting Expertise

Consistent Methodologies

Defined Performance Benchmarking

Training & competency

development

Digital **Ecosystem**

Local resources supported

by global expertise



EXPERT PARTNERING

Benchmarking	Strategy, opportunity & solution definition
Performance & information	Improvement program
management consulting	management
Domain Expertise	management
Domain Expertise	
c c	Industry knowledge & application experience
Domain Expertise Performance improvement	Industry knowledge &

Emerson's Digital Ecosystem for Unconventional Oil & Gas

FOUNDATIONAL SOLUTIONS

Services

Project, Lifecycle, and Educational Services

IIOT SOLUTIONS







Plantweb

Optics



Surveillance.

Analytics & Workflows

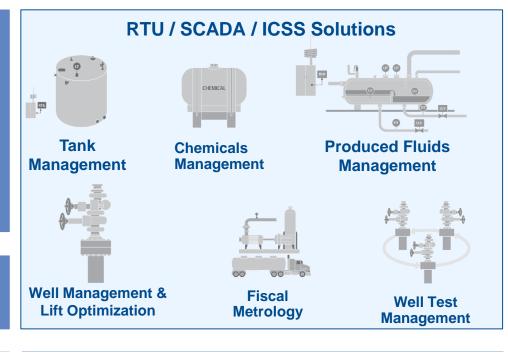
Expertise



Analytics

Connectivity

Data



Operational Performance Software



Plantweb Insight: Corrosion

Secure

First Mile



Mobile

Plantweb Advisor: Compressors



Lift Optimization

Production Optimization

Paradigm k





Services:

Multiphase Flow Meter

Intelligent Field Devices



Multi-Phase Flow Measurement Measurement



Electric Actuation **Pervasive** Sensing



Pressure Relief Valve Radar Level

Toxic Gas

Edge Computing

Secure Data Pathways

Non-Intrusive Temperature



Non-Intrusive Corrosion



EMERSON



Emerson's Digital Oilfield Solutions



Field Management



Processing Facilities



Produced Fluids



Wellpads



Wells

Commercial Management

Operations

Management

Wellpad
Automation &
Control Systems

Intelligent
Devices &
Instrumentation

Operations / Asset Optimization

Field Surveillance

Facilities Optimization

Field Monitoring

Tanks and Transfers

Wellpad Management

Wellhead Optimization

Custody Transfer

Measurement and Final Control

Partner Solutions

Plantweb Insight & Advisor Applications

AMS

DeltaV

OpenEnterprise

SmartProcess O&G Applications
Tank Manager, Well Optimizer
Surface Control Manager, Injection Manager

RTUs: FBXXX, ROC800 and ControlWave Micro

Flow Computers / Skids / Systems

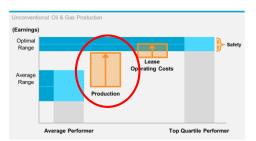
Level/Pressure/Temperature/Control Valves/Actuators/Regulators/Corrosion/Erosion

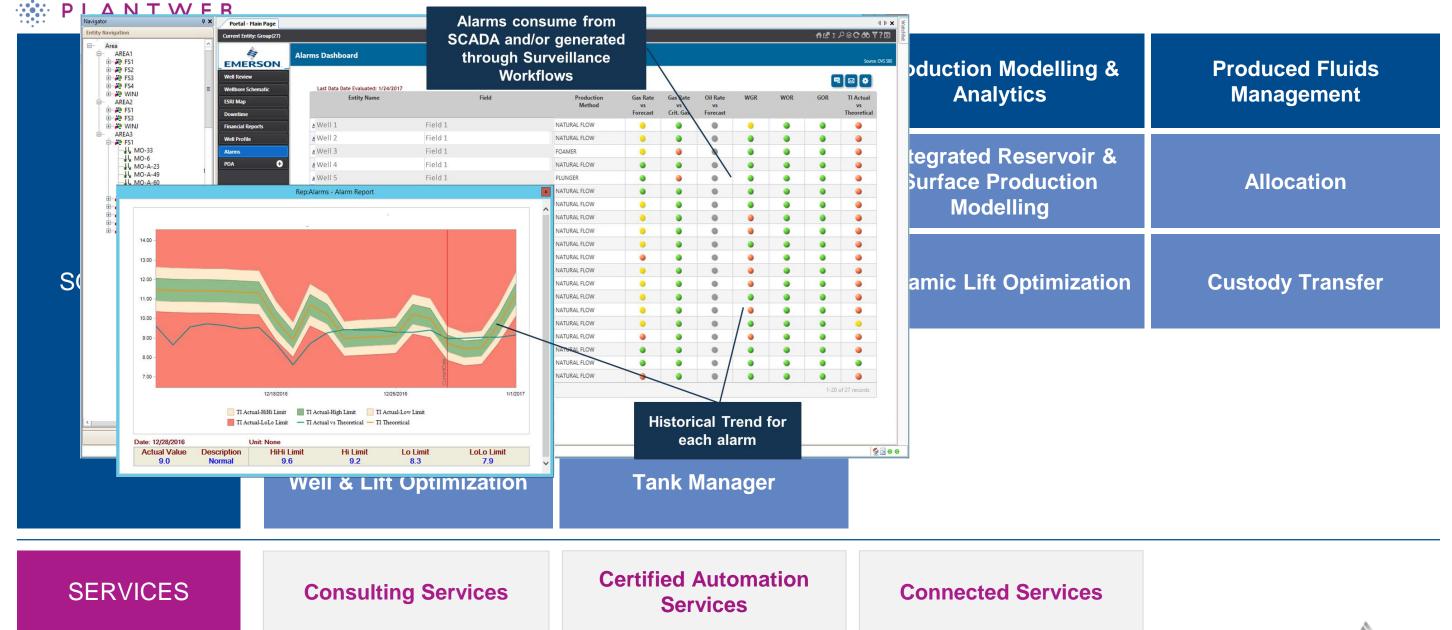


PLANTWEB

	Automated Production Surveillance		Production Modelling & Analytics	Produced Fluids Management
	RTU & SCADA	Integrated Well Test	Integrated Reservoir & Surface Production Modelling	Allocation
SOLUTIONS	Pervasive Sensing	Automated Choke Control	Dynamic Lift Optimization	Custody Transfer
	Automated Workflows	Surface Controls Manager		
	Well & Lift Optimization	Tank Manager		
SERVICES	Consulting Services	Certified Automation Services	Connected Services	Α.

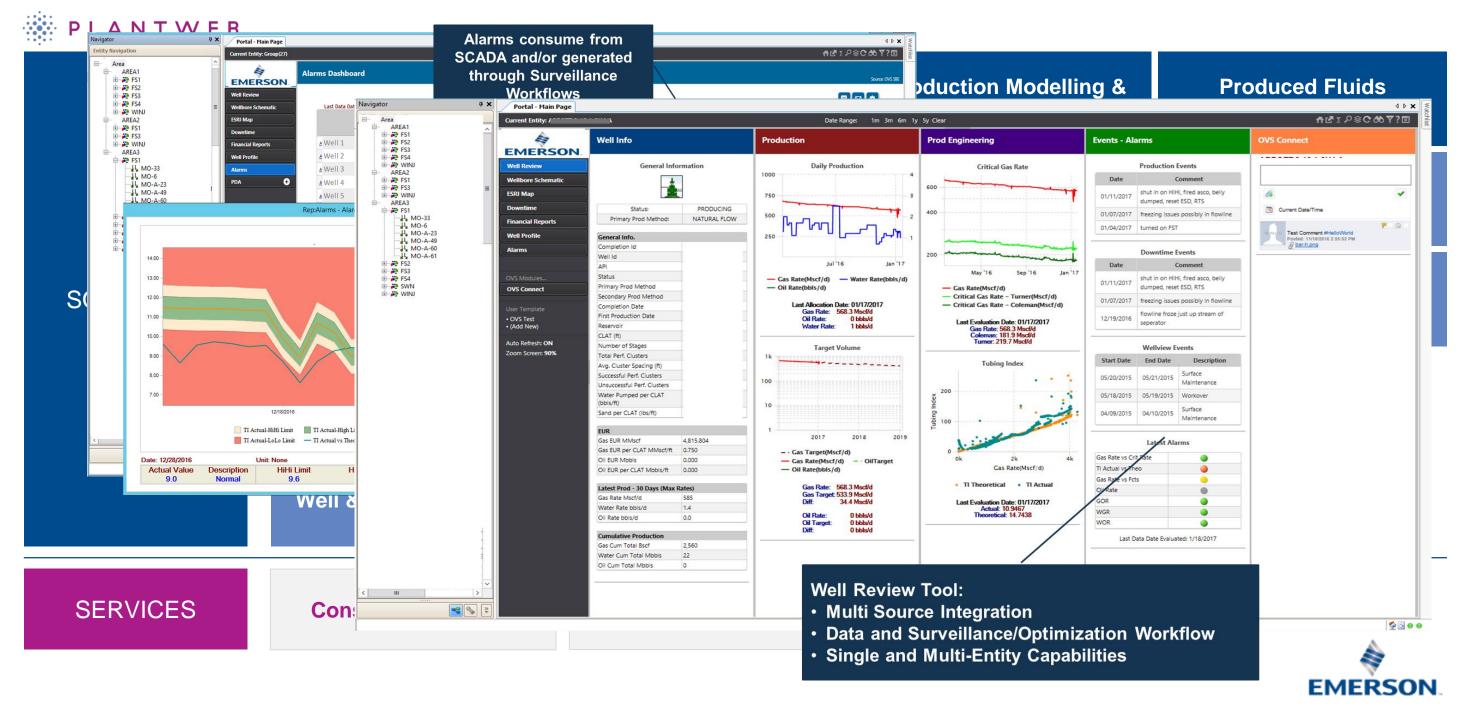




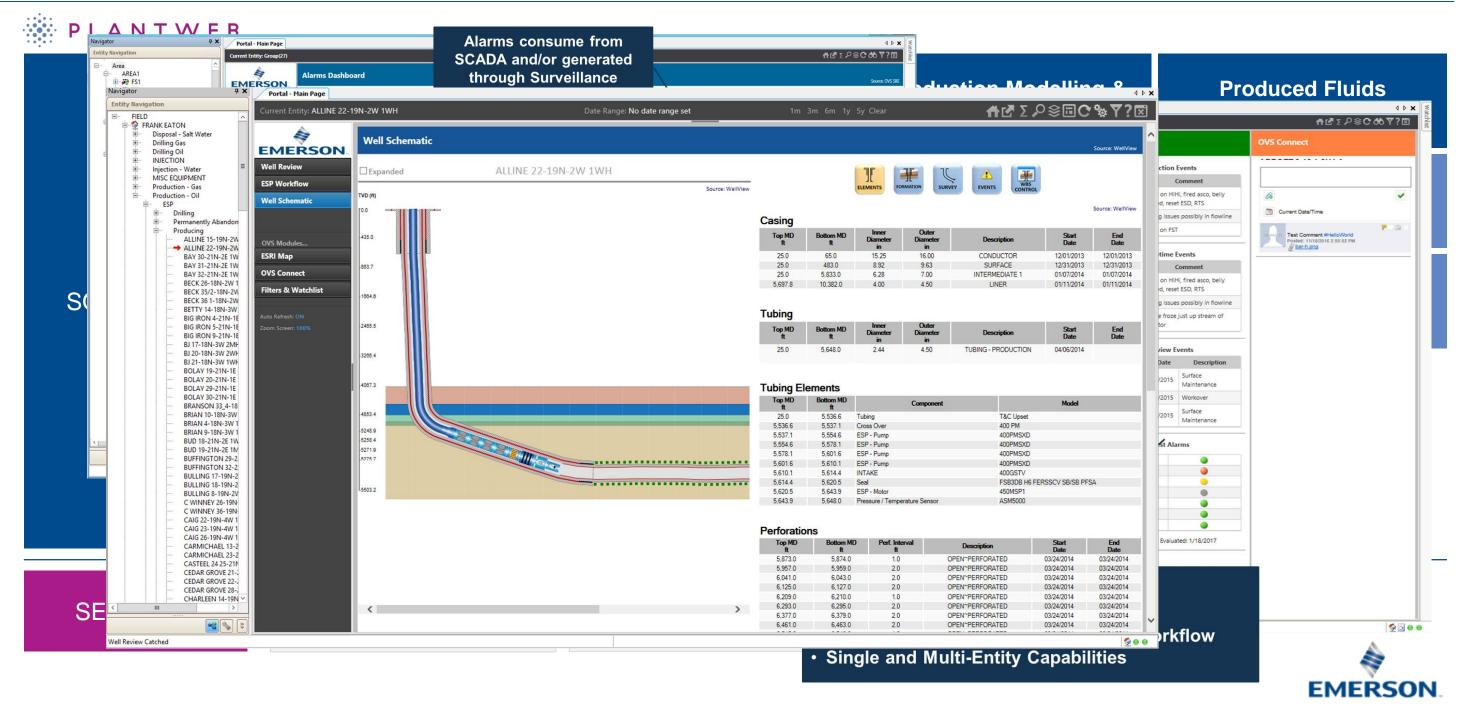


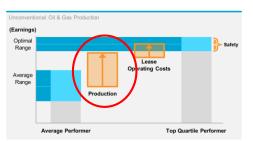


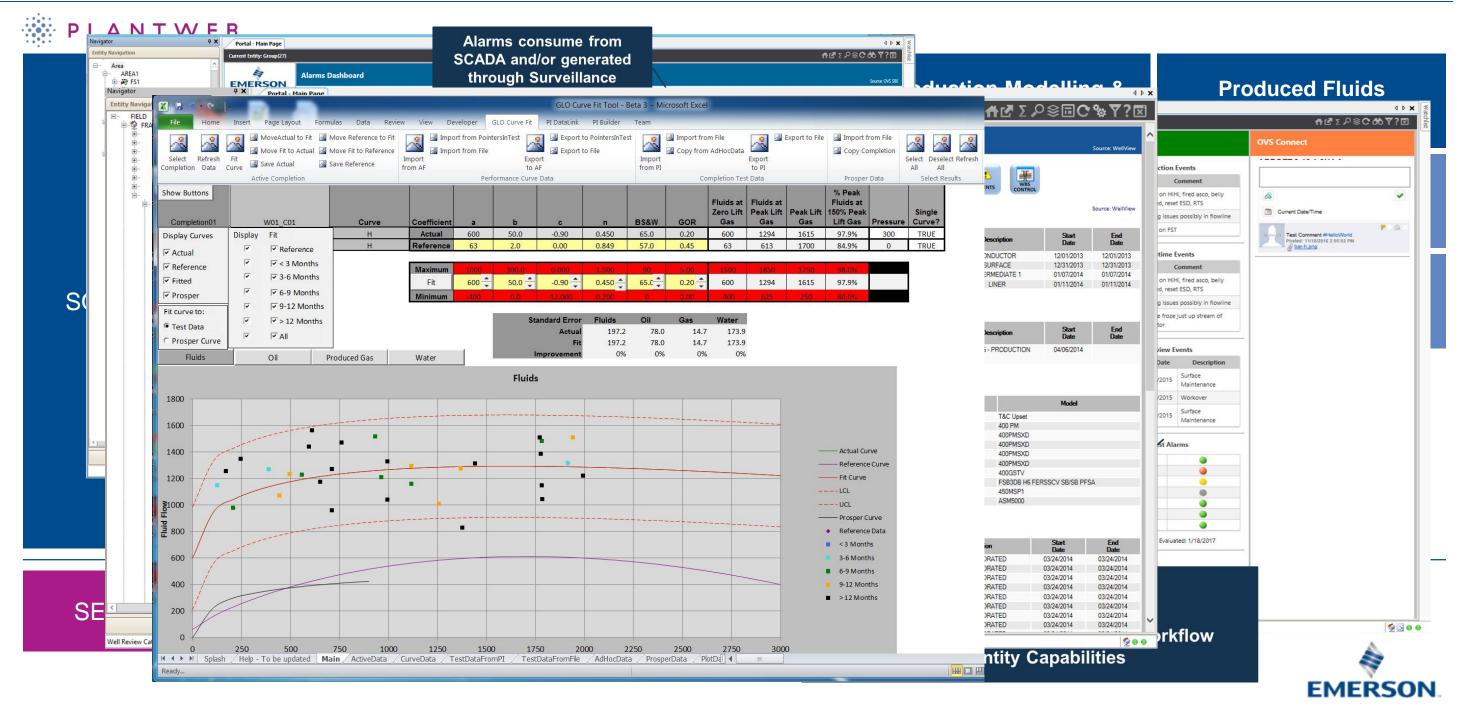












Partnering to Deliver Lease Operating Cost Outcomes





	Automated Well Cost Allocation	Equipment Reliability		Vendor Compliance & Measurement
	RTU & SCADA	Intelligent Device Management	Reliable Control & Instrumentation Equipment	Adaptive Chemical Management
SOLUTIONS	Automated Marginal Well Workflow	Online Vibration Analysis	Equipment Health Analytics	Automated SWD Haul Compliance
	Integrated Well Test	Pervasive Sensing		
	Well & Lift Optimization			
SERVICES	Reliability Consulting	Consulting Services	Certified Automation Services	Connected Services

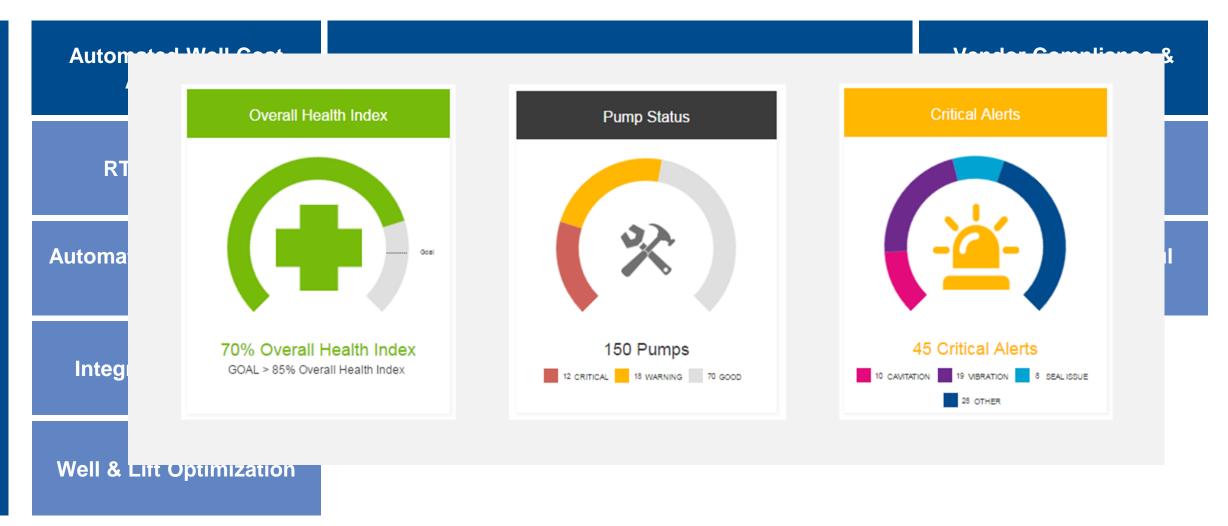


Partnering to Deliver Lease Operating Cost Outcomes



PLANTWEB

SOLUTIONS



SERVICES

Reliability Consulting

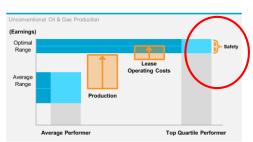
Consulting Services

Certified Automation Services

Connected Services



Partnering to Deliver Safety & Environmental Outcomes





SOLUTIONS

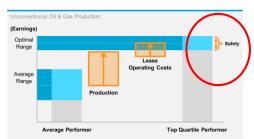
Reduce Personnel Exposure		Mitigate Environmental Impact	Asset Integrity Monitoring
Remote Toxic Gas & Vapor Detection	Mobility Tools & Applications	PRV, PVRV Monitoring	Corrosion & Erosion
Automated Tank Level	Pervasive Sensing	Electric Level Controls	Valve Partial Stroke Testing
			Intelligent Device Management
			Reliable Control & Instrumentation Equipment

SERVICES

Certified Automation Services

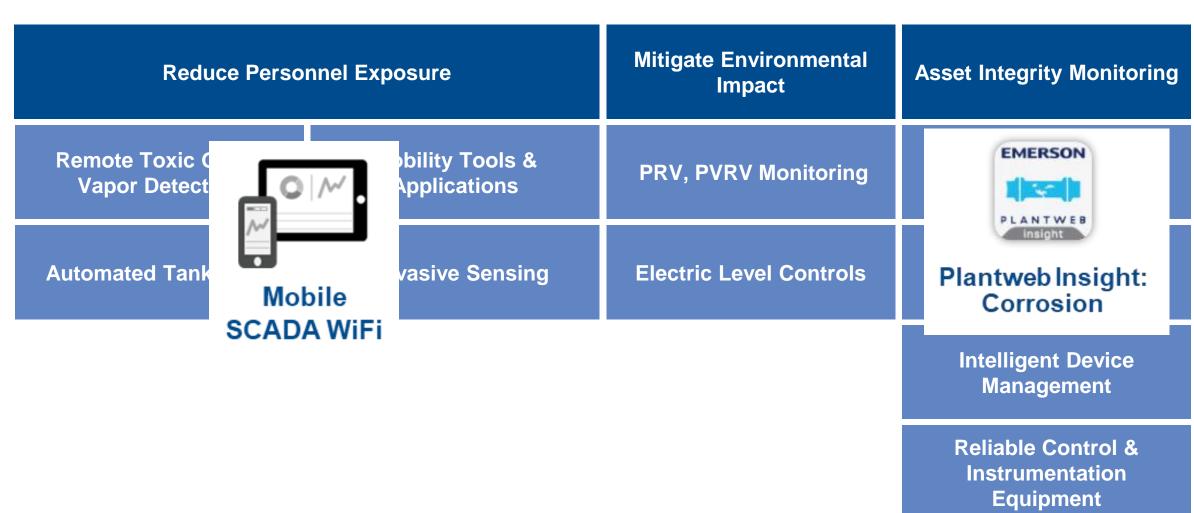


Partnering to Deliver Safety & Environmental Outcomes





SOLUTIONS



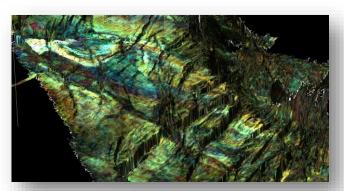
SERVICES

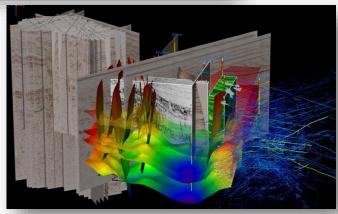
Certified Automation Services

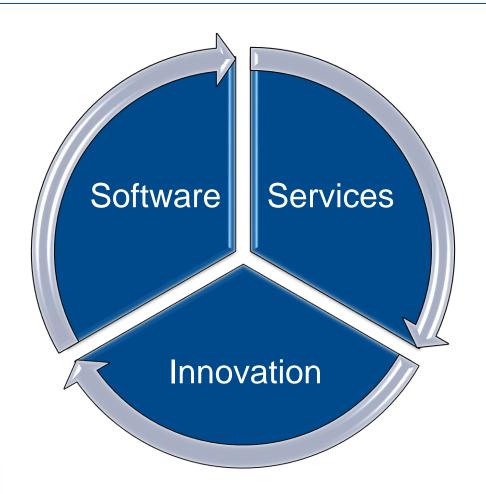


Additional Emerson Capabilities

Extensive E&P Software to help customers find, model, and forecast reserves and production







Custom Development to help customers access and maintain next-generation technology High End Consulting
Services to help customers
achieve top-quartile
performance



Emerson Confidential

The Path to Top Quartile Performance

Addressing Your Challenges?

How Emerson can help.

- Explore how our expertise and capabilities align to your desired outcomes
- Identify and prioritize programs with high business impact to help you achieve top quartile performance
- Develop a transformation roadmap to support and accelerate your strategic plan

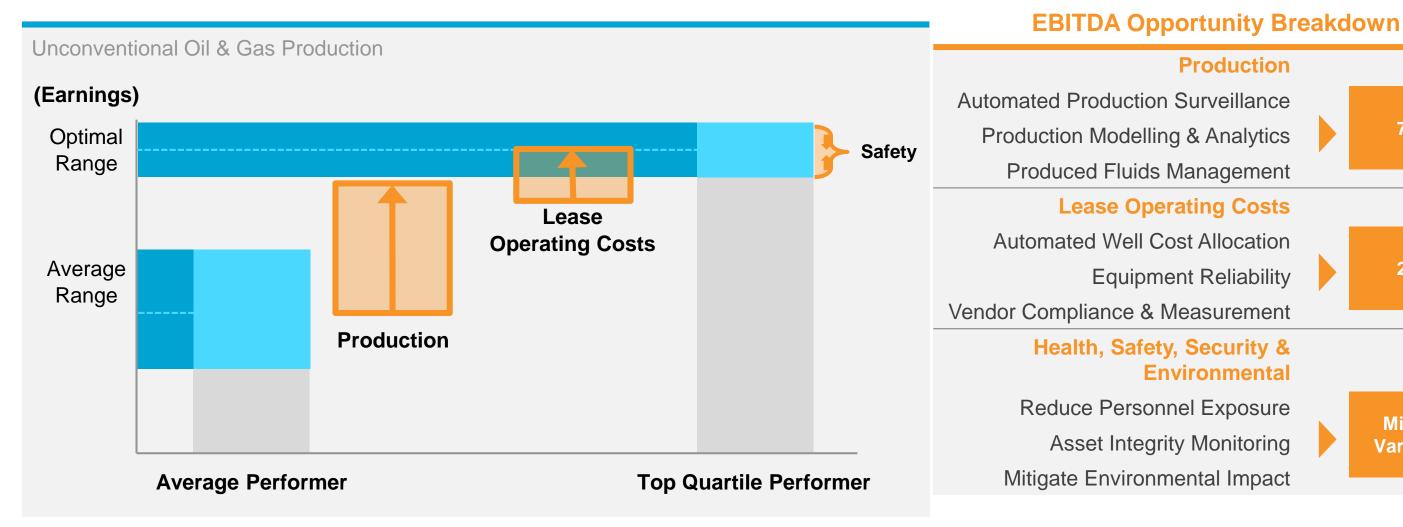
Payback can be fast

Clients have seen investment payback of weeks to months

Emerson has the breadth and experience to help you leverage automation technologies and services to achieve Top Quartile operational performance



The Opportunity is 6% EBITDAX Improvement



Source: Benchmarking Data & Internal Estimates; Note: EBITDAX has been used as a proxy for Business Performance (Earnings)

Partnering with Emerson on a Comprehensive Improvement Program to Deliver Shareholder Value

7-8%

2-3%

Mitigate

Variability



