



Improve performance.
Reduce operating cost.

Engineered Solutions

Increase measurement confidence and ensure project certainty across the oil and gas value chain.



Engineered for Efficiency

Emerson has grown from a regional manufacturer into a global technology solutions powerhouse, delivering over 5,000 systems in the past 40 years. And with three centers of excellence for centralized project execution, 11 Global Service Centers, and over 500 technicians available globally, we're ready to leverage our expertise to build the customized solutions that fit your specific application.

We know that when it comes to your big projects, staying on budget and keeping on schedule are your top priorities. That's why thorough planning, accurate estimating, and efficient sourcing are vital to a project's success. We're here to help.

Our experienced solutions team provides you with the knowledge, insights, and organizational expertise you need to meet your goals and drive success. We have the industry-defining metrology systems and innovative solutions that **minimize your footprint, reduce measurement uncertainty, and establish a predictive maintenance model.**

Lessen risk. Overcome challenges. With Emerson, you get the right technology and solutions to increase your project and operational certainty.

Industry Trends

90% of all capital projects fail to meet objectives



More than 60% of projects fail to meet operational-certainty expectations¹



Nearly 9 out of 10 projects go over budget²



Schedule and budget overruns are more likely to occur on large projects³



1. Driving Business Performance: Project Management Survey, KPMG, 2017
2. 10 Reasons Why Projects Go Above Budget, Genae Valecia Hinesman, 2017
3. Think Big, Act Small, The Standish Group, 2013





Our engineering expertise, proven project execution methodology, and innovative solutions increase your performance and efficiency.



Industry-leading technology. Industry-defining expertise.

Project certainty depends on having the right technology and project execution support. But determining which technology best fits your project's specific needs—and then properly implementing it—can be difficult. To maximize your investment, you have to keep operations up and running reliably. You also have to improve overall process efficiency and increase output — all while dealing with the challenge of staff downsizing, changing workforce demographics, budgetary constraints, and retiring technical expertise.

We have the world's largest and most experienced team of technical experts. By applying our industry and application expertise, we construct customized engineered solutions that solve your application and business needs. We know what factors negatively impact the quality of your measurements, and we know how to solve for them, lessening your risks. With regional service centers and personnel around the world, we utilize our library of previous systems and pre-configured controls to save you time and money over building a system yourself. Our solutions meet several national and international standards, including API, AGA, ISO, OIIML, and MID.

Maximize the effectiveness of your assets while lessening risk, increasing reliability, and improving certainty in your applications. Across the globe and across the Oil & Gas value chain, our expertise amplifies the effectiveness of your assets so you meet your operational goals.

Your Challenge

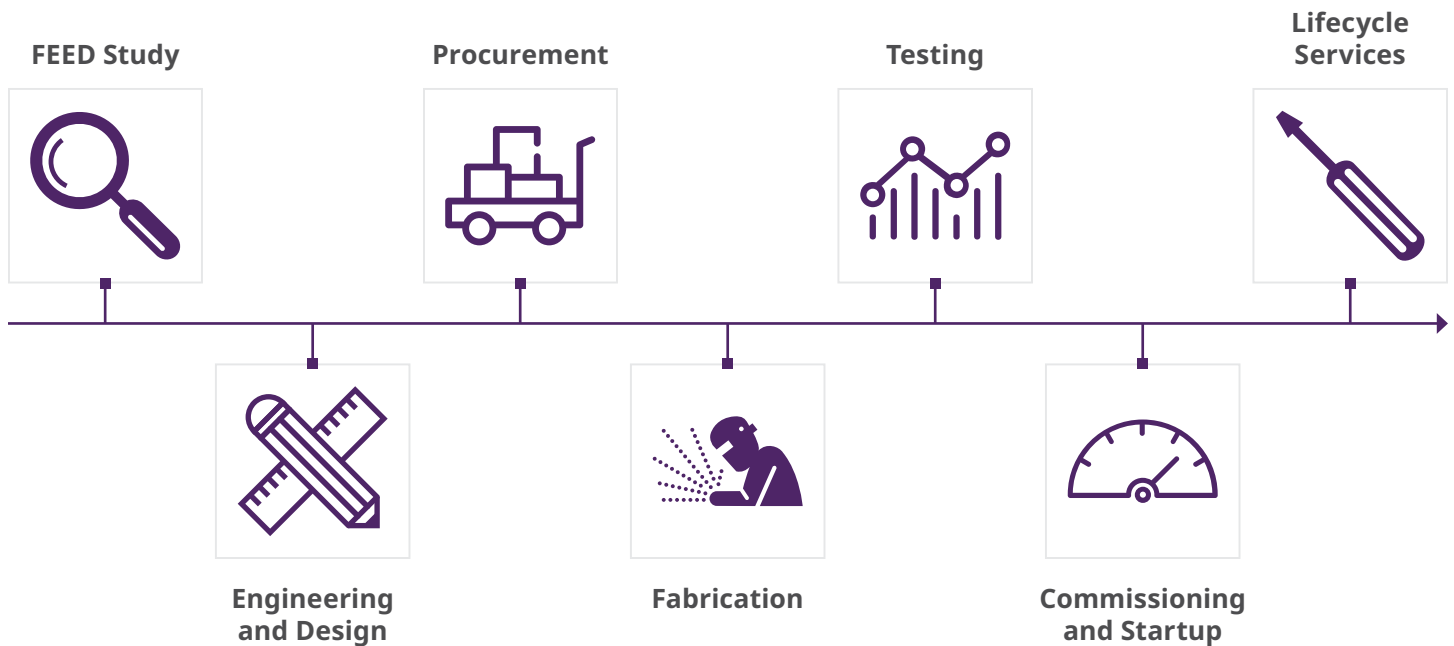
Your project has specific needs. Determining which technology best fits your specifications—and then properly implementing the technology and processes—can be difficult. How do you ensure success?

Our Solution

Partnering with you, our global team of experts assess your project and then create a customized solution that provides you with the most impactful outcome. From structural steel to piping, valving, instruments, meters, controls and more, we provide everything on the system.

End-to-end solutions to meet your specific needs

Through our proprietary process, we examine every aspect of your specific project to create an end-to-end solution that increases efficiencies while decreasing costs.



Our expertise put into action

Across the globe and across the Oil & Gas value chain, our expertise amplifies the effectiveness of your assets so you meet your operational goals.

Oil & Gas value chain



Offshore Drilling



Onshore Drilling



LNG Liquefaction and Regasification



Natural Gas Processing



FPSOs



Terminals



Pipelines



Refining



Ready to optimize production at your site? Visit Us at [Emerson.com/MeasurementEngineeredSolutions](https://www.emerson.com/MeasurementEngineeredSolutions)

Reduce risks. Increase certainty.

Working with you, our Engineered Solutions team helps you identify and resolve any potential or hidden risks. Applying our **Project** and **Operational Certainty** methodologies we empower you with the processes and efficiencies you need to reach your top business objectives, while saving money.



Project Certainty

The industry has reached a tipping point. Projects can't be sustained with current budget and schedule overruns. Decoupling dependencies, eliminating bottlenecks, and allowing concurrent work streams create new-found efficiency and cost savings. We help you create high impact strategies to meet your goals.

Built on our innovative technology and engineering-based approach, Project Certainty improves capital efficiency and ends one of your greatest project vulnerabilities; project schedule performance. By engaging Emerson early during engineering and design studies, we help you define your project goals and identify the high impact strategies needed to trim costs, reduce complexity, and shorten delivery.

Operational Certainty

Ensure safety, improve reliability, optimize production, and minimize emissions. From an operational perspective, you want to leverage all four factors. Our Operational Certainty process works in parallel with our Project Certainty process. It combines our expertise and consulting services with our comprehensive automation technologies portfolio and new IIoT solutions to enable you to achieve Top Quartile performance in these areas.

Your Challenge

Each project is unique. So are the potential and hidden inefficiencies. How do you identify—and address— each and every cost and schedule threat so your project can achieve Top Quartile performance?

Our Solution

Working closely with you, we help you carefully define your project goals. Then, through our differentiated technologies and processes, we engineer and customize solutions that enable you to trim costs, reduce complexity, and maintain measurement integrity.

Our Project Management Process and Values

When designing your solutions, our projects are engineering-led and guided by global best practices to ensure consistent, scalable, and high-quality delivery across varying levels of complexity, guided by these seven values.

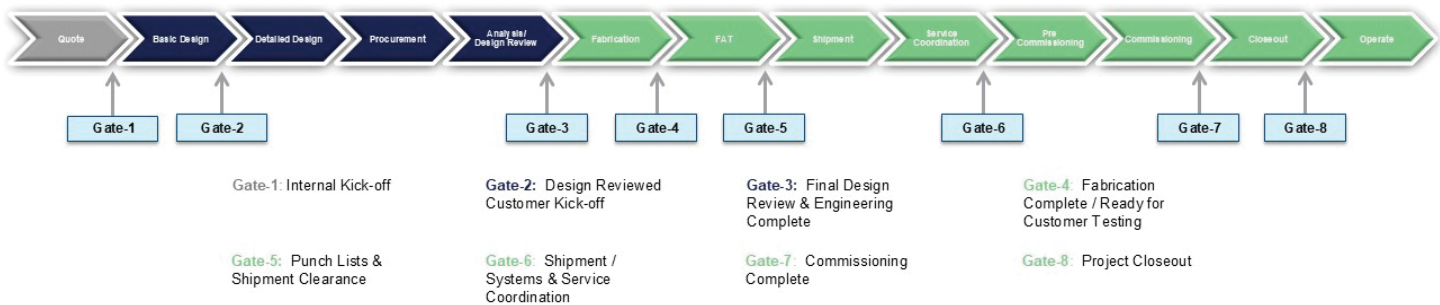
Main Values of Engineering Process



Execution processes are compromised of workflows, detailed activity descriptions, and downloadable items such as templates and guidelines

Our Project Execution Gate Stages

Our global, cross-functional teams collaborate with you through each stage of our structured project execution process—from front-end engineering design to final commissioning—to ensure your system is tailored to meet your operational goals, delivers measurable performance improvements, minimizes technical and compliance risks, and maximizes long-term uptime and reliability.



Ready to optimize production at your site? Visit Us at [Emerson.com/MeasurementEngineeredSolutions](https://www.emerson.com/MeasurementEngineeredSolutions)



End-to-End Solutions

Set and achieve your performance goals. Through our technology, solutions, and services, you're empowered to deliver measurable, predictable results.

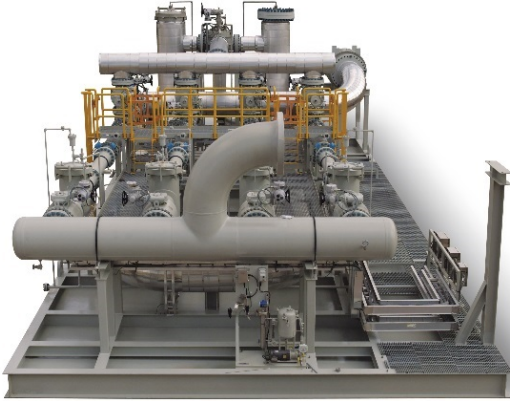
Our complete solutions and breadth of services provide you with confidence in your measurement and performance across the entire value chain. Designed by our technical experts, our proven solutions incorporate Emerson's best-in-class technology to optimize your performance.

Our integrated metering system enables you to accurately account for the quantity and quality of gas or liquid sold during custody transfer. Designed specifically for metrology systems, our gated process takes into consideration specific site challenges and signoff authorization to ensure proper order of project events. Rework and change orders are limited, so you stay on schedule.

For even greater insight and operational control, Emerson's process gas analytical solutions deliver high-precision data on gas composition and contaminants, empowering you to meet stringent quality, safety, and environmental standards. Whether you need to monitor trace-level impurities, optimize combustion, or ensure compliance with emissions regulations, our advanced analyzers and integrated systems provide real-time visibility and actionable data.

Our solutions give you the ability to analyze and confirm composition or product quality, precisely measure the transfer volume or mass flow rate of a product, and rigorously monitor fluid properties to convert quantities to reference conditions. The flow computer produces a traceable record of quantities sold, operational events, and alarms. The result is **improved performance, reduced risk, and a streamlined invoicing process**. And with the standardized control system, you're able to access critical data whenever you need it.

Complete solutions to solve your challenges



Custody Transfer Solutions

- Liquid Metering Solutions
- Gas Metering Solutions
- Supervisory Systems
- Loading and Offloading
- Master Meter Solutions



Quality and Sampling Solutions

- Process Liquid Analytical Solutions
- Process Gas Analytical Solutions



Sustainability and Decarbonization Solutions

- Emissions Monitoring
- Carbon Capture Measurement
- Hydrogen Measurement
- Bio-Fuels Measurement

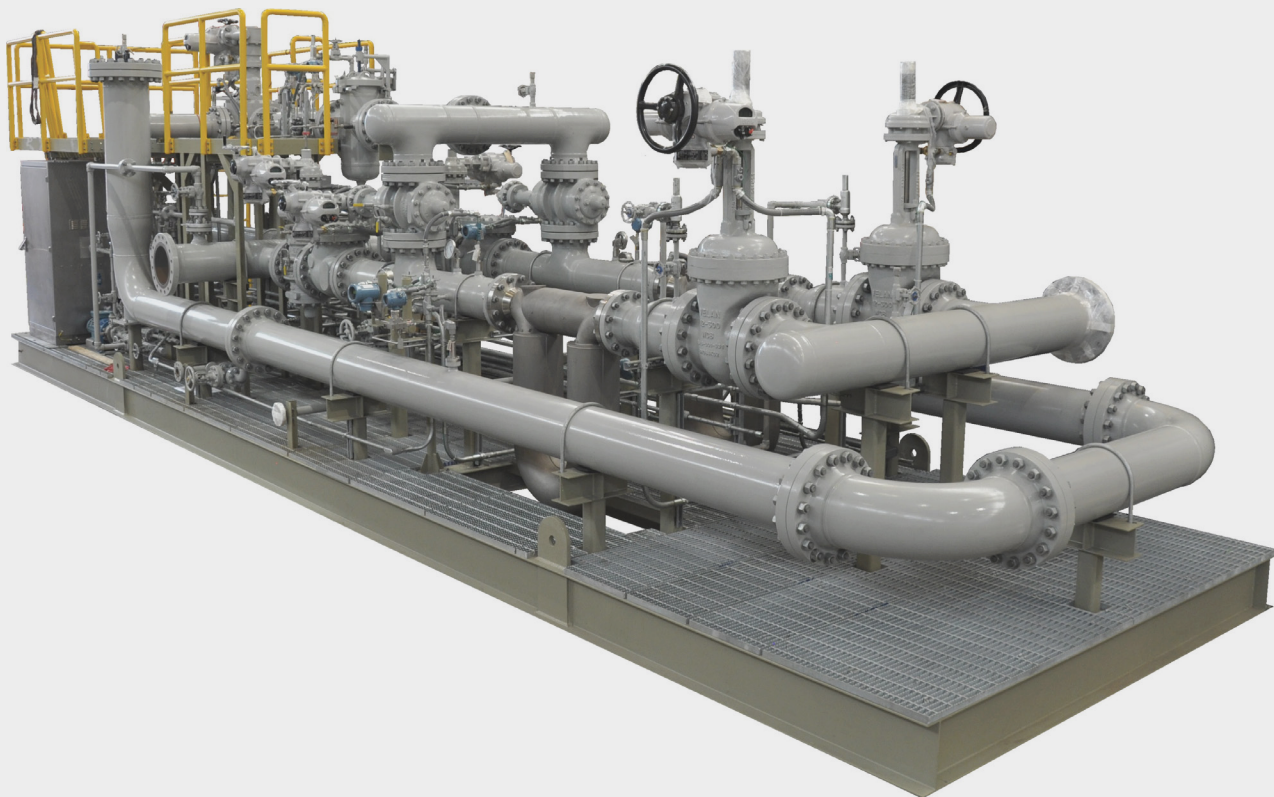


Lifecycle Services

- Start-Up/Commissioning
- Training
- Upgrades
- Calibration Services
- Spare Parts
- Long Term Service Agreement

Liquid Metering Solutions

From **simple single-stream systems** to **complex on-site metering installations**, Emerson's proven Liquid Metering Solutions help reduce fiscal risk and exposure, ensure regulatory compliance, optimize system performance, and sustain system lifecycle.



Reduce Complexity, Improve Efficiency

- Minimize vendor complexity and scope-of-work gaps with complete, single-point-responsibility measurement stations
- Improve operations and reduce ownership costs with proven, smart instrumentation
- Benefit from sustained measurement system performance and lifecycle management
- Maximize efficiency with a complete architecture for system monitoring, control, and optimization
- Ensure compliance to accuracy and repeatability requirements with effective and efficient validation
- Elevate HSE performance with adequate over-pressure protection
- Receive full support through turnkey project execution services, product services, and metrology services
- Reduce measurement uncertainty, maximize system availability, and control costs in challenging conditions



Gas Metering Solutions

Accurate, reliable, and repeatable flow measurement. Our Gas Metering Solutions ensure you meet regulatory compliance, help reduce risk and ownership costs, and improve operational performance.

Lessen Risk, Ensure Compliance

- Reduce complexity and risk, and improve capital efficiency by partnering with a single-source provider
- Ensure regulatory compliance and minimize financial risk with highly accurate metering packages
- Improve fiscal assurance and reduce operational costs with reliable and cost effective solutions
- Receive local support and collaborative engineering services worldwide to enhance your asset-management activities
- Gain peace of mind with service and support capabilities that span the system's entire lifecycle



Truck/Rail Loading & Offloading Solutions

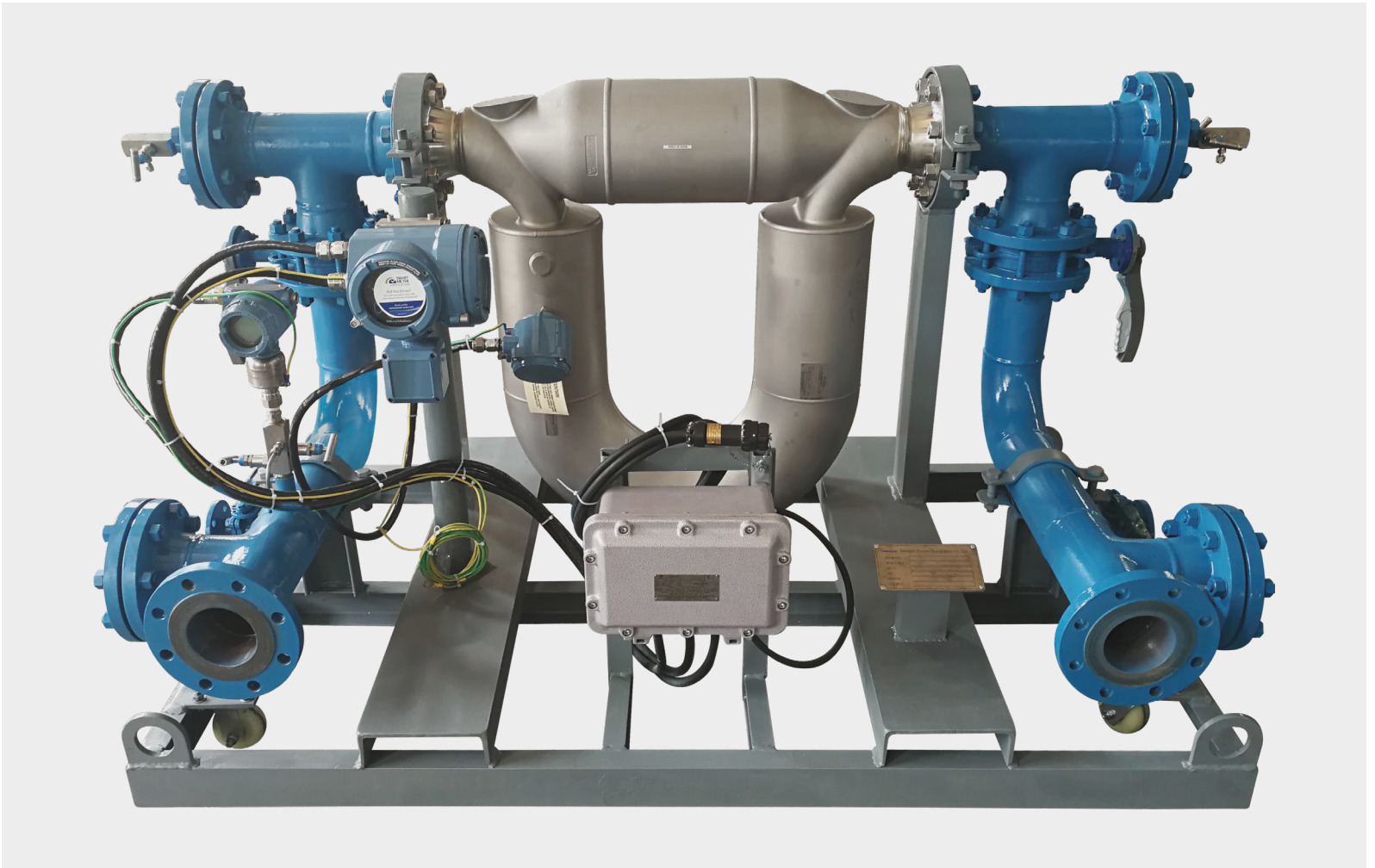
Achieve **reliable**, **accurate**, and **timely** transfer operations. We help ensure effective terminal inventory and logistics management over a wide range of products while preserving regulatory and safety compliance.

Increase Speed, Cut Cost

- Simplify installation, lessen environmental impact, and cut costs with standardized modular systems
- Achieve the best measurement accuracy and performance with optimized system design
- Increase loading/offloading efficiency and speed with high-capacity flow meters
- Get continuous product transfer assurance with precise batch delivery and multi-stage flow rate control
- Monitor operations and meet environmental and safety requirements with automation and safety system integration
- Ensure fault-free start up with full factory flow testing and functionality testing
- Reduce risk, cost, and time with engineering, design, project management, installation, and start-up from one provider

Master Meter Solutions

Ensure regulatory compliance while reducing the long-turnaround times and high costs inherent in off-site meter proving. Emerson's Master Meter Solutions help users have comprehensive, cost-effective systems to **improve measurement confidence** and **minimize fiscal risk**.

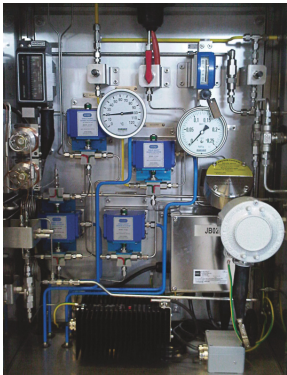


Minimize Downtime, Maximize Certainty

- Prove a wide range of meter technologies and sizes to their factory or industry specifications
- Reduce costs and downtime associated with off-site proving
- Ensure meter reliability and repeatability and verify its accuracy to reduce measurement uncertainty
- Meet contractual and regulatory requirements and minimize financial risk
- Satisfy industry requirements for mass, density, and volume calibration
- Rely on conformity to master meter prover requirements of API Chapter 4.5
- Minimize complexity and uncertainty with a single-source provider

Process Gas Analytical Solutions

Execute **complex analytical solutions** and **customized gas applications** with confidence using **integrated sampling systems** that deliver precise, high-resolution data for process efficiency, product quality, and regulatory compliance.



Sampling Systems



Shelters



Enclosures



Large Scale Projects

Looking to develop a new gas application or solve a complex analytical challenge? Emerson's technical experts are here to help— contact us to explore how our solutions can be custom-developed for all of your operational needs.

Customize Solutions, Maximize Accuracy

- Analyzers with Sample Systems
 - Gas Chromatographs (TCD, FPD, FID)
 - Continuous Gas Analyzers
 - Quantum Cascade Laser Analyzers
 - Combustion Analyzers
 - Flame, Gas and Toxic Detectors
- Probes, Fast Loop and Sample Returns
- Auxiliary Instrumentation
- Free Standing Panels and Racks
- Multi-Sided Shelters and Open Enclosures

Process Liquid Analytical Solutions

Ensure **high-resolution liquid analysis** and **minimize risk with integrated sampling systems** that combine advanced sensors, analyzers, and transmitters for precise, reliable data to drive process efficiency and compliance.



Panels



Racks



Large Analytical Solutions

Minimize Downtime, Maximize Reliability

- Analyzers, Sensors and Transmitters
- Sample Systems
- Steam & Water Analysis Systems (SWAS)
- Water Quality Systems (WQS)
- Liquid Panels and Racks for continuous online measurement of:
 - pH
 - ORP
 - Ozone
 - Chlorine
 - Dissolved Oxygen
 - Conductivity
 - Silica
 - Turbidity

CEMS



Solution overview

Emerson's CEMS solution delivers real-time Hot/Wet and Cold/Dry continuous emissions monitoring, analysis, and reporting to ensure compliance with environmental regulations.

Our solution includes:

- High performance analyzers
- A Sample Handling System (SHS) for clean, accurate samples
- A Data Acquisition and Handling System (DAHS)
- Flow monitoring for total pollutant mass calculation

Our solution also monitors pollutants like CO, NOx, SOx, with additional features including:

- Automated reports
- Data Storage
- Calibration Checks
- Alarm notifications

Streamline Analysis, Ensure Compliance

- Up to 12 components in a single analyzer
- Sample temperature up to 190 °C to keep hot/wet sample above acid dew point
- Unmatched sensitivity detects impurities and trace components at sub ppm concentrations
- Excellent linearity of response and repeatability
- Field mountable
- Multiple communication options including analogue, digital and Modbus
- Real time validation of process samples
- Fully integrated solution with in-the-field wall mount or rack mount configurations with embedded sample handling systems



Supervisory Systems

Scalable and connected. With our intelligent system controls and software, you have reliable measurements and process alarms to **minimize lost and unaccounted for hydrocarbons**. Configured to meet your particular needs, the system's intelligent devices and predictive diagnostic software work together as an integrated solution that delivers precision control, and the wealth of diagnostic data in intelligent field devices can be turned into actionable information.

Predictive Intelligence, Reliable Measurements

- Reduce measurement uncertainty via local/remote, real-time visibility to system equipment
- Gain assurance with system-wide cybersecurity
- Maximize uptime via local and user-directed remote monitoring, or with Emerson's expert remote monitoring and analysis services

Customized Engineered Solutions for your unique needs.



For more information, visit
[Emerson.com/MeasurementEngineeredSolutions](https://www.emerson.com/MeasurementEngineeredSolutions)
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