Midstream Applications for Oil and Gas

Energy Solutions - Oil and Gas
Proven solutions and local expertise to help you overcome your toughest challenges.
Midstream Applications for Oil and Gas

Keep your pipeline owner, terminal operator and chief financial officer aware of changing conditions with real-time, systems-level integration across the operational and commercial processes.

Our automation and software applications combine your business and operational strategies into one, allowing you to gain sharper insight and control of your data — leading to more intelligent decisions, safer conditions, increase efficiencies and greater profits.

What’s your opportunity?

- Streamline business and operations with a complete end-to-end solution
- Innovative decision support software, services and expertise that enhance operational efficiency, profitability and safety for pipelines, storage terminals, and distribution systems across the energy-logistics and transportation markets

“To be honest I wasn’t sure if it was possible to accurately model these lines and, as a company, we were preparing to spend large sums of money in an attempt prevent this operation. [Emerson] put a huge effort into solving this problem and I am very happy to report that they figured out how to model these complex operations in a robust way within an astonishing amount accuracy, the results exceeds my most optimistic expectations!”

- Process Engineer (Hydraulics and Leak Detection)

Services offered...

- Software solutions for midstream oil and gas
- Customer care and technical support
- Software implementation from design to delivery
- Pipeline hydraulic study consulting services
- Software training and advanced consulting
Operational Management Solutions
Leading provider of innovative decision support software, services and expertise that can deliver the solutions you need to enhance operational efficiency, profitability, and safety across any size pipeline, storage terminal, or distribution system worldwide. We offer solutions across the entire oil and gas pipeline and storage value chain. Learn more. ▶ p5

Liquids Management Solutions
Our solutions are used to manage over 240 terminals, schedule over 50 pipelines, and invoice for thousands of truck movements every day and run some of the world’s largest pipeline, terminal and marine companies. These solutions are purpose-built so that you can operate your supply chain with confidence. Learn more. ▶ p6

Gas Management Solutions
From upstream gas gathering to midstream gas processing and downstream natural gas transportation, our solutions accurately model contracts and handle order to cash operations for all shipper contracts. Learn more. ▶ p7
Integrated software solutions optimizing operations and business intelligence throughout the oil and gas midstream value chain.

**Liquids Management Solutions**
- Complex transportation network planning
- Contract management
- Complete order-to-cash management
  - Orders/nominations, measurement, inventory/reconciliation, charge management and invoicing
- Pipeline, Terminal, Marine transaction management
- Pipeline scheduling and optimization for batched liquids pipelines
- Terminal scheduling
- Marine scheduling, including vessels and docks

**Operational Management Solutions**
- Leak Detection
- Theft Detection
- Product Tracking
- Pipeline Design
- Survival Time Studies
- Capacity Studies
- Operations Analysis
- Predictive/Lookahead Modeling
- Pipeline Specific Trainer/Simulator

**Natural Gas Pipeline**
- Gas Processing
- Natural Gas Pipeline
- Underground Storage
- Liquefaction
- Product Terminal
- Ethane
- Propane
- Butane
- Iso-butane
- Natural gasoline
- Mixed NGLs

**Raffinate Pipeline**
- Natural Gas Pipeline
- Gas Processing
- Under-ground storage
- Liquefaction
- Product Terminal
- Ethane
- Propane
- Butane
- Iso-butane
- Natural gasoline
- Mixed NGLs

**Crude Oil Pipeline**
- Refineries
- Crude Oil Fractionation
- NGL Fractionation
- Natural Gas Pipeline
- Underground Storage
- Liquefaction
- Product Terminal
- Ethane
- Propane
- Butane
- Iso-butane
- Natural gasoline
- Mixed NGLs

**Natural Gas Pipeline**
- Power Plant
- LDCs
- LNG Exports
- Other Users
- Regasification
- Petrochemical and Industrial Users
- Retail Customers
- Retail and Commercial Users of Motor Fuel, Diesel, Jet Fuel
- Other Refined Products

**Downstream Energy Users**
- Retail and Commercial Users of Motor Fuel, Diesel, Jet Fuel
- Other Refined Products
## Operational Management Solutions

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<th>PipelineManager®</th>
<th>PipelineStudio®</th>
<th>PipelineDashboard®</th>
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<td><strong>Suite of online and real-time applications for management of pipeline operations.</strong>&lt;br&gt;• Real-time hydraulic modeling of liquid and gas pipeline network&lt;br&gt;• Real-time transient modeling leak detection&lt;br&gt;• Predictive, survival time and look ahead simulation&lt;br&gt;• Product and scraper tracking&lt;br&gt;• Inventory and pipeline hydraulics analysis</td>
<td><strong>Delivering rapid and accurate offline pipeline management design, planning and hydraulic simulation.</strong>&lt;br&gt;• Pipeline design and analysis toolkit&lt;br&gt;• Steady-state models for liquid or gas pipeline networks&lt;br&gt;• Transient hydraulic models for liquid or gas pipeline networks&lt;br&gt;• Choice of pipeline equations and equations of state&lt;br&gt;• Parametric studies and user defined logic</td>
<td><strong>Real-time data visualization tool for faster, better decisions. Display key pipeline and commercial data all in one window and view on any device web enabled device.</strong>&lt;br&gt;• Key performance indicators in real time&lt;br&gt;• Displays operational and commercial information about the systems&lt;br&gt;• Charts, dials graphs, maps and more&lt;br&gt;• Interface with external data sources</td>
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<th>PipelineTrainer™</th>
<th>RuptureSentinel</th>
<th>Commercial Batch Tracking</th>
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<td><strong>Pipeline simulation tool that accurately maps real-world operations from hydraulic training experience to a fully integrated solution for training pipeline controllers.</strong>&lt;br&gt;• Realistic training for the pipeline controller&lt;br&gt;• Stand-alone or integration with SCADA displays&lt;br&gt;• Scenario management tools</td>
<td><strong>Rapidly alerts pipeline controllers to large unplanned pipeline releases.</strong>&lt;br&gt;• Economical and quick to implement solution&lt;br&gt;• Real-time statistical pattern recognition technology&lt;br&gt;• Reliable and robust technology&lt;br&gt;• Automatic threshold tuning</td>
<td><strong>Real time product movement management tying operational needs with commercial obligations.</strong>&lt;br&gt;• Real-time logistics oversight&lt;br&gt;• Integrates scheduling and accounting&lt;br&gt;• Line fill updates&lt;br&gt;• Manage and track product deliveries</td>
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Learn more about Emerson’s Midstream Applications for Oil and Gas at [www.Emerson.com](http://www.Emerson.com)
Liquids Management Solutions

**Synthesis®**
Enterprise commercial application for the management of the liquids logistics order-to-cash cycle with support for transportation and storage operations.
- Web-based portal for (internal and external) user access
- Contract and tariff management
- Order/nomination/request capture and validation
- Volumetric accounting and book/physical reconciliation
- Automated charge calculation and invoice creation/distribution

**PipelineScheduler®**
Schedules batch liquids pipelines and consolidates crucial information to support daily commercial and operational decisions.
- Manage day to day batched and streamed operations
- Predicts storage capacity
- Fast and accurate generation of pumping orders for pipeline control

**TerminalScheduler®**
A full-featured software system for planning and scheduling long-term and short-term operations within a tank farm or terminal.
- Manage assets and terminal line fill
- Schedule dock operations and terminal movements
- Route selection and conflict avoidance
- Prevent tank contamination

**TransportPlanner™**
Software system that plans and manages complex transportation networks for pipelines.
- Logistics planning for complex transport networks
- Coordinated and consolidated schedules for multiple systems
- Optimized transport cost and routing through complex pipeline networks
- Supports multiple modes of transport (Truck, rail, barge)

**PipelineOptimizer®**
A powerful engineering and operations tool for simulation of liquid pipeline hydraulics and operations.
- Identify the best operating points and DRA injection rates
- Analyze bottlenecks to pipeline flow
- Reduce the cost of pipeline operations

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Gas Management Solutions

GasStream®

Fully integrated transaction management and accounting system for the midstream gas gathering, processing, transaction and accounting management, and support.
• Midstream gas gathering, process, allocation, and settlements
• Contract management for gathering and all types of processing contracts
• Invoices, settlement statements, reports (allocation, imbalance, gross margin, and more)

PipelineTransporter®

Manage third party access of gas shipped from your facilities. Oversee nominations, scheduling, gas certification/supervisions, consolidations and more.
• Online nomination and gas scheduling system
• Integrates shipper transportation information with pipeline business parameters
• From gatherers networks through mainline transmission to distribution companies

GasLoadForecaster®

A neural network-driven gas demand forecast system for predictive management and modeling.
• Accurately forecast customer demand
• Takes account of daily and holiday trends
• Can use multiple weather forecast sources
• Meters can use different forecasting techniques

TransactionManager®

Easily manage the business aspect of your operation, maximizing your ability to supply gas to customers to satisfy their demands and maximize returns.
• Capture purchase, sale and transport of gas in one integrated application
• Manage nominations, scheduling, gas certification, allocations and interface with billing system for invoicing processing
• Balance shipper accounts

Learn more about Emerson’s Midstream Applications for Oil and Gas at www.Emerson.com
Emerson delivers time-tested and innovative midstream oil and gas solutions designed to help you improve your operation’s overall efficiency. Contact us now for world-class technologies and services that can maximize your midstream oil and gas processes. Getting started is easy. Visit www.Energy-Solutions.com/Contact-Us