Fueling efficiency

Automation solutions for oil and gas extraction, production and transportation

Answers for industry.
Automation and control for a new era.

Offshore drilling rigs are moving into deeper and deeper waters. Unconventional oil wells are expanding access to previously untapped reserves. The number of active pipelines is increasing at an unprecedented rate.

And competition is fiercer than ever.

The resurgence of American energy is driving massive growth in the oil and gas industry, and along with it, massive changes. Whether you’re upstream, midstream or downstream, your challenges evolve almost daily, which can make it difficult to keep up—let alone get ahead.

In order to capitalize on the industry’s momentum, you have to increase your production efficiency, stay compliant with state and federal regulations, maintain operational safety and improve data collection to better drive your business decisions. You have to automate.

And that means you need an automation partner that understands your business and how to help it grow. To fuel your efficiency, you need Siemens.
It’s not just about technology. It’s about:

- **More throughput, less downtime**
  Maximize uptime across all processes and keep your competitive edge with solutions that are rugged, reliable and inherently safe.

- **More regulatory compliance, fewer penalties and complications**
  Discover simpler ways to stay compliant with automated monitoring and data collection processes that evolve along with your needs.

- **More expert support, less risk and frustration**
  Get the local support you need no matter where you’re located, through the nationwide network of technicians, authorized distributors and solution partners.

- **More intuitive engineering, less time spent commissioning**
  Increase your speed to startup with automation hardware and software that are easy to integrate and easy to use, so you get up and running right away.

- **More modular offerings, less inconsistency across operations**
  Expand to any size and your systems will scale with you, helping you remain consistent across all assets and operations.

It’s about doing more with less.
**Siemens. Fueling efficiency.**
More throughput, less downtime.

Staying competitive means maximizing your production efficiency by increasing the reliability of your process. And when process reliability is a must, state-of-the-art automation and controls can be your competitive advantage. Even at the smallest scale, manual control strategies tend to be time-consuming, not to mention error-prone. Once scaled beyond a single site, these complexities are further magnified, leading to inconsistencies that can snowball into significant process inefficiencies.

But automation alone won’t deliver process reliability. You need automation that can withstand harsh environments, provide diagnostics for remote monitoring and deliver the data needed to drive better decisions.

Efficient production begins with integration
Just as multi-well pads are helping the industry grow by achieving greater economies of scale, Siemens automation and control products and solutions are providing the integration needed to support and streamline this growth. Siemens Totally Integrated Automation (TIA) helps gather, consolidate and analyze real-time data across the entire operation, from the tip of each drill bit to the refinery’s blending pool.

This data can then be used to improve both operational visibility and asset utilization. Armed with detailed insight into everyday operations, producers can make more informed decisions — allowing them to optimize production for the greatest yield.
Proactive about process reliability

Uptime is a critical concern in the oil and gas industry—for good reason. If a completed well goes down, it can cost as much as $100,000 in lost revenue and operating costs each day until it’s back up and running. And once it is, you have to allocate valuable human resources to make sure it stays that way. This reactive type of approach is not only expensive; it’s also highly inefficient.

Siemens automation and control applications take a proactive, cost-effective approach to process reliability. Integrated system diagnostics continually monitor the production status to offer comprehensive system analysis at any time, on-site or remotely. This key diagnostic information helps identify issues early on so you can quickly troubleshoot the system before anything can interfere with production.

Rugged products for tough environments

Extreme temperatures, severe vibration and salt water spray can take a toll on equipment, causing it to fail and bring production to a halt. But whether a heat wave hits your rig or inches of ice cover your pipeline, harsh conditions are no match for Siemens automation hardware and software.

The robust portfolio of Siemens automation products is designed and manufactured to exceed industry standards. State-of-the-art quality processes, endurance testing and agency follow-up ensure top performance once implemented in the field.
As oil and gas production grows, so do regulations and policies. Today you have to worry about complying with standards set by federal departments such as OSHA and the EPA as well as various local and state statutes. To avoid being hit with penalties, you need a system that can reliably collect the data you need to remain safe and compliant.

A simpler way to comply
The challenges of complying with ever-evolving regulations become all the more complicated across disparate systems that don’t communicate well. That’s why Siemens automation and control applications are designed to easily integrate with existing instrumentation and control systems. Open protocols, such as high speed serial and Ethernet-based protocols, make it possible to network data collection with components from a broad variety of manufacturers.

Siemens technologies can seamlessly collect data across all operating systems and transfer it to supervisory control schemes. Any issues that can be resolved incrementally are handled automatically. For example, Siemens HMI can trigger an alarm on process exceptions and create the detailed reporting needed to meet stringent regulatory requirements.
Data collection for unmanned locations
The prevalence of unmanned assets in the oil and gas industry calls for automation and control applications that support remote monitoring. Siemens solutions allow you to gather and organize data from all your assets and then integrate this data with historians and visualization systems to promote greater compliance.

For example, Siemens provides continuous emission monitoring systems (CEMS) for the marine industry, which is subject to even more stringent emissions restrictions. CEMS keep ships compliant with compact and rugged analyzers that register, document and prove compliance across the entire oil and gas value chain.

Inherently safe systems
Siemens can also help enhance your safety processes and procedures with protective features that don’t require any additional hardware. These built-in, fail-safe automation solutions are certified SIL 3, one of the highest safety levels defined in IEC/EN 61508.

Safety Integrated, as part of Siemens Totally Integrated Automation (TIA), ensures reliable protection of personnel, equipment and the environment. Its inherent connection to the rest of the system allows it to quickly detect and analyze potential safety hazards—such as methane off-gassing in drilling mud—and issue an immediate warning or shut down the process, depending on the parameters you set.
More expert support, less risk and frustration.

Oil and gas operations aren’t known for their convenient locations. Unmanned sites are more likely to be 50 miles off the coast than in the middle of a bustling metropolis. And if a critical process breaks down, every minute waiting for a service technician is another minute of lost production and escalating safety concerns.

Whether you’re upstream, downstream or in between, technical support is an essential part of your process’ reliability. That’s why it’s also an essential part of Siemens automation and control solutions.

Remote assistance in seconds
From day-one installation to troubleshooting 10 years down the road, Siemens technicians provide remote support the minute you need it. Knowledgeable technicians with deep expertise are available 24/7/365 to address issues that can be effectively handled at a distance.

Just call the Siemens Industry Technical Support Team at (800) 333-7421 for technical support, emergency parts, repair scheduling or answers to any service-related questions.

Authorized distributors and solution partners
For issues that require on-site assistance, Siemens authorized distributors and solution partners, with certified technical staff, can dispatch a first-responder team for immediate support. These teams provide support for the entire range of Siemens automation products and services, including commissioning and maintenance. Their extensive product, system and industry expertise allows them to solve even the most challenging problems efficiently and effectively.

Extended support and training
In addition to live pre-sale and post-sale product support, Siemens also has a free online support portal where you can search for support documents, email questions directly to a specialist or connect with other industry customers. This convenient format allows for anytime access to service packs and updates so you can keep current at all times. Visit the online support portal at support.automation.siemens.com

And for those who prefer to possess first-hand knowledge of the technical details, Siemens offers online, self-paced courses, as well as classroom training at a Siemens training center and on-site custom training. Visit the online training portal at usa.siemens.com/sitrain

Knowledgeable technicians with deep expertise in oil and gas production are available 24/7/365 to address issues that can be effectively handled at a distance.
When new automation and controls are installed or integrated into an existing system, an operational learning curve usually follows. The production time lost to training and commissioning detracts from immediate gains, and it also delays your return on investment. But even afterward, operators can struggle to achieve previous levels of efficiency until they’re fully settled into the new work flow.

Streamlined for simpler integration
Whether you need a single solution or a complete system, Siemens engineers help facilitate a straightforward and seamless transition. It all begins with the Siemens Totally Integrated Automation (TIA) Portal, a fully integrated and highly intuitive engineering environment that delivers efficiencies of up to 30% by centralizing system engineering. The user interface is designed to be completely intuitive, and this reduced complexity means there’s less for operators to learn up front.

Siemens Integrated Security Solutions
Safeguard sensitive data and software from prying eyes with custom authorization levels, component protection and maximum communication integrity.

- **Know-how protection**
  With Siemens secure technology, algorithms are protected from unauthorized access and modifications, and machines are protected from replication.

- **Copy protection**
  Programs can be configured to work exclusively with a specific SIMATIC memory card, each bound by serial number so that it cannot be reproduced.

- **Access protection**
  Operators can prevent unauthorized project-planning changes by assigning separate rights to various user groups through designated permissions levels.

- **Manipulation protection**
  The system controller protects against unauthorized manipulation by recognizing data that has been altered or transmitted from a strange source.
What makes your operation unique is also what keeps you competitive. But automation that’s custom built to suit one specific site can’t always be easily replicated to fit the needs of another. As a result, your operation becomes a patchwork of disparate systems that don’t communicate well, and you wind up trading efficiency for liability.

Siemens has the deep product offering to ensure that the products you buy are the right fit for your application. Whether you need process analytics or industrial control components, the most sophisticated PLC on the market or the simplest, Siemens products can be scaled to fit your specific needs and replicated to work across your entire operations.

The right fit for any application
Siemens is committed to working with you to understand your specific challenges and identify an answer that best meets your needs—both now and well into the future. It’s not about pushing a product; it’s about finding the perfect fit. And because Siemens automation solutions are designed for optimal modularity and replicability, you won’t outgrow them; you’ll just add more as needed. This way, you can stay consistent across sites regardless of how far you expand.

Siemens automation solutions
From controllers and networking systems to analytics and instrumentation, Siemens offers the most comprehensive portfolio of best-in-class automation products for a nearly limitless range of oil and gas applications. These efficient, flexible, future-proof solutions are expertly engineered to meet to evolving industry challenges.

Controllers, I/O, HMI, and Networking and Configuration Software

Process Automation, Analytics and Instrumentation
Siemens offers a broad range of modular automation and control solutions that can be scaled to fit your specific assets and easily replicated to work across all of your operations.

Visit usa.siemens.com/oil-gas to learn more and request a free product demonstration today.
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