

## **Oil & Gas Automation - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)**

Market Report | 2025-07-01 | 120 pages | Mordor Intelligence

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### **Report description:**

Oil & Gas Automation Market Analysis

The oil & gas automation market size reached a value of USD 43.35 billion in 2025 and is set to climb to USD 60.62 billion by 2030, registering a 6.9% CAGR during the forecast period. Operators are embracing intelligent field platforms, edge-AI analytics, and autonomous inspection tools to curb downtime and lift productivity as supply chains tighten and energy transition goals intensify. Mandatory safety regulations, especially those aligned with IEC 61511 and ISA-84, are accelerating uptake of Safety Instrumented Systems that respond to hazards in milliseconds. LNG infrastructure expansion across Asia-Pacific and Africa is unlocking new demand for cryogenic-grade control systems that handle high-pressure, ?160 C environments. Finally, growing cybersecurity budgets-now 15-20% of total automation spend-are reshaping project economics as operators harden operational technology (OT) environments against ransomware and state-sponsored attacks.

Global Oil & Gas Automation Market Trends and Insights

Rising Adoption of Digital-Oilfield Platforms

Real-time digital platforms fuse IoT sensors, machine-learning models, and cloud analytics into unified dashboards that shorten decision cycles from minutes to seconds. Devon Energy lifted well longevity by 25% after deploying AI-guided drilling adjustments. Virtual twins synchronised with live operating data let engineers test scenarios without risking physical assets, an approach that is especially potent in unconventional reservoirs where downhole conditions vary by the hour.

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## Modernisation CAPEX for Remote Monitoring and Predictive Maintenance

Operators are redirecting capital toward remote surveillance tools that cut site visits and shrink safety exposure. Enbridge's Azure-based pipeline analytics improved threat detection by 30%. Predictive algorithms study vibration and thermal trends to spot failures weeks in advance, trimming routine inspection costs up to 50% while boosting reliability.

## Crude-Oil Price Volatility Impacting OPEX and CAPEX Cycles

Six-month lags between crude swings and spending shifts force smaller producers to delay automation upgrades when cash flows tighten. Subscription-based automation services that align fees with production volumes are gaining favour because they lower upfront risk and preserve liquidity during downturns.

Other drivers and restraints analyzed in the detailed report include:

Mandatory Safety-System Regulations / LNG and Mid-Stream Build-Out in Asia-Pacific and Africa / Escalating Cyber-Risk and OT-Security Compliance Costs /

For complete list of drivers and restraints, kindly check the Table Of Contents.

## Segment Analysis

Software captured 66.7% of 2024 revenue, anchoring the oil & gas automation market through analytics engines that power predictive maintenance and autonomous operations. In value terms, the component accounted for USD 28.9 billion of the oil & gas automation market size in 2024. Services, although smaller, are projected for an 8.5% CAGR as operators outsource AI configuration and cybersecurity hardening.

Software growth is reinforced by edge-AI packages that lift drilling rates of penetration by 35-45%. Meanwhile, service contracts that bundle 24-hour monitoring and outcome-based guarantees move providers from product suppliers to performance partners. Hardware remains essential for sensor grids and ruggedised edge devices; however, its share is expected to decline gradually as virtualised control logic migrates to software layers.

Upstream activities generated 59.1% of 2024 process revenue as autonomous drilling and production optimisation platforms calibrated thousands of downhole parameters at shale wells. This translated to roughly USD 25.6 billion of the oil & gas automation market size. Midstream operations, while holding a smaller base, are growing at 8.3% CAGR due to global LNG terminal build-outs and pipeline digitisation.

Upstream players like SLB demonstrated 25 automatic geosteering corrections on a single lateral, signalling a shift toward fully autonomous rigs. For midstream firms, cloud-linked SCADA systems enable real-time leak detection and remote valve actuation across thousands of kilometres, reducing incident response time from hours to minutes. Downstream sites are piloting AI-directed distillation columns that cut energy use and trim emissions.

The Oil & Gas Automation Market Report is Segmented by Component (Hardware, Software, and Services), Process (Upstream, Midstream, and Downstream), Technology (Sensors and Transmitters, Distributed Control Systems (DCS), and More), Application (Drilling and Completion, Production and Well Optimization, and More), and Geography. The Market Forecasts are Provided in Terms of Value (USD).

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## Geography Analysis

North America led the oil & gas automation market with 37.1% revenue share in 2024, buoyed by shale developers that pioneered AI-steered drilling and pad optimisation. Persistent learn-and-apply cycles keep regional productivity high even when rig counts fluctuate. The region's cybersecurity posture is also mature, with operators adopting zero-trust OT frameworks mandated by federal guidelines.

Asia-Pacific is poised for a 7.5% CAGR through 2030. China is modernising refineries to produce cleaner fuels, while India accelerates upstream digitisation across deep-water blocks. Massive LNG import projects in Southeast Asia rely on AI-enabled cryogenic controls to secure supply and balance power grids with intermittent renewables. Governments support digital twins to curb emissions and enhance safety, propelling technology adoption.

Europe maintains steady spending under stringent safety and environmental regulations. New LNG regasification units in Germany and Finland integrate DCS platforms that meet SIL-3 safety layers and NIS 2.0 cybersecurity mandates. Middle Eastern national oil companies, supported by sovereign funds, scale AI-driven well monitoring across mature carbonate reservoirs, exemplified by ADNOC's USD 920 million ENERGYai program. Africa and South America remain emerging adopters, often leveraging joint-venture partners for technology transfer and financing.

List of Companies Covered in this Report:

ABB Ltd. / Honeywell International Inc. / Siemens AG / Schneider Electric SE / Emerson Electric Co. / Rockwell Automation Inc. / Mitsubishi Electric Corp. / Yokogawa Electric Corp. / Eaton Corp. / Dassault Systemes SE / Bosch Rexroth AG / Texas Instruments Inc. / Johnson Controls International plc / Halliburton Co. / Schlumberger NV / Baker Hughes Co. / Weatherford International plc / AVEVA Group plc / Aspen Technology Inc. / Flowserve Corp. /

Additional Benefits:

The market estimate (ME) sheet in Excel format /  
3 months of analyst support /

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