

Robotic Drilling Equipment Market: Rising from \$804.0 Million in 2019 to \$1,017.4 Million by 2027 with an 8.4% CAGR

Robotic Drilling Equipment Market Size, Share, Competitive Landscape and Trend Analysis Report

WILMINGTON, DE, UNITED STATES, July 16, 2025 /EINPresswire.com/ -- According to a report by Allied Market Research titled "[Robotic Drilling Equipment Market](#) by Application, Installation, and End-user Industry: Opportunity Analysis and Industry Forecast, 2020–2027," the global robotic drilling equipment market was valued at \$0.8 billion in 2019 and is projected to reach \$1 billion by 2027, growing at a compound annual growth rate (CAGR) of 8.4% from 2020 to 2027. In 2019, the onshore segment led the market, reflecting its widespread adoption in land-based drilling operations. Robotic drilling equipment, also known as automated drilling systems, is designed specifically for the oil and gas industry. These systems are categorized into onshore, which involves drilling on dry land, and offshore, which pertains to drilling on ocean floors or seabeds. They are utilized in constructing new oil and gas rigs and retrofitting older rigs during maintenance or part replacement. The technology offers significant advantages, including reduced drilling times, multi-sensor measurements, enhanced safety, and the ability to support mass production.

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Market Dynamics

The robotic drilling equipment market is primarily driven by the increasing adoption of automation in the oil and gas industry. Automation enhances data collection, ensures precise and accurate operations, and prioritizes worker safety by minimizing human intervention, thereby reducing the likelihood of errors. This leads to improved efficiency in both robotic drilling machines and the operations they support, whether onshore or offshore. The technology's ability to streamline processes and enhance safety makes it a valuable asset for the industry.

However, challenges such as interoperability issues in control systems pose risks to data privacy and cybersecurity, potentially compromising sensitive operational data. Additionally, the COVID-19 pandemic, which began in 2019, significantly disrupted the market by halting construction and manufacturing activities worldwide. The interruption of logistics and supply chains further hindered market growth. Nevertheless, as industries recover and vaccines become widely available, the robotic drilling equipment market is expected to rebound by early 2022. Moving

forward, efforts to enhance worker safety on oil and gas rigs and the growing exploration activities in ultra-deepwater regions, such as the Arctic, are anticipated to drive market growth during the forecast period.

Market Segmentation

By Application

The market is segmented into onshore and offshore applications. In 2019, the onshore segment generated the highest revenue due to its extensive use in land-based oil and gas extraction. Onshore robotic drilling systems are favored for their accessibility and cost-effectiveness compared to offshore operations. However, offshore drilling is gaining traction due to increasing exploration in challenging environments like deepwater and Arctic regions.

By Installation

Based on installation, the market is divided into new builds and retrofits. In 2019, the retrofit segment accounted for the highest revenue, as many existing rigs require upgrades to incorporate advanced robotic systems. Retrofitting enhances the efficiency and safety of older rigs, extending their operational life. New builds, however, are expected to see growth as demand for new rigs increases in response to expanding exploration activities.

By End-user Industry

The market is bifurcated into oil and gas industries. In 2019, the oil segment dominated, driven by the global demand for oil and the need for efficient extraction technologies. Robotic drilling systems are critical in meeting this demand by optimizing drilling processes and reducing operational risks. The gas segment is also expected to grow as natural gas exploration expands.

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By Region

Regionally, the market is analyzed across North America (U.S., Canada, Mexico), Europe (UK, Russia, Norway, rest of Europe), Asia-Pacific (China, Malaysia, Australia, rest of Asia-Pacific), and LAMEA (Latin America, Middle East, Africa). North America held a significant market share in 2019, driven by advanced oil and gas infrastructure and substantial investments in automation. Europe, particularly Norway and Russia, is a key market due to its focus on offshore drilling in the North Sea and Arctic regions. Asia-Pacific is expected to witness rapid growth due to increasing energy demands and exploration activities in countries like China and Malaysia. The LAMEA region is poised for steady growth as oil and gas exploration expands in the Middle East and Africa.

Impact of COVID-19

The COVID-19 pandemic disrupted the robotic drilling equipment market by halting construction, manufacturing, and logistics operations globally. Lockdowns led to supply chain interruptions, delaying the production and deployment of robotic Drilling systems. However, with the

introduction of vaccines and the gradual resumption of industrial activities, the market is expected to recover by early 2022. Companies are now focusing on protecting their workforce, optimizing supply chains, and adopting new operational strategies to ensure resilience against future disruptions.

Competitive Landscape

The robotic drilling equipment market is competitive, with key players including Automated Rig Technologies Ltd., Drillform Technical Services Ltd., Drillmec Inc., Epiroc AB, Herrenknecht Group, Huisman Equipment B.V., KCA Deutag Alpha Limited, Loadmaster Universal Rigs, Inc., Nabors Industries Ltd., and National Oilwell Varco, Inc. These companies are investing in research and development to enhance robotic hardware and software, focusing on improving automation, safety, and operational efficiency. Strategic partnerships and innovations in control systems are also key strategies to maintain market leadership.

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Key Findings

By Application: The onshore segment was the highest revenue contributor in 2019 due to its widespread adoption in land-based drilling.

By Installation: The retrofit segment led in revenue in 2019, driven by the need to upgrade existing rigs with advanced robotic systems.

By End-user Industry: The oil segment dominated in 2019, reflecting the high demand for efficient oil extraction technologies.

By Region: North America and Europe are key markets, with Asia-Pacific expected to experience significant growth due to rising energy demands.

Key Benefits for Stakeholders

This analysis provides valuable insights for stakeholders, including:

Quantitative analysis of market segments, trends, and growth dynamics from 2020 to 2027.

Identification of key drivers, such as automation adoption and safety improvements, and challenges, including cybersecurity risks.

Regional analysis to understand revenue contributions and growth potential.

Competitive insights into major players and their strategies.

Opportunities for investment in emerging markets, particularly in ultra-deepwater and Arctic exploration.

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