

# **Global Artificial Intelligence (AI) in Oil & Gas Market Size Study & Forecast, by Application (Upstream, Midstream, Downstream), and Regional Forecasts 2022-2032**

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## **Abstracts**

The Global Artificial Intelligence (AI) in Oil & Gas Market is valued approximately at USD 3.69 billion in 2024 and is projected to grow at a compound annual growth rate (CAGR) of 12.66% over the forecast period from 2025 to 2035. As the oil and gas sector ventures deeper into digital transformation, AI is rapidly emerging as a linchpin of efficiency, safety, and predictive intelligence across the value chain. From seismic data interpretation and exploration targeting to real-time asset performance analytics and automated refinery optimization, AI technologies have permeated every operational frontier. This infusion of advanced analytics and machine learning enables industry leaders to mitigate operational risks, improve upstream success rates, reduce maintenance costs, and maximize reservoir returns—all while responding to volatile energy prices and environmental pressures.

The continuous evolution of AI-based solutions tailored to energy sector nuances—such as predictive maintenance systems that forestall equipment failure or field service automation that optimizes dispatch logistics—has emboldened oil and gas companies to recalibrate their legacy infrastructures. According to industry observations, AI tools are already playing pivotal roles in production planning, supply chain intelligence, and quality assurance, offering faster decision-making and boosting the agility of global operations. Moreover, the integration of AI in remote monitoring of offshore rigs, real-time drilling optimization, and anomaly detection in pipelines underscores how digital intelligence is reshaping core workflows. However, despite the upward trajectory, challenges such as data silos, cybersecurity vulnerabilities, and the high cost of AI infrastructure deployment may impede adoption in less mature markets.

Regionally, North America holds a dominant share in the global AI in Oil & Gas market, fueled by massive investments in digital oilfield technologies and a robust ecosystem of AI innovators. The U.S. leads in upstream AI adoption, driven by shale exploration and the need for operational precision. Europe follows closely, bolstered by its strong regulatory framework on emission controls and the pursuit of cleaner energy outputs. Meanwhile, Asia Pacific is expected to witness the fastest growth during the forecast period. This acceleration stems from increasing energy demands in countries like India and China, where both national oil companies and private operators are ramping up investments in AI for exploration efficiency and real-time supply-demand forecasting. Latin America and the Middle East & Africa are steadily integrating AI, particularly in midstream logistics and downstream optimization, as part of broader national strategies to modernize oil infrastructure.

Major market players included in this report are:

IBM Corporation

Microsoft Corporation

Amazon Web Services, Inc.

Oracle Corporation

Intel Corporation

Google LLC

Accenture plc

Schlumberger Limited

Halliburton Company

Baker Hughes Company

C3.ai, Inc.

Cisco Systems, Inc.

NVIDIA Corporation

SAP SE

Rockwell Automation, Inc.

## Global Artificial Intelligence (AI) in Oil & Gas Market Report Scope:

Historical Data – 2023, 2024

Base Year for Estimation – 2024

Forecast period – 2025–2035

Report Coverage – Revenue forecast, Company Ranking, Competitive Landscape, Growth factors, and Trends

Regional Scope – North America; Europe; Asia Pacific; Latin America; Middle East & Africa

Customization Scope – Free report customization (equivalent up to 8 analysts' working hours) with purchase. Addition or alteration to country, regional & segment scope\*

The objective of the study is to define market sizes of different segments & countries in recent years and to forecast the values for the coming years. The report is designed to incorporate both qualitative and quantitative aspects of the industry within the countries involved in the study. The report also provides detailed information about crucial aspects, such as driving factors and challenges, which will define the future growth of the market. Additionally, it incorporates potential opportunities in micro-markets for stakeholders to invest, along with a detailed analysis of the competitive landscape and product offerings of key players.

By Type:

Hardware

Software

Services

By Application:

Upstream

Midstream

Downstream

By Function:

Predictive Maintenance

Production Planning

Field Service

Material Movement

Quality Control

By Region:

North America

U.S.

Canada

Europe

UK

Germany

France

Spain

Italy

Rest of Europe

Asia Pacific

China

India

Japan

Australia

South Korea

Rest of Asia Pacific

Latin America

Brazil

Mexico

Middle East & Africa

UAE

Saudi Arabia

South Africa

Rest of Middle East & Africa

#### Key Takeaways:

Market Estimates & Forecast for 10 years from 2025 to 2035.

Annualized revenues and regional level analysis for each market segment.

Detailed analysis of geographical landscape with Country level analysis of major regions.

Competitive landscape with information on major players in the market.

Analysis of key business strategies and recommendations on future market approach.

Analysis of competitive structure of the market.

Demand side and supply side analysis of the market.

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