

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

Market Report | 2025-04-28 | 125 pages | Mordor Intelligence

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### **Report description:**

The Oil And Gas Digital Rock Analysis Market is expected to register a CAGR of 8.3% during the forecast period.

#### Key Highlights

- Over the long term, factors such as an increase in the complexity of production from unconventional reservoirs to maximize production are expected to drive the market during the forecast period.
- On the flip side, the high cost of producing high-resolution rock structures is expected to restrain the market.
- However, developing advanced imaging techniques for logging activities is expected to create significant opportunities for market studies during the forecasted period.
- North America is expected to dominate the market during the forecasted period due to the availability of advanced imaging technology and more skilled workers for the process.

#### Oil & Gas Digital Rock Analysis Market Trends

##### Conventional Segment to Dominate the Market

- Oil and gas digital rock analysis integrates various scientific disciplines, including advanced microscopy, physics, geology, geochemistry, petrophysics, and petroleum engineering. Its primary objective is to comprehensively understand the microscopic structure of reservoir rocks at the pore scale. Exploration and production (E&P) operators can mitigate risks, enhance hydrocarbon production, and optimize well recovery by employing this approach. The advancements offered by digital rock analysis compared

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to traditional methods are anticipated to drive its growth in the market.

- Conventional reservoirs have been the focus of oil and gas exploration and production for decades. As a result, there is a wealth of existing data and knowledge about conventional reservoirs. Digital rock analysis can enhance the understanding of conventional reservoirs, optimize production strategies, and improve recovery rates.
- Moreover, many conventional reservoirs are mature, meaning they have been producing for an extended period. With the help of digital rock analysis, operators can gain insights into reservoir behavior, assess remaining reserves, and optimize field development and management strategies to maximize production from these mature fields.
- According to the United States Energy Information Administration, Short-Term Energy Outlook, June 2023, global crude oil production is set to increase by close to 3% annual growth by 2024. Furthermore, global crude oil production increased by 4.48% in 2022 compared to the previous year, recording 100,024 mb/d. Increasing exploration and production activities consequently increase the demand for digital rock analysis.
- Furthermore, digital rock analysis can be integrated into reservoir characterization and modeling workflows for conventional reservoirs. By incorporating digital rock analysis data into reservoir simulation models and production optimization workflows, operators can enhance accuracy, improve predictions, and make informed decisions about field development and production strategies.
- Therefore, according to the above points, the conventional sector is expected to dominate the market during the forecasted period.

#### North America to Dominate the Market

- Historically, North America, particularly the United States, has been a leader in adopting advanced technologies in the oil and gas industry.
- North America has a strong presence of technology providers, research institutions, and universities that contribute to digital rock analysis technique advancements. These advancements help drive innovation, improve imaging technologies, and enhance regional data analysis methods.
- Moreover, North America has significant oil and gas reserves and a well-established industry. The region's exploration and production activities in conventional and unconventional reservoirs create a strong demand for advanced reservoir characterization techniques like digital rock analysis.
- According to the United States Department of Energy, natural gas production in the United States increased by more than 4% between 2021 and 2022. In 2022 total natural gas production in the country was 43,384,575 million cubic feet compared to 41,666,118 million cubic feet in 2021, signifying the region's well-established oil and gas industry.
- Additionally, North America has been at the forefront of the shale revolution, particularly in the United States, with shale gas development and tight oil resources. Digital rock analysis is crucial in understanding the complex pore structures and fluid behavior in these unconventional reservoirs, making it valuable for optimizing production and recovery in these regions.
- Therefore, per the above points, the North American region is expected to dominate the Oil and Gas Digital Rock Analysis Market during the forecasted period.

#### Oil & Gas Digital Rock Analysis Industry Overview

The oil and gas digital rock analysis market is partially fragmented. Some key players in this market (in no particular order) are Schlumberger Limited, Halliburton Company, Core Laboratories N.V., Thermo Fisher Scientific Inc., and Intertek Group plc.

Additional Benefits:

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

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