Big Data In Oil & Gas Exploration and Production Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 125 pages | Mordor Intelligence

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Report description:

The market for big data analytics in the oil and gas industry is expected to register a CAGR of greater than 10.2% during the forecast period, 2022-2027. Due to the COVID-19 pandemic, the demand for big data analytics increased in oil and gas operations as it helped engineers and researchers to analyze data remotely. Data recording sensors have become a recent advent to the industry for various functions such as exploration, drilling, production, refining, and transportation, where big data has become an essential part of analyzing the data, which will be a significant driver for the industry. Also, big data provides better asset management, operations, production, and improved occupational safety. However, big data analytics still face challenges primarily due to a lack of business support and awareness about the technology; data and understanding of the complexity of the problem is a major restraint to big data in the oil and gas exploration and production market.

Key Highlights
Big Data integration through software would be the fastest-growing segment in the forecast period as it provides analyses of new reservoirs, drilling activities, and various other things.
Big data in the oil and gas industry has ample opportunities beyond the forecast period as improvement in technology and increasing dependence on data is expected to support the growth of the market during the upcoming years.
North America is expected to be the most dominant and largest geographic segment, owing to increasing exploration and production projects in the region.

Big Data in Oil and Gas Exploration & Production Market Trends

Big Data Software to Dominate the Market

In upstream, big data software is highly utilized to measure and handle large datasets, which include six main characteristics of velocity, variety, volume, veracity, complexity, and value.
Being involved in analyzing micro-seismic and seismic data, improving reservoir characteristics, improving drilling safety, reducing drilling time, and improving petrochemical asset management are some of the major applications of Big Data software in the upstream oil and gas industry essential for exploration and production.
Historical drilling and geological data help geologists to understand the reservoir and help them verify assumptions, and make better decisions to explore new wells in the area. Hence, with such technical support, the oil and gas industry produced nearly 88.39 million barrels per day of crude oil in 2020.
The technology is heavily utilized when the well is in its production phase as it is used in unconventional methods such as enhanced oil recovery, performance forecasting, real-time production analysis, and used to improve the safety of the well.

North America to Dominate the Market

North America has the highest share of involvement of big data in the oil industry as it is driven by high demand for big data solutions in the US shale fields and Gulf of Mexico oil wells.
Unconventional wells require upwards of USD 100 million of investment to avoid any risk, save time and reduce costs. For instance, Shell PLC uses fiber optic cables for precise location tracking, measuring reservoir properties, and well properties where the data is transferred to its private servers maintained by Amazon Web Services.
According to the BP Statistical Review of World Energy 2021, shale gas production increased rapidly from 617.4 billion cubic meters in 2011 to 914.6 billion cubic meters in 2020.
Increasing crude oil prices due to the war between Russia and Ukraine increased exploration and production interests and investment in North America. For instance, Chevron, to boost its production in the region, is developing tight rock and shale assets in the DJ Basin in Colorado, Duvernay Shale in Alberta, and Perma Basin in Texas and New Mexico.
Overall, increasing investments in the oil and gas upstream sector in the region would drive the big data oil and gas industry in the region.

Big Data in Oil and Gas Exploration & Production Market Competitor Analysis

Big Data in the Oil and Gas Exploration and Production Market is moderately consolidated. The major companies include IBM Industries, Accenture PLC, Microsoft Corporation, Oracle Corporation, and Hitachi Vantara.

Additional Benefits:

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

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