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Global Internet of Things (IoT) in Energy Market Size Study & Forecast, by Component (Solution and Services), by Application (Oil & Gas and Coal Mine), by Deployment, by Connectivity and Regional Forecasts 2025–2035

https://marketpublishers.com/r/G4FDCC9E0FF9EN.html
Date: October 2025
Pages: 285
Price: US$ 3,750.00 (Single User License)
ID: G4FDCC9E0FF9EN

Abstracts

The Global Internet of Things (IoT) in Energy Market is valued approximately at USD 1.31 billion in 2024 and is anticipated to grow with a CAGR of more than 12.30% over the forecast period 2025–2035. The Internet of Things (IoT) in the energy sector has emerged as one of the most transformative forces in modern industrial evolution, enabling real-time intelligence, automation, and operational efficiency across every stage of the energy value chain. By interconnecting sensors, smart devices, and analytical systems, IoT facilitates the seamless monitoring, control, and optimization of assets, from oil rigs to smart grids. The global energy industry is experiencing a structural shift toward digitalization, driven by escalating energy demands, sustainability targets, and the pressing need for operational transparency. This shift is further catalyzed by the rising adoption of data-driven technologies and predictive analytics, which empower operators to improve asset performance, enhance safety standards, and minimize downtime. As companies move to modernize infrastructure, IoT solutions have become the cornerstone for achieving energy efficiency and intelligent decision-making across complex and distributed systems.

The rapid surge in digital transformation initiatives across oil & gas, coal mining, and power generation sectors has significantly accelerated the demand for IoT-driven energy management solutions. These systems allow enterprises to monitor energy consumption patterns, predict equipment failures, and optimize field operations with unprecedented precision. According to the International Energy Agency (IEA), global energy investment reached over USD 2.8 trillion in 2023, with more than USD 700

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billion directed toward digital and grid modernization efforts. Such figures underscore the industry's pivot toward integrating connected technologies to enhance productivity and reduce operational inefficiencies. Furthermore, growing concerns about climate change and the need for sustainable resource utilization are motivating both private and public entities to deploy IoT systems that facilitate real-time environmental monitoring, emission control, and predictive maintenance. However, challenges related to data security, interoperability, and high initial deployment costs remain critical barriers. Despite this, the expansion of cloud computing, edge analytics, and 5G connectivity is expected to unlock new avenues for IoT adoption in the energy landscape over the coming decade.

The detailed segments and sub-segments included in the report are:

By Component:

Solution

Services

By Application:

Oil & Gas

Coal Mine

By Deployment:

On-premises

Cloud-based

By Connectivity:

Cellular

Non-cellular

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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

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Latin America

Brazil

Mexico

Middle East & Africa

UAE

Saudi Arabia

South Africa

Rest of Middle East & Africa

Solutions Segment Expected to Dominate the Market

Among components, the solution segment is anticipated to dominate the global IoT in energy market, holding the largest market share through the forecast period. IoT solutions—comprising asset management platforms, predictive maintenance software, and real-time monitoring systems—have become indispensable tools for optimizing energy operations. They enable firms to derive actionable insights from vast datasets generated across facilities, allowing predictive actions rather than reactive responses. This capability not only enhances operational uptime but also drives measurable reductions in energy waste and maintenance costs. As digital maturity continues to expand across the energy ecosystem, companies are increasingly integrating IoT platforms into their existing IT frameworks to ensure cross-functional visibility and enhanced decision-making. Meanwhile, the services segment—covering system integration, consulting, and maintenance—is expected to witness rapid growth due to increasing demand for customized IoT deployments and managed service models that reduce the complexity of in-house digital transformation.

Oil & Gas Segment Leads in Revenue Contribution

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The oil & gas sector remains the leading application segment, accounting for the highest revenue share in 2024. The industry has been one of the earliest and most significant adopters of IoT technologies, leveraging them for pipeline monitoring, remote asset tracking, predictive maintenance, and real-time production optimization. Through the use of connected sensors and intelligent analytics, energy companies can identify potential equipment failures, reduce unplanned downtime, and improve safety outcomes in hazardous environments. The integration of IoT with AI and machine learning has also enabled advanced capabilities such as predictive drilling, reservoir modeling, and automated fleet management. In contrast, the coal mining segment, while smaller in current share, is poised for steady growth as mining operations increasingly turn toward IoT-enabled safety systems, automated machinery, and energy-efficient resource management. Together, these developments signal a broader trend toward digitized and connected energy production systems designed for resilience, sustainability, and profitability.

The key regions considered for the Global Internet of Things (IoT) in Energy Market study include North America, Europe, Asia Pacific, Latin America, and the Middle East & Africa. North America currently dominates the market, driven by a mature digital infrastructure, widespread adoption of smart energy technologies, and strong investment in oil & gas digitalization initiatives. The U.S. in particular leads in IoT implementation across utilities and energy enterprises, supported by government initiatives promoting smart grid innovation and clean energy management. Europe follows closely, with stringent carbon regulations and the Green Deal framework compelling energy companies to integrate IoT for sustainability monitoring and emission reduction. Meanwhile, the Asia Pacific region is projected to witness the fastest growth through 2035, fueled by rapid industrialization, increasing energy consumption, and substantial investments in renewable energy and smart city projects across China, India, and Japan. The region’s aggressive push toward automation and real-time monitoring in coal and power sectors positions it as the next frontier for IoT-driven energy transformation.

Major market players included in this report are:

Siemens AG

ABB Ltd.

General Electric Company

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Schneider Electric SE

Cisco Systems, Inc.

IBM Corporation

Microsoft Corporation

Huawei Technologies Co., Ltd.

Hitachi Energy Ltd.

Intel Corporation

Oracle Corporation

C3.ai, Inc.

PTC Inc.

SAP SE

Telit Communications PLC

Global Internet of Things (IoT) in Energy 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

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Customization Scope – Free report customization (equivalent to 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. The detailed segments and sub-segments of the market are explained below:

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 the 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 the competitive structure of the market.

Demand side and supply side analysis of the market.

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CHAPTER 10. COMPETITIVE INTELLIGENCE

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