5G in Mining Market - Global Outlook & Forecast 2023-2029

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Report description:

The global 5G in mining market size is expected to grow at a CAGR of 34.55% from 2023 to 2029

MARKET TRENDS & DRIVERS

Growing Use of Artificial Intelligence in Operational Activities

With the increasing benefits and emerging technologies, mining industries have connected their services and products with technologies such as IoT, Artificial Intelligence (AI), 5G, Cloud Computing, Augmented Reality and Virtual Reality, Cyber Security, and others. Artificial Intelligence's popularity is increasing because it is helping to deliver better results. It helps in generating daily data, due to which manual errors are reduced. Thus, the company can get accurate data for monitoring and analysis. Artificial intelligence integration helps analyze the values, increase production from old infrastructure, and make good company growth decisions. Such growth of AI is also expected to contribute to the growth of 5G in mining market.
Expanding Mining Industry Boosting the 5G In Mining Market

The mining industry has grown tremendously in recent years due to advanced technology and rapid industrial development. The mining industry provides raw materials for various industries such as steel, electronics, manufacturing, building material, glass, aluminum, automotive, and others. All these industries are speculated to grow tremendously in the coming days. And due to this, the growth in these industries will propel the growth of the mining industry. For instance, bauxite mining has grown in recent years due to significant demand from the aluminum and aerospace industries. Aluminum produces various products such as window frames, airplane parts, electric wiring, and kitchen utensils.

Growing Acceptance for 5G Technology in Mining

The development of connectivity infrastructure and improvement in connectivity is expected to boost the demand for 5G networks across the mining sector. In underground mining, a high-speed network is required with low latency for better output from various

applications. The high bandwidth can easily contribute to and improve the operations in the mining sector by enabling their capacity. Moreover, the mining industry operates in various remote locations, where connectivity is a barrier for the companies. Here the 5G in mining market comes in handy to such problems. The emergence of 5G and Software Defined Networking in Wide Area Networks (SD-WAN) encourages mining companies to shift to this network. 5G connectivity provides low latency and high-speed connectivity, where SD-WAN safely transfers the data between different centers, remote units, and cloud environments. Thus, it will optimize efficiency and resolve data security problems in the mining industry.

INDUSTRY RESTRAINTS

Increasing Security Concern

The major problem hindering the adoption of 5G in the mining industry is its security issues. Unlike in its previous versions of 4G, 3G, and 2G, it was easy to find out if anyone was trying to commit cybercrime. However, it becomes difficult in the 5G connectivity scenario as users can easily switch their location by switching their antenna location. Thus, there is a big risk of attack for stealing the information, which is very important for any organization to make future decisions for growth of organizations. Such factors can hamper the growth of the 5G in mining market. Thus, there is a need to tackle all such problems, which may lead to overcoming these challenges, thereby helping the market grow.

SEGMENTATION INSIGHTS

INSIGHTS BY SPECTRUM

The global 5G in mining market in the mid-band spectrum was valued at USD 1.2 billion in 2023 and dominated the spectrum segment. The spectrum ranges from 1GHz to 6GHz, is a mid-band spectrum, and is an ideal spectrum for 5G carrying data at a significant distance. Japanese and Chinese operators plan to deploy 5G spectrum ranges from 4.5GHz to 5GHz. Currently, the mid-band spectrum dominates the market because of its use in the present condition of the 3.5GHz spectrum range, transmitting data at a significant distance in the early integration of the 5G network.

Segmentation by Spectrum

- Mid-Band
- High-Band
- Low-Band

INSIGHTS BY APPLICATION

Surface mining is the largest application segment in the global 5G in mining market and was valued at USD 1.5 billion in 2023. Surface mining is where rock and soil cover the mineral deposits removed instead of underground mining. In this process, stones that are overlying are left in place. The minerals are extracted through tunnels or shafts. The 5G technology can be used in all operations of the mining process and can handle unmanned operations with high efficiency and less error. Thus, there is safety in the drilling and blasting operation by using automation and IoT devices, and it will also give real-time data for monitoring.

Segmentation by Application

- Surface Mining
- Underground Mining

GEOGRAPHICAL ANALYSIS

APAC's 5G in mining market was valued at USD 860.00 million in 2023 and dominated the global market share. In APAC, China, Indonesia, Australia, Thailand, and India have been the major markets for 5G in the mining industry. China and Indonesia are the major markets where 5G in mining has been implemented, whereas, in Australia and Thailand, 5G in mining is under the test phase. In addition, India is an evolving market. It is attracting both local and international investors because of the supportive government regulations and the presence of the big players in the 5G technology market.

The 5G in mining market in Europe is expected to grow at a CAGR of 29.38% during the forecast period. The European Union includes the mining countries such as Russia, Sweden, Finland, Denmark, Italy, the UK, Spain, France, Portugal, and others. Russia is the leading player in 5G in the mining market in Europe and is the largest country in terms of geographical area, and has huge reserves of major minerals. The mining and metal industry comprises various minerals and metals such as coal, base metals, steel, iron ore, gold, silver, platinum, and others. Moreover, mining companies are trying to enhance their production capacity by deploying 5G technology in mining for automation, IoT application, and others. For instance, Nokia and Nornickel have recently successfully tested 5G in the mining sector of Russia.

Segmentation by Geography

- APAC
  - China
  - Indonesia
  - Rest of APAC
- Latin America
  - Brazil
  - Chile
  - Rest of Latin America
- Europe
  - Russia
  - Sweden
  - Rest of Europe
- Rest of The World
  - Canada
  - South Africa
  - Other Countries

VENDOR LANDSCAPE

The major players in the global 5G in mining market are Cisco, Hitachi Energy, Huawei, Nokia, and Telefonaktiebolaget LM Ericsson. The global competitive scenario in the market is currently more acute. The significantly changing technology may affect the value chain partners, such as vendors and distributors because customers expect upgrades and innovations. The industry is united, with some players which provide 5G technology in the mining industry. The competition is based on product development, connection density, technology, price, latency, and innovation. Most companies are expanding their portfolio with innovation to sustain the current competition. Companies are actively investing in collaboration with the stakeholders with a good presence in terms of 5G technology and geography.

Key Vendors

-Cisco
-Hitachi Energy
-Huawei
-Nokia
-Telefonaktiebolaget LM Ericsson

Other Prominent Vendors

-Alibaba Cloud
-Athonet
-Google (Google Cloud)
-Intrado
-Microsoft (Microsoft Azure)
-Niral Networks
-NTT
-Qualcomm
-Samsung
-Sateliot
-Sierra Wireless
-Verizon
-Windstream

KEY QUESTIONS ANSWERED

1.How big is the 5G in mining market?
2.What is the growth rate of the 5G in mining market?
3.Who are the key players in the global 5G in mining market?
4.Which region holds the most prominent global 5G in mining market share?
5.What are the key driving factors in the 5G in mining market?

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