

Connected Mining Market-Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Equipment Type (Automated Mining Excavators, Load Haul Dump, Drillers and Breakers, Others), By Software and Services Type (Data/Operations/Asset Management and Security Software, Support and Maintenance Services, System Integration and Deployment Services, Others) Region, and By Competition, 2020-2030F

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Abstracts

Market Overview

The Global Connected Mining Market was valued at USD 14.91 billion in 2024 and is projected to reach USD 26.71 billion by 2030, growing at a CAGR of 10.04% during the forecast period. Connected mining integrates digital technologies such as the Internet of Things (IoT), Artificial Intelligence (AI), automation, and advanced analytics to improve operational efficiency, safety, and productivity in mining operations. These technologies enable real-time monitoring of machinery, workforce, and environmental factors, helping mining firms reduce downtime and make data-driven decisions. The scope of connected mining includes predictive maintenance, fleet management, environmental monitoring, and energy optimization. With the rising need to enhance resource utilization and minimize operational costs, adoption of connected technologies is gaining traction. This growth is further supported by advancements in wireless communication, edge computing, and cloud infrastructure that enable seamless data collection and analysis in remote mining environments.

Key Market Drivers

Rising Demand for Operational Efficiency and Productivity Optimization

The growing need for enhanced operational efficiency and productivity is a major driver in the connected mining market. Traditional mining operations face challenges such as equipment downtime, inefficient resource deployment, and high operational costs. Connected mining technologies utilize IoT-enabled sensors to provide real-time insights into equipment health, resource flow, and maintenance needs. This facilitates predictive maintenance, improves asset utilization, and reduces unplanned downtime. Automation and data-driven systems streamline workflows and reduce reliance on manual processes. As global demand for minerals intensifies, mining companies are seeking digital solutions to increase speed, reduce waste, and stay competitive. By leveraging these technologies, companies can lower operational costs, optimize supply chains, and enhance overall productivity. Studies show that connected mining systems can reduce equipment downtime by up to 30–40%, significantly improving output and asset efficiency.

Key Market Challenges

High Capital Investment and Cost of Deployment

Implementing connected mining solutions requires substantial upfront capital investment, which presents a major challenge, especially for small and mid-sized mining companies. Establishing a digital mining ecosystem involves costs associated with hardware such as IoT sensors and control units, software for analytics and automation, and infrastructure for cloud and edge computing. Additionally, many mining operations involve legacy equipment that is not inherently compatible with new technologies, requiring expensive retrofitting and integration. Training personnel, maintaining systems, and ensuring cybersecurity further increase the total cost of ownership. These financial and logistical barriers can hinder adoption, limiting market penetration despite the long-term benefits of connected mining.

Key Market Trends

Integration of Autonomous Mining Equipment and Vehicles

A leading trend in the connected mining sector is the increasing adoption of autonomous vehicles and mining equipment. Driverless trucks, automated loaders, and

remote-controlled drilling machines are transforming operational dynamics by improving efficiency, consistency, and safety. These autonomous systems are powered by IoT, AI, and GPS technologies, enabling real-time coordination and minimal human intervention. They can operate under extreme conditions and continue functioning 24/7, enhancing output and reducing operational risks. Mining companies are rapidly piloting and scaling these solutions in regions like Australia and the Americas. AI-based predictive analytics integrated into autonomous systems allows for early detection of equipment issues, optimized routing, and improved energy usage. Centralized command centers monitor performance remotely, offering full control and data visibility—making automation a critical evolution in modern mining practices.

Key Market Players

Caterpillar Inc.

Hitachi Construction Machinery Co., Ltd.

Komatsu Ltd.

Sandvik AB

Hexagon AB

Epiroc AB

ABB Ltd.

Siemens AG

Trimble Inc.

Rockwell Automation, Inc.

Report Scope:

In this report, the Connected Mining Market has been segmented into the following

Connected Mining Market-Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Equipment...

categories, in addition to the industry trends which have also been detailed below:

Connected Mining Market, By Equipment Type:

Automated Mining Excavators

Load Haul Dump

Drillers and Breakers

Others

Connected Mining Market, By Software and Services Type:

Data/Operations/Asset Management and Security Software

Support and Maintenance Services

System Integration and Deployment Services

Others

Connected Mining Market, By Region:

North America

United States

Canada

Mexico

Europe

Germany

France

United Kingdom

Italy

Spain

South America

Brazil

Argentina

Colombia

Asia-Pacific

China

India

Japan

South Korea

Australia

Middle East & Africa

Saudi Arabia

UAE

South Africa

Competitive Landscape

Company Profiles: Detailed analysis of the major companies presents in the Connected

Connected Mining Market-Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Equipment...

Mining Market.

Available Customizations:

Connected Mining Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

Contents

1. PRODUCT OVERVIEW

- 1.1. Market Definition
- 1.2. Scope of the Market
 - 1.2.1. Markets Covered
 - 1.2.2. Years Considered for Study
 - 1.2.3. Key Market Segmentations

2. RESEARCH METHODOLOGY

- 2.1. Objective of the Study
- 2.2. Baseline Methodology
- 2.3. Key Industry Partners
- 2.4. Major Association and Secondary Sources
- 2.5. Forecasting Methodology
- 2.6. Data Triangulation & Validation
- 2.7. Assumptions and Limitations

3. EXECUTIVE SUMMARY

- 3.1. Overview of the Market
- 3.2. Overview of Key Market Segmentations
- 3.3. Overview of Key Market Players
- 3.4. Overview of Key Regions/Countries
- 3.5. Overview of Market Drivers, Challenges, and Trends

4. VOICE OF CUSTOMER

5. CONNECTED MINING MARKET OUTLOOK

- 5.1. Market Size & Forecast
 - 5.1.1. By Value
- 5.2. Market Share & Forecast
 - 5.2.1. By Equipment Type (Automated Mining Excavators, Load Haul Dump, Drillers and Breakers, Others)
 - 5.2.2. By Software and Services Type (Data/Operations/Asset Management and Security Software, Support and Maintenance Services, System Integration and

Deployment Services, Others)

5.2.3. By Region (North America, Europe, South America, Middle East & Africa, Asia Pacific)

5.3. By Company (2024)

5.4. Market Map

6. NORTH AMERICA CONNECTED MINING MARKET OUTLOOK

6.1. Market Size & Forecast

6.1.1. By Value

6.2. Market Share & Forecast

6.2.1. By Equipment Type

6.2.2. By Software and Services Type

6.2.3. By Country

6.3. North America: Country Analysis

6.3.1. United States Connected Mining Market Outlook

6.3.1.1. Market Size & Forecast

6.3.1.1.1. By Value

6.3.1.2. Market Share & Forecast

6.3.1.2.1. By Equipment Type

6.3.1.2.2. By Software and Services Type

6.3.2. Canada Connected Mining Market Outlook

6.3.2.1. Market Size & Forecast

6.3.2.1.1. By Value

6.3.2.2. Market Share & Forecast

6.3.2.2.1. By Equipment Type

6.3.2.2.2. By Software and Services Type

6.3.3. Mexico Connected Mining Market Outlook

6.3.3.1. Market Size & Forecast

6.3.3.1.1. By Value

6.3.3.2. Market Share & Forecast

6.3.3.2.1. By Equipment Type

6.3.3.2.2. By Software and Services Type

7. EUROPE CONNECTED MINING MARKET OUTLOOK

7.1. Market Size & Forecast

7.1.1. By Value

7.2. Market Share & Forecast

- 7.2.1. By Equipment Type
- 7.2.2. By Software and Services Type
- 7.2.3. By Country
- 7.3. Europe: Country Analysis
 - 7.3.1. Germany Connected Mining Market Outlook
 - 7.3.1.1. Market Size & Forecast
 - 7.3.1.1.1. By Value
 - 7.3.1.2. Market Share & Forecast
 - 7.3.1.2.1. By Equipment Type
 - 7.3.1.2.2. By Software and Services Type
 - 7.3.2. France Connected Mining Market Outlook
 - 7.3.2.1. Market Size & Forecast
 - 7.3.2.1.1. By Value
 - 7.3.2.2. Market Share & Forecast
 - 7.3.2.2.1. By Equipment Type
 - 7.3.2.2.2. By Software and Services Type
 - 7.3.3. United Kingdom Connected Mining Market Outlook
 - 7.3.3.1. Market Size & Forecast
 - 7.3.3.1.1. By Value
 - 7.3.3.2. Market Share & Forecast
 - 7.3.3.2.1. By Equipment Type
 - 7.3.3.2.2. By Software and Services Type
 - 7.3.4. Italy Connected Mining Market Outlook
 - 7.3.4.1. Market Size & Forecast
 - 7.3.4.1.1. By Value
 - 7.3.4.2. Market Share & Forecast
 - 7.3.4.2.1. By Equipment Type
 - 7.3.4.2.2. By Software and Services Type
 - 7.3.5. Spain Connected Mining Market Outlook
 - 7.3.5.1. Market Size & Forecast
 - 7.3.5.1.1. By Value
 - 7.3.5.2. Market Share & Forecast
 - 7.3.5.2.1. By Equipment Type
 - 7.3.5.2.2. By Software and Services Type

8. ASIA PACIFIC CONNECTED MINING MARKET OUTLOOK

- 8.1. Market Size & Forecast
 - 8.1.1. By Value

8.2. Market Share & Forecast

8.2.1. By Equipment Type

8.2.2. By Software and Services Type

8.2.3. By Country

8.3. Asia Pacific: Country Analysis

8.3.1. China Connected Mining Market Outlook

8.3.1.1. Market Size & Forecast

8.3.1.1.1. By Value

8.3.1.2. Market Share & Forecast

8.3.1.2.1. By Equipment Type

8.3.1.2.2. By Software and Services Type

8.3.2. India Connected Mining Market Outlook

8.3.2.1. Market Size & Forecast

8.3.2.1.1. By Value

8.3.2.2. Market Share & Forecast

8.3.2.2.1. By Equipment Type

8.3.2.2.2. By Software and Services Type

8.3.3. Japan Connected Mining Market Outlook

8.3.3.1. Market Size & Forecast

8.3.3.1.1. By Value

8.3.3.2. Market Share & Forecast

8.3.3.2.1. By Equipment Type

8.3.3.2.2. By Software and Services Type

8.3.4. South Korea Connected Mining Market Outlook

8.3.4.1. Market Size & Forecast

8.3.4.1.1. By Value

8.3.4.2. Market Share & Forecast

8.3.4.2.1. By Equipment Type

8.3.4.2.2. By Software and Services Type

8.3.5. Australia Connected Mining Market Outlook

8.3.5.1. Market Size & Forecast

8.3.5.1.1. By Value

8.3.5.2. Market Share & Forecast

8.3.5.2.1. By Equipment Type

8.3.5.2.2. By Software and Services Type

9. MIDDLE EAST & AFRICA CONNECTED MINING MARKET OUTLOOK

9.1. Market Size & Forecast

- 9.1.1. By Value
- 9.2. Market Share & Forecast
 - 9.2.1. By Equipment Type
 - 9.2.2. By Software and Services Type
 - 9.2.3. By Country
- 9.3. Middle East & Africa: Country Analysis
 - 9.3.1. Saudi Arabia Connected Mining Market Outlook
 - 9.3.1.1. Market Size & Forecast
 - 9.3.1.1.1. By Value
 - 9.3.1.2. Market Share & Forecast
 - 9.3.1.2.1. By Equipment Type
 - 9.3.1.2.2. By Software and Services Type
 - 9.3.2. UAE Connected Mining Market Outlook
 - 9.3.2.1. Market Size & Forecast
 - 9.3.2.1.1. By Value
 - 9.3.2.2. Market Share & Forecast
 - 9.3.2.2.1. By Equipment Type
 - 9.3.2.2.2. By Software and Services Type
 - 9.3.3. South Africa Connected Mining Market Outlook
 - 9.3.3.1. Market Size & Forecast
 - 9.3.3.1.1. By Value
 - 9.3.3.2. Market Share & Forecast
 - 9.3.3.2.1. By Equipment Type
 - 9.3.3.2.2. By Software and Services Type

10. SOUTH AMERICA CONNECTED MINING MARKET OUTLOOK

- 10.1. Market Size & Forecast
 - 10.1.1. By Value
- 10.2. Market Share & Forecast
 - 10.2.1. By Equipment Type
 - 10.2.2. By Software and Services Type
 - 10.2.3. By Country
- 10.3. South America: Country Analysis
 - 10.3.1. Brazil Connected Mining Market Outlook
 - 10.3.1.1. Market Size & Forecast
 - 10.3.1.1.1. By Value
 - 10.3.1.2. Market Share & Forecast
 - 10.3.1.2.1. By Equipment Type

- 10.3.1.2.2. By Software and Services Type
- 10.3.2. Colombia Connected Mining Market Outlook
 - 10.3.2.1. Market Size & Forecast
 - 10.3.2.1.1. By Value
 - 10.3.2.2. Market Share & Forecast
 - 10.3.2.2.1. By Equipment Type
 - 10.3.2.2.2. By Software and Services Type
- 10.3.3. Argentina Connected Mining Market Outlook
 - 10.3.3.1. Market Size & Forecast
 - 10.3.3.1.1. By Value
 - 10.3.3.2. Market Share & Forecast
 - 10.3.3.2.1. By Equipment Type
 - 10.3.3.2.2. By Software and Services Type

11. MARKET DYNAMICS

- 11.1. Drivers
- 11.2. Challenges

12. MARKET TRENDS AND DEVELOPMENTS

- 12.1. Merger & Acquisition (If Any)
- 12.2. Product Launches (If Any)
- 12.3. Recent Developments

13. COMPANY PROFILES

- 13.1. Caterpillar Inc.
 - 13.1.1. Business Overview
 - 13.1.2. Key Revenue and Financials
 - 13.1.3. Recent Developments
 - 13.1.4. Key Personnel
 - 13.1.5. Key Product/Services Offered
- 13.2. Hitachi Construction Machinery Co., Ltd.
- 13.3. Komatsu Ltd.
- 13.4. Sandvik AB
- 13.5. Hexagon AB
- 13.6. Epiroc AB
- 13.7. ABB Ltd.

13.8. Siemens AG

13.9. Trimble Inc.

13.10. Rockwell Automation, Inc.

14. STRATEGIC RECOMMENDATIONS

15. ABOUT US & DISCLAIMER

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