

Smart Mining Market is Estimated a Growth Trajectory of US\$ 37.52 Billion By 2031 | Astute Analytica

The global smart mining market has grown into a significant nexus of traditional industry and technological development. Automation technology has the ability to monitor mining processes as fewer people are employed



in the mining sector as businesses adjust to new regulations in the post-pandemic period. The Internet of Things (IoT), which connects devices and removes the need for human engagement in data collecting, is the core technology driving smart mining.

The growing focus on employee safety and health is a prominent trend that has permeated the smart mining sector. For instance, Canada set strong safety expectations in order to reduce the effects of several risks mineworkers confront. The Mining Association of Canada in 2020, developed a safety and health evaluation methodology with four performance indicators, including commitments and accountability, planning and execution, training, behavior and culture, and monitoring and reporting. Many employees can operate remotely, away from the risks of unstable mine sites, due to smart mining and automated machinery.

Any mistakes made in the mining sector have the potential to cause serious harm to the surrounding ecosystem, as well as injuries and even fatalities. For the mining industry, the global conversation about climate change and environmental protection offers both a challenge and an opportunity. When used properly, smart mining technologies can considerably lessen the negative effects of mining activities on the environment. Precision mining methods make sure that only the necessary amount of soil is removed, minimizing waste and altering the terrain as

little as possible.

Big data is an innovative technology that could revolutionize the mining sector. Rapid developments in information and communication technology fuel the market growth. By obtaining and using big data from various sources, processing it with modern data analytics, and putting the results into practice, mining firms may unlock instant value and enhance revenues. For instance, according to the World Economic Forum, digital transformation projects may increase the value of the mining industry by more than US\$ 320.0 billion over the next ten years. Inter Systems IRIS, the next-generation digital transformation software for mining operations, fully integrates with existing gear and software.

For many years, surface mining has dominated the industry for the extraction of minerals, and this trend is anticipated to continue. In the global smart mining market, surface mining is anticipated to attain a 48.6% market share by 2030, with a market value of US\$ 9,255.86 Mn. The accessibility of mineral deposits, comparatively low operational costs, and less negative environmental effects compared to underground mining techniques are all contributing causes to this rise.

More than 95% of the world's production of non-metallic minerals is produced using surface mining techniques. There are several important minerals, including sand, gravel, limestone, and phosphate. More than 90% of metallic mineral production, including essential substances like iron, aluminum, copper, and gold, is also a result of surface mining. Additionally, a large portion of coal—more than 60%—is also mined utilizing surface techniques.

The Asia Pacific region is likely to witness the highest Compound Annual Growth Rate (CAGR) growth and attain the largest market share in the industry, positioned to be the market's primary growth driver. The region's rich mineral resources, rising industrialization, and adoption of cutting-edge mining technology are all responsible for this dynamic rise.

Three significant economies in the area—China, India, and Japan—are setting the pace for the adoption of cutting-edge and clever technology in the mining sector. These technologies cover everything from automation and data-driven decision-making to the use of artificial intelligence (AI) and the Internet of Things (IoT). These technological advancements are transforming the mining industry, boosting security, and maximizing output.

China, which has 5,300 mines and has proven coal reserves of 1.3 trillion tons, may have discovered modern techniques in smart mining. All of this is made possible by an Industrial Internet Architecture that incorporates 5G, artificial intelligence, and fundamental research to promote safe, wise, effective, and environmentally responsible mining.

The fact that around 75% of all worldwide mining trade and investment takes place within its borders emphasizes the significance of the mining, mineral, and metal industries within the region. The importance of the countries' contributions to determining the global mining landscape is highlighted by this interdependence. An incredible 70% of the world's mining output is produced and consumed inside the area, making APEC member states stand out as important participants in the sector.

The smart mining market is highly cutthroat. Due to the presence of numerous small and large firms, the market is extremely concentrated. Cisco Systems Inc., Wenco International Mining Systems Ltd., SAP SE, Rockwell Automation Inc., Komatsu Mining Corporation (Joy Global), Symboticware Inc., ABB Ltd., and numerous more companies are the key participants in the market. The companies are expanding their market share by entering into numerous collaborations, funding initiatives, and introducing new items to the market.

- ABB Ltd
- Cisco Systems Inc.
- Hitachi Construction Machinery Co. Ltd.
- IBM Corporation
- Komatsu Mining Corporation
- Rockwell Automation Inc.
- SAP SE
- Symboticware Inc.
- Trimble Inc.
- · Wenco International Mining Systems Ltd
- Other Prominent Players

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- Underground Mining
- Surface Mining
- Placer Mining

· In-situ Mining Others Hardware o Sensors o RFID tags o Excavators o Bulldozers o Drilling Equipment o Mixer & Dump Trucks o Others · Software/Solutions o Data & Reporting Management Software o Safety & Security Systems o Connectivity & Analytics Solutions o Fleet Management Solutions o Asset Management Solutions o Remote Management & Logistics Solutions o Others Services o Professional Services o Managed Services Exploration Mine Production Processing and Refining Others · North America o The U.S. o Canada o Mexico Europe Western Europe ☐ The UK Germany □ France Italy □ Spain o Rest of Western Europe

Eastern Europe

□ Poland□ Russia

- o Rest of Eastern Europe
- Asia Pacific
- o China
- o India
- o Japan
- o Australia & New Zealand
- o ASEAN
- o Rest of Asia Pacific
- Middle East & Africa (MEA)
- o UAE
- o Saudi Arabia
- o South Africa
- o Rest of MEA
- South America
- o Brazil
- o Argentina
- o Rest of South America

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