

Smart Mining Market Size and Forecasts (2020 - 2030), Global and Regional Share, Trends, and Growth Opportunity Analysis Report Coverage: By Component (Automated Equipment, Hardware Component, Software Solution, and Services) and Mining Type (Underground Mining and Surface Mining)

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Abstracts

The smart mining market size was valued at US\$ 13.06 billion in 2022, and it is expected to reach US\$ 28.53 billion by 2030. The smart mining market is estimated to register a CAGR of 10.3% from 2022 to 2030.

APAC comprises several developed economies such as China, India, Japan, South Korea, and Australia. These countries are witnessing an increase in the middle-class population and urbanization that offers ample opportunities for key market players in the smart mining market. APAC is well-known for its technological innovations. Rapid technological developments, government support, digitalization of the economy, and rise in disposable income of the middle-income class group are among the factors that help the economy of the countries to develop and adopt advanced technologies, which is likely to create opportunities in the smart mining market. APAC integrates the smart mining market more quickly than other regions. For instance, APAC has one of the biggest surface mines including Bakan Gold Project (Indonesia), Gevra OC Mine (India), Sangatta Mine (India), Kusmunda OC Mine (India), Batu Hijau Mine (Indonesia), Anjaling Open Pit Mine (China), our Tolgoi Copper-Gold Mine (Mongolia), etc. The growing number of mines increases the demand for the innovative technologies in mining. Therefore, the smart mining market is gaining traction in the near future.

Several major mining companies reside in the region. By market capitalization, nearly half of the top 40 global mining companies, such as BHP Group, Rio Tinto, China Shenhua Energy Company, and Coal India, are in or closely tied to the region. Furthermore, the most important current mining deals involve the region. All these factors are expected to contribute to the growth of the smart mining market in APAC.

In China, despite a weakening economy and a trade dispute with the US, China's steel sector produces half of the world's steel and imports more than 70% of seaborne iron ore. In addition, the nation is home to 90% of the world's rare earth metals. Minerals obtained from China's mining sector are utilized in a broad range of products, ranging from iPhones to missiles. China has about 10,000 mines, generating a substantial portion of the world's supply. Various industry associations positively impacting the growth of the smart mining market in China include the China Mining Association and China Coal Miner Pneumoconiosis Prevention and Treatment Foundation. The Government of China supports mining companies to adopt smart mining equipment and technologies to increase their operation efficiency and reduce the workforce from the hazardous environment. In April 2020, coal-producing regions and enterprises adopted 'mart-mining' technologies such as unmanned mining vehicles that are remotely controlled by above-ground data centers. This supports the mining industries to reduce humans from hazardous places, which is fueling the smart mining market. The government has also installed smart mining technologies in more than 1,000 working coal facilities to increase the annual production capacity to over 620 million tons. Furthermore, the country is modernizing coal facilities by deploying The Hongliulin 'intelligent mine' in coal-belt Shaanxi province to remove peak greenhouse gas emissions by 2030. The sustainability benefits of smart mining technologies fuel the smart mining market in the country. Thus, the increasing number of awareness programs, conferences, exhibitions, etc. are likely to positively impact the smart mining market growth during the forecast period.

Australia is one of the pioneers in developing the most innovative mining methods and technologies in the world. The country has the first intelligent mines incorporated with robotics, autonomous vehicles, and trains controlled remotely from a command center. Major mining players in the country are partnering with international tech companies to advance their mining operations. For instance, in October 2020, BHP partnered with Microsoft to deploy mixed reality and IoT technologies in their operations. BHP uses mixed reality in its mining day-to-day operations to monitor worker's safety and improve productivity. Moreover, the company leverages its own Dash Maintainer Tools that allow front-line personnel to securely and remotely collect data from machinery by avoiding risks associated with manually checking dials or taking readings from heavy mobile

equipment such as drills and 'dozers, trucks, and excavators. IoT sensors and industrial computers are connected to Azure for real-time data that can be accessed via the smartphone or tablet by maintenance technicians. Australia is a technologically advanced country continuously looking forward to developing new innovative technologies in its mining operations. These factors are anticipated to boost the smart mining market growth during the forecast period. Growing investment in mining projects is driving the smart mining market in Australia. For instance,

In 2021, Australia's Agnew Gold Mine project received US\$ 9.25 million Australian Renewable Energy Agency (ARENA) funding to open a hybrid renewable microgrid by the end of 2021. All microgrid components such as solar farms, battery energy storage systems, gas/diesel engine power plants, off-grid, wind farms, and panels are controlled by an advanced control system. This power station is Australia's largest hybrid renewable energy microgrid that includes a predictive solar forecasting technology and demand-side load management for meeting 50% to 60% of the mine's power needs from renewable energy.

In June 2020, Hitachi Construction Machinery Co., Ltd. announced a collaboration with Whitehaven Coal, Australia's largest independent coal miner, to design and deploy an Autonomous Haulage System to assist the Company's mining operations in Northwest New South Wales.

However, entering a phase of budgetary discipline and optimization of past investments, prime contractors of the Australian mining industry are constantly striving for innovations and new technologies that could allow them to reduce their costs. Thus, Business France organized SMART MINING AUSTRALIA from March 23 to 27, 2020, to boost start-ups and other suppliers of technology equipment and various innovative solutions in the Australian smart mining market. These type of conferences in Australia on technological innovations in mining are anticipated to drive the smart mining market growth during the forecast period.

The mining sector is one of India's most significant businesses, providing fundamental raw materials to a variety of businesses. India has a reasonable cost of production and conversion advantage in steel and alumina. Its strategic location facilitates exports and the development of fast-growing Asian markets. Over the years, India has significantly grown as a smart mining market. The expansion of mining industries increases the risk of fatal mining accidents in the country. Traditional communication systems often fail to

deliver timely information from the surface to underground workstations. This situation encourages tech companies to develop advanced technologies such as IoT and AI to fill this gap. For example, IoT sensors are highly used in mining industries to continually monitor environmental factors such as humidity, temperature, and toxic gases. The technology also facilitates remote monitoring of mining operations, including machine health, maintenance, roof convergence, and drilling intelligence. It provides the ability to make quick decisions to control problems and environmental hazards, thus ensuring the safety of mine personnel and costly machinery.

In the next few years, the smart mining market in India is anticipated to be affected by a few reforms, namely Smart Cities, Rural Electrification, and the Make in India Campaign. Furthermore, various infrastructure projects are expected to provide lucrative business opportunities for steel, zinc, and aluminum producers and ultimately drive the demand for smart mining equipment.

ABB Ltd, Alastri, Caterpillar Inc, Intellisense.io, Hexagon AB, Hitachi Ltd, MineSense, Rockwell Automation Inc, SAP SE, and Trimble Inc are among the key smart mining market players profiled in the report. Several other major smart mining market players were studied and analyzed during this market research study to get a holistic view of the market and its ecosystem. The smart mining market report provides detailed market insights, which helps the key players strategize their growth.

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