

Europe Smart Mining Market Forecast to 2030 - Regional Analysis - by Component (Automated Equipment, Hardware Component, Software Solution, and Services) and Mining Type (Underground Mining and Surface Mining)

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Abstracts

The Europe smart mining market was valued at US\$ 2,675.82 million in 2022 and is expected to reach US\$ 5,992.59 million by 2030; it is estimated to register a CAGR of 10.6% from 2022 to 2030.

Rising Requirement to Improve Data Security Drives Europe Smart Mining Market

Data sources in the mining industry can be classified into two parts: direct or indirect (ancillary) measurements. Direct measurement are performed by several instruments such as GPS and conventional geodetic surveys. Indirect measurements is performed by using a system that collect data as a by-product of operations or processes such as Fleet Management Systems, SCADA or DCS data, blast hole drills, and geomodelling data. For improving ore recovery, an ore body modeling technique is used. The model provides geological patterns that help in determining the drill holes. The right mining decisions, therefore, depend on the availability of correct data from multiple systems combined with real-time data analytics. These decisions can be applied to mining production, exploration, and operations. They can also be used for monitoring and reporting metrics and KPIs.

Additionally, they help in identifying root causes for operational bottlenecks such as long queuing time of trucks and LHDs, unscheduled truck maintenance delays, and delays in lab samples undergoing quality control and batch processing. Mining companies usually have confidential data that must be protected during accidents and unpredicted natural

hazards. Moreover, the growing adoption of complex technologies requires companies to update their systems for better operational results. In August 2023, Freeport-McMoRan started investigating cybersecurity incidents affecting its information systems. The company plans to update its cybersecurity system to prioritize safety and improve production. The growing frequency and complexity of cyberattacks make mining value chains vulnerable to attack. Cyberattacks in the mining industry are stealing important data about exploration stages, such as geological data, mapping of economically exploitable mineral deposits, and surveys, which increases the adoption of cybersecurity platforms to protect itself from these attacks. In December 2022, Copper Mountain Mining faced a ransomware attack that affected IT systems, which shut down the company's production and forced them to reschedule its planned shipping deliveries. To protect themselves against targeted attacks, mining companies need chip-based security to protect their mission-critical servers and IoT devices that collect significant mining data. However, digitizing the mining processes may pave the way for hackers to access the network and regulate the operations of the mine.

Europe Smart Mining Market Overview

The market in Europe is segmented into Germany, France, the UK, Italy, and the Rest of Europe. The European mining industry excels in developing and implementing smart mining processes, enabling sustainable extraction and ore processing under technically and economically viable conditions, and meeting stringent environmental standards. Such factors contribute to market growth. The European smart mining industry is considered one of the most innovative mining sectors. High-level smart mining technologies support mining extraction, exploration, and beneficiation. The mining industry also promotes environmental, health, and safety protection advancements. Europe's industrial minerals and metal consumption has increased in the past few years. Europe produces a large number of industrial minerals and aggregates. However, it is one of the net importers of most metals and metal ores. The extraction and supply of minerals in Europe continue to play a crucial role in the European economy. Minerals are used daily as construction materials (sand, crushed rock, and gravel) for buildings, infrastructure, and roads, and for industrial purposes (e.g., kaolin, silica sand, metals, lime, and talc) in the production of steel, computers, medicines, and animal foodstuffs and fertilizers, among others. Europe relies on importing many of its mineral and metal needs.

Europe has several underground mines, including Kiruna Mine, Verbundwerk Hattorf Wintershall Mine, Malmberget Mine, Polkowice-Sieroszowice Mine, Bogdanka Mine, Rudna Mine, Lubin Mine, and Borynia-Zofiowka Mine. Therefore, several underground

mines are increasing the demand for smart mining, as the mines requires the innovative technologies regarding mining. This boosts the smart mining market growth.

Europe Smart Mining Market Revenue and Forecast to 2030 (US\$ Million)

Europe Smart Mining Market Segmentation

The Europe smart mining market is segmented based on component, mining type, and country.

Based on component, the Europe smart mining market is segmented into automated equipment, hardware component, software solution, and services. The automated equipment segment held the largest Europe smart mining market share in 2022. The automated segment is further subsegmented into load haul dump, robotic truck, driller & breaker, excavator, and other automated equipment. The hardware component is further subsegmented into RFID tags, sensors, intelligent system, and others. The software solutions are further subsegmented into logistics software and solutions, data & operation management software and solutions, safety & security systems, connectivity solutions, analytics solutions, remote management solutions, and asset management solutions.

In terms of mining type, the Europe smart mining market is bifurcated into underground mining and surface mining. The surface mining segment held a larger Europe smart mining market share in 2022.

Based on country, the Europe smart mining market is categorized into Germany, France, the UK, Italy, Russia, and the Rest of Europe. The Rest of Europe dominated the Europe smart mining market in 2022.

ABB Ltd, Alastri, Caterpillar Inc, Intellisense io, Hexagon AB, Hitachi Ltd, MineSense, Rockwell Automation Inc, SAP SE, and Trimble Inc are some of the leading companies operating in the Europe smart mining market.

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