

Industry has to overcome challenges to reach full potential, analysis finds

Mining companies are striving to develop mines that rest on next-generation technologies, novel strategies and processes to ensure a safer, greener and more profitable mining industry. By transposing the digital world with the physical world, new dimensions are being created within the mining industry that help to optimise production based on market demand, production capacity, and ore quality variations.



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A new analysis from Frost & Sullivan, Industry Scorecard for the Global Mining Industry, has found that the mining industry continues to contribute to the economy of several countries as they transition into a metal- and mineral-intensive stage of operations brought on by the rapid pace of industrialisation and urbanisation.

"While China holds and produces the bulk of the world's rare earths, several mining projects have been initiated internationally to increase supplies and reduce reliance on China," said Frost & Sullivan Industrial Automation & Process Control Senior Research Analyst, Sonia Francisco. "South Africa, the US and Australia are reopening their rare earth mines. Some regions are also commencing exploration and production activities to expand their reserve of rare earth minerals."

Challenges faces

Despite these efforts, the mining industry has not quite reached its full potential due to several challenges. Mature mining countries, such as Australia and Canada, grapple with a shrinking workforce, tight regulations, and the rising costs of energy, reagents, mining equipment and construction. Emerging mining countries, on the other hand, struggle with resource nationalism and inadequate infrastructure. Insufficient knowledge of geological characteristics, ineffective environmental and government policies, and declining ore grades also inhibit development in emerging mining markets.

Falling ore grades will create a more intensive mining industry with increased focus on water management and energy. Automation and technology innovation are being employed to resolve productivity constraints while green mining techniques like bio-mining are being implemented to reduce overall mining footprints.

"As the quest for new resources continues, upcoming segments like offshore mines will require extensive technology advancements to ensure that deposits are extracted from the sea floor without harming the marine ecosystem," stated Francisco. "The next frontier in the mining industry will include automation and digitalised mines that can effectively operate in deeper, harsher and more complex mining environments."

Industry Scorecard for the Global Mining Industry is part of the Industrial Automation & Process Control (www.industrialautomation.frost.com) Growth Partnership Service programme.

To access more information on this research, go to [Frost & Sullivan's Industry Scorecard for the Global Mining Industry](#)