How to Drive Digital Transformation in Mining and Metals Industry?

The last couple of pandemic years have been unpredictable for businesses around the world. Though the crisis has created daunting challenges, there is no questioning that it has also unlocked digital potential. Businesses across all industries have been forced to adopt remote working, fundamentally changing the workplace. And the mining and metal industry is no exception.

Though digital transformation was already underway in the mining sector prior to 2020, the pandemic has had an indelible impact on pace and nature of that transformation.

It has reinforced the industry's need for full digital transformation and accelerated the timeline for existing transformation efforts. With the future of intelligent mining on the horizon, now is the time for change.

Its not about adopting the latest digital technologies and capabilities. It's about imbibing digital thinking into the heart of the business strategies and practices in order to completely transform the way the mining industry operates.

Useful link: **[Digital Transformation: Avoid 8 Most Common Pitfalls](#)**

How Digital Transformation Benefits Mining and Metals?

Digital transformation shows great promise for the mining and metals industry that desperately needs a makeover. It can create a more agile and profitable business, with improved decision-making and employee empowerment.

Moreover, digitalization can reduce geological uncertainty, market volatility, and operational risks and improve health, safety, and environmental impact.

According to a recent World Economic Forum report, by 2025, digitalization in the mining and metals industry could create:

- **USD 425 billion** – potential value addition for the industry, customers, society, and environment
- **USD 320 billion** – potential value for the industry
- **USD 190 billion** – potential value for the mining sector
- **USD 130 billion** – potential value for the metals sector
- **610 million tonnes** – reduction in CO_2 emission
- **1,000 lives** – estimated number of lives saved
- **44,000 injuries** – estimated number of injuries avoided

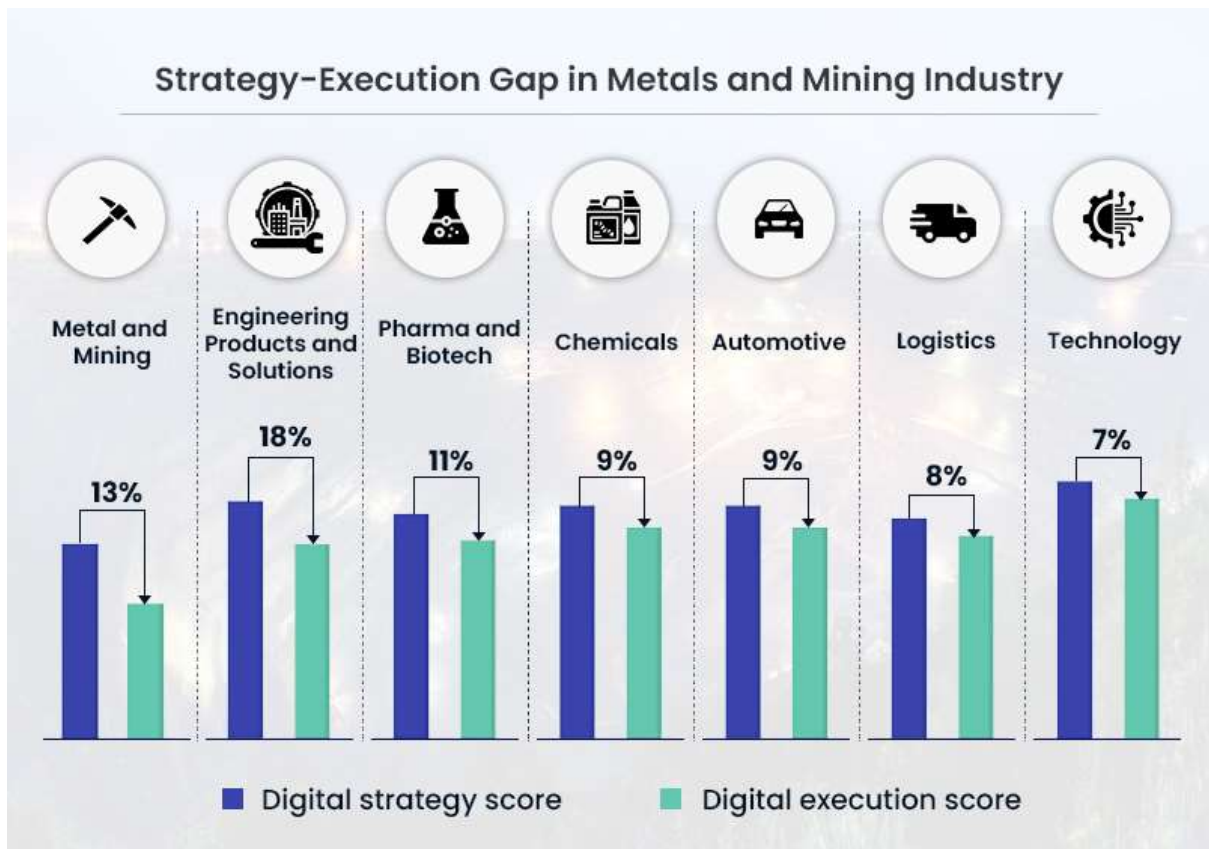## The Bumpy Road to the Future of Digital Mining

Many metals and mining companies have already started investing in digital technologies. However, many of these investments are insignificant compared to their potential, courtesy to the unique barriers the industry is facing.

According to BCG's **Digital Acceleration Index (DAI)**, the metals and mining industry is around 30-40% less digitally mature than other industries like automotive and technology.

Moreover, the mining industry has a significant gap between strategy and execution of their digital strategies. The lack of customized solutions, the use of traditional waterfall methodologies to deploy digital technologies and ignoring the sustainability of the solutions are the prime reasons for the strategy-execution gap.

Strategy-Execution Gap in Metals and Mining Industry

Metal and Mining	Engineering Products and Solutions	Pharma and Biotech	Chemicals	Automotive	Logistics	Technology
13%	18%	11%	9%	9%	8%	7%

■ Digital strategy score   ■ Digital execution score

So, how can the metal and mining industry navigate the digital barriers to unearth the true potential of digital transformation? Read on…

Useful link: [Drive Customer Experience With Digital Transformation](#)

How Can Mining Industry Achieve Successful Digital Transformation?

Mining Industry Digital Transformation

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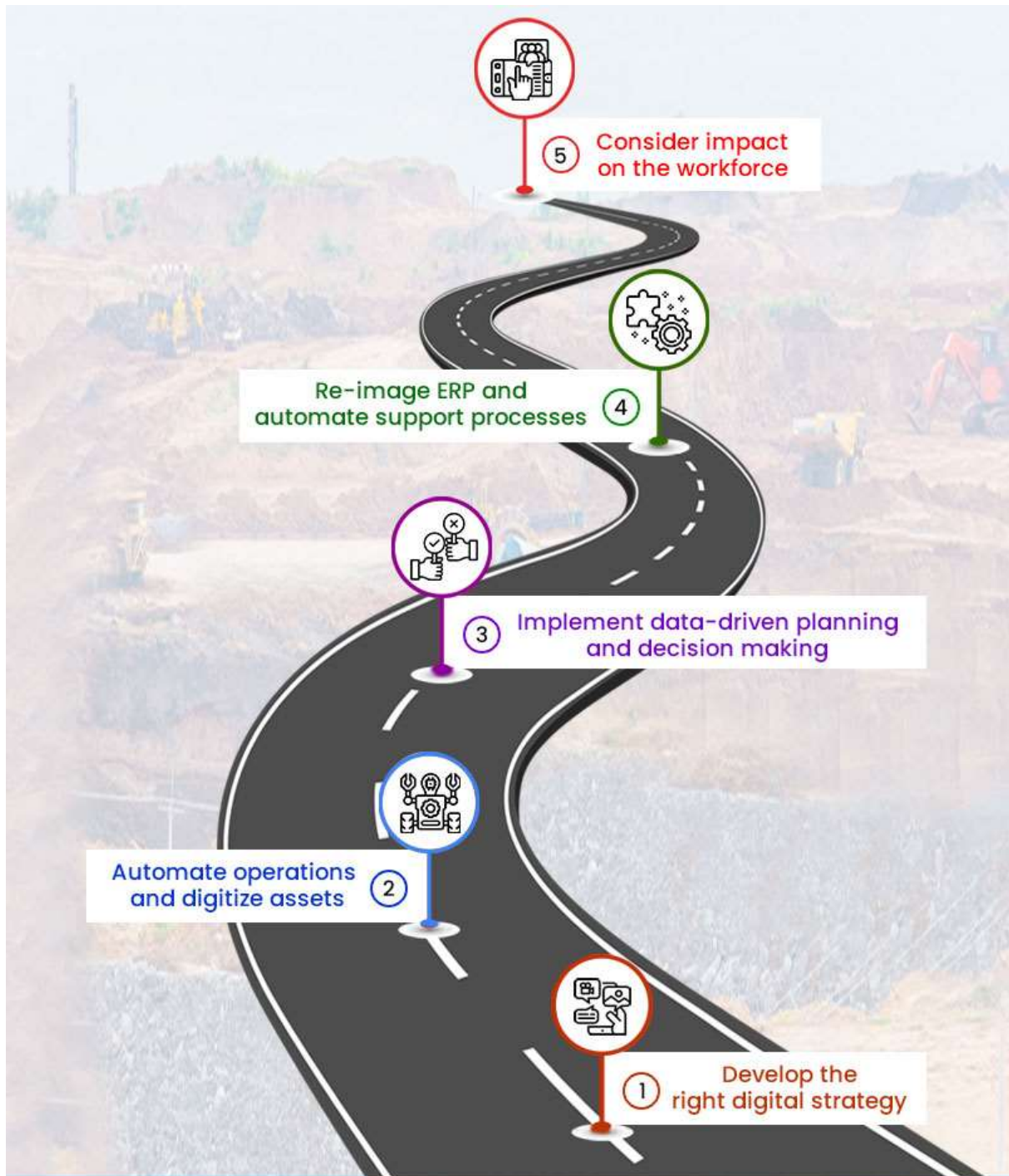
The mining companies must embed digital thinking, processes, and structures into their entire organization to unlock the full value of digitalization. While many miners strive to achieve true digital transformation, they lack real visibility and struggle to execute an effective digital strategy.

Here are some considerations for mining companies to thrive in the digital future:

1) Develop the right digital strategy

The mining companies must develop an enterprise-level digital strategy that clearly defines the value to be created by the digital initiatives to the organization. The strategy must deliver [digital business transformation](#) at the speed that attains short-term goals while ensuring flexibility to enable longer-term transformation. Moreover, it must consider all the products and platforms that make a complete solution for the entire future digital mine.

2) Automate operations and digitize assets

The organizations must deploy a wide range of digital capabilities to automate core operations in the mining value chain. For instance, **IoT** and **Machine Learning** must be used to automate and improve the reliability of mining equipment and trucks, sensors to capture data in real-time, drones for data collection, inspection, and stock control, and wearables for field maintenance and operator safety.

3) Implement data-driven planning and decision making

Though the direct benefits of automation and digitization are significant, a greater value will be realized only when the data is used to plan, optimize, and integrate the activities across the value chain. The mining companies must develop and deploy data science and analytic skills as well as the foundational data platforms and analytic tools to bring together data across the value chain in multiple time-horizons.

This helps improve planning, control, and decision-making to optimize complex systems and operations all the way from pit to customer.

4) Re-image ERP and automate support processes

The ripple effect of **digital transformation** will go beyond the core mining operations to the supporting processes and systems such as supply, HR, and finance. So, the companies must re-imagine Enterprise Resource Planning (ERP) and other processes using digital solutions that enable the low cost of ownership and latest user interfaces.

Robotic Process Automation (RPA) must be utilized to automate repetitive manual activities and reduce costs and errors in back-office support processes and shared services.

5) Consider the impact on the workforce

Digital transformation in the labor-intensive mining industry will significantly impact the workforce in a multitude of ways. The digital mine can employ a diverse workforce, including on-shore, off-shore, distributed, remote, mobile, and connected employees, with increased human-machine interaction.

Useful link: 6 Checklist Points That Promise 'Digital Transformation Success'

In Conclusion

The path to digital mine is less about capitalizing on new technology, it requires business leaders to embrace a new way of operating, data-driven decision making, and diverse skills and capabilities. This will be a daunting task for mining companies, which often find themselves in digital talent scarcity.

They must recruit new skills while supporting their experienced workforce to make the transition successfully. With the digital landscape evolving rapidly, now is the better time to explore Intelligent Mining!

Veritis Can Help!

Work with [Veritis](#) to kick-start your digital mine transformation today. We help you implement a sustainable **digital transformation**, providing the required multidisciplinary digital skills and deep industry expertise.

Key Takeaways:
- The pandemic has accelerated the mining industry's [digital transformation efforts](#).
- With the future of intelligent mining on the horizon, now is the time for change.
- Imbibing digital thinking into the heart of the business strategies and practices fetches digital success.

Let's talk!

[Contact Us →]