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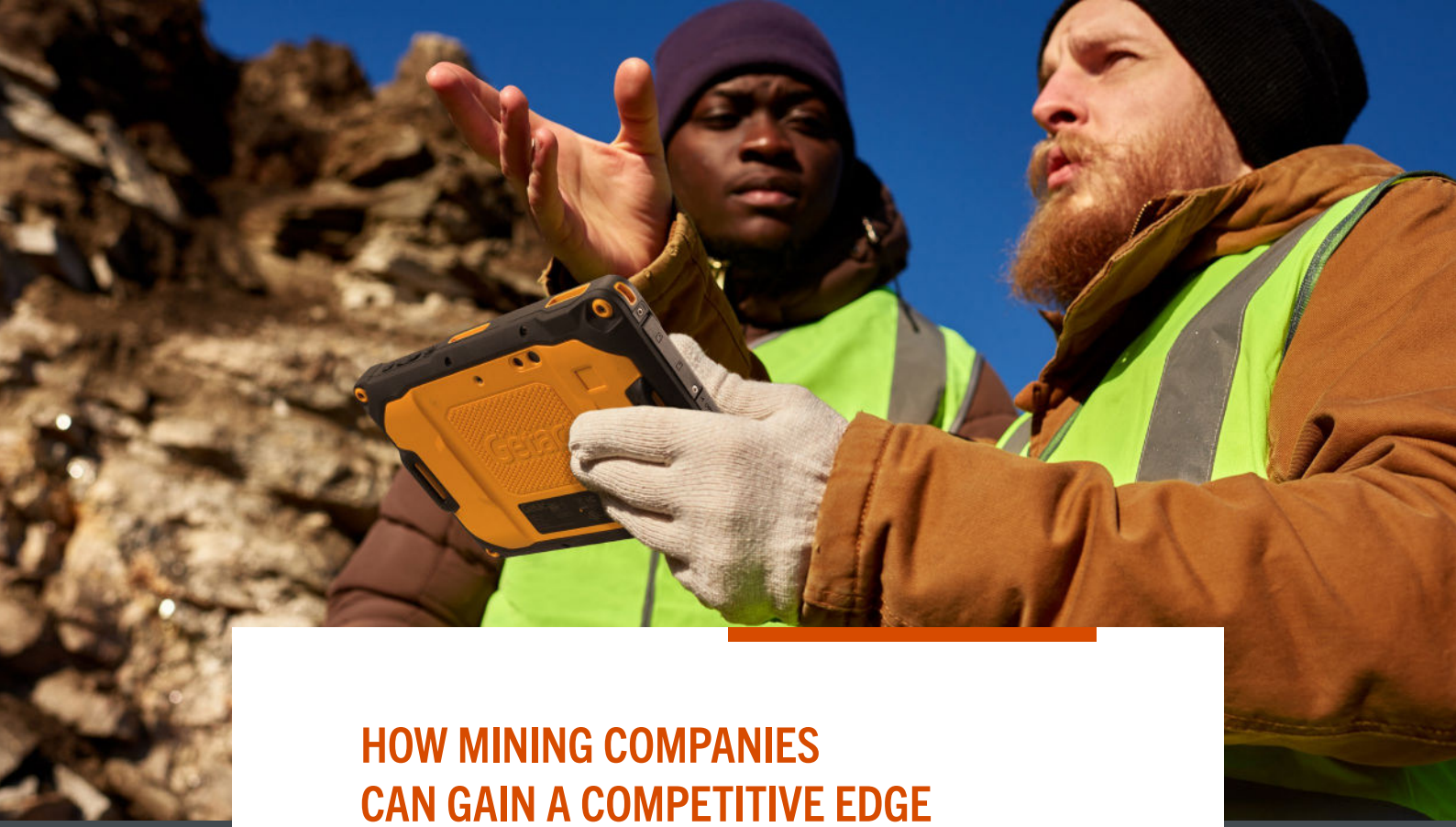
TIP SHEET

FOUR WAYS DIGITAL TRANSFORMATION SUPPORTS SMARTER, SAFER, MORE COST-EFFECTIVE MINING PRACTICES

Eight of the top 10 biggest export industries in Australia are in the mining sector.[1] From Western Australia to Queensland, it's one of the country's most important industries, and it's ripe for disruption.

[1] https://www.ibisworld.com/australia/industry-trends/biggest-exporting-industries/



HOW MINING COMPANIES CAN GAIN A COMPETITIVE EDGE

In a world defined by technology, innovation and digital transformation, Boston Consulting Group (BCG)'s Digital Acceleration Index (DAI) 2021 found that the mining industry is roughly 30 to 40 per cent less digitally mature than other leading industries, including the automotive and chemical sectors.[2]

The good news is that this offers Australian mining companies an unprecedented opportunity to harness the benefits and opportunities of digital transformation for competitive advantage.

In fact, according to BCG's DAI report, mining companies that solved the digital transformation challenges they faced reaped significant rewards, including 10 to 20 per cent improved mining throughput and increased procurement productivity by up to 50 per cent.

Digital transformation gives the mining industry the tools and insights to transition towards more intelligent digital mining by adapting processes and incorporating different technologies.

These changes increase information availability, improve performance and decision-making with advanced analytics, enhance worker safety, and achieve greater coordination during operations.

[2] Reference: https://www.bcg.com/publications/2021/adopting-a-digital-strategy-in-the-metals-and-mining-industry

Digital transformation is supporting smarter, safer, and more cost-effective mining operations in the following four ways:

1. MINIMISING THE COST OF DOWNTIME

Mines face two types of downtime: planned downtime for routine maintenance; and unplanned downtime due to unexpected breakdowns. When a mine is not operating, it is not making money, and so the cost of downtime can quickly run into millions of dollars.

THE DIGITAL DIFFERENCE

Predictive maintenance

At its core, digital transformation is about having access to the right data at the right time to make better decisions. Mines can avoid expensive downtime and minimise unplanned or last-minute maintenance with the ability to fix machines before they can cause disruption.

Increased efficiencies

Managing mining vehicle fleets is easier and more effective with the right information on hand. Decision-makers can monitor everything from which vehicles are the most productive and cost-efficient to being able to determine why. Digital solutions let mining companies automate refuelling and other maintenance-related procedures, proactively identify issues through routine fleet inspections, and give on-the-ground teams the alerts and insights they need to quickly and efficiently manage problems.

2. IMPROVING MINE SAFETY

Safety is a top priority for all Australian mining companies. However, the reality of working under such extreme conditions means that safety inspections and the ability to constantly monitor and analyse working conditions and geographic changes are paramount.

THE DIGITAL DIFFERENCE

Improve mine performance and flag potential issues

Inspecting mine shafts is critical to ensuring worker safety and the mine's uninterrupted production. Digitisation makes mining safety documents and the code of mining regulations available at the click of a button, driving dynamic decision-making to improve mine safety.

Due to digitisation, technology also exists to inform miners about the state of the job site, predict the likelihood or location of a hazard, monitor rock and ground movement and machinery usage, and even monitor miners' vital signs and location.

Managers can also receive real-time inspection data, including predictive analysis, immediately, so that potentially dangerous areas can be swiftly cordoned off and reinforced to prevent cave-ins and protect workers.

3. CREATING A FUTURE-READY WORKFORCE

According to Australia's Department of Industry, Science and Resources, 80 per cent of Australia remains largely unexplored.[3] The Australasian Institute of Mining and Metallurgy (AusIMM) believes that this huge untapped potential ensures a high global demand for Australian resources, particularly as Asia continues to grow rapidly.[4] If Australia is going to lead the way in the future of mining, it is essential to attract the best talent and to ensure up-and-coming graduates want to enter the sector.

Through digitisation and the automation of hazardous tasks, mining organisations can protect human life and provide future-fit skills.

THE DIGITAL DIFFERENCE

New skills for future work

Robotics and automation are already changing how Australian organisations mine, but long-term skills transfers will mean that the mining industry can be at the forefront of future-ready skills. For example, semi-skilled manual labour will be replaced with skilled future-fit workers, making the industry more attractive for employees.

4. POWERING REAL-TIME DECISION-MAKING

One of the biggest challenges the mining sector faces, according to AusIMM, is the need for two-way communication between underground and surface personnel. This is compounded by mines becoming increasingly deep; sometimes up to several kilometres below the earth's surface.[5] Until recently, there was a disconnect between these teams. Underground teams could not provide timely information to the surface, and on-site employees in remote areas had to call corporate headquarters or a field manager with a better view of operations before making a decision. As a result, there were long lead times between issues raised, decisions made, and actions implemented, limiting visibility into business operations.

THE DIGITAL DIFFERENCE

Centralised data in the palm of your hand

Due to digital transformation, all data is accurate, centralised, and available to workers on-the-ground, so they can make the right decisions based on real-time data without waiting for off-site leadership teams to make decisions.

[3] https://www.industry.gov.au/mining-oil-and-gas/minerals/critical-minerals/investing-critical-minerals-australia
[4] https://www.ausimm.com/insights-and-resources/mining-industry/future-of-mining-in-australia/
[5] https://www.ausimm.com/insights-and-resources/insights/mining-technology-and-innovation/

GETAC: CONNECTING DATA TO THE WORKFORCE

Digital transformation is not just about adding technology to mining, it's about putting the right data into the hands of workforces. That's why rugged mobile devices form an invaluable part of the digital ecosystem.

They connect workers across mines to vital information necessary to keep operations running. Employees can use a rugged mobile device for anything from fleet management to predictive geotechnical testing and risk analysis or safety inspections. In addition, with a rugged device providing access to all necessary data and analyses, problems can be solved quickly and efficiently whenever worker intervention is necessary.

NATIVELY RUGGED

Getac rugged devices are built from the ground up to thrive in high-pressure and high-risk environments.

- Rugged tablets process data from immersive technology, automated or autonomous robotics, monitors and sensors, and wearable devices.
- Getac detection systems driven by robust Intel® Core™ vPro™ processors can improve mine performance and flag potential issues.
- Real-time geotechnical risk management is enabled through fast and powerful Wi-Fi and Bluetooth, which means inspection data can be sent in real time from the mine site, resulting in smart, fast decision-making.
- Getac solutions are thin and light while remaining rugged enough for a day in the mine. They can withstand extreme temperatures, shocks, and drops, and have long battery lives for extended in-field work.
- Certified with ATEX and IECEx for use in potentially explosive atmospheres, Getac devices are independently tested and certified up to MIL-STD-810H, IP67, and MIL-STD-461G. All solutions are vibration, moisture, dust, and drop-resistant.
- Over and above the cost of rugged tech itself is how the technology supports the total cost of ownership (TCO) of other technology and assets in businesses. In one survey, 91 per cent of rugged tech users reported a reduction in long-term costs.
- Getac offers an industry-leading bumper-to-bumper warranty on its products for a minimum of three years, which includes accidental damage.

To find out how connecting your workforce through digital solutions can boost your mine's bottom line, contact the Getac team today.

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