

TECH TRENDS AND THE VALUE OF EDGE DC'S FOR MINING

PRODUCTIVITY IMPROVEMENTS
DRIVE THE NEED FOR BETTER
EDGE INFRASTRUCTURE



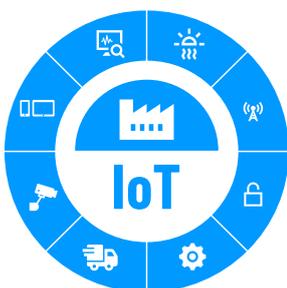
EDGE DATA CENTRES (DC) DIFFER FROM TRADITIONAL DC'S AS THEY BRING THE PROCESSING POWER FROM THE CENTRE OF THE NETWORK TO THE EDGE OF THE NETWORK. EFFECTIVELY, THE EDGE IS CONCENTRATED AT THE 'LAST MILE' OF THE NETWORK. BY DEPLOYING SMALL AND DECENTRALISED SERVERS, EDGE DC'S BRING THE POWER AS CLOSE AS POSSIBLE TO THE THINGS AND PEOPLE PRODUCING AND USING THE DATA OR INFORMATION.

Finding an infrastructure partner that is local, builds on site here in Western Australia, to Australian standards and climate conditions, and can build quickly to your exact requirements are just some of the issues facing mining companies across Western Australia right now.

One of the newest challenges for mining operations is managing the massive amounts of data produced across the value chain. Mining operations are often spread out geographically and because the value chain isn't connected

through data, only a small amount of information is being leveraged to reduce process variability and optimise operations.

Australia and New Zealand have a greater need to get the Edge right than most. Both nations have a highly dispersed geography with many of our primary and growth industries, such as mining and manufacturing, located in far-flung destinations where even basic connectivity can be poor or absent.



Edge computing is the only way to harness the power and benefits of IoT and smart applications in these areas.





The rising demand for Edge computing in business operations is set to further drive the modular data centre market share now and for the foreseeable future, as businesses such as mines are increasingly dependent on IT infrastructure that is cost-effective and close to the network source to provide better data transmission speed, accuracy, and security.

Prefabricated facilities offer significant value to mining organisations such as ease in deployment, unique design and architecture, and portability. These modular data centres are being installed at remote locations to address latency and bandwidth issues by linking to regional data centres whenever needed thereby improving the user experience. Tech trends in the mining industry that are driving this move to the Edge include digitisation, data analytics, AI and automation.



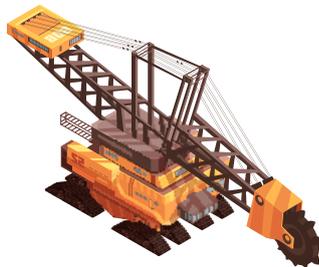
AUTOMATION

Whether its autonomous vehicles, smart robots or drones, most miners are already onboard with automation. Driverless vehicles are becoming increasingly common at mine sites as companies look to improve safety, by removing human drivers from vehicles. BHP has invested significantly in the technology, with its Jimblebar hub in Western Australia exclusively using automated vehicles from November 2017, a move which the company claims has improved operational efficiency by 20%¹.



DIGITISATION AND RISK MANAGEMENT

Real-time data capture systems are growing in importance in risk and safety management and have been highlighted in many trend forecasts. Exploration and mine managers can make key decisions knowing they have access to accurate, near real-time data. They can adjust production processes and schedules to accommodate emerging issues or risks.



DATA ANALYTICS

According to McKinsey, by unlocking the value of dormant data, the mining industry could generate an economic impact of \$100 billion per year in maintenance alone². Miners have recognised that there is a tremendous opportunity to increase operational efficiency, reduce costs, and improve safety with Big Data if their teams can access it, understand it, and apply it to real-world situations.



ARTIFICIAL INTELLIGENCE (AI)

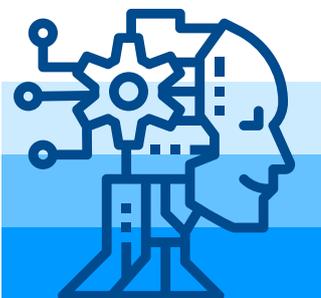
AI calls for vast quantities of resources to develop and train its models. With Edge computing, the data is able to move freely into the cloud. From there the data can be analysed and the AI models can be trained before then extending it back to the Edge.

Edge DC's are used by many organisations in conjunction with cloud analytics and machine learning technology to make new and valuable business services possible.

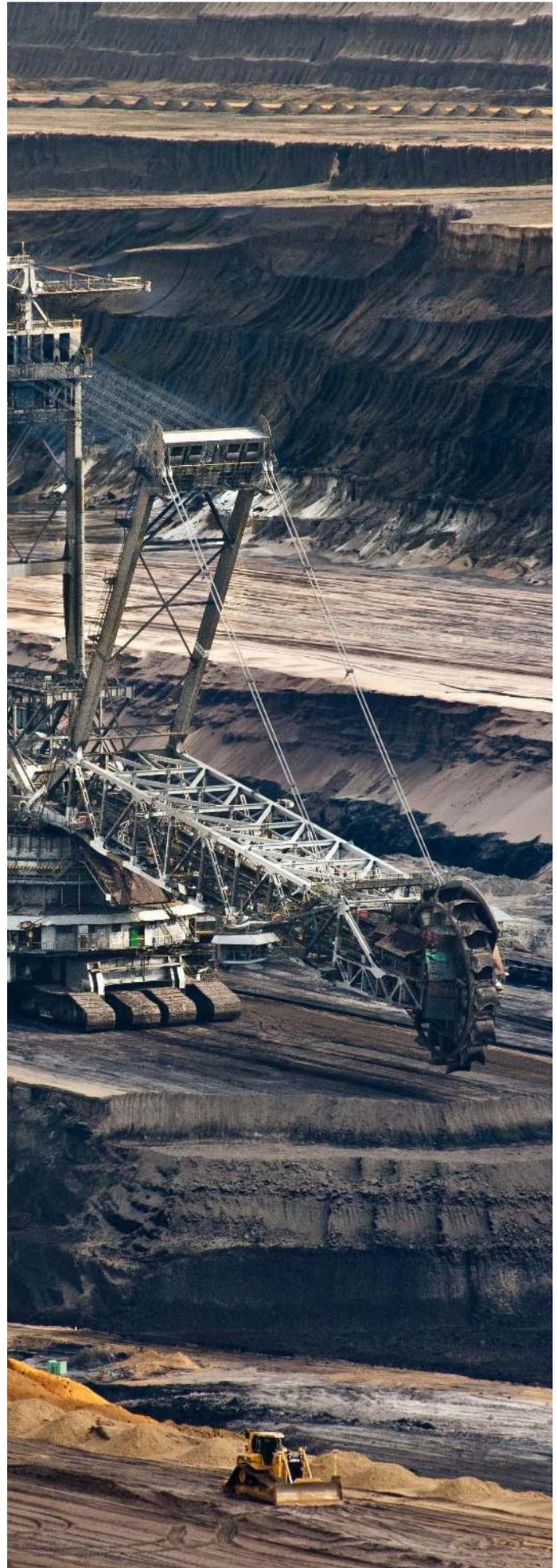
One example is how mining companies manage their in-pit operations. Accenture's Connected Mine solution has been extended with Edge computing at an industrial mining site where they use high-resolution video of drilling equipment to determine rock density³.

The capability allows the drill to adjust angle and speed in real-time, and also support predictive maintenance of equipment. The bandwidth of the high-density video streams required can't be transported back to the cloud with the required frames per second in a cost-effective manner for direct cloud processing.

This is where Edge computing has the upper hand to the cloud and could take AI to the next level. Any data required for an AI application is able to reside in close proximity to the device, therefore increasing the speed in which it is able to access and process the data.



Gartner predicts that three-fourths of enterprise data to be processed at the Edge by 2025⁴, while Grand View Research predicts the Edge computing market to expand at an annual rate of 54% to 2025⁵.



HOW DXN GIVES YOU THE EDGE



DXN is a vertically integrated data centre company. We design build operate and own and lease data centre infrastructure. With a team of highly skilled electricians, engineers and site installation specialists, we assist customers in every part of the Data Centre production process from inception to actualisation.



All DXN Edge data centres undergo rigorous pre-testing and quality assessment, ensuring that each prefabricated Data Centre is delivered to site quickly and ready to support its intended initiative. Our prefabricated build process has the added benefit of being repeatable, allowing for flexible and cost efficient future expansions. Our modules come pre-tested and prefabricated to any size allowing you to 'plug and play' no matter the location or specification.



DXN build rugged, resilient and purpose-built Edge data centres designed to ensure your critical infrastructure is housed securely and protected even in the harshest environments. Engineering and manufacturing are completed locally in Australia and DCs deployed to any site around the globe.



All modules can be factory tested in our controlled environment to ensure the unit you deploy is ready for action from the day it arrives on site. Our modules can be designed around ISO standards meaning they will go just about anywhere.



DXN provides a range of electronic and biometric security measures, coupled with a 24/7 data centre operations team. With DXN, customers can tailor environmental and physical security to suit their requirements, all certified by the Uptime Institute.

LEARN MORE ABOUT OUR DXN EDGE SOLUTIONS

To book a virtual tour of our WA manufacturing facility or set up a conference call with a DXN infrastructure and colocation specialist

[Click Here](#)



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REFERENCES

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GIVING YOU THE EDGE

Rapid Deployment
Modular
Different

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