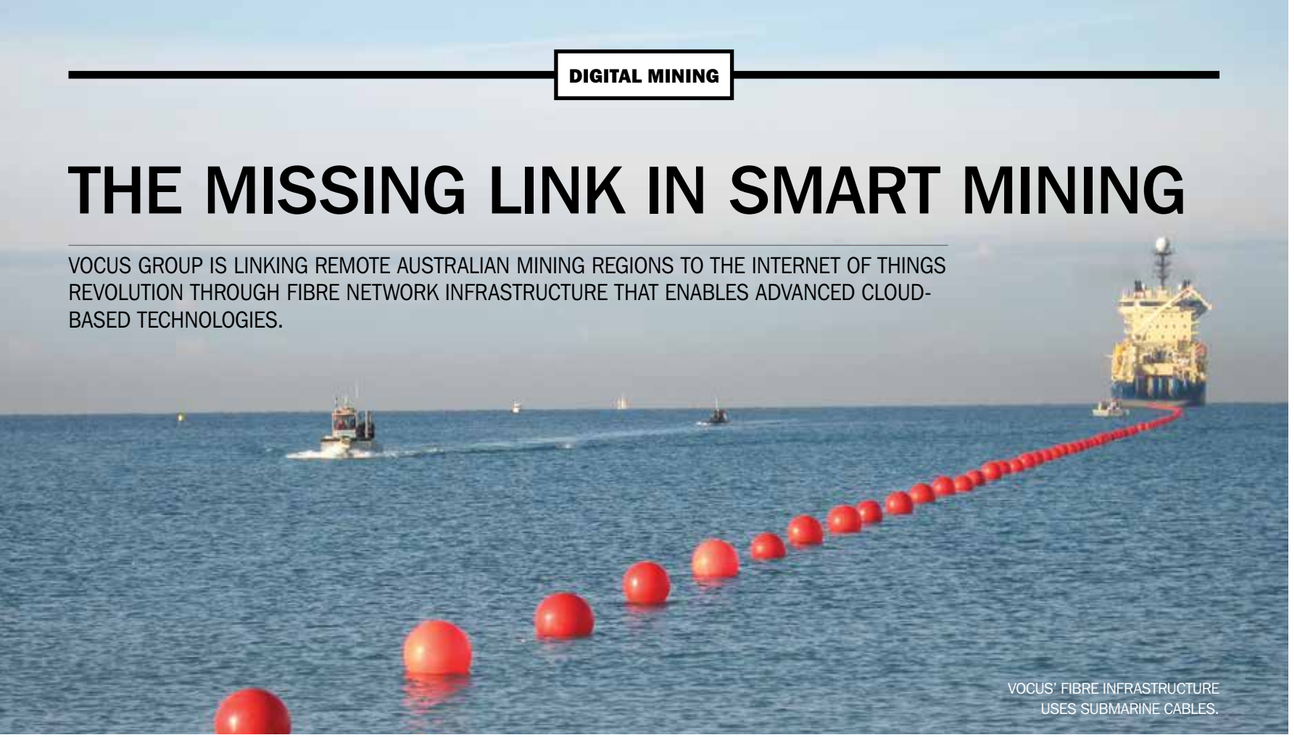
THE MISSING LINK IN SMART MINING

VOCUS GROUP IS LINKING REMOTE AUSTRALIAN MINING REGIONS TO THE INTERNET OF THINGS REVOLUTION THROUGH FIBRE NETWORK INFRASTRUCTURE THAT ENABLES ADVANCED CLOUD-BASED TECHNOLOGIES.



VOCUS' FIBRE INFRASTRUCTURE USES SUBMARINE CABLES.

The mining industry is moving towards a new frontier of technology and digitisation.

Robust and reliable telecommunications infrastructure is crucial to putting Australia's mine sites on track to achieve this ambition.

While Australia's eastern states have enjoyed a strong level of internet and telecommunication upgrades, regional areas of Western Australia and the Northern Territory have struggled to keep up.

Hyper-cloud computing is the next phase of data centre technology that will develop traditional workloads via the internet.

In mining, this includes real-time data and machine analytics, remote operations, automation and virtual reality.

These remote and automated technologies open the door to safer and efficient mine sites and are increasingly in demand amid the COVID-19 pandemic, which has barred international travel and clipped the wings of fly-in, fly-out (FIFO) workforces.

The next generation of mine sites – often referred to as smart mines – will require strong internet and telecommunications infrastructure due to the bandwidth and low-latency requirements these real-time technologies bring to the table.

VOCUS PLANS TO CONNECT PARTS OF WA AND THE NT TO SINGAPORE.

Singapore, a major hub for the Internet of Things (IoT) data centres needed for hyper-cloud computing, offers a pathway to enable this 'smart' future.

Vocus is working on major network projects that bridge northern Australia's remote regions to Singapore to fast-track mine site adoption of IoT technologies.

"You have to just look into the components that make up a smart mine," Vocus national general manager government and special projects Michael Ackland tells *Australian Mining*.

"IoT technology is controlled by software which has to be computed. If you haven't got connectivity into the rest of the telecommunications networks and cloud services, you will need to do that locally, which is very expensive."

While mining companies have proven these technologies can now be commissioned, they are forced to build their own mini data centres on site.

Building on its previous delivery of fibre infrastructure solutions, Vocus plans to connect areas of Western Australia and the Northern Territory to Singapore with fibre cable.

The company is working on multiple projects to bring theses fast and reliable connection speeds to regional areas.

"This connectivity helps with latency and bandwidth requirements," Ackland says.

Vocus' Darwin-Jakarta-Singapore Cable will be the first international cable connection into Darwin, enabling greater access to cloud services through enhanced latency and network speeds.

It will give regions in northern Australia access to world-class fibre infrastructure that can enhance mining operations.

Remote-operated mine sites require a low latency connection of under 100 milliseconds due to plant and equipment being controlled in real time from a facility off site.

"The Darwin-Jakarta-Singapore Cable brings most of northern Australia to 40-50 milliseconds connectivity to what is a global hub for hyper-cloud and other services that weren't previously available," Ackland continues.

"The price of data centres and hyper-cloud in remote regions is far greater than metropolitan areas such as Sydney."

According to Ackland, only one telecommunications provider services the remote regions of northern Australia.

New fibre infrastructure would, however, open the door to more competition in the mining telecommunications space.

Vocus intends to commit to what it describes as a complementary investment for miners through more industrial-focussed telecommunications.

The complementary investment of Vocus' fibre infrastructure prevents the need for costly on-site data centre at mine sites.

"The point here is Singapore is a hub for the smarts of mining operations around the world and that's going to be in very easy reach of northern Australia," Ackland says.

"Darwin is currently at a disadvantage to get cost-effective telecommunications connectivity into and out of the region.

"The Darwin-Jakarta-Singapore Cable brings new routes and price-based competition to the top end of Australia – particularly to the Northern Territory via Darwin."

Ackland says the reason northern Australia's fibre infrastructure has fallen behind is due to its remoteness and smaller population.

Yet, strong demand from the mining sector has encouraged Vocus to develop the fibre infrastructure project.

"Telcos like ourselves are recognising the demand that's coming from the mining sector and other sectors, as well all of it being driven by the digitisation of our economy," Ackland says.

"That is creating an investment case through our Darwin-Jakarta-Singapore Cable."

To further enhance the connectivity of mining operations, Vocus is also deploying Project Horizon, which will deliver fibre infrastructure from Geraldton to Port Hedland, and then on to Singapore via the Darwin-Jakarta-Singapore Cable.

Port Hedland is a major export location for iron ore mined in Western Australia's Pilbara region by majors including Rio Tinto, BHP and Fortescue Metals Group.

"From a geographic perspective, the infrastructure is very relevant and has the ability to service the connectivity requirements of the mines in the Pilbara," Ackland says.

Vocus has received strong support for the fibre networks from mining companies operating in the Pilbara.

By connecting Port Hedland to Singapore, mining supply chains in the Pilbara that use autonomous haulage through rail systems and vehicles will be able to benefit off lower latency times and better connectivity.

If a remote operation has a poor connection, the autonomous vehicle must stop, which can impact productivity and consistency.

"It's been very well received," Ackland says. "There's a lot of interest and certainly a lot of demand, which we were aware of before we announced this project."

For Vocus, the industry's move towards automation means that its fibre infrastructure can expect wider use in the coming years.

"The very intensive mining industry is moving towards highly automated and in some cases autonomous mining as the way of operating those mines," Ackland says.

"That requires connectivity into global networks for the compute powers for the maintenance and constant monitoring of mines."

Both projects will use submarine cables to connect the regions with the Darwin-Jakarta-Singapore Cable, which is scheduled for completion by mid-2023. AM

VOCUS IS IMPROVING CONNECTIVITY THROUGH FIBRE NETWORK INFRASTRUCTURE.

THE FIBRE INFRASTRUCTURE WILL ENHANCE INTERNET ACCESS IN REMOTE AREAS.