



## **IMARC 2020 | Tuesday, 24 November 2020**

### **Accelerating digital transformation**

#### **Pat Bourke**

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Welcome everyone.

My name is Pat Bourke and I am the VP of Technology for Minerals Australia at BHP.

I would usually commence by acknowledging the traditional owners of the land upon which we are meeting... however given we are meeting virtually I will take this opportunity to extend my deepest respects to all the traditional owners where BHP operating around the world.

It has been an unprecedented year that blindsided us... and we have had to find new ways to keep our businesses operating throughout this time of extraordinary disruption.

The way we were able to mobilise quickly...  
to safeguard the health of our workforces...  
to support communities and  
our business partners...  
while keeping our operations running is remarkable.  
(A testament to the resilience of our workforce).

What this pandemic has shown is that companies who are agile and invest in digital capabilities will be the ones that survive and thrive in the future.

In many ways, the pandemic has served as a catalyst by accelerating digital transformation in both our personal lives and across businesses in almost every industry.

We have been focussed on this for some time... but are now accelerating our plans for digital transformation as we prepare for the future that lays ahead.

We all know mining is essential.

The resources we produce are what the modern world is built on... and will support economic development and improvement in living standards around the world.

There is also little choice about whether mining happens or not ... but there is choice about how it happens... and who does it.

Our people, our customers, our communities, and our planet demand more of us... as an industry, as companies and as colleagues.  
(It is our opportunity to step up and make a difference).  
Digital transformation will help us deliver on these expectations.

Key to our strategy is to be safer, ... more reliable... and more productive.

But the technology can't go at it alone. It cannot exist by itself.

It is how people interact with the technology... and the people systems that sit around it... that will deliver the step change in performance.

To re-imagine mining and the future of work... we need to connect everything, and everyone.

We need to equip people with the right capability, data and technology to innovate and improve.

It leads me to the central point of my presentation today...  
“How do we all embrace Technology to deliver a superior business outcome?”

In answering this question, I will cover three key areas:  
Collaboration within BHP,...  
collaboration across industry, and...  
building diverse digital capability.

First, collaboration within BHP.

Many industries have already seen massive digital disruption whether it be consumer goods, aerospace, defence, banking and telecommunications.

We have seen from these industries that the companies who differentiate themselves are the ones who combine lean concepts with digital solutions to uplift performance.

We have many pieces of the puzzle in place at BHP already.

For example our Maintenance and Engineering Centre of Excellence develops advanced maintenance strategies based on data analysis....  
What we maintain,  
When we maintain it and  
How we maintain it ... to deliver a superior performance

Additionally, our BHP Operating System (BOS) supports our front line to improve our day-to-day operations through the use of standard systems underpinned by Technology.

To fully capture the next wave of productivity at speed we need to integrate technology and our digital solutions with these initiatives.  
(This will further enhance our agenda of safety and productivity).

The newly created Technical function at BHP... which incorporates Technology... will help us to accelerate our plans to drive new synergies and create value across the business.

In our autonomous haulage program at the Jumblebar Iron Ore mine in WA we are already seeing results.

By changing the way people engage with the technology we have increased the availability of truck hours and substantially enhanced productivity.

The team worked through a range of hypotheses and scenarios that led to a number of changes to operating practices at the mine  
Starting from mine planning,  
Extending to mining operations through to  
Maintenance and technology.

Technology has allowed better use of data to enable faster and more automated decision making.

The fleet has been consistently delivering benchmark performance with respect to annualised hours... but now with the renewed focus we have lifted performance by up to 20%...

Breaking through barriers that most thought were not possible.  
(A remarkable result delivered in less than 3 months).

It demonstrates what can be achieved by having the right people... working on the right problems... that will deliver the best outcome... for the business.

Secondly, collaboration across industry

One of the critical elements to unlocking digital transformation is the ability to collaborate within the broader ecosystem as well.

We can do a lot as an organisation... and as an industry... in partnership with our supplier, communities and government to solve for the future.

We can do even more when we effectively combine our capabilities and bring multiple partners to collaborate on shared problems.

We are thinking differently about who we connect and create synergies with... and this has led us to finding partners outside our usual circles such as the Australian Defence Force.

This partnership brings together two large organisations of similar size and scale to collaborate on workforce learning, culture, technology, training and shared apprenticeships.

Through these synergies we can stack hands together to gain further insights and understand the similarities around areas such as quantum technologies, automation and cyber defences for example.

During COVID we have seen an injection of creativity and innovation to make our people safer and guess what?

It has led to better productivity outcomes.

For example, we have worked with Microsoft to deploy augmented reality headsets that combines video with advanced 3D sensing technologies.

Our engineering teams... who are based in our Perth office, some 1,300km away from our Pilbara operations... are able to oversee complex installation of mine equipment remotely.

This has reduced the need travel to site during the pandemic.

(From the comfort of our Perth office or from the comfort of their home office).

But it's not just the big partners who are helping us to find a competitive edge.

In today's world we know we need to innovate and deploy new technologies even more quickly to keep up with the pace of change.

This is where collaboration with smaller start-up companies offer us huge potential.  
(And there is more work to be done here)

The flexibility and adaptability that comes from small start-ups mean we bring in a customised solution at speed for our business.

For example, we are piloting precision mining technology with a company called Plotlogic.

This technology will map the face of a pit wall to provide a detailed view of ore versus waste.

This type of precision mining will give us the step change in productivity that we are chasing to improve the quality of the ore we extract... this will enable further efficiencies.

But as I said before technology cannot exist alone...we need digital capability.

Technology already means many things to many people in our industry.... But... as our digital journey gathers pace it will mean a lot more to a lot more people.

It opens the door to more flexibility,... more opportunity,...and more diversity.

This year we stood up small, localised digital teams within our assets to help them solve problems...and deliver digital products critical to our business.

The creation of these digital teams...has made us re-consider the skills profile within our business... and it has also allowed us to re-imagine the gender profile of our workforce and other areas of diversity more broadly.

Our Coal digital team has demonstrated you can build a diverse Technology team...achieving more than 60 per cent gender diversity...with 11 nationalities represented in the team.  
(This has been a welcomed change and a breath of fresh air).

As many of you know...building digital skills doesn't happen overnight...and this can't be done exclusively by hiring graduates into the workforce.

New talent needs to be coupled with depth of experience and organisational knowledge...to achieve the right balance in a workforce...

As part of the rollout of autonomous trucks in our operations...we are prioritising people training and building in-house capability... committing 40,000 hours of training at some of our sites.

In some cases...we are training... and re-skilling 40-year veterans of the industry.

We want to retain their skills and experience in our business...and we want our people to be able to adapt as the nature of work evolves.

At the same time...we are making significant investments in education to build a workforce for the future.

We have formed partnerships with TAFE and Central Queensland University...to design and deliver both traineeships and tertiary qualifications in automation.

We have also partnered with Queensland Government and other key industry stakeholders... to develop a Resource Centre of Excellence in Mackay... so jobs stay in our community and industry.

For us...these partnerships and investment in digital skills for our future workforce make perfect sense.

This will ensure our people and our industry are equipped to meet the challenges head on.

...(Conclusion)...

This leads to me to the conclusion of my speech today and to recap on a few key points.

Mining is essential - global growth, decarbonisation, renewables  
...none of this happens without the commodities we produce.

The only choice for our industry ...and the world... is how we go about this.

Our opportunity is to ensure we are operating with greater sustainably... while creating value for all stakeholders.

COVID has presented us with unprecedented social and economic challenges... and there is a growing public focus on the need to secure a different and better future.

It has forced us to search for solutions to keep our operations running and our people safe.

It has also made it very clear that digital transformation is critical to keeping our business resilient and agile...  
in uncertain and disruptive times.

If I can leave you with something today, can it be this...

People delivery outcomes, technology will assist. Our challenge is to seamlessly integrate our people with technology to deliver superior business outcomes that will benefit all.

As leaders, we must challenge outdated mindsets...and think differently about how we all best embrace Technology.

We must invest in our people and train our workforces and communities... to make sure they have the right skills and... capability to flourish.

To further enhance this we must work in partnership with our people,...our communities,...with government... and each other.

Sharing our challenges and solving collaboratively will secure our future prosperity.

Technology and innovation are here to stay and they are moving fast.

If we can get it right it is a future we can shape together.