Commsday Regional & Remote keynote speech
Michael Ackland, GM Government & Strategic Projects, Vocus
25 February 2025

Creating metro level experiences in mining and remote locations

Let me begin with a striking comparison that illustrates the unique challenge and opportunity before us.

The Pilbara region, with its population of just 60,000 permanent residents and roughly 25,000 visiting workers, generates 3.4% of Australia's GDP – close to the economic output of Adelaide, a metropolitan area of 1.4 million people.

This remarkable statistic underscores both the incredible productivity of our resource regions and the critical importance of ensuring their continued competitiveness in an increasingly challenging global landscape.

At Vocus, we're proud to say we can deliver metro-comparable services across Australia.

Through the combination of extensive fibre networks, subsea cables, and partnerships with providers like Starlink, we've essentially solved the digital divide – there is now true broadband coverage across 100% of Australia's landmass.

But the path to maintaining this capability is the high-capacity fibre network that forms the backbone of everything.

Yes, even LEO satellite networks. The satellites out in space rely on a network of ground stations that rely on very high capacity fibre.

So we need to be constantly expanding fibre networks to meet future needs, but we face significant challenges.

Regulatory processes move so slowly in Australia that they severely curtail the amount of telecoms infrastructure that can be rolled out.

Why does this matter so much to regional and remote Australia?

Well, right now, we stand at a pivotal moment in history. The ongoing trade tensions between major powers, particularly the United States and China, have ushered in an era of what many call "US exceptionalism."

This new reality is reshaping global supply chains and technological development, particularly in the race for AI supremacy.

The big seven tech companies are now driving unprecedented investment in data centres and cable infrastructure worldwide, suddenly and drastically reshaping markets for digital infrastructure and economic competition.

Australia finds itself at a crossroads.

While we may not be the owners of semiconductor technology or the neural codebase that drives AI development, we have always excelled at what I like to call "selling the tools to the miners."

This traditional strength could become our pathway to maintaining global competitiveness – but only if we make the right choices now.

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The harsh reality is that Australia will never be a low-labour-cost producer, and recent events have made this abundantly clear.

Let's look at what's happening in our critical minerals sector.

When lithium prices dropped by 80% in late 2023, Australian miners found themselves struggling to compete.

Some had to suspend mining operations entirely because they would have been losing money extracting it from the ground.

The same pattern emerged in nickel - when prices fell, Indonesian operations maintained production while Australian producers struggled.

What's the difference? It's not just labour costs - it's the level of automation and digital integration in their operations.

Australia’s competitors aren't standing still.

Chile's major mining companies have invested heavily in autonomous operations and remote operations centres.

Indonesia's nickel industry is rapidly modernising with Chinese investment in automation and digital infrastructure.

Even traditionally lower-tech mining nations like South Africa are making significant strides - Anglo American's Mogalakwena platinum mine is now one of the world's most automated operations.

This vulnerability reveals a crucial truth: our future competitiveness depends entirely on our ability to embrace and deploy automation and digital technologies at scale.

But here's the key point - you can't automate without connectivity, and you can't have connectivity without infrastructure.

Every autonomous truck, every remote operations centre, every real-time monitoring system depends on having robust, reliable, high-capacity digital infrastructure.

Consider this: according to the RBA, mining accounts for approximately 12% of Australia's GDP.

This significant contribution to our national wealth is increasingly dependent on our ability to operate mines more efficiently than our global competitors.

The solution lies in automation, and while I could share more compelling examples of automated mines globally, it's telling that the **most** advanced examples aren't from Australia.

Here's where we face a concerning disconnect in our national telecommunications policy.

There is no point in delivering Australian consumers the fastest broadband services in the world if they don't have the income to pay for their Netflix subscription.

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Our industry's focus has been overwhelmingly directed toward providing broadband and mobile services to consumers.

This is evident in the Commonwealth's approach to spectrum allocation which prioritises banking immediate tax revenue from consumer facing network over industry users providing long-term economic benefit – essentially killing the goose that lays the golden egg.

While consumer broadband and mobile are obviously important, this narrow focus has largely overlooked how telecommunications infrastructure underpins Australia's international competitiveness in key industries.

Private LTE networks are enabling "metro-level experiences" in remote operations – providing the reliability, speed, and low latency required for everything from autonomous vehicles to real-time sensor networks. But they need both spectrum and a strong backhaul link, typically fibre.

The impediments we've created are significant and multifaceted.

Let me illustrate with a real-world example from our Horizon Project, which is constructing a new optical cable network to bring competition from Perth to Port Hedland through the Pilbara for the first time.

This transformative project represents an investment of hundreds of millions of dollars in new infrastructure, establishing a new 2,000km, 38 terabit-per-second fibre route through Australia's resources region.

When completed, it will provide the first genuine competitive alternative for major resources companies operating in the region, providing modern technology and a new level of resilience and redundant connectivity.

This infrastructure will connect to NextDC's new data centres in Newman and Port Hedland, creating a robust digital backbone for the region.

When combined with our subsea cables to Darwin and Perth, and further enhanced by Google's Australia Connect Project being delivered in partnership with Vocus, we're establishing the kind of redundant, high-capacity network that modern industry demands.

Yet the challenges we've faced in this deployment illustrate exactly why Australia needs to rethink its approach to critical infrastructure.

Despite carefully planning our route along existing infrastructure corridors – existing highways and rail tracks - we've faced many months of delays seeking approvals from multiple authorities, each operating under different frameworks and timelines.

In one case, we were required to fund a cultural heritage survey for a section of land that had already been surveyed multiple times for previous infrastructure projects.

The survey ultimately recommended no changes to our planned route, but the delay impacted our construction schedule significantly.

Let me be specific about where we need to go next with telecommunications infrastructure regulation.

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While the federal government's current work on the Low Impact Facilities Determination legislation is welcome, and we look forward to the outcome of the current consultation, we need to address a fundamental disconnect in how we manage areas of environmental significance.

Currently, if an area is designated as environmentally significant under any Commonwealth, State, or Territory law, we can't use the low-impact facility provisions - even when the underlying environmental law itself would permit our activity.

Let me give you a real example from our Project Horizon.

When building through Western Australia, we encountered areas protected under the Rights in Water and Irrigation Act.

Now, this Act actually includes provisions for authorised activities – it anticipates that some development will need to occur.

But under the current LiFD rules, we couldn't use the streamlined low-impact process, even though the environmental law itself would have permitted our activity.

This creates unnecessary delays and complications, forcing us to exit the Schedule 3 regime and navigate complex approval processes, all for an activity that the underlying environmental law already considers acceptable.

We see similar challenges when dealing with heritage conservation areas and Indigenous heritage sites.

Even when we've worked closely with traditional owners and received their support, the current broad drafting of LiFD forces us into longer, more complex approval processes.

This doesn't enhance protection – it just adds time and cost to projects that have already met their environmental and cultural heritage obligations.

One of the things we need is simple: if the underlying environmental or heritage law permits an activity, that activity should be eligible for low-impact status under LiFD.

This isn't about lowering standards - it's about avoiding duplicate processes that add cost and delay without delivering better outcomes.

These challenges extend beyond just the Horizon Project. As we work to expand our network capabilities in northern Australia, we're seeing similar patterns play out.

The development of new data centre facilities in Darwin represents critical new national infrastructure.

These facilities aren't just about storing data - they're about creating sovereign capability in a region that's increasingly critical to Australia's strategic interests.

The proximity to Southeast Asian markets makes Darwin an ideal location for data centres in a politically stable location that can serve both domestic and international customers while maintaining data sovereignty.

Yet the regulatory environment seems stuck in an era when data centres were simple storage facilities.

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Modern data centres are complex operations requiring significant power infrastructure, cooling systems, and multiple fibre connections for redundancy.

Each of these elements requires separate approvals, often from different authorities operating under different frameworks.

The current process treats each component as a separate project rather than recognising the strategic importance of the whole.

The situation with our submarine cables is equally concerning.

These aren't just telecommunications assets — they're critical national infrastructure carrying over 99% of our international data traffic.

Yet our approach to protecting them seems stuck in the past.

While we have the legal structures available to maintain protection zones for cables – and Australia does protect landings outside Sydney and Perth – other landing points around Australia remain vulnerable.

This includes critical connections in the top end that will become increasingly important as we expand our digital engagement with Southeast Asia.

The current cable landing point in Darwin, for example, lacks the same level of protection as those in Sydney or Perth.

This means activities like anchor dropping or dredging could occur in dangerous proximity to these vital links.

With Darwin set to become an increasingly important data hub, this regulatory oversight needs urgent attention.

The establishment of protection zones isn't just about preventing accidental damage - it's about securing our digital sovereignty and ensuring our northern regions can develop their full economic potential.

Looking at our northern regions more broadly, the development of data centre capacity in Darwin represents a critical opportunity.

The latest facilities being developed aren't just traditional data centres - they're designed to support advanced AI applications, real-time data processing, and the kind of low-latency operations that modern mining and agricultural operations require.

The strategic importance of these facilities cannot be overstated, and their role goes far beyond traditional data storage.

Let me put this in context. The Asia-Pacific region is experiencing unprecedented growth in data centre demand.

Singapore, which has traditionally been the region's data hub, has in recent years had to place restrictions on new data centre developments due to power and space constraints.

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This is partly what has created such a unique opportunity for northern Australia, particularly Darwin, to become a key data hub for the region.

But this isn't just about commercial opportunity - it's about national security and strategic autonomy.

As global tensions rise and data sovereignty becomes increasingly critical, having secure, reliable data centre capacity in our northern regions isn't just an economic necessity — it's a strategic imperative.

These facilities will enable everything from defence applications to resource sector automation, but only if we can provide the robust fibre connectivity they require.

Consider the defence implications alone. The AUKUS agreement includes significant commitments around AI and autonomous systems development.

These technologies require massive amounts of computational power and data storage.

Having sovereign data centre capacity in our northern regions, connected by secure, high-capacity fibre networks, will be crucial for supporting these capabilities.

Then there's the question of digital trade routes. Just as Darwin's port provides a crucial physical gateway to Asia, our digital infrastructure in the north can position Australia as a key player in the region's digital economy.

But this won't happen by accident.

Our competitors are moving quickly — Indonesia is developing major data centre hubs in Jakarta and Batam.

Malaysia is positioning itself as a digital hub through its Malaysia Digital initiative.

And even Vietnam is making significant investments in digital infrastructure.

The economic implications are substantial. According to recent industry analysis, the Asia-Pac data centre market is expected to grow by over 90% in the next five years.

If northern Australia can capture even a small percentage of this growth, it would represent billions in direct investment and thousands of high-skilled jobs.

But this will only happen if we can provide the necessary infrastructure backbone.

This fragmented approach to regulation has real economic consequences.

When a mining company needs to deploy new autonomous systems, they need more than just the equipment.

They need reliable, low-latency connections to data centres where their operations can be monitored and controlled.

Every month of delay in infrastructure deployment represents lost productivity and reduced competitiveness.

Let me tell you about one of our most challenging and successful private LTE deployments.

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Picture this: a mining operation that is 4,500 meters above sea level – that's more than twice the height of Mount Kosciuszko.

The site experiences such intense lightning activity that the mobile towers get struck almost daily, yet they need to remain operational.

Access is by helicopter or a 12 hour bus ride. It doesn't get much more remote than this.

In this extreme environment, we designed and built a private LTE network that supports complete vehicle autonomy, along with operational and information technology across the entire mine.

Every day, this network enables autonomous vehicles to operate safely and efficiently, processes massive amounts of real-time data, and keeps hundreds of workers connected in one of the most challenging environments on Earth.

The network had to be incredibly robust - remember those daily lightning strikes - yet also sophisticated enough to support advanced automation systems.

We designed it, worked with a local operator for the physical installation, and created something truly world-class.

Today, it's a flagship example of what's possible when you combine modern telecommunications infrastructure with mining operations.

Now, here's the kicker – as you might have guessed by the altitude of the site, this isn't in the Pilbara or the Golden Triangle. It's in Peru.

It was the first private network of its kind in that country, and from design to deployment, it moved ahead efficiently despite the technical challenges.

I share this story because it illustrates both what's possible and what's frustrating about our current situation in Australia.

We have the expertise.

We have the technology.

We willingly deliver on all regulatory requirements.

What we don't have is a regulatory environment that enables us to move with the same efficiency here in our own backyard.

Let me be clear: we're not looking for a free pass. We're not asking to sidestep environmental protections or cultural heritage obligations.

What we're asking for is a regulatory process that doesn’t stand in front of the cable laying machine constantly holding a stop sign while it endlessly considers and reconsiders whether to let you past.

We need a regulatory system that matches the urgency of economic opportunity and the pace of technological rollout to support it.

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When we can build a sophisticated network in the high Andes more efficiently than we can deploy similar infrastructure across the Pilbara locally, something needs to change.

In Australia, deploying this kind of network requires navigating multiple regulatory frameworks, often with overlapping and sometimes conflicting requirements.

Getting approvals feels like swimming uphill in molasses - the process is slow, sticky, and we find ourselves expending all our energy just to stay on top of it.

The Pilbara and Northern Australia represent both the opportunity and the threat to Australia's prosperity.

We have abundant mineral and energy resources, and our proximity to large population centres in Southeast Asia as natural advantages.

But these advantages will count for nothing if we cannot maintain our competitive edge through technology and automation.

So let me be crystal clear about what we think needs to be done as soon as possible to enable this to happen.

We need to recognise major telco infrastructure projects as "Projects of National Significance" under existing frameworks, treating them with the same importance as roads, rail, power, and bridges.

We need to embed "use it or lose it" provisions in spectrum renewals to ensure limited resources are actually used.

The LiFD legislation must be updated to recognise corridors that have already been cleared, streamlining the deployment of infrastructure along existing routes.

And we must establish cable protection zones for all existing landing points in Australia, securing these critical international connections.

The choice before us is clear: we can continue with our current approach and risk seeing more of our industries struggle when global prices fluctuate.

Or we can get behind the building of world-class digital infrastructure that enables Australian industry to compete on extreme productivity rather than labour cost.

This doesn't mean that we stop focusing on great broadband and mobile services for consumers – quite the opposite. Large telco infrastructure projects underpin them.

The future prosperity of our nation depends on our ability to build and maintain world-class digital infrastructure that supports both consumer needs and industrial competitiveness.

The next decade will determine whether Australia maintains its position as a leading resource economy or gradually cedes ground to more technologically advanced competitors.

The technology exists. The expertise exists.

The question is whether as a nation, we have the vision and the coordination to deploy.

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We need efficiency in the regulatory system and that requires the government to not only listen, but to act.

Thank you.