Three moments tech changed the world and why Australia needs to build for what comes next

Good morning everyone. I'm Ebony Aitken, General Manager of Government and Regulatory Affairs at Vocus.

I want to begin today by talking about a few moments in my lifetime when I felt the digital world shift under my feet. And why the last one happening right now is as much an infrastructure challenge as it is a technology one.

Moment one: the iPhone.

The first moment was when Steve Jobs launched the iPhone, or more accurately, when the iPhone 3G arrived in Australia. I went from high school texting in 160 characters in my Nokia 3210 and playing Snake, to an era where I had data, applications, access to the whole world in my pocket.

But what made that moment possible for a young professional in Australia wasn't just the smartphone itself. It was also global investment in networks, fibre and data centres.

Digital revolutions start with great ideas. But the execution – the part that actually reaches people – comes from an entire supply chain of infrastructure.

Moment two: ChatGPT

The second was about 15 years later. I opened ChatGPT and saw that a computer had learned to communicate in English. Not perfectly – but convincingly enough that I knew the world had changed and was never going back.

Moment three: agentic AI

The third is happening right at this moment – people all over the world are installing free, open-source agentic AI tools like OpenClaw.

These are not operating as simple chatbots, but as an autonomous agents – navigating the internet, creating accounts, completing real-world tasks, entirely on their own.

Why this matters: the technology most people are underestimating

When a technology becomes this accessible in the personal domain, history tells us it enters the corporate domain almost immediately. IT teams face an imperative to bring it inside the tent – with appropriate information security controls – before employees take the initiative with unapproved systems.

But there is a more fundamental point I want to make for this audience, and it goes to how most people – including many in the investment community – are thinking about AI incorrectly.

Because the interface looks like a search box, people treat large language models as a smarter version of Google. They ask it what it knows. They test its general knowledge. And when it gets a fact wrong, they conclude the technology is unreliable.

That fundamentally misunderstands what the technology is.

A large language model is not an encyclopedia. It is a language robot. It predicts the next most likely word based on its training. Currently, its factual accuracy is roughly equivalent to human recall – sometimes right, sometimes not quite, because it is not retrieving from a database. It is generating language.

The real revolution – the part that changes everything – is when you stop asking a language model what it knows and start telling it what to do. When you connect it to tools, APIs, knowledge bases, live data, and let it act on your behalf.

That is the shift from chatbot to agent. And it is happening right now.

The implications are significant. For productivity – the gains will be substantial, and they will be rapid. Obviously, this will change the composition of the workforce. However, this is a productivity revolution, and the people and nations that come through it best will be those that master the technology early rather than absorb its consequences later.

The infrastructure question nobody is asking loudly enough

So let me bring this back to why we are all in this room.

AI models are twenty-four-hour, heavyweight compute engines, and their demand is growing exponentially. They are software, but they exist in physical infrastructure.

AI inference – where trained models process data and make decisions in real time – requires heavy, continuous computation. And increasingly, it no longer sits on the other side of the world.

The AI leaders are now deploying models locally, operating on proprietary data that never needs to leave corporate boundaries. Inference is moving to the edge – to mines, factories, clinics, ports and remote environments – because real-time decisions based on live on-site data cannot afford the latency of a round trip to a distant data centre.

Local data centres will go where power is cheapest and approvals for fibre routes are fastest. In Australia today, that means overwhelmingly metropolitan locations. But electricity generation occurs elsewhere. If you place compute near generation, you reduce transmission costs while creating baseload demand that can justify investment in new renewable generation.

This is the new digital infrastructure economy. And it will shape national competitiveness for decades.

The sovereignty question

This brings me to something Australia needs to confront honestly.

Right now, Australian organisations overwhelmingly rely on foundational AI models built and hosted in the United States. That may be acceptable today. But it raises a serious question: is that our long-term position?

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If the answer is yes – if we are content to remain consumers of American AI capability – then we should at least be deliberate about it. Find trusted partners. Deploy the models here. Keep the data local. Be satisfied about the security of that arrangement.

If the answer is no – if we believe Australia should develop sovereign AI capability – then we need the infrastructure to support it.

Without fibre, data centres and power, we cannot attract the investment required to localise AI. And without localisation, Australian organisations will face legitimate and growing concerns about where their data is going, who controls it, and what protections apply.

This is not abstract policy. It is a question about whether Australia participates in the AI economy as a principal or as a customer.

Australia's readiness gap

So is Australia ready?

Right now, it is not. Not even close.

AI compute demand is accelerating, but Australia's long-haul and metro fibre capacity is not keeping pace. Independent modelling shows that intercapital capacity is already constrained. Even accounting for new builds in the pipeline, total long-haul capacity on some routes will be less than twenty per cent of what will soon be required.

Hyperscalers are planning for orders-of-magnitude growth, not incremental additions. They are actively selecting markets based on network readiness. And yet in Australia, approvals, access and build timelines remain measured in years.

The International Energy Agency projects global data centre electricity demand will more than double by 2030. The United States, Singapore, Japan and the Middle East are all racing to build. If Australia's approval processes add years to a project, investment will go to jurisdictions that move faster.

The stakes are clear. If Australia builds now, AI compute stays local, data sovereignty is preserved, regional and secondary markets participate, and productivity gains compound across the economy.

If we do not, compute migrates offshore, regional Australia is bypassed, and the burden eventually shifts from private capital to the taxpayer.

Everyone in this room knows that is not an abstract hypothetical. It is a very real possibility.

What Vocus is doing about it

Against that backdrop, let me briefly describe what Vocus is doing – not as a pitch, but because it illustrates the scale of what is required.

We have a deliberate digital infrastructure strategy built around three priorities.

First, long-haul fibre leadership – prioritising high-fibre-count, scalable intercapital routes, engineered for the next several decades of demand.

Second, metro depth – dense interconnection between data centres designed for hyperscaler architectures, not legacy telecom models.

Third, connectivity as a platform, not a project – building fibre as enduring national infrastructure capable of supporting multiple waves of compute growth.

Project Horizon is on the cusp of completion. A new 2000 kilometre, 38 terabit-per-second fibre route from Perth to Port Hedland, through some of the most demanding terrain in Australia.

It is the first fully independent fibre backbone in the Pilbara, breaking a decades-long monopoly and providing genuine route diversity for mining and resources companies.

It is engineered for extreme reliability – buried deep below the surface with a cyclone and bushfire-tolerant design built around the realities of heat, rock, remoteness and cultural heritage sensitivity. Sections of it are encased in concrete for protection.

Why does this matter? Because the Pilbara and Mid-West of Western Australia generate a substantial share of Australia's GDP through resources exports.

The resources sector depends on constant iterative improvements to efficiency. If Australia cannot extract and export at a globally competitive cost base, we lose our position. Keeping that region digitally competitive is not optional.

Horizon connects to our Darwin-Jakarta-Singapore Cable, creating a low-latency, redundant path between Perth and Singapore and an entirely new digital corridor for Western Australia's resources and clean energy economy.

And it has been built in tandem with NEXTDC's regional data centres in Port Hedland, Newman and Darwin, unlocking the possibility of running AI-intensive workloads locally for the first time.

We are also delivering Pacific Connect and Australia Connect with Google, addressing one of our most significant strategic vulnerabilities – the concentration risk in our international connectivity.

We are building Australia's largest constellation of LEO ground stations – more than thirty sites constructed or underway – with partnerships across Starlink, Telesat Lightspeed and Amazon.

Vocus has introduced Australia's first fully private Layer 2 networking across Starlink, allowing traffic to traverse space networks without touching the public internet. That means critical infrastructure operators, defence and government agencies can use satellite connectivity as a secure primary path.

And we are preparing to build new intercapital routes with potentially hundreds of fibre pairs, because the fibre in the ground today is a fraction of what will be needed.

We are forecasting demand and building far ahead of it. But we face significant challenges in doing so fast enough.

The regulatory reality

Our environmental, cultural heritage, land access and planning frameworks – each sensible in isolation – conflict with one another and collectively operate far too slowly for the infrastructure cycle we are entering.

I know some policy-makers look at companies like Vocus and think: "these are multi-billion-dollar businesses – surely they can work through it."

But that argument only holds if Australia is a bubble. In a global market where capital is mobile and competing jurisdictions are moving faster, it does not.

Let me give you some practical examples.

When we set out to build a fibre cable in regional Australia, conflicting local, state and federal regulations require painstaking negotiation – despite universal agreement that digital infrastructure is needed. When every possible party has a right to object, parties exercise that right, even when concerns are based on incorrect assumptions from other construction projects.

For example if we date back to when Vocus built fibre for the Regional Backbone Blackspots Program a colleague tells the story of visiting a politician in Queensland whose constituency was concerned because a gas pipeline had recently gone through in a heavy-handed way. When we explained this was a fibre cable going underground along existing road corridors, the response was immediate relief. The opposition dissolved. The disappointing thing about this is that this was over a decade ago, and we still face the same hurdles today.

Getting to that point of resolution takes an enormous amount of time and money. Councils require us to fund their external lawyers and tender processes simply to facilitate passage. I'm having to knock on the doors of senior ministers to help us build these projects. It's not a job that those of us in Government Affairs enjoy doing. None of us want to knock on doors and escalate issues. But the reality is that's what it takes because due process is not working even though others and us have been highlighting these issues for more than a decade.

After eighteen months of consultation, the typical feedback is: can you change the colour of the cabinet, or can you plant some trees. Every stakeholder goes through their own discovery process independently, and we wait and pay for each one.

If we cannot build on land at the required scale and speed, the alternative is building cables in the sea. But subsea infrastructure does little for anyone living regionally – it loops around them and connects capital cities.

And if we cannot build data centres at competitive cost and pace, hyperscalers will place their workloads offshore in markets that are delivering.

The readiness gap also extends to spectrum policy, which has long treated radio frequencies primarily as a revenue instrument rather than a productivity tool. The potential for regional industries to deploy private 4G and 5G networks for mission-critical operations is immense – in mining, agriculture, logistics, energy. But that potential depends on access to spectrum that is currently priced and prioritised for consumer mobile networks, not industrial use.

And while LEO satellites are transforming remote connectivity, they depend on terrestrial fibre backhaul. They are a product of good fibre coverage, not a substitute for it.

What we are asking for

The Australian Government deserves credit for the attention it is bringing to these issues. The very first action of the National AI Plan is to build smart infrastructure. That is the right instinct.

But the plan has a gap. It addresses data centres, cloud, compute, power, subsea cables and NBN last-mile connectivity. It does not address long-haul terrestrial fibre – the arteries that connect all of it together.

We see four priorities.

One. Modernise the Low Impact Facilities Determination to include long-haul fibre and duct construction. This is the single most impactful thing the Commonwealth could do to accelerate terrestrial fibre deployment.

Two. Resolve cross-legislative conflicts between federal and state regulatory regimes. We are ready to provide specific examples of where legislation needs to be harmonised. This requires Commonwealth leadership.

Three. Bring greater predictability to cultural heritage consultation. Vocus is a strong supporter of genuine consultation, but the current process would benefit enormously from documented, consistent frameworks that all parties can follow.

Four. Recognise long-haul terrestrial fibre as high-priority national infrastructure – not a set of discretionary commercial projects – and bake that into government policy.

We cannot ask regional communities to participate in the next wave of economic growth if the physical foundations for that growth cannot be built at a competitive pace.

Close: masters, not servants

I will close with an observation about the uncertainty many people are feeling about AI and the workforce.

The fact is it will be better to be masters of the technology, not servants to it. We need to pick up the tools, understand what they do, and put ourselves on the deployment side of the equation rather than in the redeployment queue.

If technology has shown us anything over the last decade, with changes come new opportunities. It's how Australia grasps these opportunities and makes them our own.

AI is not a future-state challenge. It is a present-tense race for infrastructure.

If we do not build now for what's next for Australia, taxpayers will be funding the response a decade from now – addressing what will by then be called market failure.

And if we think back to the beginning the NBN rollout, it was being called a great white elephant – totally unnecessary. As it turns out, it has been transformative for this country, and now that lifecycle has come back around. We're at another point of transformation, but it seems that the urgent imperative of this wave of investment is going unrecognised.

If our AI inference is running from data centres in Indonesia because they built the necessary infrastructure faster than we did, the reality of the problem will be plain to everyone.

We can address this now. By getting our construction environment competitive. By getting our regulatory settings right. By making decisions with the urgency this moment demands.

If we build the infrastructure the AI era requires, regional Australia will not just participate in the next wave of growth.

It will drive it.

Thank you.