Ellie Sweeney CommsDay Speech

'Investment in digital infrastructure: building the foundation of the modern economy'

9:00am, Tuesday 30 April 2024

Good morning everyone, may I start by acknowledging the traditional owners of the land on which we meet, the Gadigal People of the Eora Nation, and pay my respects to their elders past and present.

I'm simply delighted that Vocus is once again the Diamond sponsor of the CommsDay Summit. I'd like to thank Grahame and team for the opportunity to speak – it's fabulous to be here with you all again in Sydney.

Today I'd like to speak to you about three key points.

First, I'd like to discuss how investment and competition in digital infrastructure is critical for Australia's future – and about the megatrends that are driving our investment strategy.

Second, I'd like to talk about how Vocus is delivering the most significant investments in our company's history.

And finally, I'd like to talk about the opportunities to leverage new digital infrastructure in the Indo-Pacific region, at a time when Australia's relationships with our neighbours are more important than ever.

1. Investment and competition in digital infrastructure is critical for Australia's future

It is a great time for challengers like Vocus to be investing in Digital Infrastructure.

Digital infrastructure is the foundation of the modern economy, and fibre networks are the connective tissue binding it together.

The networks our industry operates are fundamental to the smooth operation of every part of our economy.

Every bank transaction is carried over them.

Every supermarket item is processed over them.

Every water, energy, transport, and health system ultimately depends on them.

Every critical sector has one common thread – they are all fundamentally dependent on digital infrastructure. And without resilient fibre networks, they would simply not operate.

I've been in telecoms my entire career, and never have I seen a period of such seismic change as we've seen since the start of this decade.

In 2020, it was COVID that took videoconferencing out of 'telepresence suites' and into our homes.

Collaboration software like Slack and Teams went from trendy start-ups to a central part of every business' productivity suite.

Business applications rapidly shifted from desktop installs to the cloud, accessible from any browser on any device.

Macquarie Capital's Head of Digital Networks and Data, Edward Burley, predicts we're only at the beginning.

He believes that 80 per cent of government and enterprise processes still need to be migrated to the cloud[1].

And that prediction was made 18 months ago – before ChatGPT arrived on the scene and shocked the world with the possibilities of AI, which we are only beginning to reckon with.

The disruption of our traditional business model has only just begun.

It reminds me of the famous Hemingway quote, where a character is asked how an event has impacted his life, and replies: "Gradually, and then suddenly."

The gradual – and then sudden – disintermediation of telco services has caused us to reassess how we invest in this new digital landscape.

[1] https://www.macquarie.com/au/en/insights/digital-infrastructure-three-waves-three-opportunities.html

New technologies like AI, Low Earth Orbit Satellites, and sophisticated cyber threats have forced us to re-prioritise how we meet demand.

If we, as a nation, are to realise the full benefits of digitisation and the incredible opportunities it opens up – we have to put investment and competition at the heart of everything we do.

At Vocus, we are a challenger that will lead this generational uplift in investment and competition.

Our investments are critical to growing the Australian economy. They're also fundamental to uplifting the resilience and redundancy of Australia's digital infrastructure.

The most stringent legislation or regulation in the world can't prevent every network outage – but infrastructure competition will mean there are alternatives available when any one network is hit by an outage.

I said earlier that digital infrastructure is the foundation of the modern economy – I could add that digital infrastructure *competition* is the foundation of a *secure and resilient* modern economy.

And it's why Australia needs a policy environment that prioritises investment and competition, to grow the market for sovereign and secure telecoms infrastructure.

And with this in mind, I would love to touch on three technology megatrends that underpin the investments we're making.

Megatrends - AI

First, AI.

The amount of data generated by AI is staggering.

Chat GPT-4 has an estimated 1.8 trillion parameters.

That's 10 times more than Chat GPT-3 – a 15-times increase in just 5 years.

Globally, the amount of data created is expected to double from 97 to 181 Zettabytes between 2022 and 2025[2].

That's 181 trillion Gigabytes by the end of next year.

'Moore's Law' states the transistors on an integrated circuit doubles every two years – today, compute demand on the largest AI models is doubling every three to four *months*.

These factors are driving an investment race in fibre, data centres, and energy to deliver the data processing power required.

[2] Data growth worldwide 2010-2025 | Statista

You might have seen in recent weeks, Microsoft demoed an AI tool that can take a picture of a face and a brief audio clip, and create a realistic video of a person speaking[3].

The amount of data generated by these types of AI applications is unprecedented – and the processing is all done in datacentres, meaning it's ultimately dependent on fibre infrastructure.

Megatrends – sovereignty and security

In an era when cyber threats are more pervasive than ever before, with legal, reputational, and financial risks of cyber security breaches at an all-time high, it is now clear that **digital infrastructure** is **critical infrastructure.**

Critical infrastructure demands we take an all-hazards approach, considering not just the infrastructure that is within our direct control, but the complex end-to-end system which it is part of.

As AI further accelerates the adoption of cloud it is vital that we understand where our data is actually going physically, how it is being secured, backed-up and operated on. We cannot simply abstract away these complexities.

[3] VASA-1 - Microsoft Research
[6] Finance worker pays out $25 million after video call with deepfake 'chief financial officer' | CNN

With sensitive data increasingly stored and processed in the cloud, Australia – like many other countries – has put laws in place to ensure this data stays within our own borders.

Of equal importance is resiliency. As new threats continually emerge, we are forced to consider not only how to prevent attacks but also how to minimise the impact of them.

Vocus is backed by Australian investors in Macquarie Asset Management and Aware Super.

Our sovereign and secure fibre network is operated by a growing team of security-cleared staff, in a local, secure NOC, built to conform with the most rigorous security standards.

And we're investing heavily in our security posture – which I'll detail a little later on.

LEO satellites

The third megatrend driving our investment strategy is LEO satellites.

Like AI, LEOs are a revolutionary technology that has changed the way we think about connectivity.

Vocus was the first Australian telco to resell Starlink's Enterprise-grade services, and the demand for high-speed data in previously-unreachable locations has been remarkable.

Just last week we signed our largest Starlink contract yet – 180 Enterprise-grade Starlink services, with mobility – for a customer with an extensive footprint in regional and remote areas.

The cost of providing a high-speed, low-latency connection in a very remote location has dropped from millions of dollars to a few thousand dollars. It's a complete paradigm shift.

We're working with several LEO operators to provide their ground infrastructure connected to our high-capacity fibre backbone in regional and remote Australia.

And this is another area where competition and investment are so crucial to Australia's future.

As I'll describe shortly, Vocus is substantially upgrading our terrestrial fibre networks, and this combination of upgraded fibre and LEOs will help to close the digital divide.

These upgrades are not without their challenges – they require years of planning and significant capital investment, but without new terrestrial fibre builds, regional communities could miss out on the benefits of digital transformation.

2. Vocus is undertaking the largest infrastructure investments in our history

And this brings me to the second part of my speech – how Vocus **is delivering** the largest infrastructure investments in our company's history.

Our company's purpose is 'Building Critical Connections. Enabling Better Possibilities.'

It's a statement of our belief that the networks we build are critical – and with them, we enable better possibilities for our customers, for our partners, and for Australia.

Digital infrastructure really can change people's lives.

Our billion-dollar investment strategy is built on five key pillars:

Extending our network's reach,

Upgrading our network capacity,

Enhancing our security credentials,

Capitalising on new technologies, and

Enriching our digital capability.

This strategy remains the bedrock of our investment approach – and we've got some exciting updates I'd like to share.

First, Vocus recently announced a game-changing agreement with Google to deliver the highest-capacity submarine cable

system between Australia and the United States – called Pacific Connect.

I am pleased to announce that we have now signed contracts with Google – as well as expanding on our original announcement.

Today I can also announce that the Pacific Connect system will include a branch to Auckland, New Zealand, allowing Vocus to provide 30 Terabits of new Trans-Tasman capacity.

But there's more. The system will also be extended with a new Sydney to Melbourne subsea connection, allowing Vocus to offer a third option on our busiest route, complementing our existing coastal and inland routes.

Not only is this the largest single infrastructure contract Vocus has ever signed, it's also a world-first partnership to deliver a cable system of unprecedented size and scope.

And it's already under construction.

It will establish two new diverse routes between Australia and New Zealand to the US via Fiji and French Polynesia, with an interconnecting cable in between.

Pacific Connect brilliantly complements our existing network both in Australia and internationally, allowing Vocus to provide

our customers with capacity and redundancy between Asia, the Indo-Pacific, and the US.

In Australia, traffic on Pacific Connect will be able to run across our terrestrial network to Perth where it will interconnect with the Australia Singapore Cable (ASC), providing onward connectivity to Indonesia and Singapore.

Traffic can also be routed on our terrestrial network via Darwin and onto the Darwin-Jakarta-Singapore Cable, providing a low-latency alternative route to Asia, and enabling us to offer connectivity all the way from Singapore to the US.

This agreement with Google will massively expand Vocus' digital infrastructure footprint, providing Vocus with dark fibre across the interconnected systems.

This will initially provide up to 30 Terabits per second of capacity depending on the route, when the system is ready for service in 2026.

These new cables will double Vocus' network footprint, expanding into new geographies in the Pacific and US.

Pacific Connect also includes pre-installed branching units to enable other Pacific nations to connect in future.

Submarine cables are critical digital infrastructure, and by establishing new diverse landings throughout Australia, New

Zealand, Fiji, French Polynesia, and the US, these new systems will significantly uplift the digital resilience of Australia and the broader Indo-Pacific region.

Project Horizon

The second major project we have underway is Project Horizon – the first competitive fibre route through the Pilbara.

Construction has commenced to deliver this new 2,000-kilometre fibre route between Perth and Port Hedland, with an initial design capacity of 38 Terabits-per-second.

The telecoms market in the Pilbara has long been characterised by monopoly control of fibre assets, with high barriers to competitive entry, and substantial commercial and execution risks for challengers.

This kind of investment has the potential to uplift productivity in the resources sector – which plays an outsized role in Australia's economy.

Project Horizon, and the access it provides to new datacentres in Australia's north, has the potential to unlock new AI applications for industries like resources, Defence, renewable energy, and more.

Construction is well and truly underway – every day, contractors and heavy equipment are trenching fibre through

the red desert of the Mid West and Gascoyne region to deliver this nation-building project.

Darwin-Jakarta-Singapore Cable

Another major project closely connected to Horizon is the Darwin-Jakarta-Singapore Cable system, or DJSC.

I was delighted to join the Minister for Communications and the NT Chief Minister last July to announce that the system had gone live, establishing Darwin as Australia's fourth entry point for international data.

The system connects the North West Cable System to a branching unit on ASC, establishing a direct link from Darwin to Singapore via Christmas Island and Indonesia.

It's capable of 40 Terabits of capacity and establishes a new low-latency route to Singapore.

Terrestrially, it connects to our 'Terabit Territory' fibre backbone from Darwin to Adelaide and Brisbane, which we upgraded with a 25-times capacity increase in 2021.

Timor Leste Extension

Staying on Australia's North, we're also continuing our work to extend the North West Cable System to Timor-Leste, in what will be the nation's first international submarine cable connection.

A key advantage for Vocus is that we are already more than halfway there – the North West Cable System enables this new fibre tail to be delivered much more affordably than a new system.

The Timor Leste branch will establish new network pathways between Timor-Leste, Indonesia, Singapore, and Vocus' entire Australian fibre backbone.

Upgrading our network capacity

We're also continuing to deliver major capacity upgrades across our existing fibre backbone.

Last year we completed 400-Gig upgrades on our Sydney to Melbourne route.

We've now delivered 400-Gig on Melbourne to Adelaide.

By the end of the year, we'll complete 400-Gig on the Sydney to Brisbane and Adelaide to Perth routes.

This will mean our entire backbone between Brisbane, Sydney, Canberra, Melbourne, Adelaide, and Perth will be 400-Gig enabled.

And we've already committed to an upgrade path that will enable us to offer 800-Gig services by the end of the year.

We're also delivering 100-Gig upgrades on our regional routes between Brisbane, Sydney, Melbourne, and Adelaide – to be live by the end of the year.

Enhancing our security credentials

Our third investment pillar, as I flagged earlier, is enhancing our security credentials.

We're proud of our security culture at Vocus, but we have to remain constantly vigilant in a heightened threat environment.

We recently finalised our IRAP accreditation – a significant milestone in our stronger security posture.

We continue to maintain our ISO accreditations in Quality Management and Information Security.

And we're making ongoing investments in our segregated secure network known as Vocus Advanced Services or VAS, to meet the most rigorous customer requirements.

Capitalising on new technologies

The fourth pillar of our investment strategy is capitalising on new technologies.

In May last year we finalised the acquisition of Challenge Networks, which enables us to provide private LTE and 5G networks.

One standout example of how we're capitalising on new technologies – Challenge has demonstrated a drone-mounted, self-contained mobile network connected to Starlink backhaul – as you can see on the slide behind me.

This Made-In-Australia heavy-lift drone can fly at a height of up to 100 metres and provide a rapid-deployment network with coverage up to 20 kilometres – a game-changer for public safety agencies and disaster response applications.

Enriching our digital capability

The fifth and final pillar of our investment strategy is enriching our digital capability.

Artificial intelligence, or AI, is transforming our industry – and the world for that matter – in many ways.

To borrow a quote from Mike Burgess, Director General of ASIO, AI is "HOT" – equal parts Hype, Opportunity, and Threat.

While some are doubling down on the "hype," at Vocus we are living the "opportunity".

We're at the start of this journey, and it is already enabling us to automate our business processes, optimize our networks, enhance customer experience, and create new products and services.

Our use cases for AI are vast.

We are using AI to monitor and manage our network performance, ensuring that we provide reliable and high-quality connectivity to our customers.

We also use AI to analyse customer data and behaviour, so that we can offer personalized and relevant solutions that meet their needs and preferences and so far we have seen a 30% improvement in call response times as a result.

In our security operations team, AI is processing 23 billion raw events per month – a 60% increase since last year – with no increase in human resources.

Moreover, we use AI to innovate and develop new solutions that leverage our data and network capabilities.

For instance, we have launched AVA, a generative AI tool that allows our people to query in natural language and return results that transforms the way they search for and consume data critical to their roles.

As you can see, AI is a key driver of our digital transformation and a source of competitive advantage.

We are committed to investing in AI and exploring new opportunities to enhance our digital capability and deliver value to our customers.

3. Digital Infrastructure in the Indo-Pacific

The third and final point I'd like to make today is that Australia has incredible opportunities to leverage digital infrastructure in the Indo-Pacific region.

We are living in an era of heightened geo-political tensions in our region, and Australia's relationships with our nearest neighbours are more important than ever.

The Australian Government has clearly recognised that digital infrastructure needs to play a key role in Australia's development goals for the region.

In 2018, Vocus designed and delivered the Coral Sea Cable System for the Australian Government – a 4,700-kilometre cable from Sydney to PNG and the Solomon Islands.

This has significantly uplifted network capacity and resiliency for these countries, which had previously lacked modern, competitive cable infrastructure.

As I flagged earlier, we are currently working to deliver the first international submarine cable to Timor-Leste, with the Australian Government providing funding for Vocus to undertake engineering and design works.

Again, this new infrastructure will uplift the digital capability of a country that has been dependent on low-capacity satellite and wireless connectivity.

And this is where we see a broader role for the Pacific Connect initiative.

New cable systems typically bypass Pacific nations in preference for an express route between Australia and the US.

Pacific Connect changes that.

It accentuates Fiji's position as a regional cable hub, delivering a considerable uplift in capacity for existing cables to interconnect to Australia and the US.

It also establishes French Polynesia as hub, connecting to new cables such as the Humboldt system to South America.

Pacific Connect includes a number of branching units that will enable more countries to join the system over time.

I mentioned earlier that our purpose is 'Building Critical Connections. Enabling Better Possibilities.' And I am delighted to see this purpose coming to life in the Pacific through these partnerships.

So let me conclude by wrapping up my three key points today.

First, investment and competition in digital infrastructure is critical for Australia's future. It is a great time for challengers like Vocus to be investing in digital infrastructure.

Second, Vocus is successfully delivering the largest infrastructure investments in our history, built on five key pillars:

- Extending our reach,
- Upgrading our capacity,
- Enhancing our security credentials,
- Capitalising on new technologies, and
- Enriching our digital capability.

And finally, Australia has an incredible opportunity to leverage digital infrastructure throughout the Indo-Pacific region, building Australia's presence with our neighbours – at a time when they're more important than ever.

Thank you, and I hope you enjoy the rest of the conference.