

**Chorus Annual Meeting 31 October 2019**  
**CEO's Address**

Tena koutou katoa

Thank you Patrick and good morning everyone.

A special welcome in particular to those of you who have joined us here in our offices today - I look forward to talking to you after the meeting.

It's wonderful to be able to update you today on how Chorus is performing, not just in terms of our New Zealand operations, but also within a broader global context.

I've just returned from the Broadband World Forum in Europe, where global network operators and vendors share their views on broadband developments and trends.

In the space of a few years, technology discussions at the conference have swung from focusing on ways to extend the life of copper to a recognition that fibre is without question the best possible broadband technology.

The European telco operators we met with would give their eye teeth to have our fibre network. A rollout more than 80% complete, on time and on budget, with uptake already surpassing 55% in our fibre areas is still a distant dream for many.

Recent industry research from IDC suggested New Zealand's fibre adoption rate is more than double the average worldwide rate, and second only to Japan, with 44% of New Zealand consumers primarily accessing the internet through a fibre connection.

Of course the obstacles to rolling out fibre vary from country to country. They boil down to things like the practical challenges of building fibre in city environments, as well as regulatory and political hurdles. Together, these factors determine whether there is a business case for investing in fibre.

New Zealand has shown how a public private partnership can solve that business case and deliver an extremely cost effective outcome for taxpayers.

Some of the few telco operators that have made the leap to fibre are now also beginning to quantify the operational benefits. In Portugal, for example, fibre uptake is over 40% and the copper network has started to be phased out by network operator Altice. They are seeing faults and maintenance costs reduce significantly, along with electricity requirements.

We've begun to see some of these benefits as fibre uptake grows, with network maintenance costs reducing by 14% in FY19.

Our goal of reducing our greenhouse gas emissions by 80%, between 2012 and 2030, are closely linked to the reductions in operational and electricity requirements that fibre enables.

Another factor that is giving impetus to the international business case for fibre is data demand.

In the almost three years I've been at Chorus, average monthly data demand has gone from 123 gigabytes to 279 Gigabytes. Fibre customers are averaging 360 gigabytes a month.

This is not peculiar to New Zealand. European networks all cite average usage similar to ours and they expect it to keep growing.

In Iceland, a fibre network providing 1 gigabit connections as a standard broadband plan is now recording 500 Gigabytes a month average usage.

As we've seen with the Rugby World Cup, the growing consumer adoption of video on demand services drives significant growth in data usage. That's all the more so when people watch live events online.

We invested in extra capacity ahead of the Rugby World Cup and it was clearly needed. Record peak network throughput was about 2 terabits per second before the tournament. It peaked at 2.6 terabits during the France versus Wales quarterfinal.

The impending launch of online gaming services – like Google stadia – is only going to fuel the demand for data further. Industry observers say cloud gaming will almost double backhaul capacity requirements because of the need for symmetric upload and download.

Interestingly, Vodafone Australia's new chief information officer predicted just the other week that data use will grow between 700 to 1,000 times over the next five years. These predictions and the data trends we're already seeing may explain why there has been a noticeable reduction in the international hype about 5G.

The industry is grappling with the business case for 5G investment, with most operators seeming to focus on enterprise or private networks as the primary use cases.

Some European operators are also turning to alternative network investment solutions to bridge the investment hurdle. These include selling off their tower assets, or entering into network sharing arrangements.

We're keeping a close eye on these international developments because we believe infrastructure sharing at a wholesale level makes good economic sense for New Zealand.

For example, we've begun trialling small cell deployments with mobile operators, building on the success of earlier innovation trials to identify alternative uses for our assets.

Indeed, much of the discussion at Broadband World Forum was about the extent to which 5G will be reliant on fibre backhaul. One industry commentator said 5G networks need 16 times more fibre than 4G required.

And fibre just keeps getting better.

We have 10 Gigabit trials live today with a commercial product in the works. Equipment vendors are developing capability for 25 Gig.

These kinds of speeds may sound extreme, but it wasn't that long ago that we thought 30 megabits was a lot.

That became 50 megabits.

Now technology vendors like Huawei suggest that 4K TV content needs speeds of more than 80 megabits, while 8K will need more than 260 megabits and less than 15 milliseconds in latency.

With many homes having more than one screen or device operating at any one time, this means the case for wider adoption of Gigabit plans is already looking more and more compelling.

We're already at 11% uptake of 1 gigabit plans, with more than 70,000 connections. And about 15% of orders are for 1 gigabit speeds.

Another consistent theme across global network operators is the need to transform as technology changes and markets evolve. Ours is a dynamic industry and themes like agility and collaboration are an increasingly common language.

When I hear other operators discussing the challenges they face in getting their teams to work together and make rapid changes, I'm very proud of what we've achieved at Chorus in the last few years.

We've revamped our vision and values, with an emphasis on better managing the changes we need to make as Chorus moves from a focus on building fibre to maintaining and operating the fibre network. That has entailed thinking more about the future skills and capability we require, as we simplify and streamline our business.

This work is already paying off, as we use digital tools and machine learning to improve our processes.

Initiatives like fibre in a day, where we pre-qualify homes in our network systems for a single installation visit, mean we're now connecting people to fibre faster than ever.

In the three months to the end of September we completed 53,000 fibre installations – our most ever, and we achieved it with about 670 field crews.

And we lifted customer satisfaction. We went from 7.5 out of ten in July last year to 7.8 by the end of September. That has been held back by some variability between retailers, and scores are higher again where customers are part of our fibre in a day process.

We've been pleased to see a lift in positive feedback on the connection process appearing online as we've implemented the new process.

But, when we're connecting tens of thousands of customers a month, we also make mistakes. When that happens and we're made aware of the problem we apologise to the customer and then we make it right. We're also working on new ways to improve other aspects of the customer experience on fibre.

This includes using digital channels to help retailers, service companies and customers, gain much greater visibility of our network status, availability and provisioning. Our goal is a virtuous circle of improved customer experience with faster resolution of faults, retailers avoiding unnecessary cost, and our technician workforce being more productive. Another aspect of our business that's starting to show real results is our active wholesaler strategy. We've put a lot of effort into understanding

customer segments and connection trends across our network, and that's helped us undertake a range of targeted initiatives to grow fibre uptake. We were delighted to see broadband uptake grow by 10,000 connections in the first quarter. We added a record 46,000 fibre connections. Much of that growth is in Auckland, where we've just completed the fibre rollout and fibre now accounts for 72% of our broadband connections.

Together, solid broadband uptake and slowing disconnections in other fibre company areas meant we enjoyed our best quarter for fixed line connections in a good many years. That trend has continued through October.

This doesn't mean we're going to take our eye off the ball. We know we need to keep promoting fibre uptake and ensure that fibre delivers the experience customers expect.

That's why we are early adopters of new fibre terminals in the home that include in-built wi-fi capability. Wi-fi performance can vary considerably today depending on the quality of gateway devices and their set-up, so we're exploring how we might improve that for consumers.

Devices with new more powerful wifi capability – called wifi6 – are also close to being commercially available. WiFi6 uses 5G technologies to deliver higher speeds and capacity, and we envisage it playing a key role in enabling the convergence of fixed and mobile networks.

## **Farewell**

It's been my privilege to lead Chorus through a chapter in its extraordinary journey.

I'm confident that during my time we've definitely made New Zealand better and the company is well positioned to keep adapting into the future.

As Patrick has noted, there's still some unfinished business related to bedding-in the regulatory regime. Although I couldn't stretch my stay to fit that additional two-year instalment, I trust the Commerce Commission will adequately recognise the risks that investors took on to deliver such great broadband for New Zealand consumers.

Europe is trying to attract investment to build a gigabit society. New Zealand already has one.

When I head back over the Tasman Sea later this month, I certainly hope to be telling anyone who'll listen how New Zealand created a public-partnership model the rest of the world should follow.