CHECK AGAINST DELIVERY

CHARLES TODD ORATION
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19 October, 2016

INTRODUCTION

Good afternoon, everyone.

It is an honour to be here today delivering the 2016 Charles Todd Oration in the company of so many of Australia's telecommunications leaders.

I would like to thank TelSoc and ACS for inviting me to speak today.

This is our industry's premier speech, delivered by so many thought-leaders over the years.

The address is of course named after the inspiring Sir Charles Todd – a man who had the vision to connect Australia, and to connect Australia to the world.

Going on to build the Australian Overland Telegraph Line between Darwin and Port Augusta, he achieved what is considered one of the great engineering feats of the 19th century: you might describe it as "the NBN of his day".

He was the first to truly understand the unique challenges of deploying communications infrastructure in a country with such a vast geography, and low population density.

Through connectivity, Charles Todd changed the way Australians lived, interacted and communicated.

While technology has changed dramatically since Sir Charles' revolutionary work in the 1800s, the appetite to innovate through telecommunications has not.

Although much has changed in the 144 years since the telegraph was completed, the fundamental challenges of Australia's geography remain.

This is a critical theme to which I will return throughout my speech.

Our industry continues to transform and improve the lives of Australians, and act as a key driver of the country's economy.

Indeed, the opportunities have broadened in scale and scope in ways that even the visionary Sir Charles could not have imagined.

The large-scale adoption of fixed and mobile broadband technology has been the primary reason we are moving to a Digital Economy.

From dial-up, fixed phones and 1G mobiles, to broadband, smartphones, tablets and the connected home, we have experienced a remarkable reshaping of our communications capability.

With 5G only a few years away and the Internet of Things not yet fully realised, we are on the edge of one of the most significant step-changes in technological history.

And as leaders in our industry, we have a responsibility to ensure we are maximising every opportunity.

To do this, there are some serious things that I believe Australia needs to think about, particularly on the policy and regulatory front.

One of most powerful ideas that unites my native Basque heritage and Australian culture is the idea is that people are equal, and deserve equal rights and opportunities.

This is why I have been so vocal to ensure that Australia can seize upon this opportunity for every Australian... regardless of where they live in the country.

INTERNATIONAL PERSPECTIVE

Having lived and worked in many places around the world, there is no doubt that Australia is viewed as a prosperous and successful country.

It is the 12th largest national economy by Gross Domestic Product, with one of the highest median incomes in the world.

Australia also enjoys some of the highest standards globally for health, education and life expectancy.

We are world leaders in 4G take-up in metropolitan Australia, with three of the largest and highest-performing mobile networks in the world.

And Australians are among the fastest adopters of new technology.

But despite this, Australia still has:

- Virtually no telecommunications competition or choice in regional and rural Australia;
- One of the most concentrated telecommunications markets in the western world; and
- Relatively low fixed broadband penetration and some of the highest fixed line prices in the world.

While we as an industry are getting many things right, we need to adjust our approach in some areas.

I believe this is beginning to happen, but still requires some shift in focus and effort.

We must consider how we might best define the outcomes we wish to achieve, the benefits that we want to see for all Australians, and then start to rationally discuss how we might achieve them.

But, this industry, and also industry policy makers, have been guilty of endlessly debating the details of issues today, rather than ensuring that we have the right vision and the right environment for the best outcomes to take place tomorrow.

Policy-making is not finding the best compromise between opposing points of view. It must be based on outcome-orientated principles.

The importance of getting this right cannot be understated if Australia is to maintain its position as one of the most prosperous and successful countries on earth.

PRINCIPLES FOR SUCCESS

Telecommunications is a facilitative industry.

We do not dictate what is said on a phone call and we cannot determine how broadband will be used to transform peoples' lives.

Not many of us would have predicted that the internet would have given rise to Google or Facebook, or that 3G would have led to the app revolution.

But all too often, Australian policy makers mistake their role as being one that prescribes the industry's technology choices, rather than setting the agenda for what success looks like.

The NBN – one of the most ambitious infrastructure projects of our time – is one of the best examples of this.

The desired outcome of the NBN is universal connectivity to fast-speed broadband.

However, so much of the NBN policy debate has been consumed by arguments about the precise technology mix.

Fibre-to-the-node, fibre-to-the-home, fibre-to-the-driveway. What's next? Fibre to the mailbox? Fibre to the front door? Fibre to the couch?

Australian consumers and businesses don't care. They just want fast-speed internet that works.

Despite what I believe have been the best intentions of both sides of politics, our industry often finds itself tied up in excessive amounts of detail and focussing on short-term fixes.

This has resulted in not enough time being dedicated to identifying the long-term objectives and fundamental building blocks of success.

It is true that the Digital Economy is a relatively new phenomenon but this does not mean that we need to invent a new set of policy principles to grapple with the changes.

It is crucial in this world of fixed and mobile convergence that policy makers remain technology-agnostic.

They must resist the temptation to become distracted by the technology itself.

Australian policy makers must adopt an outcomes-orientated focus that seeks to overcome the most fundamental roadblocks to success.

I believe that there are three key areas of focus:

- First, ensuring Australia has the right environment of incentives for ongoing investment to continually enhance and upgrade telecommunications infrastructure;

- Second, ensure there is infrastructure parity for all Australians to reduce the digital divide between urban and regional Australia;

- And third, policy which promotes a level competitive playing field in all markets for all players.

5G AND THE FUTURE

Without a doubt, the thing we are most excited about in the rapidly-approaching future is 5G.

5G is the next fundamental revolution of wireless network technology.

It will open the door to consumer and business applications many would have never believed possible.

There are three key step changes that 5G will enable – the much faster speeds, lower latency and more connectivity.

Most of the attention around 5G has focused on the superior data speed.

This isn't to be under-estimated as it will accelerate mobile networks from megabits per second to gigabits per second.

And it will undeniably be one of the main drivers for 5G – simply the ability to deal with exponential demand for mobile data.

The second step change that 5G will enable, but is often under-estimated, is the radical change in latency.

Latency is the time it takes for two mobile-enabled devices to communicate with and respond to each other.

Current best in class 4G networks can achieve actual latency of 50 milliseconds or so. 5G will enable close to zero latency.

This is just as important, if not more important, than the increase in data speeds.

It is a critical enabler of many of the key applications of the future. For example, driverless cars.

One of the keys to enabling driverless cars and solving residual safety concerns will be the reduction in the time it takes driverless cars to respond to accidents and other dangers.

This is driven as much by the reduction in latency as it is by the increase in data speeds.

And third, every device that can be connected, will be connected.

We know that we can already connect multiple devices to the network and to each other, but 5G is critical to enable billions of connections.

5G will unlock enormous potential for business – particularly the agricultural and industrial sectors.

Farms can already automatically monitor growing conditions, and send video and other sensor information back to farmers. They can even perform activities such as spraying, pruning and harvesting.

However, the step-change to true automation will only be possible with the increased capacity and reduced latency of 5G.

One of the biggest challenges for regional Australia is health.

In many rural and remote areas, the distances are too large and population density too low to sustain a pharmacy or a GP, let alone specialists and surgeons.

For example, remote surgery– which would require 3D video-streaming - would only be possible with the advances which 5G technology will bring.

And in the social space, Pokémon Go has recently given us the first glimpse of augmented and virtual reality.

5G will take us to completely digital worlds where we can interact with virtual creations in real time.

It will enable the tactile internet – allowing us to not only see the digital environment but to feel it.

5G will change how we live.

It will be a larger change than any previous generational step-change in communication technology.

ALWAYS CONNECTED

Vodafone is well-advanced in its plans for 5G.

Not only are we leveraging the global experience and resources of Vodafone Group in the Internet of Things.

We are in the planning phase for future network architecture and platforms, and participating in demonstrations with our vendors.

I hear a lot of debate around whether 5G will eventually make fixed broadband technology redundant.

But it doesn't make sense to talk about 5G and fixed broadband as competing, or even separate, services.

We should be taking an "always on" approach.

Increasingly, customers are using smartphones interchangeably across all internet platforms.

They expect connectivity whenever they want it, wherever they are – so they can stream music and video, send messages, make purchases, or grow their business.

That's why I'm very pleased to announce today that Vodafone will be enhancing the service we offer to customers with fixed broadband home and business products through the NBN.

There has been a lot of speculation about if, when and how Vodafone will enter the Australian fixed market, and the speculation can end today.

It's no secret that Australian consumers love data.

The NBN will allow us to complement our mobile network by seamlessly connecting our customers at home, work and in between.

Consumers are converged but the telco market isn't, and we want to change this.

Customers want seamless connection, easy-to-understand plans and reliable service – and that's the proposition we'll be bringing to Australia before the end of 2017.

We've heard the message loud and clear, both from our existing customers and Australians who don't currently have a service with us, that they want Vodafone to offer home and office broadband as well as mobile.

Just as we have done for mobile, we see a real opportunity to make a difference in the fixed broadband market by delivering great service and value for customers.

If you look at how we've been able to shift the mobile market for the benefit of customers, including unlimited calls and texts, flat $10 per gigabyte data overage and accessible international roaming through our $5 Roaming, we plan to bring the same transparent, fair approach to fixed broadband.

The time is right for Vodafone to expand our consumer and enterprise offerings to include fixed broadband.

We have a strong 4G network which covers more than 22 million Australians and is enjoyed by 5 and a half million customers, the NBN rollout is gaining momentum and there is strong consumer demand for continuous connectivity.

It is anticipated that four million Australian homes will be NBN-ready by the end of next year, so the project is reaching a scale where it provides the platform to deliver a service that complements our mobile network.

I will not go into the details today as to exactly when and how, but I will say this - that we are the cornerstone of competition in mobile and we intend to be in fixed broadband as well.

We bring a fresh approach to this market, without a legacy interest in protecting high historic fixed margins.

We bring with us a strong tradition of simplifying services, giving customers only what they really want and need, and doing so in a way which changes the industry.

We expect that through a fixed broadband service, Vodafone will become an even stronger competitive force in the Australian telecommunications market.

GETTING THE RIGHT SETTINGS

Thinking about Sir Charles Todd, there are two fundamental reasons why we still remember him – he saw the opportunities that communications technology could bring, and brought many people together to achieve things that many thought were impossible.

In this Digital Age, now more than ever, we need to focus on identifying the desired outcomes and we need a co-ordinated, long-term approach.

With this in mind, I would like to look at three of the key pressing priorities for our industry – domestic roaming, Universal Service Obligation reform and spectrum management.

The outcomes of the reviews of these issues will help shape the future of telecommunications in Australia.

If decision makers make the right calls now, enormous economic, social and technological potential will be unlocked.

But if the wrong calls are made, Australia will risk falling behind the rest of the world, and consumers will miss out.

There is no shortage of money going into regional telecommunications:

- Hundreds of millions of dollars a year through the USO fund;

- Hundreds of millions of dollars of private investment from mobile carriers;

- Billions of dollars through the NBN fixed wireless and satellite program;

- And hundreds of millions of dollars through federal and state government programs to subsidise mobile networks.

However, each of these seem to be operating in isolation, rather than working in a coordinated manner to deliver the best outcomes.

Australia is the country that arguably needs the most considered thought as to how to coordinate and maximise the efficiency of investment in regional areas.

Some of the key over-arching questions which need to be asked are:

- Are we creating smart regulation to deliver the best outcomes?

- Are public money and public resources being used to promote competition?

- And is Australia's telecommunications infrastructure driving, not hindering, Australia's competitiveness on a global scale?

Domestic roaming

Let me start with a few words about domestic roaming.

To say that domestic roaming is currently the hot industry topic is something of an understatement.

The announcement of the ACCC's inquiry has provoked some responses which I think can quite fairly be described as bordering on hysterical.

But we need to step back from the emotion, threats and scare-tactics, and look at the long-term opportunity in a rational, fact-based manner.

And to do this, we must consider whose interests should be served in this inquiry.

It is the Australian Competition and Consumer Commission which is carrying out the inquiry, so competition and consumers must be at the heart of this debate.

But unfortunately, their voices are getting lost in the noise.

It is undeniable that there is a telecommunications divide in this country.

Australians living in the major cities enjoy a choice of three world-class 4G networks and the benefits of strong competition.

While many Australians living in regional and rural areas either don't have access to reliable mobile services or don't a choice of provider.

And the bottom line is, the opportunities for infrastructure duplication drop off dramatically outside metropolitan areas as distances increase and population density decreases.

In these areas, the only sustainable, long-term way to balance incentives for infrastructure investment and competition is infrastructure-sharing.

There are many regional groups and Members of Parliament who agree this is a major issue and are calling for a serious debate about the potential consumer and competitive benefits of domestic roaming.

Domestic roaming is not a new concept. It was not invented by Vodafone.

It operates successfully in many countries around the world by commercial agreements, and in virtually every other large western economy via regulation.

And it's entirely appropriate that the ACCC consider whether domestic roaming could improve competition for consumers in regional areas in Australia.

Vodafone's position on domestic roaming is very clear:

- There is no evidence based on extensive international experience that regulated domestic roaming results in a decrease in investment by the leading operator or industry overall. There is significant evidence that it unlocks additional investment;
- If infrastructure is paid for or subsidised by the taxpayer and industry, which is the case with the incumbent's mobile and fixed networks in Australia, there is a strong argument that it should be open-access;
- And let's make it very clear, domestic roaming is not a free ride. It would deliver substantial wholesale payments to the incumbent at a fair price, while substantially increasing competition.

Contrary to what some will have you believe, the sky won't fall in.

I have to say, I am puzzled as to why the incumbent's infrastructure is seen by some as somehow sacred.

If you look at other utilities – water, electricity and even aviation – no one is suggesting that poles, wires and airports should be duplicated unless there is the population to support it.

Airlines globally engage in co-sharing because it wouldn't make sense to duplicate routes, aircraft and crew for every airline.

But at the end of the day, it doesn't matter what I think. It doesn't matter what Telstra or Optus think.

It is up to the ACCC to form an unbiased view of whether domestic roaming could deliver the best outcomes for consumers and competition.

And that's exactly the way it should be.

USO reform

I will now turn to the Universal Service Obligation.

When you apply an outcomes-focus approach to the USO, it is understood that the desired outcome is universal access to a voice service.

What we have here in Australia is hundreds of millions of dollars a year being paid to the incumbent to supply a plain old copper telephony service.

That's despite the fact that several different technologies have been available for many years which could also deliver this service – fibre, mobile, fixed-wireless and satellite.

And that's despite the copper network servicing the same areas that billions of dollars has been spent deploying NBN fixed wireless and satellite services.

If you agree with the principle that public money needs to support open infrastructure, it's hard to see how the incumbent receiving 5 billion dollars over twenty years for its copper network is anything other than corporate welfare on a grand scale.

It is simply not appropriate that public money goes toward the competitive advantage of one of the most profitable companies in the world.

The USO is undoubtedly selling regional Australia short.

I believe that the key elements for USO reform are:

- Recognising the NBN as the universal provider of telecommunications infrastructure in Australia, and transferring the obligation from Telstra to NBN as NBN services are rolled out;

- And ensuring that any ongoing subsidies are technology-agnostic and subject to competition.

We are very pleased the Federal Government has asked the Productivity Commission to conduct a review of the USO, and we look forward to its recommendations.

However, we will continue to remind decision-makers that commissions and reports don't produce change, and that strong action is needed once a direction is clear.

Spectrum

On spectrum, spectrum is described as the lifeblood of the mobile communications industry.

Without timely access to sufficient spectrum, mobile operators simply can't provide services.

With the right framework, spectrum acts as an enabler of productivity, innovation and competition.

But without it, spectrum quickly becomes a barrier.

Unfortunately, I am not confident there is real clarity as to what outcomes Australia is trying to achieve in its spectrum allocation, pricing and management.

There seems to be a level of understanding that spectrum is vital to the industry, and that the real long-term benefits to Australia come through use of spectrum to provide competitive mobile services.

However, this agreement seems to be, at times, fragmented.

Ironically, competition limits sometimes fail even to ensure fair competition in the allocation of spectrum.

Of most concern, it seems that far too often, governments give in to the temptation to maximise short-term revenues rather than look to the long-term benefits of a competitive mobile industry.

Industry is looking to government for leadership in spectrum management.

What is needed in Australia is a spectrum strategy that enables Australia to be at the forefront of technological advances.

The more spectrum made available to industry, the more technology becomes available to consumers.

Government needs to ensure large amounts of spectrum are ready to roll out, and they are maximising the return to the taxpayer from that spectrum in a way that supports competition.

All of this will become even more important in the context of 5G.

Not only will new spectrum need to be made available, but far greater quantities of spectrum will be required.

Instead of needing tens of MHz of spectrum as we do today, the industry will need hundreds of MHz of spectrum in order to be able to deploy world-class 5G services.

Let me give you an example. The 5G standard internationally is about to be defined. The band most likely to be used for initial 5G services across multiple geographies is the 3.4 to 3.7GHz band.

That means that the ecosystem of 5G equipment and devices, such as smartphones, will operate on this band. And the first countries to deploy 5G will be using this band.

However, a large portion of this band in Australia has been set aside in metropolitan areas for the NBN to deliver services to just 80,000 premises at the fringe of metro areas. There are definitely alternative ways to do this.

Australia cannot afford to put a handbrake on its digital productivity by artificially limiting the amount of spectrum that could be made available to the mobile industry.

If we are to take full advantage of the opportunities before us, this is one area Australia cannot afford to get wrong.

CONCLUSION

It has been a great privilege to speak to you today about the future of telecommunications in this country.

No doubt you will agree, we have much to be excited about.

And with the right settings – settings that focus on outcomes, rather than technology or maintaining the status quo, Australia can reach its full economic, social and technological potential.

And so I will leave you with this one thought.

Today we remember Sir Charles Todd – one of the pioneers of the communications industry for his vision and his leadership.

But in another 150 years, when our industry's leaders of the future look back on this period in time, what will they remember?

Will they admire us for the way in which we led Australia into the Digital Economy?

Or will they use this period in our industry's history as a case study for how policy and regulatory dysfunction can prevent innovation and growth, and warn against repeating the same mistakes.

I hope it will be the former.

Thank you.