



# National Press Club Address

## The nbn effect – how fast broadband is changing the face of Australia

Good afternoon.

It's always an honour to come present here at the national press club and as some of you may know, this is likely to be my last appearance, at least as nbn's Chief Executive.

Although I've decided to leave the company at the end of this year, I could not be more proud of this organisation.

It is a privilege to be a part of a team where our underlying mission is about equality and opportunity and not just for a few, but for an entire nation.

We've all heard the old adage that the only thing constant in life is change itself.

What is more difficult to predict, however, is the pace at which change occurs.

We live in a time where the development and adoption of technology happens in what seems like the blink of an eye.

For example, when the idea of a national broadband network for Australia was first raised twelve years ago, Steve Jobs had not yet launched the first iPhone.

Facebook had just moved from a university message board to a public platform.

And people were using Netflix - but their movies arrived on DVD through the post.

The idea of a national broadband network reaching every person and every home seemed fanciful even for a nation of early adopters, and as you would expect, questions were asked.

What is this new technology?

How on earth could it drive jobs, productivity and small business growth?

Why does every home, every device, and even every appliance need to be connected?

I mean why would anyone want to talk to their fridge over the internet?

Well, those were the questions then, but today there is no question about the importance of universal internet access that is fast, reliable, and affordable.

As an example, in business settings today we can speak face-to-face to colleagues in another city or country through video conferencing-without ever leaving our desk or home office.

We send our work documents into 'the cloud' where we can share and do real-time editing with colleagues.

When your tools of the trade are a laptop and an internet connection, your workmates can be anywhere in the world.

The importance of this digital landscape extends beyond the office.

Today the average Australian home has 14 internet-connected devices.

As any of you know, the gadgets add up quickly.

A couple of smart phones, a tablet, an Xbox, a FitBit, a Google Home, a wireless printer, and yes, unfortunately there is much more to come, which is why we are building the nbn.

Over the past few years, there has been a very public focus on the cost, timing and type of network we are building.

That's understandable.

It's important that Australians - who are the owners of the nbn -know why we are building this network and understand the value of their investment.

The best way to address this is to understand the impact that nbn has had thus far and what it will look like in a few years' time.

And this is the very issue that I'm here to talk to you about today.

The original purpose for establishing nbn was to foster productivity and drive economic and social benefits for all Australians.

We've seen a few political changes since the company's inception in 2009, but support for this ideal remains bipartisan and unstinting.

Leaders and decision makers from all sides of politics, from industry, and from academia believe we can use this new digital landscape to better the lives of Australians.

We all have had images of what this might look like but let's take a moment to think about just a few.

Imagine a nation where our regions are reinvigorated, where thousands more Australians are forming their own companies, and where entrepreneurship is booming.

Imagine a nation where whole industries are seeing productivity gains in the hundreds of millions of dollars, where a nation's GDP grows by billions of dollars, or where broadband access for everyone makes us one of the top countries for internet equality.

And as it relates to us individually, imagine a nation where each and every one of us has equal access to better education, improved health, and new opportunities where we can improve our own lives.

Well recent economic research shows that right now - today - this is more than someone's imagination, this is a reality.

Through this research and for the first time, we have evidence of real-world data showing nbn's impact on the way we work, learn, live and connect.

Before I share the results, allow me to explain the research.

In mid-2016, 38,000 field workers from the Australian Bureau of Statistics headed out into every street, every suburb and every town.

They were there to remind Australians to complete their Census paper on August 9, Census night.

But something else important happened that day.

As they made their way through the suburbs, thousands of these Census workers passed thousands of our own workforce as we dug trenches, wired up nbn boxes and connected homes.

Australia was at a point when almost one in three homes could connect to the network.

We realised that this Census would capture a social and economic snapshot of a nation that is in transition.

Economists - who don't often get worked up - get very excited about these things - they call this coincidence a "natural experiment".

In this survey of 24 million people and 11 million households - we could compare two groups: those who had been connected to the nbn, and those who had not.

This was the control group.

Shortly after the ABS released the final Census results, economics firm AlphaBeta crunched the numbers.

They compared Australia's most highly connected postcodes to the least connected.

By comparing areas where the rollout was more than 90 per cent complete to areas where less than 10 per cent of the population was connected, AlphaBeta was able to gauge the "nbn effect".

It's a mammoth exercise, drilling down into the work, lifestyle and social habits of the residents of 88 Australian regions - each comprising between 100,000 and 300,000 people.

To ensure a like-for-like comparison, AlphaBeta took into account a range of factors such as age, income, gender, education, regionality, population growth, and other non-nbn sources of fast broadband.

A national Ipsos phone survey also contributed to this calculation of the nbn's contribution to the Australian economy.

Today, I will give you a first taste of the findings.

As we digest the data over the coming months, we will share further detailed updates on education, health and wellbeing, social connectedness and industry productivity.

So, what is this "nbn effect"?

It's the impact that fast broadband is having on some of the most important parts of our lives - specifically how we work, learn, live and connect.

To start off, let's talk business or at least the creation of new businesses and new jobs.

In nbn regions, business growth - that is, the number of new businesses - has accelerated at more than twice the annual pace of the national average since 2011.

And this was five times the pace of regions without nbn.

In nbn regions, it is estimated between 1,900 and 5,400 new businesses were created in 2017 alone.

If this rate of growth continues from now, by the end of the rollout there will be between 30,000 and 80,000 additional new businesses as a result of the nbn network.

Interestingly, it's women in particular in nbn regions who have grasped the opportunity and become their own bosses.

In percentage terms, the results are stunning.

The number of self-employed women in nbn regions grew at an average 2.3 per cent every year, compared to just 0.1 per cent in non-nbn areas.

That's 20 times more likely than in non-nbn areas.

If this trend continues, up to 52,000 additional Australian women will be self-employed by the end of the rollout due again to the "nbn effect".

We're now witnessing the birth of some truly innovative businesses that were not possible a decade ago.

Airlie Trescowthick is one of these.

Airlie was born and raised on a sheep and cattle property in the southern Riverina of NSW. After studying in Melbourne and later Canada, she became a business analyst.

But being on the land was in her blood and she returned to life on the farm. There she established "Farm Table".

It's an online platform, a farming "personal assistant" –if you will - which connects modern farmers with the latest research and resources they need to run complex rural businesses.

Her business bridges the digital divide, connecting farmers across generations and across the country. And as a businesswoman, she has become a role model in the agricultural community.

I'm also pleased to see Jo Palmer here in the audience today. I suspect this research won't be much of a surprise to her.

Jo, from Wagga Wagga, is the founder of "Pointer Remote Roles". It's a job matching platform for remote workers.

She asked herself if a big corporate can give someone in Sydney two days a week of remote work, why can't they give it to someone in Broken Hill or Broome?

Her aim is to deliver thousands of qualified Australians the opportunity to work remotely.

Entrepreneurship allows us to have careers that are vital and challenging.

It gives us the power to decide when, how and where our work gets done.

It's not about minimising the number of hours worked.

It's about achieving goals on our own terms.

Hearing about the impact of the nbn network on regional women really hit me at a personal level.

What struck me was what a difference a tool like fast broadband would have made to my older sisters and my mother when I was growing up.

My father, an entrepreneur, passed away when I was very young. Unfortunately, after he was gone we had very little household income.

Although my fabulous mother was highly educated, she had to work in the fields cutting and packaging cauliflower during the day and in a cafe waiting tables at night. My sisters set about raising me.

I suppose if you have to divide the world into the "haves and have-nots", we'd have been squarely in the "have-nots".

None of us ever felt sorry for ourselves nor blamed anyone else for our situation but in hindsight we now know the odds of pulling yourself out of the "have-not" category are stacked against you.

We also know there are a few things in life that can neutralise those odds.

Sometimes it's government intervention, even a stroke of luck, encouragement or just sheer determination and sometimes, or a bit of each of these.

For me, my personal “neutraliser” was signing up for four years of military service in return for a government sponsored taxpayer-funded education - an opportunity for which I’ll always be grateful.

For Australians, the nbn could be that neutraliser.

To start the business of your dreams or obtain the job you’ve always wanted, having the best possible education will increase your chances.

This brings me to the second part of the nbn-effect: “how we learn”.

The research shows that people with nbn are twice as likely to enrol in on-line courses than their [non-]nbn counterparts.

Take for example, 20-year-old university student Kathleen Howarth.

She’s studying for a three-year Bachelor of Legal and Justice Studies at Southern Cross University.

For those that don’t know, this university has campuses on the Gold Coast and in Lismore but Kathleen lives in the NSW central west township of Tarana, with a population of 170.

Living hundreds of kilometres away from her university campus has not stopped Kathleen from pursuing her dream of a legal career at the same time as being her partner’s at-home carer.

By using nbn’s network, Kathleen is able to download lectures and upload assignments-something she was not previously able to do.

She can remain in the rural community she loves and still get a world-class education.

If you have the desire, you can access excellent universities from around the world, on whatever topic or interest you have.

If you didn’t get the education you wanted in your youth, you can continue learning even into old age.

I think one of Australia’s greatest strengths is its egalitarian nature.

I know there’s criticism of the Tall Poppy Syndrome, but I think that’s doing a disservice to the Australian ethos.

The lives of farmers on the land, the Aboriginal and Torres Strait Islander communities living the traditional way of life, or families living in the outer suburbs are just as important as those in the inner cities.

The belief that no one person or group is inherently better than another underpins nbn’s number one aim: to provide access to fast broadband for every Australian with the hope of improving their lives.

Now we all know that a life improved through a new job or an enhanced education doesn’t matter if we are in poor health.

And improved access to a healthier life is the third part of the “nbn effect”.

The AlphaBeta research shows people with nbn are 1.3 times more likely to use internet-connected devices to improve their health and wellbeing.

A couple of years ago during a tour of Silicon Valley we met with companies in the health industry, they were creating technology that connected people remotely with doctors and nurses all around the world.

These “adjacent technologies” were running over the type of broadband networks Australia is building nation-wide.

These technologies were things like constantly monitored biometrics, and on-the-spot medical advice based on monitoring of your pulse, temperature and blood pressure.

Now there’s been a lot of high hopes for the future of tele-health here in Australia.

For most of us though, the huge changes in general medical care we’d been told to expect have not yet materialised on an everyday basis.

Many doctors and specialists still rely on faxes and hard copies of X-rays and scans.

And why? What’s the point of abandoning paper and celluloid in Sydney or Melbourne when you can’t be confident your colleague in Roma or Darwin is connected to the internet with fast broadband.

From this new research, we know nbn users are almost a third more likely to use health devices like FitBits or smart watches, but there were no statistically significant results about people’s intentions to use the internet for telehealth.

I think this is an interesting point especially when we know what is now possible with nbn.

For example, not long ago, the CSIRO was able to use the nbn network to help deliver an online eye test to the most isolated communities in the Torres Strait and remote parts of Western Australia.

These were areas where residents had a historically high incidence of serious - but easily treated - eye disease.

The CSIRO conducted a telehealth pilot to combat diabetes-related blindness in remote areas.

It trained nurses using high-tech cameras to scan patients’ retinas and then send the images to city-based eye specialists.

And thousands of people had their eyes tested.

From those tests, 65 people - who were unlikely to ever see an eye specialist in person - were found at risk of blindness.

And they were able to receive preventative treatment.

Now these are 65 people whose chance of keeping their sight was dramatically improved.

This testing service was delivered over the nbn.

For indigenous Australians, living remotely no longer has to mean missing out on basic health checks - especially eye care.

Now just like the health benefits of universal access under the Medicare system, you can see the importance of universal access to the digital economy.

It is critical to lifting the wellbeing of an entire nation.

Now the “nbn effect” is estimated to have contributed about 90 million dollars in productivity gains to the health industry thus far.

But I wonder how many of us in this room monitor our own health on our FitBits or phones?

What do you do with it?

I wonder when this health data that we collect on ourselves will begin to transform the health industry itself.

I hope it's not far away.

So much of the value to the nbn has to do with virtually everyone having access.

There is something widely understood as the “network effect” where value grows exponentially as more and more are connected.

This brings us to the fourth impact of the nbn network and that's social connectivity.

The AlphaBeta research shows nbn users are 1.4 times more likely to socialise using the internet than non-nbn users.

This will likely increase as more people become connected but it also will amplify the negative effects of isolation for those who are unable to access the internet.

The idea of universal or equal access to the internet has been a top priority for nbn.

Very few countries of our size and topology have been able to say the same.

The OECD is made up of 35 countries.

Six years ago, Australia was in the bottom ten in terms of internet equality.

AlphaBeta has predicted that when the rollout is complete, the nbn effect will have shifted Australia's ranking to the top 10.

nbn has delivered fast broadband to many who had previously been left without.

This is already starting to change the game for regional Australian.



We're now 60 per cent of our way through the rollout and by the end of this year we'll be closer to 75.

The end is in sight, and Australian taxpayers can be assured the investment is well worth it.

Clearly productivity gains are there, ready and waiting to be found.

We can see that some industries are already making huge gains as a result of the nbn effect, particularly in those regions where their workforces were previously underserved with no or low average internet speeds.

Take, for example, the financial and professional services industry.

AlphaBeta estimates this industry alone has benefited from productivity gains worth around 260 million dollars in 2017.

It will be interesting to see which industry will be the next to take the lead. And more importantly, what does all of this mean for the Australian economy as a whole?

By helping create new jobs, new businesses, improved productivity, AlphaBeta found the nbn network generated an estimated 1.2 billion dollars of additional economic activity in 2017.

In fact, by the end of the rollout, the "nbn effect" is forecast to have helped create 31,000 additional jobs.

This is exciting because it excludes the economic stimulus of the nbn rollout itself.

Things like capital investments, financing and the workers needed to build the network have not been counted in this 1.2 billion dollars.

By the end of the rollout, this "nbn-effect" is predicted to have multiplied to 10.4 billion dollars a year and this effectively equates to a net present value of 122 billion dollars

I have to emphasise once again, these results are evidence of what is happening today in the suburbs, towns and cities across our nation.

This research really demonstrates the need to connect the rest of the country as soon as we can.

These new businesses, the growth in entrepreneurs, new opportunities to learn, improved health, and the economic dividends: it's all happening right now.

And this is just the beginning.

All this brings us back to the question, how are we going to use this technology - this great democratic enabler of individual enterprise? After all, the more connected we are, the better we are.

As I mentioned earlier, when the idea for a national broadband network was first raised, the iPhone had not even been launched.

Technology moves so fast and has so much potential to improve our lives.

Many people believe that soon - with tech advancements and new scientific breakthroughs - we'll see a fundamental change in the way a connected society works.

When we think about the future, we have even more questions than before - not just of the next phase of nbn - but of how we will fully leverage a connected society.

Now, I don't claim to have all the answers. But I know this project has already changed Australia for the better and being part of it is something I'll remember for the rest of my life.

Just like Ray, here in the audience, who worked on the Snowy Mountains Hydro Electric Scheme proudly remembers his role in something bigger than a single individual.

I'm thankful to both the Labor and Coalition governments who have supported and guided the build.

I'm thankful to the telecommunications industry and the regulators for working with us through the business complexities.

I'm thankful to our employees and the builders for physically doing the work. And even our harshest critics - you know who you are - have helped us improve.

Now as far as nbn is concerned, our founding values - "to deliver economic and social benefit for all Australians" - will continue to shape every decision.

Fortunately, we now have the baseline evidence - that connectivity brings prosperity and entrepreneurship.

It empowers women and regional communities.

It gives a better chance at a healthier life, and it builds a thirst for the lifelong pursuit of knowledge.

We're seeing this evidence when the network is halfway complete.

Imagine two years from now when all Australians have access. Or in a decade when Australia has well and truly felt the effect of the nbn network.

But let's not wait until then.

My hope is that today - or this week, or this month - when a home is connected to the network, there'll be another entrepreneur created, another new digital job.

Now another person who can suddenly see new possibilities in the way they live, work, learn, and connect.

Thank you.