The Past and Future of Australian Innovations in Information and Communication Technology (ICT)

Oral History Interview

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Kate Lundy

Interviewed by:

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Interviewed on:

Wednesday 04 March 2022

Citation: Boell, S.K.; Philipson, G.; Thorne, P.; Riemer, K.; Peter, S.; Wang, B. (2023). Series of Oral Histories with Pearcey Medallists and Hall of Fame 2000-2020. Sydney, Melbourne. DOI: doi.org/10.25910/j5ak-rs49

Project Summary

This interview is part of a series of oral history interviews undertaken by the Pearcey Foundation and the University of Sydney as part of the project 'The Past and Future of Australian Innovations in Information and Communication Technology (ICT)'. The series interviewed recipients admitted into the Pearcey Hall of Fame from 2003 to 2020. The hall of fame recognizes outstanding life-time contribution to ICT in Australia in business, research and government. Each oral history captures a short biography of individuals who made an outstanding contribution to ICT in Australia. They also collect insights on aspects that had a lasting effect on ICT innovations in Australia, positive as well as negative from approximately the 1960s to the 2010s. Interviews lasted about 60-90 minutes and were conducted by Sebastian Boell, Graeme Philipson, Peter Thorne, Kai Riemer, Sandra Peter and Belinda Wang. The complete set of interviews in this series is archived by the Pearcey Foundation.

Key Points Covered in this Oral History

1. The national broadband strategy can be a foundation for developing a national economy beyond geographical constraints.

2. Box-ticking industrial policies have become a political test for participation, which fails to link national interests with technology strategy.

3. Government procurement has favoured big companies over SMEs for the reason of risk aversion. The procurement decision requires contractors to show they are covered by professional large amount insurance and public liability insurance, as well as the need for traceable records of equivalent size of past contracts and prove the availability of the workforce.

4. Venture capital structure in Australia is yet in a matured practice -many investors rely on the endorsement brought by the government component funds. A possible solution is the government could emulate the practice under Californian tax law, so that to increase the churn rate by providing tax concession when reinvesting into another qualifying item.
5. Government procurement can be a strong reference for securing exporting opportunities, the limitation of the Australian market constrained the scale-up of local businesses. To ensure this scale-up, there should be an ecosystem approach to line up the policy, the strategy, the technology and the finance.

6. Industrial policies shall be agile and adaptive in order to respond to individual business challenges. It can be tested on an emblematic business of the industry to check how the proposed policies would impact their opportunities to grow.

7. The cultural cringe on the capabilities and tall-poppy syndrome (favour the humility) leads to brain drain though Australian people are innovative and can avoid the global group thinking.

Biography

Hon. Kate Lundy

Former Senator
Former Shadow Minister for IT and Sport
Graduate of the Australian Institute of Company Director (GAICD)
Pearcey Hall of Fame in 2017

Politician, Honorary Doctor of Letters

Kate Alexandra Lundy is a former member of the Australian Senate representing the Australian Capital Territory. Born in Sydney, Lundy left school without completing Year 11 and did not tell her parents. She went to work on a construction site. She became the trade union representative and began her career in the Building Workers Industrial Union. In 1996, aged 28, Lundy was at that time the youngest woman from the Australian Labor Party to be elected to the federal parliament. During her parliamentary career, of over 19 years, she filled numerous roles as minister or shadow minister. Her portfolios, included responsibility for Information Technology, Manufacturing and Consumer affairs. Kate has gained respect as the first Australian politician who recognised the significance and scope of ICT and the Information Economy, their collective potential as well as their importance to the prosperity and well-being of Australia. She has been a tireless advocate for innovation and for recognition and support of the local ICT sector. She has supported the Pearcey Foundation on many occasions just as she did for most industry-aligned bodies and was our Patron.

In 2010 Lundy was recognised as one of the "International Top 10 People Changing the World of Internet and Politics" at the 11th World eDemocracy Forum which was held in Paris, France

When Kate Lundy presented the Pearcey Oration in 2014 she stated her vision:

> "For Australia to have a fair, civil, healthy, engaged and educated society that values and leverages its cultural diversity to build both social cohesion and global engagement; and for this society to be supported by a diverse, digitally enabled economy that is growing sustainably through investment in education, creativity, research, collaboration, commercialisation, innovation, entrepreneurialism and export growth. Within this, I firmly believe that with forethought and a commitment to the public good, it is Australia's capacity to create and innovate with technology that will determine whether we reach our potential."

Kate has been both high profile in the ICT sector since entering the Senate in 1996 as well as an advocate for the role of women in ICT. She has consistently represented the ICT sector to governments - both federal and territory. Her accessibility has given the sector a 'Voice in Canberra' and has always supported the industry awards and conferences regardless of where they were held. Her frank feedback to industry was always appreciated.

Since leaving politics Kate has taken on industry advocacy roles for the ACT government and Department of Defence. Kate serves as a non-executive board member for several companies including NRMA and early-stage hi-tech start-ups. She currently resides in Canberra.

Interview Transcript

Date of interview: Wednesday 04 March 2022

So I grew up in West Belconnen, of Canberra. My dad is a lawyer, and my mum is a teacher, so it's fair to say that neither of them were STEM oriented, particularly, but there was a strong sort of expectation that we would do something at university, it was pretty undefined. I picked medicine, just to keep them off my back. Anyway, to cut a long story short, I went to Latham Primary, Ginninderra High, which was such a great school, they've actually demolished it now, and then to Copeland College, which was year 11 and 12 in the Canberra system. I made a decision in year 11 to leave school. I was doing at least two lines of science, so I loved different types of science, but could not, and no-one ever presented a future pathway that involved science or STEM, and so my decision to leave school was largely predicated on a panic about not understanding where the things I was interested in were going to come from if I stayed in school. I decided…

Where did your interest in science come from?

I'm not sure, I think it came through my interest in the natural world, so I remember doing projects on ecology, like what was that, when you were in second grade, and most of the work that I loved when I was a kid was biology or chemistry related. So very non-specific, all fun, all about plants and animals and how they worked, the human body, and chemistry, because it satisfied my interest in things a little more technical, I was a kid, it was nothing more than that, but it was meatier than stuff that everyone kind of was familiar with, so I was looking for something a little non-traditional, way back as a kid, but it was never particularly fostered or recognised, even though I had straight As in every science unit I ever did, and I had great teachers in high school, great science teachers, two of them, the physics teacher and the chemistry teacher were both women, and even though I didn't particularly like them, I think that had a huge impact on me in persisting and trying hard, because they were the best teachers in the school as far as I was concerned, even though they were grumpy and weren't favoured by the school population, they were awesome, so that had a huge impact on me as well.

Impact in seeing role models in science-related work?

I didn't see them as role models, I just saw them as hard-arse teachers, but I think in retrospect, because I'm now so much more informed, it had an impact because it made me try harder and made me think that there was like an expectation that if I was interested then I would do well, and that certainly didn't happen, I was the opposite in other classes where I was just lazy and didn't do my work.

Okay, and then you decided not to finish year 11 because you couldn't see a future for what you wanted to do with your career.

Yeah, I just couldn't see, I was like a lot of young people, I could not see a pathway between what I liked doing and how would that translate into jobs, that was never, so it is absolutely this seeing the job in STEM business, there was absolutely nothing presented to us, pushing us in the right direction, and I think, I didn't panic, but everything was going to shit in my life at the time, and so there was in my mind no loss in leaving and finding my own way through a different path, and originally I had enough marks to get me through to the end of the year and come back in year 12 but I ended up earning too much money.

And that was in what year?

I was in year 11.

And what year…?

1984.

'84, okay, thank you.

A momentous year in the history of science fiction, by the way.

Yes.

Anyway, funny, but I did read a lot of science fiction when I was young that intrigued me a lot, it wasn't why I liked science, I didn't actually correlate the two things. Again, so much distance between that sort of creative presentation of pop culture and science fiction, but what I knew and understood about science, they weren't even connected in my mind, which is, I think I was yeah, not altogether with it.

Well, I don't know, at that stage in our life we usually don't reflect that deeply on these connections, but I can see like if you were more into drama and arts you might have read other kinds of books.

Yeah, exactly, perhaps. Anyway, to cut a long story short I made a decision to leave in August 1984, and sought employment in a range of jobs. I didn't get the first job I applied for at Sussan, but I did get the second which was removing asbestos as a labourer for a contractor in public buildings in the ACT, so I benefited directly from the Labour movement campaign to promote women into non-traditional jobs, I didn't know that at the time, I thought I was just an awesome interviewee…

I hope you didn't inhale… I hope you did not inhale.

So the whole purpose, Peter, was to remove the asbestos to make it safe for public servants, so I spent 18 months in the roof space of the National Library, and then in various public buildings around Canberra over about almost a three-year period.

Suitably masked and everything, I hope.

Yeah, that was the idea, but what happened was procedures would get slack and we'd speak out, we were all sort of, it was no ticket, no start back in the day, and the BLF was around which was an uncomfortable fit for me, my parents were quite conservative at that time, so I learnt all about unions and things, and then Peter, you'd remember the BLF was deregistered

in 1985, early '86, so I became the delegate for the new union, because I had demonstrated a sort of practical adherence to the safety procedures, that was all the credentials…

And general bolshy attitude, and a general bolshy attitude to the world too. Yeah, I'm right…

Well, if it came from anywhere it came from there, because I'm living proof you can learn to be a public speaker because back then even as delegate I could barely string two words together in a site shed with four people that I knew on my site. I found that concept incredibly intimidating, and I used to wag school if I had to do a speech in front of the class, so I'm not predisposed, not to say I didn't have leadership positions, I certainly did, but I was definitely not predisposed to be the spokesperson, and I learnt to do it almost through necessity, from our own collective health and safety. Anyway, I wanted to, this is all linked to the computer story, so you've got to be patient, so when I was labouring it was the worst job in the world, you're wearing literally a positive pressure black rubber mask with a diving hose that's about 100 metres long, breathing compressed air, scraping this stuff off beams and putting it into bags, mostly working with water, it's hot in summer, cold in winter, and does terrible things to your skin, because every shift you've got to have a decontamination shower and then a personal shower before you can go to the bathroom, so horrific conditions, just even doing the right thing. So after a couple of years I booked myself into the Receptionist Centre, so this was an excellent private training institution which taught you how to touch type and answer the phone properly. Good morning, my name is Kate, can I help you? And my colours are summer, so I got my colours done, because I aspired to be a receptionist. Have I lost you?

No, all good.

No, we're all listening.

Anyway, so I was a summer, I paid a lot of money for it, it was about a month's salary to do the Receptionist Centre course, but my qualification was that I could touch type and I could answer the phone well, so armed with that I set about working out how I would transition out of asbestos removal because my hands were quite damaged, the asbestos gets embedded in your skin, it's really hard to work with the tools with gloves on, and you get fungal infections on your skin from all the showers, and your hair gets really ratty, so physically I was 18 years old and this stuff is breaking my body down already, without even inhaling it, so it was time to move one. Around that time the new unions started looking for someone to come and do the work with the asbestos removal workers, and another woman, Linda, was employed to do that job, she was a lot older than me, she was definitely bolshy, so a good role model, but she had a baby, so she left, and so they offered the job to me, and I didn't want to do it, but it's one of these times in your life when, Peter, you'll relate to this, and maybe you too will as well, I needed a really hard push to take the step to work for the union, I said no, and the guy running the union said I just want you to turn up Monday and we'll have a chat, so I was like sure, I'll humour you, and I did, and he convinced me to give it a go, because I had no idea what the whole union thing was going on about, I was worried about my naivety, I cared about the stuff I knew about, and he basically said you only need to worry about the stuff you know about, we're not going to do anything else. Anyway, to cut a long story short, that was a massive step for me as a young person, working for a union gave me a sense of purpose, in that I was now fighting a good fight on behalf of people who work in dangerous jobs, it rapidly expanded into broader construction, and the science of occupational health and safety is quite profound, it's all about standards and mmol and ml per litre of air of asbestos fibres inhaled, and chemical reactions on your skin, chemical compositions, material safety data sheets, and I loved it, and I got into it. So all that interest in chemistry and science came back

and manifested itself in occupational health and safety, who knew. So I actually found this random way to connect my love of science stuff with work that I believed in, which makes me one of the luckiest people in the world, particularly because I was so young. So coming to the computer bit, in 1988, so I started work for the union in late '87…

So can I build you a little bridge here, when you learned touch typing was it on a typewriter or was it on a computer?

No, it was on a typewriter. I missed the class with the CAPS lock, so I still permanently CAPS lock things to do a capital letter. And they put stickers over the letters, anyway. And the phone stuff was on an old PABX plug board. Like actually, like something from the 50s. Anyway, so 1988, I'd been working for the union for about a year, and the union decided to get computers. So this was very exciting. I think they just got a series of 286s, and all of the admin staff got them, because it was a membership database, primarily, and word processing, and I said excuse me, I want one too because I know how to type. So I got one, but it wasn't connected to anything, it was just a standalone 286. Anyway, I had experimented previously on my mother's Apple IIc and we did have those Commodore 64s where I'd spend hours programming stuff in so I could play ping pong or tennis or whatever, so done all of that, just for fun, and I liked it but it hadn't grabbed me as a technology and as a pathway, but getting this desktop monster on my desk was just fun because I had to teach myself basic, and then I had this great idea that I was going to unput all the membership data to make sure their superannuation contributions were being paid, so I would spend hours perfecting my speed typing, typing names into a database idea that I had that absolutely went nowhere, but it was right thinking, because of course then you had the whole industry superannuation stuff doing exactly this, cross-referencing membership with data entries on superannuation, so I was thinking about databases, designing them in a really rudimentary way, and trying to make them work, and it all goes nowhere because I've got another job to do, but it was formative, and the really big step was when that desktop publishing beta-testing applications became available, I got a 386, woohoo, to start use beta-testing applications like Ventura and CorelDRAW. CorelDRAW was a vector-based piece of software to help you with graphics, and Ventura was a desktop publishing thing which had a very complicated beta data system for constructing documents based on separate files everywhere, it was great and I just taught myself how to use those things and save the union a stack of money by doing all of their publications and comms on the side. So this was the quid pro quo for me having the computer was that I could demonstrate to them that it added efficiencies, and it was all as desktop publishing came out of the Print Shop, you know bromides, cutting and pasting back into the desktop so organisations could do it themselves, and I had a fascination with fonts since I was a small girl, so I had the Letraset font book and knew all about fonts, I used to draw beautiful letters, so all of this graphic design stuff and interest in art in school came back, and now I was able to let loose my creative, artistic, graphic-design things all in my union job. So it was great.

And you did this for about a decade until the mid-90s.

Yeah, so before that, so the computer thing, then an undergrad came and worked for the union and sat alongside me, because I was the only woman in the non-admin staff, so of course I was the one that had to share the office with the engineering undergrad who was setting up a LAN, so I just became his understudy, and by then I already loved the tech, and he showed me what the internet was, and that was a brain explosion. And he was really condescending, in a nice way, but he was really condescending, he'd go I'm going to show you once and then you have to work it out yourself. So I would use all these apps in the most

random, weird way, and he would just like watch me and laugh because of the way I used the different apps for stuff, because he left me to my own devices to learn how to use them, so he introduced me to that, it was a very short step from doing some of the graphics that I'd done to HTML, and I was marking up HTML as one of the founding members of PC Users Group for charity groups, because I could, and they were all pretty rudimentary cut and paste stuff but I was teaching myself how to code in basic HTML, and it was then that I met Tom Worthington. Tom Worthington is a former president of the ACS. I don't even know how we met but he took an interest because I was already thinking the internet was going to change the world, and I knew a thing or two from a practical perspective, I was already on the case about how expensive ISDN connections were, so you could even get the internet, and we connected somehow, and he said what can I do to help your vision through the Labour movement, just pick my brains about technology, so I can inform your effort, and then of course I got preselected, and then I was heading for federal parliament, and it was like I already knew then that my strategic focus would be information technologies, because of the internet, because of what it meant, because of the democratisation of information because everyone became a publisher of content, and because it empowered the world to connect in a way that sat outside traditional institutional structures, and I made that my thing in parliament, I made it my thing because I'd never stepped back from thinking that it's the absolute key to most aspirations of western democracies and how they want to grow, and was very intimidated to step into that ring. I kind of always like the non-traditional, but I thought everyone in parliament must know a whole lot more about this than me, and was astounded that most of them didn't even know what the internet was, because it predated their university experience, and there was very few people who knew what the internet was that weren't from a university or studied at a university. So I was already thinking about it in a very different way to the utilitarian way that most people were thinking about the internet anyway. And so that began my journey, I decided to make that the core of my strategy, I felt it resonated really strongly with my constituents being in the ACT, a phenomenally educated town if you look at relativities, huge proportion were technology users in both the public sector and the substantive education sector. Anyway, there were lots and lots of…

Was it a time when TransACT came in?

Yeah, so TransACT, I was part of a board called the, I think by then it was the Capital Region Development Board, and they had in the Labour government at that time, so this was when I was elected as a union official, so I was on a number of boards that brought me into connection with economic development and technology, and this was one of them. So one of my roles in the union was looking at the impact of technological change on construction jobs. I was employed to promote industry, to promote jobs, it was a jobs for Canberra campaign, so I was already in the economic development space through the construction industry, and the Canberra Development Board, or I think it was the Capital Region Development Board by then, supported a project that was funded under the Better Cities money, under, I think it was by then the Keating Labour government, and it was to wire up Gungahlin, which is a satellite area of Canberra, 5000 homes in Gungahlin with broadband, and it was a Telstra sponsored University of Canberra federal government funding, I think everyone was chipping in one or two million, about a $5 million project, so huge back then, under this Better Cities, and I was on the board that was promoting it, and because I knew a thing or two about bandwidth and connections it was the earliest illustration to me of the aspiration of using access to bandwidth as an economic driver. So really important in learning about what that intersection looked like, because thematically that has never left me since then, and when I was elected the first thing Telstra did was to cut their funding contribution to that project, and I think it

was the first press release I put out was having a go at Telstra for making that decision because it would have positioned the ACT as the first high-bandwidth community in the southern hemisphere and well in advance of what was going on internationally, because this was 1996, and the stuff in Ballarat had started to bubble along but it took a bit longer for some of those. So this project predated TransACT. TransACT emerged after that because the same innovators that were working on the Gungahlin broadband project, and I know them all, swung around and said hey, there is a business model here that is worthy, and so they did their VDSL model of the early TransACT, which was the cleanest unencumbered model for delivering bandwidth because they were not patched into any vertical of any major company, you could just buy the internet connection and still have access to all your other retail services. So TransACT were very early and very brave and I could give you two hours of commentary on their performance as a company, but I still have my VDSL connection.

So the experience with TransACT, with HTML, with all these different technologies, from an end-user perspective, and then you came into parliament, and you saw a lot of parliamentarians don't even know a thing about the internet that helped you to identify your niche where you saw I have this expertise that I can offer my colleagues.

Yeah, so two things about me, first of all in the scheme of things, of all the union officials who have ever been elected, I was probably the least most qualified to go into parliament, but the circumstances of the ACT system and election, an extra seat was created that year and I was President of the Trades and Labour Council, so arguably the most senior non-elected Labour movement official in town, and that's really what created the opportunity to nominate for the senate vacancy. A third seat was created in the lower house which allowed the sitting senator to move across, so I didn't even have to fight a big fight, I just had to go through the normal ballots inside the factional system within the Labour Party, but I'd been in the Party for years, so I knew how to do that too. I also had tried to create an internet café in 1993, so I had Telstra support for that but of course was looking for sponsorship to support the ISDN connection, and I had a local builder support the vision who drew up plans, so this was going to be at the Trades and Labour Council, and it took years to develop the concept and why public access was important, and by the time I did I was preselected so I felt I was conflicted in trying to do deals with all these corporates but quite correctly I ended up in almost direct conflict with particularly Telstra, so I dropped the project and of course no-one else ran with it, but my vision was for the Labour movement to demonstrate that they could provide a social service by providing public access points to the internet, and we had property, and we had assets, so we could have done it, but it was too early.

Yeah, '93 is quite early.

No, I know, internet cafés became big later, but this was an idea, because I was looking around overseas about what people were doing. Anyway, once I was elected I absolutely though that when I discovered that no-one knew what the internet was I made it front and centre of my political contribution, my strategy, I needed to because I didn't have much else, I'm being very honest, and I took the approach that I would invest in educating myself about the public policy intersections to all of these things that were forged out of my experiences, both an advocate for economic development, for using technology, my interest in science generally, and when you put all of them together there was an opportunity to make a really serious difference in the world, and whether anyone else understood that didn't matter to me, that was my mission, and so all of the issues that I stuck my head into on entering parliament gravitated around those priorities, including things like public procurement of ICT, which became a preoccupation…

And mine, yeah.

Yeah, including things like public access and closing what we called 'Closing the Digital Divide', including things like the coexistence of privacy and security, so trying to decipher the tensions between what was seen as competing priorities for government, including promoting women into ICT, education of ICT, and even way back then about coding and creating in that digital world, and to everything of export control, and you mentioned, actually no, that was another meeting, venture capital and how you grow businesses effectively, and scaling up and IP, intellectual property, management, copyright law, all of these things became what I contributed to, whether I had portfolio responsibility or not, and I often had two of three other portfolios that I had to manage, but I did this work and it was frustrating but satisfying.

I can see from your CV that you were also involved in sport and migration as well, so these might be some of the other portfolios that you're talking about.

Yeah, equally passionate and crazy intersections with ICT, like the best stuff, but I won't go into it.

So I think we will want to follow up a little bit more about the policy, but maybe let's finish going through your biography before we go into that area.

Sure. So from that point in parliament it was a bit of a surprise but whatever I was doing was impressing the leadership, so I was pushed onto the front bench relatively early, within 18 months of being elected, and then elected to the shadow ministry the next term. So stayed in the shadow ministry with IT either formally in my portfolio, like assisting the assistant industry minister for ICT, I would pretty much take any portfolio as long as it gave me some imprimatur to work within it. I'll come back to the policy stuff, I'll finish with this. So in opposition I always ran a brief, whether I had portfolio or not, I feel like I was absolutely key to developing the rationale for a national broadband network, and had started talking about a national broadband network as far back as 1998. Obviously wasn't the only one, but felt that in all of the things that governments could do to progress the interests of the nation strategically, economically, technologically, an intervention in the telecommunications industry to create the market conditions for a national broadband network, to me, was the right place, and I even remember the conversations within my party about infrastructure policy and arguing that in fact a national broadband network was not infrastructure policy, it was economic policy, and that really helped my Party understand the full dimension of what a national broadband network would be as the right intervention for enhancing our economic prospects.

Could you unpack this argument maybe a little bit here why national broadband is an economic policy?

Sure, so in my mind at the time I was tracking and watching the sectors that used bandwidth, so that was one dimension, and they were, I think at the time, Britain was really heavily involved in the gaming industry, and I think their biggest export might have actually been, for all the wrong reasons, Lara Croft, but what that showed me was that providing digital content like games was absolutely able to not only grow fast but change the character of the national economy. What also informed the opportunity, think of the software development industry as well, is that we had geographic strengths, so for all of the weaknesses the geographic strengths were our workforces were potentially working in different times zones to others, so

thinking globally, we also if we had great bandwidth and good international connections we could contribute to the global economy without the constraint of geography.

The other areas were things like the mining industry, I think the strongest software company in the mid-90s was Mincom, which was a mining software company, and Mincom were a great example about how software could absolutely lead the world if it's developed fit for purpose for a unique industry. So I started getting really excited about the application of these digital tools and systems through existing industries for the purposes of uplift, not just here but for the global export opportunity that arose out of that, but to do that you had to make sure that these sectors were connected and had access to high bandwidth, so I adopted Launceston and Ballarat as my testbed regional communities to follow. Ballarat had a fellow called George Fong, who ran the local ISP, who was an incredible community champion of pretty much every bandwidth initially that occurred in the City of Ballarat. Launceston was almost the opposite, Launceston had fabulous companies doing incredible software initiatives and content, education content was a particular strength, but in Launceston the political narrative was no-one wants bandwidth, so the community was isolated and Launceston became a bit of a football in the bandwidth debates later on, but both of them showed me for different reasons that bandwidth was incredibly important to the economic growth that was emerging in those communities. I also had Canberra and the precinct in Ryde, in Sydney, and also the spatial business community in Brisbane were other hubs, and Melbourne was just great for great thinkers. So I had all these great inputs. I paid particular attention to local government online initiatives and the provision of government services, so became really interested in how government's used, and this is a really big policy point that I want to develop if I get the chance.

Please.

So government, I had this whole list of things I've got to develop, e-government or government online as I called it back then because we still weren't quite sure about 'e' anything, government online was the opportunity for governments to use the internet as a tool, as a trusted space for citizens to interact with government, and to strengthen the foundations of democracy through transparency and trust, and I would evangelise about this opportunity, and persistently the Commonwealth put it all in the marketing department and the comms department. There was never really any agency that said democracy is important and this is a tool to enhance it, and this is very relevant now. But I would say that successive governments failed to recognise the utility of the internet in creating trusted and known spaces for citizens and their government when it really could have been a force for good and safety. And it was really hard to articulate it because I even got told by someone in the Labour Party who should know better that it was a fad, and I was damaging my career by persisting to be so enthusiastic about technology and the internet. He just dropped down in my estimation, but it didn't change my view.

We hear this a lot in interviews that Australian politicians don't consider technology as a very important part, and you allude to this here, so you must have come across that, why do you think is this, why is there this lack of appreciation of the importance of technology?

Yeah, so a couple of theories about this. So number one, I think because I didn't have a formal education, per se, that I was able to think about things in an un-doctrinated way, so I used to be able to look at them with fresh eyes in the context of the work that I was doing. So that gave me what is clear to me today, a very unique perspective, and one that I had trouble articulating because I'm not an academic and I didn't have the right words, except this is

going to be important. Two, technology was seen as a platform for usage for facilitating efficiencies, and not as a tool or an enabler for something bigger than that. So the characteristic of the political debate, and I worked hard to get it to this point, was creators versus consumers, and the whole of the geek community, which were my peeps in my mind, that's who I talked to, that's who I was trying to represent, saw that the ability to create new technologies or to use digital technologies for new and exciting things, was a nation-of-creators argument.

The government of the day had the very much an incredibly powerful we just need to be users and we shouldn't lead, we should be near followers, and that's okay, so this would absolutely drive me nuts, and it made me strengthen my policy understanding of what a creative nation looked like, from a digital industries perspective, so that became a whole new body of work to try and make the case, so I was looking for gaming and all these other things that would drive forward that economy, and the response was literally the internet is for gambling and pornography and they're not going to support it for that reason. And that was what was thrown back at me across the chamber in question time when I would say what are you going to do for the digital economy, in those early years, and when you conflate that with the privatisation with Telstra, so that… let me talk about that, it's like going down memory lane for me. The privatisation of Telstra did so much damage to this country, not because it was privatised, right, I don't actually, I used to care a lot more about the ideology of privatisations, but I don't even care about that anymore, what I cared about was that privatisation created the necessity for Telstra to wind back their CapEx to the point where they constructed a narrative that Australians did not want broadband, and they actively pursued that, and that's what happened in Launceston, people in this town don't want broadband, and it was a corollary piece of narrative as to why Telstra was such a good buy, because if you reduce your CapEx on all those bells and whistles of future networks then the bottom line looks so much better and you're going to get a better initial public offering, and that's exactly what happened. So the primary policy motivation around bandwidth in that 1996 probably through to about 2003 period was we do not want high-bandwidth networks because that messes up our three tranches of privatisation of Telstra, and Telstra were the dominant network operator.

Now it was tangled up with competition in the telco sector, for sure, and other players coming in, but they were all working to that low bar on bandwidth opportunities that Telstra set in the market, and that was character, coupled with we're users, not creators, coupled with let's just do an IT outsourcing program that shafts a whole generation of sovereign ICT companies who are actually leading in the world with their service offerings, and we had three slam dunks smashing our immediate prospects for being technology leaders in the world, and this is a country with the highest per capita rate of actual technology usage, and because we were all so relatively wealthy, in a high ratio of educated, we were buying stuff and experimenting with it like no-one else on earth, and these opportunities just fell out of our economy, fell out of our society as time went on. Sorry to get so passionate.

But Kate, you said you really tried to push this by creating policy that encourages creation instead of just using technology, what were some of these policies that you were involved in?
Yeah, so part of it was identifying sectors that carried opportunity with them, so for me that became the digital content sector, so anything, online education programs, games, software that allowed businesses to interact with each other, online services that governments or business could provide, and e-commerce was emerging at that time, anything that had a

digital outcome almost formed part of my view. The other thing that emerged at the time was the concept of data analytics, and this was quite formative back then when NICTA was first formed, this concept of using large tracts of information for the purposes of adding value, so there were all sorts of interesting projects popping up around the place, which consolidated data in some way and then you extracted knowledge from it, it all sounds really basic now, but at the time it was a new thing to consolidate masses of data and to extract new knowledge out of that data. So that was part of it. How did that manifest itself in business? It was primarily software companies and game developers at the time, but it also bled into the creative industries who were making recordings, and that takes you to sort of copyright and IP policy, and how that manifested itself as well.

So how did you try to support these game developers' content, online services, and so on, what kind of policies or what kind of approaches did you take?

Yeah, so remembering this is all in opposition, so we were arguing for some of the tax breaks, like in the movie industry, for the gaming industry, we were also trying to get the government to use Austrade to promote the capabilities as exports, the common path for game developers was just to do something so cool that someone would want to buy it, so we had a few companies here that made it through that valley of death, and actually became great contributors to global gaming companies with the stuff they created here. The policy was hard because it usually involved a tax break to incentivise early investment for either the investors or contributors to the company, or the market that then would sustain its growth and fund its growth. The minute you got into tax breaks to promote sub-sectoral industries you bumped into a thing called finance and treasury, and none of these policies were particularly attractive to finance and treasury but were much easier to promote from opposition. We then had opportunities to test them in government and that proved really complicated and difficult, but identifying them was a big part of it, and investors still, if they see a statement from government saying this sector is important to our economy and we're going to see what we can do to support it, that actually matters. Statements of intent and government strategies around technology sectors or any sector matter, and they certainly mattered back in the dotcom days where investors had a lot to pick from and so they wanted to see stickiness and commitment, and when you're the biggest technology purchaser in the country is actually the commonwealth government those statements of intent really mattered, and they weren't forthcoming, the messaging was the opposite, so from opposition we'd try to be an alternative, albeit we were in opposition so long we were really never tested in our policies ever being…

And this idea of government as the biggest buyer of technology, so what was done or what could have been done to support homegrown Australian companies in terms of buying more Australian made…? Yeah, anyway.

Yeah, so the first thing was I've got to go back a fair way here before my time in parliament, because Australian companies have always been phenomenal innovators. In fact it was only when federal government started opening up the economy and engaging internationally that the status of the local companies doing well came into question, so as part of the international dialogue, I'm going to be a bit controversial here, Peter, so bear with me, and I'd appreciate your feedback, part of opening up the economy in the Labour government was constructing arrangements with other economies that were perceived to benefit growth here, just growth, in ICT that manifested itself in opening up our economy to large overseas firms, for the purposes of business opportunities here. John Button, who was the industry minister under the Hawke/Keating Labour governments, constructed a program called Partnerships For

Development, and it was designed as a platform for multinational companies to come in and be able to sell to the Commonwealth government. However, I think that program had the effect of forever relegating Australian technology companies to play second fiddle to the opportunities presented to the multinationals. Now Partnership For Development did not have that intent, I think this was an unintended consequence of the nature of the business model of multinational companies, and multinational companies have a role to play everywhere, but unless you have a strategic mind to developing a persistent and sovereign capability in your own country, and I know that's very modern language, but back then it was about having an Australian dynamic economy around new and emerging sectors, I can't even remember the actual language you use, Partnerships For Development put Australian companies firmly into box-ticking subcontractor territory, in real terms.

Yeah, can I talk about that, yeah. Before that it was the Offsets program…
Correct.

And then there was the Arch Bevis report, which was, and I was appointed to the National Procurement Board about that time.
That's right.

And arguing much the same, and just a bit of a segue here, my view is the governments that used to do everything now tried to outsource everything, became customers and were very poor customers, I mean in a nutshell…
They were victims to that company's business model.…

Didn't know how to handle the commercial interface because they had not been used to it. I mean in the past they'd been used to the internal politics of public service and so on who did everything, so now they're across the table with highly trained sellers who knew every trick in the book and had played it all around the world, and it needed some tough counter policies, in other words, something like Partnerships For Development needed far more nuancing and clever specification that you couldn't actually circumvent it in a way that the multinationals did. So I guess one of the questions we've asked people in these interviews are what government policies have helped innovation and which have impeded it, is that right, I mean that's the kind of issue, or perhaps put it another way, what policies could help innovation, perhaps some we haven't done yet, I mean I have thoughts about this but I'd be interested to hear your views.
Yeah, well I've sort of thought about this for so many years, so I would say a policy that impeded Australia's technological development was accepting unquestioningly the multinationals model for procurement without mind as to the impact on that sector in our economy, they didn't even understand the importance of that sector, but there was no consideration of the impact on the sector, and so this box-ticking Australian industry quota stuff became the political test for participation, and that was really to satisfy, effectively, the persistent protectionists forces about Australian companies and Australian jobs, it wasn't strategic, and so the disconnect was disassembling the strategic considerations about our collective technological capability as a nation, with the immediate politics of managing the perception of jobs, job numbers, and Australian-ness for the purposes of participating in this economy, and I would contend that there was never a link under successive governments until now, and I'll come to that later, until now under this current government. I know, it's

ironic, but I have to scratch that in the transcript, but I'll come back to that. So I don't think there was a link, and even Labour, when Labour was elected post the Howard years failed to acknowledge the strategic linkage with our future fortunes and technology, it was a subsector with a persistent debate still about leading or following or consuming or creating, that wasn't resolved with the change of government to Labour, and I see that as quite a profound failing of my effort through the course of my career, that that wasn't accepted as being a point of national strategic importance, and I think it's because I had junior portfolios, I was never part of that big discussion, I don't even know if those discussions occurred, but I am hearing those discussions now, for all of the terrible reasons of the uncertainty and precarious grey-zone environment we find ourselves in, but there is now a link between our strategic national interests and technology once again, and we're seeing that manifest in policies.

Can I suggest that, even after trade agreements, one of the protectionist principles that, for instance, the United States could always operate on was it didn't matter about open competition, if it was for national security it was right off the table, okay, and we are now getting to that point in Australia that, I mean for a while there you couldn't do anything that looked at all like preference for Australian companies, because you'd be in violation of some trade agreement somewhere.

Yeah, it's a great point. So had there been a link between technology and strategic national interest then there would have been a higher-level assessment about where that work should go and what subsectors would have been supported through a raft of policies procurement, industry policy, Defence and national security policy, just to name a few, so that would have come to the fore. Ultimately, part of it, I just want to focus on this point of strategic national importance, if you imagine that it's because your country's sort of sovereign safety and security that is your primary concern as a government, then the other things flow, but maybe it's because Australia was so comfortably, and arguably, correctly reliant on the US for safety and security that they were prepared to abdicate all of that strategic opportunity or necessity to the US, which they did under the Australia/US Free Trade Agreement. They did it previously under the outsourcing and opening up the economy stuff, because the US knows exactly what the pickings were in very small markets like Australia, like they don't even advertise in our market, why, because they've got one customer that matters, and that's the Commonwealth, it's also one of the reasons why kids don't see the jobs here because none of these companies advertise in our markets at a retail level, but maybe now because of Trump, because of China, because of all of the revelations of the US going we've lost our technological edge, surprise, surprise, starting to turn that around, and we've had COVID, so we're isolated, so it's all changed. So for all of the bad stuff that's happened in the last two years we are moving out of adolescence as a nation, and understanding our place in the world and the responsibility we have to our citizens as genuine partners in our relationship with the US, and the weird thing is the US know we've got more to contribute than even we understand.

Yeah, the other area which perhaps I can test you on here is tax policy in terms of the fact that in my observations, calculations, an awful lot of apparently best offering stuff was actually companies in a way discounting with one hand, multinationals, and ripping it out of the tax system on the other with transfer pricing and all these things, and one of the reasons for that is that whole of life, whole of nation cost has not been a consideration.

No, look there's so much, so you start to pick into, let's just take ICT procurement for a start, my job for five years was to pull apart the numbers of the false economy that the narrative

stuck by with IT outsourcing. I mean even Max Moore-Wilton saw through it in the end, but we should have known better because we were tracking ten years behind the rest of the world with that business model, and they just tried it on, and then in 2005, the US Free Trade Agreement saw it getting shaky, so they put a lock-in clause which said you can't offer anything Commonwealth ICT to the market without specifically ensuring that the US companies have access to those opportunities. The same thing is about to happen in defence technologies.

Yeah, exactly, yes.

Right, I am seeing it all go around again in a slightly different sphere, we're much better informed as a nation with that strategic input, but we're being treated the same way, and it worries me profoundly, because it's like we're just trying to get our smarts together, and I just, anyway.

Yeah, so I mean the impact of that on local innovation then is that the best thing to do if you innovate here is to up stick and take it to the States.

No, so the best thing that you can do here now is scale up here to the degree you can because that will come. So now it's about maximising the economic return in the short term because I think you're quite right. This whole discussion at the moment really is about what we've got that is so great and unique and what the US wants, and I respect that, it's very rational, even I find it really hard to criticise the conduct of these companies because it's perfectly rational business behaviour, it's a really good model, and they target economies that aren't so good on the contract management side, that's how they make money, easy right, things are okay, but let's be smarter buyers than that, let's put stuff to market in a way that actually suits our strategic purpose, and our capability outcomes, we still don't do that very well here, and the worst thing, even if you've got a smart contract manager there's a political lobby workaround which says don't do it like that, do it like this because it's best for our relationship. And I know the forums that those conversations occur in.

Absolutely, I mean there's one, I think I was talking about this maybe earlier today or yesterday where one vice-chancellor of one university, his CIO used to approach him before they went to tender and say if you don't trust me sack me now, I'm about to go to tender, you will be told I'm an idiot, you'll be told I'm banal, you'll be told everything, but sack me now or just trust me while I do my best, and I mean this works, and I've encountered this in the Canberra thing of the people that are flown in overseas in the expensive suits coming in to say I want to tell you these guys are making a bad decision because they're not buying from our company.

Yeah, so we know all that, we know how it works, but my observation of the current political leadership is that they are still highly susceptible to this, no matter what party, you can't distinguish on party.

Why do you think there is this appeal of the big international brands over the small, possibly less-known Australian?

If I had the answer to that I'd be able to fix it.

I can give you some suggestions. One is that if you want to buy off a software company say in Melbourne or Sydney, and you're out of Canberra, you're likely to get a short airline flight and a pizza lunch, if you're going to buy from somewhere in the United States you're likely to get, I remember…

Oh Peter, you're so cynical… no way… I feel compelled to defend the character of politicians, okay, they're not all snouts in the trough…

No, I'm talking about public servants rather more, and so…

Not all snouts in the trough.

I get a trip to California and the company is right next to Disneyland.

So the real answer is perception of risk, and it's the same old you don't go wrong with hiring the big guy, this overblown concept of what constitutes risk led to, I suppose, the institutionalising of systemic barriers that favoured large companies over small companies, and I can list a handful of them. One is the requirement for ridiculously high amounts for professional indemnity insurance and public liability insurance. Two, those insurance requirements were never commensurate to the actual size of the contract. You could have a contract for half a million dollars that still required the $20 million professional indemnity. The other requirement was you've got to demonstrate you've operated at that revenue level, we need a record to see you've had a contract as big as this before, before we'll trust you with one as big as this again. Now, for a growing SME that's physically impossible, financially impossible, so the next one is prove to me you're got workforce, so this is really relevant now, but was also relevant then. Multinational companies can say with their hand on heart we will find our workforce, we're so big we can do it, or we'll subcontract to augment our workforce. An SME has to demonstrate they've got the bodies on the books and that persists today. So in Defence, for example, you're an SME you've got to demonstrate qualified, cleared workforce, multinationals don't. Why? Because they just go poaching or they go acquiring or they go subcontracting. So that's perceived as a risk mitigation characteristic of contracting to a large company, not a small company. But politically it's way easier to say hey, it was reasonable of us to trust IBM, it's unreasonable of us to trust this small company from the west coast of Tasmania because who knows who they're related to or what their capabilities are, and so the political perception of risk got managed and managed back into this concept of the bigger the contractor the more global the company, the more the politicians are exonerated for a bad procurement decision, that's the reason.

Can I get you to elaborate here a little bit on how contracts have changed over time and the contracting of IT projects?

Right, so the big change occurred when the government of the day said we're no longer going to dictate to agencies and departments what their contractor is, so for a while there the business of a departmental enterprise had no strategic control over their ICT. So when that changed back to those departments making their own procurement decisions that was a huge step to stuff going to market that was actually of a size that local companies could contend for, number one. So sizing of the offering to market to fit the size of the companies that you're actually hoping to stimulate a response from, market shaping, there's nothing wrong with it, it's strategic economic policy, and it took a long time to see the folly of the ways of only packaging contracts in a way that only the largest of international companies could actually respond to. Two, there was the granular stuff I mentioned, the insurances, the ability to demonstrate former contracts of that size, the workforce related stuff, those barriers were

broken down and in large part my understanding, and I guess I would have asked all the questions to say how are you putting stuff to market and they would have said well, we're doing it differently now, this is how it's going, those systemic barriers were broken down over time and opportunities became slightly more accessible, albeit by then the nexus between what we call above-the-line advisors, and the large companies had already been forged, and so agencies get advice from companies that say to manage your risk you really need to go to a big company, so there's still some systemic problems there. That was never fixed, and so to go with a non-multinational company and take a perceived risk with a local company that's growing and innovating and disrupting, usually requires decision makers to go against advice that they have sought on the matter, and that still remains as a systemic barrier that is a self-licking ice-cream for the model of only procuring through large companies.

What I was alluding to a little bit as well was the complexity of contracts.

Yeah. So let me talk about that, it's a great point. Large companies, as Peter said, if you got to all of them they've all got a floor that has no people in it, like actually. Why? Because that's the tender team that they fly in. So they have teams that fly around the world to respond to tenders because the business model dictates that the win for the company is on winning the contract, not delivering, that's a different team. So the tick is the win, the delivery team comes later, they don't even have to have the people on the books for delivery, and so the complexity of the tender doesn't matter because they've got a whole floor full of experts that they move around the town, and the depth of corporate lawyering in these companies is huge. So it's in the interests of these companies to make the contracts more complex, and it's in the interests of the advisors who advise on the nature of the contracts to make them more complex, because they get paid by the hour, the more complexity in the model the more money they make, and so we roll on, and that is absolutely the character of modern technology acquisition and procurement, which suits the advisors to make it complex because they're paid for literally bums on seats, and the companies themselves make their money on their win, that's how they book their numbers as a regional office of head company, they book it on the win, and then whatever happens next doesn't matter but you can be sure they make most of their margin on screwing a subcontractor or varying the contract. It's the model, it's not even like bad, it's just the model, so if you want to argue a moral dimension, sure, maybe there's something a little unconscionable in there, but it's a known model. I learnt about it because I went to ICT conferences and multinationals said this is the model.

And this was part of my career was litigating on the part of clients against some of these, I mean and you would turn out extraordinary clauses in contracts, some of which were so unconscionable that judges said you can't do it, get out of jail clauses down the end of the contract that says nothing said at the front of this can we actually be held to.

Yeah, exactly, so don't get me started on the actual provisions of the contracts, but I can tell you, last week I was supporting a company that had had its contract delayed to the point of financial ruin because the contract manager had inserted a notional clause and said you've got to sign this, to hand over all their IP… the contract manager.

Yes, yes, yes.

It happens right now… it happens…

I know it happens, yes.

I see we're coming up towards the end of the time that we earmarked with you, so maybe first, a little bit more on the government as big purchaser of IT and then maybe some other insights that you have, because you have many other things. So maybe a solution to the complexity of contracts, could it be that there's some standardised contracts the government can use rather than coming up with a new contract every time?

Yes, so two things, procurement guidelines matter. I was incredibly impressed that Melissa Price as the current government's Defence industry minuter pushed through, along with the support of other ministers, a change in the Commonwealth procurement guidelines which said that you've got to take into account the national economic interest, in a nutshell. If you haven't seen those clauses look them up because that preventative procurement guideline has been used as an excuse by humble procurement managers across the country in government agencies, as a reason why price was always the final answer. So and that only happened a year ago, one year ago. Two, in terms of template contracts, again, we go back to the business model. It's not in the interests of the vertical and sort of lateral service and software, hardware providers for contracts to be not complex, so this is on what's put to market. If a contract is going to be put to market that separates hardware, software, service integration, helpdesk, then someone's got to manage all of those contracts and be sitting across the top of the strategy, and that's what the government likes to outsource, still, and so contract management expertise becomes really important, and the Commonwealth basically sacked all of their contract managers when they went to the outsourcing program, or the all transitioned into industry on three times as much money and were very happy, but they were gone from the Commonwealth. This is still the case. Contract management expertise in large departments and agencies is minimal and it's why the business model persists. And you've got to have strategy driving your contract management anyway, and that doesn't exist either. So other things that have changed, there's a new template in Defence contracting called ASDEFCON. ASDEFCON applies to big acquisitions, but it wasn't applied to CIO Group, because CIO Group still pretty much run their show on a legacy, Commonwealth, IT outsourcing model, and again, it's not bad, it's just how it is, and the new templates have not been able to apply to that environment because of the pre-existing contractual environment that's in place, so that's a particular area of interest of mine, right now, and it's a fabulous conversation to have with their commercial contract managers because they go oh, that's amazing. You're going to have to delete all of that from the interview, but it's a very contemporary issue, still.

But that alludes to another one, what about the lengths of contracts, and the lengths of tenders?

Yeah, so again, size, magnitude, complexity, intersection, so here's a good one, I mentioned those sort of dimensions, small companies are good at their bit. So if you put a contract to market that says you've got to be able to do all three bits, automatically excludes every SME in the house, and that is a really important element, and speaks back to the prior point about having good contract managers. And the answer is usually we still need an overarching project or systems integrator, and that's the latest trend that a systems integrator contract is created, and then the substantive participants fit in with the systems integrator, but the behaviours that characterise a multinational or a prime usually persist with the systems integrator.

Yeah, what I as referring to is that government contracts come around every decade and then they are not available for another decade and some of the people we interviewed said like there should be shorter terms because that provides more competition, more opportunity for companies to get a foot into the door.

Yeah, so that's a really tricky one because all of the economy of scale comes over a period of time, so the algorithm there is not as clear as just having shorter contracts because you'll see the larger companies load up the cost of their contract for the risk of only doing business for a short time. And so again, this is a structural argument as to why long contracts are good because we can offer you, if it's five years it's this much, but if it's ten years it's this much, and there's a huge cost benefit perceived. The companies don't care because they can make their money through variations, but from the purchaser's point of view they are compelled to go for the longer form contract because it looks like there's a profound economy of scale for every extra year or six months, or two years or five years roll over that exists within the contract. Again, it's about understanding the model and how the market responds to the model, but the economy of scale fallacy needs to be challenged because I would argue that if you let any contract run for a five-year period you will not, at the end of the day, extract that economy of scale reduction in cost, it will increase through variations and other manipulations in the contract. Or frankly, a very open use case requirement of the customer. GST is a great case in point, sign all of that stuff with EDS for tax back in the mid-90s or whenever it was, and now we're implementing a GST, oh well, that's going to double the cost of your contracts, we've got to provide all the IT for that, thanks very much, but it was a legitimate policy change which led to a very specific requirement change, and so a legitimate variation, but any economy of scale that would have been contained in that contract would never materialise and in fact that contract went from $500 million to about $4.3 billion over the course of five and a half years.

Yeah. Thank you so much for that. Now, I think we are at the end of the time, but you worked on other areas of policy, if you want to say a little bit more about other areas other than government procurement, we are happy to stay on a little bit longer but it's of course up to you.

Yeah, well it depends what you're looking for. I'm happy to. I'm having a whole lot of fun reminiscing now.

You were talking about what we can do about education, ICT, women in ICT, about venture capital, and scaling up, these were some of the other topics that you brought up so…

Yeah, okay. So let me talk quickly about IT in education. One of the phenomena that happened with the Labour government is that a lot of the policies I talked about were not my portfolio, they were everybody else's portfolio, and Julia Gillard gets a particular mention because as education minister she was able to introduce a very broad digital schools initiative which satisfied a lot of my concern, I won't talk about the strengths or weaknesses of her program, but in fact in combination with the states and the Commonwealth funding of the states this particular education program emerged really strongly, and as a platform for Labour going into government in 2007. So that's a good example of working on policies that other portfolios needed to pick up with and run. I just want to mention venture capital as a sticky problem. Our problem here is scale and I would argue, controversially again, that whilst we have very little churn in the high-wealth individual angel style investors, we don't create the magnitude of opportunities for pull-through, for the more structured venture capital markets. Because of that, and various policies along the way, our venture capital sector remains under

scale and therefore distorted or weak from most perspectives. A few interventions that have occurred, IIF, for example, where money was identified by the government for availability for, I think five funds to coinvest, in the end venture capitalists wouldn't invest unless you got IIF component of your funding now, so it distorted the market again and turned our venture capitalists into a bunch of rent seekers that they wouldn't invest in anything unless you'd already got the government component to double their money. So I found myself in this weird place of not even supporting interventions that weaken the opportunity for our markets to mature, and I think you've got to go to the root cause, and the policy I support is what used to be Californian tax law, which is for a qualifying investment profit, so capital gain, to be reinvested in another qualifying investment within a period of time, results in a capital gains tax break. And that creates churn at angel level, and that fuels the range of opportunities available for venture capitalists to invest in, and opens up those funds, and therefore subsequently, the mums and dads' investors and institutional investors on the stock market to actually pull those investments through.

The second part is reference site, so this links back to procurement and business, B2B opportunities in Australia, this is critical. Often, it's one contract and the first question any other market will ask our companies is does your government buy from you? And so having a range of opportunities for local companies to be procured, their services procured by a government agency, becomes a critical element in not only the ability to attract investment capital at whatever level, but it's critical to securing export opportunities as well, which are formative, and necessary, for the scale for the business to continue to grow, because the Australian market is not big enough for Australian businesses to grow to scale, and the export strategy stuff was just never treated with seriousness, when you look at it from an ecosystem point of view, this has been addressed in the Defence industry stuff, because they've got a Defence industry export policy accompanying the Defence industry policy, accompanying the procurement and acquisition strategies, accompanying all of this stuff, so they're trying to approach it like an ecosystem in that particular sector, but it never happened with industry development policy for technology back in the day when I was doing policy, despite giving expression to it in this multidimensional way, because why? Because that was tax policy, there was such low tolerance in finance portfolio for tax breaks, particularly tax breaks that would subsequently lead to growth. It is ruled out by Treasury without even having the discussion, and there were lots of funny stories about trying to get Treasury in a corner and them always outsmarting me.

So you mentioned an ecosystem approach is important, and you said the ecosystem contains tax and financial incentives, procurement, export…

Holistic statement, supporting subsectors, like picking winning sectors, not winners, but winning sectors, so government intent that they want that part of the area to grow, a skills strategy, a pipeline of inspiration for young people to see the sector, it's a multitude of things, in fact I remember mapping, it was connectivity, so you can't remove bandwidth from these equations, it was education both as creators but also as standard exposure, it was intellectual property policy, how do we secure our intellectual property policy and manage those relationships through our international treaties, didn't do that very well either, how do we incentivise creation and innovation across those sectors, how do we use government as an exemplar, so procurement and government online and showing what good can look like, and then finally export strategies and what underpins growth, and that's all of the financial policies about how you grow, how you actually leverage. I was thinking always globally, so for me venture capital and early-stage investment, and that whole ecosystem fitted under

export because you were doing that to grow global companies, you didn't have to but because we could never get scale it was always tied to global businesses in my mind.

Thank you.
Let's stop there.

No, that's a very good breakdown of the ecosystem that you provide that is I think, very useful for our research, to point out that it's a systemic problem, it's not one thing that you change and then you get better innovation, you need to make sure that this innovation is also financially incentivised and so on and so forth, so thank you.
Right, all of those layers, but it's best driven by a strategic commitment right at the top, and that's about our international relationships, and that was not my area where I had the confidence to explore, but now that I'm doing the work I'm doing in the Defence industry, and that dynamic being so critical to changing attitudes, I can see how that would sit across what I've just described to you as a critical element as well.

Now do you want to say anything, because we went with the biography up to the mid-2000s I would say, do you want to say anything about the stuff that you have done subsequently, and what you are currently involved in?
Yeah, so probably one of the biggest periods I had in parliament was the period where I was on the backbench, so when Labour was elected Kevin Rudd didn't like me so he sacked me off the front bench, so I spent a whole term on the backbench, which was devastating on so many fronts because I'd worked so hard in some policy areas, but also created an amazing freedom to go okay, once I got over that it's like what can I do to be useful in the technology space, so I took a deep dive into social media, and started innovating on my own platforms, and with colleagues, to try new stuff, to look at ways in which you could enhance democracy using purely open networks, we were so pure and open, we didn't even used Google because it had a sign in, so we were… do you remember Kevin Rudd did his 2020 vision thing on butchers paper? No. Thousands never did. He got all these leaders in a room and said come up with the best vision for Australia, and it was ridiculed. And then after it was ridiculed and we all were just going well that was silly, he said right, all you Labour party people you can go and do one too, it was like torture. Anyway. So I decided to co-design a digital one that actually utilised open networks to gather inputs from people who cared about policy, and worked with an amazing, amazing person, Pia Andrews, who has been president of Linux Australia, but she came to work on my stuff, and together it was absolutely a collaboration, because she actually knows how to code stuff, properly. We flipped up a whole heap of my website to carry up to seven social media platforms to collate a conversation around specific policy topics, and then wrote up the methodology and write up the policy recommendations that were outcomes, we called it public sphere, and we won a global award for it through that period. So yeah, it was digital democracy and politics online. Steve Clift from E-Democracy was involved in it, went to Paris to collect the award, it was special because it was completely transparent. And we had every spook software company come out and say we want your dataset, because it presents the most comprehensive range across seven social media sets to play with. So we made it a condition, we declared it, we said we'll do that but you've got to give us your software to play with for a month in return, which was good fun, you're probably going to have to delete all this, but anyway, the point being through that time we completely recrafted this concept of the internet as being a platform for genuine citizen engagement with government.

There were all sorts of soft or trendy responses and efforts and all the rest of it later, never which completely flew because you really need to think about it really hard, you can't just do this stuff in a thoughtless way and think everyone will respond positively, but that was an incredibly satisfying, informative time. That was the period where I was saying hey, this is a platform for strengthening democracy, not weakening democracy. It was through the whole internet filter debate where I'd been accused of being a closet pornographer because I supported regulating the internet, not filtering the internet, only to have Labour flip out because The Australia Institute told them to and then adopt the filter policy themselves, which was mortifying, and Julia eventually dropped that policy, but it was years of just rubbish because someone's kid had a bad experience on the internet. I'll tell you that story offline.

Anyway, Labour had proved itself to be incapable of being truly visionary through that period as well, so I just worked on my lonesome, and I would post stuff showcasing the best examples of government online, everyone send me your 10-minute Vimeo, put it under my own domain name, it took finance about six weeks to say we should probably be hosting that under our domain name, it's like of course you should, but we had to demonstrate the success of it first. So enormous fun, helped me through a really difficult period in my career, I thought my career was over, and then survived, and then was picked back up on the front bench, albeit not in those policy areas until quite late, but by then it was pretty much almost all over.

So advancing the use of technology for more transparency of government is really what is a big motivator throughout your career, I can see that.

Yeah, 100 percent, and happily so. So for all of the horrible things that people perceive about politics and the environment and the people that are there, when you've got a plan managing all of that is just baseline. The strength of the opportunity that I feel I was given as a young person, and now an old person, was because I had a sense of what I wanted to do, and where I thought the country could go, and that gets you through the darkest moments in your career, it really does, and I loved what I did and I am incredibly proud of it, and when it call became too hard and I was too jaded, I just left. And now I do all these things without having to go to parliament. So I'm still happy and feel satisfied that I'm contributing, albeit in a way that my rules are no public, I'm not a public person anymore, I don't lobby, I'll ask questions, I'll answer a question if a politician were to ask me something, and I don't commentate, so I will never reflect negatively or otherwise on my colleagues. I respect the work that they do despite appearances. Most of all I want to strengthen our democratic institutions, not weaken them by flippant commentary about poor behaviour, sure it's poor behaviour but these things can be fixed, it's most important in my mind to preserve the strength of what we have in our democracy, and it sounds really gloriously naïve, and I'm 55 and I'm really happy about that.

Do you want to add something about your work around cybersecurity? Because that's one of the areas that others have identified as a big opportunity for Australia.

Yeah, for sure. So at the moment I chair the Cybersecurity Cooperative Research Centre, that came about sort of having already started working in the area, so my post political career was a plan to try and contribute to thoughtful boards that were thinking about ten years ahead, because I worked out I was thinking way too far ahead for most of my political life, I was definitely not talking a language that other people understood, and that was a part of why I think I failed so profoundly in convincing my party or the parliament to do whatever, but

there are terrific boards out there, so that's an opportunity, and I sought that. But the ACT government, the humble ACT government in 2014, so pre-white paper, well and truly, decided that space and cyber were two of ten areas of economic opportunity, and they came to that conclusion because they asked our industry and our academia here in Canberra what they thought. So I knew that, I celebrated it, I was very plugged into the local business community and innovators in Canberra anyway, and so when I left, the first business opportunity I had with my own business was to do a consulting piece of work for the ACT government to bring the National Space Industry together to help make the case for a National Space Industry strategy, with a very business focus. So this was not the academics, it was just business, and I did that in 2015 and yeah, we weren't successful because Christopher Pyne said no, but it created a network that then contributed and continues to contribute obviously to the now huge dialogue around space.

Cyber came into it as well because we had so many companies already innovating and operating in that area. Why? Because all of our agencies are in Canberra, and whether you like it or not, the business of cyber operations in Defence and ASD has a lot to do with cyber and cyber capabilities, and they knew that if they were going to do their job well they needed to tap the best of the best in the commercial sector. The character of the problem was moving too fast to think that they could take their workforce through that, so they had to start cherry-picking what was happening commercially to keep ahead of the game, and that sector started to grow. So we were sort of analysing again, from an ecosystem perspective, what the ACT government could do to help grow the sector and what I could do to contribute to the federal dialogue about the development of the national cyber strategy, and I chose the CRC as the means by which to do that. But locally we've just created a Canberra cyber hub after years of trying to mature the strategy, and the strategy really is it's growing so fast we just need to be able to demonstrate a future workforce, so it's all about STEM skills and helping business create deep and abiding relationships with our education institutions so they can train and clear staff to be available for the workforce.

So it's about growing potential future graduates that can work in that space?

The local strategy is very much, but not just graduates, there's a lot of CIT TAFE qualifications for eyes on glass. I'm on the board of the Canberra Institute for Technology, our TAFE, for this reason, to bring industry into the room. I'm doing some work with the ANU in their physics research school to bring industry into the room. So now a huge part of the way that I'm rolling now is to bring industry closer to our education institutions for the purposes of crafting that future workforce, so we have capability here and can scale up, otherwise it all just flies away.

So what are some strategies that we can use? Because like that's a problem that a lot of our people that we interview describe the intersection between industry and academia…?

Right, so for the first time we've got a little bit of policy through the Trailblazer program, which has offended every academic in the country, but made every industry person who wants closer ties with industry and academia happy, so that means I'm happy. So there's some really interesting policy commentary on how did we get to this point, but mostly it's because we've always had good government investment in R&D and poor business investment in R&D, and we've tried strategies like Cooperative Research Centres, which originally were to help business contribute to the cost of R&D in academia, but now it's more about getting IP out of the universities so it can be commercialised, so there's been an evolution in policy terms there, but what about this issue of now it's about speed to market,

it's about keeping pace, and this is the character of cyber in particular, now there's an urgency to put our researchers in academia to work for the purposes of providing commercial spinouts and so forth, so all the money now coming through academia has been really cast, annoyingly as I said for universities who are all suffering under the current environment anyway, to be contingent upon their relationships with industry, and a demonstrated benefit to industry, and so with that changing, and I don't know if that will change if there's a change of government, but these commercial imperatives and economic imperatives now for growth, so we can respond quickly, are now reaching deeply into our universities.

Our universities are deeply worried that the blue sky and pure research will be diminished, because the pie is probably smaller overall and the bigger part of the pie has to go to that, and that creates another weakness, so it's actually not the only answer, but that trend is about shoring up a broader part of the economy, not just the education economy, which has been pretty much smashed to pieces with COVID, so I haven't thought too deeply about the university business model side of this problem, but I am helping them, in this region at least, to forge relationships that will stick and be helpful for both parties. Will help the universities get the resources they need, and help the businesses get the people they need.

But your answer here is mostly around forming direct personal relationships rather than some specific magic policy that helps to make this better.

So wherever I go now, when someone says we've got this program, it's like but will it solve one businesses' problem, that's my test. So even, take any example, space industry, they're doing a strategic update of our national civilian space policy, I've said a really good test is to find emblematic businesses that represent the sectors you want to grow, and ask them to map how these policies will affect their opportunity to grow. You have to take it down to the individual business or person to test policies, because box ticking, which is the true characteristic of the Department of Industry in this country, does not work, it has not worked for decades, so we have to go deeper, which means connectors like me have a role to play, as long as the policy is adaptable and agile enough to respond to individual business challenges, and I'm not seeing that just yet.

Thank you so much for your time Kate. I see we are already going quite a bit over time, but I want to give you the opportunity to add anything that you want to add at this point.

Well, I'd love to talk about privacy and security policy, but I should probably not.

No, no, it's absolutely fine, if you want to talk, particularly how it can help innovation, would be good.

Right, so from an innovation point of view two things, software has rules, and therefore software can solve problems at a design level that relate to security and privacy fears. The problem is that the politics of managing privacy policy and security policy sit at opposite ends of the political spectrum, right, and so it doesn't suit anybody to actually construct a narrative that sits comfortably with, software can actually solve these problems, with transparency and understanding the rules of software. This has kind of become an issue around the whole AI biases designed in, this is where the debate manifests itself, but it has always been there in relation to privacy and security, and it's been one of the most annoying features of the simplicity of the debate around information technologies in this country. Let's take metadata as an example. I could barely participate in that debate because it was so stupid, right, this concept that metadata contains information that should be private was so far from

the reality of what could actually be kept private and what people were worried about that it wasn't possible for me to find a way to say anything sensible, and not to be kicked about by one side or another. So the baseness of the debates around those issues I think is appalling, and I think there are some really practical technology answers and designing in both that the political system… technology as a point of policy debate has moved into traditional areas of point scoring as opposed to the merits, and I'm glad I'm not there for that reason, because I would find it really, really hard to contribute meaningfully in the way some of these debates play out now, and privacy and security is pretty dear to my heart because I want people to have really strong rights, I want them to be empowered, to manage their own, for example, digital identities, but at the same time I completely respect the objectives of our security agencies in doing what they need to do, rightly or wrongly, to keep us safe under the statutes that they're provided to by parliament, and I don't think there's a difference, that transparency and trust really matter, and the polarising debates around this stuff just make… you're on one side or the other, and I couldn't find a way to deal with that as a public person that loves this space and is confident in this space, so that was a bit awful.

So that's the tension here between security and privacy that you think can be overcome by transparency, such as maybe…

No, I think it's gone, I think it's gone, because I think the political colours have been nailed to the mast by the Greens on the privacy stuff, and the conservative more right wing, and I'm not talking about Liberal or Labour, there's conservative right wings in both major parties, have nailed their colours to the mast saying that the Greens' position creates vulnerabilities, and so they've separated it in the political narrative that I don't think it can be recast using the transparency argument, and we've also got the big end of town with the big tech companies forming their own view, and in fact mounting a business model on their own claims regarding security and privacy, and has kind of taken it out of the ability for nation states to even regulate now, so I think it's gone, I don't think we can fix it.

So is the point that you're trying to make here a little bit that technology issues can be overly politicised and that really stops then any kind of proper debate around it?

Yeah, a bit like climate change, right, anything science, anything where detail matters and facts matter, it's kind of ruined because it's now about a values debate appealing to emotion at one end of the scale or the other, and I don't know how to fix that.

Yeah, someone did describe it to me you're entitled to your own opinion, but you're not entitled to your own facts, and it should be a fact-led debate rather than an opinion-led debate.

Right, so the facts are that this software operates in this way and metadata has this purpose and can be used in this way. That didn't even matter in the conversation, and I use metadata because it's the most obvious and it's the most stupid and the most fraught, but almost every discussion now about security and privacy enters the realm of speculative ideals.

Yeah, I think it's a different interview and a different topic to talk about what we can do about this issue, which is a big one, I agree.

Yeah. Anyway, so I believe in transparency as the strongest tool for building trust and confidence, still, and I also believe in constructing really strong principles, like the concept of first principles when addressing substantive problems where humans interact with technology, is a really good way to do it, because you can remain technology agnostic, but have

principles that must be adhered to, even though the solutions could be really varied and quite innovative, and if you can express the outcome you're desiring in that way it creates space for innovative technology companies to do stuff differently, and then you've got to have the contract management flexibility to create a contract model to respond, so it doesn't come alone, has to come with infrastructure.

Yeah, thank you so much for that. I think you touched upon disappointments, you touched upon a particular Australian emphasis, would you want to say anything more about aspects that you think are specific to the Australian psyche or situation other than…?

Well, the easy one is the tall-poppy syndrome and the cultural cringe we have about our own capabilities. So let me start there. Australians, because they're not in the slipstream of group think of the east or west coast do things differently and really cleverly. We also have an amazing adeptness with applying technology in innovative ways, but this characteristic is almost actively shut down when we describe ourselves, despite all of the evidence to the contrary, and I don't understand why Australians as great technologists has never entered that suite of attributes that we describe ourselves by. We're still larrikin mates. It's crazy. So I find myself championing the Australian character as being incredibly innovative, and I think it's because we're outside global group think, I think it's because we've got great teachers who set their students free to think differently, and I've met so many young people who'd never found a path forward in this country and so they leave. Sometimes we get them back, and we know this narrative, right, the brain drain, all the rest of it, the high road, the low road, we've got these attributes and I think we should talk about it more. And can I just say one more thing? Australian companies who succeed in technology do it in spite of the barriers and challenges that operating in the Australian economy present, and that makes them even better.

Thank you so much for your time today, Kate.

Good luck with your project.

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