Occasional Address

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Graduation Ceremony
Faculty of Science and Technology
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Good afternoon!

Let me begin by acknowledging the traditional custodians of the land on which we're meeting – and extending hearty congratulations to all of you who are graduating today! Well done everyone!

Its almost 50 years since I completed my degree at Adelaide University and went on to undertake a post-graduate diploma at what was then the Canberra College of Advanced Education – now the University of Canberra. Since graduating, I've been delighted to maintain my association with the University through occasional lecturing and by contributing to course advisory and accreditation processes.

Life has changed a lot over the *past* 50 years! The education that you have embraced in science, technology and engineering will help you to shape the change that the world undergoes over the *next* 50 years.

The discipline that I chose was computing. In those days, there was no Internet, no personal computers, no mobile phones, no smart devices. Learning to program meant queuing up at punched card machines to create a deck that was run through a room-sized computer with a notch less computational power than many of you wear on your wrists today. As deadlines approached, students often had to make a late-night trip back to the University to get the results of the program that had been submitted a few hours earlier. I also recall how impressed our entire class was when one of our lecturers turned up with the first hand-held calculator we'd ever seen! Amazing stuff at the time!

It's been an exciting journey since then! The technological world that we take for granted today was largely unimaginable back then. Many of the specific skills taught 50 years ago have long since fallen by the wayside – but the art of embracing life-long education that was sharpened during my university years served me well in coming to grips with each wave of change in a rapidly evolving industry. With a commitment to learning, challenges that appear daunting at the outset often dissolve into what seems like common sense when eventually getting to the "bottom of the barrel".

My first career as a software developer took a major change in direction in the mid-1990s when I discovered the earliest forms of broadband technology. I was convinced that history would look back on the turn of the 21st century as the start of a communications revolution – of no less significance than the agricultural, industrial, and technological revolutions that preceded it. I haven't been disappointed on that score!

Having been raised on a dairy farm in South Australia, quite frankly I knew more about milking cows than broadband when my second career started. However, belief in an opportunity is a powerful motivator, and aided by good mentors, I absorbed the key principles of this next generation of technology with a keen appetite for learning. Before I knew it, I was leading a small team to explore options for broadband in Canberra.

From those humble origins in 1996 grew a $250m project that built one of the world's first advanced broadband networks across some 65,000 homes in this city – more than a decade before the National Broadband Network was conceived and started connecting homes. Some of you may well be using that network today – originally branded TransACT, but now more commonly referred to as iiNet's Ultrafast VDSL2 network. It remains a competitive alternative to the NBN today for those living in the network footprint.

Serving as the Chief Architect of TransACT has been one of the highlights of my professional career, and the experience gained in that project opened up many other opportunities to contribute to the evolution of telecommunications in this country. Most Australians are now connected to the world at speeds more than 1000x those that were "state of the art" when it all began - and the impact of modern communications on virtually every other sector of the economy has been profound.

Nevertheless, there are still plenty of ongoing telecommunication challenges ... especially in regional Australia with only around a third of Australia's landmass having mobile coverage, and where fixed broadband services typically fall well short of those that urban Australians enjoy. Connectivity advances have generated a wealth of new opportunity in areas like agriculture – exploiting technology to keep Australia internationally competitive as well as to confront some of the challenges posed by climate change. Perhaps some of you will turn your creative minds to innovation in such areas as your careers develop.

In considering what I might say today, I asked myself what are some key lessons that my career journey taught me that I would want to encourage my grandchildren to think about as they now embark on their own careers.

I've already touched the first of these: the importance of **life-long learning**. There have only been two major chapters in my career thus far, but I have little doubt that most of you will face many more changes in the course of your working lives. The *particular* skills you've gained through your course of study will become dated over time. However, the capacity to learn that you have demonstrated will be the key to taking on board the skills you need to master new challenges as they arise. Don't think of today as the destination in your education journey – but rather as one of the significant milestones.

Secondly, there is tremendous **power in teamwork**. If you'd asked me at the outset of the TransACT project who I would have chosen to be part of my project team, I doubt I would have picked any of the three people that I inherited. By the end of the journey, it was clear that we could never have succeeded with any lesser a group of individuals, each with their unique skills. It is tempting to choose people who think just like you do, but if you do that, the creative capacity of the team is then reduced to your own creative capacity. As an old saying goes, if two people think alike, one of them is redundant.

Thirdly, **dare to be different**! Strive to understand and respect the point of view of others when they tell you "that's not the way we do it" – but don't be scared away from exploring alternatives. Innovation only happens when someone challenges the status quo. I can't tell you how many "experts" told us that we were dreaming to think that a team with such little industry expertise could build one of the world's most advanced next generation networks. One even suggested we must be smoking something! In the end, our determination was rewarded - and a decade later, many others (including the NBN company) were embarking on similar initiatives.

Up to this point in my life, I think I have enjoyed a golden era of relative peace and prosperity. In contrast, the challenges confronting our world today seem to me more daunting than anything I perceived when I graduated. The coronavirus pandemic, climate change, widely circulating misinformation, cybersecurity, personal and community safety, the rapid rise in global tensions – these have highlighted just how fragile an existence we lead. It is going to take the very best that humanity can muster to ensure that the future our grandchildren inherit is a good one.

That future is in your hands! I am confident that each and every one of you can contribute positively in whatever quarter you choose to apply your energies – adding to the success stories of UC graduates who have inspired and changed the world. Embrace the future, and apply the skills you have developed thus far to make a difference for the better.

Thank you for the opportunity to share some thoughts with you on this occasion, and I wish you all the very best going forward.