

### *Island Australia: improving resilience in a rapidly-changing region*

# *The contribution of New South Wales-based industry to improving resilience*



A paper based on a presentation to the Institute in Sydney on 23 November 2021 by

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*Our changing strategic circumstances, the rate of technology change and weaknesses in global supply chains, necessitate a strong domestic defence industry which is agile, innovative, cost-effective and globally competitive. Industry and universities must link through networks as partners with Defence to generate solutions rapidly to meet the capability delivery challenges that may lie ahead. This would give us, as a nation, the agility, speed, assurance and resilience required.*

**Key words:** defence industry; networks; New South Wales; sovereign capability; supply chains; technology change.

There are some key factors that the defence industry considers when seeking to create sustainable defence capability, a capability that can be used to deliver the advantage Defence so importantly needs.

The first factor, given the rapidly-changing strategic environment and the need for appropriate responses, is the incredibly high rate of acceleration in technology change.

As an engineer and someone in defence industry who has been observing this now for a long time, I doubt there has been a comparable rate of technology change in recorded history. No one previously has seen the advent of capability and technology shifts occurring at the rate they are today: the advent of digitally-enhanced defence capabilities; autonomous capabilities (the ability to take man out of the loop and out of the harm's way); artificial intelligence; the use of data analytics; cyber and the like.

Hence, critically important aspects of how Defence will need future capability advantage delivered include: the agility with which defence industry adapts; and our ability to build relationships with those who contribute to the knowledge around defence and industrial capabilities – universities, research organisations, small-to-medium enterprises, large international primes – all of which need to combine their strengths to adapt to the incredible rate of change.

The second factor is that the strategic shift has disrupted the global supply chains on which Australia has relied.

It is not the first time we have had a pandemic like this, but it is the first time in the last 100 years. Technology and the globalisation of technology supply chains has come a long way since then. Everyone has been significantly impacted by it. We have seen global supply lines affected in crises before when 9/11<sup>1</sup> happened and associated strategic shifts occurred. At that time, it was not possible for Australia to get certain key defence capabilities it needed from partner countries around the world. This was because the uncertainty generated by that moment meant that no one knew exactly how things would evolve, so supplies were withheld strategically for national interests and capabilities, not those of Australia.

As Australia has seen disruptions to the flow of defence capabilities before, this current focus on resilience and having in-country (sovereign) capability is critical. We need to understand how to make sure that, when any future disruptions occur regardless of the cause, the country is better and stronger as a result of the pandemic.

These two key factors, the rate of technological change in changed strategic circumstances and global supply-chain disruption, lead us to consider what Australian defence industry needs to do to strengthen and provide greater resilience for the nation's needs.

### **New South Wales**

New South Wales is particularly well placed to be able to deliver on that. We have the largest percentage of skilled workers across the country and we have the greatest percentage of universities producing a tertiary-educated workforce.

<sup>1</sup>The use by Al-Qaeda of commercial aircraft to attack New York and Washington on 11 September 2001.

We also should acknowledge we are coming out of a period of industrial atrophy where, in the early 2000s, industries and engineering were not seen as a glamour sector in which to seek employment. From a defence industry perspective, innovation and engineering activity was not a high priority in Australia. Innovation was often seen as risk. Buying direct from overseas was seen as the way to get most of the defence capability needed without risk. Now, we recognise that there is risk in that approach, because there will be times during disruptions when you cannot get the capabilities. Further, the needs of Australia can be different to those of other nations. Our ability to adapt capabilities to the specific needs of Australia's Defence force is critical. Innovation becomes a source of defence capability advantage.

That change in circumstance places New South Wales in a very good position to encourage future careers in STEM – science, technology, engineering and mathematics – to encourage a generation of people to see industry and the generation of advanced technologies as a very viable and very attractive career path. New South Wales has a very strong ecosystem within which to encourage the kind of growth in skills needed for the future, including the future needs of Australia's Defence forces.

Defence policy has shifted significantly in recent years. There was a period of industrial atrophy in Australia when there was a low priority on doing things locally or innovating locally, now there are policies in place to encourage people into defence-related industry. The 2016 White Paper (Defence 2016) launched the concept of industry as a fundamental input to capability – the idea of Defence and industry partnering on the rapid delivery of the capabilities that Australia needs. The update to that Strategic Plan in 2020 (Defence 2020) generated a more urgent message around how much more we need to grow Australia's industrial capabilities, focusing on and building up a higher level of local capability.

### **Prime Defence Contractors**

Large defence industry contractors who hold the major defence contracts and who sub-contract work to small-and-medium enterprises are known as 'primes', e.g., Thales Australia, other large defence contractors and international contractors working in Australia. So, what part should the 'primes' have in that growth?

Three important principles are relevant to the creation of a sustainable defence industry that can provide advantage specific to Australia's needs: first, building a network of innovation and knowledge; second, industrial capability (facilities and people skills); and third, global competitiveness – ensuring

we are cost effective and efficient by exporting.

As to innovation and knowledge, Australia is a small country population-wise. To try to have all the engineering knowledge and innovation in one company would be virtually impossible and does not make sense. I am a strong believer in creating a knowledge network among international companies like my own into Australian industry. This can have a great benefit reach-back to bring technologies from other countries into Australia. Full technology transfer is a big advantage for Australia as other countries have paid for that baseline technology. You can combine that with our supply chain and workforce in Australia to build up a very much larger capacity for innovation. Thales has been doing this for a wide range of technologies, including sonar systems at Rydalmere, soldier systems and rifles at Lithgow, munitions at Mulwala, and a variety of capabilities that we deliver to Defence by creating a knowledge and innovation network with small-to-medium enterprises and tertiary organisations.

When it comes to industrial capability, we need scale and the larger companies like my own can bring scale both financially and through the facilities and workforce we have. In New South Wales alone, Thales has nearly 2000 people in-house; in our supply chain, we have around 1200 people. So, the total workforce effect from the work we do in New South Wales is around 3200. Across Australia, we have about 4000 people in-house and another 2000 people in our supply chain. Accenture recently conducted a study of our supply chain activities. Considering the combined work across Australia, that very large component from New South Wales is an indicator of how well-positioned New South Wales is to deliver on defence capability needs.

### **A Globally-Competitive Defence Industry**

So, building up that industrial base, with large organisations as hubs, a very large local supply chain providing innovative cost-effective solutions, and doing those things really well; leads to the third outcome – being globally competitive by innovating and creating performance-differentiated products, capabilities, and systems solutions for Defence. Those performance-differentiated solutions provide leading capability into the global market and Australia's strategic partners. They create a bridge, a connection between the countries. This is a great benefit for taxpayers who are looking for good value from the money spent within the local industrial base by Defence. It is important, because one of the traditional reasons for not doing things in Australia was that it was considered to attract a very large cost premium. By being globally competitive, by increasing scale, by being operationally cost-

effective, we can demonstrate to government and the taxpayers that work done in Australia is money well spent.

Therefore, by combining a knowledge and network innovation; scaling strategic facilities and people; and combining those two to create globally-competitive capabilities; we can build a sustainable defence industry that can respond to Defence's capability needs as they evolve. That, in turn, can respond in an agile way to Defence's requirements as they evolve. That builds the resilience. I have observed a much stronger embrace of that concept in the last two years in Australia than in the previous 40 years.

### Conclusion

Defence capabilities are now being procured and brought into being quickly. The rate of technology change and rate of change in our strategic circumstances are the biggest risks Australia faces. So, it is essential that industry be able to work with Defence as partners to generate solutions rapidly.

When Australian troops were on high-tempo operations, as they were in Afghanistan in recent years, we saw a rapid approach to the acquisition of capabilities to support those troops – whether it was the rifles we produce at Lithgow, the munitions we provide, or the vehicles we produce in Victoria, like the Protected Mobility Vehicle, the Bushmaster. There was a very collegiate approach and strong partnering in delivering those capabilities quickly.

In low-tempo environments, peacetime, things slow down. The process can become less practical and elongated. In Australia's current circumstances, there is a need for a higher-tempo way of operating. During times of high-tempo operations when things

were happening very quickly, capability was delivered very quickly. Everyone was working with a level of urgency for a common set of goals.

If we can establish common goals, and create partnerships and links between end-users and industry suppliers, Australia will be in a much stronger position to meet the capability delivery challenges that may lie ahead, giving us as a nation the agility, the speed, the assurance and the resilience required.

### The Author

Chris Jenkins is a defence industry leader, having held senior roles in Thales locally and internationally for over 25 years. He was appointed as Thales Australia CEO in January 2008. Chris is currently the National President of the Australian Industry Group and member of the AIG Defence Council. He is also a Non-Executive Board Director of Naval Group Australia. He was previously Chairman of the International Centre for Complex Project Management, as well as a member of the Defence Portfolio Ministerial Advisory Council and the DSTO Advisory Board, and an Advisory Board member of the Centre for Defence Industry Capability. Chris is an Honorary Fellow of the AIPM, a Fellow of Engineers Australia, a Patron of RUSIDSS NSW, and an Adjunct Professor of the University of NSW. In 2013 he received the Insignia of Knight in the French National Order of the Legion of Honour.

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