AIIA Pre-Budget Submission

2019 – 2020 Submission to Treasury

1 February 2019

Level 1, 131 Canberra Ave
Griffith ACT 2603
Australia

61 2 6281 9400
info@aiia.com.au
www.aiia.com.au

Executive Summary

Fostering the digital skills needed for the future with the right policies, regulatory framework and funding is critical to the economic growth, productivity and sustainability of our Nation as we find ourselves immersed in the Fourth Industrial Revolution. It is with this broader vision in mind that AIIA has focussed on three policy areas in this submission – namely, **Digital Skills**, **Innovation** and **Government Digital Sourcing**.

Digital Skills

AIIA members are committed to ensuring that the right digital skills are identified, developed and funded with the support of government policies and legislation. Policies that recognise multiple pathways for domestic skills development and visa categories for attracting and retaining world class talent are critical to ensuring that Australians have the capability and capacity to contribute and demonstrate leadership through the disruption and opportunities which the Fourth Industrial Revolution (4IR) will bring.

Industry members note that multiple pathways to developing and acquiring digital skills is becoming the norm, providing employees with both the technical and soft skills required for careers in industry. On the job training provided by research and development (R&D) activity is critical to this equation.

Innovation

Australian innovation stems from research, development and risk taking. This leads to commercialisation of products and services, providing attractive returns on investments and has a positive flow-on effect on skills development and job creation. Simple to use, internationally competitive tax incentive programs stimulate the Australian digital industry to maintain investments in local R&D activities that can also boost Australia's competitiveness.

Commercialising innovative digital products and services and selling them to customers in the national and global market is also critical to Australia's economic growth. Members believe more can be done by government to improve commercialisation and collaboration between the private and public sectors.

Government Digital Sourcing

The Australian Government is a valued customer across the full range of AIIA members and is one of the biggest spenders on digital products and services in Australia. Successfully delivering to government provides a business with credentials that can lead to other national and global customers. Government payment terms also provide much needed security for cash flow especially for small business entities.

As one of the largest buyers of digital products and services the Government is in itself a significant player in the Australian digital innovation ecosystem. However, the national opportunity to foster business entrepreneurship and innovation in government services is being hampered by complex and risk averse procurement processes.

The move away from paper-based ICT procurement to *digitised ICT sourcing* is a shift in the right direction – this work needs to continue to make the processes transparent and clear.

However, more work is needed to simplify government digital sourcing processes and compliance requirements. New ways need to be tried for industry to show case its innovative digital products to government buyers outside the procurement framework and without risk to their intellectual property.

AIIA recommendations for funding under the 2019-2020 Budget on **Digital Skills**, **Innovation** and **Government Digital Sourcing** are detailed below.

About the AIIA

The Australian Information Industry Association (AIIA) is Australia's peak member body for the digital industry. AIIA is a not-for-profit organisation that has, since 1978, pursued activities to stimulate and grow the digital ecosystem, to create a favourable business environment and drive Australia's social and economic prosperity.

AIIA does this by providing a strong voice on its members' policy priorities, creating a sense of community through events and education, fostering collaboration between industry and government and curating compelling content and relevant information.

AIIA's National Board and its State Councils embody the diversity of the Australian digital economy, including large Australian companies, multinationals and small and medium sized businesses.

AIIA's members range from start-ups and the incubators that house them, to small and medium-sized businesses including many 'scale-ups' and large Australian and global organisations. They include organisations such as Apple, Adobe, Cisco, Deloitte, DXC, Gartner, Google, IBM, Infosys, KPMG, Lenovo, Microsoft, Oracle, Optus, Qlik, Salesforce and Telstra, national companies such as Australian Data Centres, Canberra Data Centre, Data#3, KTM Capital, Information Professionals, Technology One, and SMEs including Silverstone Edge, SME Gateway and Zen Enterprise and start-ups such as OKRDY.

While AIIA's members represent around two-thirds of the technology revenues in Australia, more than 90% of our members are SMEs.

Summary of Recommendations

In order to address the digital skills shortage in Australia, funding should be provided for:

1. Developing and implementing a national education campaign to provide immediate and on-going awareness for students, teachers, parents and career advisors about flexible learning options and multiple career paths for relevant and rewarding digital careers;

2. Investing in the agile and timely development and provision of nationally accredited VET qualifications to respond to localised and/or unique industry demands to meet critical digital skill shortages;

3. Providing necessary policy, and efficient and timely processes, for bringing in overseas digital talent to fill targeted unmet digital skill requirements in the Australian market; and

4. Ensuring continued Government support of Industry-led digital skill development, training and job placement initiatives.

In order to foster digital innovation and commercialisation, funding should be provided for:

5. Establishing an advisory and oversight body constituted by representatives from industry, research institutions and government. Responsibilities would be to drive a National Innovation Agenda – including R&D activities - through good governance, established objectives and clear performance indicators;

6. Encouraging the digital industry to undertake their R&D activities in Australia through increased grants and internationally competitive tax incentives;

7. Developing simple guidelines and education tools on R&D Tax Incentive (R&DTI) compliance requirements with input from government regulators, industry and research institutions to reduce compliance costs;

8. Developing capability in commercialisation of digital products and services through education, attracting skilled migrants with expertise in commercialising digital products and services, and providing industry-based mentoring for commercialisation by global experts; and

9. Introducing a R&DTI "collaboration premium" as previously proposed by Innovation and Science Australia (ISA) in *Australia 2030: Prosperity through Innovation*[i], to encourage cross sector collaboration including with the Australian Public Sector.

In order to improve Digital Sourcing by Australian Government, funding should be provided for:

10. Establishing an advisory body to improve the digital sourcing capability and digital literacy of the Australian Public Service (APS) in partnership with industry and research institutions;

11. Simplifying and improving the transparency and consistency in digital sourcing processes and practices across government agencies in partnership with industry and research institutes in order to achieve more efficient outcomes for both industry sellers and government agency buyers; and

12. Continuing with a program for improving government digital sourcing processes under an advisory body constituted by senior executives from government agencies and industry.

Digital Skills

In Australia and most other industrialised economies, the demand for a trained and experienced digital workforce continues to outstrip supply. This trend is accelerating and the demand for skilled digital workers cannot be met in Australia through the current volume of domestic graduates. An Australian workforce that is digitally literate and skilled is essential to national economic growth and business competitiveness, especially in regional areas.

The 2018 *Australia's Digital Pulse*[ii] report states, "with domestic graduates from ICT degrees still below 5000 a year, the only way we'll reach workforce targets is by importing labour, much as we have done for the past five years". This creates a major challenge for Australia. Over the next decade, policies and practices need to be put in place to ensure a sufficient supply of skills aligned to changing needs of the labour market particularly due to rapid technological acceleration.

AIIA members find that digital skills alone are not a guarantee of success in the workplace. Enterprise skills such as interpersonal and communication skills, problem solving, creativity and the ability to work in a team environment are equally important. Young Australians need to be exposed to entrepreneurship in addition to technology, providing skills in business level innovation. Such skills only proliferate where an active start-up culture is promoted, where new companies are being created, expanded and commercialised.

In their 2013 research the University of Canberra's Education Institute[iii] found that Australian secondary school students largely perceive digital skills and expertise as being 'boring', office bound, and irrelevant to their preferred career path.

This perception needs to be changed. Currently there is a gap in a nationwide education campaign that targets students and their trusted career-influencers that delivers information on the creative, rewarding and engaging digital career options and multiple paths to these careers. Options such as creating micro-credentials[iv] for school leavers, who do not go on to tertiary studies, also need to be funded and promoted.

> **Recommendation 1**: Develop and implement a national education campaign to provide immediate and on-going awareness for students, teachers, parents and career advisors about flexible learning options and multiple career paths for relevant and rewarding digital careers.

There is a significant shortfall of available digital skills and expertise in the Australian workforce. *Australia's Digital Pulse* highlights that many other developed countries outperform Australia on measures such as digital employment and science, technology, engineering and mathematics (STEM) skills in schools, "with no sign of improvement over recent years". This is an impediment to government digitisation as well as industry and small to medium enterprise (SME) growth.

While medium and long term digital skill development strategies are required at a national level, there is an immediate short term government, industry and SME requirement for skilled and expert digital professionals. The establishment, testing and evaluation of processes to match VET digital skills providers to targeted and local workforce/business demands will attract participants from diverse backgrounds and fast track their completion of accredited digital courses, increasing availability of the required digital and complementary soft skills base.

> **Recommendation 2:** Invest in the agile and timely development and provision of nationally accredited VET qualifications to respond to localised and/or unique industry demands to meet critical digital skill shortages.

AIIA members report that increasing digital skill shortages impedes the innovation opportunities to apply new digital technologies and increases the risk to business delivery.

The current Temporary Skill Shortage (TSS) visa assessment processes take too long. This results in competition for domestic digital talent and increases the likelihood of off-shoring of digital services. TSS visa assessment processes need to be simpler, faster and more agile to maintain the Australian digital industry's global competitiveness.

Our members are keen to learn from recent Government experience on the fast-tracking of the import of critical digital skills and look forward to working with government on the implementation of further initiatives to attract global digital talent to Australia.

> **Recommendation 3:** Provide necessary policy, and efficient and timely processes, for bringing in overseas digital talent to fill targeted unmet digital skill requirements in the Australian market.

Industry has taken the initiative to address digital skill shortages through programs such as the Skilling Australia Foundation *P-Tech*[v] program, co-funded by Government and demonstrating successful outcomes.

> **Recommendation 4:** Ensure continued Government support of Industry-led digital skill development, training and job placement initiatives.

Innovation

"Digital innovation can deliver $315 billion in gross economic value to Australia over the next decade, making it a critical ingredient in the nation's ongoing economic success" says AIIA member Data61 in their 2018 *Digital Innovation Report*[vi]. The report finds that the total economic value derived from digital innovation in Australia represents 7.4 per cent of the country's total gross domestic product (GDP) over the past two decades, compared with 11.2 per cent of GDP in advanced economies.

Currently, the proportion of organisations in Australia that receive government funding for innovation is remarkably low — the lowest in the OECD for large firms and the second lowest for SMEs according to 2019 OECD[vii] analysis. Additionally, the 2018 Australia's *Digital Pulse* reported that Australia currently ranks number 12 out of the 16 countries surveyed on business expenditure on digital R&D. This lack of funding is not only damaging to our current levels of innovation, but will have a deleterious effect on our long-term ability to innovate and commercialise those innovations.

Australian investment in R&D is declining. In 2018 *Universities Australia*[viii] reported that Australia now spends 1.88 per cent of GDP on research and development, well below the OECD average of 2.38 per cent, and for the first time since records have been kept, OECD figures show that Australia's business R&D declined in 2015-16.

For it to thrive, Australia's innovation system requires a whole-of-government reform initiative. There must be long-term political will to execute on the many moving and interconnected parts — competition policy, tax reform, R&D funding, private and public sector commercialisation capability, and labour market reforms.

Urgent Government leadership is required if Australia is to reap the substantial economic benefits provided though a vibrant, innovation led, world class digital R&D industry. Renewed support for tax incentives that help offset the cost of R&D and targeted digital grant funding is desperately needed.

Government needs to take on a prominent role and refresh the innovation agenda, develop and own an ambitious national vision to focus investments and capability-building in innovation, through policies and legislation. To ensure a comprehensive and cohesive approach is taken, government must work with industry and research institutions to realise this objective.

> **Recommendation 5:** Establish an advisory body constituted by representatives from industry, research institutions and government. Responsibilities would be to drive a National Innovation Agenda – including R&D activities - through good governance, established objectives and clear performance indicators.

In relation to private sector innovation, government needs to do more to encourage business expenditure on research and development. A renewed focus on better R&D tax incentives would help underpin growth.

The R&DTI program is highly valued by AIIA members as an enabler for industry innovation. It provides support for companies to invest in Australian R&D – employing STEM personnel and fostering new ideas and initiatives. Adding complexities (e.g. tiered systems which prevent companies from calculating their benefit in advance) will act as a disincentive for industry investing in R&D in Australia.

> **Recommendation 6:** Encourage the digital industry to undertake their R&D activities in Australia through increased grants and internationally competitive tax incentives.

In recent times the R&DTI compliance burden has increased, with changing interpretations and standards of proof imposed by regulators. Clear and consistent guidance is needed, along with firm commitment and engagement by government in a National Innovation Agenda.

> **Recommendation 7:** Develop simple guidelines and education tools on R&DTI compliance requirements with input from government regulators, industry and research institutions to reduce compliance costs.

Australia's global ranking in terms of commercial outputs is much lower than its ranking in terms of its input and investment into R&D. Accordingly, there is a pressing need for Australia to attract global talent with commercialisation experience.

> **Recommendation 8:** Develop capability in commercialisation of digital products through education, attracting skilled migrants with expertise in commercialising digital products and services, and providing mentoring for commercialisation by global experts.

Globally Australia rates poorly for its level of collaboration between private and public sectors[ix]. Until recently, academics have not been adequately rewarded or incentivised for collaborating with the private sector. By the same token, the private sector has found the public sector to be too academic and slow to respond to the often fast moving needs of industry. Tax incentives and other measures to encourage greater collaboration are needed and should be assessed periodically for their efficacy.

> **Recommendation 9:** Introduce a R&DTI "collaboration premium' as previously proposed by Innovation and Science Australia (ISA) in its Prosperity 2030 Report to encourage cross sector collaboration including with the Australian Public Sector.

Government Digital Sourcing

The 2017 Australian Government *ICT Procurement Taskforce Report*[x] identified that the capability and capacity issues in the APS included a lack of technical digital capability in the market analysis required to articulate the requirements and sort and assess the potential solutions on offer provided by industry. This view was reiterated by the June 2018 Senate Finance and Administration Committee Report on *Digital delivery of Government Services*[xi]. Coupled with the diversity in procurement skill across agencies, this means that digital sourcing practices vary greatly across and within agencies.

Recommendation 10: Establish an advisory body to improve the digital sourcing capability and digital literacy of the Australian Public Service (APS) in partnership with industry and research institutions.

Responding to government tenders requires an investment in time and effort from industry. Small to medium size enterprises and start-ups usually do not have dedicated in house resources for responding to tenders. This includes business development managers and lawyers who review draft contract terms for a panel arrangement or government contract.

Agencies also continue to try and shift the risk to industry through insurance clauses with approaches varying from agency to agency.

Value for money (VFM) under the Commonwealth Procurement Rules means assessing more than the monetary value of a response. However, agency variations in VFM assessment together with a lack of transparency and clarity gives rise to a lot of confusion for industry.

Government buyer fear of breaching probity requirements often means that government buyers prefer to have minimal contact with industry sellers. This often makes it impossible for sellers, to clarify specifications in an agency's approach to market.

The consequences of not addressing these high tendering burdens and barriers to entry are significant for small to medium enterprises and start-ups. The result is less diversity, innovation and competition amongst those responding to government tenders. Additionally, flaws in tender documents are likely to flow through to the resulting contracts with potential ramifications on project outcomes.

Recommendation 11: Simplify and improve the transparency and consistency in digital sourcing processes and practices across government agencies in partnership with industry and research institutes in order to achieve more efficient outcomes for both industry sellers and government agency buyers.

While funding for the Dynamic Sourcing for Procurement initiative, updates to AusTender and the Digital Marketplace have seen the shift from a paper based to digital procurement, there is still a tendency to replicate paper-based digital sourcing processes in the digital realm. For example, on-boarding of new industry sellers to panels remains a cumbersome process in the digital era requiring sellers to supply agencies with the same information multiple times for multiple panels and agency specific contract and administrative requirements. Application Program Interfaces (APIs) should be utilised by agencies for sharing core data on approved industry sellers on agency panel arrangements.

Recommendation12: Continue with a program for improving government digital sourcing processes under an advisory body constituted by senior executives from government agencies and industry.

[i] Innovation and Science Australia: **Australia 2030: Prosperity through Innovation**, 2017 - http://0.0.7.226/?mc_cid=9041630cbf&mc_eid=5498381def

[ii] Deloitte/ACS: **Australia's Digital Pulse 2018** - https://www2.deloitte.com/au/en/pages/economics/articles/australias-digital-pulse.html#

[iii] **Digital Technology and Australian Teenagers: consumption, study and careers**. University of Canberra - The Education Institute, 2013. - http://www.canberra.edu.au/researchrepository/items/fde6c9c8-0f73-47a6-afb2-e476699be44b/1/

[iv] Emerging use of micro-credentials as a means of certifying attainment of smaller and more specific elements of learning

[v] **P-Tech, Pathways in Technology** - https://www.ptech.org.au/why-p-tech/

[vi] **Digital Innovation: Australia's $315b Opportunity**. Data61, 2018 - https://www.data61.csiro.au/en/Our-Work/Future-Cities/Planning-sustainable-infrastructure/Digital-Innovation

[vii] Gross domestic spending on R&D. OECD, 2019 - https://data.oecd.org/rd/gross-domestic-spending-on-r-d.htm

[viii] Universities Australia, 2018 - https://www.universitiesaustralia.edu.au/Media-and-Events/media-releases/Government-and-business-must-rev-up-R-D-or-we-ll-risk-national-prosperity#.XE_P6M8zZTa

[ix] Innovation and Science Australia: **Australia 2030, Prosperity through Innovation**, 2017

[x] **ICT Procurement Taskforce Report**. Digital Transformation Agency, Australian Government. 2017 - https://www.dta.gov.au/help-and-advice/ict-procurement/digital-sourcing-framework-ict-procurement/ict-procurement-taskforce-report

[xi] Senate Finance and Administration Committee Report on **Digital Delivery of Government Services. Parliament of Australia**, 2017 - https://apo.org.au/node/180201