

Challenges and opportunity in the digital economy

Introduction

- 3.1 The digital economy brings both opportunities and challenges that Australia will need to address if it is to make the most of what the digital economy offers. This chapter outlines the challenges and later the opportunities available to Australia – as a whole and for individuals. Evidence received by the Committee suggests that while Australia has a lot to offer and much to gain from the digital economy, there remain questions which need to be answered.
- 3.2 The challenges considered in this chapter are:
- cyber security and resilience;
 - business engagement;
 - keeping up with trading partners;
 - lack of digital economy data;
 - lack of digital economy expertise;
 - disparate programs;
 - a failure to rethink from the ground up (digitally native processes); and
 - infrastructure requirements.

Cyber security

- 3.3 The increased opportunities of the digital economy come with increased risk from a cyber security and cyber resilience perspective.¹ The harnessing of these opportunities and mitigation of these risks is a challenge and responsibility that must be shared.²
- 3.4 In the way that the digital economy should not be thought of as separate to the economy, cyber security should not be regarded as a separate risk: cyber security is a business risk in the same way that any other risk is.³ Cyber resilience considers at its most basic the effectiveness of the proposed mitigation of a cyber security risk.
- 3.5 Public and private sector organisations in Australian and internationally have been targeted by malicious cyber activities, which have resulted in significant amounts of commercial and personal data being lost, along with substantial financial and reputational costs.⁴ It is estimated that the cost to Australia of cybercrime is in excess of \$1 billion annually.⁵
- 3.6 However, it is not clear that Australian businesses and governments are fully cognisant of these risks. In particular, the Committee heard that businesses underinvest in cyber security and resilience measures, and that management – of both private industry and government agencies – tends to consider cyber security and resilience a specific Information Technology risk only.
- 3.7 The Australian National Audit Office (ANAO) has audited 14 Commonwealth agencies' compliance with the Australian Signals Directorate's Essential Eight strategies for cyber resilience over the last four years. In that time, the ANAO has found that 'compliance with mandatory requirements of information security continued to be low'.⁶
- 3.8 The ANAO's *Interim Report on Key Financial Controls of Major Entities* (published in June 2018) includes the self-assessed level of compliance with mandatory cyber security measures for 23 entities:

A significant proportion of these entities continue to report non-compliance with mandatory strategies to mitigate targeted cyber intrusions, with only 48% reporting compliance. Not

1 Mr MacGibbon, ACSC, *Committee Hansard*, 10 May 2018, p. 2.

2 *Australia's International Cyber Engagement Strategy*, p. 7; PM&C, *Submission 4*, p. 3.

3 Ms Price, AustCyber, *Committee Hansard*, 28 June 2018, p. 2.

4 PM&C, *Submission 4*, pp. 2–3.

5 PM&C, *Submission 4*, p. 2.

6 Australian National Audit Office, *Insights from reports tabled April to June 2018*, July 2018, <https://www.anao.gov.au/work/audit-insights/insights-reports-tabled-april-june-2018>, accessed 14 August 2018.

implementing the mandatory mitigation strategies reduces an entity's ability to continue providing services while deterring and responding to cyber intrusions. It also increases the likelihood of a successful cyber intrusion.⁷

3.9 A similar situation exists in the private sector. AI Group warns that even with growing threats, the uptake and 'investment in cyber security technology is a low priority for many businesses.'⁸

3.10 The scale of the problem was highlighted by the National Retail Association, who noted that online fraud is increasing:

The last figure I have is about \$534 million, which is quite significant. We are seeing that on the increase, especially with the new type of technology. The biggest problem we have is 'card not shown' [when valid credit card details are stolen and used to make purchases or other payments]. Online retailers get no compensation. If you're the consumer, the bank is likely to reimburse you the amount, but, if you're a retailer, it's very similar to counterfeiting; there's no real recourse for you.⁹

3.11 As AustCyber's Ms Price pointed out, for many small business owners, cyber security may struggle for attention against all the other priorities of running their business:

[C]ulture is a really important factor here. First and foremost, one thing that is not understood across the community more broadly is that part of the reason this is such a complex endeavour for Australia is that 96% of our economy is comprised of small business...[W]hen you are a small business and you are trying to make sure you have a pipeline of contracts and that your customers are happy and that your employees are happy and the ATO is happy with what you're doing – and, if you happen to have a board, that ASIC is happy with you – you are not thinking about cyber security and how resilient you are to cyberattack.¹⁰

3.12 The Australian Institute of Performance Sciences (AIPS) argued that Australian organisations are 'failing to keep pace with increasing technology and cyber resilience threats'. In particular, AIPS held that this is a result of inadequate senior management focus on these risks, and

7 Australian National Audit Office, *Insights from reports tabled April to June 2018*, July 2018, <https://www.anao.gov.au/work/audit-insights/insights-reports-tabled-april-june-2018> (accessed 14 August 2018).

8 Australian Industry Group (AI Group), *Submission 9*, p. 8.

9 Ms Dominique Lamb, Chief Executive Officer, National Retail Association Ltd, *Committee Hansard*, 17 August 2018, p. 28.

10 Ms Chief Executive Officer, AustCyber, *Committee Hansard*, 28 June 2018, p. 3.

pointed to research indicating that 'only a comprehensive governance model approach can enable leaders to engage appropriately with the complexity and volatility of this issue in large scale Australian organisation[s]'.¹¹

- 3.13 While the Australian Government has moved to centralise its policy responsibility for cyber security and resilience to the Australian Cyber Security Centre, ACCI noted that the extensive list of government cyber security initiatives creates confusion:

... it is unclear which Australian Government agency would co-ordinate information gathering in the event of a cyberattack. This makes it quite difficult for Australian businesses to know who they should contact to better understand the magnitude of the cyber threat.¹²

- 3.14 Broad recognition about the extent of the issue also currently lags, and Ms Price argues that until there is a better understanding of the risks and challenges, there will not be adequate focus on addressing those:

... society hasn't yet come to the realisation that compromises will happen. There is no silver bullet. The attackers move very, very quickly to evolve their methods. And it's not a case where we've tied a bow and we can put away the box. This is something that we have to maintain vigilance on all the time, and so things will happen where compromises occur.¹³

Business engagement

- 3.15 Low levels of engagement from the private sector can be a significant barrier to growth in the digital economy. DIIS notes, 'business investment in digital technologies results in higher productivity but Australian businesses are not fast adopters of technology by international standards'. A 2015 OECD study placed Australia in the middle of member countries on a range of digital indicators.¹⁴

- 3.16 AI Group conducted research into Australian businesses' use of digital technologies and found that understanding of, and work towards, the use of these technologies was not high:

11 Australian Institute of Performance Studies, *Submission 16*, p. 4.

12 ACCI, *Submission 18*, p. 4.

13 Ms Price, *AustCyber, Committee Hansard*, 28 June 2018, pp 2 – 3.

14 DIIS, *Submission 3*, p. 6.

- there are low levels of businesses using digital technologies that fall under the Industry 4.0 or Internet of Things banner;
 - use of and investment in cyber security technology is considered a low priority for many businesses;
 - many businesses do not see a link between digital capabilities and their growth strategies;
 - a small but substantial proportion (17%) of businesses have no intention of improving their technological skills; and
 - low levels of employee skills and perceived lack of relevance were some of the main reasons for businesses choosing not to invest in digital technologies.¹⁵
- 3.17 DIIS noted that, while increased use of data is linked to productivity increases, only 7% of businesses make significant use of big data.¹⁶
- 3.18 Similarly, in the e-commerce and retail sector, Ms Dominique Lamb, the Chief Executive Officer of the National Retail Association highlighted that ‘there seems to be a lack of knowledge about what data can do for business’, resulting in lost opportunities.¹⁷
- 3.19 The 2016 *Performance Review of the Australian Innovation, Science and Research System* conducted by Innovation and Science Australia highlights that Australian businesses, by and large, are not highly innovative:
- Only 9.2% of Australian firms are engaged in new to market product innovation, which...is below the OECD+ average of 13.3%, and well below the average of the top five performing countries in the OECD+ (21.3% of all firms).
- A low level of new-to-market innovation suggests that Australia is an incremental innovator and adopts innovations from elsewhere rather than creating them.¹⁸
- 3.20 The *Review* also noted that Australian exports are not considered high-technology, with Australia ranking 26th out of 37 OECD+ countries in terms of its high-technology export value.¹⁹
- 3.21 Similarly, while most measurable OECD countries are net exporters of knowledge assets (things like research and technical assistance, patents, designs, trademarks and licences), Australia is a net importer. In 2013,

15 AI Group, *Submission 9*, p. 9.

16 DIIS, *Submission 3*, p. 8.

17 Ms Lamb, National Retail Association Ltd, *Committee Hansard*, 17 August 2018, p. 23.

18 Innovation and Science Australia, 2016, *Performance Review of the Australian Innovation, Science and Research System*, p. 103.

19 *Performance Review of the Australian Innovation, Science and Research System*, p. 106.

Australia was ranked 28th out of 31 OECD countries in terms of net balance of knowledge assets trade.²⁰

- 3.22 Mr Colvin of the Global Innovation Forum highlighted that there is work to be done in assisting Australian businesses moving into the digital economy:

... there are another set of small businesses that have maybe been around for a lot longer that aren't always aware of either the global opportunity or the technologies that are able to be used to run their business. Someone from AusIndustry pointed out that they've got a business of not insignificant size that still does all of its accounting on a local spreadsheet on Excel that's resident on a person's computer.²¹

- 3.23 The problem can be circular, too, as the Export Council of Australia noted, 'You can create the best training packages in the world, but actually getting to these businesses is the challenge', especially where those businesses who need the training the most are the least likely to find out about it. The Export Council also noted that whilst 'Australians are some of the best travelled people in the world, our businesses certainly aren't'. What is important is to create the mindset that 'if you can do business successfully in Australia, then you can do business successfully anywhere'.²²

A new operating environment

- 3.24 Beyond engagement, the expanded scope and market possibilities for Australian SMEs also has a downside. With ready access to overseas customers, the Australians selling those goods or services have responsibilities and obligations they may not be aware of:

One of the things that is a challenge for businesses... is to ensure compliance with local legal regimes. So if you have an SME providing a good, a product or a service in Australia they know what the laws are. They know whether they can comply with them or not. It is very simple.

If they are suddenly providing products or services in another country – in any other country, potentially, in the case of digital

20 *Performance Review of the Australian Innovation, Science and Research System*, p. 106.

21 Mr Jake Colvin, Executive Director, Global Innovation Forum, National Foreign Trade Council Foundation, *Committee Hansard*, 19 October 2017, p. 4.

22 Mr Heath Baker, Head of Policy, Export Council of Australia, *Committee Hansard*, 15 February 2018, p. 5.

trade – they may not be aware of the local legal regime but they will still have to comply with it.²³

3.25 For businesses seeking to export to multiple countries, there are substantial barriers in understanding the regulatory environment:

... for the small, micro-sized businesses, it can be a morass to navigate. There's upwards of 600 questions that you have to consider on a given particular product. Then you weave your way through how you respond and understand those questions, making sure they are clear, and not all of the questions are available to the public.²⁴

3.26 A related point is that other countries' laws may hinder the operations of Australian traders. DFAT gave the example of data localisation requirements:

Typically, the sorts of rules that you might see are where government might say, 'If you want to provide a product or a service in our market, you have to store your data relating to those operations in our market.' Or they might say, 'If you're transacting business in our market, you can't take data relating to those transactions across the border.' For Australian businesses... that sort of rule can operate as a constraint on the way they will manage their data.

A lot of small and medium enterprises, as you can imagine, don't seek to manage their data themselves; they will outsource it to a specialist provider who may be an Australian company or may be another company. They may not keep the data in Australia; they may keep the data in a cloud. So a rule that requires that data be kept in a particular location can operate as a very significant constraint on the way that businesses operating digitally can operate.²⁵

3.27 AI Group highlighted the problem, noting the importance of government awareness of both international developments and the needs of Australian businesses:

[O]ne of the case studies is a small, family owned company now selling internet enabled machines. They are not thinking, 'China's introducing cyber security law, so I'll never be able to sell to

23 Mr James Baxter, Assistant Secretary, Services and WTO Trade Policy Branch, Department of Foreign Affairs and Trade, *Committee Hansard*, 7 September 2017, p. 2.

24 Mr Kevin Willis, Director, Global Trade Services, Amazon, *Committee Hansard*, 17 August 2018, pp 3 – 4.

25 Mr Baxter, DFAT, *Committee Hansard*, 7 September 2017, p. 2.

China,' so we need our trade officials to be thinking of these sorts of companies.²⁶

- 3.28 To address these barriers, as will be discussed in the final chapter, the Australian Government needs to prioritise engaging with the private sector, ensuring that Australian businesses are aware of both the challenges and opportunities the digital economy brings.

Government

- 3.29 While noting that the Australian Government is only part of the trade environment, the Export Council of Australia nonetheless argued that 'only the Government can take the lead' in the process of digitising Australia's trade system.²⁷

- 3.30 It is also important to recognise the scale of the change that the digital economy is bringing to governments as the regulators of international trade. ACCI gave an indication of this:

Australia is part of a world where technology will increasingly allow goods and services to be provided in a digital form...

3D printing advancements will increasingly allow consumers to order personally tailored goods from international suppliers outside of the historic physical goods trading methods. This in turn will interrupt traditional customs functions and challenge border security.²⁸

Keeping up with trading partners

- 3.31 As in any new system, there are benefits of being ahead of the curve, and corresponding disadvantages in failing to adapt. Australia needs to ensure that it doesn't lag in adapting its trade system to the digital economy.
- 3.32 The Export Council of Australia argues that Australia needs to take the initiative in establishing digital trade practices:

While the digitisation of the trade value chain is inevitable, it will not happen uniformly. Different countries, and different sections of the value chain, will digitise at different rates. Countries at the

26 Ms Louise McGrath, National Manager, Business and International Advisory Services, AI Group, *Committee Hansard*, 7 December 2017, p. 2.

27 Export Council of Australia, *Submission 10*, p. 2.

28 ACCI, *Submission 18*, p. 1.

forefront of this process will set the terms and enjoy major competitive advantages.²⁹

- 3.33 By failing to keep up with developments in other countries, Australia could put its businesses at a competitive disadvantage. AI Group gave the example of China's cyber security laws, under which companies operating within China are required to give the government their anti-hacking proprietary hardware and software, and keep information and data relating to Chinese citizens stored on domestic servers. AI Group members:

...large and small with an operation in China have complained that they struggle to get clarity on China's domestic data security regulations and would appreciate advice and support from fellow Australian companies or Austrade.³⁰

- 3.34 Equally important, and discussed further in the final chapter, is consistency of regulatory frameworks across jurisdictions and interoperability of digital systems. This will ensure that services offered to local entrepreneurs and SMEs are the same as those offered in other international markets. For example, if:

...key regulatory policies relating to copyright, tax and privacy...are not consistent with other competitive markets, this increases the cost to do business in Australia and can discourage businesses from achieving the gains that can grow the economy and promote trade.³¹

Lack of digital economy data

- 3.35 Currently, government responses to the digital economy are hindered by insufficiently detailed and accurate data. Several witnesses pointed to the poor quality of trade data as an inhibitor to better understanding of, and policies relating to, digital trade. The Export Council argued that 'trade statistics lag decades behind business practices'.³²
- 3.36 This is not a problem unique to Australia. An OECD survey found that none of the 33 members who responded had conducted a study into quantifying cross-border data flows.³³
- 3.37 The Information Technology and Innovation Foundation (ITIF) also pointed to this shortage of information:

29 Export Council of Australia, *Submission 10*, p. 2.

30 AI Group, *Submission 9*, pp 4 – 5.

31 Facebook, *Submission 6*, p. 4.

32 Export Council of Australia, *Submission 10*, p. 2.

33 The Information Technology and Innovation Foundation (ITIF), *Submission 21*, p. 11.

At the moment, precise, consistent, and comparable metrics on data flows and their value are hard to come by in Australia and many other countries. The same goes for the growing role of cross-border digital trade and e-commerce. More broadly, insufficient measurement of data flows contributes to issues relating to understanding its impact on productivity and GDP.³⁴

- 3.38 Data collection practices simply have not caught up to the reality of practice. For goods traded traditionally, statistical data is gathered from customs documents and is 'of a very high quality', while statistics on digital trade is poor. Services:
- ...exported digitally go through no gateway by which to collect statistics. Consignments under \$2000 (most e-commerce exports) are not included in some ABS statistics. As a result, these exports are likely to be undervalued.³⁵
- 3.39 Business structures can distort statistics too. In cases where a product is sold directly from a company's Australian office, that sale should be picked up in export statistics. But if a product is sold from the same company's foreign office – as is common in digital trade – that sale will not be recorded.³⁶ This again speaks to the desirability of re-engineering business processes as 'digitally native'.
- 3.40 In the absence of solid information, and no agreed mechanism for collecting the relevant data, policymakers and others are reliant on 'best guess estimates'.³⁷
- 3.41 The consequence of this, the Export Council argues, is that policy is being developed on the basis of an underestimation of the digital economy:
- When setting policy for export sectors, policymakers will inevitably (and in many cases, only) look to the statistics to get a sense of the importance of the sector. When the statistics are misleading, or plain wrong, policy will suffer. This is especially the case for policies where there are trade-offs, like in FTA negotiations or prioritising industry assistance or support.³⁸
- 3.42 Improved data quality, that 'accurately [reflects] modern business practices', would therefore result in a better understanding of the digital economy and lead to more informed policymaking:

34 ITIF, *Submission 21*, p. 11.

35 Export Council of Australia, *Submission 10*, pp. 2–3.

36 Export Council of Australia, *Submission 10*, pp. 2–3.

37 Mr Baker, Export Council of Australia, *Committee Hansard*, 15 February 2018, p. 2.

38 Export Council of Australia, *Submission 10*, p. 3.

It is therefore essential to ensure that policymakers better understand the importance of digital trade to Australia and the Australian economy. In particular, it is essential that Australia's export statistics accurately reflect modern business practices.³⁹

Lack of digital expertise

3.43 A related point made by some witnesses was that the Government's trade system is being formulated by people without sufficient understanding or appreciation of the centrality of digital technology to the economy. As AI Group put it:

The Australian Government has trade experts who are highly skilled in 19th and 20th century trade issues such as anti-dumping, quotas and tariffs. To protect Australia's future economic interests, greater effort should be made to both recruit expertise in digital trade issues and develop internal talent within our Trade Negotiating teams. We are signing Free Trade Agreements today that are setting trade rules for technology that hasn't been invented yet.⁴⁰

3.44 The problem, as AI Group's Ms Louise McGrath explained, is that digital expertise has not risen to the upper levels of the public service yet:

I think it's improving, but I think the challenge for agencies such as DFAT is that the very senior staff do not necessarily have a full understanding of digital technologies and the way they interact within the global trade system. That's an issue with free trade negotiations [...] I think we need to work with our existing trade policy negotiators to improve their skills and their understanding.⁴¹

3.45 The challenge for governments is to be able to keep up with the technology and the way business is using it and 'to put in place settings that enable that transition and, in some cases, facilitate it'. Correspondingly, 'business also has a responsibility to help government understand its needs'.⁴²

3.46 On the other hand, Dr Feakin, Australia's Ambassador for Cyber Affairs, suggested that Australia's expertise was under-rated:

I think that within our trade teams we do have those with the specialist knowledge. I think part of where that has come from has

39 Export Council of Australia, *Submission 10*, p. 3.

40 AI Group, *Submission 9*, p. 3.

41 Ms McGrath, AI Group, *Committee Hansard*, 7 December 2017, pp 1 – 2.

42 Mr Baker, Export Council of Australia, *Committee Hansard*, 15 February 2018, p. 1.

been the very protracted negotiation of the Trans-Pacific Partnership, which had at its core a great deal of digital provisions for that negotiation. [...]I know that other countries lean on them as well for a bit of assistance. So I think we have good capability there, certainly in terms of the trade negotiation side and the development of what those requirements are.⁴³

Infrastructure for the digital economy

- 3.47 To be competitive in the digital economy, Australia requires an appropriate level of digital infrastructure.
- 3.48 E-commerce, for example, will suffer if there is inadequate infrastructure. Particularly in Australia's regional areas, current levels are proving a barrier for e-commerce retailers:

[T]he big sticking points for [the retail sector] have certainly been around infrastructure and networks. NBN continues to be a problem – certainly in the regions.

Infrastructure in terms of delivery and supply chain continues to be an issue. We know that Australia Post are reporting an increase of about 19.2% on the eastern seaboard in packages and purchasing online, but those increases still aren't quite making it out to the entire Australian network. It's very much focused in those capital cities, and that's something that retailers are interested in improving.⁴⁴

- 3.49 Australians are increasingly operating in the digital economy, making 'access to high speed internet [and optimal technology essential tools] in modern international trade'.⁴⁵

Failure to rethink from the ground up

- 3.50 New approaches, rather than a mere digitisation of existing systems, are required for Australia to reap the full benefits of the digital economy. The technologies of the digital economy allow a complete rethink of what systems are designed to achieve, and will be put to their best effect when that rethinking happens. This is central to individual businesses and indeed whole sectors reaping the benefits of the efficiencies arising from digitally native processes. In fact, digitally native processes open the opportunity for collection and transmission of rich data which can assist in

43 Dr Feakin, Ambassador for Cyber Affairs, *Committee Hansard*, 9 February 2018, p. 7.

44 Ms Lamb, National Retail Association Ltd, *Committee Hansard*, 17 August 2018, p. 22.

45 ACCL, *Submission 18*, p. 3.

goods traversing a border, an exporter being paid promptly, or an importer to pledge imported goods as security.

- 3.51 Currently, as witnesses argued, most of the international trade system has not substantively changed in centuries:

Australia also needs to be a strong advocate for the development of a structure and nomenclature within WTO and other multilateral bodies to address digital trade barriers. The multilateral infrastructure that supports global trade rules was created in an age when most trade was between two businesses, shipping a box of items between two countries using a global payment system that was first used on the Silk Route. Digital technologies have created a new world where businesses can sell direct to consumers using a trading platform developed in one country and housed on a server in a third country.⁴⁶

- 3.52 While the easiest application may be to improve an existing process by digitising it, the true function of digital technology is the opportunity to redesign the process itself:

What we have done in Australia quite well for a long time is that we have had a focus on efficiency. We have done these things, and government is a really good example because we have said, 'We do it like this – let's just get better at that'. I think the fundamental shift in digital[–]is not just about the technology you use – it is about what you do and how you do it.⁴⁷

- 3.53 ANZ notes that trade infrastructure as a whole is 'less digitised than processes and systems for many industries; most documents are issued in paper form creating inefficiencies for importers, exporters and service providers facilitating trade'.⁴⁸

- 3.54 The current trade system was 'developed on 18th-century requirements', as the Export Council's Mr Baker put it, and 'has just gradually evolved and is in need of some fairly fundamental reform'.⁴⁹

- 3.55 As an illustration of that, Mr Baker gave the example of exporting food, which requires multiple forms and interactions with multiple agencies:

If you're exporting food, you'll need to pay the Department of Agriculture. If it's processed food, then it's \$89 plus postage for a certificate saying – and it literally just says, 'To the best of my

46 AI Group, *Submission 9*, p. 3.

47 Mr Peter Alexander, Chief Digital Officer, Digital Transformation Agency, *Committee Hansard*, 9 February 2018, p. 16

48 ANZ, *Submission 13*, p. 3.

49 Mr Baker, Export Council of Australia, *Committee Hansard*, 15 February 2018, p. 2.

knowledge, what the exporter says is true', and the Department of Agriculture signs that, and then mails the hard copy to them. The exporters then generally get their freight forwarder to fill out the Customs export declaration, and the freight forwarders will typically charge about \$50 for that. These three forms are virtually identical and are just signed off by three different parties. For a \$2,000 consignment, you're looking at about \$195 in paperwork for the three basically similar forms plus you've got all of the freight charges and everything on top of that. I would call that a fairly big constraint on trade.⁵⁰

3.56 Further, the systems employed by different agencies do not necessarily align:

The Department of Agriculture and Department of Home Affairs systems do talk to each other for some exports, for agricultural exports, but they don't share information for processed food. [Processed food exporters] need to pay \$89 to the Department of Agriculture for [their certificate] and then separately fill in the export declaration whereas if you are exporting meat, the systems will talk to each other. So there are linkages between those two systems, but it's not complete.⁵¹

Opportunities in the digital economy

3.57 While the first half of this chapter focused on the challenges which the digital economy is bringing to both Australian businesses and to government regulation, the remainder highlights the many opportunities and benefits Australia will see. These benefits include:

- increased access to global markets for Australian businesses;
- the creation of new business models and opportunities; and
- streamlined trade processes.

Increased access to markets

3.58 As DIIS notes, a key opportunity afforded by the technologies underpinning the digital economy is that Australian businesses find it easier to sell to global customers. SMEs in particular, 'use these platforms

50 Mr Baker, Export Council of Australia, *Committee Hansard*, 15 February 2018, p. 4.

51 Mr Baker, Export Council of Australia, *Committee Hansard*, 15 February 2018, p. 4.

and the comprehensive set of ancillary services they provide, such as online payment mechanisms, to reach consumers globally'.⁵²

- 3.59 For Australian firms, and especially for SMEs, the digital economy has led to entirely new ways of doing business, and an entirely new scope for their market:

In the old days SMEs tended to have to find a supply chain locally, or to find an agent in another country if they wanted to trade. With online trade, either to another business or direct to consumers, that's simply not necessary anymore. So that is an enormous chance for SMEs in particular to get into global markets that they never had before.⁵³

- 3.60 The rise of e-commerce platforms – companies and services who facilitate digital trade by providing the infrastructure for the sale, the delivery or both – has allowed small businesses in particular to expand their markets without needing to individually solve each of those problems.⁵⁴
- 3.61 The benefits are not limited to physical goods, either. Increasingly, services – particularly IT, professional, financial and education services – will be traded online.⁵⁵

Creation of new industries and business opportunities

- 3.62 The digital economy offers the opportunity for Australian businesses to create entirely new services and export those to customers around the world. Businesses can expand beyond their current operations and export their expertise and innovation.
- 3.63 Doing so would result in Australia moving 'up the food chain', as one witness put it: 'not just digging stuff out of the ground and exporting it but also exporting [our] smarts'.⁵⁶
- 3.64 Mr Ric Gross, Chief Executive Officer of METS Ignited, the industry growth centre for the mining equipment, technology and services sector, highlighted the benefits the digital economy is already having:

The digital economy [...] is like a central vertebra. In that context, any information that we desire, we can have instantaneously. We've got sensors now that allow us to sense everything very

52 DIIS, *Submission 3*, p. 6.

53 Mr Baxter, DFAT, *Committee Hansard*, 7 September 2017, p. 2.

54 Mr Paul Greenberg, Founder and Executive Director, NORA Network, *Committee Hansard*, 17 August 2018, p. 23.

55 DIIS, *Submission 3*, p. 6.

56 Dr Brett Heyward, Program Director, Regulation Reform, METS Ignited, *Committee Hansard*, 8 February 2018, p. 5.

economically and we can have that information anywhere, supported by automation, robotics, spatial information, spatial capabilities et cetera, which can give us that Industry 4.0 element that we talk about where now we can optimise the whole value chain.⁵⁷

3.65 The Export Council of Australia pointed to the range of new services that will rise, or already has developed, out of digital technologies:

Services are becoming digitised, and 3D (even 4D) printing, Industry 4.0 and other emerging technologies will see the same thing happen to goods. As goods and services are digitised, it is essential that governments keep up. They must understand new trading methods and the value traded through those methods.

Technology is also enabling new products and services. Business models that were until recently impossible are now mainstream.⁵⁸

3.66 Australia is already a world-leader in the development and application of remote operations, particularly in the mining sector, where companies are now able to take iron ore from the ground to the port without any direct human interaction. As Mr Norman of NERA pointed out, those solutions have wider applications:

... NASA essentially recognised that the challenges we face in our resources sector to run our remote plant from major CBD locations in safe and economically sensible ways is not that dissimilar to what they're trying to do on the space station and what they're trying to do with the next generation, which is going to be an unmanned platform orbiting further out.⁵⁹

3.67 While maintaining cyber security and resilience (as discussed elsewhere in this report) is a challenge of the digital economy, it brings the corresponding opportunity of an industry developing to fill that need.

3.68 Mr MacGibbon, the National Cyber Security Advisor and Head of the Australian Cyber Security Centre, noted that Australia currently ranks fourth globally for patent filings on cyber security research and network security.⁶⁰

3.69 Ms Price from AustCyber also made this point, noting that Australia is well positioned to become an exporter of cyber services:

57 Mr Ric Gross, Chief Executive Officer, METS Ignited, *Committee Hansard*, 8 February 2018, p. 1.

58 Export Council of Australia, *Submission 10*, p. 1.

59 Mr Francis Norman, General Manager, Innovation and Strategy, NERA, *Committee Hansard*, 17 August 2018, p. 11.

60 Mr MacGibbon, ACSC, *Committee Hansard*, 10 May 2018, p. 2.

There's a huge economic opportunity for Australia here, particularly within the Indo-Pacific region, to be exporting those professional services around cybersecurity. The most critical component of that is understanding that a framework of policies and operations is what is required to do this well. Australia, I think, is getting to a position where we are demonstrating as well as showcasing what good looks like, and I believe that, under the current cyber security strategy, by having a focus on both the defensive side of things and the economic development side of things, we are showing what great looks like. Implementing that strategy has opened doors to conversations that we have not previously been able to access, as a country, in being taken seriously in that trusted conversation around how we get better organised in taking on the attackers.⁶¹

Improved, streamlined trade processes

3.70 The trade system as it currently exists imposes a high level of regulatory burden on importers and exporters. Redesigning this system to bring it in line with the digital economy, brings with it the opportunity to improve and streamline trade regulations and practices.

3.71 As the Export Council noted, once the entire trade system has been digitally redesigned, the process will bring benefits across the board to exporters, importers and consumers alike:

The end result will be seamless, lower cost trade. Trade will be simpler, more reliable and allowing greater scope for innovation.⁶²

3.72 ACCI gave an example of how trade systems could be simplified and improved through a more digital system:

Australia's land logistics management is an opportunity for dramatic efficiency improvements if transparency and big data can be harnessed. The Chamber of Commerce in WA undertook a study of possible improvements if Australia adopted a "Port Community System (PCS)" approach in the integration of our logistics and supply chains. PCS is an electronic platform which connects the multiple systems operated by a variety of organisations that make up a seaport, airport or inland port community. This study identified that there are over 120 transactions required to support the life cycle of a container through import and export involving over 750 pieces of

61 Ms Price, AustCyber, *Committee Hansard*, 28 June 2018, p. 2.

62 Export Council of Australia, *Submission 10*, p. 2.

information, of which over 300 were duplicated. The use of PCS would create efficiencies in this laborious process.⁶³

- 3.73 ANZ pointed to the benefits in time, money and security of moving to an entirely digital trade system:

It's been estimated that a company which processes around 1 000 export documents a year saves close to \$250 000 by moving to a digital trade solution. A digital trade platform can send a bill of lading – which is a very paper based document – through an entire supply chain in a matter of minutes. It eliminates the need for physically checking and couriering documents. It also assists in the detection of financial crime and the prevention of money laundering.⁶⁴

- 3.74 Home Affairs also pointed to the increased efficiency that a rebuilt, digitally based, trade system will have, noting that processes will be 'streamline[d] and harmonise[d]', and resulting in a lightening of the regulatory burden on industry and government.⁶⁵

- 3.75 The trade modernisation agenda being developed by Home Affairs will see a considerably minimised approach, through a whole-of-government approach to modernise trade process.⁶⁶

63 ACCL, *Submission 18*, p. 2.

64 Mr Mark Evans, Managing Director, Transaction Banking, Institutional Bank, ANZ, *Committee Hansard*, 17 August 2018, p. 30.

65 Home Affairs, *Submission 15*, p. 5.

66 Home Affairs, *Submission 15*, pp 4 – 5.