

Government programs

- 2.1 This chapter outlines the responses the Committee received from government agencies to this inquiry. Collectively, these describe the work on trade and the digital economy being undertaken by the Australian Government.
- 2.2 Multiple agencies have responsibility or interest in the digital economy space. For example:
- Department of Industry, Innovation and Science (DIIS) – implements the National Innovation and Science Agenda, and develops and implements the digital economy policy (including Australia’s Digital Economy Strategy);¹
 - Department of Foreign Affairs and Trade (DFAT) – builds international regulatory cooperation which assists Australian businesses and consumers to engage in international trade;²
 - Austrade – provides services to help Australian companies succeed internationally;³ and
 - Department of Home Affairs (Home Affairs) – facilitates trade across Australia’s border, secures supply chains against security threats, is developing an agenda to modernise international trade flows and is responsible for Australia’s cyber security policy.⁴
- 2.3 This chapter summarises the specific programs and approaches these agencies are taking to facilitate the digital economy in Australia.

1 DIIS, *Submission 3*, p. 4.

2 DFAT, *Submission 11*, p. 1.

3 Mr Christopher Rees, Assistant General Manager, Austrade, *Committee Hansard*, 9 February 2018, p. 20.

4 Department of Home Affairs (Home Affairs), *Submission 15*, p. 3.

Cyber security and cyber resilience

- 2.4 Cyber security and cyber resilience underpin the digital economy. The two issues must be considered together, rather than simply focussing on cyber security. The Australian Cyber Security Centre (ACSC), within the Home Affairs portfolio, has the lead role in the government's increased responsibility for 'direct intervention to protect Australian citizens against malicious cyberactivity'.⁵
- 2.5 Australia's Cyber Security Strategy consists of 33 initiatives designed to be 'a catalyst for cultural change across the country'.⁶
- 2.6 Initiatives include:
- increasing information sharing about cyber threats between government and industry, including via joint cyber security centres – in Brisbane, Sydney, Melbourne, Perth, and Adelaide – and an online information sharing portal;⁷
 - increasing capacity of the Computer Emergency Response Team;⁸
 - working with the ASX 100 to establish a set of 'governance health checks' which allow companies to understand their cyber security status;⁹
 - supporting small businesses to have their cyber security tested;¹⁰
 - supporting businesses exporting cyber security services; and
 - making Australia 'the leading centre for cyber education'.¹¹
- 2.7 The Government is progressively adjusting its approach to cyber security; by signing the *Council of Europe Convention on Cybercrime*; amending the *Criminal Code Act 1995* to include offences relating to the misuse of telecommunication systems and computers; releasing the *2016 Cyber Security Strategy*; and *2017 Australia's International Cyber Engagement Strategy* to grow Australia's global responsibility and influence in cyberspace.¹²

5 Mr Alistair MacGibbon, National Cyber Security Adviser and Head, Australian Cyber Security Centre (ACSC), *Committee Hansard*, 10 May 2018, p. 1.

6 PM&C, *Submission 4*, p. [2].

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

8 PM&C, *Australia's Cyber Security Strategy: First Annual Update 2017*, p. 25.

9 Ms Sandra Ragg, Office of the Cyber Security Special Adviser, PM&C, *Committee Hansard*, 14 September 2017, p. 2.

10 PM&C, *Australia's Cyber Security Strategy: First Annual Update 2017*, p. 25.

11 PM&C, *Submission 4*, p. [2].

12 DFAT, *Australia's International Cyber Engagement Strategy*, Australian Government, Canberra, pp 5, 36.

- 2.8 Since the launch of the *Cyber Security Strategy*, cyber security is being considered as a national security and economic prosperity risk internationally by governments and businesses alike.¹³ Within Australia, this Strategy is generating to deeper discussions and collaboration between governments, businesses and the public, including work with telecommunication providers to safeguard core communication networks.¹⁴
- 2.9 *Australia's International Cyber Engagement Strategy* focuses on strengthening international relationships and cooperation, including working with Indo-Pacific countries in developing regional cyber security capabilities to safeguard against unauthorised access.¹⁵
- 2.10 The Australian Cyber Security Centre is engaging with industry, law enforcement agencies and international partners to develop cyber resilience and to assist law enforcement agencies to investigate cybercrimes.¹⁶
- 2.11 The Cyber Resilience Taskforce, also with the Home Affairs portfolio, gathers data and shares advice on cyber incidents across government and industry.¹⁷

Cybersecurity research and development

- 2.12 The Cyber Security Cooperative Research Centre, announced in April 2018 and funded in part by the Australian Government, advances Australia's cyber security capability and focuses on three areas:
- ensuring the security of critical infrastructure;
 - enabling individuals, businesses and industries to access cyber security solutions; and
 - building the next generation of industry, government and research cyber security leaders.¹⁸
- 2.13 Under the *Cyber Security Strategy*, two Australian universities (University of Melbourne and Edith Cowan University) have established Academic Centres of Cyber Security Excellence to:

13 Ms Ragg, PM&C, *Committee Hansard*, 14 September 2017, p. 1.

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

15 *Australia's International Cyber Engagement Strategy*, pp 13, 22, 39.

16 *Australia's International Cyber Engagement Strategy*, p. 24.

17 Ms Ragg, PM&C, *Committee Hansard*, 14 September 2018, p. 2.

18 Senator the Hon Michaelia Cash, the Hon Angus Taylor MP and the Hon Dave Kelly MLA, *Cooperative Research Centre to strengthen cyber security*, media release, 5 April 2018, <http://minister.industry.gov.au/ministers/cash/media-releases/cooperative-research-centre-strengthen-cyber-security>, accessed 17 May 2018.

- help build Australia's capability in cyber security;
- increase the number of highly skilled post-graduates with the job ready skills needed to tackle emerging cyber security challenges; and
- provide support for research addressing cyber security challenges confronting the nation.¹⁹

Digital economy strategy

2.14 The *Digital Economy Strategy*, for which DIIS is responsible, aims to:

- facilitate cooperation between government, private sector and community;²⁰
- draw together existing government digital economy initiatives;²¹
- enable and support the digital economy through digital infrastructure, standards and regulation;
- build on areas of competitive strength to drive productivity and raise digital business capability; and
- empower all Australians through digital skills and inclusion.²²

National Innovation and Science Agenda

2.15 The Government's National Innovation and Science Agenda, which also falls under DIIS's portfolio:

- serves to encourage digital literacy, including in early education;²³ and
- created five 'landing pads' around the world – San Francisco, Berlin, Tel Aviv, Shanghai and Singapore – that assist Australian start-ups to access support, information, partners and venture capital.²⁴

19 Department of Education and Training, *Academic Centres of Cyber Security Excellence*, <https://www.education.gov.au/academic-centres-cyber-security-excellence-accse>, accessed 17 May 2018.

20 DIIS, *Submission 3*, p. 4.

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

22 DIIS, *Submission 3*, p. 10.

23 DIIS, *Submission 3*, p. 4.

24 Mr Rees, Austrade, *Committee Hansard*, 9 February 2018, p. 21.

Australia's International Cyber Engagement Strategy

- 2.16 DFAT, through the Ambassador for Cyber Affairs, is responsible for Australia's international cyber engagement.²⁵
- 2.17 The goal of the *International Cyber Engagement Strategy* is to maximise 'the opportunity for economic growth and prosperity through digital trade'.²⁶
- 2.18 This goal is achieved by:
- [shaping] an enabling environment for digital trade, through trade agreements, harmonisation of standards, and implementation of trade facilitation measures; and
 - [promoting] trade and investment opportunities for Australian digital goods and services.²⁷
- 2.19 Other Strategy initiatives include engaging with Indo-Pacific countries to develop regional digital connectivity.²⁸ Australia, in conjunction with international organisations, regional governments and the private sector, supports projects to improve internet and telecommunications access for countries in the Indo-Pacific region.²⁹

Aid for Trade

- 2.20 As part of the Strategy, DFAT's Aid for Trade program assists developing countries in the region to engage in global trade by:
- providing targeted aid to developing countries to assist their digital trade capacity and narrow the digital divide;³⁰
 - facilitating internet connectivity in Tonga and Fiji, telecommunications in Vanuatu, and mobile coverage in Kiribati and the Solomon Islands;³¹
 - assisting developing countries to move towards digital trade improvements through multilateral programs, such as the World Bank Trade Facilitation Support Program, the WTO Trade Facilitation Agreement Facility and Global Alliance for Trade Facilitation and the G20 Digital Economy Development and Cooperation Initiative.³²

25 DFAT, *Submission 11*, p. 2.

26 *Australia's International Cyber Engagement Strategy*, p. 12.

27 *Australia's International Cyber Engagement Strategy*, p. 12.

28 DFAT, *Submission 11*, p. 9.

29 *Australia's International Cyber Engagement Strategy*, p. 72.

30 DFAT, *Submission 11*, p. 3.

31 DFAT, *Submission 11*, p. 9.

32 DFAT, *Submission 11*, p. 9.

International trade commitments

- 2.21 Ten of Australia's 11 finalised free trade agreements include 'e-commerce' chapters.³³
- 2.22 DFAT identified some key provisions that Australia pursues in its trade negotiations, including:
- domestic regulation;
 - electronic authentication and signatures;
 - transparency;
 - cross-border transfer of information by electronic means (data flows);
 - paperless trading;
 - location of computing facilities (data localisation);
 - treatment of source code;
 - unsolicited emails;
 - online consumer protection and protection of personal information;
 - performance requirements; and
 - elimination of customs duties on e-transactions and IT products.³⁴
- 2.23 DFAT outlined some of the other actions it is taking to encourage digital trade, including:
- consulting with other agencies and businesses to ensure 'negotiating priorities reflect the current needs [of] the economy, business and consumers';³⁵
 - committing to technology-neutral rules, recognising that technologies evolve but that agreements are designed for the long term;³⁶
 - committing to agreements that 'allow the flow of data across borders and prohibitions on requirements to store data locally';³⁷
 - working towards making the temporary moratorium amongst World Trade Organisation (WTO) members on applying customs duties to e-transmissions (in effect since May 1998) permanent; and
 - working with the WTO to negotiate e-commerce-specific multilateral rules that complement current rules governing goods and services as

33 *Australia's International Cyber Engagement Strategy*, p. 14.

34 DFAT, *Submission 11*, pp 5 – 7.

35 DFAT, *Submission 11*, p. 4.

36 DFAT, *Submission 11*, p. 5.

37 DFAT, *Submission 11*, p. 5.

outlined in the General Agreement on Tariffs and Trade (GATT) and the General Agreement on Trade in Services (GATS).³⁸

Austrade

- 2.24 Austrade works with industry directly to assist individual businesses and sectors to find trading opportunities, with a focus on providing businesses with information and access to relevant skills. This addresses one of the major barriers to potential traders – a lack of information.³⁹
- 2.25 Current Austrade projects relating to the digital economy include:
- providing information to businesses via the Prime Minister’s Industry 4.0 Taskforce;
 - supporting SMEs to prepare for a digital economy and access to applications and skills;
 - promoting trade and investment opportunities for digital goods and services;⁴⁰
 - preparing a general how-to guide for e-commerce for SMEs;⁴¹
 - using the Export Market Development Grants Scheme to provide financial assistance to exporters;⁴²
 - sector-specific mapping to ensure that Australian companies are well-positioned to take advantage of innovation ecosystems in key global markets;⁴³ and
 - commissioning research to better understand Australia’s supply capacity, including in areas such as the disruptive technology ecosystem and cyber security.⁴⁴
- 2.26 More broadly, Austrade is working to identify and better promote Australia’s export capabilities in fields such as additive manufacturing, automation, data analytics, cyber security, cloud services, the ‘Internet of Things’ and artificial intelligence.⁴⁵

38 DFAT, *Submission 11*, p. 4.

39 Mr Rees, Austrade, *Committee Hansard*, 9 February 2018, p. 20.

40 Mr Rees, Austrade, *Committee Hansard*, 9 February 2018, p. 20.

41 Mr Rees, Austrade, *Committee Hansard*, 9 February 2018, p. 21.

42 Mr Rees, Austrade, *Committee Hansard*, 9 February 2018, p. 21.

43 Mr Rees, Austrade, *Committee Hansard*, 9 February 2018, p. 21.

44 Mr Rees, Austrade, *Committee Hansard*, 9 February 2018, p. 21.

45 Austrade, *Submission 14*, p. 1.

- 2.27 Austrade is working with Data61, the data-innovation offshoot of the CSIRO, on projects including developing a 'prototype trade analytics and data visualisation dashboard', which will enable businesses to more easily look at free trade agreements and find export opportunities.⁴⁶

Single window

- 2.28 DFAT's submission notes the Australian Government's commitment to establish a 'single window' for trade, and to allow businesses to lodge all documentation for imports, exports and transit-related regulatory requirements through a single portal.⁴⁷
- 2.29 At present, approximately 30 government agencies have regulatory touchpoints relating to border management. A single window system would mean that traders could supply information once and have it transfer across all relevant agencies.⁴⁸
- 2.30 Home Affairs described a single window as a 'key component of a trade modernisation agenda' and noted that more than 70 global economies have implemented a single window trade system.⁴⁹
- 2.31 Home Affairs is working with relevant government agencies to develop a single-window approach to trade, noting it will 'require reform of the legislative, regulatory, technical and operational processes that currently enable cross-border trade'.⁵⁰

Trade modernisation agenda

- 2.32 More broadly, Home Affairs proposes a whole-of-government trade modernisation approach to be implemented over the next decade. Several elements are directly relevant to the government's trade and the digital economy model, including that:
- government has visibility of end-to-end supply chains and access to real-time intelligence information on goods traded and the entities behind the transactions;

46 Mr Rees, Austrade, *Committee Hansard*, 9 February 2018, p. 21.

47 DFAT, *Submission 11*, pp 4 - 5.

48 Ms Christie Sawczuk, Acting Assistant Secretary, Trade Modernisation and Industry Engagement Branch, Department of Home Affairs, *Committee Hansard*, 10 May 2018, p. 11.

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

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

- the majority of traders are trusted and interact in a secure and transparent supply chain;
 - intelligence and risk assessment capabilities and revenue collection are improved by new and emerging technologies, such as blockchain, to ensure the veracity, validation and analysis of intelligence and trade data;
 - border examination processes are integrated, automated and outsourced;
 - Australian international trade is enabled by a single window;
 - government agencies responsible for regulating international trade operate under a harmonised legislative and regulatory framework making them user-friendly for industry and efficient for government;
 - commercial data holdings and government systems interact seamlessly to carry out all international trade regulatory requirements; and
 - international trade end-to-end processes managed by government are digitised and automated.⁵¹
- 2.33 This approach will be designed in consultation with industry. Home Affairs notes that ‘industry support, co-design and co-investment will be critical and will assist in building our international trading future’.⁵²
- 2.34 Home Affairs argues that digitisation, along with automation, can be used to ‘streamline and harmonise all cross-border trade processes, and to identify and eliminate those that are a burden for industry and government’.⁵³
- 2.35 Home Affairs also anticipates that the project to modernise Australia’s trade system will involve significant expenditure and that ‘investments in trade modernisation initiatives must be a shared responsibility across government and industry as shared beneficiaries of this reform agenda’.⁵⁴

Industry growth centres

- 2.36 DIIS funds six industry growth centres, one in each of the following sectors:
- advanced manufacturing;

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

52 Mr John Gibbon, Acting First Assistant Secretary, Trade and Customs Division, Department of Home Affairs, *Committee Hansard*, 10 May 2018, p. 8.

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

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

- cyber security;
- food and agribusiness;
- medical technologies and pharmaceuticals;
- mining equipment, technology and services; and
- oil, gas and energy resources.

2.37 The growth centres aim to ‘improve the productivity and competitiveness of sectors of competitive strength and strategic priority in the Australian economy’. This will be achieved by:

- identifying regulations that are unnecessary or over-burdensome for the sectors, and suggesting possible reforms;
- improving engagement between research and industry, and within industry, to achieve stronger coordination, collaboration and commercialisation outcomes;
- improving the capability of the key sectors to engage with international markets and access global supply chains; and
- improving the management and workforce skills of the six sectors.⁵⁵

2.38 Five of the six growth centres provided written submissions and/or appeared at a public hearing of the Committee.

AMGC Ltd

2.39 AMGC Ltd, the Advanced Manufacturing Growth Centre, is focusing on expanding the understanding of manufacturing beyond production, to include research and development, design, supply chain management, sales and serving.⁵⁶

2.40 To accommodate this broader understanding, and for industry to make the most of it, AMGC works within the sector to ‘ensure that every manufacturer understands the benefits of becoming more digitally astute’.⁵⁷

AustCyber

2.41 As Chief Executive Officer, Ms Michelle Price noted, AustCyber has a two-fold role: of both helping Australia’s cyber security sector to grow and contributing to Australia’s levels of cyber resilience.⁵⁸

55 Department of Industry, Innovation and Science, *Industry Growth Centres Initiative Programme Guidelines*, April 2016, p. 6.

56 Advanced Manufacturing Growth Centre (AMGC), *Submission 12*, p. 1.

57 AMGC, *Submission 12*, p. 2.

58 Ms Michelle Price, Chief Executive Officer, AustCyber, *Committee Hansard*, 28 June 2018, p. 1.

- 2.42 AustCyber assists Australian cyber security businesses to be more competitive in the international market.⁵⁹ It helps start-ups connect with customers; supports the development of scalable service delivery models; and has initiatives to increase cyber security education and training, and retain expertise.⁶⁰
- 2.43 To assist the sector in the long term, AustCyber is also focusing on training and education components, including launching a national cyber security challenge which aims to be – by the end of 2019 – in every high school in Australia.⁶¹
- 2.44 Beyond high school, AustCyber is overseeing nationally consistent TAFE qualifications in cyber security, and working to create similar consistency across university courses.⁶²

MTP Connect

- 2.45 MTP Connect, the medical technology, biotechnology and pharmaceuticals growth centre, is particularly focused on increasing the level of collaboration between researchers in the area and the industry. This will enable Australian businesses to compete effectively as the treatment of medical conditions undergoes a substantial shift built on improvements in medical imaging, 3D printing, data use and other digital technologies.⁶³

METS Ignited

- 2.46 Working in the mining equipment, technologies and services sector, METS Ignited focuses on building collaboration and assisting Australian firms to position themselves to take advantage of innovative technologies, including robotics.⁶⁴

National Energy Resources Australia

- 2.47 National Energy Resources Australia (NERA) aims to increase the value of Australian energy resources – oil, gas, coal seam gas and uranium – to the

59 PM&C, *Submission 4*, p. 3.

60 PM&C, *Submission 4*, p. 3.

61 Ms Price, *AustCyber, Committee Hansard*, 28 June 2018, p. 1.

62 Ms Price, *AustCyber, Committee Hansard*, 28 June 2018, p. 1.

63 Dr Daniel Grant, Chief Executive Officer, MTPConnect, *Committee Hansard*, 16 August 2018, p. 2.

64 Mr Ric Gros, Chief Executive Officer, METS Ignited, *Committee Hansard*, 8 February 2018, p. 2.

economy by supporting collaboration and innovation.⁶⁵ Currently, these resources provide \$55 billion in gross value to the economy.⁶⁶

- 2.48 The resource sector has an ‘appetite for innovation’ with Australia currently producing 70% of the world’s mining software. The industry is working towards ‘full digital integration of assets over the next 10 years’, which will create opportunities for partnerships with small businesses producing innovative technologies.⁶⁷

Committee comment

- 2.49 The Australian Government has a broad range of programs and initiatives designed to enable Australian businesses to adapt to, and flourish in, the digital economy.
- 2.50 However, as noted above, Commonwealth agencies are undertaking a wide range of activities in relation to the digital economy. As a result, there is a clear need for a single authoritative source of information both for businesses and the general public, including as to the necessity to develop ‘digitally native’ processes. Currently, those interested in trade and digital economy issues must navigate a series of agencies, websites and documents, as well as responsibilities which sometimes overlap.
- 2.51 While Australian businesses are demonstrating innovative approaches, the websites and other public information of many government agencies have a strong focus on physical goods. Digital technologies offer solutions to physical trade problems, but the possibilities of digital products and services should not be left behind. The next chapter of this report will outline some of the major benefits brought about by the digital economy, and how Australia can take advantage of those.

65 National Energy Resources Australia, *About*, available at

https://www.nera.org.au/Category?Action=View&Category_id=55.

66 Ms Miranda Taylor, Chief Executive Officer, National Energy Resources Australia (NERA), *Committee Hansard*, 17 August 2018, p. 7.

67 Ms Taylor, NERA, *Committee Hansard*, 17 August 2018, p. 7.