Australia’s tech sector opportunity

Tech Council of Australia
June 2022

Agenda

Tech sector momentum and impact is increasing in Australia

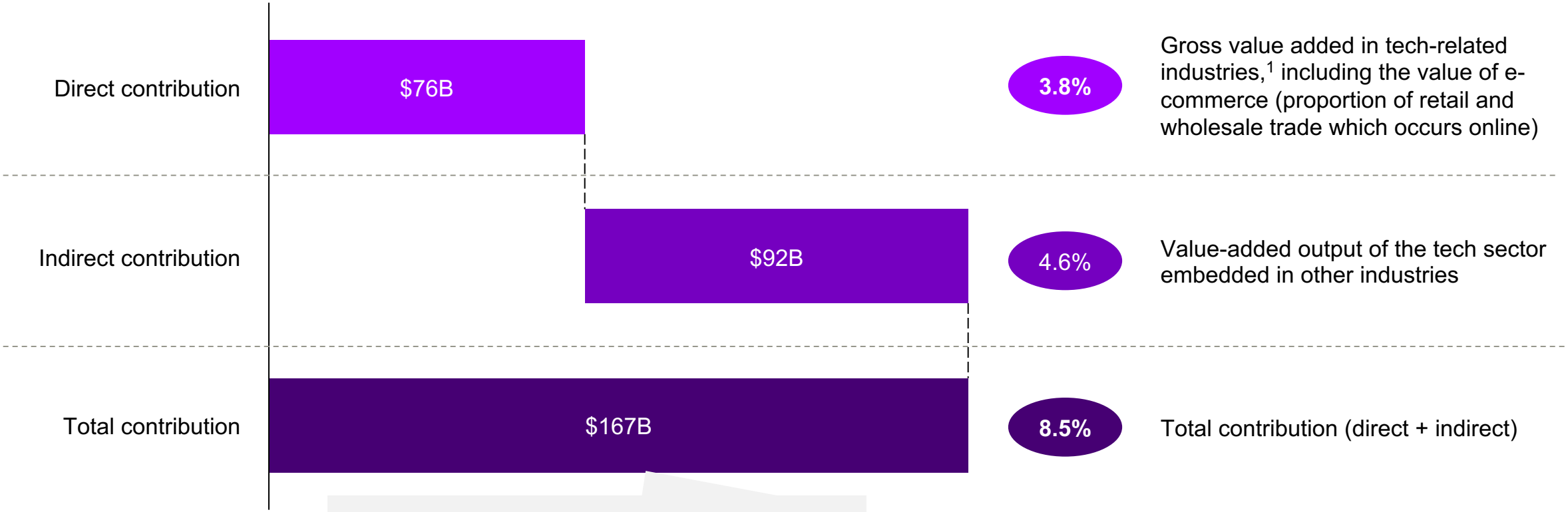
The potential and benefits of growing tech sector activity

Three avenues to accelerate innovation, commercialisation and jobs

The tech sector contributed $167bn to the Australian economy in FY21, 8.5% of GDP

Tech sector contribution to Australian GDP

$bn, FY20-21



% of GDP	Description
3.8%	Gross value added in tech-related industries,[1] including the value of e-commerce (proportion of retail and wholesale trade which occurs online)
4.6%	Value-added output of the tech sector embedded in other industries
8.5%	Total contribution (direct + indirect)

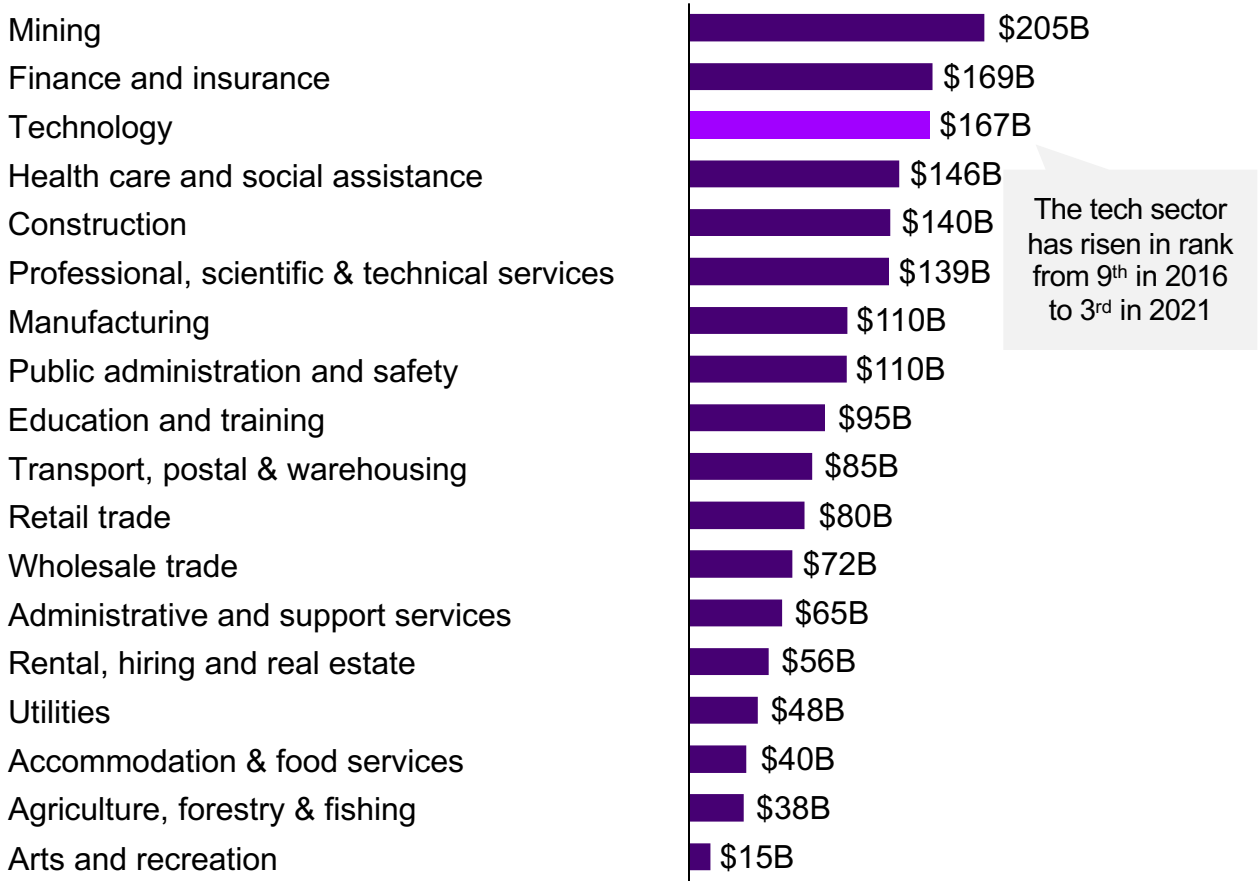
The tech sector has grown rapidly in the last few years due to high growth in tech workers and an increasing shift to online trade

Notes: 1. services; 2. Estimated using the share of wages of workers in these roles to total wages as a proxy for share of economic contribution.
Source: ABS; Accenture analysisc
Tech related industries are defined as internet publishing and broadcasting, telecommunications services, internet service providers, web search portals and data processing services, and computer system design and related

The tech sector would be equivalent to the third highest contributor to GDP in Australia and the seventh largest employer

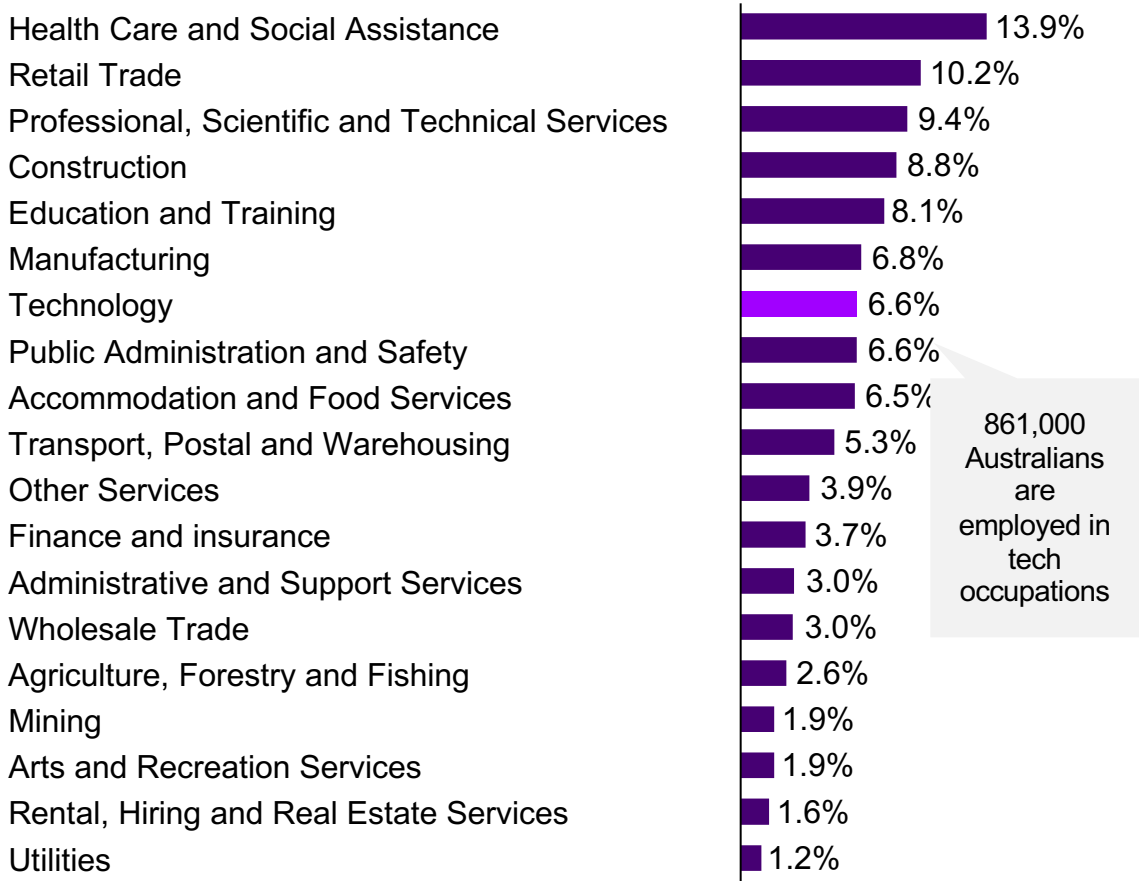
Industry ranking of contribution to GDP[1]

$bn, GVA contribution to Australia's GDP by industry, 2020-21



Share of Australian workers by industry

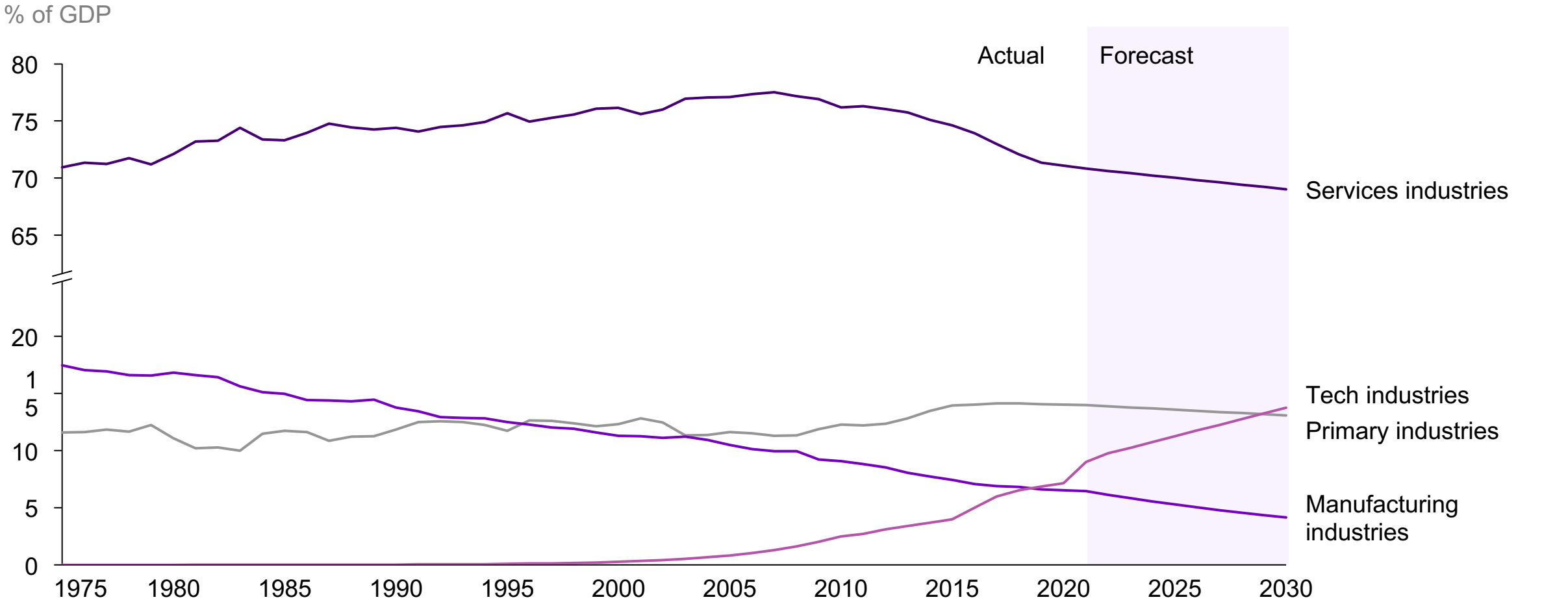
%, February 2021



Notes: 1. The technology sector includes some segments of Professional, scientific and technical services, Information media and telecommunications, and Retail and Wholesale trade. These tech components have not been removed from the industry, employment figures. The information media and telecommunications industry is not included in the sector GDP comparison.
Source: ABS, Accenture analysis

Tech industries activity outstrips the value of manufacturing, and is on track to surpass primary industries by 2030

Australian economy by sector

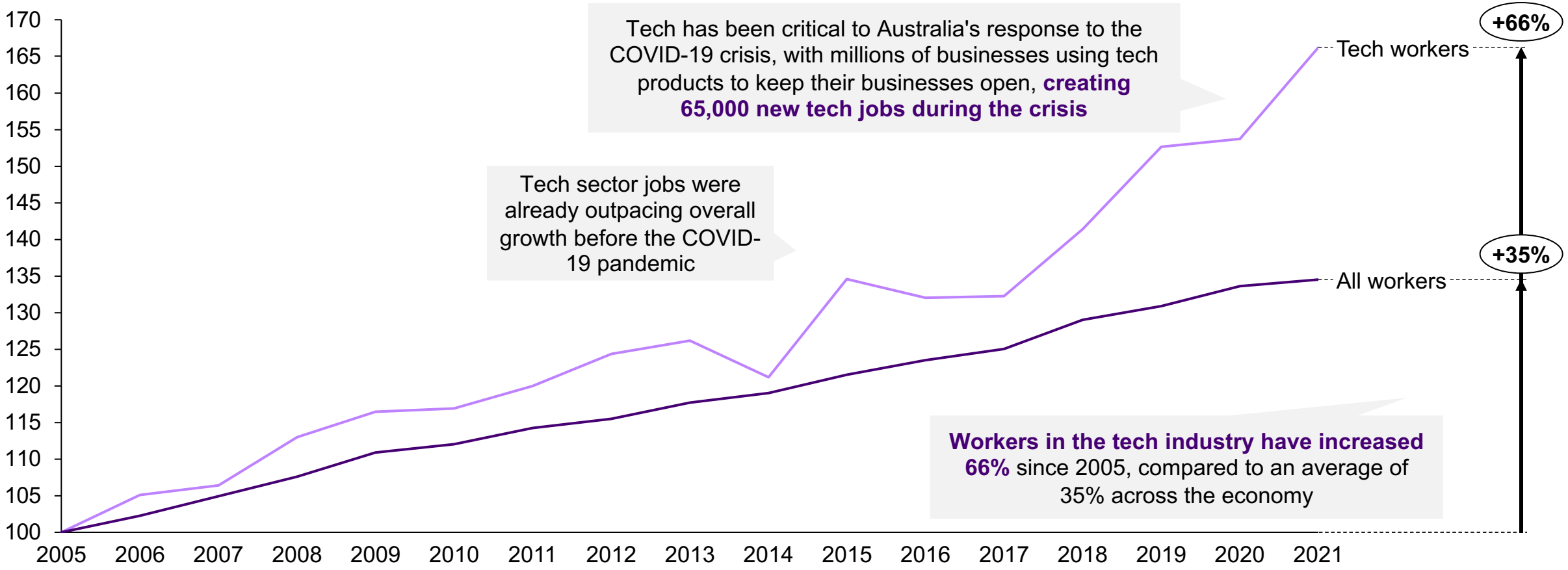


Source: Accenture analysis of ABS 5204.0 Australian System of National Accounts, 2021

Tech jobs have grown 66% since 2005 compared to an average growth rate of 35% across the economy

Growth in number of workers in the tech sector and the overall economy

Index, where number of workers in February 2005 is equal to 100

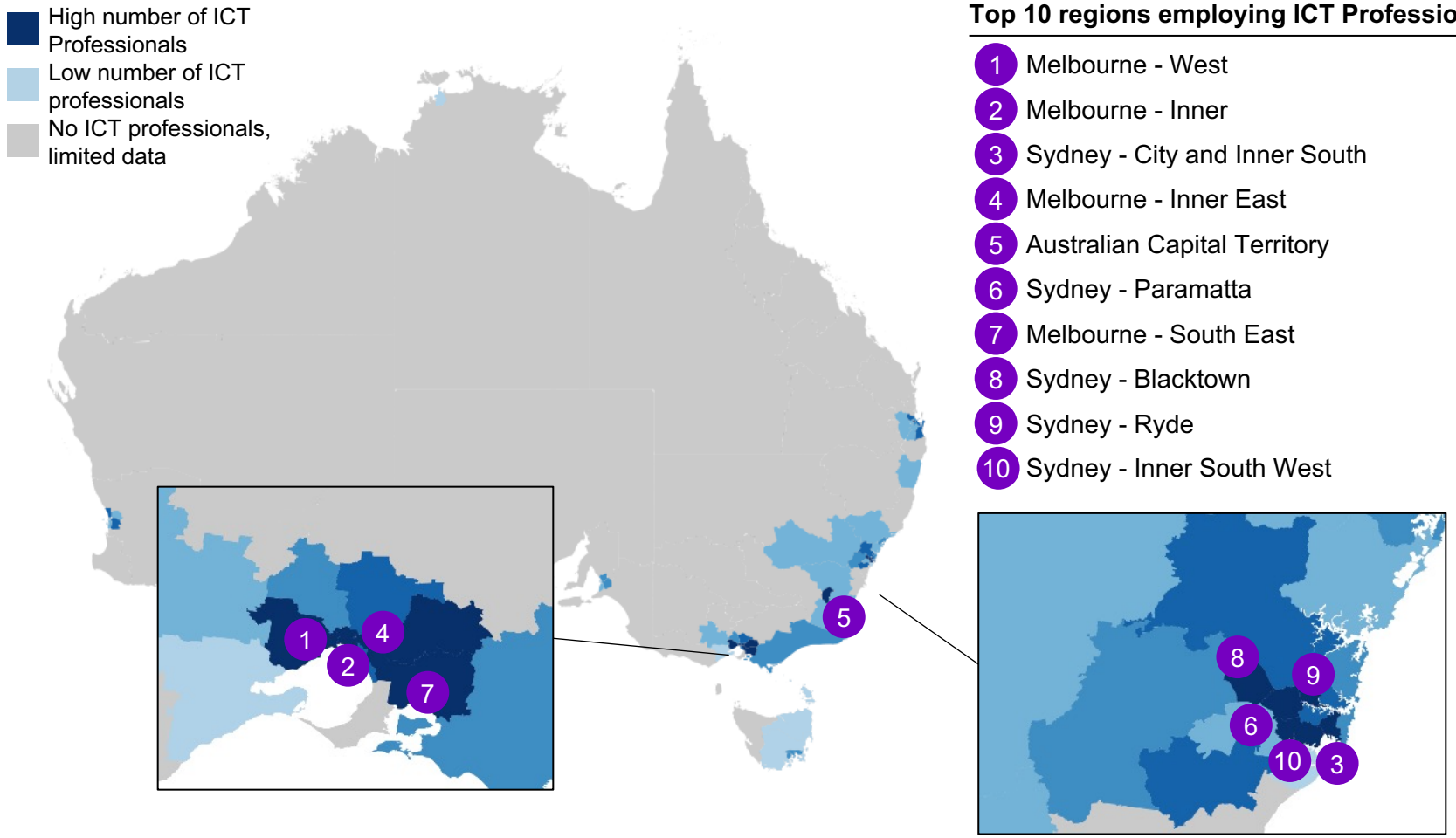


Sources: ABS Labour Force, 2016 Census, Accenture analysis

The tech sector creates employment across Australia in cities, suburbs and regions

Number of ICT Professionals by SA4 region

Relative number of ICT Professionals by SA4 place of residence, August 2020



Top 10 regions employing ICT Professionals

1. Melbourne - West
2. Melbourne - Inner
3. Sydney - City and Inner South
4. Melbourne - Inner East
5. Australian Capital Territory
6. Sydney - Paramatta
7. Melbourne - South East
8. Sydney - Blacktown
9. Sydney - Ryde
10. Sydney - Inner South West

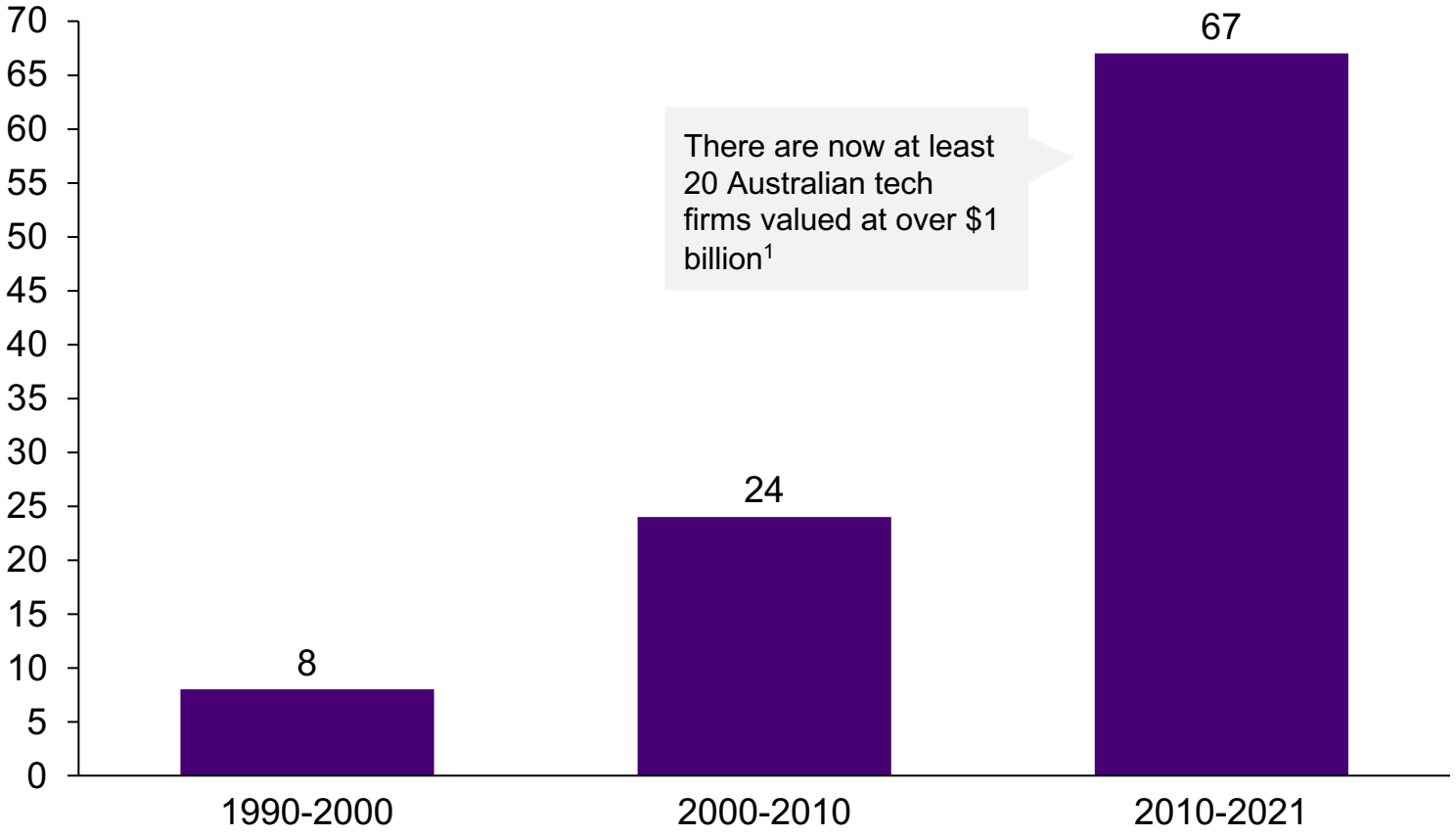
Note: Locations with zero persons employed as an ICT Professional in 2020 are excluded from this analysis. Insights should be used with caution as some data inputs have relative standard errors exceeding 50%

Source: ABS (2021), Characteristics of Employment

Australia's tech sector has matured rapidly in recent years producing ~ 100 tech companies valued at over $100m

Australian tech start-ups valued at over $100m by year founded

Number of companies



Examples

ATLASSIAN

Canva

afterpay

wisetech global

Airwallex

go1

New addition this month:

employmenthero.

Notes: 1. The Australian, 'Best time in history' for Aussie tech scene, as $5bn deals create 20 tech unicorns
Source: Airtree (2021)

VC partnership regimes have led to significant growth in investment in Australia

Case study: ESVCLP & VCLP

Background

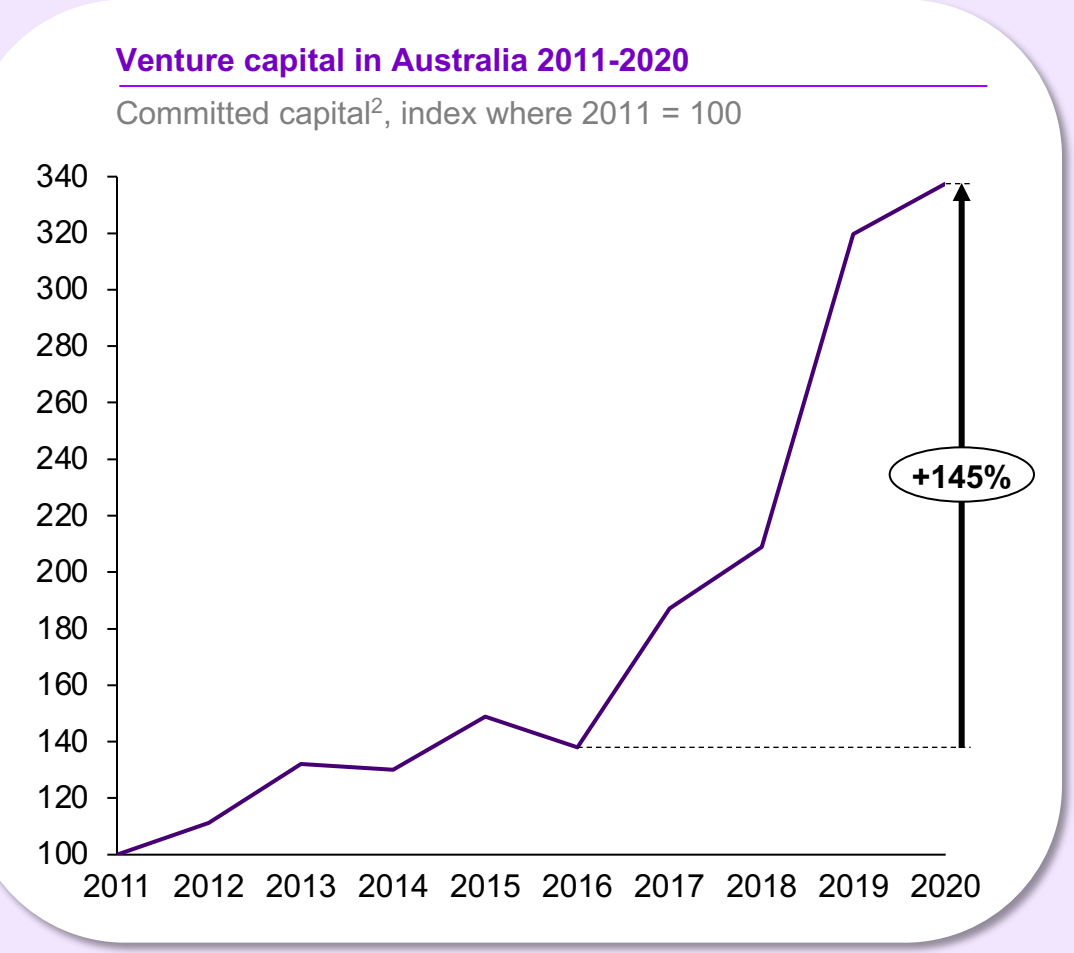
Early Stage Venture Capital Limited Partnerships (ESVCLPs) and Venture Capital Limited Partnerships (VCLPs) are investment vehicles that provide tax incentives for investment in early stage and growth firms, typically following initial rounds of seed funding. This type of investment is critical for gaining financing when companies do not have the scale or history of operations to secure institutional funding[1].

Reforms

In 2016, the federal government made several improvements to the ESVCLP and VCLP regimes to increase international competitiveness and attract further investment. This included a non-refundable tax offset of 10 per cent to new capital invested and increasing the maximum fund size to $200 million for ESVCLPs, as well as removing a number of restrictions and barriers for investment in ESVCLPs and VCLPs[1].

Impact

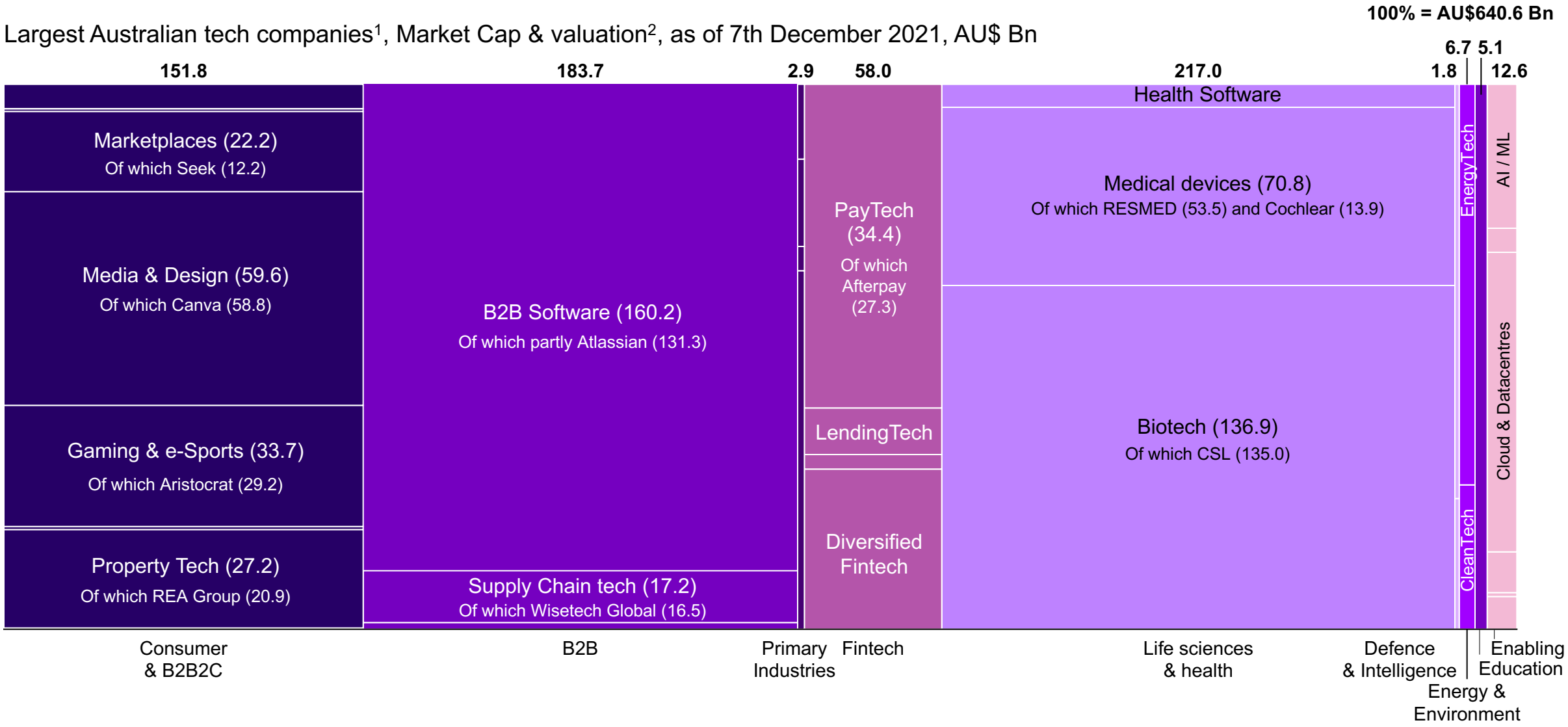
Growth in the program was relatively flat between 2012 and 2015. Following the regime reforms, the annual amount invested in venture capital has increased almost threefold, with $17Bn in lifetime program committed capital to date[2]. The cumulative count of active partnerships increased fivefold over that same period.



Source: (1) Australian Government, 'New Arrangements for venture capital limited partnerships' (2) DISER (2021), Venture capital dashboard

B2B software, B2C software, Life Sciences and Fintech account for 95% of company value in the Australian tech sector

Largest Australian tech companies[1], Market Cap & valuation[2], as of 7th December 2021, AU$ Bn

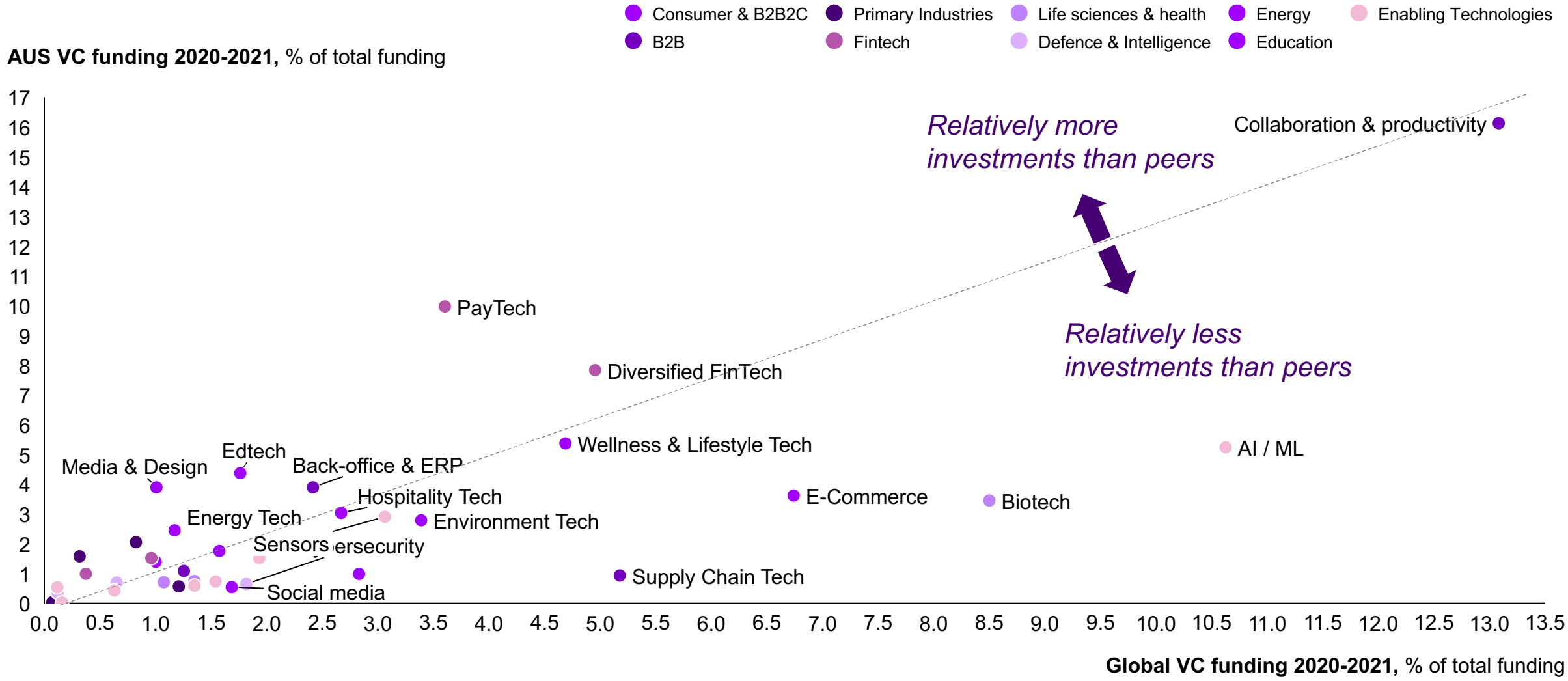


1. Includes ASX-listed companies, Australian headquartered TCA members listed on overseas exchange (e.g., Atlassian), and top 75 non-listed startups per AirTree valuation
2. Market cap based on ASX and valuation based on AirTree

Source: ASX, AirTree

Australia invests more in B2B SaaS and fintech, and less in biotech and AI / ML, than peers

Comparison of VC funding in Australia and globally

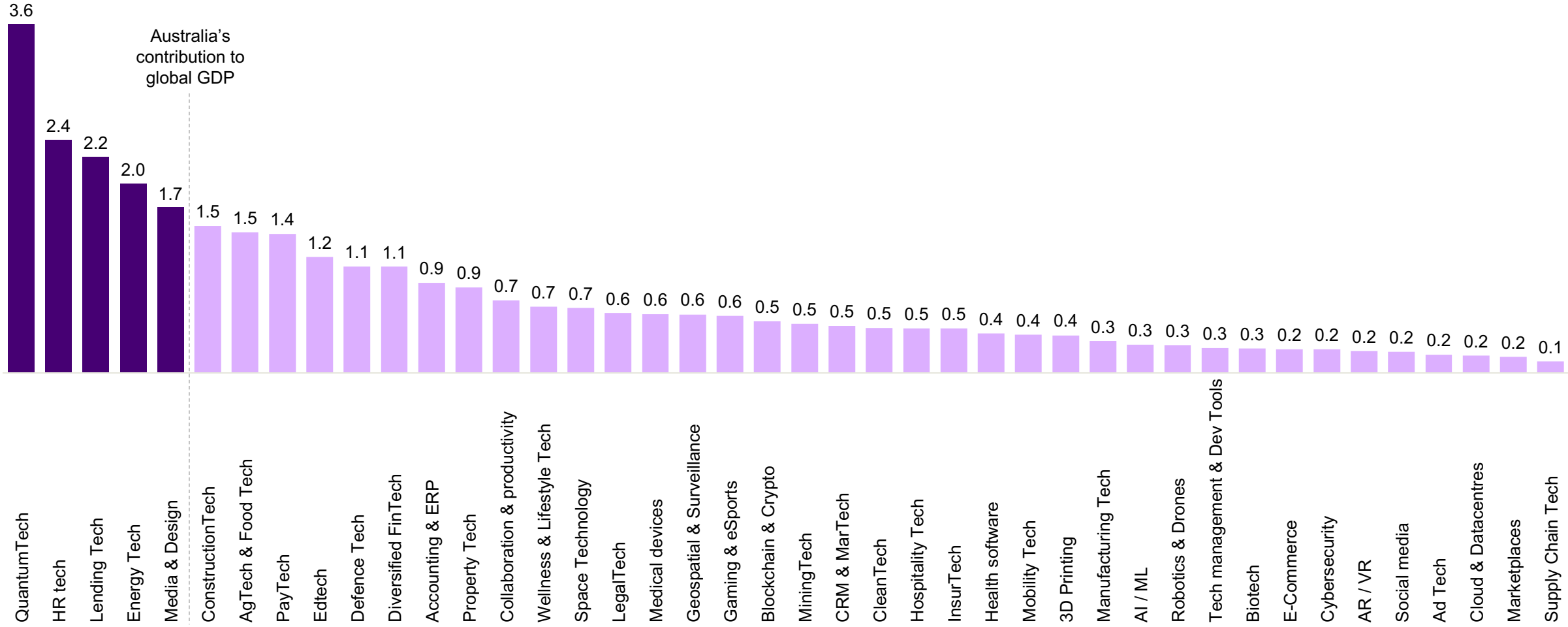


Source: Pitchbook

There are five domains in which Australian companies attract a high share of global funding

Australian industries' % share of global VC funding for that industry, 2017-2021

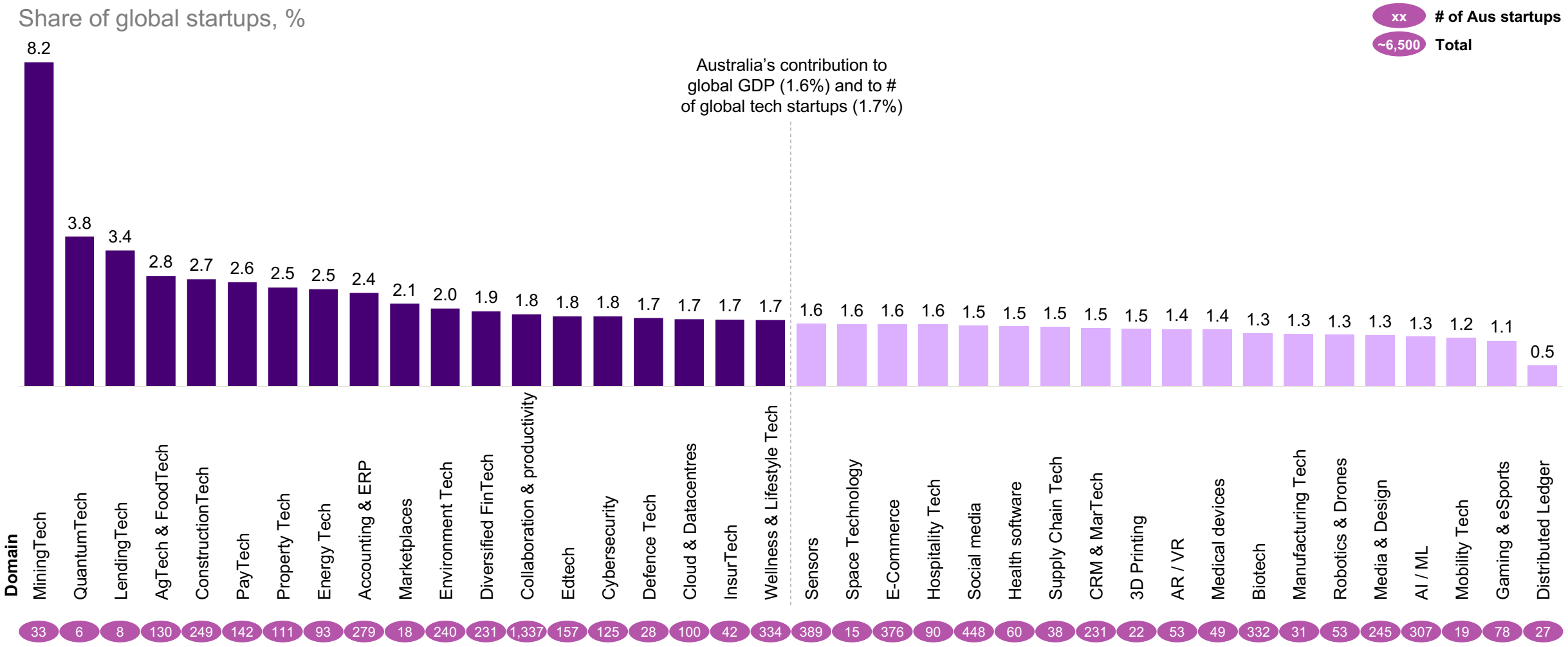
Australia VC funding as share of global VC funding, %, 2017-2021



Source: Pitchbook

Australia tends to outperform in producing start-ups in the areas where it has an existing research or domain strength

Australia # of startups as share of # global startups, %



Source: Pitchbook

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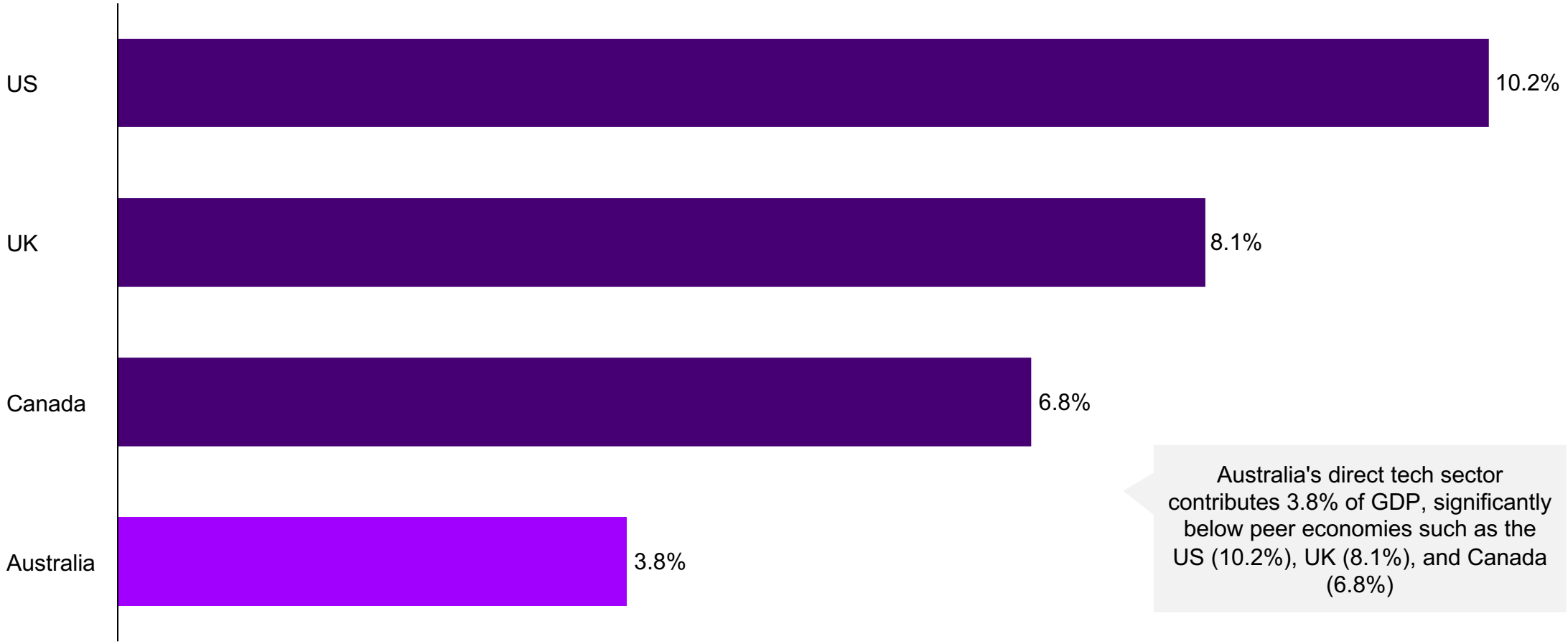
Australia's direct tech sector still has room to grow

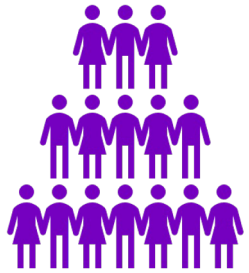
Ranking of direct tech sectors

Size of direct tech sector, % of GDP, 2020-21



Notes: This ranking only includes the direct technology sector, i.e. it does not measure the indirect contribution of people in tech occupations outside of major tech industries. These direct technology industries may be defined differently across jurisdictions.
Sources: ABS, US Bureau of Economic Analysis, UK Department for Digital, Culture, Media and Sport, Statistics Canada, International Monetary Fund, Accenture analysis

The TCA has three goals for the Australian tech sector

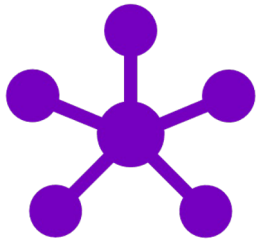


Goal 1: Jobs

Employ **1.2 million people**
in tech-related jobs
by 2030

Goal 2: Growth

Grow the value
of tech sector activity
to the Australian economy
to $250bn by 2030



Goal 3: Opportunity

Make Australia
the **best place**
to start and grow
a global company

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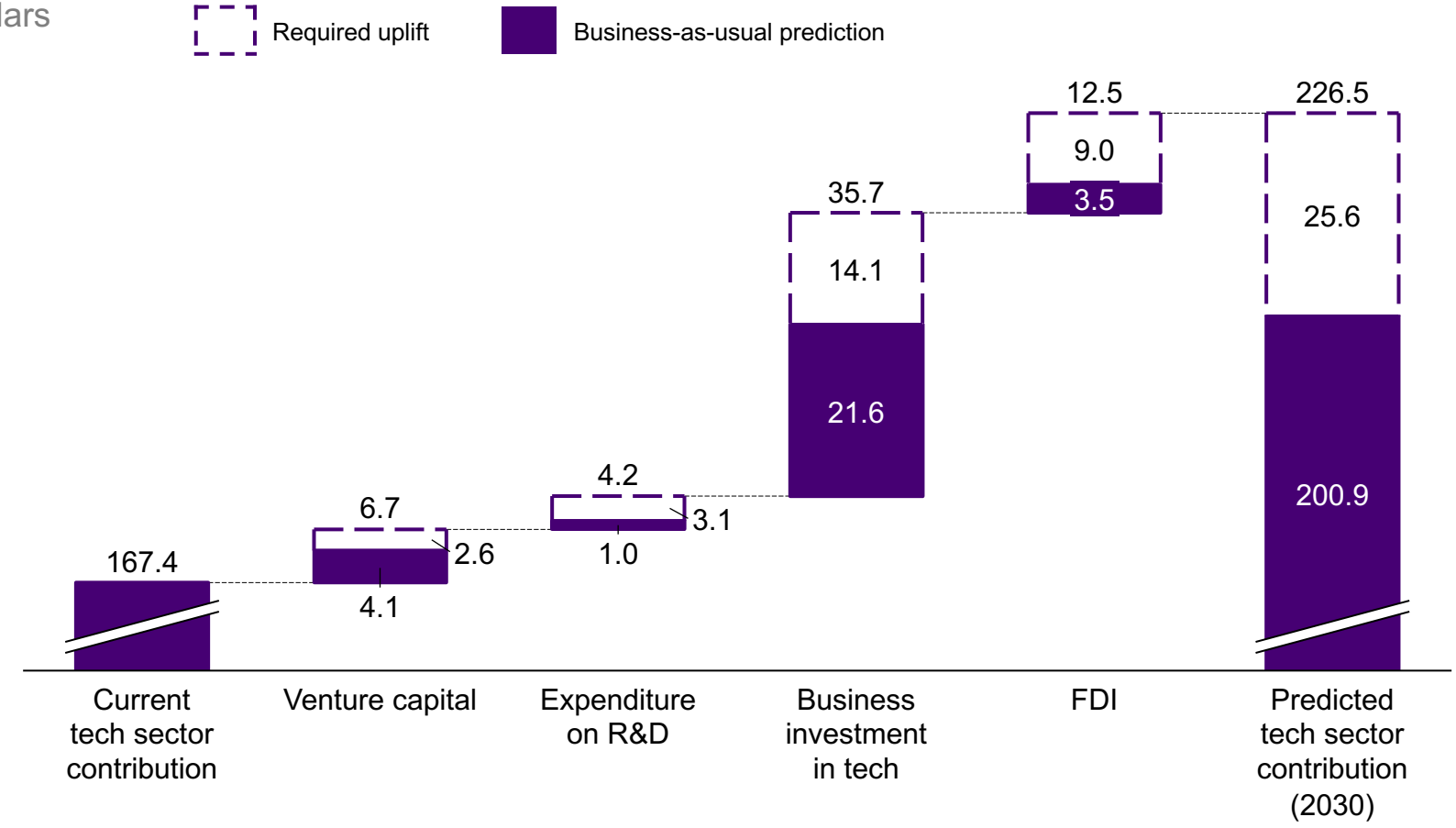
Three key drivers are critical to accelerate innovation, commercialisation and jobs

Drivers of growth	How does this drive jobs and growth?	Key components	Example policies
Investment and financing	▪ Investment and financing are key inputs in accelerating growth in the tech sector	▪ Venture capital – Seed, early stage, and later stage ▪ Foreign direct investment ▪ Government funding ▪ Business investment in tech across the economy	▪ ESIC rules reform to allow more Australians to invest in earlier stage firms ▪ Reform RDTI rules to make it simpler for smaller and start-up firms to claim ▪ Government as principal investor ▪ Coordinated investment promotion
Talent, skills and education	▪ The right type and number of people in the labour supply is critical to meet the demands of a growing tech sector ▪ Attracting talent is currently a significant barrier for many tech firms	▪ New entrants (e.g. university graduates, VET) ▪ Workers transitioning from other sectors ▪ Migration	▪ Refined employee share scheme rules ▪ Reskilling and upskilling programs ▪ Global talent visa and skilled migration ▪ Micro-credentials and skills recognition
Best practice regulatory settings	▪ Encourages investment and the introduction of new products and services, whilst managing any risks in a way that is proportionate to the situation and product or service in question	▪ Modernise existing regulation and adopt best-practice regulatory principles for the digital economy	▪ UK's National AI Strategy ▪ the Monetary Authority of Singapore established the fintech and innovation group

Investment from FDI, tech adoption and venture capital will drive Australia's progress to the sector contribution targets

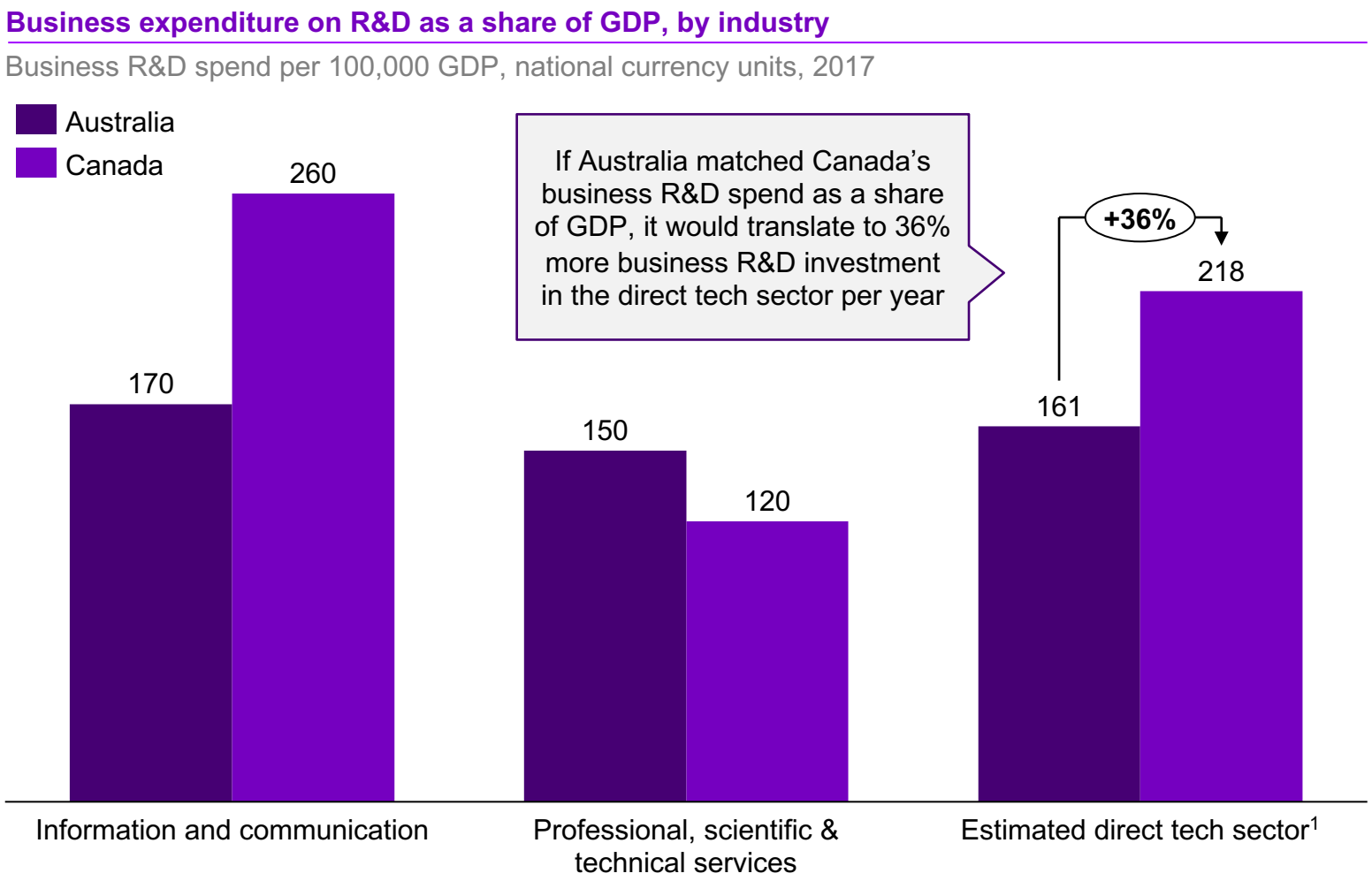
Annual contribution to GDP in 2030

$B AUD, 2021 dollars



Source: IMF, World Economic Outlook; DFAT, Australian industries and foreign direct investment; Statistics Canada, Canadian direct investment abroad and foreign direct investment in Canada, by industry; OECD, R&D tax expenditure and direct government funding of BERD; OECD, Venture capital investments; OECD, ANBERD database; ABS, National accounts; Statistics Canada, National accounts; Accenture analysis

While ICT related BERD is already the top category of spend for Australian businesses, it needs to grow further to match other leading digital economies

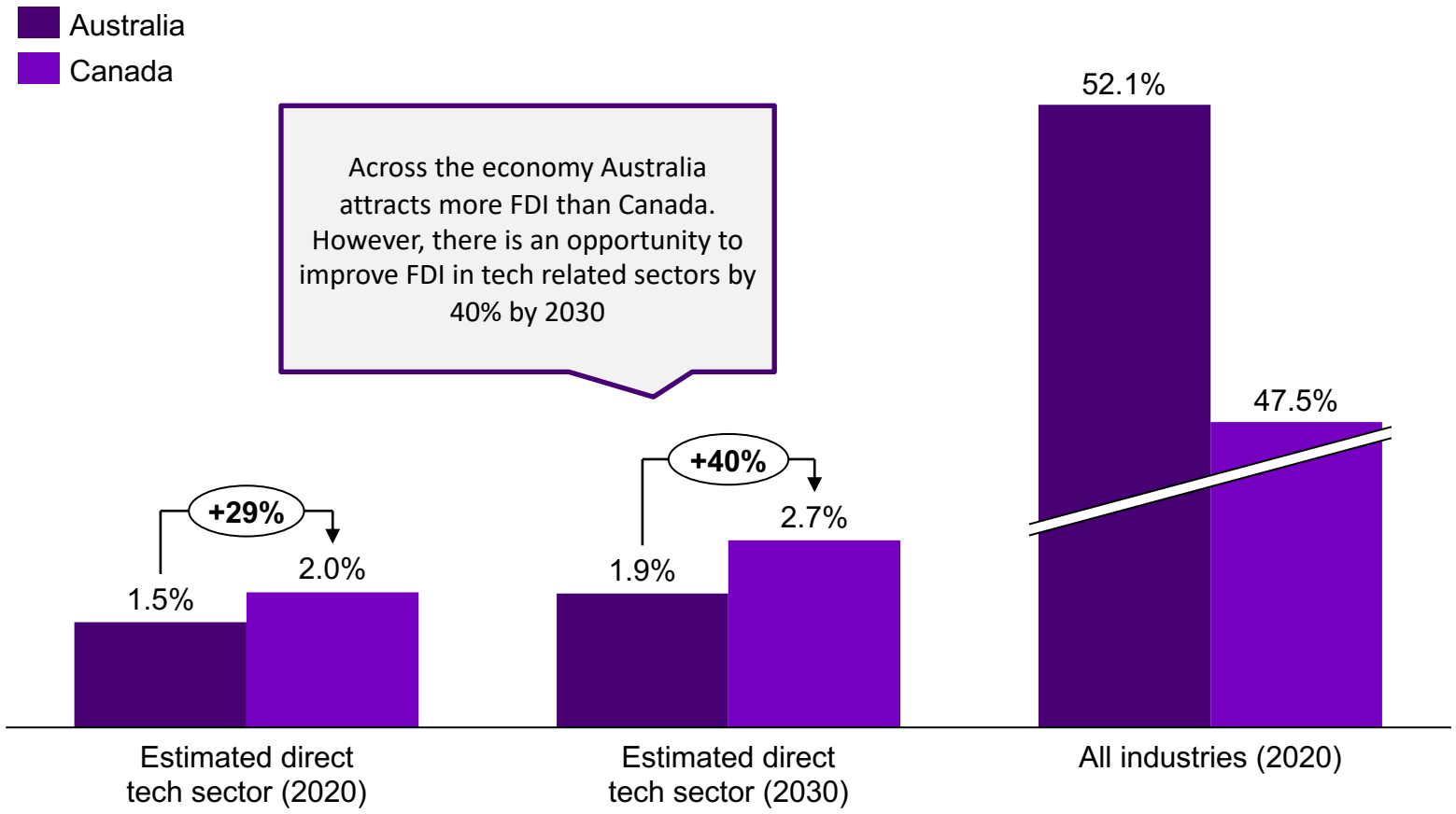


Notes: 1. Weighted sum of information and communication and professional services industries, based on direct tech sector share of those industries.
Source: OECD.Stat, ANBERD database; ABS National Accounts; Statistics Canada National Accounts

Australia could boost foreign direct investment in the tech sector by 40%

Foreign direct investment % of GDP, by industry

Foreign direct investment % of GDP, national currency units



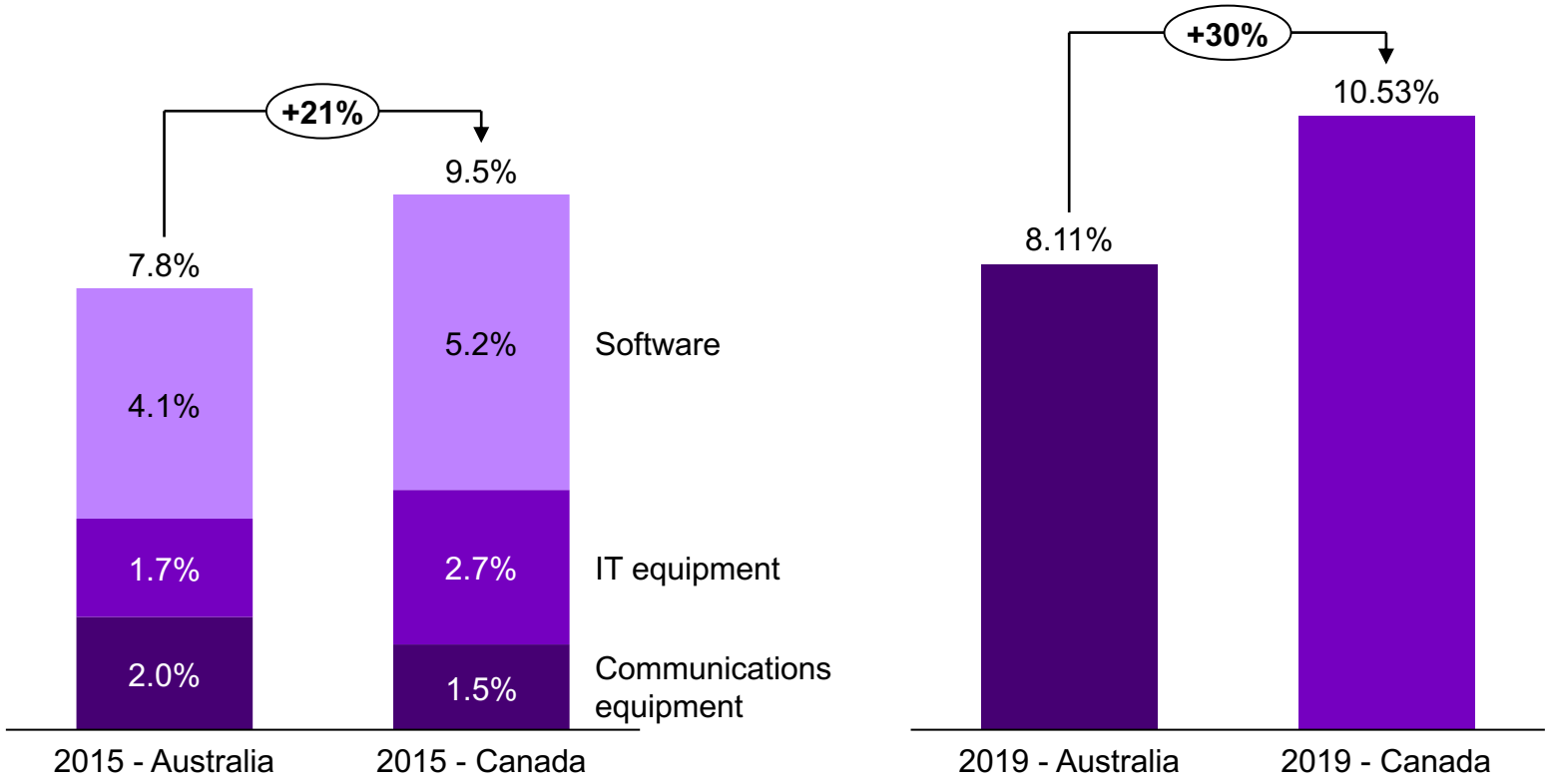
Notes: 1. See e.g. Contractor et al (2020), 'How do country regulations and business environment impact foreign direct investment (FDI) inflows?' for evidence of the impact of regulation on foreign direct investment

Source: OECD.Stat, Venture capital investments; ABS 5352; Statistics Canada Table 36-10-0009-01; ABS National Accounts; Statistics Canada National Accounts; UK ONS National Accounts

Australian businesses lag peers in investing in software and digital innovation - Canada's investment rates in ICT is 30% higher than Australia

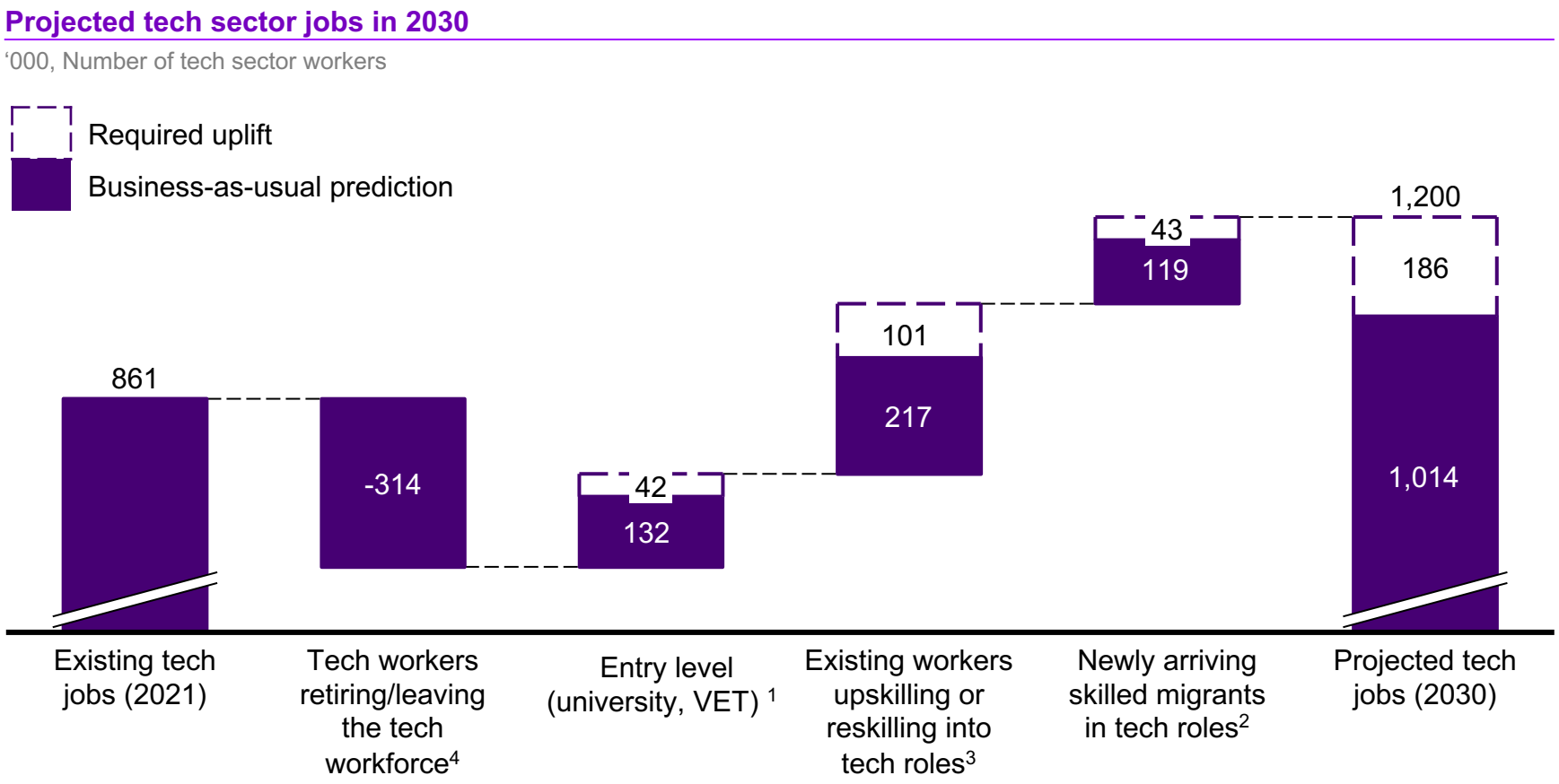
Investment in ICT

% of gross fixed capital formation by ICT asset, asset breakdown N/A for 2019



Source: OECD, Investment by asset; OECD, ICT Access and Usage by Businesses; Incentives for Tech & ICT | Vancouver Economic Commission; Canada Digital Adoption Program | BDC.ca; BDC offers $200M in loans for IT upgrades - Canadian Manufacturing

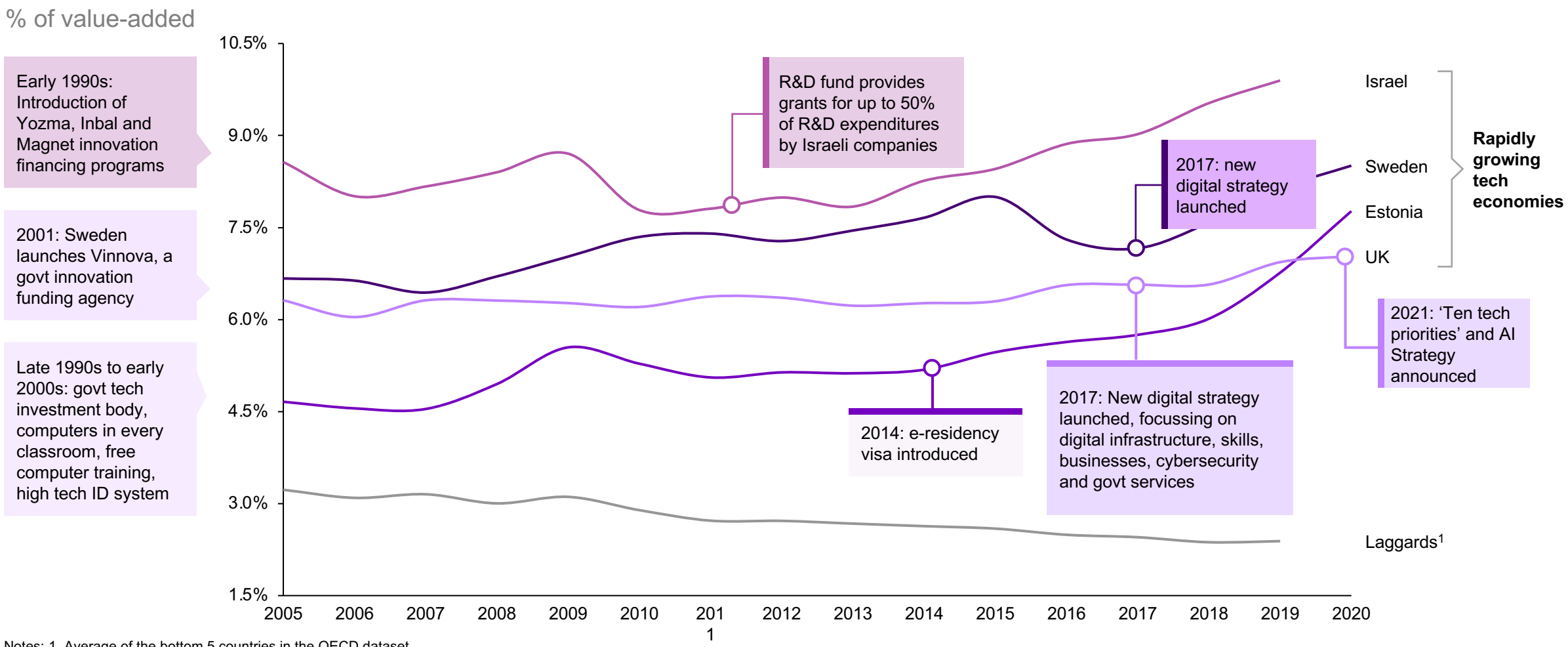
To meet the goal of employing 1.2m tech workers by 2030, Australia needs an extra 654,000 people to join the tech workforce in the next eight years, and is already facing a shortfall of 186,000 workers



Notes: 1. Measured as the number of graduates expected between now and 2030 from university degrees or VET qualifications in 'Information Technology'; 2. Estimate based on the average number of skilled visas granted per year between 2015 and 2019 to workers in tech occupations, defined as a subset of ANZSCO codes, plus an estimate of international students who join the tech workforce and are not otherwise counted; 3. Estimate calibrated with reference to longitudinal Census data and *Deloitte Access Economics, ACS Australia's Digital Pulse 2021*; 4. ABS Census Longitudinal Dataset, based on share of ICT professionals in 2011 in other occupations in 2016 and an estimate of the number of retiring workers.
Source: Department of Education, Skills and Employment (2021) uCube, NCVER (2021), Total VET students and courses 2020, Department of Home Affairs (2021) Temporary Residents (skilled) visas granted pivot table, ABS Census Longitudinal Dataset, Accenture (2021) *The economic contribution of Australia's tech sector*, Accenture analysis

Countries that have prioritised the digital economy as part of their regulatory framework have experienced accelerated growth

Information and communications, % of value-added

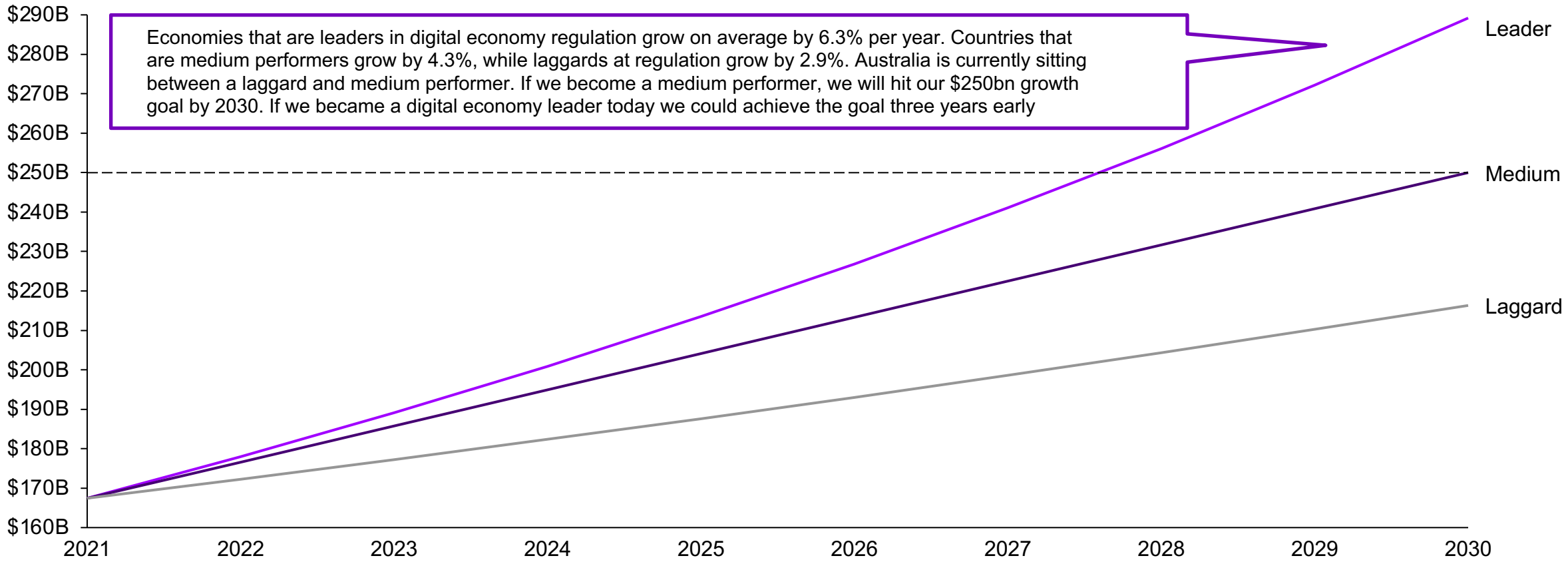


Notes: 1. Average of the bottom 5 countries in the OECD dataset
Source: OECD, Value-added by activity; Wonglimpiyarat, J., Government policies towards Israel's high-tech powerhouse. Technovation (2016); How Estonia became a digital society (cnbc.com); Global lessons from Estonia's tech-savvy government (unesco.org); DCMS (2021), 'Our ten tech priorities'; DCMS (2017), 'UK Digital Strategy'

If Australia can become a leader in tech regulation we can achieve the sector 2030 targets three years earlier

Tech sector economic contribution forecast in different regulatory scenarios

$B AUD, 2020 dollars



Notes: Leader, medium and laggard scenarios based on the historical 3 year average growth rates of the information and communications sectors in OECD countries. Leader, medium and laggard countries identified using the indicators of best practice tech sector regulation shown previously.
Source: OECD, Value added by activity

Tech sector leaders have typically taken a future focussed and holistic regulatory approach to building a reputable tech sector

Best practice approach to tech regulation

Holistic, coordinated and fit for purpose

Holistic

- **Recognises relationships** between a thriving tech sector and wider resilience and risk mitigation goals
- **Proportionate** and targeted, minimises unintended consequences
- **Consistent and interoperable** with global frameworks where practicable

Coordinated and fit for purpose

- Policymakers **engage across disciplines** to identify relationships between risk, resilience and reward
- **Informed and coordinated** policy development between government and industry
- Policymakers have **sufficient time, stakeholder input and expertise** to make informed decisions

Future focussed

Future focused approach to sector development

- **Timely regulatory interventions**, balancing impact of premature interventions on emerging business models and start-ups against the negative impact of extended periods of regulatory uncertainty
- **Proactive** consideration of potential policy levers, providing clarity and appropriate room for innovation
- Recognises the broader long-term benefits of **innovation and growth**, enabling Australia to become a global innovator by encouraging the responsible and early introduction of technologies