



**Victorian
Skills Authority**

Victorian Skills Plan

Professional, Financial and Information Services Industry Insight

October 2022



Education
and Training

Contents

Introduction	2
Report coverage	4
Executive summary.....	6
Industry outlook.....	9
Workforce and skilling implications	14
Education and training pipeline.....	18
Workforce priorities	25
Collaborative response	27
Appendix A Drivers of demand	30
Appendix B Data methodology	32
Appendix C Victorian VET pipeline methodology	35
Appendix D Stakeholder engagement process	36
References.....	37

Introduction

This report on the Professional, Financial and Information Services industry forms part of the 2022 Victorian Skills Plan and outlines demand for occupations, education and training directed to meeting the demand and current workforce issues facing the industry.

This report has been prepared by the Victorian Skills Authority (VSA). The VSA was formed in July 2021 in response to the review *Future Skills for Victoria: Driving collaboration and innovation in post-secondary education and training* (known as the Macklin Review). The VSA is charged with preparing an annual Victorian Skills Plan (the Skills Plan) to guide decision-making on skills and training, by the Government, education and training providers, industry and communities.

The Victorian Skills Plan

The annual Skills Plan sets out Victoria's skills needs for 2022 to 2025 by drawing on data, evidence and insights from a range of system-wide and local sources.

The Government in conjunction with industry, communities and education and training partners brings collaborative action through the Skills Plan which:

- **defines skill needs** with clear statements of required skills and capabilities (current and emerging)
- **sets priorities** for post-school education and training in Victoria
- **communicates to the community** the opportunities education and training can provide to offer careers for individuals that also meet the workforce needs of industry
- **aligns action** across industry and government to support improved outcomes for all Victorians.

The Skills Plan consists of:

- a summary report – the Victorian Skills Plan
- the industry needs of the Victorian economy segmented into 13 insight reports, each comprising like industries – of which this report is one
- profiles of industry and occupations in the regional areas of Victoria which outline priorities for skills development – either as snapshots or Regional Skills Demand Profiles
- current employment and forecast demand to 2025 across Victoria – a user-driven dashboard.

About Industry Insight Reports

Each industry insight is based on robust research, qualitative and quantitative data collection and analysis and extensive consultation with the Government's Industry Advisory Groups, partners and stakeholders over a period of six months. Each report sets out to:

- profile the **industry outlook**, taking into account sector trends and key drivers of demand
- detail the **workforce and skilling implications** of the industry based on forecasting
- set **industry priorities** in responding to current and future workforce challenges
- provide initial guidance for an **education and training response** to these challenges.

The industries reflected in each report are defined according to their classification within 1292.0 - *Australian and New Zealand Standard Industrial Classification (ANZSIC) 2006*, prepared by the Australian Bureau of Statistics. Occupations within industries have been defined using the *Australian and New Zealand Standard Classification of Occupations (ANZSCO)*.

Each industry insight contributes to the conclusions and recommendations of the Skills Plan, focusing on actions for implementation over a three-year period.

The VSA acknowledges and extends sincere thanks to the individuals and organisations that participated in the consultations and contributed to these materials.

Using this report

This is a point-in-time report on the professional, financial and information services industry in Victoria and the associated skills and workforce issues.

This report, along with the Skills Plan, has been prepared for industry and provider partners as a summary of demand for occupations and workforce issues. In addition to being used by the Victorian Government to consider responses as a public document it is available to industry and education and training partners to form actions and responses.

The report does not represent the full picture of workforce issues in the industry. Opportunities associated with skills and workforce are longstanding. The information in the report, however, provides the basis for ongoing work on skills demand and responses, including by the VSA and through the Industry Advisory Groups.

Feedback

Feedback on this report, and others, is welcome and can be provided to SkillsPlan@education.vic.gov.au. Feedback will contribute to developing insights and actions.

Report coverage

This report focuses on the professional, scientific, and technical services industry; the financial and insurance services industry; and the information media and telecommunications industry as defined under ANZSIC, and the occupations classified according to ANZSCO. It covers scientific research services, legal and accounting services, internet publishing, and consulting services, finance, insurance and superannuation funds, publishing, and telecommunication services among many others.

Statistics about an industry and its sub-sectors are collated by the Australian Bureau of Statistics (ABS) from the activity of businesses. Each business is classified to an industry based on their primary activities. Where an individual works for multiple businesses, their main job is used.

Industry classifications rarely encompass the full nature of the work (and therefore skills) associated with a given industry. ABS definitions of industries or sectors may not align with the definitions used by an industry association, while the allocation of businesses on primary activity can result in businesses that perform similar services but with a different emphasis being classified across different industries.

Coverage in this report is limited to employment in the industry and sectors as defined by ABS, noting some occupations are almost exclusively associated with an industry, such as a farm hand in agriculture, while others, such as accountants and electricians, are associated with many industries. Note, however, that occupational demand for Victoria as reflected in the dashboard is the total of occupational demand for all industries.

Table 1 sets out activities that may occur within the professional, financial and information services industry but are reported formally under other industries. The relevant Industry Insight report is listed.

Table 1 | Scope of related industry activities and insights related industries

Activities	Industry insight
<ul style="list-style-type: none"> Listing employment vacancies or referring or placing applicants for employment, or executive placement services (except consulting) Providing payroll processing, billing or record-keeping services, clerical, personnel and other support services Providing word processing and related document preparation activities 	Administrative and Support Services
<ul style="list-style-type: none"> Providing agricultural support services such as livestock improvement services, artificial insemination service or herd testing, etc 	Agriculture, Forestry and Fishing
<ul style="list-style-type: none"> Installing computer cables Managing or organising construction projects as the prime contractor Maintaining and installing telecommunications infrastructure 	Construction
<ul style="list-style-type: none"> Providing pathological services or diagnostic services for the medical profession 	Health and community services
<ul style="list-style-type: none"> The physical or chemical transformation of materials into new products Mass producing computer software The mass storage or duplication of information products such as printing newspapers, CDs, DVDs, etc. Printing magazines, books, directories, mailing lists, sheet music and other periodicals without publishing Printing greeting cards, postcards and art prints, etc. without publishing The mass duplication of software, audio and visual media 	Manufacturing

<ul style="list-style-type: none"> • Exploring for petroleum or minerals 	Mining
<ul style="list-style-type: none"> • Providing motor vehicle roadworthy inspection (issuing road warrants of fitness in NZ) services 	Public Administration and Safety
<ul style="list-style-type: none"> • Hiring pre-recorded video cassettes, DVDs and other pre-recorded media • Leasing or hiring electronic computers or other data processing equipment • Operating residential and non-residential property trusts • Renting and leasing non-financial intangible assets such as patents and trademarks 	Rental hiring and real estate services
<ul style="list-style-type: none"> • Composing music • Developing, printing or other processing of photographic film • Directing, acting, writing and performing • Providing musical performances • Providing set design, costume design or theatre lighting design services • Purchasing and on-selling information products in their tangible form • Retailing computer software (except games), video cassettes, discs, photographic equipment or supplies • Writing articles or books without publishing • Wholesaling computer software, pre-recorded audio media, video tapes and/or discs 	Services

Executive summary

Industry outlook

Financial and insurance services, information, media, and telecommunications, and professional, scientific, and technical services are major enablers of economic development and innovation. Over 631,100 people are employed in these three industries.¹ Their specialist services generate substantial value across the broader Victorian economy.

Government investment in priority areas such as construction, digital services and advanced manufacturing is driving a strong outlook for the industry. The key drivers of future demand include businesses seeking to expand their operations, advancements in technology to boost productivity and automation, and shifting population demographics.

Workforce and skilling implications

On average, across all industries total employment is expected to grow by an additional 211,900 workers to 2025, from 3,538,900 workers in 2022, an annual growth rate of 1.97 per cent^{a,2,3} In comparison between 2017 and 2020 employment grew by 2.68 per cent^b annually.⁴

In the professional, financial and information services industry, employment is expected to grow by an additional 38,000 workers to 2025, from 631,100 workers in 2022, an annual growth rate of 2.21 per cent^c which is higher than the overall Victorian average across all industries.^{5,6} In comparison between 2017 and 2020 employment across this industry grew by 2.72 per cent annually^{d,7}

By 2025, an estimated 63,600 new workers are needed to meet expected demand.⁸ This includes employment growth of 38,000 and replacement of 25,600 retirees.^{9,10}

Table 2 identifies the top ten occupations in demand across these industries by 2025. Of these, all ten occupations are expected to experience employment growth at a rate above the overall Victorian average between 2022 and 2025.

Table 2 | Occupations in demand in professional, financial and information services industries by 2025^{e,11,12}

Occupation	Current employment	Employment growth (2022–25)		Retirements (2022–25)	New workers needed (2022–25)
		Number	Per cent		
Software and applications programmers	47,950	5,950	5.2%	1,600	7,550
Solicitors	18,550	3,450	4.4%	800	4,250
Accountants	45,050	2,250	2.0%	1,450	3,700
Management and organisation analysts	21,900	3,000	5.9%	700	3,700
Database and systems administrators, and ICT security specialists	13,000	2,200	6.8%	500	2,700

^a 3-year compound annual growth rate

^b Computed for 2017 to 2020 employment growth for pre-COVID comparison

^c 3-year compound annual growth rate

^d Computed for 2017 to 2020 employment growth for pre-COVID comparison

^e Due to rounding, some totals may not correspond with the sum of the separate figures

ICT managers	17,800	1,500	3.4%	750	2,300
Graphic and web designers, and illustrators	20,200	1,650	4.2%	550	2,200
Financial investment advisers and managers	23,300	1,200	2.3%	850	2,000
Financial brokers	12,200	1,050	3.0%	600	1,650
Civil engineering professionals	13,250	750	2.8%	550	1,300

Digital transformation is driving demand for new types of jobs, such as artificial intelligence specialists, blockchain solution architects and robotics software engineers. Changes in the financial regulatory environment are creating demand for regulatory affairs specialists and compensations and benefits analysts, while the transition to clean energy is creating new roles for energy efficiency engineers.

Industry has also identified changing skill needs. Workers will require skills in emerging technologies (such as artificial intelligence), risk management skills and an understanding of regulatory controls around data protection and management. In the finance sector, individuals will increasingly need skills in supporting retirees and people with a disability to access services and upskilling in compliance and regulatory changes facing the industry.

Meeting this demand will be challenging. There are key shortages in a number of occupations of particular relevance to the professional, financial and information services industries, along with shortages across occupations in other industries that will also impact the sector. Industry reports dramatic technological shifts, the decline of entry-level positions in some industries and extended training periods required to fill most roles as all contributing to this challenge.

Workforce priorities

Two priorities can address the workforce and skilling needs for the professional, financial and information services industries:

1. Increase the supply of workers to meet strong future demand. Long periods of study required to enter the industry is a barrier to meeting demand, particularly for disadvantaged students
2. Secure higher order skills required to drive economic growth and prosperity, including attracting and retaining the best talent.

Education and training pipeline and workforce response

Higher education is the key pathway into the industry, with 55 per cent of workers holding a bachelor's degree or higher. A further 24 per cent of the workforce holds a VET qualification as their highest level of education.¹³ The potential skill pipeline includes 245,010 equivalent full-time study load (EFSTL) in higher education in 2019 and 47,460 enrolments in relevant VET qualifications in 2020.^{14,15}

Key VET entry points to the industry include the Certificate III in Business, the Certificate III in Information Technology, Certificate IV in Accounting and Bookkeeping, and the Certificate IV in Finance and Mortgage Broking.¹⁶ While activity is high, opportunities exist to better respond to identified priorities.

New education and training models could be explored to support people to enter these industries faster. Examples include higher apprenticeships, micro-credentials, and paid placements. This must be supported by appropriate skills and recognition of industry training and experience. Training that is quick to market, industry certified and meets future skills need is critical to building the required pipeline of workers.

Supporting mid-career professionals to move into more specialist roles is a key focus. To compete in the tight market for workers, many employers and providers are offering targeted micro-credentials which allow workers to upskill and continue studying.

Government can continue to monitor the supply and demand for occupations in shortage across Victoria. While industry can mobilise labour supply through migration pathways that are available again following the re-opening of borders. This is particularly essential in IT, which is heavily reliant on overseas workers to meet critical skill gaps.

Supporting placement opportunities in organisations are invaluable to building worker's skills and confidence in highly skilled areas, which in turn has benefits for employee retention.

Table 3 highlights actions that could be taken by education, industry, and government to help meet workforce demand.

Table 3 | Actions for consideration for education, industry, and government

- Education providers and industry to explore approaches to enabling practical work experience while training to ensure a pipeline of workers with the skills needed by industry.
- Industry to continue to support attainment of industry certification to help build the pipeline of workers in the ICT industry.
- Identify, strengthen and promote targeted pathways for early to mid-career individuals to upskill into more specialised roles
- Monitor the supply and demand for critical occupations and skills to support delivery of the Government's infrastructure and other commitments.
- Industry to continue to provide and support placement opportunities for students while studying.

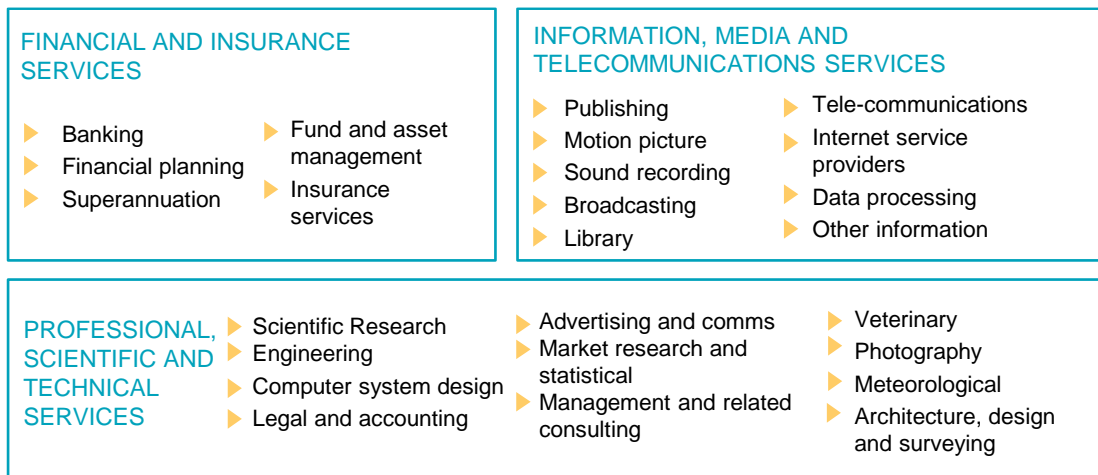
Industry outlook

The professional, financial and information services industries drive development and innovation across Victoria

Financial and insurance services; information, media, and telecommunications; and professional, scientific, and technical services are three distinct yet interconnected industries (Figure 1). For the purposes of this Insight report, they are referred to as the ‘professional, financial and information services industries’.

The industries provide specialist services through business-to-business and business-to-consumer channels. Each industry enables development and innovation throughout the economy. Victoria’s future prosperity heavily relies on these industries as the economy is increasingly specialising in knowledge-driven services.

Figure 1 | Key sectors across the professional, financial and information services industries¹⁷



The industries operate around Victoria, with a high concentration in Metropolitan Melbourne.¹⁸ It consists of both public and private sector organisations, where many large companies either have international offices or work closely with overseas companies. The industry also creates high paying jobs for those living in regional Victoria by supporting small and medium sized businesses, particularly given population growth and work from home arrangements.

Collectively, the industry directly employs 631,100 Victorian workers.¹⁹ It is more male, more middle-aged and higher paying than the average. Overall, 43.8 per cent of workers are female (275,663), lower than the Victorian average of 47.2 per cent. There are fewer workers aged over 50 (23.9 per cent) compared with Victoria (29.0 per cent).^{20,21} There are also fewer young workers (below 30), largely because of the extra education requirements. The average annual earnings for those employed is high relative to other industries due to the workforce being highly skilled and more likely to be employed full-time.²²

The largest sub-industry is professional, scientific, and technical services (389,900 workers), followed by financial and insurance services (176,200 workers) and information, media, and telecommunication services (64,800 workers).²³

Despite being sensitive to economic cycles, the industry has lower than average unemployment and underemployment rates. Compared to other industries, it has not suffered the same drops in employment from COVID-19. This is in part due to the accelerating rate of digital transformation in

each industry. Industry workers have experienced relative job security during the ongoing pandemic because they have been able to continue most operations from home.

Financial and Insurance Services

The Financial and Insurance Services ('financial services') industry impacts most Victorians, who rely on it to manage their income, wealth and economic security.²⁴ The industry contributes 11 per cent of Victoria's Gross State Product.²⁵ It is engaged in financial transactions involving the creation, liquidation, or change in ownership of financial assets, and/or in facilitating financial transactions.²⁶ It also includes central banking, monetary control, and the regulation of financial activities.²⁷

Key sectors include banking, financial planning, superannuation, fund and asset management and insurance services.²⁸ Top employing occupations in Victoria for this industry include bank workers, financial investment advisers and managers, and financial brokers.²⁹ Australia's two largest and most globally connected banks, two largest health insurance funds, two of the top five industry super funds and the Australian sovereign wealth fund are all located in Melbourne.³⁰ Victoria is also a leading market for funds management in Australia: it is the headquarters for six of Australia's top twelve pension funds and 60 per cent of Australian industry pension funds under management.³¹

Information, Media, and Telecommunications

This industry ('information services') includes a range of activities such as creating, enhancing and storing information products in media, transmitting digital and analogue information, and providing transmission services and/or operating the telecommunications infrastructure.³²

Key sectors include publishing, motion picture and sound recording activities, broadcasting, internet publishing and broadcasting, telecommunications services, internet service providers, web search portal and data processing services, and library and other information services.³³ Top employing occupations in Victoria include telecommunications engineering professionals, ICT managers and journalists and other writers.³⁴

Victoria's significant research and development capabilities in digital usage and applications gives the state a strong competitive advantage in key aspects of digital technology.³⁵ Victoria's digital technology industry has over 8,000 companies, including a range of international firms such as IBM, Microsoft and NEC.³⁶ Half of Australia's top 20 technology companies are also located in Melbourne.³⁷ Similar to the financial and insurance services industry, the sector is undergoing technological disruption as consumers turn to social media for information, and archivists face the digitisation of books and other documents.

Professional, Scientific, and Technical Services

Professional, scientific and technical services ('professional services') contribute 18 per cent of Victoria's total economic output - the largest of any industry.³⁸ The workforce specialises in service delivery and major outputs.³⁹ The services provided require a high level of education and training through formal (usually tertiary) qualifications.⁴⁰ Career pathways in this industry vary depending on the specific area of professional activity.⁴¹

























Key sectors include scientific research services; architectural, engineering and technical services; legal and accounting services; advertising services; market research and statistical services; management and related consulting services; veterinary services and other professional services such as photography and meteorological services.⁴² The industry also includes various computer system design and related services, such as programming, web design and installation.⁴³










There are a high number of small businesses and contractors, particularly in IT that operate across the industry. Top employing occupations in Victoria include software and applications programmers, accountants, and solicitors.⁴⁴ Victoria has a significant legal sector, with 27 per cent of all Australian legal firms operating in Victoria.⁴⁵

Continued growth and development of these industries is critical to Victoria’s post COVID-19 recovery

The professional, financial and information services industries have been through significant changes over the past decade, following extensive regulatory reform and the emergence of new technologies. The shift to hybrid working has established relatively strong growth. The industry outlook is driven by a range of factors, set out in Table 4.⁴⁶ Further detail about these drivers is set out in Appendix A.

Table 4 | Drivers of growth in the professional, financial and information services industries

Driver	Financial services	Information services	Professional services
Policy	Government investment in priority areas, including construction, digital services and advanced manufacturing, is driving demand for highly skilled workers, such as engineers, programmers and lawyers.  High	 Medium	 High
	Changes in the regulatory environment, professional standards and public scrutiny are closing some non-complying businesses and changing the operations of others (such as ethical investing and web advertising).  High	 Low	 Medium
Economic	More organisations are entering the gig and shared economy through platforms such as Freelancer and Air Tasker, increasing competition with large businesses.  Medium	 Medium	 Medium
	Private sector investment will drive growth in a post COVID-19 economy, with many new and established firms seeking to expand their operations.  High	 Medium	 High
Social	The ageing population in Victoria will drive demand for professional services staff, such as financial advisers, legal and accounting services, and staff with technological capability.  High	 Low	 High
	Consumer demand for smart devices, mobile technologies and social media will continue to increase for personal and professional use.  Medium	 High	 Medium
	Workforce requirements are changing faster than many organisations can adapt, driving demand for advice and consulting related services to ensure performance and retain workplace culture.  High	 Medium	 High
Techno-logical	Investment in new technologies, such as artificial intelligence, virtual reality and internet of things is positioning the industries for continued economic and jobs growth.  High	 High	 High

Driver		Financial services	Information services	Professional services
	The automation of some roles focused on manual tasks, together with the variety of new and emerging roles associated with technology, require a more highly skilled and customer-focused workforce.	 High	 High	 High
Environmental	Increased natural disasters will drive insurance claims, spurring professional advisors to account for climate change in providing services.	 High	 Low	 Medium
	The transition to renewable energy will create employment opportunities across a diverse range of professional services occupations to support business planning.	 Low	 Low	 High

Drivers are impacting each industry differently over the next three to five years. Notable trends and influences relevant to a specific industry are listed below.

Financial and Insurance Services

The ageing population in Victoria will drive strong demand for health insurance, superannuation and financial advice.⁴⁷ More older Australians are seeking financial advice in retirement, with bigger superannuation balances, and an increasing focus on products for the management of financial affairs, such as powers of attorney and financial administration orders.⁴⁸ This will drive strong demand for workers such as insurance assessors, and key skills such as assessing client needs in retirement and communicating risks.⁴⁹

A greater focus on ethical service and risk management is driven by changes in the regulatory environment, professional standards, and public scrutiny.⁵⁰ One example includes significant changes to the Financial Adviser Standards and Ethics Authority (FASEA) to set stricter education and training requirements for financial advisers.⁵¹ This will require individuals to have a strong understanding of changing regulations and ethical standards.⁵²

Innovations in FinTech are changing the nature of services provided and leading the automation of many processes.⁵³ These changes centre on giving consumers more knowledge and control of transactions and services, and bring risks around managing and storing data correctly.⁵⁴ FinTech is likely to automate some tasks, requiring individuals to move to higher skilled positions with a greater service orientation and customer engagement focus.⁵⁵

The industry is experiencing significant technological disruption and decentralisation, with a wider span of companies targeting younger consumers with ‘buy now pay later’ financial products and services, and a greater number of services becoming automated or available online.⁵⁶

Demographic changes and the ageing population in Victoria will drive strong demand for health insurance, superannuation, and financial advice.

Information, Media, and Telecommunications

Reduced news activity and bulletins in regional areas has resulted in job losses as a result of concentration of media and news online.⁵⁷ To achieve growth in an online media environment shaped by technological advancements and increasing competition, businesses will benefit from investing in

high-quality equipment and technology for publishing, motion picture and sound recording for user experience.

Some areas of the sector will grow with government investment to expand high-speed internet and mobile coverage in regional Australia. This is alongside underlying infrastructure to support next generation telecommunications technologies such as future G technologies.⁵⁸ Work required for connection and high-speed connectivity to maximise National Broadband Network (NBN) capabilities will also drive demand.⁵⁹

In late 2020, the Victorian Government committed \$195.9 million to establish 'Digital Victoria'.⁶⁰ Digital Victoria is centralising and simplifying the government's IT services to cut costs and improve service delivery.⁶¹ The Service Victoria check-in app and border entry permits are key early deliverables for Digital Victoria.

Professional, Scientific, and Technical Services

Growth of professional services is set to continue. Significant government investment in areas such as construction are likely to drive the need for highly specialised skill sets across the sector, such as accountants, engineers, and project managers. The renewable energy transition will create a diverse range of employment opportunities for professionals such as IT professionals, civil and mechanical engineers and finance, business, legal and planning professionals.⁶²

Demand for cyber security services is on the rise.⁶³ More employers and consumers are digitising and adopting the Internet of things (IoT). This is increasing the risk of cyber threats and the need to protect digital assets, particularly for businesses that work with confidential client information, such as law, accounting, and management consulting firms.

As many individuals across Victoria change roles, there is expected to be a greater demand for consulting services that assist clients in redefining employee value proposition, culture and ways of working. This will be of particular significance in the professional services sub-sector, where there are a significant number of vacancies.⁶⁴ This provides businesses with opportunities to address gaps in their workforces.

Workforce and skilling implications

An estimated 63,600 net new workers are needed between now and 2025

On average, across all industries total employment is expected to grow by an additional 211,900 workers to 2025, from 3,538,900 workers in 2022, an annual growth rate of 1.97 per cent^{f,65,66} In comparison between 2017 and 2020 employment grew by 2.68 per cent^g annually.⁶⁷

In the professional, financial and information services industry, employment is expected to grow by an additional 38,000 workers to 2025, from 631,100 workers in 2022, an annual growth rate of 2.21 per cent^h which is higher than the overall Victorian average across all industries.^{68,69} In comparison between 2017 and 2020 employment across this industry grew by 2.72 per cent annually.^{i,70}

The 63,600 new workers needed between 2022 and 2025⁷¹ comprises employment growth of 31,200 and replacement of 16,100 retirees in professional, scientific and technical services; employment growth of 7,800 and replacement of 6,800 retirees in financial and insurance services and employment decline of 1,000 and replacement of 2,600 retirees in information, media and telecommunications. The number of retirements does not consider people leaving the industry for other reasons.

Table 5 identifies the top ten occupations in demand, based on employment growth and replacing retirees by 2025. Of these, all ten occupations are expected to experience employment growth at a rate above the overall Victorian average between 2022 and 2025. These figures are estimates that may be understated as they do not account for existing vacancies nor take account of changes in the rate of workers leaving the industry.

Table 5 | Occupations in demand in the professional, financial and information services industry by 2025^{j,72,73}

Occupation	Current employment	Employment growth (2022–25)		Retirements (2022–25)	New workers needed (2022–25)
		Number	Per cent		
Software and applications programmers	47,950	5,950	5.2%	1,600	7,550
Solicitors	18,550	3,450	4.4%	800	4,250
Accountants	45,050	2,250	2.0%	1,450	3,700
Management and organisation analysts	21,900	3,000	5.9%	700	3,700
Database and systems administrators, and ICT security specialists	13,000	2,200	6.8%	500	2,700
ICT managers	17,800	1,500	3.4%	750	2,300
Graphic and web designers, and illustrators	20,200	1,650	4.2%	550	2,200

^f 3-year compound annual growth rate

^g Computed for 2017 to 2020 employment growth for pre-COVID comparison

^h 3-year compound annual growth rate

ⁱ Computed for 2017 to 2020 employment growth for pre-COVID comparison

^j Due to rounding, some totals may not correspond with the sum of the separate figures

Financial investment advisers and managers	23,300	1,200	2.3%	850	2,000
Financial brokers	12,200	1,050	3.0%	600	1,650
Civil engineering professionals	13,250	750	2.8%	550	1,300

Government and private sector investment in the digital space is creating new types of roles, such as artificial intelligence specialists, blockchain solution architects and robotics software engineers. Changes in the financial regulatory environment are also driving demand for regulatory affairs specialists and compensation and benefits analysts. The transition to clean energy is driving demand for energy efficiency engineers.

Emerging occupations are defined as new, frequently advertised jobs which are substantially different to occupations already defined in ANZSCO.⁷⁴ It also includes roles where the number of jobs available has grown significantly in the last five years and is expected to continue. These occupations are detailed in Table 6.

Table 6 | Emerging occupations in the professional, financial and information services industries

Emerging occupations	
• Artificial intelligence specialists ⁷⁵	• Blockchain solution architects ⁷⁶
• Compensation and benefits analysts ⁷⁷	• DevOps engineers ⁷⁸
• Digital marketing specialists ⁷⁹	• Energy efficiency engineers ⁸⁰
• Penetration testers ⁸¹	• Regulatory affairs specialist ⁸²
• Robotics software engineers ⁸³	• Social media specialists ⁸⁴
• User experience analysts ⁸⁵	• Various roles in cyber security ⁸⁶

Occupation shortages take a longer time to address relative to other industries

The professional, financial and information services industry continues to face ongoing challenges filling skilled vacancies. These challenges include high concentration of businesses and employees in metropolitan Melbourne impacting supply in regional areas and extended training periods required to work in most roles. The three industries also follow the broader economic conditions more closely than other industries, such as Victoria's infrastructure investment driving increasing demand for engineers. These challenges will play a significant role in meeting projected demand.

A shortage exists when employers are unable to fill or have considerable difficulty filling vacancies for an occupation at current levels of remuneration and conditions of employment, and in reasonably accessible locations. Where an occupation specialisation is in shortage, the occupation will be treated as in shortage. For example, skilled migration has been a major source of talent for Australia's ICT workforce, and COVID-19 and border closures have led to skills shortages in the ICT sector.⁸⁷ In some instances, shortages may be apparent in specialisations within the occupation.

VSA consultations indicate further occupations across Victoria can be in shortage, or soon will be. A list of current occupation shortages related to professional, financial and information services is shown in Table 7.

Table 7 | Occupation shortages in the professional, financial and information services industry

Occupation shortages	
• Accountants ⁸⁸	• Cyber security professionals ⁸⁹
• Electrical engineering draftspersons and technicians ⁹⁰	• Electrical engineers ⁹¹
• Engineering production workers ⁹²	• Engineers (various) ^{93 k}
• ICT managers ^{94 l}	• ICT support and test engineers ⁹⁵
• Land surveyors ⁹⁶	• Planners ⁹⁷
• Software and applications programmers ⁹⁸	• Telecommunications trades workers ⁹⁹
Additional occupations as part of the National Skills Commission's updated Skills Priority List released on 06 October 2022¹⁰⁰	
• Research and development managers	• Insurance brokers
• Librarians	• Advertising specialists
• Marketing specialists	• Sales representatives
• Food technologists	• ICT business analysts
• Systems analysts	• Web developers
• Analyst programmers	• Software testers
• Database administrators	• Computer network and systems engineers
• Network administrators	• Network analysts
• Mechanical engineering draftspersons	• Conveyancers
• Veterinary nurses	• Insurance agents
• ICT quality assurance engineers	

Some skills are in immediate shortage, while others will increase in demand

Key skills to work in the professional, financial and information services industries include communication, problem solving skills, critical thinking, and learning agility, in addition to occupation-specific technical skills. This is largely due to the client-facing and management roles that many workers in these industries hold. The skills identified in Table 8 are identified as in shortage across the three industries. Some of these skills are required immediately while others will be required increasingly in the future.

^k The 2022 Victoria Skills Shortage list from the National Skills Commission include Chemical Engineer, Materials Engineer, Electronics Engineer, Production or Plant Engineer and Environmental Engineer.

^l This occupation was removed in the 2022 Victoria Skills Shortage list from the National Skills Commission but was in the 2021 shortage list.

Table 8 | Skill shortages facing the professional, financial and information services industries

Skill shortages	
<ul style="list-style-type: none"> Digital engagement¹⁰¹ 	<ul style="list-style-type: none"> Initiative and innovation¹⁰²
<ul style="list-style-type: none"> Geospatial digital skills¹⁰³ 	<ul style="list-style-type: none"> Literacy skills¹⁰⁴
<ul style="list-style-type: none"> Planning and organising¹⁰⁵ 	<ul style="list-style-type: none"> Skills in enterprise resource planning (ERP) software, database reporting software and database user interface and query software¹⁰⁶

It is predicted that emerging technologies will have the largest impact on the Professional, Financial and Information Services industry, creating new ways of working and requiring individuals to upskill to adapt. Emerging skills also often relate to roles in skills shortage due to the lag between demand and workers developing the new skills.¹⁰⁷ This lag comes firstly from the delay in demand becoming widespread enough that the workforce has time to respond, and secondly from the time taken to train and develop the relevant skills.¹⁰⁸ Some individuals may already have these skills while others may be in shortage, detailed in Table 9.

Table 9 | Emerging skills in the professional, financial and information services industries

Emerging skills	
<ul style="list-style-type: none"> Ability to assist clients through the potential emotional and psychological stress of retirement¹⁰⁹ 	<ul style="list-style-type: none"> Risk management skills and an understanding of regulatory controls around data protection and data management¹¹⁰
<ul style="list-style-type: none"> Skills in emerging technology, including advanced data science, artificial intelligence, augmented virtual reality, and blockchain¹¹¹ 	<ul style="list-style-type: none"> Skills in ethical conduct, compliance and regulations to meet the rising standards of the financial services sector¹¹²
<ul style="list-style-type: none"> Specialist knowledge to support access to financial services for retirees and people with a disability under the NDIS scheme¹¹³ 	<ul style="list-style-type: none"> Understanding of intelligence edge, cloud migration, 5G, and XR (a combination of virtual, augmented and mixed reality)¹¹⁴

Education and training pipeline

There were almost 47,460 enrolments in professional, financial and information services related VET qualifications in 2020 and 245,010 relevant enrolments in Higher Education in 2019.^{115,116} This should translate to more than 75,560^m graduating students entering the workforce each year with relevant qualifications, presenting an opportunity to meet projected demand, noting that some graduates will seek employment in other industries. For further detail, see the collaborative response toward the end of this report.

Higher education will continue as the main channel of workforce supply

In 2019, there were approximately 245,010 equivalent full-time study load (EFTSL) across related higher education courses in Victoria.¹¹⁷ There are also many other general higher education pathways that support people to work in the industry due to the transferrable nature of skills. Higher education supports most pathways into the professional, financial and information services industry, with 55 per cent of workers holding a degree or above as their highest level of education.¹¹⁸ Example occupations requiring a higher education qualification include accountants, actuaries, computer network professionals, ICT managers and scientists.

Higher education supports most pathways into the professional, financial and information services industry, with 55 per cent of workers holding a degree or above as their highest level of education.

The higher education pipeline for this industry is shown in Table 10. Only the top three courses with the highest enrolments (EFTSL) are included as examples.

Table 10 | HE pipeline for professional, financial and information services according to broad field of study in Victoriaⁿ

Architecture and Building (10,795 EFTSL, 2019)	
<p>AQF 9+ (e.g., Master and above) (3, 869 EFTSL) Examples include:</p> <ul style="list-style-type: none"> • Master of Architecture (1,406) • Master of Urban Planning (209) • Master of Landscape Architecture (208) 	<p>AQF 5-8 (e.g., Diploma, Bachelor, Hons) (6,926 EFTSL) Examples include:</p> <ul style="list-style-type: none"> • Bachelor of Design (1,783) • Bachelor of Architectural Design (446) • Bachelor Industrial Design (327)
Engineering and Related Technologies (29,496 EFTSL, 2019)	
<p>AQF 9+ (e.g., Masters and above) (9,465 EFTSL) Examples include:</p> <ul style="list-style-type: none"> • Master of Engineering (2,580) • Master of Engineering (Professional) (838) • Master of Advanced Engineering (629) 	<p>AQF 5-8 (e.g., Diploma, Bachelor, Hons) (20,031 EFTSL) Examples include:</p> <ul style="list-style-type: none"> • Bachelor of Engineering (4,868) • Bachelor of Civil Engineering (502) • Bachelor of Mechanical Engineering (298)

^m This number is determined by taking the total number of VET enrolments in courses undertaken prior to employment, combined with 1/3 of the total number of HE enrolments in AQF 5-8 courses (as these courses are traditionally undertaken prior to employment and the average bachelor's degree is three years, so therefore only those in their final year of study will enter the workforce the following year).

ⁿ A course may be allocated to different narrow field of educations by different higher education providers based on the primary purpose of the course. Higher education enrolments reported against a course under a specified narrow field of education reflect only the portion of enrolment allocated to the narrow field of education and are not reflective of the total enrolment for the course.

Information Technology (33,469 EFTSL, 2019)	
AQF 9+ (e.g., Master and above) (16,967 enrolments) Examples include: <ul style="list-style-type: none"> • Master of Information Technology (2,279) • Master of Business Information Systems (1,252) • Master of Data Science (1,245) 	AQF 5-8 (e.g., Diploma, Bachelor, Hons) (16,502 enrolments) Examples include: <ul style="list-style-type: none"> • Bachelor of Information Technology (5,661) • Bachelor of Technology (2,860) • Bachelor of Computer Science (2,732)
Management and Commerce (89,082 EFTSL, 2019)	
AQF 9+ (e.g., Master and above) (24,601 EFTSL) Examples include: <ul style="list-style-type: none"> • Master of Professional Accounting (4,787) • Master of Business Administration (4,661) • Master of Business (1,428) 	AQF 5-8 (e.g., Diploma, Bachelor, Hons) (64,482 EFTSL) Examples include: <ul style="list-style-type: none"> • Bachelor of Business (12,948) • Bachelor of Commerce (11,968) • Bachelor of Accounting (1,391)
Society and Culture (51,379 EFTSL, 2019)	
AQF 9+ (e.g., Master and above) (10,444 EFTSL) Examples include: <ul style="list-style-type: none"> • Juris Doctor (1,897) • Master of International Relations (319) • Master of Laws (276) 	AQF 5-8 (e.g., Diploma, Bachelor, Hons) (40,935 EFTSL) Examples include: <ul style="list-style-type: none"> • Bachelor of Arts (10,983) • Bachelor of Psychological Science (1,751) • Bachelor of Laws (1,614)
Natural and Physical Sciences (30,787 EFTSL, 2019)	
AQF 9+ (e.g., Master and above) (5,752 EFTSL) Examples include: <ul style="list-style-type: none"> • Master of Data Science (282) • Master of Analytics (252) • Master of Laboratory Medicine (233) 	AQF 5-8 (e.g., Diploma, Bachelor, Hons) (25,035 EFTSL) Examples include: <ul style="list-style-type: none"> • Bachelor of Science (12,910) • Bachelor of Biomedical Science (2,943) • Bachelor of Biomedicine (2,166)

The professional, financial and information services industries also rely on VET for close to a quarter of their education supply

In 2020, there were over 17,590 enrolments in professional, financial and information services related VET qualifications prior to employment.¹¹⁹ There were also over 3,280 enrolments in related VET qualifications while students were already being employed.¹²⁰ This presents a total of over 47,460 enrolments in 2020 in related VET qualifications across 53 courses.

There were almost 47,460 enrolments in VET qualifications related to the professional, financial and information services industries in 2020.

The professional, financial and information services industry provides fewer employment opportunities for people with no-post school qualification. A total of 20 per cent of the industries' workforce do not hold a post-school qualification.¹²¹ Common occupations that do not require a post-school qualification include writers, illustrators, bank workers and general clerks.

VET will continue as a channel of education supply to the industry, with 24 per cent of the workforce holding a VET level qualification as their highest level of education.¹²² VET-level study is required for occupations such as ICT support technicians, bookkeepers and telecommunications trades workers.

Workers may be required to obtain additional licences and requirements to attend and perform certain types of work. Nearly half of all qualifications and courses used by industry on the Victorian Funded Course List (FCL) support these requirements.¹²³

In 2022, there are seven professional, financial and information services related VET skill sets eligible for government funding in Victoria.¹²⁴ These skill sets focus on the IT sector due to its preference for upskilling on an as-needed basis, with many employers offering training for employees during employment (e.g., upskilling in new technology). There are many other informal and formal skill sets or short courses not part of the Victorian FCL delivered by individual employers not captured in Tables 11 and 12.

“A lot of enterprises are moving to short courses (in ICT) – VET numbers don’t truly reflect the number of people training”

Skills Plan Consultation, Industry Advisory Group, March 2022

VET Activity

People enrol in VET courses for one of three main reasons:

- to prepare for employment
- to support current employment
- to progress their careers within the industry.

VET activity can be categorised as prior to employment, with employment (as an apprenticeship or traineeship), and upskilling once qualified as shown in Tables 11 and 12. The tables show the enrolments in 2020 VET courses on the Victorian Funded Course List (FCL) and the Victorian Funded Skill Set List (FSSL)^{125,126} related to this industry^o. The enrolment numbers are drawn from Total VET Activity (TVA) which comprises enrolments supported by public funding or private contribution.

As part of preparing this report, industry representatives provided their perspectives on the purpose of these qualifications. Course purpose is summarised in Figure 2 and helps to read Tables 11 and 12.

Figure 2 | VET pipeline key

1. ‘AT’ indicates a classroom-based course is also available as an apprenticeship or traineeship option
2. ‘Q’ indicates industry values the course as a qualification
3. ‘SS’ indicates industry values the course as a skill set
4. ‘EIR’ indicates it is an Endorsed Industry Requirement as noted by industry
5. ‘OL’ indicates the course leads to an Occupational Licence as noted by industry

Note: Industry has not provided feedback on all qualifications and where indicated; each value assignment can be reviewed in the future.

^o Skills First skill sets were introduced in 2021, with the Funded Skill Set List contains existing and well-established national skill sets, in areas linked to immediate job opportunities, which provide clear pathways into full qualifications.

VET pipeline for professional and financial services

In 2020, there were over 16,530 enrolments in professional and financial services related VET qualifications prior to employment.¹²⁷ There were also over 2,640 enrolments in related VET qualifications while already being employed.¹²⁸

Table 11 | VET pipeline for professional and financial services in Victoria^P

Prior to employment	
Qualifications (16,526 TVA enrolments 2020)	
Advanced Diploma	1,902
Advanced Diploma of Building Design (Architectural) (Q,OL)	1,361
Advanced Diploma of Cyber Security (Q)	74
Advanced Diploma of International Business (Q)	6
Advanced Diploma of Legal Practice (Q,OL)	344
Advanced Diploma of Professional Game Development (Q)	117
Certificate II	2,456
Certificate II in Applied Digital Technologies (Q,SS,AT,EIR)	2,139
Certificate II in Integrated Technologies (Pre-vocational) (Q,AT)	317
Certificate III	8,108
Certificate III in Business (Q,SS,AT,EIR)	8,108
Certificate III in Signs and Graphics (Q,SS,AT)	-
Certificate IV	4,014
Certificate IV in Cyber Security (Q,AT)	2,880
Certificate IV in Legal Services (Q,AT,EIR)	151
Certificate IV in Veterinary Nursing (Q,AT,EIR)	983
Diploma	46
Diploma of Applied Technologies (Q,AT)	-
Diploma of Financial Services (Q,OL)	46
With employment (apprenticeship and traineeship)	
Qualifications (2,636 TVA enrolments 2020)	
Certificate III	2,117
Certificate III in Business (Q,SS,EIR)	2,021
Certificate III in Signs and Graphics (Q,SS)	96
Certificate IV	434
Certificate IV in Accounting and Bookkeeping (Q,SS,OL)	40
Certificate IV in Business (Q,SS,EIR)	323
Certificate IV in Cyber Security (Q)	14
Certificate IV in Finance and Mortgage Broking (Q,EIR)	8
Certificate IV in Surveying and Spatial Information Services (Q,EIR)	<5
Certificate IV in Veterinary Nursing (Q,EIR)	46
Diploma	85
Diploma of Accounting (Q,SS,OL)	7
Diploma of Business (Q,SS,OL)	36

^P VET courses can support a range of occupations across a range of industries, and occupations can also support a range of industries. To present the likely VET trained employment pipeline by industry, enrolments for a course have been assigned to the most common industry in which people seek employment.

Diploma of Project Management (Q,EIR)	42
Upskilling once qualified	
Qualifications (20,739 TVA enrolments 2020)	
Advanced Diploma	922
Advanced Diploma of Accounting (Q,SS,OL)	146
Advanced Diploma of Business (Q,OL)	138
Advanced Diploma of Conveyancing (Q,AT,EIR)	352
Advanced Diploma of Interpreting (LOTE-English) (Q,EIR)	155
Advanced Diploma of Surveying (Q,EIR)	51
Advanced Diploma of Translating (Q,EIR)	80
Certificate IV	12,042
Certificate IV in Accounting and Bookkeeping (Q,SS,AT,OL)	6,350
Certificate IV in Business (Q,SS,AT,EIR)	1,625
Certificate IV in Entrepreneurship and New Business (Q,SS,EIR)	1,120
Certificate IV in Finance and Mortgage Broking (Q,AT,EIR)	2,565
Certificate IV in Photography and Digital Imaging (Q,SS,EIR)	342
Certificate IV in Surveying and Spatial Information Services (Q,AT,EIR)	40
Diploma	7,775
Diploma of Accounting (Q,SS,AT,OL)	865
Diploma of Business (Q,SS,AT,OL)	2,574
Diploma of Finance and Mortgage Broking Management (Q,AT,EIR)	1,360
Diploma of Interpreting (LOTE-English) (Q,EIR)	201
Diploma of Paralegal Services (Q,AT,EIR)	104
Diploma of Payroll Services (Q,SS)	299
Diploma of Photography and Digital Imaging (Q,EIR)	254
Diploma of Project Management (Q,AT,EIR)	2,009
Diploma of Surveying (Q,EIR)	109
Note: Enrolment figures in the table above are as reported by NCVER, Total VET student and courses 2020: program enrolment. There may be instances where program enrolments are not reported by providers to NCVER and therefore not included in the enrolment figures in the total VET training activity data. Total VET activity for 2021 is expected to be released in August 2022.	

VET pipeline for information services

In 2020, there were approximately 1,060 enrolments in information services related VET qualifications prior to employment.¹²⁹ There were also approximately 640 enrolments in information services related VET qualifications while already being employed.¹³⁰

Table 12 | VET pipeline for information services in Victoria^a

Prior to employment	
Qualifications (1,059 TVA enrolments 2020)	
Certificate III	145
Certificate III in Library and Information Services (Q,AT,EIR)	5
Certificate III in Telecommunications Network Build and Operation (Q,SS,AT,EIR)	23

^a VET courses can support a range of occupations across a range of industries, and occupations can also support a range of industries. To present the likely VET trained employment pipeline by industry, enrolments for a course have been assigned to the most common industry in which people seek employment.

Certificate III in Telecommunications Technology (Q,SS,AT,OL)	117
Certificate IV	862
Certificate IV in Library and Information Services (Q,AT,EIR)	93
Certificate IV in Marketing and Communication (Q,SS,AT,EIR)	619
Certificate IV in Professional Writing and Editing (Q)	150
Diploma	52
Diploma of Business (Public Relations) (Q)	52
With employment (apprenticeship and traineeship)	
Qualifications (644 TVA enrolments 2020)	
Certificate III	471
Certificate III in Information Technology (Q,SS,EIR)	277
Certificate III in Telecommunications Technology (Q,SS,OL)	194
Certificate IV	171
Certificate IV in Information Technology (Q,SS,EIR)	139
Certificate IV in Library and Information Services (Q,EIR)	<5
Certificate IV in Telecommunications Engineering Technology (Q,EIR)	28
Diploma	<5
Diploma of Information Technology (Q,EIR)	<5
Skill Set	n/a
Basic Technician Network Build and Operate Skill Set (Q, SS)	n/a
Hardware Technician Skill Set (Q)	n/a
Introductory Help Desk Skill Set (Q, SS)	n/a
System and Hardware Plus Technician Skill Set (Q)	n/a
System and Network Plus Technician Skill Set (Q)	n/a
Telecommunications Linesworker Fibre Skill Set (Q, SS)	n/a
Upskilling once qualified	
Qualifications (5,860 TVA enrolments 2020)	
Advanced Diploma	172
Advanced Diploma of Business (Public Relations) (Q)	20
Advanced Diploma of Information Technology (Q,AT,EIR)	94
Advanced Diploma of Marketing and Communication (Q,EIR)	58
Certificate III	2,861
Certificate III in Information Technology (Q,SS,AT,EIR)	2,850
Certificate III in Technical Security (Q,EIR)	11
Certificate IV	1,172
Certificate IV in Information Technology (Q,SS,AT,EIR)	1,014
Certificate IV in Live Production and Technical Services (Q,SS,EIR)	67
Certificate IV in Telecommunications Engineering Technology (Q,AT,EIR)	91
Diploma	1,655
Diploma of Information Technology (Q,AT,EIR)	985
Diploma of Library and Information Services (Q,EIR)	398
Diploma of Marketing and Communication (Q,SS,EIR)	272
Skill Set	n/a
Technical Help Desk Support Skill Set (Q, SS)	n/a

Note: Enrolment figures in this table are as reported by NCVER, Total VET student and courses 2020: program enrolment. There may be instances where program enrolments are not reported by providers to NCVER and therefore not included in the enrolment figures in the total VET training activity data. Total VET activity for 2021 is expected to be released in August 2022.

Stakeholders identified 48 additional qualifications currently available that are utilised to provide skill sets for the industry.

Two new recently approved qualifications were highlighted by industry: the Certificate III in Emerging and Enabling Technology and the Certificate III in Technical and Emerging skills. The uptake of these qualifications can be closely monitored in the future to determine their impact in addressing critical skills gaps.

“Some IT-related courses are not contemporary or keeping up to date with needs e.g., cybersecurity, artificial intelligence...industry is moving at a rapid pace”

Skills Plan Consultation, Industry Advisory Group, February 2022

Workforce priorities

Key workforce priorities centre on increasing the size and skill of the workforce

Key challenges exist to addressing the supply and skill of labour in the professional, financial and information services industries. These challenges include responding to dramatic technological shifts across the sectors, the decline of entry-level positions in some industries and extended training periods required to fill some roles. This is in addition to current high levels of industry competitiveness for workers impacting small businesses who may not be able to pay their employees more.

Collaboration across key stakeholders such as government, industry, TAFEs and dual sector universities will be critical in responding to these challenges.[†]

The Skills Plan identifies two key priorities for the professional, financial and information services industry. Responsibility for delivering on this priority lies with many stakeholders, however education and training has a key role to play (see next section for the proposed response to these priorities).

Increase the supply of workers to meet strong future demand

Options to fast-track entry-level workers could be explored to help meet additional demand and address replacement demand. People often need to undertake long periods of training to enter these industries, which creates a barrier to addressing skills and occupational shortages. In addition, qualifications that take years to complete can struggle to remain relevant, particularly in the ICT sector, where change is extremely rapid. To meet critical demand across all workforces, there is a need to increase the supply of workers.

In support of growing the overall workforce base a focus on increasing the diversity of the workforce will provide new opportunities for underrepresented communities to gain employment within these industries.

Table 13 | Areas of focus to increase the supply of workers to meet strong future demand

- Extended periods of training are often required to enter these industries, as many roles are highly skilled.
- Rapid changes in the ICT sector mean qualifications lose currency very quickly.
- Tackling systematic barriers preventing underrepresented communities (e.g., those from low socio-economic backgrounds) from gaining employment in these industries.

Secure higher order skills required to drive economic growth and prosperity

The professional, financial and information services industries advise and support most other industries in the Victorian economy with most occupations expected to grow by 2025. Other industries also noted that this industry will be significant in driving demand to grow their business and operations, support digitisation of the economy and drive improvements in productivity.

Driving the need for a highly skilled and experienced workforce is also significant government infrastructure investment requirement (requiring engineers and surveyors). This is against a background of retirements and competitiveness for domestic and international workers.

At present, shortages in both labour and those with higher-order skills can risk delays and projects going over budget. It remains a priority to continue to develop the workforce in these industries beyond

[†] the 2022-2023 State Budget, the Victorian Government allocated \$10 million to establish new Skills Solutions Partnerships, which will help address skills shortages in priority areas through collaboration with government, industry, TAFEs and dual sector universities.

initial studies to gain the expertise and skills required to respond to increasing complex needs of the economy, in turn ensuring the best advice and services to Victorian businesses and communities.

Table 14 | Areas of focus to secure higher order professional, financial and information services skills

- Business and government investment priorities are increasingly contingent on access to higher order skills.
- Shortages in higher-order skills can lead to delays and projects going over budget.
- Competition for workers within industry and retirements are impacting workforce supply.

Collaborative response

The education and training response can explore new approaches to delivering training and recognising skills

The education and training response has a key role to play in addressing the two key workforce issues for the industry:

1. Increase the supply of workers to meet strong future demand
2. Secure higher order skills required to drive economic growth and prosperity.

Extended periods of training in higher education are required to enter many roles in this industry. Example occupations include engineers, surveyors and researchers. Education and training providers and industry could look to enhance approaches that enable people to work in their chosen field earlier while studying where possible. Examples include higher apprenticeships (particularly valuable in ICT where there is high demand for workers), industry certification (e.g., Salesforce, Microsoft certification), short courses, and paid placements for undergraduate students (akin to the RUSON model used in nursing).¹³¹

Such a response could include mentoring and coaching support for students to complete training for occupations in shortage. It would also ensure workers gain the appropriate practical skills once employed post-study, in turn improving employee confidence and retention. It will also encourage employers to reinstate opportunities for on-the-job training that were lost during the COVID-19 pandemic and shift to remote working arrangements.

Case Study | PwC Higher Apprenticeship

PricewaterhouseCoopers (PwC) offers 12–18-month professional apprenticeship programs which allow students to go straight into the workforce and earn qualifications on the job. Participants are fully paid as a regular employee and the program specifically targets those who may have otherwise not completed their university study due to other commitments, such as work and caring responsibilities. Several other leading organisations have now implemented versions of the program, including Woolworths and Westpac.

The education and training response needs to support skills attainment and recognition. This is particularly important to support the digitisation of the economy, leading to the need for these skills to underpin economic growth. Currently, many qualifications and micro-credentials are not part of the formal qualification framework. They are instead delivered through employers and/or private providers.

The education and training response will benefit from working with industry to explore new skill development models that are quick to market, industry certified and meet future skills needs. These skills models need to be targeted at the right qualification level to ensure individuals gain sufficient technical expertise and skills. As an example, areas of study to support the ICT sector include software development, networking and cloud computing.

“It’s important to have a practical placement...let’s look at how we organise skill sets and micro-credentials with this...it could just be mentoring or supervision”

Skills Plan Consultation, Industry Advisory Group, February 2022

The education and training response can seek to identify, strengthen and promote targeted pathways for early to mid-career individuals with general skills to move into more specialist roles. This can address the current shortage of individuals in the industry with specialist skills. Examples include

surveyors, cyber security professionals or specialist engineers. These workers are critical to meeting project timelines and budgets. This has been further accentuated by industry competitiveness of workers (both domestically and internationally). This presents an opportunity to explore expanding the availability and accessibility of micro-credentials to enable more people to undertake further study and retain highly skilled workers in industry. It is essential that these pathways are also be made available to small businesses and contractors that operate across the industry and require the appropriate training and upskilling. Responsibility for this lies with multiple stakeholders, including industry, training providers and government.

Case Study | Digital Jobs Program

The Victorian Government's Digital Jobs program is aiming to build the state's digital workforce by training and upskilling mid-career Victorians so they can transition into digital careers.

The program is supporting up to 5,000 mid-career Victorians to complete 12 weeks of industry-backed training along with the opportunity to apply their new digital skills in a 12-week digital job placement with a Victorian business.

Government and industry need to monitor the supply and demand for critical occupations and maximise existing mechanisms to attract skilled workers

As noted above, there is a shortage of workers with specialist skills. Examples include cyber security professionals and specialist engineers. Government can support the education and training response by continuing to monitor the supply and demand for these critical occupations and skills across Victoria. This will ensure appropriate forward planning can take place regarding potential policy changes as long as there is close partnership between government, industry, and education providers. There is also an opportunity to expand the number of students entering higher education related courses specifically. These courses are critical to building the supply of multiple occupations in high demand.

At present, some sectors within this industry, particularly IT, are heavily reliant on overseas workers to meet critical skill gaps. Many of the occupations related to this industry currently feature on the skills occupation priority list (including accountants, surveyors, ICT security specialists and software engineers). However, the COVID-19 pandemic has greatly reduced the supply of overseas labour. As borders have now re-opened, industry can now reutilise available immigration pathways to encourage highly skilled professionals into the Victorian workforce.

Industry also has a key role to play in continuing to support placement opportunities in their organisations for students still studying. These opportunities are invaluable in ensuring students gain the appropriate practical skills and confidence for working in their field of study. This also has flow-on benefits for employers regarding retention of their employees

Actions for consideration for education, industry, and government

- Education providers and industry to explore approaches to enabling practical work experience while training to ensure a pipeline of workers with the skills needed by industry.
- Industry to continue to support attainment of industry certification to help build the pipeline of workers in the ICT industry.
- Identify, strengthen and promote targeted pathways for early to mid-career individuals to upskill into more specialised roles
- Monitor the supply and demand for critical occupations and skills to support delivery of the Government's infrastructure and other commitments.
- Industry to continue to provide and support placement opportunities for students while studying.

Appendix A Drivers of demand

Driver	Industry / Sector
Policy	<p>Financial and insurance services</p> <ul style="list-style-type: none"> Royal Commission into the Misconduct in the Banking, Superannuation and Financial Services Industry submitted in 2019. Of the 76 recommendations about one-third have come into legal effect and more changes are expected in future.¹³² Significant changes to the Financial Adviser Standards and Ethics Authority (FASEA) Education Standard came into effect from 1 January 2019.¹³³ <p>Information, media and telecommunications</p> <ul style="list-style-type: none"> Recent ACCC inquiry highlighting Google's dominance in the selling and buying of advertising space on websites or apps (or 'ad tech'), calling for greater enforcement power to develop rules under Australian law.¹³⁴ The Victorian Government committed \$195.9 million to establish 'Digital Victoria' in late 2020.¹³⁵ The aim of the new entity is to centralise and simplify the government's IT services, and ultimately reduce the costs and improve the delivery of services to Victorians.¹³⁶ Examples of early services delivered include the Service Victoria check-in app and border entry permits. <p>Professional, scientific and technical services</p> <ul style="list-style-type: none"> Breakthrough Victoria is an independent investment management company established in 2021 to invest and manage the Victorian Government's \$2 billion Breakthrough Victoria Fund.¹³⁷ The purpose of the fund is to support innovators and researchers to commercialise ideas and make Victoria the destination state for innovation.¹³⁸ The Victorian Government has provided \$50 million to establish the first mRNA manufacturing facility in the Southern Hemisphere to produce mRNA vaccines and other therapeutics. The facility will drive investment in infectious disease research and demand for scientific researchers.¹³⁹ \$111 billion investment in major infrastructure projects across Victoria driving demand for professional services (i.e., engineers, architects), including \$5.3 billion Big Housing Build investment in social housing for 12,000 new homes and major State infrastructure projects including the Level Crossing Removal and Metro Tunnel.¹⁴⁰ \$2 billion investment to drive research and innovation, the highest of any state government in Australia.¹⁴¹ New legislation released in 2019 requiring licensing of all labour hire providers, which are broadly defined and may capture workers in this industry.¹⁴² \$5 million investment in Technology Adoption and Innovation Program, providing grants for business' tech projects.¹⁴³ Increasing Victorian Government activity driving demand for private sector consultancy services.¹⁴⁴
Economic	<ul style="list-style-type: none"> Increase in the 'on-demand' workforce across the full suite of business services (e.g., designers, tax, legal, accounting) through platforms like Freelancer and AirTasker.¹⁴⁵ Rise of 'anywhere operations' business model. Businesses shifting to digital, remote service offerings away from 'brick and mortar'.¹⁴⁶ <p>Financial and insurance services</p> <ul style="list-style-type: none"> Major home loan deferrals by the banking sector, reaching a peak in June 2020 at 900,000.¹⁴⁷
Social	<ul style="list-style-type: none"> Preference for hybrid models of working in professional services. Around 83 per cent of workers surveyed prefer a hybrid model.¹⁴⁸ Rise of the 'sharing economy' – new ways of renting and swapping from rooms in private homes e.g., Airbnb, cars, FlexiCar, food, EatWithMe, OpenShed and WeWork.¹⁴⁹

	<p>Financial and insurance services</p> <ul style="list-style-type: none"> • Customers continue to shift to digital. For example, more than 80 per cent of Australians prefer to check account balances, pay bills or transfer money online.¹⁵⁰ <p>Information, media and telecommunications</p> <ul style="list-style-type: none"> • Victorians are consuming more news and more often, and preferring online access.
<p>Technological</p>	<p>Professional, scientific and technical services</p> <ul style="list-style-type: none"> • ICT is advancing with increased data collection and sharing, digital services and cloud-based systems.¹⁵¹ <p>Information, media and telecommunications</p> <ul style="list-style-type: none"> • Technology is changing the news approach through automated journalism, automatic text summarisation, search engine optimisation and instant articles.¹⁵²

Appendix B Data methodology

VSA Employment Model overview

The VSA Employment Model produces estimates of:

- projected employment growth between 2022 and 2025
- projected retirements between 2022 and 2025
- projected total new workers needed between 2022 and 2025.

Table 15 further defines the model outputs and identifies the primary source for each output.

Table 15 | Employment model outputs

	Employment growth 2022-25	Retirements 2022-25	New workers needed 2022-25
Definition	Change in the number of workers employed from 2022 to 2025	Workers expected to permanently leave the workforce from 2022 to 2025	Workers needed from 2022 to 2025 to meet demand from growing employment and to replace retirees
Primary source	Benchmarked to the NSC Employment Projections	Derived from retirement rates from Australian Census Longitudinal Dataset	The sum of employment growth and retirements

All outputs are modelled at the occupation, industry and region level:

- occupations are defined by 4-digit occupation unit groups in the Australian and New Zealand Standard Classification of Occupations (ANZSCO)
- industries are defined by 1-digit industry divisions in the Australian and New Zealand Standard Industrial Classification (ANZSIC)
- regions are defined by the nine Regional Partnerships of Victoria as outlined by the Victorian Department of Jobs, Precincts and Regions.

Benchmark data from the NSC give estimates of projected employment growth. Using an approach called iterative proportional fitting, the detailed occupation, industry and region breakdowns are generated by applying the distribution of employment in ABS Census and other data to the benchmark projections.

The model was developed by the VSA with the support of Nous and Deloitte Access Economics (DAE). The sections further below describe how the key outputs were modelled.

The VSA Employment Model gives a best estimate of employment by industry, occupation and region. It provides an indication but does not, and cannot, tell the full story of the region's economy.

Employment growth, 2022-25

Source: VSA and Nous (2022), *modelling of NSC (2022) Employment Projections*

This modelling takes the NSC Employment Projections as the benchmark data for 2022-25 and breaks it down into occupation by industry by region tables.

The benchmark data sources provide ‘control totals’ for occupation, industry and region breakdowns independently. However, they do not provide the interaction between each of the variables. For example, they do not give the breakdown of occupations within industries.

Iterative proportion fitting uses a detailed ‘seed’ data table with the necessary breakdowns from a representative dataset and scales that distribution to control totals in the new dataset. Over many iterations, the seed data is transformed to sum up to the occupation, industry and region control totals.

The seed data comes from the ABS Census 2016. The control totals for occupation and industry come from the NSC's Employment Projections, and the control totals for region come from the NSC's Small Area Labour Markets data. Table 16 describes the inputs in detail.

The modelling results in:

- industry and occupation projections that align with the NSC Employment Projections
- regional data that matches the distribution across NSC Small Area Labour Markets
- industry by occupation by region data tables that approximate the distribution within the ABS Census 2016.

Table 16 | Data sources used to model employment growth from 2022 to 2025

Type	Data	Source
Seed	Employment x 3-digit industry (ANZSIC3) x 4-digit occupation (ANZSCO4) x Statistical Area Level 2 (SA2)	ABS, <i>Census of Population and Housing</i> , place of usual residence data
Control total	Employment x SA2	NSC, <i>Small Area Labour Markets</i> , ‘SALM smoothed SA2 Datafiles (ASGS 2016) - March quarter 2022’.
Control total	Employment x ANZSIC1	NSC, <i>Employment Projections, 2020-25</i>
Control total	Employment x ANZSCO4	NSC, <i>Employment Projections, 2021-26</i>

Notes:

1. Following the modelling, SA2 data is aggregated up to Regional Partnership region. Where an SA2 spans multiple regions, the estimates have been apportioned based on geographic area.
2. The NSC industry projection is often not available until some months after the occupation projections. As at May 2022, there were no 2021 to 2026 ANZSIC1 by state forecasts available. The previous release of 2020 to 2025 ANZSIC1 by state forecasts were used and scaled up to match the Australian total employment numbers in the ANZSCO4 forecasts.

Retirements, 2022-25

Source: VSA, *Deloitte Access Economics (DAE) and Nous (2022), Retirement projections 2022-2025*

Retirements are estimated by applying occupation-specific retirement rates to the employment projections.

Using the Australian Census Longitudinal Dataset, an estimate of the size of the labour force aged 50 and over in 2016 was taken and compared to the size of the labour force aged 45 and over in 2011. After adjusting for migration, the gap is an estimate of retirements between 2011 and 2016. The relative age structures of occupations in the Census 2011 were then used to estimate retirements at the detailed occupation level (ANZSCO4).

The outputs were used to estimate an occupation-specific retirement rate, calculated as:

$$\text{Retirement rate} = \text{retirements between periods } t \text{ and } t+1 / \text{employment at } t$$

The retirement rates were applied to the employment projections to estimate the number of retirements between 2022 and 2025 at the region (Regional Partnerships), industry (ANZSIC1) and occupation (ANZSCO4) level.

New workers needed, 2022-25

New workers needed is the simple sum of employment growth and retirements. It is calculated at the region (Regional Partnerships), industry (ANZSIC1) and occupation (ANZSCO4) level.

New workers needed is an estimate of demand for workers to join an industry, occupation or region. In this model, demand comes from growth in employment (as business, government and other employers expand their operations) and the need to replace retirees who leave the workforce.⁵

New workers needed is not an estimate of skills shortage. In the VSA Employment Model, demand is always met by supply of new workers who enter the work force from study, unemployment, migration, a change in industry or occupation, or other avenues.

This means that the VSA Employment Model is not suitable for identifying current or future skill shortages. The Victorian Skills Plan draws on the National Skills Commission's Skills Priority List and stakeholder feedback to identify skills shortages within industries and across Victoria.

⁵ This will generally underestimate demand as it does not account for the need to replace workers who leave a job for other reasons, such as switching occupations or migrating out of Victoria.

Appendix C Victorian VET pipeline methodology

Enrolment numbers

Sources:

National Centre for Vocational Education Research (NCVER) (2021), Total VET students and courses 2020, available [here](#).

Victorian Department of Education and Training (2022), Funded Course List, available [here](#).

Victorian Department of Education and Training (2022), Funded Skill Set List, available [here](#).

The Victorian VET pipeline table estimates the number of enrolments in each qualification and skill set for the 2020 academic year in Victoria. The NCVER total VET students and courses is used as the dataset. Only courses on the Victorian Funded Course List (FCL) and the Victorian Funded Skill Set List (FSSL) are included.

The following steps were taken to develop the table:

1. Each course was reviewed by IAG members and allocated to **only one** of three main reasons for studying: to prepare for employment; to support current employment (apprenticeship or traineeship); and to progress their career. Each course is then listed under their respective allocation.
2. The numbers of students who enrolled in that course in 2020 is then noted in the VET pipeline table.
3. For courses that provide **an apprenticeship and traineeship option and a classroom-based option**, these courses are duplicated twice in the table, with enrolment numbers split across the other two options: the number of apprentice and trainee enrolments reported under the header 'with employment (apprenticeship and traineeship); the number of classroom-based enrolments is shown under the purpose for completing the classroom-based option (either to prepare for enrolment or to progress their career). An ('^{AT}') is noted next to these duplicated classroom-based courses to indicate they are also delivered as an apprenticeship or traineeship.
4. Where industry has provided feedback on the value of qualification or skill set, a ('^Q') indicates it is valued as a qualification, while a ('^{SS}') indicates it is valued as a skill set. A ('^{EIR}') indicates it is an Endorsed Industry Requirement and ('^{OL}') indicates it is an Occupational Licence. Industry has not provided feedback on all qualifications and where indicated; and each value assignment can be reviewed in the future.
5. Numbers are then totalled in their respective headers above. For the Skills Plan, the number of enrolments 'prior to employment' is a key focus for industry as it indicates how many students are being trained but are not yet employed.

The 2020 enrolment figures are a best estimate of the pipeline of workers for industry to draw on. The 2020 figures were the latest dataset available from the NCVER at the time of developing the Skills Plan and will be updated in future iterations of this document. They intend to provide an indication of the pipeline but do not and cannot tell the full story of workforce supply. Factors such as completion rates and the COVID-19 pandemic during 2020 are also likely to impact the availability of the future workforce.

Appendix D Stakeholder engagement process

Stakeholder engagements allowed VSA to test, update and validate the content of the Professional, Financial and Information Services industry insight report. Stakeholders from organisations in government, education and industry were engaged to provide input to the report and the Skills Plan more broadly. Specifically, stakeholders provided insight on economic outlook, workforce and skilling challenges and an education and training response across three rounds of consultations. Engagements guided initial thinking and research, as well as opportunities to test and revise the insights. We would like to thank the following organisations for their participation in the stakeholder engagement process. Table 17 lists the organisations involved.

Table 17 | Consultation participants

Organisation
Arts Industry Council Victoria
Australasian Security Industry Association Ltd
Australian Digital and Telecommunications Industry Association
Australian Industry Group (AiG)
Bendigo Kangan Institute of TAFE
Building Designers Association Victoria
Business Services Industry Advisory Group
Communications and Information Technology Training (CITT)
Department of Jobs, Precincts and Regions
Jobs Victoria
Music Victoria
Office of Projects Victoria
Print and Visual Communications Association - Victoria
Victorian Chamber of Commerce and Industry

References

- ¹ Victorian Skills Authority (VSA) and Nous, 2022, modelling based on Australian Bureau of Statistics (ABS), Labour Force Quarterly, February 2022.
- ² VSA and Nous (2022), modelling of NSC (2022) Employment Projections.
- ³ VSA and Nous (2022), modelling based on Australian Bureau of Statistics, Labour Force, February 2022.
- ⁴ ABS (February 2022), Labour Force Quarterly, Employment by industry (Victoria), available [here](#).
- ⁵ VSA and Nous (2022), modelling of NSC (2022) Employment Projections.
- ⁶ VSA and Nous (2022), modelling based on Australian Bureau of Statistics, Labour Force, February 2022.
- ⁷ ABS (February 2022), Labour Force Quarterly, Employment by industry (Victoria), available [here](#).
- ⁸ VSA and Nous (2022), modelling of National Skills Commission (NSC) (2022) Employment Projections.
- ⁹ VSA and Nous (2022), modelling of NSC (2022) Employment Projections.
- ¹⁰ VSA, Deloitte Access Economics (DAE) and Nous (2022), Retirement projections 2022-2025.
- ¹¹ VSA and Nous (2022), modelling of NSC (2022) Employment Projections.
- ¹² VSA and Nous (2022), modelling based on Australian Bureau of Statistics, Labour Force, February 2022.
- ¹³ ABS Census (2016), Education attainment by industry, Victoria.
- ¹⁴ National Centre for Vocational Education Research (NCVER) 2021, Total VET students and courses 2020, available [here](#).
- ¹⁵ Australian Government, Department of Education, Skills and Employment, (2021), Selected Higher Education Statistics – 2019 Student Data, available [here](#).
- ¹⁶ National Centre for Vocational Education Research (NCVER) 2021, Total VET students and courses 2020, available [here](#).
- ¹⁷ ABS 2014, Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006, available [here](#).
- ¹⁸ VSA and Nous (2022), modelling of NSC (2022) Employment Estimates.
- ¹⁹ Victorian Skills Authority and Nous, 2022, modelling based on Australian Bureau of Statistics (ABS), Labour Force Quarterly, February 2022.
- ²⁰ ABS (February 2022), Labour Force Quarterly, Employment by industry, available [here](#).
- ²¹ ABS (February 2022), Labour Force Quarterly, Employment by industry, available [here](#).
- ²² ABS (February 2022), Labour Force Quarterly, Employment by industry, available [here](#).
- ²³ Victorian Skills Authority and Nous, 2022, modelling based on Australian Bureau of Statistics (ABS), Labour Force Quarterly, February 2022.
- ²⁴ Australian Industry and Skills Committee (AISC) (2021), Financial Services, available [here](#).
- ²⁵ Invest Victoria (2017), Opportunities - Fintech, available [here](#).
- ²⁶ ABS (2014), Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006, Division K – Financial and Insurance Services, available [here](#).
- ²⁷ ABS (2014), Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006, Division K – Financial and Insurance Services, available [here](#).
- ²⁸ ABS (2014), Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006, Division K – Financial and Insurance Services, available [here](#).
- ²⁹ VSA and Nous (2022), modelling of NSC (2022) Employment Projections.
- ³⁰ Invest Victoria (2017), Opportunities - Fintech, available [here](#).
- ³¹ Live in Melbourne (2022), Professional Services, – available [here](#).
- ³² ABS (2014), Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006, Division J – Information Media and Telecommunications, available [here](#).
- ³³ ABS (2014), Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006, Division J – Information Media and Telecommunications, available [here](#).
- ³⁴ VSA and Nous (2022), modelling of NSC (2022) Employment Projections.
- ³⁵ Global Victoria (2021), Digital technologies, available [here](#).
- ³⁶ Global Victoria (2021), Digital technologies, available [here](#).
- ³⁷ Global Victoria (2021), Digital technologies, available [here](#).
- ³⁸ Victorian State Government (2021), Professional services, available [here](#).
- ³⁹ ABS (2014), Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006, Division M – Professional, Scientific and Technical Services, available [here](#).
- ⁴⁰ ABS (2014), Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006, Division M – Professional, Scientific and Technical Services, available [here](#).
- ⁴¹ Myfuture (2021), Professional, scientific and technical services, available [here](#).
- ⁴² ABS (2014), Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006 Division M – Professional, Scientific and Technical Services, available [here](#).
- ⁴³ ABS (2014), Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006 Division M – Professional, Scientific and Technical Services, available [here](#).
- ⁴⁴ VSA and Nous (2022), modelling of NSC (2022) Employment Projections.
- ⁴⁵ Live in Melbourne (2022), Professional Services, – available [here](#).
- ⁴⁶ PESTLE ANALYSIS (2015), The PESTLE Framework Explained: 6 Important Factors, available [here](#).
- ⁴⁷ AISC (2021), Financial Services, available [here](#).
- ⁴⁸ AISC (2021), Financial Services, available [here](#).
- ⁴⁹ AISC (2021), Financial Services, available [here](#).
- ⁵⁰ AISC (2021), Financial Services, available [here](#).
- ⁵¹ AISC (2021), Financial Services, available [here](#).
- ⁵² Industry Fund Services (2019), New standards for financial planners impact us all, available [here](#).
- ⁵³ AISC (2021), Financial Services, available [here](#).
- ⁵⁴ AISC (2021), Financial Services, available [here](#).
- ⁵⁵ AISC (2021), Financial Services, available [here](#).
- ⁵⁶ Martin, E. (2021) 'Buy Now Pay Later – A changing regulatory landscape',
- ⁵⁷ Anne Davies and Amanda Meade (2021), Regional Australian media outlets granted millions in federal support still slashed journalist numbers, The Guardian, available [here](#).
- ⁵⁸ AISC (2021), Information and Communications Technology, available [here](#).
- ⁵⁹ Victorian Skills Plan Consultation (2022), Communications and Information Technology Training (CITT), received May 2022.
- ⁶⁰ Premier of Victoria The Hon Daniel Andrews (2020), Digital Revolution Making Life Easier for Victorians, Media Release, available [here](#).
- ⁶¹ Premier of Victoria The Hon Daniel Andrews (2020), Digital Revolution Making Life Easier for Victorians, Media Release, available [here](#).
- ⁶² University Technology Sydney/Clean Energy Council (2020), Renewable Energy Jobs in Australia: Stage One, available [here](#).
- ⁶³ AISC (2021), Information and Communications Technology, available [here](#).
- ⁶⁴ Fitzsimmons, C (2021), 'Australia's version of the 'great resignation' revealed as staff swap jobs', The Sydney Morning Herald – available [here](#).

- ⁶⁵ VSA and Nous (2022), modelling of NSC (2022) Employment Projections.
- ⁶⁶ VSA and Nous (2022), modelling based on Australian Bureau of Statistics, Labour Force, February 2022.
- ⁶⁷ ABS (February 2022), Labour Force Quarterly, Employment by industry (Victoria), available [here](#).
- ⁶⁸ VSA and Nous (2022), modelling of NSC (2022) Employment Projections.
- ⁶⁹ VSA and Nous (2022), modelling based on Australian Bureau of Statistics, Labour Force, February 2022.
- ⁷⁰ ABS (February 2022), Labour Force Quarterly, Employment by industry (Victoria), available [here](#).
- ⁷¹ VSA and Nous (2022), modelling of NSC (2022) Employment Projections
- ⁷² VSA and Nous (2022), modelling of NSC (2022) Employment Projections.
- ⁷³ VSA and Nous (2022), modelling based on Australian Bureau of Statistics, Labour Force, February 2022.
- ⁷⁴ NSC (2022), What are emerging occupations?, available [here](#).
- ⁷⁵ AISC (2021), Information and Communications Technology, available [here](#).
- ⁷⁶ AISC (2021), Information and Communications Technology, available [here](#).
- ⁷⁷ NSC (2021), What are emerging occupations?, available [here](#).
- ⁷⁸ ABS (2021), ANZSCO – Australian and New Zealand Standard Classification of Occupations 2021 Australian update, available [here](#).
- ⁷⁹ NSC (2021), What are emerging occupations?, available [here](#).
- ⁸⁰ NSC (2021), What are emerging occupations?, available [here](#).
- ⁸¹ ABS (2021), ANZSCO – Australian and New Zealand Standard Classification of Occupations 2021 Australian update, available [here](#).
- ⁸² NSC (2021), What are emerging occupations?, available [here](#).
- ⁸³ AISC (2021), Information and Communications Technology, available [here](#).
- ⁸⁴ NSC (2021), What are emerging occupations?, available [here](#).
- ⁸⁵ NSC (2021), What are emerging occupations?, available [here](#).
- ⁸⁶ ABS (2021), ANZSCO – Australian and New Zealand Standard Classification of Occupations 2021 Australian update, available [here](#).
- ⁸⁷ AISC (2021), Information and Communications Technology, available [here](#).
- ⁸⁸ NSC (2021), Skills Priority List, available [here](#).
- ⁸⁹ AISC (2021), Information and Communications Technology, available [here](#).
- ⁹⁰ Victorian Skills Plan Consultation (2022), Feedback from Department of Environment, Land, Water and Planning.
- ⁹¹ Victorian Skills Plan Consultation (2022), Feedback from Department of Environment, Land, Water and Planning.
- ⁹² Victorian Skills Plan Consultation (2022), Feedback from Department of Environment, Land, Water and Planning.
- ⁹³ NSC (2021), Skills Priority List, available [here](#).
- ⁹⁴ NSC (2021), Skills Priority List, available [here](#).
- ⁹⁵ Infrastructure Australia (2021), Infrastructure market capacity, available [here](#).
- ⁹⁶ Victorian Skills Plan Consultation (2022), Feedback from Department of Environment, Land, Water and Planning, March 2022.
- ⁹⁷ Victorian Skills Plan Consultation (2022), Feedback from Department of Environment, Land, Water and Planning, March 2022.
- ⁹⁸ NSC (2021), Skills Priority List, available [here](#).
- ⁹⁹ NSC (2021), Skills Priority List, available [here](#).
- ¹⁰⁰ National Skills Commission (2022), Skills Priority List 2022, available [here](#).
- ¹⁰¹ NSC (2021), Skills Priority List, available [here](#).
- ¹⁰² NSC (2021), Skills Priority List, available [here](#).
- ¹⁰³ Victorian Skills Plan Consultation (2022), Feedback from Department of Environment, Land, Water and Planning, March 2022.
- ¹⁰⁴ Victorian Skills Plan Consultation (2022), Feedback from the Department of Jobs, Precincts and Regions, received May 2022.
- ¹⁰⁵ NSC (2021), Skills Priority List, available [here](#).
- ¹⁰⁶ NSC (2021), Skills Priority List, available [here](#).
- ¹⁰⁷ Infrastructure Australia (2021), Infrastructure workforce skills supply, available [here](#).
- ¹⁰⁸ Infrastructure Australia (2021), Infrastructure workforce skills supply, available [here](#).
- ¹⁰⁹ AISC (2021), Financial Services, available [here](#).
- ¹¹⁰ AISC (2021), Financial Services, available [here](#).
- ¹¹¹ AISC (2021), Information and Communications Technology, available [here](#).
- ¹¹² AISC (2021), Financial Services, available [here](#).
- ¹¹³ AISC (2021), Financial Services, available [here](#).
- ¹¹⁴ DAE (2021), Technology, Media and Telecommunications Predictions, available [here](#).
- ¹¹⁵ NCVET (2021), Total VET students and courses 2020, available [here](#).
- ¹¹⁶ Australian Government, Department of Education, Skills and Employment (2021), Selected Higher Education Statistics – 2019 Student data, available [here](#).
- ¹¹⁷ Australian Government, Department of Education, Skills and Employment (2021), Selected Higher Education Statistics – 2019 Student data, available [here](#).
- ¹¹⁸ ABS Census (2016), Education attainment by industry, Victoria.
- ¹¹⁹ NCVET (2021), Total VET students and courses 2020, available [here](#).
- ¹²⁰ NCVET (2021), Total VET students and courses 2020, available [here](#).
- ¹²¹ ABS Census (2016), Education attainment by industry, Victoria.
- ¹²² ABS Census (2016), Education attainment by industry, Victoria.
- ¹²³ Victorian Department of Education and Training (2022), Funded course list, available [here](#).
- ¹²⁴ Victorian Department of Education and Training (2022), Funded Skill Set List, available [here](#).
- ¹²⁵ Victorian Department of Education and Training (2022), Funded course list, available [here](#).
- ¹²⁶ Victorian Department of Education and Training (2022), Funded Skill Set List, available [here](#).
- ¹²⁷ NCVET (2021), Total VET students and courses 2020, available [here](#).
- ¹²⁸ NCVET (2021), Total VET students and courses 2020, available [here](#).
- ¹²⁹ NCVET (2021), Total VET students and courses 2020, available [here](#).
- ¹³⁰ NCVET (2021), Total VET students and courses 2020, available [here](#).
- ¹³¹ Australian Nursing & Midwifery Federation (2022), Registered Undergraduate Student of Nursing (RUSON) Employment Model, available [here](#).
- ¹³² Australian Broadcasting Corporation (ABC) News (2021), Banking royal commission recommendations flounder two years on, available [here](#).
- ¹³³ Australian Securities and Investments Commission (2022), Professional Standards for Financial Advisers, available [here](#).
- ¹³⁴ Australian Competition and Consumer Commission (2021), Google's dominance in ad tech supply chain harms businesses and consumers, available [here](#).
- ¹³⁵ Premier of Victoria The Hon Daniel Andrews (2020), Digital Revolution Making Life Easier for Victorians, Media Release, available [here](#).
- ¹³⁶ Premier of Victoria The Hon Daniel Andrews (2020), Digital Revolution Making Life Easier for Victorians, Media Release, available [here](#).
- ¹³⁷ Breakthrough Victoria (2022), About us, available [here](#).
- ¹³⁸ Breakthrough Victoria (2022), About us, available [here](#).
- ¹³⁹ Premier of Victoria The Hon Daniel Andrews (2021), Victoria Ready To Lead On New Vaccine Manufacturing, Media Release, available [here](#).
- ¹⁴⁰ Victorian Audit-General's Office (2021), Major Infrastructure Program Delivery Capability, available [here](#).
- ¹⁴¹ Invest Victoria (2022), Research & Development, available [here](#).
- ¹⁴² Victorian Chamber of Commerce and Industry (2018), Cleaning businesses to be licensed under new labour hire scheme, available [here](#).
- ¹⁴³ Sasha Karen (2021), Victorian govt launches \$5M business tech grant program, ARN, available [here](#).

-
- ¹⁴⁴ The Mandarin (2021), Victoria's spending on consultancies on rising trend, available [here](#).
- ¹⁴⁵ Victorian State Government (2022), Report of the Inquiry into the Victorian On-Demand Workforce, available [here](#)
- ¹⁴⁶ Accenture (2021), The Future of Work: Productive anywhere, available [here](#)
- ¹⁴⁷ Australian Banking Association (ABA) (2020), Majority of deferred loans back on track, available [here](#).
- ¹⁴⁸ Accenture (2021), The Future of Work: Productive anywhere, available [here](#)
- ¹⁴⁹ Jenny Kennedy et al. (2017) Mapping the Melbourne Sharing Economy, University of Melbourne, available [here](#).
- ¹⁵⁰ ABA (2021), Banking customers continue shift to digital, available [here](#).
- ¹⁵¹ Victorian State Government (2016), Information Technology Strategy 2016-2020, 2016, available [here](#).
- ¹⁵² Derek Wilding and Peter Fray (2018). *The Impact of Digital Platforms on News and Journalistic Content*, University of Technology Sydney NSW, 2018, available [here](#)