

Jobs and Skills Outlook 2024



Government
of South Australia

Department of
State Development



We acknowledge that Jobs and Skills Outlook 2024 was developed on the traditional lands of South Australia's First Peoples, and we respect their spiritual relationship with their country.

In delivering skills in South Australia, we acknowledge the importance of understanding Aboriginal knowledge, languages, cultures, and voices which provide important contributions and value across our workplaces, training providers, partnerships, and communities.

We respect and appreciate the important input to this plan, including the feedback, advice and experiences provided from a broad range of Aboriginal learners, training providers, industry, and supporters.

Note: *The South Australian Government uses the term 'Aboriginal' to refer to people who identify as Aboriginal, Torres Strait Islander, or both Aboriginal and Torres Strait Islander. This term is preferred by Aboriginal South Australians and the South Australian Government.*

Introduction

South Australia is experiencing strong economic growth with historically high levels of employment and record low unemployment rates. This has contributed to increased competition for skilled workers across a range of sectors, and labour and skill shortages across multiple occupations, creating opportunity for more South Australians to gain new skills and secure well-paid jobs.

Growing and sustaining the supply of skilled workers is essential to minimising the gaps between workforce demand and supply over the coming years and addressing our key labour market challenges, including an ageing workforce and underutilisation of specific groups within our existing working age population.

The Jobs and Skills Outlook is an annual release of State Government modelling with a focus on current and emerging skills needs that may be supported through post-school education and training, or overseas and interstate migration. It is one way of informing South Australians about the State's future workforce and skills needs, and supports a smart, sustainable and inclusive economy.

The Jobs and Skills Outlook provides a guide on where government and industry investment can play a role in building a sustainable long-term workforce. It helps shape the choices government makes about investment and policies across education and training, industry and region-specific workforce development, workforce attraction and retention strategies, and interstate and overseas skilled migration priorities.

For Government

It informs the choices and scope of Government investment in skills and training pathways, and workforce development interventions.

For training and education providers

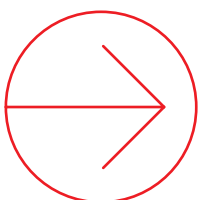
It provides a basis for identifying what types of skills and qualifications will be in demand in the future.

For industry and employers

It shows the projected level of demand for occupations and how that may change over time.

For learners

It gives a general indication about where the jobs of the future are likely to be.



Economic and labour market overview



In 2022-23, the South Australian economy grew by 3.8%, the highest increase of the states and higher than the national rate of 3.1%. Growth is projected to continue, with the 2024-25 State Budget forecasting South Australian Gross State Product (GSP) to increase by 1.25% in 2023-24 (reflecting a slowing economy and a substantially lower grain harvest compared to the record in the previous year).

Employment growth in South Australia is expected to moderate over the next few years, with stronger growth in occupations that require higher skill levels (certificate IV and above). The 2024-25 State Budget is forecasting employment to grow by 0.5% in 2024-25 followed by subdued growth in the following years.

Trends in Industry Employment

Over the past decade in South Australia, industries with the highest employment growth include health care and social assistance (up by 57,600 employed people), professional, scientific, and technical services (up 25,700), public administration and safety (up 10,800), construction (up 9,900), and education and training (up 7,400).

While the manufacturing industry has recorded declines in employment over the past decade due to factors such as automation, it remains a large contributor to employment, employing 7% of South Australia's current workforce.

Employment projections for the state are showing just three services industries will account for nearly 75% of employment growth in the five years to 2028.¹ These include health care and social assistance, professional, scientific and technical services, and education and training.

Occupations in Demand

Over the past decade in South Australia, occupations that recorded the most employment growth include carers and aides, business, human resource and marketing professionals, and health professionals.

Over the next five years, strong employment growth is projected for roles in health care including registered nurses and allied health professionals. Strong growth is also expected for specialist managers such as ICT managers, human resource, and construction managers, and for

STEM occupations such as software programmers and civil engineers.

Many of these in-demand occupations are currently reported to be experiencing shortages in South Australia as well as nationally. Around 38% of all assessed occupations are reported to be experiencing shortages in South Australia. These include many occupations that are projected to experience high demand by employers in the coming years, such as aged and disability care workers, software and applications programmers, electricians, carpenters, and truck drivers.

1. J Dixon, "Victoria University Employment Forecast," *Centre of Policy Studies*, Victoria University, 2023

Education, training and workforce supply

The higher education and vocational education and training (VET) sectors play a critical role in educating and training the workforce for the future. These sectors work closely with government and industry to respond to current and projected workforce needs and to address workforce gaps by designing courses that are industry-relevant and aligned to areas of need.

The Australian Universities Accord review of higher education may result in a sharper focus on the alignment and complementarity of the higher education and VET systems.

At a local level, South Australia's higher education sector is entering a new era with legislation passed in State Parliament in 2023 to create Adelaide University, an amalgamation of The University of Adelaide and University of South Australia. The new institution is expected to be opened in 2026 and by 2034, it is anticipated that Adelaide University will contribute an additional \$500 million per year to the State's economy and increase domestic student graduations by 2,800 students per year compared to today's numbers.

In addition, with the opening of the new Flinders University City Campus, Flinders University continues its strong growth trajectory, ensuring that the higher education sector in South Australia builds on its solid foundations and produces graduates for occupations in demand, both now and in the future.

In parallel, the significant investment in the VET sector through the National Skills Agreement will ensure the sector continues to thrive and make a major contribution to training the future workforce.

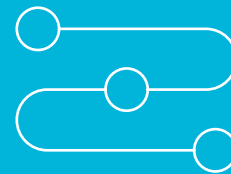
Key Challenges

With South Australia's consistently low unemployment rate, there is increased competition for existing workers. Our ageing workforce, along with lower than national population growth for people of working age, lower levels of labour force participation and underutilisation of key cohorts, including young people and migrants, may further exacerbate workforce pressures.

Currently 236,000 people, or 20% of the working age population in South Australia, are not participating in the labour force.

Furthermore, 1 in 5 young people (15-24 years) are not fully engaged in study or work. This includes 20-24-year-old former students who have not yet transitioned to full-time local employment.

Growing and sustaining the supply of skilled workers can minimise the gaps between workforce demand and supply over the coming years. A combination of interventions is needed including industry and region-specific workforce development, attraction and retention strategies, education and training, and interstate and overseas skilled migration to build a sustainable long-term workforce with the right skills and experience.



Approach

The Jobs and Skills Outlook provides projections on the demand for new qualifications between 2024 and 2028 in South Australia. These projections are underpinned by State Government modelling that is updated annually.

The modelling considers a range of factors including employment growth, the need to replace workers leaving the labour force or changing occupations and the need for workers to upskill or broaden their skill set.

For the purposes of the Jobs and Skills Outlook the VET sector is considered to include Certificate I, Certificate II, Certificate III, Certificate IV, Diploma and Advanced Diploma qualifications. Higher education includes Bachelor and Postgraduate qualifications.

The State Government's approach to workforce planning includes direct engagement with industry and government agencies to identify and validate workforce demand.

Industry demand

South Australia's demand for skilled workers spans all industries across the economy, including those that are emerging areas of growth and those that support the need for essential products and services.

The need for new workers in an occupation will drive most of the demand for qualification completions over the next five years, with the highest demand expected for professionals, managers, community and personal service workers, and technicians and trades workers.

Table 1: New entrant qualification demand by industry division and major occupation, 2024 to 2028

		Low	Medium	High	Very high								
		less than 500	500 to 1,000	1,000 to 1,500	1,500								
	Total*	Managers	Professionals	Technicians and Trades Workers	Community and Personal Service Workers	Clerical and Administrative Workers	Sales Workers	Machinery Operators and Drivers	Labourers				
Agriculture, Forestry and Fishing	3,000	very high	low	low	low	low	low	low	low				
Mining	1,000	low	low	low	low	low	low	low	low				
Manufacturing	5,500	high	medium	very high	low	medium	low	medium	medium				
Electricity, Gas, Water and Waste Services	1,000	low	low	low	low	low	low	low	low				
Construction	6,000	high	medium	very high	low	medium	low	low	low				
Wholesale Trade	2,500	medium	low	low	low	low	low	low	low				
Retail Trade	7,000	high	medium	low	low	low	very high	low	medium				
Accommodation and Food Services	5,000	medium	low	medium	very high	low	low	low	high				
Transport, Postal and Warehousing	3,000	low	low	low	low	medium	low	high	low				
Information Media and Telecommunications	1,000	low	medium	low	low	low	low	low	low				
Financial and Insurance Services	3,000	medium	high	low	low	high	low	low	low				
Rental, Hiring and Real Estate Services	1,000	low	low	low	low	low	low	low	low				
Professional, Scientific and Technical Services	9,500	high	very high	medium	low	medium	low	low	low				
Administrative and Support Services	2,000	low	low	low	low	low	low	low	medium				
Public Administration and Safety	7,500	high	very high	low	high	very high	low	low	low				
Education and Training	9,000	medium	very high	low	high	medium	low	low	low				
Health Care and Social Assistance	24,000	high	very high	low	very high	very high	low	low	low				
Arts and Recreation Services	1,000	low	low	low	low	low	low	low	low				
Other Services**	3,000	low	low	high	low	low	low	low	low				

*Total is rounded to the nearest 500

**The Other Services Division includes a broad range of personal services; religious, civic, professional and other interest group services; selected repair and maintenance activities; and private households employing staff. <https://www.abs.gov.au/statistics/classifications/australian-and-new-zealand-standard-industrial-classification-anzsic/latest-release>

Occupations in Demand

Occupations that have strong future demand are often employed across multiple industries, which can result in industries competing for workers with the same skills, qualifications, or experience. For example, software and applications programmers are needed across multiple sectors, as are welding trades workers and metal fitters and machinists. The table below shows the distribution of employment for each occupation across multiple industries. Each of these occupations is rated as having strong future demand based on the forecast number of job openings.

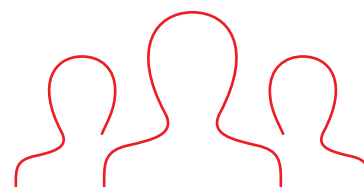


Table 2: Occupation employment level across selected industries, 2024

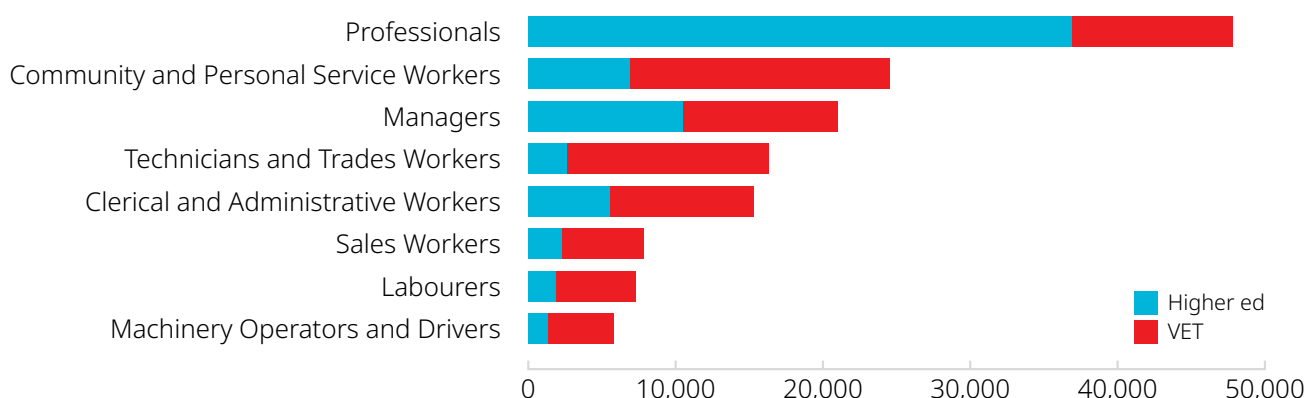
		Low	Medium	High	Very high										
		less than 500 people employed	500 to 1,499	1,500 to 9,999	10,000 or greater										
	Total employment	Agriculture, Forestry and Fishing	Resources	Defence & Manufacturing	Renewable Energy and Hydrogen	Construction	Digital, technology & cybersecurity	Education	Health and Care						
Crop Farmers	4,900	High	-	Low	-	-	-	-	-						
Mixed Crop and Livestock Farmers	3,900	High	-	-	-	-	-	-	-						
Construction Managers	7,400	Low	Low	Low	Low	High	Low	Low	Low						
Production Managers	4,300	Low	Low	High	Low	Low	Low	Low	Low						
ICT Managers	3,800	Low	Low	Low	Low	Low	Low	Low	Low						
Management and Organisation Analysts	5,700	Low	Low	Low	Low	Low	Low	Low	Low						
Civil Engineering Professionals	5,400	-	Low	Low	Low	Medium	Low	Low	-						
Early Childhood (Pre-primary School) Teachers	4,000	-	-	-	-	-	-	High	Medium						
Primary School Teachers	13,300	Low	-	-	-	-	-	Very high	Low						
Secondary School Teachers	12,200	Low	-	-	-	-	-	Very high	Low						
University Lecturers and Tutors	4,300	-	-	-	-	-	-	High	Low						
Vocational Education Teachers	2,400	-	Low	Low	Low	Low	-	High	Low						
Occupational Therapists	2,400	-	-	-	-	-	-	Low	High						
Physiotherapists	3,300	-	-	-	-	-	-	Low	High						
Generalist Medical Practitioners	5,100	-	-	-	-	-	-	Low	High						
Registered Nurses	24,600	-	-	Low	-	-	-	Low	Very high						
Software and Applications Programmers	7,600	Low	Low	Low	Low	Low	Low	Low	Low						
Database and Systems Administrators, and ICT Security Specialists	3,700	Low	Low	Low	Low	Low	Low	Low	Low						
Psychologists	2,900	-	-	-	-	-	-	Low	High						
Structural Steel and Welding Trades Workers	7,200	Low	Low	High	Low	Medium	-	-	Low						
Metal Fitters and Machinists	7,400	Low	Medium	High	Low	Medium	-	Low	Low						
Carpenters and Joiners	7,600	Low	Low	Low	-	High	-	Low	Low						
Plumbers	6,000	Low	Low	Low	Low	High	-	Low	Low						
Electricians	11,600	Low	Low	Medium	Medium	High	Low	Low	Low						
Gardeners	7,900	Low	-	Low	Low	High	-	Low	Low						
Child Carers	8,800	Low	-	-	-	-	-	High	High						
Aged and Disabled Carers	28,800	-	-	Low	-	-	-	Low	Very high						
Nursing Support and Personal Care Workers	9,200	-	-	-	-	-	-	Low	High						
Truck Drivers	15,700	Low	Medium	Medium	Medium	Medium	Low	Low	Low						

Qualifications needed

Over the five years to 2028 it is estimated that around 146,000 qualifications will need to be delivered to meet South Australia’s demand for skills. This comprises 78,000 vocational qualifications (53%) and 68,000 higher education qualifications (47%).

Skill development is required across a wide range of occupations in South Australia’s economy. From a vocational education perspective, some of the strongest need for new qualification completions is among community and personal service workers, and technicians and trades workers. Professionals are strongly associated with bachelor and above qualifications, accounting for around half of the need for higher education qualifications. Demand for VET qualifications represents over half of South Australia’s total demand for qualifications.

Figure 1: Demand for qualifications by major occupation 2024 to 2028



Qualification demand is driven primarily by new entrants into an occupation (66%), followed by existing workers upskilling (21%), and existing workers broadening their skills (13%).

New entrants

New entrant qualification demand flows from job openings; it represents the skills required to support employment growth and the need to replace workers who leave the labour force or change occupation.

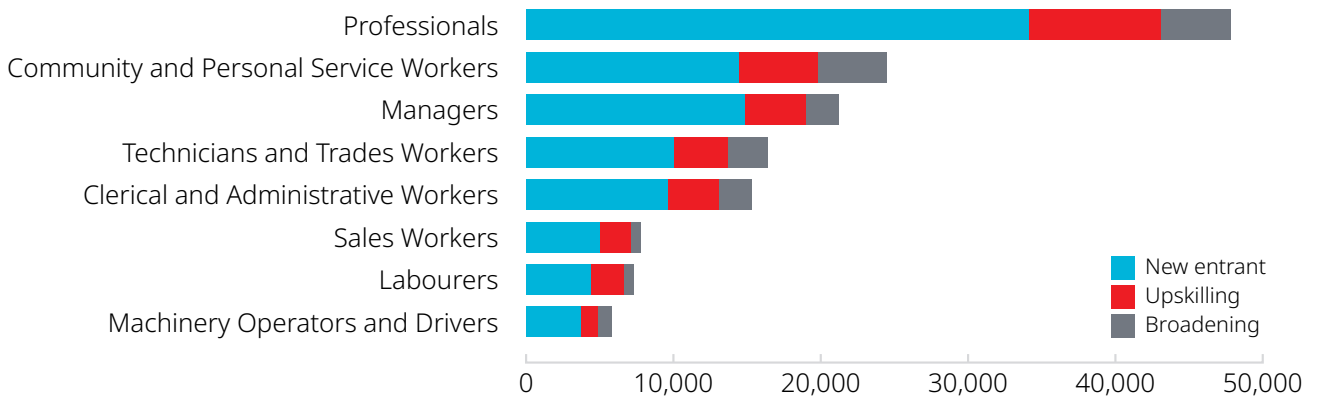
Skills broadening

Skills broadening occurs when an existing worker acquires a qualification at an equivalent or lower level compared to their highest qualification previously held.

Upskilling

Upskilling occurs when an existing worker completes a qualification at a higher level compared to their previous qualification. This may include someone who does not have a non-school qualification upskilling to a Certificate I or some other higher level of education.

Figure 2: Demand for qualifications by type and major occupation 2024 to 2028

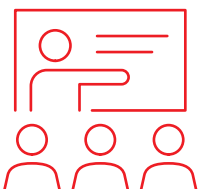
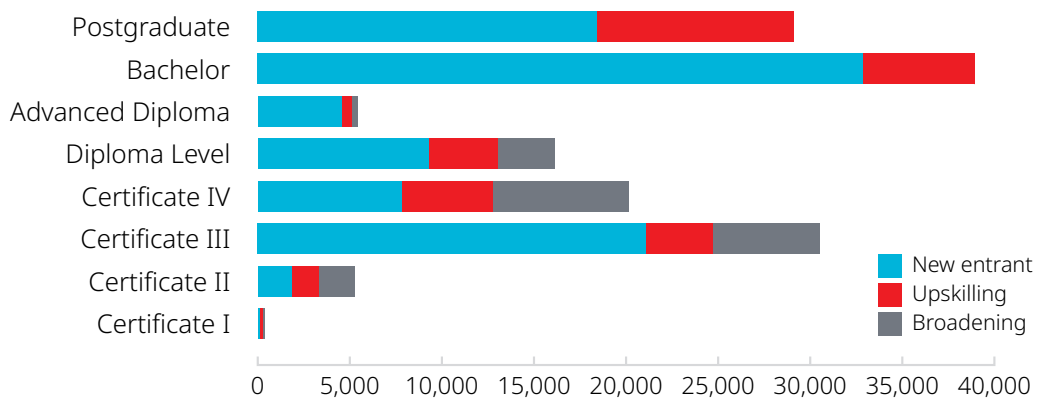


Qualification level

There is strong demand for VET qualifications at the Certificate III level, followed by Certificate IV and Diploma. There is also a strong need for higher education qualifications at both the undergraduate and postgraduate levels.

The majority of skills broadening occurs at Certificate III, IV and Diploma levels. Upskilling is prevalent across all qualification levels, with over half of the need for upskilling being for higher education qualifications.

Figure 3: Demand for qualifications by type and qualification level 2024 to 2028



Sectors in focus

Sectors in focus explore the drivers of demand and the types of occupations needed across a selection of key industries.

- **Agriculture, forestry and fishing**
- **Construction**
- **Defence and manufacturing**
- **Digital, technology and cybersecurity**
- **Education and training**
- **Health and care**
- **Renewable energy and hydrogen**
- **Resources**





Agriculture, forestry and fishing

South Australia produces world-class food and wine, including a wide range of food and fibre products used here and around the world.

The agriculture, forestry and fishing sector contributed \$7.78 billion² to the economy in 2022-23 and is also the largest export sector, valued at over \$8 billion.³ The sector supports an estimated 39,800 jobs⁴ and is a major source of employment for people living in rural and regional areas of the State.

Innovation is transforming the sector, changing how products are produced, creating new jobs and businesses supporting agriculture. Innovative products and technology built on artificial intelligence, supercomputing and automation, and advancements in biotechnology provide a range of benefits to the sector, including improved productivity and sustainability, and pest, weed and disease management. While internet connectivity can be an issue, innovation is driving an increase in demand for tech-savvy farmers and workers.

The workplace environment has changed notably due to the continued aggregation of farms, adoption of new advanced agricultural technology, including labour saving devices and a range of technologies (like mechanised/automated monitoring, harvesting and processing, traceability of produce from farm to plate, genetic modification and selective breeding), changing consumer preferences, and the focus on environmental stewardship.

Fit-for-purpose technology products support South Australian primary producers to innovate, grow and introduce more efficient production practices. The South Australian Government's 2023-24 State Budget included support for the industry's transition to the national eID system for sheep and farmed goats. The eID system allows the tracking of individual animals throughout the supply chain to strengthen biosecurity efforts and improve market access.

The 2023-24 State Budget also provided \$5.5 million for continued support over three years to the farm business resilience and the regional drought resilience planning programs to 30 June 2026, as well as the State's contribution to the SA Drought Hub (established through the Australian Government's Future Drought Fund).

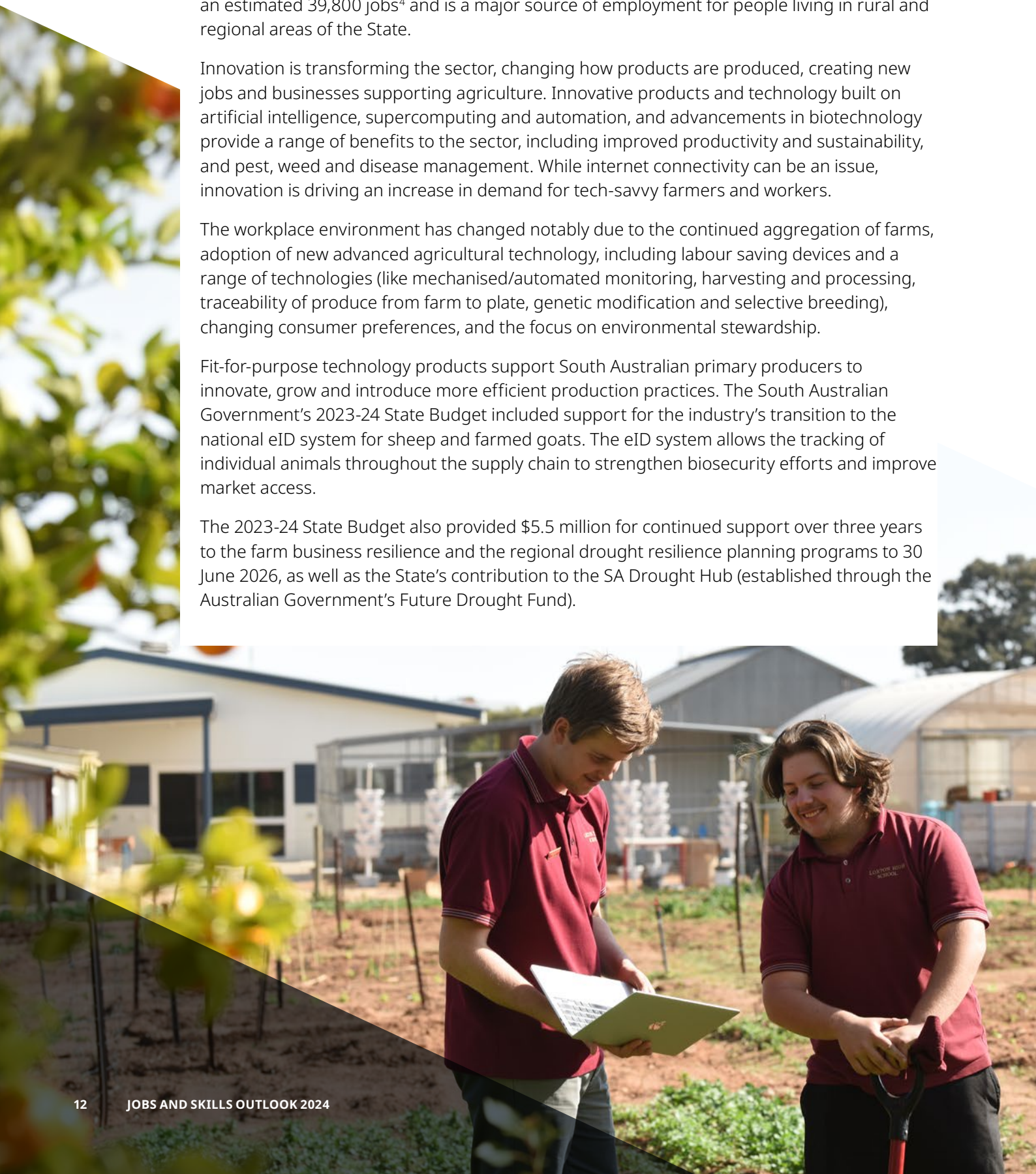
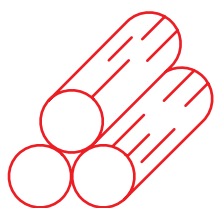


Table 2: Occupation employment level across selected industries, 2024

	Training pathway	Level of future demand
Agricultural and Forestry Scientists	Higher Education	Moderate
Agricultural, Forestry and Horticultural Plant Operators	VET	Moderate
Crop Farm Workers	Other	Moderate
Crop Farmers	VET	Strong
Garden and Nursery Labourers	VET	Moderate
Gardeners	VET	Strong
Livestock Farm Workers	VET	Moderate
Livestock Farmers	VET	Strong
Mixed Crop and Livestock Farmers	VET	Strong
Truck Drivers	VET	Strong

Strong: in top 25% **Moderate:** in middle 50% **Soft:** bottom 25% of occupations with a need for skilled people.
Other: accreditation may be required that is not VET or higher education, such as a short course or non-accredited training.



2. ABS Australian National Accounts: State Accounts, 2022-23. Table 5 - Expenditure, Income and Industry Components of Gross State Product, South Australia, Chain volume measures and current prices (ABS National Accounts Table 5)
3. Department of Treasury and Finance, Overseas Goods Exports December 2023, <https://www.treasury.sa.gov.au/economy,-taxes-and-rebates/economic-briefs> (DTF Overseas Goods Exports)
4. ABS Labour Force data, Australia, Detailed. 6291.0.55.001 - EQ06 - Employed persons by Industry group of main job (ANZSIC).(ABS Labour Force data)

Construction

The construction industry was the third largest contributor to South Australia's Gross State Product in 2022-23, generating \$9.38 billion.⁵ It is also South Australia's third largest employing industry, supporting an estimated 77,300 jobs and representing 8.1% of total employment in South Australia.⁶

In February 2023, the Government of South Australia released 'A Better Housing Future'.⁷ This plan aims to stimulate around \$968 million of additional housing construction activity supporting jobs across the state. This builds on the Government's election commitment to deliver more public housing and to increase affordable housing, leveraging funding from the Australian Government's Housing Australia Future Fund and National Housing Accord Facility. The plan also aims to reduce cost-of-living pressures on South Australians wanting to rent or buy housing to meet community's needs.

A \$474.7 million support package was announced in the 2023-24 State Budget in support of the plan to significantly increase public housing properties and support for first home buyers to purchase homes. The budget announcement confirms residential land release across Adelaide's northern and southern suburbs and support for regional key worker housing through a new Office for Regional Housing.

The delivery of new housing will require a continued supply of skilled South Australians in a wide range of construction management, trade and labourer roles. In filling these jobs, the industry is likely to continue promotion of employment opportunities for women to improve diversity in this sector and meet the ongoing demand for skills.

Major public infrastructure projects over the next decade are expected to include the Torrens to Darlington (T2D Project) component of the North-South corridor development, the new Women's and Children's Hospital, the state's first large-scale hydrogen power station, electrolyser and storage facility, and the Northern Water Supply Project.

There is also significant private sector investment in construction and infrastructure projects. This will require a continued supply of skilled South Australians in a wide range of construction roles, including numerous renewable energy projects supporting South Australia's transition to a green economy.

Recent analysis by the Department of State Development identifies substantial workforce demand across key priority construction and infrastructure projects in South Australia over the next decade. The analysis shows there will be significant demand across these projects for roles such as carpenters, structural steel fixers, plasterers, construction managers, labourers, electricians, and fabrication tradespersons. Feedback from industry also indicates continued demand or skill shortages for concreters and bricklayers.

There will also be significant defence industry construction projects occurring over the next decade, which may impact the requirements for construction workers to gain security clearances to deliver these projects.

5. ABS National Accounts Table 5

6. ABS Labour Force data

7. <https://www.housing.sa.gov.au/documents/our-housing-future/A-Better-Housing-Future.pdf>



Table 4: Occupations that are in demand in the construction industry

	Training pathway	Level of future demand
Architectural, Building and Surveying Technicians	VET	Strong
Building and Plumbing Labourers	VET	Moderate
Carpenters and Joiners	VET	Strong
Civil Engineering Professionals	Higher Education	Strong
Construction Managers	VET or Higher Education	Strong
Earthmoving Plant Operators	VET	Moderate
Electricians	VET	Strong
Painting Trades Workers	VET	Strong
Plumbers	VET	Strong
Truck Drivers	VET	Strong

Strong: in top 25%

Moderate: in middle 50%

Soft: bottom 25% of occupations with a need for skilled people.





Defence

South Australia's defence sector employs more than 14,000 workers, with another 10,000 jobs expected to be added to the defence industry pipeline, plus thousands more in associated industries over the next 20 years.⁸

The South Australia Defence Sector Strategy 2030 lays the foundation for a future South Australian defence industry that continues to create jobs, drives investment, and supports the State's economic transformation. In implementing this strategy, South Australia, 'The Defence State' will build on and sustain its already strong defence industry.⁹

The South Australian Defence Industry Workforce and Skills Report and Action Plan delivers a detailed strategy to grow and sustain South Australia's defence industry workforce for the future.¹⁰ The Action Plan outlines a range of integrated initiatives to attract people into STEM careers, or the defence industry, and span the learner's journey from the STEM attraction program in primary and secondary school, to programs which link VET and higher education students and graduates to the defence industry.

The AUKUS program will support the construction and delivery of next generation conventionally armed, nuclear-powered submarines to Australia's defence force. This commitment has the potential to significantly increase demand for a range of both higher education and VET qualified workers. The first Australian submarine, known as SSN-AUKUS, will be delivered in the early 2040s from Osborne, South Australia.

At its peak, up to 4,000 workers will be employed to design and build the infrastructure for the Osborne submarine construction yard. A further 4,000 to 5,500 direct shipyard jobs are expected to be created to build nuclear-powered submarines.¹¹

Pathways into the industry will be assisted by Findon Technical College, which opened in January 2023, and is the first of five new technical colleges across South Australia. Findon Technical College will help South Australian school students develop the knowledge and skills needed for jobs in advanced manufacturing and engineering, including in the defence industry.

8. <https://defencesa.com/workforce-and-skills/>

9. <https://defencesa.com/about-defence-sa/defence-sa-strategy/>

10. <https://statedevelopment.sa.gov.au/defence-industry>

11. Ibid.

Manufacturing

The manufacturing industry was the sixth largest contributor to South Australia's Gross State Product in 2022-23, generating \$7.75 billion.¹²

Manufacturing is also South Australia's sixth largest employing industry, supporting an estimated 71,100 jobs and representing 7.5% of total employment in South Australia.¹³

This sector includes a broad range of businesses engaged in a wide variety of activities including food production, defence equipment, metal fabrication, energy production and electronic equipment manufacturing.

The future of manufacturing in South Australia is expected to shift towards more high-tech, automated and sustainable manufacturing processes. This will involve the use of advanced technologies such as 3D printing, robotics and the Internet of Things (IoT) to improve efficiency, reduce costs and increase competitiveness.

The South Australian Advanced Manufacturing Strategy released in October 2023 identifies the attraction, retention and development of a highly skilled and productive workforce as a key enabler to develop a globally competitive and productive manufacturing capability.¹⁴

The Strategy highlights the importance of alignment between the vocational and higher education sectors to enable learners to be equipped with theoretical and practical industry skills. There will also need to be a deliberate focus on improving participation of under-represented cohorts to build a more diverse workforce, including more women.

Table 5: Occupations that are in demand in the defence and manufacturing industries

	Training pathway	Level of future demand
Contract, Program and Project Administrators	VET or Higher Education	Strong
Electrical Engineers	Higher Education	Moderate
Electricians	VET	Strong
Engineering Production Workers	VET	Moderate
Management and Organisation Analysts	Higher Education	Strong
Metal Fitters and Machinists	VET	Strong
Production Managers	VET or Higher Education	Strong
Software and Applications Programmers	Higher Education	Strong
Structural Steel and Welding Trades Workers	VET	Strong
Purchasing and Supply Logistics Officers	VET	Strong

Strong: in top 25% **Moderate:** in middle 50% **Soft:** bottom 25% of occupations with a need for skilled people.

In addition to the qualifications needed for the occupations above, there may be a requirement for employees to have occupational licensing for certain roles or security clearances at an appropriate level.

12. ABS National Accounts Table 5

13. ABS Labour Force data

14. <https://statedevelopment.sa.gov.au/manufacturing/plan>

Digital, technology and cybersecurity

The information media and telecommunications industry contributed \$2.37 billion to South Australia's Gross State Product in 2022-23¹⁵ and supported an estimated 11,000 jobs.¹⁶ With Australia facing an estimated gap of 60,000 workers in this sector, South Australia is primed to attract many to its thriving industry presence.

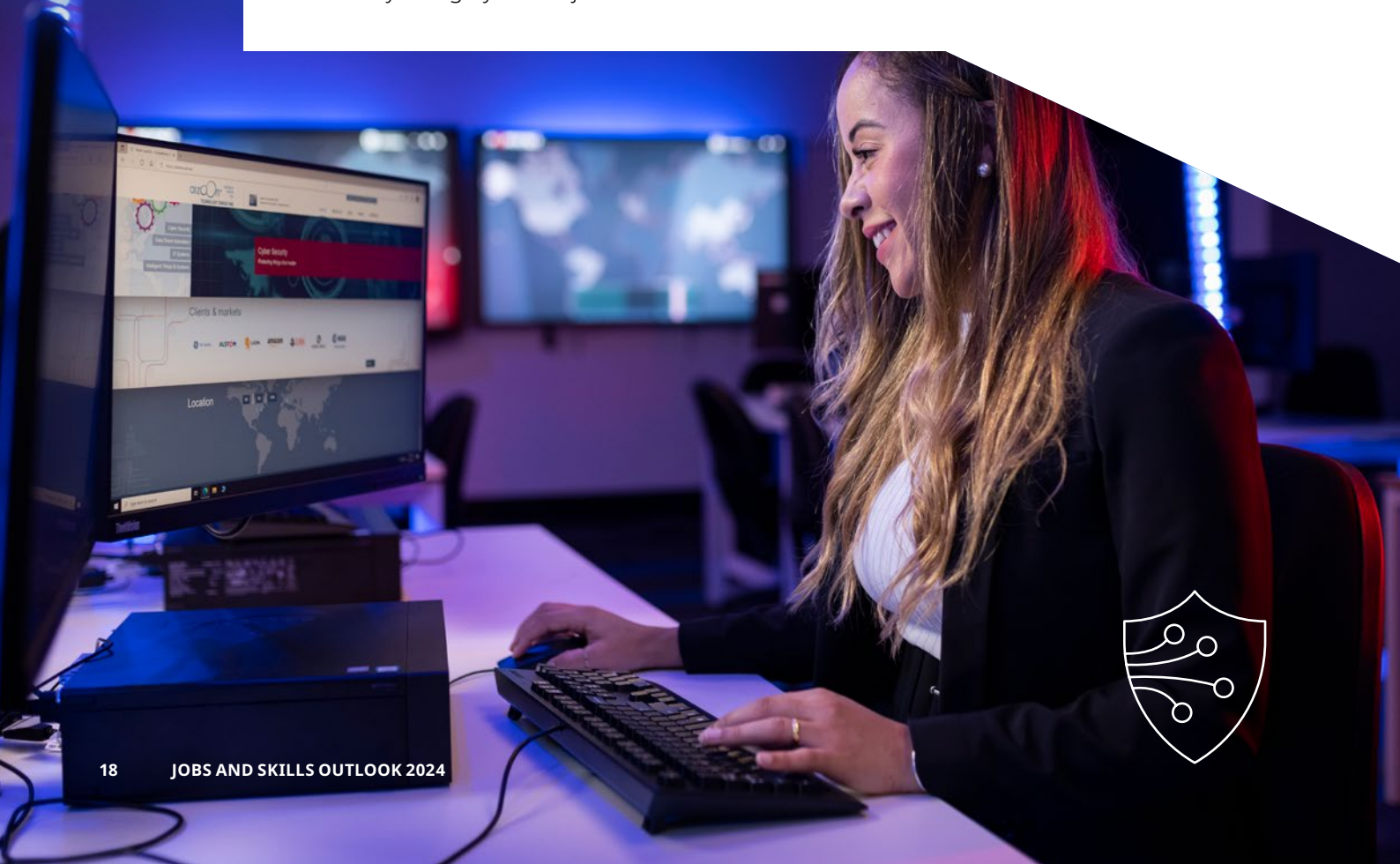
Technology and cyber security are recognised as enablers in South Australia for a safe and prosperous society. The South Australian Economic Statement released in March 2023, recognises the importance that a strong digital and security reputation has on the State's economic prosperity in its mission to 'be a partner of choice in an insecure world'.¹⁷

South Australia is home to a range of companies, ranging from new emerging innovative start-up companies to global technology companies, all seeking to grow and expand their workforce. This includes more than 50 businesses offering cyber security products and services as their core business or supplementary to their core business.

Given the importance of the digital world, the opportunity exists for technologies to continue to drive innovation, solve problems and attract investment to South Australia. The key to making the most of the opportunities is to attract and retain workers with technology and cyber capabilities across all industry sectors.

South Australia is growing future-focused industries requiring a skilled tech workforce that can develop, apply, and support the diverse application of technologies such as cloud computing, artificial intelligence, data science, automation, cyber security, robotics, extended reality (XR), and quantum computing to support this growth.

Strong growth has resulted in increasing demand for skilled technology workers across multiple industries. Traditional sources for new entrants to the workforce such as university and VET graduates continue to address skills demand alongside reskilling of existing workers for a variety of highly skilled job roles.



Autonomous learning and accreditation can provide an alternative pathway into this industry, alongside the traditional VET or higher education pathway. This includes short courses, micro-credentials or non-accredited training.

The South Australian Government is building the State's capability and further supporting the digital, technology and cyber security sector by driving innovation and collaboration through initiatives like Lot Fourteen, the Australian Cyber Collaboration Centre, the South Australian Cyber Industry Capability Matrix, and the Australian Institute for Machine Learning.

The South Australian Government is also trialling innovative approaches to help lift the participation of under-represented cohorts working in the technology sector, such as women and people living with disability. A partnership with social impact organisation Forte is delivering training programs in cybersecurity, cloud computing, data analytics, salesforce development, and full-stack development. Many Forte graduates have had successful employment outcomes within South Australia.

In an Australian first, South Australia introduced a new pathway to a career in software engineering that combines university studies with supervised on-the-job training. While completing a Bachelor of Software Engineering (Honours), students can earn while they learn as part of a university apprenticeship.

Table 6: Occupations that are in demand in the digital, technology and cybersecurity industry

	Training pathway	Level of future demand
Database and Systems Administrators, and ICT Security Specialists	VET or Higher Education	Strong
Graphic and Web Designers, and Illustrators	VET or Higher Education	Moderate
ICT Managers	VET or Higher Education	Strong
ICT Support Technicians	VET or Higher Education	Strong
Management and Organisation Analysts	Higher Education	Strong
Software and Applications Programmers	Higher Education	Strong
Telecommunications Engineering Professionals	Higher Education	Moderate
Telecommunications Trades Workers	VET	Moderate

Strong: in top 25% **Moderate:** in middle 50% **Soft:** bottom 25% of occupations with a need for skilled people.

15. ABS National Accounts Table 5
16. ABS Labour Force data
17. <https://www.premier.sa.gov.au/south-australian-economic-statement>

Education and training

The education and training sector contributed \$7.40 billion to South Australia's Gross State Product in 2022-23.¹⁸ It is South Australia's fourth largest employing sector, supporting an estimated 73,800 jobs.¹⁹

South Australia's university sector educates approximately 124,000 students each year, of which approximately 92,000 are in our three public universities. Combined, the public universities are one of the biggest employers in South Australia, with academic and professional staff contributing the creation and dissemination of knowledge and betterment of society through teaching, research and community engagement. Universities educate the professionals of the future, working closely with industry to ensure graduates are well-prepared for the workforce.

The VET sector in South Australia educates over 200,000 students each year. The VET workforce is central to the delivery of industry-recognised training across the economy and an important driver of VET quality. The South Australian government is working with the Commonwealth and state and territory governments to build and support the VET workforce that will be funded through the landmark National Skills Agreement.²⁰

Teaching workforce – including early childhood education and care

To help children and young people learn and thrive in South Australia, the Department for Education's Strategy for Public Education recognises the critical role teachers play in supporting our learners to thrive and that effective teaching and learning is the biggest lever to achieve this purpose.²¹ A priority is to support and empower teachers in the public education system to innovate and be at their best.

The National Teacher Workforce Action Plan outlines initiatives in five priority areas to tackle Australia's teacher shortage, including 1000 scholarships per year over five years to support new undergraduate and postgraduate teaching students.²² Complementing this is the South Australian Government's Enabling Educator Excellence Teaching Scholarships, which, over four years, provide scholarships of \$5,000 each to 400 students from South Australia's public universities to support them with the costs of starting a teaching degree.

In February 2024, the Government released its response to the recommendations of the Royal Commission into Early Childhood Education and Care.²³ The Government has committed to act on all recommendations, including implementing universal quality preschool for 3 and 4-year-olds, more support for children who need it, accessibility and flexibility for families, and investing in initiatives for Aboriginal children. This will grow demand for early childhood teachers and educators as well as associated allied health and specialist education services.

Part of the Government response is a \$56 million early childhood workforce development fund and support for quality teaching and learning in readiness for universal preschool delivery.

18. ABS National Accounts Table 5

19. ABS Labour Force data

20. <https://www.dewr.gov.au/skills-reform/resources/vet-workforce>

21. <https://www.education.sa.gov.au/department/strategies-and-plans>

22. National Teacher Workforce Action Plan - Department of Education, Australian Government

23. <https://www.earlychildhood.sa.gov.au/>

Table 7: Occupations that are in demand in the education and training sector

	Training pathway	Level of future demand
Counsellors	Higher Education	Strong
Early Childhood (Pre-primary School) Teachers	Higher Education	Strong
Student Services Officers	VET	Strong
Fitness Instructors	VET or Higher Education	Moderate
Primary School Teachers	Higher Education	Strong
Secondary School Teachers	Higher Education	Strong
Sports Coaches, Instructors and Officials	VET or Higher Education	Strong
Special Education Teachers	Higher Education	Moderate
University Lecturers and Tutors	Higher Education	Strong
Vocational Education Teachers	VET or Higher Education	Strong

Strong: in top 25%

Moderate: in middle 50%

Soft: bottom 25% of occupations with a need for skilled people.



Health and care

The health care and social assistance industry was the largest contributor to South Australia's Gross State Product in 2022-23, generating \$14.12 billion.²⁴

The sector is South Australia's largest employing industry, supporting an estimated 170,300 jobs and representing 17.9% of total employment in South Australia.²⁵

South Australia is home to one of the largest health and medical precincts and hubs of innovation in the Southern Hemisphere. Invest SA has identified four key areas of innovation in South Australia:

- Digital health—high-tech hospitals, innovation precincts, and unique data sets
- Clinical trials—connecting clinical research, manufacturing and an end-to-end clinical trial supply chain
- Drug development and manufacturing—centre for research and manufacturing, home to global operations for pharma, nutraceutical therapeutics, generics and supplement manufacturers
- Medtec—product innovation, research and development and hi-tech capabilities.



An additional \$2.3 billion is being invested in new health initiatives through the 2023-24 State Budget to meet demand, ease pressure on hospitals and address ambulance ramping.

Nearly \$200 million over five years will be spent on initiatives to provide better health care, with key features of the stimulus to include additional hospital staff, virtual care services and upgrades to health facilities. This will open a range of new jobs in public health across South Australia.

To support South Australians to age well, either in their own home or elsewhere, and for people with disability to live well, organisations providing health and care services need more suitably trained workers to meet demand and regulatory requirements. This workforce shortage is particularly evident in regional and remote areas of the state.

There are a wide range of job roles across the health and care sector that provide rewarding career pathways for people who want to help improve the mental or physical health and wellbeing of others.

Table 8: Occupations that are in demand in the health and care industry

	Training pathway	Level of future demand
Aged and Disability Carers	VET	Strong
Generalist Medical Practitioners	Higher Education	Strong
Nursing Support and Personal Care Workers	VET	Strong
Occupational Therapists	Higher Education	Strong
Physiotherapists	Higher Education	Strong
Psychologists	Higher Education	Strong
Registered Nurses	Higher Education	Strong
Social Workers	Higher Education	Strong
Welfare Support Workers (e.g. youth worker, disability services officer, family support worker)	VET or Higher Education	Strong

Strong: in top 25% **Moderate:** in middle 50% **Soft:** bottom 25% of occupations with a need for skilled people.

24. ABS National Accounts Table 5

25. ABS Labour Force data

Renewable Energy and Hydrogen

The electricity, gas, water and waste services industry (including renewable energy) generated \$3.78 billion to South Australia's Gross State Product in 2022-23²⁶ and supported an estimated 14,200 jobs.²⁷

As a global leader in the transition towards clean energy, South Australia generates almost 70% of its electricity from renewable sources and is working towards 100% net renewable energy by 2027. The state has a mix of renewable energy resources that includes wind power, solar, ocean energy and geothermal and incorporates small and large-scale battery storage.

The carbon neutral energy sector employs those working on significant projects such as the world's first big battery (the Hornsdale Power Reserve), the largest per capita roll-out of home battery systems, 22 wind farms, four utility scale solar farms and an emerging hydrogen sector.

The Hydrogen Jobs Plan will see the construction of a world-leading hydrogen power station, electrolyser and storage facility within the Whyalla City Council by the end of 2025.²⁸ The Plan will deliver significant benefits for South Australia, including new jobs for South Australians, enhanced grid security and helping to unlock a pipeline of renewable energy developments and associated manufacturing opportunities.

The State Government is developing a Hydrogen Workforce Roadmap, which will be released in 2024. The Roadmap will seek to identify and address the niche workforce needs for the fast emerging hydrogen industry.



Table 9: Occupations that are in demand in the renewable energy and hydrogen industry

	Training pathway	Level of future demand
Architectural, Building and Surveying Technicians	VET	Strong
Electrical Engineers	Higher Education	Moderate
Construction Managers	VET or Higher Education	Strong
Electricians	VET	Strong
Industrial, Mechanical and Production Engineers	Higher Education	Moderate
Metal Fitters and Machinists	VET	Strong
Occupational and Environmental Health Professionals	VET or Higher Education	Moderate
Plumbers	VET	Strong
Production Managers	VET or Higher Education	Strong
Structural Steel and Welding Trades Workers	VET	Strong

Strong: in top 25% **Moderate:** in middle 50% **Soft:** bottom 25% of occupations with a need for skilled people.

- 26. ABS National Accounts Table 5
- 27. ABS Labour Force data
- 28. <https://www.ohpsa.sa.gov.au/projects/hydrogen-jobs-plan>





Resources

The mining industry contributed \$6.17 billion to South Australia's Gross State Product in 2022-23²⁹ and supported an estimated 15,000 jobs.³⁰

The resources sector encompasses the exploration, mining, production and distribution of our state's world-class mineral and petroleum reserves. The South Australian resources sector produces and supplies vital minerals, metals, and energy sources essential for building homes, running businesses, charging phones, powering electric cars, and facilitating healthcare.

The resources sector supports thousands of jobs and suppliers across South Australia and anticipates an increasing demand for skilled workers in upcoming years. This demand is driven by the rise in mining project activities and the ongoing need for operations, shutdown, and maintenance.

The resources sector encompasses the exploration, extraction, processing and distribution or export of our state's world-class mineral and petroleum reserves.

This industry serves a pivotal role in the transition to Net Zero and requires a diverse range of skills to produce the critical minerals such as copper, silver and graphite needed for electrification and renewable energy technologies.

Commodities from South Australia contribute to fundamental infrastructure, products, and supplies. These include iron ore for bridges and railways, limestone for cement, kaolin utilised in cosmetics, uranium for nuclear medicines, and mineral sands like titanium employed in paints, toothpaste, and paper.

There are a range of specialised roles in the resources sector such as mining engineers, geologists and metallurgists. While these occupations comprise a relatively small proportion of the resources workforce, they are critical, and it is important to ensure there is adequate supply of these skills into the sector.

29. ABS National Accounts Table 5

30. ABS Labour Force Data

Table 10: Occupations that are in demand in the resources industry

	Training pathway	Level of future demand
Drillers, Miners, and Shot Firers	VET	Moderate
Metal Fitters and Machinists	VET	Strong
Building and Engineering Technicians	VET	Moderate
Stationary Plant Operators	VET	Moderate
Truck Drivers	VET	Strong
Production Managers	VET or Higher Education	Strong
Geologists and Geophysicists	Higher Education	Soft
Mining Engineers	Higher Education	Soft
Industrial, Mechanical and Production Engineers	Higher Education	Moderate

Strong: in top 25% **Moderate:** in middle 50% **Soft:** bottom 25% of occupations with a need for skilled people.





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Published October 2024.

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