Workforce Insights has been developed to inform government skills planning and to support employers and individuals to make informed workforce and skill development decisions.
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At the beginning of 2019, the South Australian government established eight Industry Skills Councils (ISCs) to strengthen industry’s voice in skills and workforce development, and to ensure that funding for skills and training is directly aligned to industry priorities.

Workforce Insights brings together advice from ISCs and their networks, labour market and training data and industry research to explore the latest trends in skills and workforce development. In developing these reports, the Training and Skills Commission has adopted an industry centred approach, so you can be sure the insights have been endorsed by industry leaders. The reports were developed prior to, and in the early stages of, the global outbreak of Coronavirus (COVID-19), and it is evident that significant disruption has since occurred – impacting both industry and the demand for a skilled workforce, as well as the ability of employers to commence and retain apprentices and trainees. The need for further consideration of the impacts relevant to each industry is noted, and work in this regard has commenced.

Workforce Insights has been developed to inform government skills planning and to support employers and individuals to make informed workforce and skill development decisions. Workforce Insights will continue to evolve and be updated as additional research is undertaken and new information becomes available.

Thank you to all those who supported the development of these industry-led, sector-driven documents. Individually and collectively your contribution to the skilling and development of South Australia’s current and future workforce has been immense.

For further information, visit tasc.sa.gov.au/workforce-insights
Creative industries

Creative industries is comprised of newspaper, book, magazine and software publishing; motion picture and video production, post production services; music publishing and recording; radio and television broadcasting, architectural and other design services; photographic services; computer system design; and performing arts. The industry employs around 19,500 people in South Australia.

Key findings

- This industry anticipates job growth at a higher rate than the state average between 2018 and 2026.
- For animation, gaming and VFX occupations there are skills gaps in graduates and junior levels in South Australia.
- The demand for micro-credentials is growing with employers moving away from complete qualifications towards specific units of competency or skill sets.
- Due to increasing digital technology use, ICT skills are becoming increasingly critical base skills for all occupations in the creative arts and culture.
- The two keys themes for the future are technological change and growth of new service offerings.
Industry outlook

The 2019 Department for Innovation and Skills’ Creative Industries report defines ‘creative industries’ as the sector including activities in:

- publishing
- motion picture and sound recording activities
- broadcasting
- creative and performing arts
- professional and technical services (photography, advertising, architecture, design services, computer system design and related services).¹

Using these parameters and ABS Census data, there were an estimated 19,500 people employed in the creative industries in South Australia in 2016. This compared to 17,700 in 2006, which reflects an average annual employment growth rate of 1.0 per cent—stronger than the state average of 0.7 per cent over the decade.²

The outlook for employment in the sector is positive.³ It is estimated that employment in creative industries will increase at a higher rate than the state average between 2018 and 2026 (2.0 per cent compared to 1.0 per cent),⁴ with 3,800 more people employed. Of this forecast growth, around 88 per cent is expected to occur in the following industry sub sectors:

- Computer System Design and Related Services (59.2 per cent of the increase)
- Architectural services (11.1 per cent of the increase)
- Other specialised design services (7.7 per cent of the increase)
- Advertising Services (6.8 per cent of the increase)
- Motion picture and video production (3.1 per cent of the increase).⁵

¹ | Department for Industry and Skills.
² | Ibid.
³ | PricewaterhouseCoopers, Culture and Related Industries, 9.
⁴ | Department for Industry and Skills.
⁵ | Ibid.
Skill shortages includes occupations or skills that have been identified by Industry Skills Councils as currently experiencing a skills shortage.

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Region</th>
<th>Industry</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>2D and 3D Animation</td>
<td>South Australia</td>
<td>Creative industries</td>
<td>Skill</td>
</tr>
<tr>
<td>Computer Generated Imagery (CGI)</td>
<td>South Australia</td>
<td>Creative Industries</td>
<td>Skill</td>
</tr>
<tr>
<td>Motion Capture</td>
<td>South Australia</td>
<td>Creative Industries</td>
<td>Skill</td>
</tr>
<tr>
<td>Visual Effects (VFX)</td>
<td>South Australia</td>
<td>Creative Industries</td>
<td>Skill</td>
</tr>
</tbody>
</table>

The Industry Skills Council (ISC) has noted skills gaps and a lack of relevant skills in graduates and junior level hires in South Australia, including in visual effects (VFX), gaming and animation. The ISC suggests this is partly due to a disconnect between vocational training and industry needs, and particularly the vocational education and training (VET) system’s slow responsiveness to technological advances within the industry.

A 2019 industry survey that asked five South Australian VFX and gaming companies about recruitment issues found:

- skills gaps and the lack of relevant skills is an issue; three respondents noted skills gaps in junior level hires, and two complained about inadequate skills, knowledge, understanding of emerging industries and soft skills among graduates
- 2D character animation is not taught to a sufficient capacity in Adelaide, and 3D character animation training is poor; this survey response reflects the depth of teaching currently undertaken by the tertiary and VET sectors in this area, where the level of skills acquired by students in 2D and 3D character animation are not meeting industry requirements
- training package development is too slow in adapting to industry needs, and trainers have irrelevant or outdated skills.

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The NCVER (2017) Survey of Employers’ Use and View of the VET System 2017 also indicates issues:

- job-ready training occurs independently of the VET system from non-accredited and informal training providers
- employers increasingly favour using specific units of competency or micro-credentialing or skills sets over full qualifications.7

Employers that demand a VET qualification as a job requirement are reporting a move away from complete qualifications towards specific units of competency or skill sets.

- In 2015, 53.8 per cent of employers used specific subjects or units of competence for training; by 2017 this had climbed to 61.9 per cent.
- In 2015, 46.2 per cent of employers in the arts and recreation services reported using complete qualifications for training, whereas in 2017 this had dropped to 38.1 per cent.8

According to the National Industry Insights website, the most sought-after skills in 2018 were:

- communication, virtual collaboration, social intelligence
- design mindset, thinking critically, system thinking, solving problems
- entrepreneurial
- learning agility, information literacy, intellectual autonomy and self-management
- technology.9

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7 | PricewaterhouseCoopers, Culture and Related Industries, 6.
8 | PricewaterhouseCoopers, Culture and Related Industries, 7.
9 | National Industry Insights, Screen and Media.
Critical occupations

Critical occupations includes occupations or skills that have been identified by Industry Skills Councils and include occupations that are deemed critical to achieving industry growth potential.

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Industry</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actors, Dancers and other entertainers</td>
<td>Creative Industries</td>
<td>Occupation</td>
</tr>
<tr>
<td>Computer network and systems engineer</td>
<td>Creative Industries</td>
<td>Occupation</td>
</tr>
<tr>
<td>Journalists and other writers</td>
<td>Creative Industries</td>
<td>Occupation</td>
</tr>
<tr>
<td>Media Producer (excluding video)</td>
<td>Creative Industries</td>
<td>Occupation</td>
</tr>
<tr>
<td>Production Manager</td>
<td>Creative Industries</td>
<td>Occupation</td>
</tr>
</tbody>
</table>

Two major trends shaping the skills required in the sector over the medium to long term are technological and digital change, and new service offerings.10

With the introduction of virtual and augmented reality and increased use of digital software and new technologies, it is critical that learners of the CUA Creative Arts and Culture Training Package understand and are equipped with basic ICT skills. In particular, skills required for broadcast television, radio, augmented reality and virtual reality now overlap with those required for the CUA Training Package and the ICT Training Package.

Additionally, 3D printing has increased artists’ ability to engage in new methods of art creation, making the ICP Training Package increasingly relevant to some learners of the CUA Training Package. It is important to ensure strong links are developed between these training packages.11

10 PricewaterhouseCoopers, Culture and Related Industries, 13.
11 Ibid, 14.
Future skill shortages

Future skill shortages include occupations or skills that have been identified by ISCs as being at risk of experiencing a skills shortage over the next five years.

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Industry</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>2D Animator</td>
<td>Creative Industries</td>
<td>Occupation</td>
</tr>
<tr>
<td>3D Animator</td>
<td>Creative Industries</td>
<td>Occupation</td>
</tr>
<tr>
<td>Character and Rigging Artist</td>
<td>Creative Industries</td>
<td>Occupation</td>
</tr>
<tr>
<td>Character Artist</td>
<td>Creative Industries</td>
<td>Occupation</td>
</tr>
<tr>
<td>Production Manager</td>
<td>Creative Industries</td>
<td>Occupation</td>
</tr>
<tr>
<td>Senior VFX Producer</td>
<td>Creative Industries</td>
<td>Occupation</td>
</tr>
<tr>
<td>VFX Producer</td>
<td>Creative Industries</td>
<td>Occupation</td>
</tr>
</tbody>
</table>

Computer System Design and Related Services was the overwhelmingly dominant category in employment growth in the state’s creative sector from 2006 to 2016, with 57.4 per cent of the new jobs. Creative Artists, Musicians, Writers and Performers was the third-highest category, accounting for 10.2 per cent of the new jobs. There will be increasing opportunities for workers who have skills in the culture and related industries sector to fill a skills shortage in roles in health and community services, to provide arts health services to individuals.12

12 Ibid, 15.
Employment Increases in the Creative Industries, 2006-2016, SA

- Computer System Design and Related Services: 1,700
- Architectural Services: 400
- Creative Artists, Musicians, Writers and Performers: 300
- Other Specialised Design Services: 200
- Professional Photographic Services: 100
- Performing Arts Operation: 70
- Motion Picture and Video Production: 70
- Music and Other Sound Recording Activities: 30
- Cable and Other Subscription Broadcasting: 20
- Post-prod. Serv. & Other Motion Picture/Video Activities: 15
- Other Publishing (except Software, Music and Internet): 5

13 | Department for Industry and Skills.
## Recruitment

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Industry</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>2D Animator</td>
<td>Creative Industries</td>
<td>Occupation</td>
</tr>
<tr>
<td>3D Animator</td>
<td>Creative Industries</td>
<td>Occupation</td>
</tr>
<tr>
<td>Senior Game Designer</td>
<td>Creative Industries</td>
<td>Occupation</td>
</tr>
<tr>
<td>Senior Producer</td>
<td>Creative Industries</td>
<td>Occupation</td>
</tr>
<tr>
<td>Production Manager</td>
<td>Creative Industries</td>
<td>Occupation</td>
</tr>
</tbody>
</table>

The VFX and Gaming Industry Survey (April 2019) found that among the five responses received:

- two noted that they find it difficult to find suitable artists to help them with large projects
- one reported that South Australia’s video games industry has not reached the point where demand outstrips supply of junior talent
- two noted issues with finding suitably skilled mid-level and senior personnel.  

One respondent to the survey noted:

- ‘With no incentives whatsoever for the games industry, it is difficult to compete for work, compete for talent, access talent or even invest in developing talent—for an industry that’s super competitive globally, it’s difficult to develop an industry which will support growth, even though it’s an industry worth $200 billion a year globally.’

## Retention

In regard to retention, the survey found:

- two respondents noted that the cyclical nature of the work made it difficult to retain good staff; games development was described as being ‘much less cyclical’, with better retention rates
- VFX workers often chase projects and are drawn to companies based on the projects they are undertaking
- Young VFX workers often travel and work elsewhere, including establishing themselves in larger companies; some return to Adelaide to settle down and start families.

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14 | VFX and Gaming Industry Survey, April 2019
15 | VFX and Gaming Industry Survey, April 2019
## Skilled migration

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effects Artists</td>
<td>Creative Industries</td>
</tr>
<tr>
<td>Character Artists</td>
<td>Creative Industries</td>
</tr>
<tr>
<td>Character and Rigging Artists</td>
<td>Creative Industries</td>
</tr>
<tr>
<td>Senior VFX Producer</td>
<td>Creative Industries</td>
</tr>
<tr>
<td>Production Manager</td>
<td>Creative Industries</td>
</tr>
<tr>
<td>Department Heads</td>
<td>Creative Industries</td>
</tr>
<tr>
<td>3D Animators</td>
<td>Creative Industries</td>
</tr>
<tr>
<td>Senior Games Programmer</td>
<td>Creative Industries</td>
</tr>
<tr>
<td>Production Manager</td>
<td>Creative Industries</td>
</tr>
</tbody>
</table>

When asked about skilled migration as a means of finding suitable employees, the survey results included:

- two of the five respondents noted visa issues for company in mid-level and senior level hires
- processing times, application and professional fees, accommodation and relocation and other costs were barriers.
Education and training models

In accredited VFX training, the existing higher education funding model varies significantly from the VET (Work Ready) model. A three-year qualification such as the University of South Australia’s Media Arts degree costs about $19,000 and is fully deferrable under the Higher Education Loan Program (HELP scheme). A VET advanced diploma or diploma combined qualification in screen and media will cost between $6,888 (concession) and $28,429 at TAFE SA, and $34,850 at the Academy of Interactive Entertainment (AIE); costs vary on personal circumstances and subsidy, and not all fees are deferrable.

Pathways are also available from the Diploma or Advanced Diploma in Screen and Media to the Media Arts degree and provide 1–1.5 years of credit depending on the level of completion under VET.

Similar pathways are also available for VET games qualifications that lead to university pathways.

Fees for the university courses are fully deferrable. Another benefit is that graduates wanting to work overseas can do so more easily with degree-level qualifications. Some countries, such as the UK, require degrees for work visas.

Training for the sector includes options in both the VET and higher education in South Australia.

VET providers include the following RTOs:
- TAFE SA (Certificate III – Advanced Diploma)
- Academy of Interactive Entertainment (AIE) (Certificate II – Advanced Diploma)
- Marden Senior College (Certificate II and III)
- Thebarton Senior College (Certificate II and III).

Higher education providers include:
- University of South Australia
- Flinders University/CDW Studios
- University of Adelaide
- Torrens University.

Many students are now taking advantage of VET pathways to higher education, with a two-year Advanced Diploma providing 1.5 years of credit towards a university degree.

VET for School options also allow secondary school students to complete certificate II or III level qualifications as part of their SACE studies.
Micro-credentials

Issues including skill shortages and staff retention increase the need for rapid up-skilling in the existing creative industries workforce. Micro-credentials are a means of addressing skill gaps while new technologies and processes are being rolled out.

They require a smaller investment of time and may be more effective in providing a tailored approach to specific business or sector needs.

Micro-credentials may be gained:
- online
- through industry training (on the job)
- in formal workshops and boot camps.

Regional issues

There is lower demand for employment in the general Information, Media and Telecommunications sector in South Australia’s regional areas. However, according to Industry Skills Council members, there is a need for regional youth to be able to engage in training for the screen and media industries.

With the rationalisation and closure of several TAFE SA campuses and TAFE’s generalist Certificate I, II and III multimedia courses in 2013, TAFE SA and the Academy of Interactive Entertainment (AIE) now offer online screen and media programs.

AIE continues to offer a large suite of certificate III, diploma and advanced diploma courses and online workshops that provide opportunities for regional students to access training in the sector.
Plans and major projects

<table>
<thead>
<tr>
<th>Project</th>
<th>Status</th>
<th>Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mortal Kombat</td>
<td>In progress</td>
<td>Movie production and filming</td>
</tr>
<tr>
<td>Digital Directions*</td>
<td>In progress</td>
<td>Creative Industries</td>
</tr>
<tr>
<td>Music Industry Traineeships*</td>
<td>In progress</td>
<td>Creative Industries</td>
</tr>
</tbody>
</table>

*Skilling South Australia project

Regulatory environment

The South Australian state government provides support to the film, post-production and visual effects industry in the form of its state-based ‘Post, Digital and Visual’ (PDV) rebate. The rebate is equivalent to 10 per cent of gross spend on post production, digital and visual effects work undertaken in South Australia on an eligible project.

When combined with the 30 per cent Federal PDV offset, this rebate creates one of the largest and most reliable rebates worldwide. The combination enables film makers to take advantage of a 40 per cent rebate when working with South Australia’s visual effects vendors.
ISC priorities

<table>
<thead>
<tr>
<th>ISC priority</th>
<th>Status</th>
<th>Responsibility</th>
<th>Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foundation courses – focus on regional access</td>
<td>-</td>
<td>Creative Industries</td>
<td></td>
</tr>
<tr>
<td>Industry engagement in the VET and school sector</td>
<td>-</td>
<td>Creative Industries</td>
<td></td>
</tr>
<tr>
<td>Up-skilling secondary school educators and VET practitioners</td>
<td>-</td>
<td>Creative Industries</td>
<td></td>
</tr>
<tr>
<td>Flexibility of curriculum: skills and knowledge ‘packaging’</td>
<td>-</td>
<td>Creative Industries</td>
<td></td>
</tr>
<tr>
<td>Greater implementation of certificate II and certificate III courses into SACE</td>
<td>-</td>
<td>Creative Industries</td>
<td></td>
</tr>
<tr>
<td>Financial support for approved non-accredited training such as ‘micro-credentials’</td>
<td>-</td>
<td>Creative Industries</td>
<td></td>
</tr>
</tbody>
</table>

Foundation courses - focus on regional access

Maintaining and increasing growth of quality foundation courses that provide the skills for further high-level training in the games, VFX and other digital creative industry sectors, with a focus on engaging regional access. There is a need for youth from the regions to be able to engage in training for the screen and media industries. Examples include but are not limited to:

- Boot camps/workshops whereby school students can attend:
  - city based workshops (2 day/1-week examples)
  - regional based delivery (blended to include some online and some face-to-face delivery)
  - regional road shows and expos with focus on pathways into the creative industries through short courses, VET and Higher Ed.

Industry engagement in the VET sector

Developing and improving flexible models of industry engagement with the Department for Education and Registered Training Organisations (RTOs), for the purpose of improving pathways to further study and opportunities within the digital creative industries.

Upskilling secondary school educators and VET

Working with secondary school educators and VET trainers to ensure that skills taught to South Australian students remain current with industry demand, through both accredited and non-accredited training. Examples can include short courses, accredited training and customised group training to meet individual learner requirements and needs.
Flexibility of curriculum: skills and knowledge ‘packaging’

The nature of the digital creative industries sector is that it requires a flexible approach to training. The traditional apprenticeship and traineeship model is not always practical in terms of commitment by employers due to the cyclical nature of projects. There is a need for Registered Training organisations (RTOs) and higher education to work more closely on packaging skills and knowledge with greater flexibility, for the purpose of developing desirable, industry ready graduates.

Greater implementation of certificate II and III level courses into SACE

Explore the implementation of certificate II and III level courses into SACE with the Department for Education, through the VET for Schools Students program and other customised programs that promote and embed ‘real world skills’ into learning.

Financial support for approved non-accredited training, such as micro-credentials

Seek financial support for non-accredited training, such as micro-credentials, to assist with skill shortages and staff retention. The focus on the VFX, games and other digital creative industry sectors is on micro-credentials. There is a requirement for the modern workforce to upskill staff rapidly through highly specific elements of learning. Courses developed should be modular, not always aligning to lengthy qualifications.
Disclaimer: The material contained in this document has been developed by the Training and Skills Commission with support and data provided by the Department for Innovation and Skills and others. The views and recommendations do not necessarily reflect the views of the Government of South Australia or the Department for Innovation and Skills, or indicate any commitment to a particular course of action.

The information contained in this document is provided in good faith and all reasonable care has been taken in its preparation. The Training and Skills Commission recommends users exercise care in interpreting this document and carefully evaluate the relevance of the material for their purpose and where necessary obtain appropriate advice specific to their particular circumstances.

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www.tasc.sa.gov.au