



Deloitte Access Economics and the Department for Innovation and Skills acknowledges Aboriginal people as the state's first peoples and Nations of South Australia. We recognise and respect their cultural connections as the traditional owners and occupants of the land and waters of South Australia, and that they have and continue to maintain a unique and irreplaceable contribution to the state.

The development of this report has been supported by market insights and intelligence shared by stakeholders from across the creative industries. The South Australian Government and Deloitte Access Economics would like to extend appreciation and gratitude to everyone who offered their valuable time, experience and expertise. To the businesses and industry associations who generously participated in workshops and provided business information for the sectors they represent, we offer additional thanks.

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# Glossary

<b>Acronym</b>	<b>Full name</b>
ABN	Australian Business Number
ANZSCO	Australia and New Zealand Standard Classification of Occupations
ANZSIC	Australia and New Zealand Standard Industry Classification
AR	Augmented reality
BLADE	Business Longitudinal Analysis Data Environment
EBITDA	Earnings before interest, taxes, depreciation and amortisation
FTE	Full time equivalent
GOS	Gross operating surplus. GOS typically represents a company's earnings before interest, taxes, depreciation and amortisation.
GSP	Gross state product
GVA	Gross value added
IGVA	Industry gross value added
IP	Intellectual property
LEED	Linked Employee-Employer Database
MDO	Music Development Office
MP	Member of Parliament
PR	Public relations
SA-BLADE	South Australian BLADE
SABRE	South Australian Business Research Environment
VR	Virtual reality

# Executive summary

The *Creative Industries Strategy* within Growth State, launched in late 2020 by the Hon David Pisoni, MP, Minister for Innovation and Skills, establishes industry’s vision and plan for the creative industries in South Australia.

It targets an average five per cent growth per annum nominally through to 2030 and provides an initial valuation of the creative industries. However, industry consultation revealed that creative businesses require a deeper understanding of their contribution to the economy – taking into account how creative businesses operate in practice, and the interlinkages across and within sectors of the creative industries. This was a key recommendation from industry in the *Creative Industries Strategy*.

The Department for Innovation and Skills (‘the Department’) commissioned Deloitte Access Economics to review and refine its approach to valuation, with the results presented in this report – which assesses the **direct economic contribution** of creative businesses in South Australia between 2014-15 and 2018-19. These findings establish a baseline from which to measure growth in the creative industries, and track progress against the industry’s target to 2030.

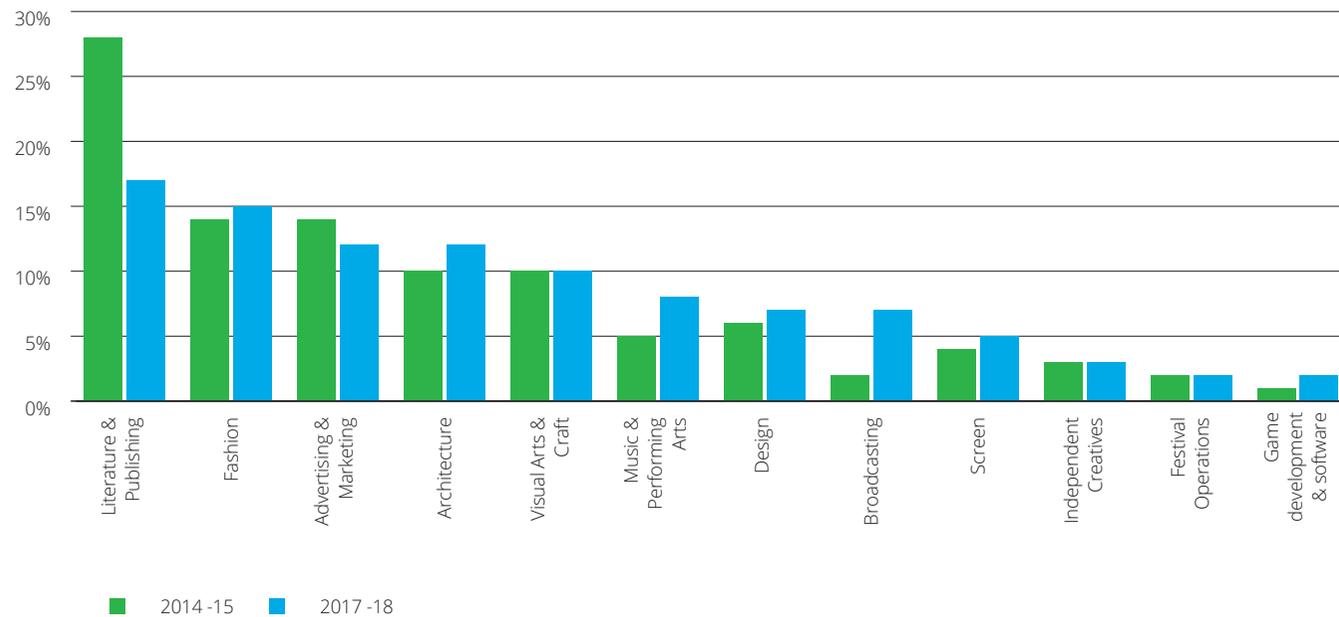
### Direct contribution of the creative industries

As a whole, businesses within the creative industries directly contributed an estimated **\$1.45 billion in value added** to the South Australian economy in 2018-19, and employed **15,785 full time equivalent employees** (FTEs) in 2018-19, based on projected estimates. Results for 2018-19 for the overall creative industries are a projection due to a lag in the publication of business information, and will be revised when actual business information for the year is published by the Australian Bureau of Statistics. As a result, estimates for individual business groupings are included for 2017-18 only throughout this report.

Breaking down the overall figure into creative business groupings, the direct contribution in 2017-18 was largely driven by literature and publishing, fashion, and advertising and marketing businesses (Chart i). These shares have changed over time, reflecting structural changes in the creative industries in South Australia. Literature and publishing, for example, has decreased in size with reduced consumption of traditional media and commercial printing, as well as the relocation of core businesses interstate. Other industries, such as game development and software, music and performing arts, and screen, have increased both in absolute terms and as a share of South Australia’s creative industries. This potentially reflects both growth trends in the creative industries across Australia, as well as South Australia’s competitive advantages.



Chart i: Value added by creative business groupings, 2014-15 and 2017-18 (%)

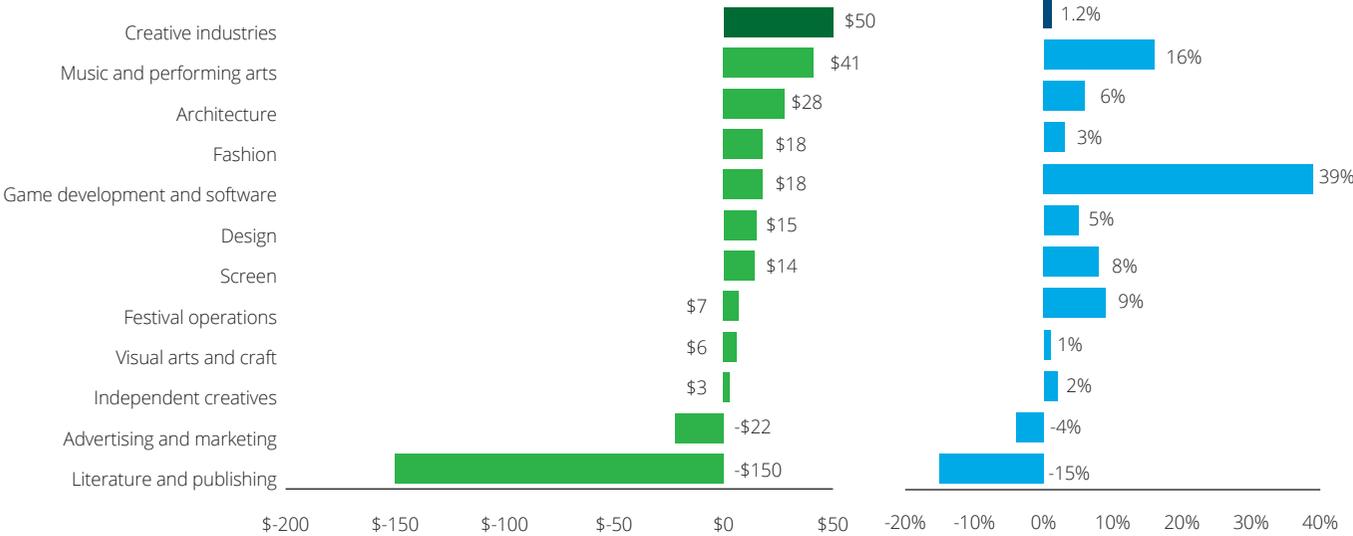


Source: Data extracted from BLADE, SABRE and SA-BLADE by the Department.

The Department may also use this analysis to develop relevant, evidence-based policy to support growth in the creative industries in South Australia over time. For example, given that game development and software businesses were among the fastest growing creative businesses in South Australia in 2017-18 (Chart iii), what could be done to further accelerate this growth? Similarly, observing the decline in the size of literature and publishing businesses in South Australia in recent years (Chart ii), what needs to be done to transfer, retain and build skills and expertise in other creative or non-creative sectors?

**Chart ii: Total change in value added, 2014-15 to 2017-18 (\$ million, real \$2020)**

**Chart iii: Annual growth in value added, 2014-15 to 2017-18 (CAGR, %, real \$2020)**



**Areas for future research**

These results may be refined over time if the scope of activities included within the creative industries were to change, and as data collection processes are improved. Potential improvements include continuing to work with industries on an ongoing basis to identify additional creative businesses not captured within the current framework, and educating sectors on the relevance of using the correct Australia and New Zealand Standard Industry Classification (ANZSIC) classification through business taxation statements to align creative business activities to the most relevant ANZSIC class.

There may also be scope for a supplementary creative occupation approach to capture embedded creatives throughout the rest of the South Australian economy, as well as in creative businesses, following the future release of the unit-record microdata Linked Employee-Employer Database (LEED).<sup>1</sup>

**Deloitte Access Economics**

Note: Chart excludes broadcasting business grouping due to volatility in value added estimates. The annual growth rate for remuneration in the broadcasting business grouping between 2014-15 and 2017-18 is -9 per cent, compared to -0.3 per cent for the creative industries overall, in real terms. Figures in Chart iii are in compound annual growth rate (CAGR) terms.

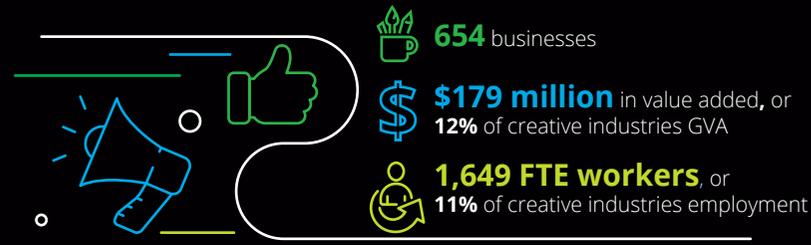
Source: Data extracted from BLADE, SABRE and SA-BLADE by the Department.

<sup>1</sup> LEED is a dataset which combines employer information from the Business Longitudinal Analysis Data Environment (BLADE) with employee information sourced from income taxation data. The LEED currently comprises information from 2011-12 to 2016-17: ABS, Linked Employer-Employee Database (LEED) <<https://www.abs.gov.au/about/data-services/data-integration/integrated-data/linked-employer-employee-database-leed>>.

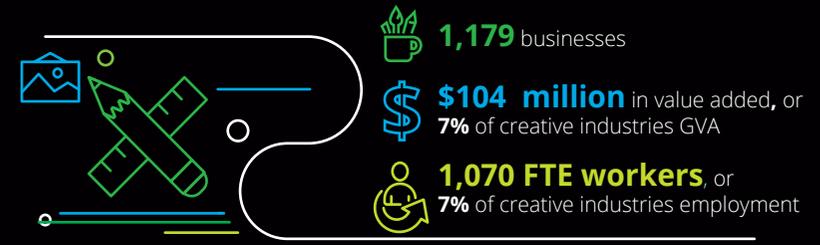
In 2017-18, over **9,200 creative businesses** in South Australia directly contributed **\$1.45 billion** in gross value added (GVA) to the South Australian economy, and employed **15,623 full time equivalent employees (FTEs)**.

Breaking these figures down for each creative business grouping:<sup>2</sup>

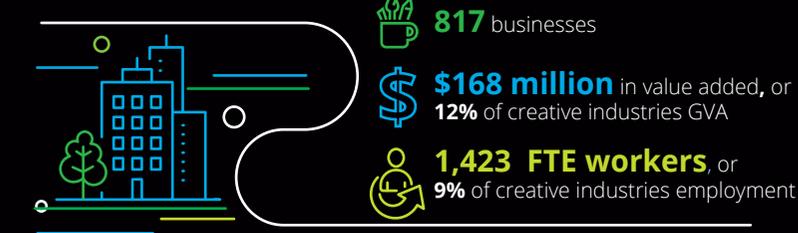
### Advertising and marketing



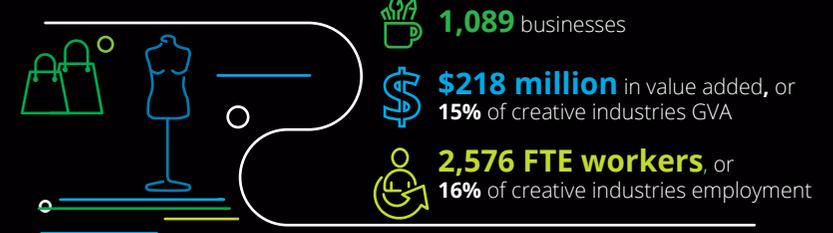
### Design



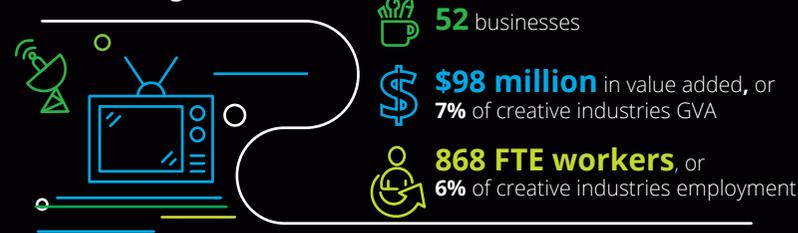
### Architecture



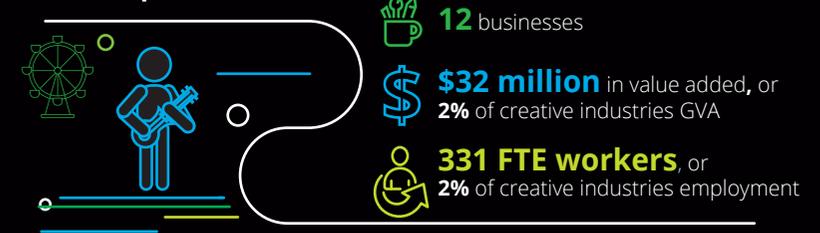
### Fashion



### Broadcasting



### Festival operations

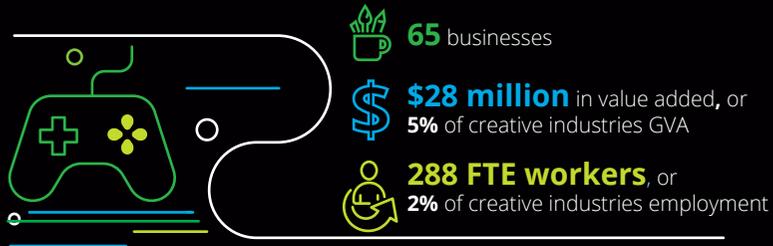


<sup>2</sup> In some business groupings, the total number of businesses exceeds the number of FTE workers captured in 2017-18. This indicates that a large number of businesses in this grouping are either non-employed businesses, or have a low incidence of full-time employment. The methodology in this report assumes that non-employed firms captured in the creative industries are associated with up to two FTE workers, scaled according to average employment-to-GVA ratios for each business grouping (see Appendix B for further detail). In addition, it is noted that the number of workers in headcount terms is likely to be higher than the number of FTE employees, due to the part-time nature of employment in some sectors (such as independent creatives).

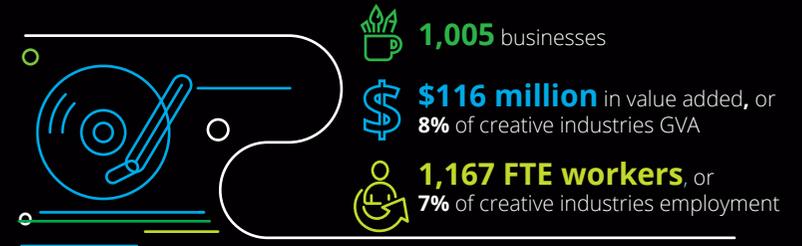
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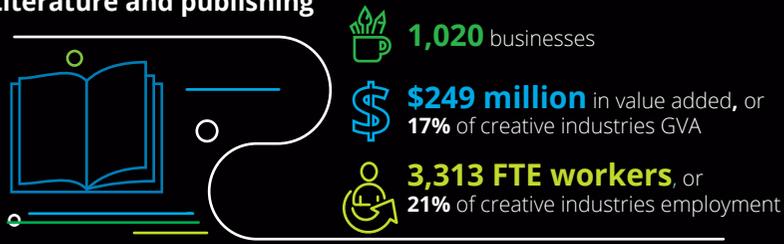
### Game development and software



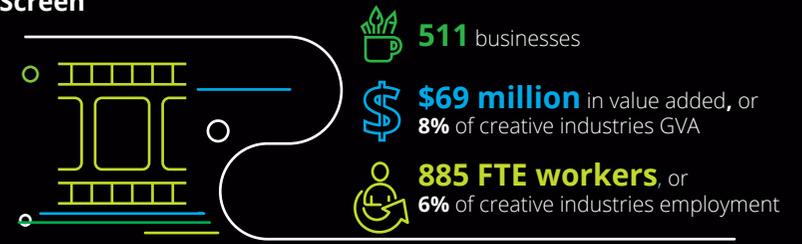
### Music and performing arts



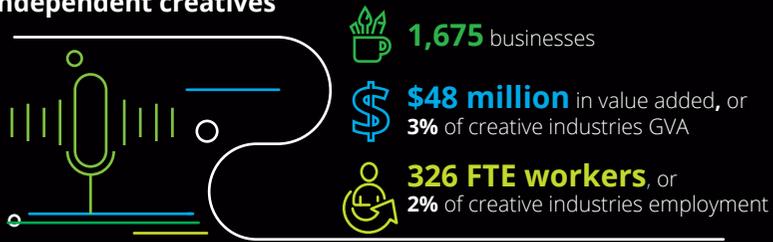
### Literature and publishing



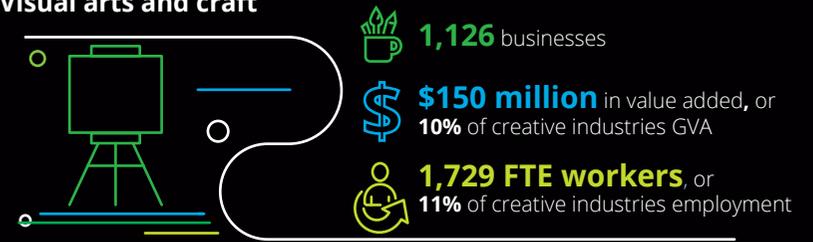
### Screen



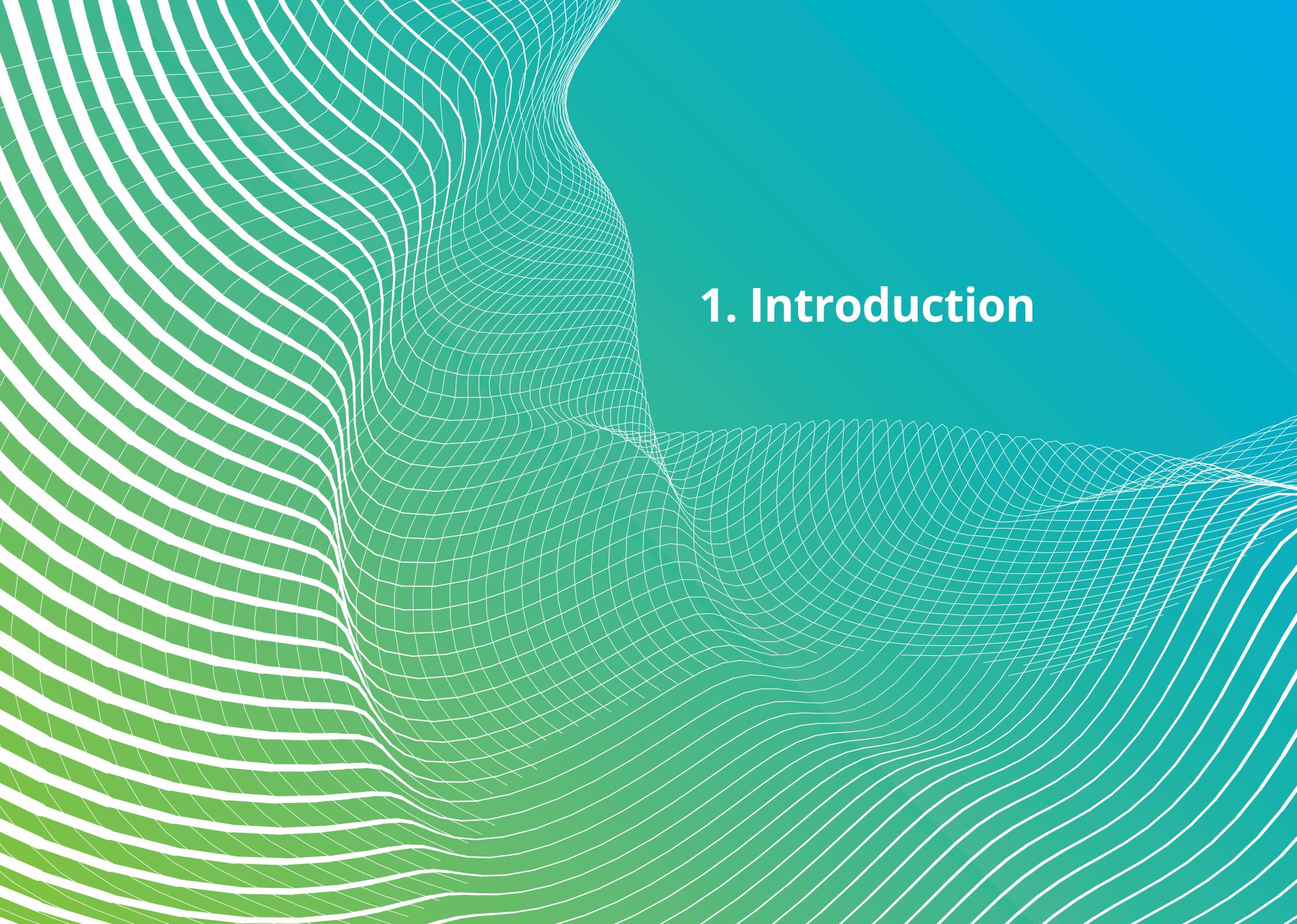
### Independent creatives



### Visual arts and craft



<sup>2</sup> In some business groupings, the total number of businesses exceeds the number of FTE workers captured in 2017-18. This indicates that a large number of businesses in this grouping are either non-employing businesses, or have a low incidence of full-time employment. The methodology in this report assumes that non-employing firms captured in the creative industries are associated with up to two FTE workers, scaled according to average employment-to-GVA ratios for each business grouping (see Appendix B for further detail). In addition, it is noted that the number of workers in headcount terms is likely to be higher than the number of FTE employees, due to the part-time nature of employment in some sectors (such as independent creatives).

The background features a teal-to-green gradient with white wavy lines that create a sense of depth and movement, resembling a wireframe or topographic map.

# 1. Introduction

# 1. Introduction

As one of South Australia’s nine priority Growth State sectors, businesses in the creative industries form an integral part of the economy as a key driver of original content, intellectual property, jobs and economic growth.

The *Creative Industries Strategy* within Growth State, launched in late 2020 by the Hon. David Pisoni, MP, Minister for Innovation and Skills, establishes industry’s vision and plan for the creative industries in South Australia. It targets an average five per cent growth per annum nominally through to 2030, and proposes a whole-of-ecosystem approach to strengthen South Australia as a growth state for creative industries.

This strategy provided an initial valuation of the creative industries, estimating a direct contribution of \$1.2 billion in 2018-19. But industry consultation revealed that creative businesses require a deeper understanding of their contribution to the economy – taking into account how creative businesses operate in practice, and the interlinkages across and within sectors of the creative industries.

The Department for Innovation and Skills (the Department) consequently engaged with industry representatives to test the data classifications developed for each sector. The Department subsequently commissioned Deloitte Access Economics to review and refine this approach, with the results presented in this report – which assesses the direct economic contribution of creative businesses in South Australia between 2014-15 and 2018-19. This will enable the Department to establish a baseline from which to measure growth in the creative industries, and

develop relevant, evidence-based policy to support the industry. By repeating this analysis on an annual basis, the Department can track future growth in creative businesses in South Australia, and monitor against the targeted nominal annual growth rate of 5 per cent.

### 1.1 South Australia’s creative economy

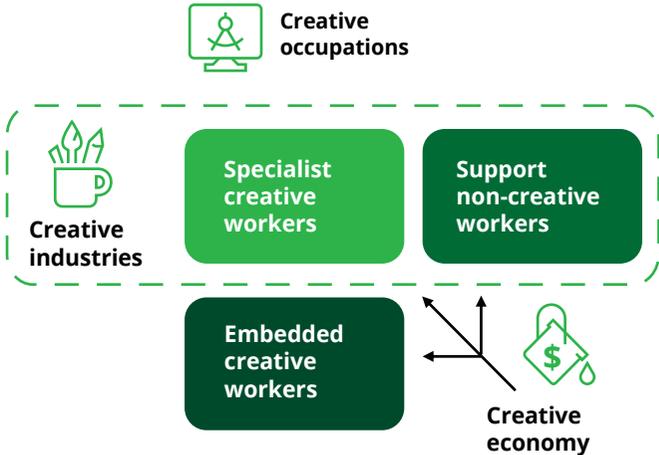
This report looks to capture all businesses and workers operating in the **creative industries** within South Australia – including creative specialists such as musicians, writers, designers, and performers, as well as non-creative **support workers** such as accountants, lawyers, and administrative assistants who work in creative businesses.

However, workers engaged in creative occupations in non-creative industries (also known as **embedded creatives**) are not captured. Together, these three groups of workers represent all workers within the ‘creative trident’ approach to defining the creative economy (Figure 1.1).

Creative businesses and workers are the source for the creation of original content and valuable intellectual property (IP), which can drive investment and exports in a region. The creative economy employs a highly skilled and innovative workforce with the critical thinking and design skills which are increasingly important as South Australia shifts towards a services economy. However, the economic importance of the creative economy is often overlooked due to difficulties in using traditional economic reporting to measure or attribute this value to a single activity or industry.

In addition to bringing a financial return to the state, the creative economy also contributes a broader social and cultural impact to South Australia. The creative economy supplies the creative goods and services which consumers use for recreation and self-expression, and creates opportunities for cultural and social engagement within families and communities.

Figure 1.1: Creative industries and occupations within the creative economy



Source: Higgs and Cunningham (2007).<sup>1</sup>



### 1.1.2 Creative supply chains and services

In addition to generating activity within the creative economy, creativity plays a broader role in South Australia's economy through supplying inputs to non-creative businesses. Goods and services produced within the creative economy often form part of supply chains used in production in other industries – such as the marketing of premium wine brands, or the design of industrial and homeware products.

This means that the boundaries between the creative industries and other industries in the economy are blurred, and activities in the creative industries may often intersect with activities in other industries. Some of this intersection is captured in the economic activity and employment estimates in this report, while some is not, depending on how businesses record their industry category. In addition, many businesses within the creative industries operate across sectors or provide an integrated offering. These businesses are also captured on the basis of their industry category – typically selected by the business itself.

### 1.2 Defining the creative industries

Globally, a number of different methods have emerged to define the creative industries and the creative economy. Some of these approaches are outlined in Appendix A.

The Department developed initial data classifications for the measurement of the creative industries in the *Creative Industries Strategy*. However, subsequent industry consultation revealed that creative businesses require a deeper understanding of their contribution to the economy – taking into account how creative businesses operate in practice, and the interlinkages across and within sectors of the creative industries. The Department consequently engaged with industry representatives to test the definitions for each sector, developing a broader list of industry-defined creative activities. The Department then matched

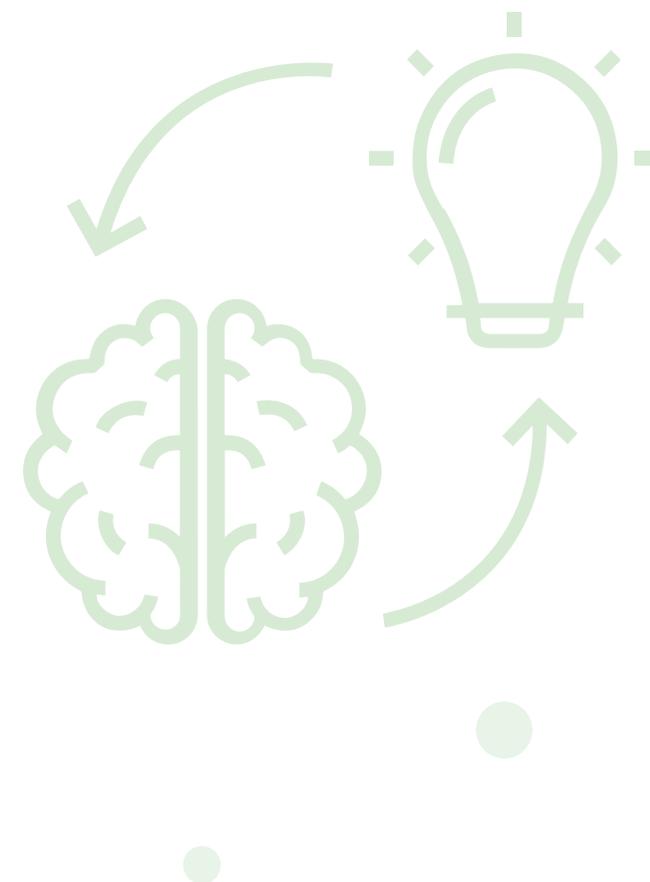
these activities to a list of detailed Australia and New Zealand Standardised Industry Classification (ANZSIC) codes.

The Department also worked with industry representative bodies to identify the ABNs of businesses which identified as creative businesses but were not captured under the creative ANZSIC codes.

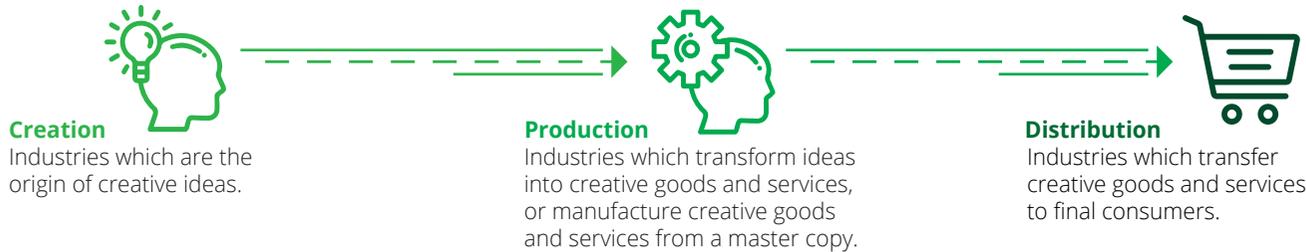
To review and refine this approach, Deloitte Access Economics further interrogated the list of ANZSIC codes through mapping to the creative supply chain proposed by the Centre for Creative Industries at the Queensland University of Technology and the Australian Bureau of Statistics (ABS). This supply chain mapping identifies activities in the creation, production and distribution of creative goods and services, as well as supporting activities and services (Figure 1.2). The detailed mapping is included in the Appendix A in Table A.1.

To better focus on creative supply chain activity within South Australia, creative businesses in ANZSIC codes mapped to distribution activities by interstate-headquartered businesses were excluded from economic contribution estimates. For example, this excludes activity by interstate-headquartered retail businesses in the fashion and music business groupings.

Activities by publicly funded supporting services was also excluded from economic contribution estimates, such as education services in schools or universities. Activities by publicly funded organisations were only included where the organisation was engaged in creative production – such as by the South Australia Film Corporation or the Adelaide Film Festival.



**Figure 1.2: Creative industries supply chain**



 **Supporting services**  
Industries which play a significant direct supporting role in other parts of industry supply chains (e.g. education and training services).

Source: Higgs, Cuningham and Pagan (2007) ; ABS (2014-15).<sup>iii</sup>

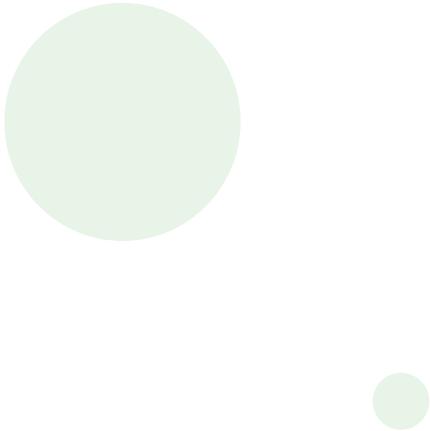
**Table 1.1: Creative sectors and business groupings used in this report**

Creative sectors identified in the Creative Industries Strategy (2020)	Creative business groupings used in this report
<ul style="list-style-type: none"> <li>• advertising and communications design</li> <li>• broadcasting: tv, radio and podcasts</li> <li>• design: architectural, industrial, urban, landscape, interior and product</li> <li>• fashion</li> <li>• festivals (creative and cultural)</li> <li>• music</li> <li>• performing arts</li> <li>• screen: film &amp; TV, post-production, game development</li> <li>• visual arts and craft</li> <li>• writing and publishing.</li> </ul>	<ul style="list-style-type: none"> <li>• advertising and marketing</li> <li>• architecture</li> <li>• broadcasting</li> <li>• design</li> <li>• festivals</li> <li>• fashion</li> <li>• game development and software</li> <li>• literature and publishing</li> <li>• music and performing arts</li> <li>• screen</li> <li>• visual arts and crafts</li> <li>• independent creatives.</li> </ul>

Source: Department and Deloitte Access Economics

The ten creative sectors initially identified in the Creative Industries Strategy were then aggregated within the creative business groupings set out in Table 1.1. These changes were partly based on feedback from industry, as well as data availability, which required aggregating some sectors (e.g. music and performing arts). These business groupings are further defined and described in Chapter 2.

These business groupings may continue to change over time based on continued consultation with industry, as well as changes in data availability. For example, the design business grouping may eventually be removed if all design businesses can be allocated to other creative groupings (e.g. architectural design or fashion design businesses).



### 1.3 Measuring the economic value of creative businesses

Economic contribution studies typically measure the direct and indirect contribution to gross state product (GSP) or gross domestic product (GDP) and employment arising from activity in a particular industry or firm in a historical reference year. To align with other Growth State industry reporting, this report only considers the **direct economic contribution** of businesses within the creative industries. A key benefit of focusing on the direct economic contribution is that there is minimal chance of double-counting across different creative industries, as well as other industries.

The direct contribution is a measure of the **value added** by the labour and capital inputs directly engaged by the creative industries. This can be estimated for an industry by aggregating businesses' returns to capital (gross operating surplus, or GOS) and returns to labour (wages), in addition to production taxes less subsidies received (net taxes). **Employment** is measured on a full-time equivalent (FTE) basis.

Whereas industry-wide economic contribution studies typically rely on aggregated financial information collected from firms (such as through a survey), this report adopts a methodology based on reported financial data accessed through the Business Longitudinal Analysis Data Environment (BLADE) and the South Australian Business Research Environment (SABRE), and the combination of the two in SA-BLADE. By collating production and employment data for all businesses in South Australia, this approach provides a robust estimation of the aggregated contribution of creative businesses to economic activity and employment in South Australia. However, the division by business grouping is dependent on how businesses self-identify their industry sector – which may mean that some businesses are miscategorised, or others may be assigned to one grouping but in reality operate across multiple sectors. For example, while a fashion designer may be engaged in design and manufacturing activities within the fashion business grouping, its ABN may only be captured within the BLADE as a retail business. The former limitation may be addressed over time if businesses correctly register their industry division, or where the Department is able to identify individual business ABNs and capture their activity through the SABRE. A detailed overview of the methodology is set out in Appendix B.



**Comparison to previous economic contribution studies in the creative industries**

The results presented in this report may differ from previous estimates of the economic contribution of the creative industries. These differences may arise due to the following reasons.

Firstly, any estimates are sensitive to the data classifications of each sector used. The data classifications used in this report may differ from prior estimates, including those in the Creative Industries Strategy. This makes 'like-for-like' comparisons challenging.

Secondly, industry economic contribution studies have previously been based on industry-level data, including survey data published by the ABS or industry bodies. Survey data provides a valuable snapshot of the sectors covered, but survey methods are subject to inherent limitations, and may not be comprehensive in their coverage. BLADE data, in comparison, is based on business-reported financial data at an individual firm level for administrative purposes. While this data is also limited in some ways (as outlined in Appendix B), it is possible that more firms are captured in BLADE data rather than through survey information.

Thirdly, some sectors are typically considered on the basis of the expenditure associated with those sectors within a state, rather than the activities of businesses. This includes creative sectors which often report associated tourism or consumer expenditure, such as festivals, music and performing arts. It also includes sectors such as the screen production industry, where it is common to report screen-related expenditure within a jurisdiction. Economic contribution studies based on expenditure are not comparable due to the different basis of the analysis.

Finally, this report focuses only on the direct economic contribution associated with creative businesses. Other studies may report on the total economic contribution, which also includes the indirect economic contribution, or flow-on effects.



The background features a teal-to-green gradient with white, wavy, grid-like lines that create a sense of depth and movement, resembling a topographical map or a digital landscape.

## **2. Valuing the economic contribution of South Australia's creative businesses**

# 2. Valuing the economic contribution of South Australia’s creative businesses

In 2018-19, creative businesses in South Australia directly contributed an estimated \$1.45 billion in value added and 15,785 FTE jobs to the South Australian economy.

## 2.1 Contribution of all South Australian creative businesses

As a whole, businesses in the creative industries directly contributed an estimated **\$1.45 billion in value added** to the South Australian economy in 2018-19, based on projected estimates. This contribution has grown from \$1.41 billion in 2014-15. The total number of FTE workers employed in creative businesses declined by an annual rate of 0.4 per cent from 16,025 in 2014-15 to 15,785 in 2018-19 (Table 2.1).

This contribution includes **all activity taking place within South Australia**, including by businesses which are headquartered in South Australia, as well as businesses which are headquartered outside of the state but undertake activities in South Australia. Production and employment by these businesses which takes place interstate is not included.

Due to a lag in the publication of business information in the BLADE, the **projection** in 2018-19 is based on growth in the total employee remuneration reported by creative businesses in South Australia captured in the SABRE. This projection will be revised when actual business information for the year is published by the ABS. As a result, estimates for business groupings are included for 2017-18 only throughout this report.

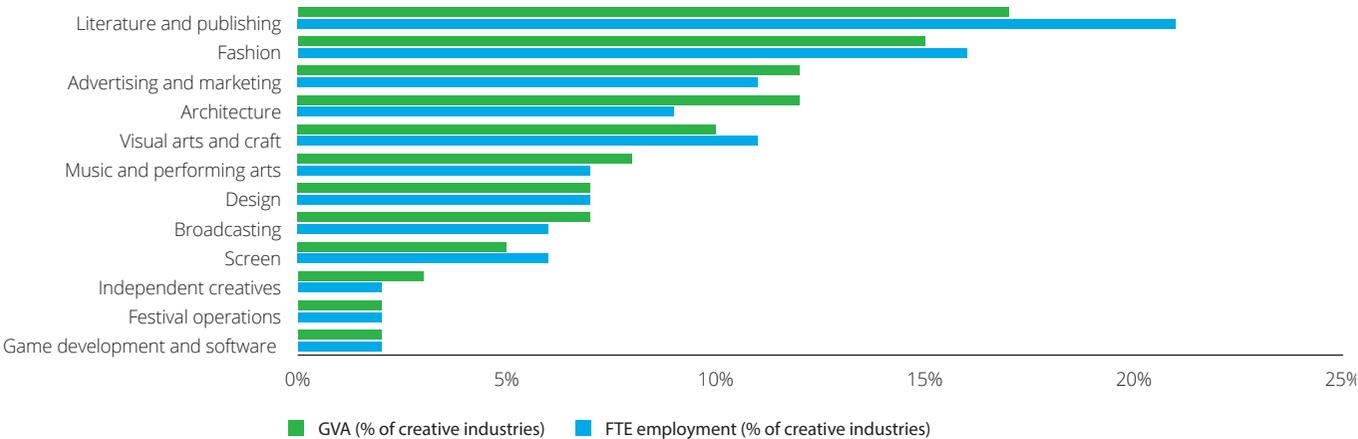
**Table 2.1: Direct contribution of the creative industries in South Australia, 2014-15 to 2018-19 (\$2020)**

	2014-15	2015-16	2016-17	2017-18	2018-19(p)
<b>Value added (\$m)</b>	1,409	1,567	1,362	1,459	1,455
<b>Employment (FTE)</b>	16,025	15,648	15,560	15,623	15,785

Source: Data extracted from BLADE, SABRE and SA-BLADE by the Department.  
 Note: Results for 2018-19 are projections due to the availability of data for that financial year. Updated results will be available later in 2021.

Comparing individual business groupings, the total contribution of the creative industries was largely driven by activity in literature and publishing, fashion, and advertising businesses (Chart 2.1). Major activities within these groupings include printing production for literature and publishing businesses, and wholesale and retail distribution activities by fashion businesses.

**Chart 2.1: Contribution to creative industries value added and employment (%), 2017-18**

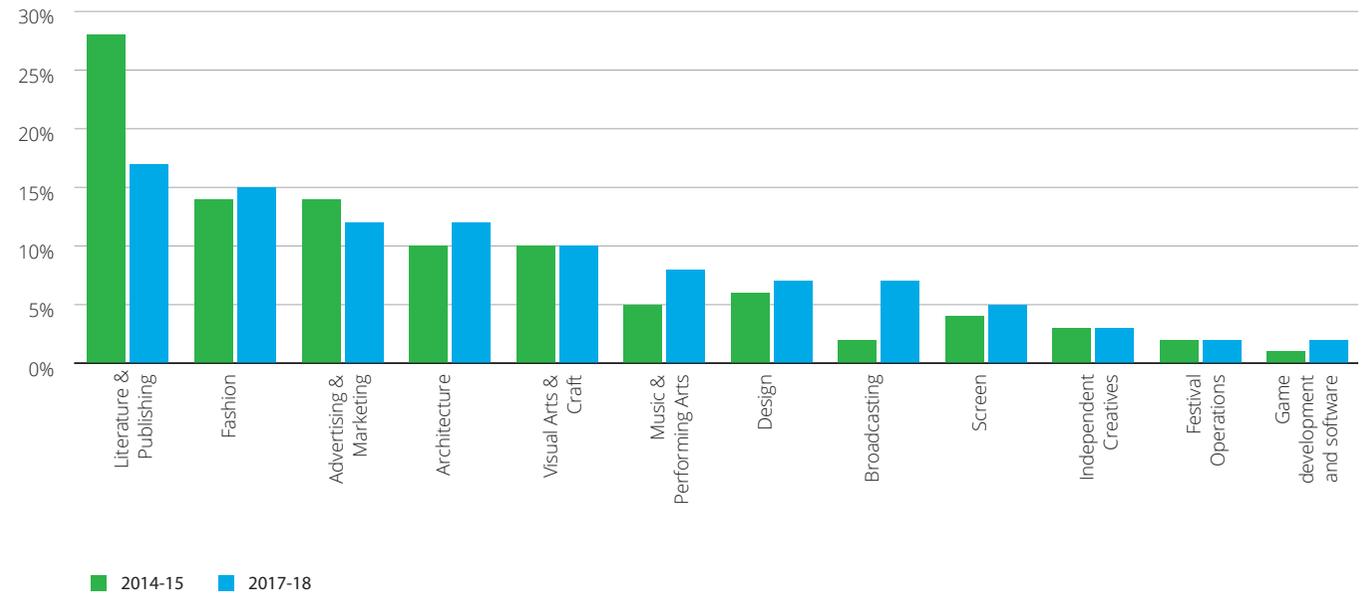


Source: Data extracted from BLADE, SABRE and SA-BLADE by the Department.

## Economic value of creative businesses in South Australia

These shares have changed over time, reflecting structural changes in the creative industries (Chart 2.2). Literature and publishing, for example, has declined in size with the reduced consumption of traditional media and commercial printing, as well as the relocation of core media businesses interstate. Other sectors, such as screen, game development and software, or music and performing arts, have increased both in absolute terms and as a share of South Australia's creative industries. This potentially reflects both growth trends in the creative industries across Australia, as well as South Australia's competitive advantages.

**Chart 2.2: Value added by creative business groupings, 2014-15 and 2017-18 (%)**



Source: Data extracted from BLADE, SABRE and SA-BLADE by the Department.



JPE Design Studio  
Credit: S Noonan

## 2.2 Contribution of creative business groupings

This section summarises the contribution of each creative business grouping. The full list of ANZSIC classes and SABRE categories included within each business grouping is provided in Appendix A.

### Advertising and marketing

South Australia's advertising and marketing business grouping includes traditional marketing and public relations (PR) businesses as well as digital marketing and communication design businesses.

Businesses in this grouping use creativity and marketing expertise to design engaging messaging strategies for brands in South Australia and elsewhere. Communication design businesses also deliver graphic design services, creating aesthetic and compelling artwork and labelling to help promote brands and products to firms and consumers across the economy. Advertising and marketing firms are captured within the **creation** and **production** segments of the creative industries supply chain, designing and producing content for other businesses to use or distribute.

In 2017-18, advertising and marketing businesses directly contributed an estimated **\$179 million in value added** to the South Australian economy, and employed **1,649 FTE workers** (Table 2.2).

Employment in South Australia's advertising and marketing business grouping has slowed over the period compared to the creative industries overall. This may point to the continuing concentration of marketing services alongside other clusters of corporate head offices over time. The Adelaide Advertising and Design Club estimates that since 2000, 36 major marketing businesses have relocated interstate from Adelaide.<sup>iv</sup>

By comparison, national employment in Australia's advertising and marketing business grouping grew at an average rate of 12 per cent between 2014-15 and 2019-20.<sup>v</sup>

**Table 2.2: Direct contribution of the advertising and marketing business grouping, 2014-15 to 2017-18 (\$2020)**

	2014-15	2015-16	2016-17	2017-18
<b>Value added (\$m)</b>	201	179	184	179
<b>Employment (FTE)</b>	1,855	1,699	1,590	1,649

Source: Source: Data extracted from BLADE, SABRE and SA-BLADE by the Department.



**654 businesses**  
operating in advertising and marketing in South Australia in 2017-18



Direct contribution to employment:  
**1,649 FTE employees**  
or **11 per cent** of employment in the creative industries in South Australia in 2017-18.



Direct contribution to gross value added in 2017-18:

**\$179 million**  
or **12 per cent** of employment in the creative industries in South Australia in 2017-18.



### Case study: Parallax Designs

Creative businesses can play an important role in adding value to goods and services produced in other industries and businesses across the economy. Parallax Designs is an example of a marketing business which delivers value to premium wine businesses in South Australia and interstate.

Parallax Designs developed a specialty in wine marketing after working with several local South Australian winemakers. The team of seven largely undertake work for wine businesses not only in South Australia, but also interstate and overseas in the United States and United Kingdom.

Owner and Creative Director Matthew Remphrey explains that branding plays a particularly important role in the wine industry, where consumers are often choosing between hundreds of products in one store.

*“A brand is what someone outside of the business thinks about the business – you can direct that perception through different ways. For wine businesses, a label or brand can represent a piece of engaging and creative communication which speaks to consumers in your target market. Unless you’re helping consumers to buy your product, there is a risk that no one will.”*

Engaging branding can also help wine businesses to grow a loyal following, developing a customer base that will continue to purchase when prices rise. Branding can differentiate a business from other products in the market, reducing substitutability when market conditions change.

Matthew explains that a benefit of specialising has been the ability to develop a comprehensive branding offering beyond the scope of traditional marketing services.

*“Marketing consultants typically developed a plan which would go unused if the execution was painful for the client. By offering an integrated and creative approach to branding, pricing and distributing wine, we help businesses to identify and enter their target markets and engage consumers.”*

The Parallax Designs team also includes a digital strategist, helping to build e-commerce platforms and digital or social media campaign strategies. This became an important role in 2020, when getting in front of consumers required establishing and maintaining an engaging online presence.

*“Working with the broader digital presence of a wine business, we’re always thinking about what a brand is about, what makes them different, and driving tactics around communicating that to consumers.”*

In the future, Parallax Designs is looking to continue expanding overseas. Matthew sees the impact of the COVID-19 pandemic as a potential advantage for the business, by reducing the extent to which services are geographically tied – allowing for the export of more South Australian marketing services interstate and overseas.

### Architecture

Businesses in the architecture grouping provide services such as planning and designing buildings, structures and landscapes. Architects draw upon a combination of artistic and creative techniques in drafting original or tailored designs, working with materials, and integrating aesthetic designs into projects. As a source for the creation of new ideas and designs, architecture sits within the **creation** segment of the creative industries supply chain.

Architecture can form an important part of the public landscape in urban environments, helping to shape the history and character of a region – such as the red brick of the Federation style designs at the Adelaide Central Markets or Adelaide Fruit and Produce Exchange in the East End, or the Gothic Revival style of Beehive Corner.

In 2017-18, architecture businesses contributed an estimated **\$168 million in value added** to the South Australian economy, and employed **1,423 FTE workers** (Table 2.3).

**Table 2.3: Direct contribution of the architecture business grouping, 2014-15 to 2017-18 (\$2020)\***

	2014-15	2015-16	2016-17	2017-18
<b>Value added (\$m)</b>	140	145	152	168
<b>Employment (FTE)</b>	1,279	1,313	1,397	1,423

\* While the Creative Industries Strategy grouped architecture businesses and design businesses together due to a lack of segregated data being available at that time, these figures relate to architectural businesses only.

Source: Data extracted from BLADE, SABRE and SA-BLADE by the Department.



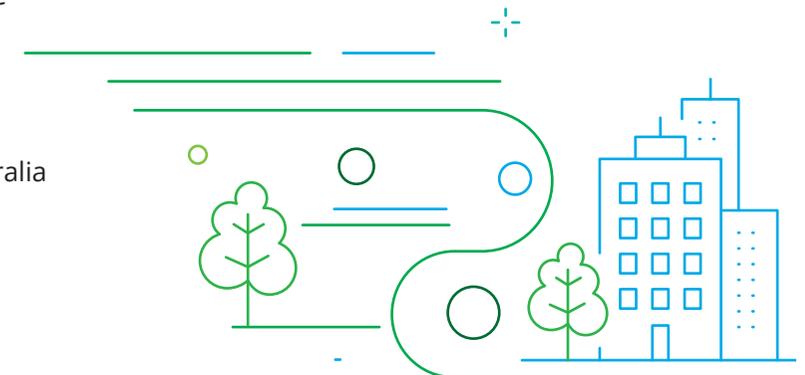
**817 businesses**  
operating in architecture in South Australia in 2017-18



Direct contribution to employment:  
**1,423 FTE employees**  
or **9 per cent** of employment in the creative industries in South Australia in 2017-18.



Direct contribution to gross value added in 2017-18:  
**\$168 million**  
or **12 per cent** of GVA of the creative industries in South Australia in 2017-18



### Case study: ModelFarm

ModelFarm is an example of an architecture and design business which works across multiple creative business groupings. ModelFarm is a visual effects and 3D technology company that produces architectural and project visualisations for businesses across the entertainment, property, tourism, retail, and education industries. The Adelaide-based team is made up of artists and technical professionals with expertise in fields such as computer science, computer-generated imagery, visual effects, animation, design, and marketing.

Founder and Director Shane Aherne originally began a career in the screen industry in the United Kingdom, working in the visual effects sector. Shane explains that working in visual effects offered an opportunity to bring together his interests in computer science and art.

*“I could never choose between the two at high school – computer animation offered the chance to do both”*

Migrating to Adelaide in 2010, Shane saw an opportunity to apply his niche skill set to other industries which also rely upon high quality imagery and photorealistic environments. Targeting the marketing and architecture sectors, Shane started building a pipeline of projects and clients, initially outsourcing work to lower-cost jurisdictions in Europe before building a team in Adelaide.

Today, ModelFarm has a team of eight designers based in Adelaide. While the shift away from outsourcing has increased project costs, Shane explains that growing the company required taking back control over how team members prioritised work. Clustering staff in one location has also brought about other positive spillover benefits. Shane describes that “the amount of knowledge sharing, growth in talents and output is through the roof.”

Much of the work at ModelFarm is currently in property marketing, creating photorealistic imagery for commercial and residential property developments. Designers at ModelFarm work with architects and builders to understand dimensions and schedules, capturing high quality details such as the changing view from different levels of an apartment building.

*“The best way to sell is to provide a high-quality render of what the building will look like, to help buyers choose what best suits their preferences and budget”*

Going forward, access to specialised skills and hardware in South Australia remains a challenge for ModelFarm. Shane explains that since the specialised architectural computer animation skills are not available in the graduate pool in South Australia, “it has typically been easier to bring in the skills from overseas rather than locally or even from interstate.”

Shane is also looking to expand on interactive or immersive offerings in other industries, including augmented reality (AR) and virtual reality (VR) experiences for businesses in South Australia and interstate.

*“There are lots of opportunities with the technology that we are pushing for”*

With the breadth of creative skills and applications, Shane sees ModelFarm as fitting within not only the advertising and marketing and architecture business groupings, but also screen, broadcasting, working with independent creatives, and design.

### Broadcasting

South Australia's broadcasting business grouping is largely made up by satellite operations of interstate television and radio broadcasting entities. It also captures production by a small number of free-to-air community or not-for-profit stations, including local video production and livestreaming activities in Adelaide and across South Australia.

Broadcasting businesses are engaged in the **production and distribution** segments of the creative supply chain, transforming creative audio-visual content into creative goods for delivery to and consumption by audiences. These businesses undertake a diverse range of activities, including programming original or licensed content for TV and radio, as well as operating broadcasting stations to broadcast content in real-time. Podcasting also sits within the broadcasting business grouping, offering creators accessible routes to market through platforms such as YouTube or Spotify. These individual or amateur producers may be difficult to identify through ANZSIC codes and may therefore not be captured in the data used for this analysis.<sup>3</sup>

In 2017-18, broadcasting businesses directly contributed an estimated **\$98 million in value added** to the South Australian economy, and employed **868 FTE workers** (Table 2.4).

Over time, the decline in employment in broadcasting between 2014-15 and 2017-18 points to the departure of major broadcasting businesses from Adelaide to the eastern states. By comparison, value added appears to fluctuate over the period, increasing between 2014-15 and 2015-16 before falling to 2017-18. As this volatility is also reflected in national value added figures for broadcasting businesses, and compared to the downwards trend in employment in South Australia over the period, this volatility in value added is likely explained by changes in the reporting of gross operating surplus (GOS) by major national broadcasting firms.

**Table 2.4: Direct contribution of the broadcasting business grouping, 2014-15 to 2017-18 (\$2020)**

	2014-15	2015-16	2016-17	2017-18
<b>Value added (\$m)</b>	25	187	52	98
<b>Employment (FTE)</b>	1,322	1,359	1,314	868

Source: Data extracted from BLADE, SABRE and SA-BLADE by the Department.



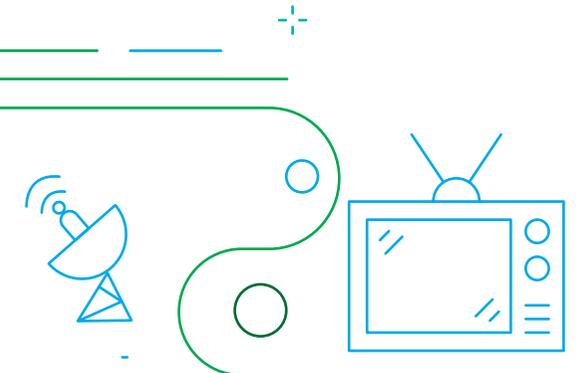
**52 businesses**  
operating in broadcasting in  
South Australia in 2017-18



Direct contribution to employment:  
**868 FTE employees**  
or **6 per cent** of employment in the  
creative industries in South Australia  
in 2017-18.



Direct contribution to gross value  
added in 2017-18:  
**\$98 million**  
or **7 per cent** of GVA of the creative  
industries in South Australia in  
2017-18



<sup>3</sup> For a full description of the ANZSIC codes used in this report, see Table A.1 in Appendix A.



West Beach set for The Hunting  
Credit: SAFC

### Design

The design business grouping is made up of a diverse range of businesses, largely including industrial and product design services. Other activities include businesses providing specialised design services for fashion design, interior design, graphic design, signwriting, and printed product design. As a result, there may be some overlap between this business grouping and other business groupings, depending on how businesses classify themselves, and whether their role extends beyond design into other stages of the supply chain.

Design sits within the **creation** segment of the creative supply chain, and is seen to be an enabler of activity across several creative sectors. It can act as the source of original content and IP for business groupings such as advertising and marketing, fashion, and visual arts and craft. Industrial designers use creativity to produce original content or plans and then work with manufacturers to integrate aesthetic elements into products.

In 2017-18, design businesses contributed an estimated **\$104 million** in value added to the South Australian economy, and employed **1,070 FTE workers** (Table 2.5).

The size of the design business grouping may be adjusted over time based on continued consultation with industry as well as changes in data availability. For example, the size of the grouping may fall if design businesses can be identified and allocated to other creative groupings (e.g. as architectural design businesses are allocated to architecture, or fashion design businesses to fashion).

**Table 2.5: Direct contribution of the design business grouping, 2014-15 to 2017-18 (\$2020)**

	2014-15	2015-16	2016-17	2017-18
<b>Value added (\$m)</b>	90	100	99	104
<b>Employment (FTE)</b>	965	999	978	1,070

Source: Data extracted from BLADE, SABRE and SA-BLADE by the Department.



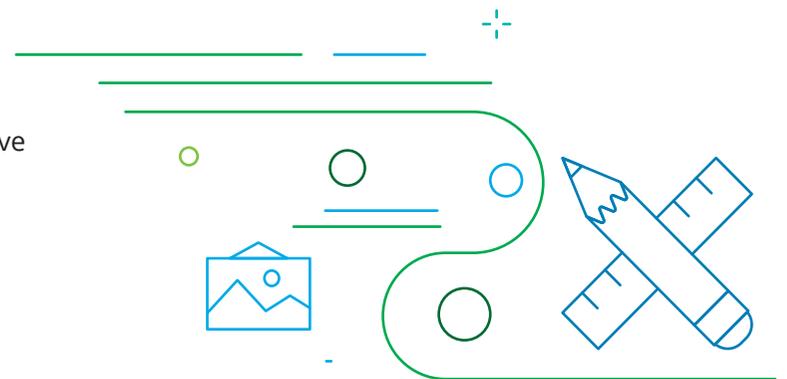
**1,179 businesses**  
operating in design in South Australia in 2017-18



Direct contribution to employment:  
**1,070 FTE employees**  
or **7 per cent** of employment in the creative industries in South Australia in 2017-18.



Direct contribution to gross value added in 2017-18:  
**\$104 million**  
or **7 per cent** of GVA of the creative industries in South Australia in 2017-18



### Case study: Makers Empire

Many creative businesses in South Australia are exporters of goods, services, and IP. Makers Empire is an example of a business in the education and design sector which has expanded from a local team to export a product interstate and overseas.

Makers Empire is a 3D design app, created for use by primary and middle school children in the classroom or at home. 3D objects created in the app can be 3D printed or used in immersive environments for AR or VR applications. Co-founder and CEO Jon Soong left a career in computer science to help develop the software behind the product, which was launched through a pilot to 20 primary schools in South Australia in 2015-16.

Today, Makers Empire has expanded to a team of 16 FTE employees working with over 200 schools across Australia, and about 1,000 schools globally. Given the limited number of primary schools in South Australia, growth lies in markets interstate and overseas. Major markets for Makers Empire currently include the United States, the Middle East and Asia. The company also has a partner in China, working to localise the program for the Chinese market. "We have a goal of being accessible to children in schools across the world", Jon explains.

Jon attributes part of the product's success to the design, spatial and critical thinking skills which it can support in children.

*"The 3D design skills which children develop by using the program align with the digital and design thinking aspects of curriculums in many regions."*

Jon highlights that these skills can help to prepare children with the future critical thinking skills which will be required in the workplace.

*"Lots of jobs rely on abstract thinking skills and your ability to imagine and plan things in your head – like an architect designing a house, or a software engineer writing a program."*

In growing the business from a start-up to global exporter of IP, Jon describes support from the Department of Education and the Department for Innovation and Skills as having been "crucial" to the business' success.

*"Working with the Education Department in South Australia was a great way to start developing our skills in partnering with governments globally, as well as enabling the switch from our previous full-time careers to the start-up."*

### Fashion

Businesses in the fashion grouping undertake a wide variety of activities. Independent producers may design, manufacture, and sell clothing and footwear products through a single entity in South Australia. Other local franchises or chain stores, or interstate or overseas-based producers, simply distribute clothing or footwear which is designed and manufactured outside of South Australia.

To maintain a focus on activity by fashion businesses which contributes to profits or employment within South Australia, this analysis excludes (to the extent possible) retail activity which cannot be linked to design or manufacture in the state – meaning that fashion retailing by interstate-headquartered businesses are excluded. The supply chain focus of the fashion grouping is therefore on the **design** and **production** by fashion clothing, footwear and accessories businesses, as well as the **distribution** of locally designed goods to consumers through South Australian-headquartered retail businesses.

In 2017-18, fashion businesses contributed an estimated **\$218 million** in value added to the South Australian economy, and employed **2,576 FTE workers** (Table 2.6).

Future studies of the contribution of fashion businesses in South Australia may be improved by further collaborating with the fashion industry to establish a list of ABNs of fashion businesses, to capture those businesses not included within the fashion ANZSIC codes.

**Table 2.6: Direct contribution of the fashion business grouping, 2014-15 to 2017-18 (\$2020)**

	2014-15	2015-16	2016-17	2017-18
<b>Value added (\$m)</b>	200	168	179	218
<b>Employment (FTE)</b>	2,761	2,596	2,580	2,576

Source: Data extracted from BLADE, SABRE and SA-BLADE by the Department.



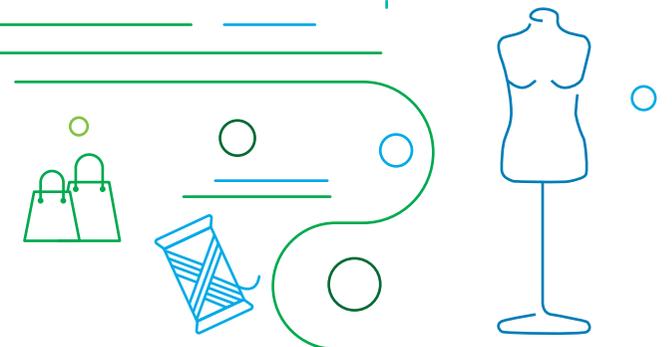
**1,089 businesses**  
operating in Fashion in South Australia in 2017-18



Direct contribution to employment:  
**2,576 FTE employees**  
or **16 per cent** of employment in the creative industries in South Australia in 2017-18.



Direct contribution to gross value added in 2017-18:  
**\$218 million**  
or **15 per cent** of GVA of the creative industries in South Australia in 2017-18



### Case study: Huntress Designs

While many creative businesses rely on supply chains based interstate or overseas, some creative businesses can maintain supply chains within South Australia. Huntress Designs is an independent South Australian fashion label, which looks to design and manufacture luxury fashion garments within South Australia.

Huntress Designs was founded by Catherine Hunter, a designer with 20 years' experience in the South Australian fashion industry. Catherine describes her background in fashion as "unconventional" – rather than completing a qualification in fashion design, Catherine progressed from experience in fashion retail and a career in marketing, to creating her own designs and founding her own label. Catherine explains that her experience in fashion retail was key to the success of her label.

*"I knew that we couldn't just make clothes and sell – working in retail helped to shape my understanding of who our target market could be."*

In production for Huntress, Catherine has sought to build a local supply chain in South Australia, handpicking fabrics from local agents and collaborating with local seamstresses and manufacturers to construct garments. Catherine explains that this choice was partly based on increasing consumer demand for slow and locally made fashion.

*"Globally, consumers are increasingly concerned with giving an identity to who made their clothes and understanding whether they are purchasing from ethical and sustainable supply chains."*

Catherine also considered investing in a local supply chain important to sustaining the quality of design and manufacture required of Huntress as a luxury brand. "Working in fashion design is 10 per cent design, and 90 per cent logistics", Catherine explains.

*"While outsourcing production overseas can lower costs, it also requires maintaining a quality control process based overseas – as once you receive product from the manufacturer, you cannot send it back."*

Catherine also points to additional risks to outsourcing such as the lack of enforceable legal protections for original designs and IP overseas, and the sharp increase in freight costs from China in 2020.

*"By the time all these hidden risks and costs are added on, manufacturing overseas can be just as expensive as using local suppliers."*

However, Catherine has found a key challenge in maintaining a local supply chain in South Australia to be resourcing her production.

*"We have enough interest from distributors to start scaling to wholesale and selling interstate but can't find manufacturers to meet the demand."*

Catherine believes that part of the reason for the lack of capacity is a skills shortage in sewing.

*"The average age of seamstresses is around 56 in Australia and 60 in the United States – everyone wants to be the designer, but not the maker."*

In the future, Catherine sees the potential for innovations in automation and robotics to replace parts of labour in fashion manufacturing. Catherine also believes there could be a role for sustainable supply chains in South Australia by reinvesting in sustainable fabrics, such as wool or hemp linen, and bringing wool processing back onshore from overseas.

Catherine also sees fashion retail businesses as playing a key role in the broader fashion sector in South Australia.

*"Shopping in Rundle Mall is an experience which adds value to the fashion sector more broadly – even the presence of interstate and international chains can feed ideas and activity by local fashion designers and build the sector locally."*

### Festival operations

Known as Australia's festival state, South Australia plays host to a large number of open-access and ticketed festivals throughout the year. Businesses included in this grouping represent firms engaged in the planning and operation of creative and cultural festivals. It does not include firms involved in the delivery of goods and services at festivals – meaning that hospitality activities are largely excluded under this approach, as are the artists themselves, who will likely instead be captured under groupings such as music and performing arts or independent creatives. Some major South Australian festivals (such as the Fringe) are also captured under music and performing arts businesses rather than festival operations, depending on the focus of their business.

Activity at festivals may also contribute to tourism in South Australia, showcasing the state as a tourism destination to interstate visitors.<sup>vi</sup> However, the figures presented here do not include the economic contribution of local or tourist expenditure on creative content, food and hospitality services offered at festivals; instead, the focus is on the operation of festivals as a business (although the overall visitation to a festival likely has a bearing on the size of its operations).

In 2017-18, businesses in the festival operations business grouping contributed an estimated **\$32 million in value added** to the South Australian economy, and employed an estimated **331 FTE workers** (Table 2.7).

Table 2.7: Direct contribution of the festival operations business grouping, 2014-15 to 2017-18 (\$2020)

	2014-15	2015-16	2016-17	2017-18
<b>Value added (\$m)</b>	25	31	30	32
<b>Employment (FTE)</b>	248	297	303	331

Source: Data extracted from BLADE, SABRE and SA-BLADE by the Department.



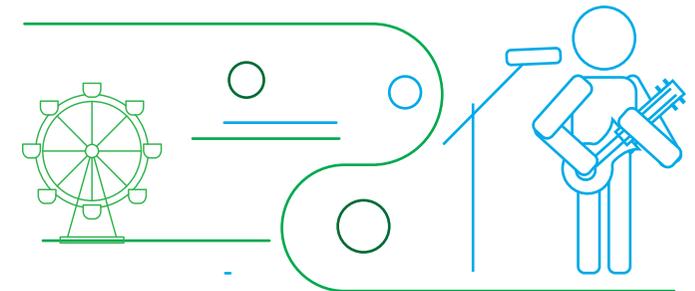
**12 businesses**  
engaged in festival operations  
South Australia in 2017-18



Direct contribution to employment:  
**331 FTE employees**  
or **2 per cent** of employment in the  
creative industries in South Australia  
in 2017-18.



Direct contribution to gross value  
added in 2017-18:  
**\$32 million**  
or **2 per cent** of GVA of the creative  
industries in South Australia in  
2017-18





WOMADelaide  
Credit: Jack Fenby

### Game development and software

Game development businesses within the game development and software business grouping may create games through original or licenced IP or undertake **production** for other firms under a fee-for-service arrangement. That content may be shared to consumers via a distributor or through direct channels. Software publishing businesses are engaged in the **production** and **distribution** of computer software products, mobile applications and software services.

Some for-profit education and training institutions are included in this business grouping, such as the Academy of Interactive Entertainment and CDW Studios.

In 2017-18, screen and game development and software businesses directly contributed an estimated **\$28 million in value added** to the South Australian economy, and employed **288 FTE workers** (Table 2.8).

**Table 2.8: Direct contribution of the game development and software business grouping, 2014-15 to 2017-18 (\$2020)**

	2014-15	2015-16	2016-17	2017-18
<b>Value added (\$m)</b>	10	17	21	28
<b>Employment (FTE)</b>	139	184	260	288

Source: Data extracted from BLADE, SABRE and SA-BLADE by the Department.



**65 businesses**

operating in game development and software in South Australia in 2017-18



Direct contribution to employment:

**288 FTE employees**

or **2 per cent** of employment in the creative industries in South Australia in 2017-18.



Direct contribution to gross value added in 2017-18:

**\$28 million**

or **2 per cent** of GVA of the creative industries in South Australia in 2017-18



### Case study: Foxie Games

For Dineth Abeynayake, the path to becoming a business owner and creative entrepreneur in game development was different to most. Originally studying aerospace engineering, Dineth worked in the defence industry for a number of years, pursuing app and game development outside work. But after five years and gaining commercial traction, Dineth made the leap to becoming a full-time creative business owner.

Foxie Games was established in 2017-18 with two employees. In the three and a half years since, the company has grown to employ 18 workers at their Adelaide CBD workspace in Game Plus. Despite its fast growth, the fundamentals of Foxie have remained consistent: the company produces original IP games, taking ownership of the entire development process. This allows staff to apply their technical skills and creativity to the process of developing interactive game play and designing original environments, rather than only fee-for-service work. This combination of technical and creative skills can also be applied in a number of other Growth State industries, including the defence, hi-tech, and health and medical industries.

While there is a perceived skills gap in the senior talent pool in Adelaide, this has not limited Foxie Games. The company has sourced talent predominantly from South Australia and attracted remaining workers from interstate. Foxie often hires high-potential graduates, who learn the right skills on the job, although identifying experienced talent is also key. Dineth noted that having a wider game development ecosystem in Adelaide would create a more attractive and stable environment for highly skilled workers who could be tempted to move from interstate.

In the future, Foxie Games plans to focus growth in their current niche, with aspirations to double their workforce again in the next few years. Foxie Games has an international consumer base, exporting globally with particular fan bases in the German and American markets, and has almost two million players playing their most popular game monthly.

### Literature and publishing

The literature and publishing business grouping includes businesses which publish, print and distribute written content via wholesale or retail. This includes written content such as books, newspapers and magazines.

Publishing is a key stage of the production process in the business grouping, helping to source new creative content by discovering, developing and editing raw written content, investing in authors and maintaining the circulation of existing works.<sup>vii</sup> As an activity which transforms creative ideas into creative goods and services, publishing sits within the **creation** and **production** segment of the creative industries supply chain.

Printing is also an integral part of delivery of goods produced in the business grouping to consumers and may also involve creative choices in the design of printed products. While the circulation of printed newspapers is expected to continue to fall in favour of online media, declining eBook sales point to continuing consumer preference for physical books. These activities fall within the **distribution** and **support** segments of the creative industries supply chain.

In 2017-18, literature and publishing businesses represented the largest grouping within the creative industries, directly contributing an estimated **\$249 million in value added** to the South Australian economy, and employed an estimated **3,313 FTE workers** (Table 2.9).

This size of this contribution is largely driven by businesses in the **commercial printing** sector. These businesses play a role in distributing the creative content of other entities.

At the same time, literature and publishing businesses are also the part of the creative industries which have undergone the most significant contraction in recent years. Value added by literature and publishing businesses has fallen by more than one third between 2014-15 and 2017-18. This points to structural change in the industry as major businesses have relocated outside of South Australia and consumer trends have shifted.

**Table 2.9: Direct contribution of the literature and publishing business grouping, 2014-15 to 2017-18 (\$2020)**

	2014-15	2015-16	2016-17	2017-18
<b>Value added (\$m)</b>	398	404	302	249
<b>Employment (FTE)</b>	3,806	3,595	3,399	3,313

Source: Data extracted from BLADE, SABRE and SA-BLADE by the Department.



**1,020 businesses**

operating in literature and publishing in South Australia in 2017-18



Direct contribution to employment:

**3,313 FTE employees**

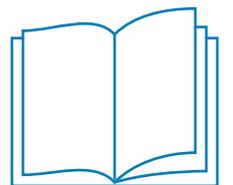
or **21 per cent** of employment in the creative industries in South Australia in 2017-18.

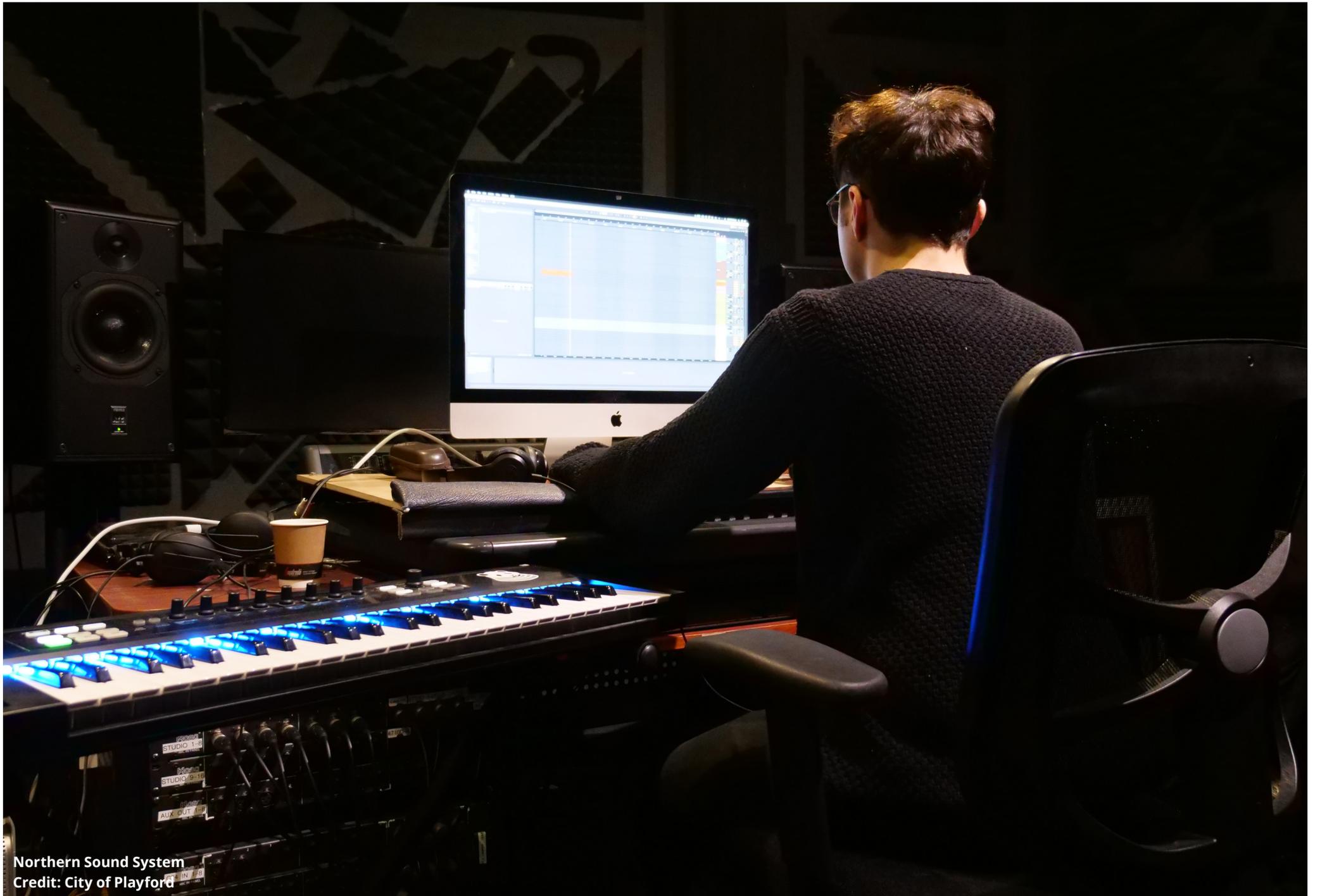


Direct contribution to gross value added in 2017-18:

**\$249 million**

or **17 per cent** of GVA of the creative industries in South Australia in 2017-18





Northern Sound System  
Credit: City of Playford

### Music and performing arts

South Australia's music and performing arts business grouping includes a diverse range of entities, such as music recording businesses, live performance production companies and live performance venues, engaged in the production segment of the creative supply chain. Some **musicians** are also captured in the business grouping, in addition to those captured in the independent creatives category. Supporting services such as arts education businesses are also included where provided by for-profit institutions. Adelaide has been recognised for a strong and thriving live music scene, designated as a UNESCO City of Music in 2015-16. Support through the South Australian Government's Music Development Office (MDO) helps to create an integrated business network within the music business grouping.

While the music and performing arts sectors were reported separately in the Creative Industries Strategy, they have been combined in this report due to the overlap in activities between businesses in these sectors. For example, live music venues and performing arts venues are both captured under the same ANZSIC code (9003 performing arts venue operation). Ongoing consultation with music and performing arts representative bodies could help to identify the ABNs of businesses in each sector and estimate separate values for each.

In 2017-18, music and performing arts businesses directly contributed an estimated **\$116 million in value added** to the South Australian economy, and employed **1,167 FTE workers** (Table 2.10).

**Table 2.10: Direct contribution of the music and performing arts business grouping, 2014-15 to 2017-18 (\$2020)**

	2014-15	2015-16	2016-17	2017-18
<b>Value added (\$m)</b>	75	84	108	116
<b>Employment (FTE)</b>	696	753	1,034	1,167

Source: Data extracted from BLADE, SABRE and SA-BLADE by the Department.



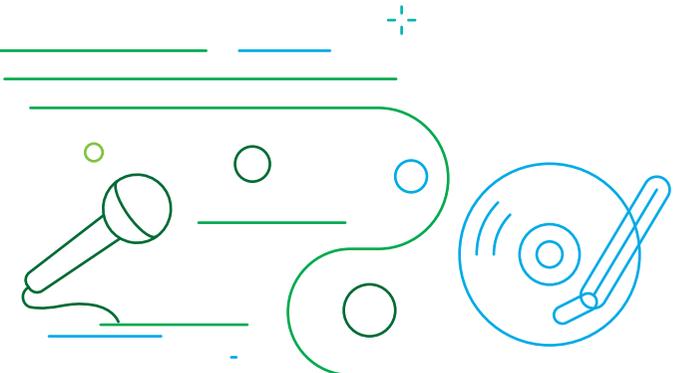
**1,005 businesses**  
operating in music and performing arts in South Australia in 2017-18



Direct contribution to employment:  
**1,167 FTE employees**  
or **7 per cent** of employment in the creative industries in South Australia in 2017-18.



Direct contribution to gross value added in 2017-18:  
**\$116 million**  
or **8 per cent** of GVA of the creative industries in South Australia in 2017-18





Venice Queens  
Credit: Saige Prime

**Screen**

The screen business grouping includes businesses involved in the **creation, production and distribution** of screen content. Screen businesses may create original IP by drafting scripts and screenwriting, and then produce original or licenced IP into screen content. Post-production businesses edit footage and produce animation or visual effects. The distribution of screen content to consumers is also included through South Australian-based cinemas.

The South Australian Film Corporation and its Adelaide Studios are also included as service providers into the screen production sector in the state. The Adelaide Film Festival is included in the festival operations business grouping.

In 2017-18, screen businesses directly contributed an estimated **\$69 million in value added** to the South Australian economy, and employed **885 FTE workers** (Table 2.11).

**Table 2.11: Direct contribution of the screen business grouping, 2014-15 to 2017-18 (\$2020)**

	2014-15	2015-16	2016-17	2017-18
<b>Value added (\$m)</b>	55	54	41	69
<b>Employment (FTE)</b>	810	739	699	885

Source: Data extracted from BLADE, SABRE and SA-BLADE by the Department.



**511 businesses**

operating in screen in South Australia in 2017-18



Direct contribution to employment:

**885 FTE employees**

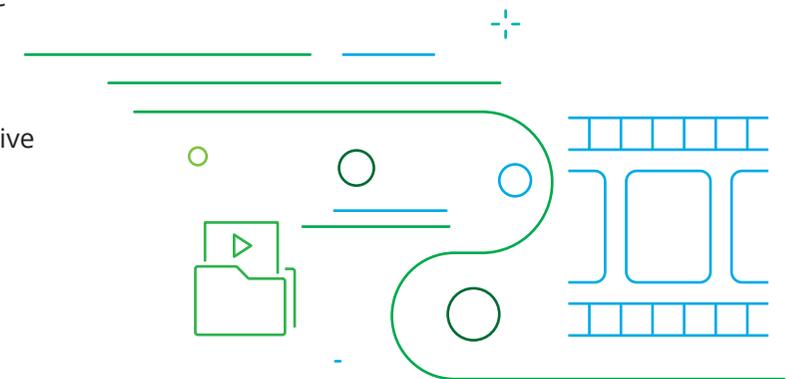
or **6 per cent** of employment in the creative industries in South Australia in 2017-18.



Direct contribution to gross value added in 2017-18:

**\$69 million**

or **5 per cent** of GVA of the creative industries in South Australia in 2017-18



**Visual arts and craft**

Businesses in the visual arts and craft grouping include artists or artistic organisations designing, producing and selling artistic products or craft products, using materials such as textiles and silverware. Private art galleries are also captured in this category, as well as key support and production services such as JamFactory and Guildhouse. Some artists may also be captured, depending on how they self-identify. Publicly funded institutions, such as the South Australian Art Gallery, art not included in these results as publicly funded support services.

In 2017-18, visual arts and craft businesses contributed an estimated **\$150 million in value added** to the South Australian economy, and employed an estimated **1,729 FTE workers** (Table 2.12).

**Table 2.12: Direct contribution of the visual arts and craft business groupings, 2014-15 to 2017-18 (\$2020)**

	2014-15	2015-16	2016-17	2017-18
<b>Value added (\$m)</b>	144	151	147	150
<b>Employment (FTE)</b>	1,800	1,771	1,705	1,729

Source: Data extracted from BLADE, SABRE and SA-BLADE by the Department.



**1,126 businesses**

operating in visual arts and craft in South Australia in 2017-18



Direct contribution to employment:

**1,729 FTE employees**

or **11 per cent** of employment in the creative industries in South Australia in 2017-18.



Direct contribution to gross value added in 2017-18:

**\$150 million**

or **10 per cent** of GVA of the creative industries in South Australia in 2017-18



### Independent creatives

This final business grouping includes firms captured through the ANZSIC class independent creatives 9002. This is made up of businesses engaged in independent creative production such as by artists, musicians, writers and performers. Depending on how artists register their business' industry, some may fall into this business grouping, while others may fall into a more specific business grouping (such as visual arts and craft, or music and performing arts).

There is a significant extent of crossover between this business grouping and other creative business groupings, as creation by independent creatives feeds production and activity in other creative business groupings – for example, performers rehearse and present theatrical performances in live performance venues within the music, performing and broader arts business grouping.

In 2017-18, independent creative businesses contributed an estimated **\$48 million in value added** to the South Australian economy. The business grouping also employed an estimated **326 FTE workers** (Table 2.13).

**Table 2.13: Direct contribution of the independent creatives business grouping, 2014-15 to 2017-18 (\$2020)**

	2014-15	2015-16	2016-17	2017-18
<b>Value added (\$m)</b>	45	47	46	48
<b>Employment (FTE)</b>	344	344	299	326

Source: Data extracted from BLADE, SABRE and SA-BLADE by the Department.



**1,675 businesses**

operating as creative independents in South Australia in 2017-18



Direct contribution to employment:

**326 FTE employees**

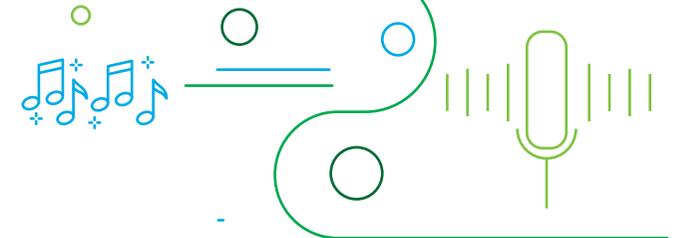
or **2 per cent** of employment in the creative industries in South Australia in 2017-18.



Direct contribution to gross value added in 2017-18:

**\$48 million**

or **3 per cent** of GVA of the creative industries in South Australia in 2017-18





Thebarton Theatre  
Credit: Dave Court

The background features a teal-to-green gradient with white wavy lines that create a 3D effect, resembling a wireframe or topographical map. The lines are thicker on the left and become thinner and more densely packed towards the right.

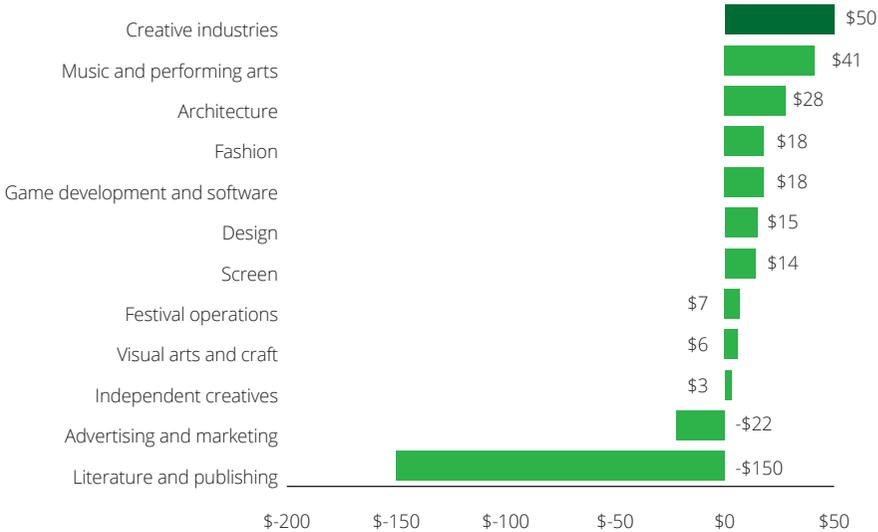
### 3. Next steps

# 3. Next steps

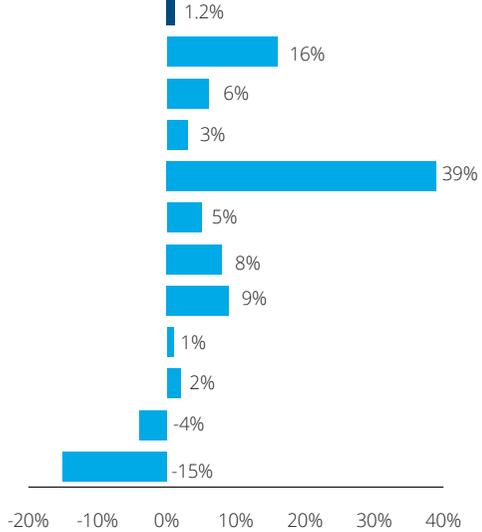
This analysis creates a baseline from which to measure growth in the creative industries in South Australia over time. By repeating this analysis on an annual basis, the Department can track future growth in creative businesses in South Australia, and monitor against the targeted nominal growth rate of 5 per cent per annum.

The Department may also use this analysis to develop relevant, evidence-based policy to support growth in the creative industries in South Australia over time. For example, given that game development and software businesses belonged to one of the fastest growing sectors in South Australia in 2017-18 (Chart 3.1), what could be done to further accelerate this growth in South Australia? Similarly, observing the decline in the size of literature and publishing businesses in South Australia in recent years (Chart 3.2), what needs to be done to transfer, retain and build skills and expertise in other creative or non-creative sectors in the state?

**Chart 3.1: Total change in value added, 2014-15 to 2017-18 (\$ million, real \$2020)**



**Chart 3.2: Annual growth rate in value added, 2014-15 to 2017-18 (CAGR, %, real \$2020)**



Note: Chart excludes broadcasting business grouping due to volatility in value added estimates. The annual growth rate for remuneration in the broadcasting business grouping between 2014-15 and 2017-18 is -9 per cent, compared to -0.3 per cent for the creative industries overall, in real terms. Figures in Chart iii are in compound annual growth rate (CAGR) terms.

Source: Data extracted from BLADE, SABRE and SA-BLADe by the Department.

### Contribution of creative occupations

While this report sets out to measure the contribution of businesses in South Australia's creative industries, the creative economy is broader than the creative industries alone. The creative economy captures activity by all creative businesses and creative workers in South Australia,<sup>4</sup> and is increasingly regarded as a key driver of economic growth.

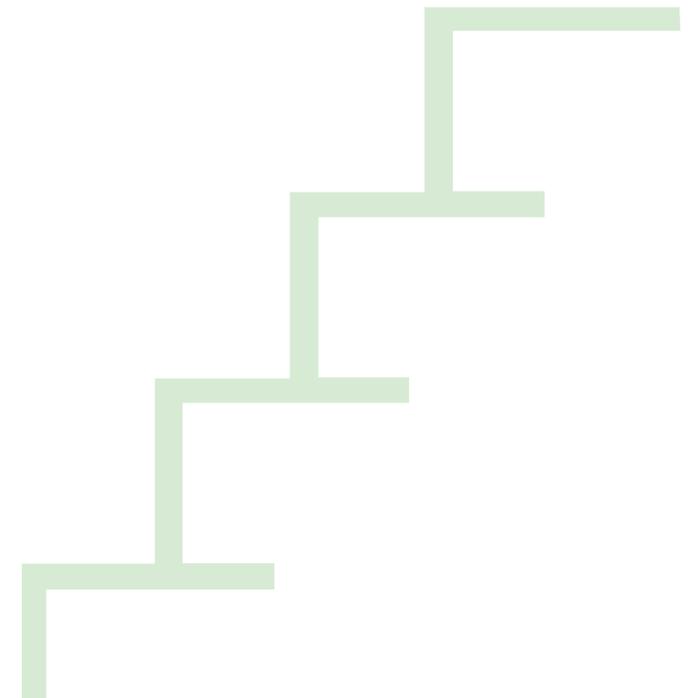
The creative economy also includes people working in creative occupations. These are occupations which have been identified as creative according to a set of criteria, including whether the occupation involves a novel process, and whether the occupation is resistant to mechanisation.<sup>4</sup>

Globally, approaches to defining the creative industries often rely on identifying sectors containing creative occupations.<sup>5</sup>

This report looks to capture all businesses and workers operating in the creative industries – including **creative specialists** such as musicians, writers, designers, and performers as well as non-creative **support workers** such as accountants, lawyers, and administrative assistants who support creative businesses. However, workers engaged in creative occupations in non-creative industries (also known as **embedded creatives**) are not captured.

Embedded creative workers can play an important role in adding value to businesses in other business groupings through bringing creative ideas, critical thinking, and presentation or performance skills. Embedded creatives may also act as intermediaries between the creative industries and the rest of the economy, helping to translate ideas and innovations from creative businesses directly into non-creative industries, and demonstrating the value of creativity to the broader economy. For example, embedded creative employees might include marketing professionals embedded within non-creative organisations, or music teachers within secondary schools.

There may be scope for a supplementary creative occupation approach to capture embedded creatives throughout the rest of the South Australian economy, as well as in creative businesses, following the future release of the unit-record microdata Linked Employee-Employer Database (LEED).<sup>6</sup>



<sup>4</sup> A definition of creative occupations was developed by Nesta, identifying five key criteria creative including: whether a novel process is involved; whether the occupation is resistant to mechanisation; whether there is non-repetitiveness of a non-uniform function; whether there is a creative contribution to the value chain; and whether the occupation involves interpretation of inputs into a creative output, rather than mere transformation. Nesta is an innovation foundation in the United Kingdom, operating across the creative economy, education, health, and innovation policy.

<sup>5</sup> See, e.g., the creative intensity approach developed by Nesta, and updated by the Queensland University of Technology (QUT) Centre for Excellence for Creative Industries and Innovation.

<sup>6</sup> LEED is a dataset which combines employer information from the Business Longitudinal Analysis Data Environment (BLADE) with employee information sourced from income taxation data. The LEED currently comprises information from 2011-12 to 2016-17: ABS, Linked Employer-Employee Database (LEED) <<https://www.abs.gov.au/about/data-services/data-integration/integrated-data/linked-employer-employee-database-leed>>.

### Case study: Embedded creatives at Health Partners

One example of work by embedded creatives in South Australia is the employment of design professionals within non-creative businesses. Kelly Carpenter is a designer who leads Customer Experience at Health Partners, a health insurance company in Adelaide.

Kelly originally began her career in the screen sector, studying filmmaking at university and working in the industry for ten years. However, Kelly found her role in filmmaking focused on non-creative tasks such as scheduling and logistics management. Leaving the film sector to study industrial design at university, Kelly came across the concept of human-centred design. "Human-centered design starts with empathy to discover and solve problems creatively", Kelly explains. "I started looking for work in experience design – although there wasn't a clear pathway to these roles in South Australia at the time. The roles I could see were mainly focused on graphic design, interface design, or design for manufacture."

After university, Kelly worked in small start-up businesses where she applied her design thinking skills not just to the products she was creating, but also to the services, marketing approaches, and business models she was developing. "I later learnt that the term for using design holistically across a business like this is called 'customer experience design' and I found a community of people who were doing this kind of work under a variety of different titles". Kelly also worked in customer experience consulting in Adelaide, before finding her current role at Health Partners.

As Customer Experience Lead at Health Partners, Kelly helps to bring a design-based approach to every customer touch point within the business – from the design of the Health Partners' website, mobile app and customer forms, to undertaking user research to understand gaps in the business' current offerings and helping to re-design services for customers. "In my role, the creative process is about working to understand the customer and bringing collaborators on board to improve their experience." Kelly also plays a role in educating others within the organisation about the value of human-centred design, "and how it can be applied by anyone to solve problems creatively."

Entry points to roles in experience design are diverse and remain largely informal, including industrial design, IT, business, media, marketing, digital skills or web design. "There are also people who start in non-creative industries and upskill themselves to succeed with internal service design projects", says Kelly. There was no established pathway to Kelly's current role, she says, "but having that entrepreneurial understanding and being comfortable with the unknown certainly helps."

Experience design remains an emerging role in South Australia, with uptake typically driven by larger organisations. However, more jobs are being created as the approach becomes more well-known and valued. "Now, good design is becoming an expectation for customers and businesses are having to turn to creatives to bring a new approach to traditionally non-creative domains."

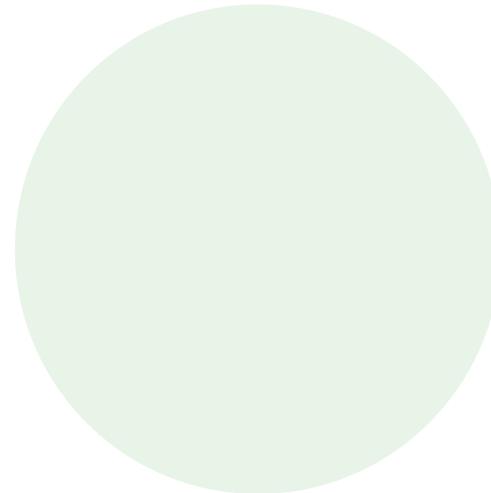
### Areas for future research and refinement

The approach adopted in this report may further develop over time as the scope of the creative industries changes. Some **recommendations** for future work in measuring the size of the creative industries in South Australia include:

- ongoing consultation with creative sectors to identify additional businesses not currently captured under creative ANZSIC codes
- ongoing consultation with creative sectors to refine the allocation of business ABNs to the creative sectors (e.g. identifying live music and performing arts venues ABNs would allow allocating businesses to a separate music sector and performing arts sector, rather than combining all ANZSIC code 9003 performing arts venues to music and performing arts).
- educating businesses on the relevance of using the correct ANZSIC classification to align creative business activities to the most relevant ANZSIC class.

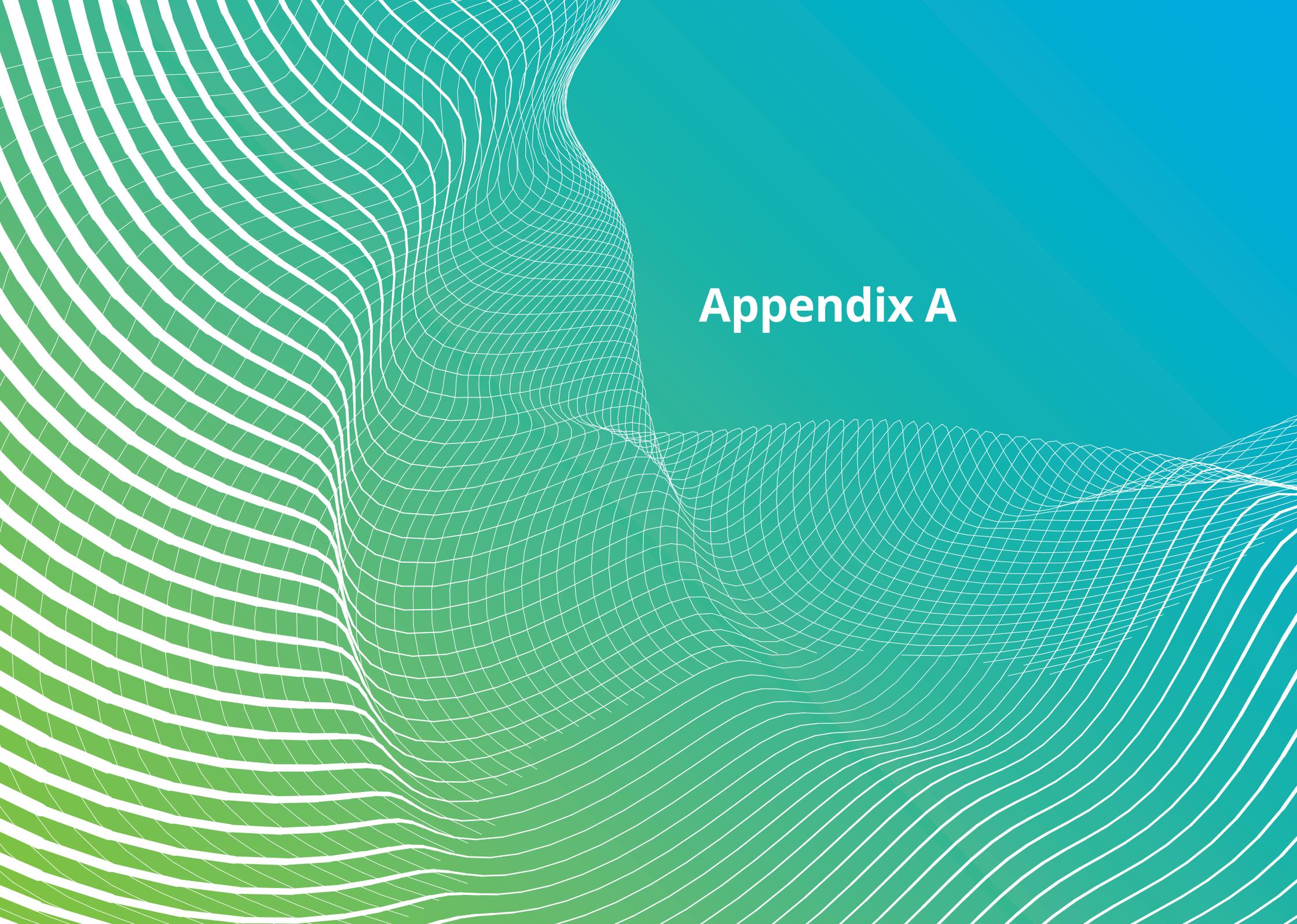
For future reports, users of the SABRE and BLADE environments should be mindful of how the administrative data collected is shaped by regulatory decisions made about the collection of data. Changes in data collection might skew findings in ways that are not currently foreseen.

The Department may also consider analysing the **indirect contribution** of creative businesses to the South Australian economy, to estimate the total economic contribution and further develop its understanding of the creative supply chain. However, it should be noted that the breadth of creative business groupings and supply chain activities captured in this report may need to be more narrowly defined to avoid double-counting.



# Endnotes

- i. Peter Higgs, Stuart Cunningham and Janet Pagan, Australia's Creative Economy: Definitions of the Segments and Sectors (Centre for Creative Industries, Queensland University of Technology, 2007) <<https://eprints.qut.edu.au/8242/1/8242.pdf>>.
- ii. ABS, Australian National Accounts: Cultural and Creative Activity Satellite Accounts, Experimental, 2008-09 (10 February 2014-15) <<https://www.abs.gov.au/AusStats/ABS@nsf/MF/5271.0>>.
- iii. Adelaide Advertising and Design Club, Growth State Submission: Communications Industry Roundtable (February 2020).
- iv. National Skills Commission, Job Outlook: Advertising and Marketing Professionals <<https://joboutlook.gov.au/occupations/advertising-and-marketing-professionals?occupationCode=2251>>.
- v. Deloitte Access Economics, Economic impact of growing South Australia's festivals (2020).
- vi. Creative Industries Federation, Publishing's contribution to the wider creative industries (13 July 2018-19) <<https://www.creativeindustriesfederation.com/publications/publishings-contribution-wider-creative-industries>>.
- vii. IBISWorld, Book Publishing in Australia (July 2020).
- viii. Department for Culture, Media and Sport, Creative Industries Economic Estimates Methodology (2016-17) <[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/499683/CIEE\\_Methodology.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/499683/CIEE_Methodology.pdf)>.
- ix. Ben Goldsmith and Ruth Bridgstock, 'Embedded creative workers and creative work in education; (2015-16) 28(4) Journal of Education and Work 369.

The background features a teal-to-green gradient with white wavy lines that create a sense of depth and movement, resembling a wireframe or topographical map.

# Appendix A

# Appendix A Creative industries framework

## A.1. Creative industries definition

In developing the *Creative Industries Strategy*, the Department undertook an extensive industry engagement process, asking industry to self-identify the sectors comprising South Australia's creative industries. After engaging with more than 500 industry stakeholders, the Department developed a proposed list of the creative sectors within the creative industries:

- advertising and communications design
- broadcasting: tv, radio and podcasts
- design: architectural, industrial, urban, landscape, interior and product
- fashion
- festivals (creative and cultural)
- music
- performing arts
- screen: film & TV, post-production, game development
- visual arts and craft
- writing and publishing.

The Department then undertook a manual matching process to align these creative sectors with a list of detailed ANZSIC codes. The Department also sought to interrogate the ANZSIC codes used in creative businesses' financial reporting through a series of additional industry engagements. This enabled the Department to identify the different ANZSIC codes used by some businesses, and procure a list of ABNs of creative businesses from industry representative bodies, to capture those businesses not included within the creative ANZSIC codes.

Based on this industry feedback, the Department developed a refined list of creative business groupings. The ten creative sectors initially identified in the *Creative Industries Strategy* were aggregated within the creative business groupings set out in Table A.1. These changes were partly based on feedback from industry, as well as data availability which required aggregating some sectors (e.g. music and performing arts). These business groupings are further defined and described in Chapter 2.

These business groupings may continue to change over time based on continued consultation with industry, as well as changes in data availability. For example, the design business grouping may eventually be removed if all design businesses can be allocated to other creative groupings (e.g. architectural design or fashion design businesses).

These business groupings and aligned ANZSIC codes are set out in Table A.1.

## A.1.1. Supply chain approach

To assist the Department in refining the final list of ANZSIC codes to include within the creative industries, Deloitte Access Economics further interrogated the list of creative ANZSIC codes through a mapping to the creative supply chain proposed by the *ABS Cultural and Creative Satellite Account*. This task assisted in clarifying whether creative sectors and ANZSIC classes are part of the creative industries supply chain:

- **creation** – industries which are the origin of creative ideas
- **production** – industries which turn creative ideas into creative goods and services, or which manufacture creative goods and services from a master copy
- **distribution** – industries which transfer creative goods and services to final consumers, including wholesale and retail distribution
- **supporting activities** – industries which play a significant direct supporting role in other parts of industry supply chains (e.g. education and training services).

### A.1.2. ANZSIC codes included

Table A.1 sets out the ANZSIC classes captured within each creative sector.

**Table A.1: Creative industries ANZSIC codes**

Creative business grouping	ANZSIC code	ANZSIC class	Supply chain component
Advertising & Marketing	6940	Advertising Services	Creation
	SABRE	PR Firms	Production
Architecture	6921	Architectural Services	Creation
Broadcasting	5610	Radio Broadcasting	Production
	5621	Free-to-Air Television Broadcasting	Production
	5622	Cable and Other Subscription Broadcasting	Production
	SABRE	Additional broadcasting firms	Production
Design	5419	Other Publishing (except Software, Music and Internet)	Creation
	6924	Other Specialised Design Services	Creation
	SABRE	Industrial Design Firms	Creation
Fashion	1334	Textile Finishing and Other Textile Product Manufacturing	Production
	1351	Clothing Manufacturing	Production
	1352	Footwear Manufacturing	Production
	1340	Knitted Product Manufacturing	Production
	3711	Textile Product Wholesaling	Distribution
	3712	Clothing and Footwear Wholesaling	Distribution
	4251	Clothing Retailing	Distribution
	4252	Footwear Retailing	Distribution
	4259	Other Personal Accessory Retailing	Distribution
9491	Clothing and Footwear Repair	Distribution	

<b>Creative business grouping</b>	<b>ANZSIC code</b>	<b>ANZSIC class</b>	<b>Supply chain component</b>
Festival Operations	SABRE	Festival Operations	Distribution
Game Development and Software	5420	Software Publishing	Production
	SABRE	Game development firms	Production
Literature & Publishing	1612	Printing Support Services	Production
	1611	Printing	Production
	3735	Book and Magazine Wholesaling	Distribution
	4244	Newspaper and Book Retailing	Distribution
	6010	Libraries and Archives	Distribution
	5411	Newspaper Publishing	Production
	5412	Magazine and Other Periodical Publishing	Production
	5413	Book Publishing	Production
	6020	Other Information Services	Distribution
	5700	Internet Publishing and Broadcasting	Production
	7292	Document Preparation Services	Supporting activities
Independent Creatives	9002	Creative Artists, Musicians, Writers and Performers	Creation
Music and Performing & Broader Arts	5521	Music Publishing	Production
	5522	Music and Other Sound Recording Activities	Production
	8212	Arts Education	Supporting activities
	9001	Performing Arts Operation	Production
	9003	Performing Arts Venue Operation	Distribution
	SABRE	Additional Music Firms	Production

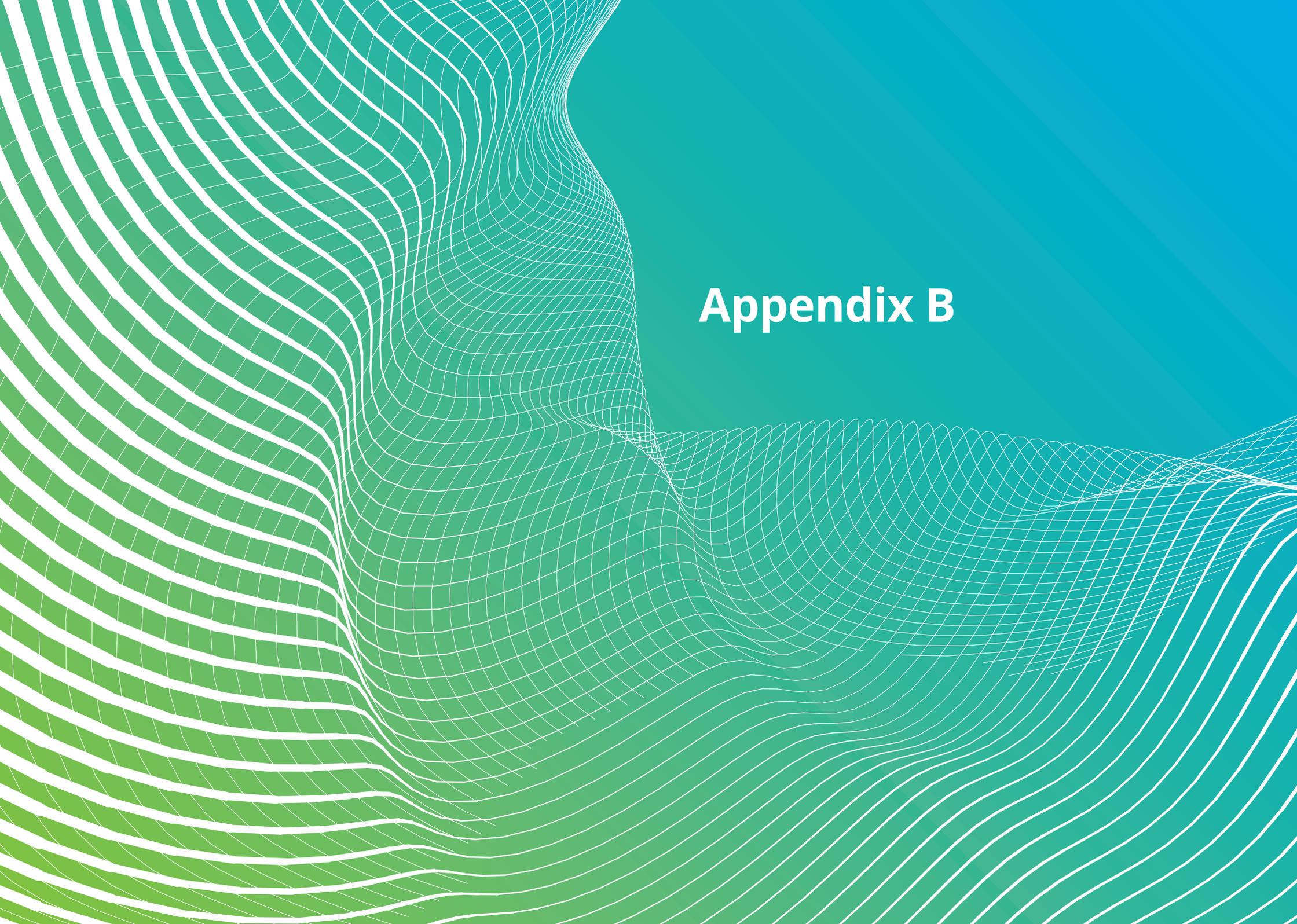
Economic value of creative businesses in South Australia

Creative business grouping	ANZSIC code	ANZSIC class	Supply chain component
Screen	5511	Motion Picture and Video Production	Production
	5512	Motion Picture and Video Distribution	Distribution
	5514	Post-production Services and Other Motion Picture and Video Activities	Production
	4242	Entertainment Media Retailing	Distribution
	5513	Motion Picture Exhibition	Distribution
	6632	Video and Other Electronic Media Rental and Hiring	Distribution
Visual Arts & Craft	1320	Leather Tanning, Fur Dressing and Leather Product Manufacturing	Production
	2591	Jewellery and Silverware Manufacturing	Production
	6991	Professional Photographic Services	Production
	1333	Cut and Sewn Textile Product Manufacturing	Production
	3732	Jewellery and Watch Wholesaling	Distribution
	4253	Watch and Jewellery Retailing	Distribution
	9532	Photographic Film Processing	Production
	SABRE	Commercial Galleries and Jam Factory	Distribution

Source: Department and Deloitte Access Economics.



Miranda Tapsell filming Top End Wedding  
Credit: SAFC

The background features a teal-to-green gradient with white wavy lines that create a sense of depth and movement, resembling a wireframe or topographical map.

# Appendix B

# Appendix B Measurement methodology

## B.1. Concept of direct economic contribution

Economic contribution studies measure the contribution to gross state product (GSP) or gross domestic product (GDP) and employment arising from activity in a particular industry or firm in a historical reference year.

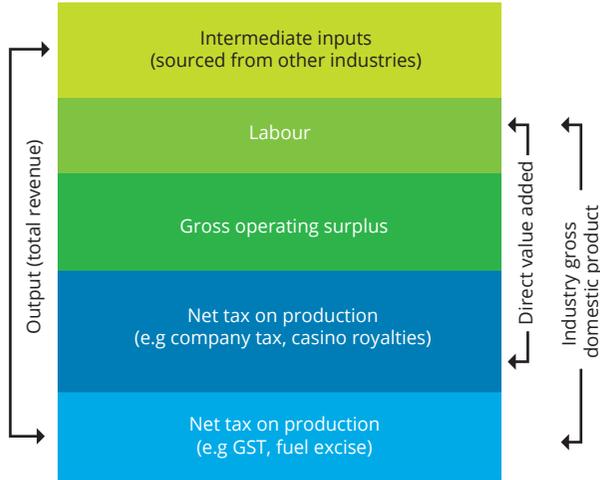
This analysis only considers the direct **economic contribution** of activity generated within South Australia by businesses that identify as part of the creative industry sector, where the value of this business activity is measured using the economic concept of **value added** and **full-time equivalent (FTE) employment**.

**Value added** is the sum of the returns to primary factors of production, namely labour and capital, that are directly engaged by a business to produce output. As shown in Figure B.1, value added comprises the sum of a business's gross operating surplus (GOS), its labour expenses associated with employees (i.e. wages, superannuation, and insurance), and taxes paid relating to production (e.g. company tax, payroll tax and land tax) net of government subsidies received to facilitate that production.<sup>7</sup> GOS is typically represented by a company's earnings before interest, taxes, depreciation, and amortisation (EBITDA).

Value added provides an accurate assessment of a business' economic contribution because it only captures the returns to capital and labour inputs associated with a particular business' production activity and excludes the value added by external firms supplying inputs. That is, the concept of value added accounts for the cost of intermediate inputs used during production, thereby avoiding double-counting of economic activity upwards through a supply-chain.

The sum of value added of firms within an economy therefore accounts almost entirely for the gross domestic product (GDP) of an economy.

Figure B.1: Economic activity accounting framework



Source: Deloitte Access Economics.

Valuing the **indirect contribution** of the creative industries is out-of-scope for this analysis, where indirect contribution is a measure of the demand for goods and services generated in other sectors of the economy as a result of the direct economic activity generated by production within the creative industries.

It should be noted that any future attempts to capture the indirect contribution of the creative industries sector may require a revisit of the nature of the creative industry business activities captured in this analysis, and may result in a portion of the estimated value of direct contribution being shifted into the value of the indirect contribution and a downward revision of the values of the direct contribution reported for this analysis. This is due to how the creative industries sector is currently defined by the State Government for the purposes of the Growth State initiative and, hence, this study, and the breadth of upstream and downstream business activity this definition of the creative industries sector captures along the supply-chain.

<sup>7</sup> Subsidies are removed from the value of production taxes paid for profit motivated firms only. In instances where government subsidies are paid to firms to facilitate the production of a good or service with 'public good' value (e.g. charitable and/or not-for-profit organisations), subsidies form part of business revenue included in GOS.

## B.2. Data sources

For the purposes of this analysis, the Department accessed historical unit-record financial data on business activity captured via the Business Longitudinal Analysis Data Environment (BLADE), the South Australian Business Research Environment (SABRE), and the combination of two in BLADE (referred to as SA-BLADE).

Within SA-BLADE, the key data sources accessed included:

- Australian Taxation Office (ATO) Business Activity Statement (BAS) administrative data
- ATO Business Income Tax (BIT) administrative data
- ATO 'Pay As You Go' (PAYG) administrative data
- South Australian Government's SABRE 'Return to Work' administrative data.

Table B.1 provides a summary of these data sources and their coverage and scope.

Information drawn from across these data sources was used to both estimate firm-level GVA and FTE employment of businesses at the national level, impute sector-level aggregates where firm-level information was not available, as well as estimate the share of GVA and FTE employment activity attributable to the South Australian economy.

It is important to note the use of these data sources for economic analysis is not the purpose for which they were intended or are administered. For the purposes of this report, the key variables selected were based on Deloitte Access Economics' understanding of relevant taxation and economic variables, and benchmarked against ABS national and state industry (ANZSIC 1-digit) aggregates where available.

Future caution should be exercised when using these data sources as changes to policy at state and Commonwealth government levels may influence the scope and quality of data collected, and affect the comparability of data over time.

**Table B.1: Summary of data sources accessed within SA-BLADE**

Dataset	Reporting organisation	Frequency	Scope
Business Activity Statement (BAS)	ATO	Annual basis (FY) 2001-02 to 2018-19	All BAS reporting firms Australia-wide
Business Income Tax (BIT)	ATO	Annual basis (FY) 2001-02 to 2017-18	All income tax reporting firms Australia-wide (including partnerships, trusts, and sole-traders)
Pay As You Go (PAYG)	ATO	Annual basis (FY) 2001-02 to 2018-19	All employing businesses Australia wide
Return to Work (RtW)	SA Government	Annual Basis (FY) 2001-02 to 2019-20	Employing businesses operating within South Australia (including self-insuring firms)

**About BLADE**

**BLADE** is a unit-record database environment which matches Australian Taxation Office (ATO) tax data, ABS business survey data, and intellectual property (IP) data from IP Australia for all active and inactive Australian businesses between 2001-02 and 2018-19. BLADE data is only available to authorised users through the ABS' DataLab portal.<sup>8</sup> The activity of individual businesses across each of the varying data sets is linked or matched together by the ABS using an ABN identifier, which is subsequently de-identified within the BLADE and replaced with a unique BLADE identifier.

**About SABRE**

**SABRE** is a data linkage project initiated and administered by the South Australian Government to collate business wage insurance information from Return to Work SA with data from RevenueSA and other State Government departments/agencies.<sup>9</sup> This environment is currently only accessible to authorised users in the Data Analytics Office within the South Australian Department of Premier and Cabinet (DPC). Similarly to the construction of BLADE, unique business activity from across the various data sources is linked together using ABN identifiers.

**About SA-BLADE**

**SA-BLADE** integrates the business wage insurance information from Return to Work SA data from SABRE into BLADE. SA-BLADE is developed as a collaboration between the ABS and the South Australian Government. As with BLADE, SA-BLADE is only accessible to authorised users through the ABS' DataLab portal. SA-BLADE contains the same de-identified unit-record information as in BLADE for active and inactive business operating in Australia, with the addition of SABRE data for businesses operating in South Australia.

<sup>8</sup> ABS, Business Longitudinal Analysis Data Environment (BLADE): What is BLADE? <[https://www.abs.gov.au/websitedbs/D3310114.nsf/home/Business%20Longitudinal%20Analysis%20Data%20Environment%20\(BLADE\)](https://www.abs.gov.au/websitedbs/D3310114.nsf/home/Business%20Longitudinal%20Analysis%20Data%20Environment%20(BLADE))>.

<sup>9</sup> Department of Premier and Cabinet (SA), Economic insight and evaluation <<https://www.dpc.sa.gov.au/responsibilities/economic-insight-and-evaluation>>.

### B.3. Method

The estimation of GVA and FTE employment at a state level using SA-BLADE data required the development of a unique methodological approach. Figure B.2 provides an overview of the methodological approach and the key steps involved.

Broadly, firm-level GVA and FTE employment estimates of activity occurring in South Australia for creative businesses identified through the ANZSIC framework is enumerated using national SA-BLADE data. For non-employing firms, their entire national activity is attributed to South Australia where they are also headquartered in South Australia. For employing firms, the share of activity attributable to South Australia is proportionate to the share of their worker remuneration in South Australia. The sum of this activity at a sector-level is then used to impute the remaining activity for ABN defined creative businesses in South Australia.

Where possible, firm-level financial data from SA-BLADE is used to estimate the key informational inputs: labour costs (Step 4), GOS (plus net production taxes) (Step 5) and FTE employment (Step 6). However, imputation techniques are utilised at several steps in the method to approximate GVA and FTE employment for sub-populations of firms where data was either inadequate or unavailable.

To guide the development of this method, checks of Steps 4, 5, 6 and 7 were undertaken to compare the outputs estimated from SA-BLADE against ABS National and State Accounts statistics for 1-digit ANZSIC categories.

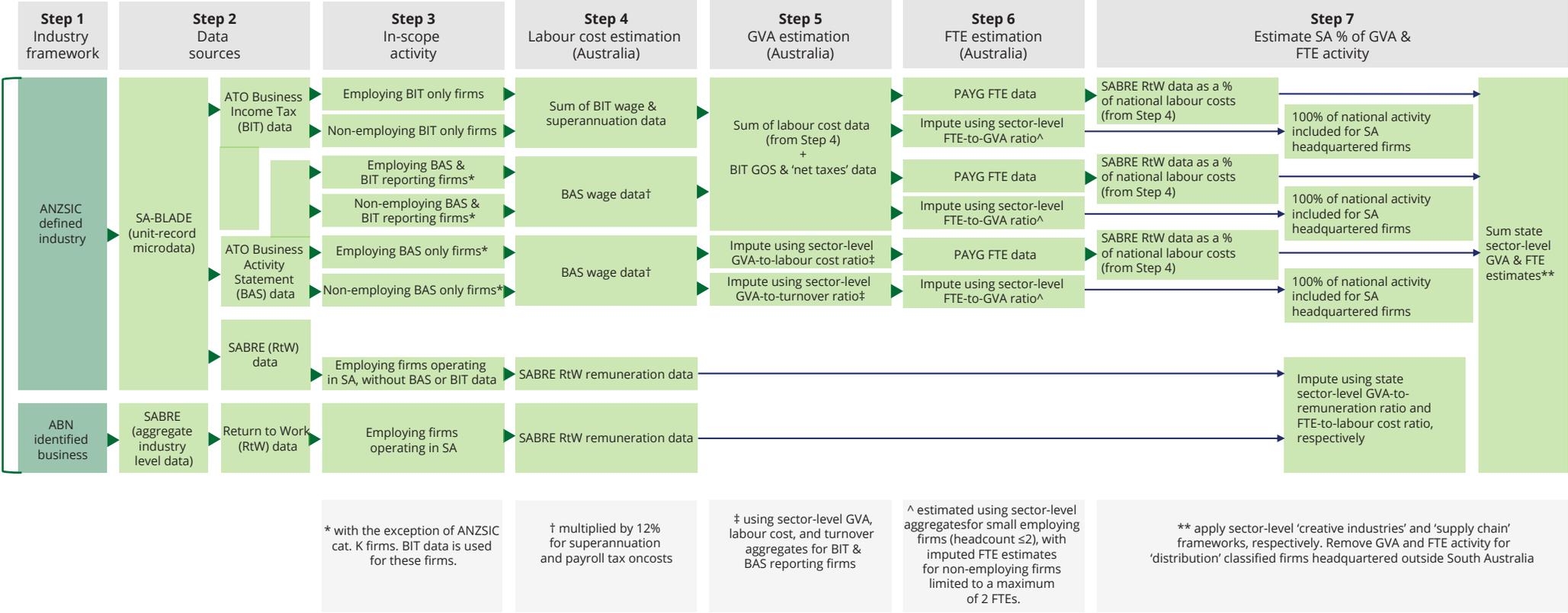
It is noted that while Deloitte Access Economics reviewed and provided input on this methodological approach, we did not extract the data from the relevant databases. As a result, Deloitte Access Economics has not verified the data.

#### B.3.1. Assumptions and limitations

Inherent in any economic modelling and analysis are a set of assumptions and limitations that determine the quality of the results:

- The accuracy of the industry classification of firms in the SA-BLADE and SABRE is dependent on firms self-identifying with a particular industry and the accuracy of their selection of the appropriate classification.
  - Firm-level wage data from BAS is inflated by 12 per cent to capture employee oncosts such as superannuation, insurance, and payroll tax.
  - The imputation of national GVA estimates for BAS only employing and non-employing firms assumes these firms are characteristic of the national sector-level average for the sub-population firms (both employing and non-employing) reporting both BIT and BAS data.
  - The imputation of national FTE employment estimates for non-employing firms assumes these firms are characteristic of the national sector-level average for the sub-population of small employing firms (headcount  $\leq 2$ ) reporting both BIT and BAS data, and that the imputed values cannot be greater than two FTE jobs per firm.
  - Weighting the national GVA and FTE employment activity of employing firms by the ratio of their South Australian worker remuneration to their national labour cost assumes that the productive activity of firms' operations in South Australia are consistent with the rest of Australia.
- For non-employing, South Australian headquartered firms within SA-BLADE, it is assumed that all national firm-level GVA and FTE activity is attributed to South Australia.
  - The activity of firms within 'distribution' type industries (i.e. retail, wholesale, storage, and distribution) and headquartered outside of South Australia are removed from South Australian sector-level GVA and FTE employment estimates to exclude the non-creative activities of firms that are otherwise captured within the creative industries ANZSIC framework.
  - The imputation of South Australian GVA and FTE employment estimates for sector-level activity of firms identified through the ABN framework assumes that these firms are consistent with their respective South Australian sector average.
  - SABRE RtW remuneration data (both internal and external to SA-BLADE) is assumed to accurately reflect the total employee remuneration costs of employing firms' operations in South Australia in a given year.
  - Full-time equivalent (FTE) employment estimates for employing firms are based on derived estimates drawn from ATO PAYG data within SA-BLADE. The hours per week considered to be full-time is not publicly reported by either the ABS or ATO in their methodology notes.
  - All final prices are set at 2020 dollar values, with historic values inflated using the ABS' gross state product (GSP) chain volume multiplier for South Australia.

Figure B.2: Overview of the methodological approach



Source: Deloitte Access Economics and Department.

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