

THE CREATIVE ECONOMY IN AUSTRALIA

WHAT CENSUS 2021 TELLS US

Briefing Paper 2: EMBEDDED CREATIVE EMPLOYMENT and CREATIVE INCOMES



**NEWS & MEDIA
RESEARCH CENTRE**



CITY OF SYDNEY



Government of South Australia
Department for Industry,
Innovation and Science



Department of
**Local Government, Sport
and Cultural Industries**

This Briefing Paper is an output of a collaboration led by the University of Canberra in partnership with the Australia Council, the City of Sydney, the South Australian Government's Department for Industry, Innovation and Science and the Western Australian Department of Local Government, Sport and Cultural Industries.

It presents an analysis of embedded cultural and creative activity in Australia, drawing on custom tables of employment data from the Australian Bureau of Statistics' five-yearly Census of Australian Population and Housing. It builds on the overview of Australian cultural and creative employment presented in Briefing Paper 1 in this series.

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HIGHLIGHTS

- Embedded creatives are people employed in creative occupations outside the creative industries. Greater in number than specialist creatives within the creative industries, it is crucial to acknowledge their role in exemplifying diverse pathways to creative careers and innovating with creative inputs across the economy.
- There is strong evidence that creative workers 'embedded' in industries other than creative industries are in high demand. Embedded creatives are growing as a proportion of the workforce in most industries. The three largest groups of embedded creative workers are Advertising and Marketing, Software and Digital Design, and Architecture and Design. The three largest industry divisions employing embedded creatives are Public Administration and Safety, Professional, Scientific and Technical Services, and Finance and Insurance Services.
- The relatively high incomes earned by embedded creatives stand out both in comparison to the incomes earned by creative specialists and, even more dramatically, in comparison to other workers in the industry divisions that employ embedded creatives. This would suggest that, in many industries, embedded creatives' skillsets are highly sought after and are subject to up bidding—in other words, that creative skill sets in many instances may be in short supply. But

such comparisons should be made with caution. The small percentages of embedded creatives in each divisional workforce make comparison with the much larger workforces difficult.

- The largest employers of embedded cultural production expertise are the Education and Training and the Public Administration and Safety industries. Librarians and archivists, music professionals, writers and editors and actors and dancers are employed in significant numbers in Education and Training. The Public Administration and Safety industry employed many librarians and archivists and music professionals.
- In contrast, creative services workers are found across the economy, with particularly large numbers of Software and Digital Content specialists employed in Finance and Insurance Services and Public Administration and Safety, and Architecture and Design specialists in Manufacturing and Retail Trade.
- These and related findings on embedded creatives are important for 'joined-up' thinking on opportunities in creative careers, the career life cycle of creative workers, and for greater understanding of what skills, practices, and expertise creatives bring to the wider economy.
- Insights from the analysis of embedded creatives have implications for education and training at school and tertiary level, and for innovation and industry policy, as well as cultural policy, programs and agencies.

DEFINITIONS AND BACKGROUND

This factsheet presents employment data from the Australian Censuses 2021 and 2016 (ABS, 2018, 2022). The data is aggregated according to the dynamic model of the cultural and creative industries (CCIs) (Bakhshi et al., 2013; Higgs & Lennon, 2014) and the creative trident (Bakhshi et al., 2013; Higgs & Lennon, 2014). Summary tables listing the industries and occupations identified as creative by applying the dynamic model are available at <https://research.qut.edu.au/creativehotspots/defining-the-creative-economy/>

Following the dynamic model approach, the CCIs can be grouped into seven sectors:

- the mostly business-to-business creative services sectors (1) *advertising and marketing*, (2) *architecture and design*, (3) *software and digital content*, and
- the mostly business-to-consumer cultural production sectors (4) *film, TV and radio*, (5) *music and performing arts*, (6) *publishing* and (7) *visual arts*

The creative trident is a useful way of presenting creative industry and creative occupation data that highlights different categories of creative workers:

- *Specialist* creatives work in creative occupations within the creative industries (orange in the table below)
- *Support* professionals work in support roles (not defined as creative occupations) within the creative industries (blue)
- *Embedded* creatives work in creative occupations in industries other than creative industries (green)

The term *Creative Economy* refers to Specialist, Support and Embedded workers combined.

The creative trident

	Creative industries	Other industries
Creative occupations	Specialist creatives	Embedded creatives
Other occupations	Support workers	

Note that the Australian Census records only the occupation and industry of employment of respondent's main source of income. Much creative employment is not a practitioner's main income source and, although it may be the main focus of the practitioner, may only provide a supplementary income and is thus not captured in the Census. For example, the 2017-18 Cultural Participation Survey indicates that the number of musicians who receive income from singing or playing is 11 times the number reported in the 2016 Census. For visual artists, it is nine times as many and it is four times for actors and dancers (Cunningham & McCutcheon, 2020).

'EMBEDDED' CREATIVE WORKERS: SOME BACKGROUND

The idea of *embedded* creative workers (those who work in creative occupations in industries other than creative industries (green highlight above) is a relatively new category in our understanding of the creative economy. While we are only beginning to understand its significance for research and policy, embedded creative employment is *the strongest baseline evidence of the value placed on the contribution of creative workers to the rest of the economy that can be derived from analysis of the Census*.

Our previous statistical and qualitative research on embedded creatives has produced rich and suggestive findings:

- A review of official reports and other studies found there was limited understanding of the role of creative workers in the digital economy and innovation, the issues they face, and their specific needs (Goldsmith 2014a).
- Creatives in the health industry 'bring a more human-centred focus to ... the provision of healing services', 'are central to the escalating rollout of ... ICT', enhance 'distance services', help in 'planning and performing medical treatments' and 'in alleviating some of the most difficult and intractable medical conditions' (Pagan and Rodgers 2014, 97).
- The financial sector was found to be 'particularly fertile ground for the analysis of embedded creative work' (Hearn et al 2014, 15). The movement to online banking 'requires the deployment of a variety of digital creative workers in the design and development of innovative models and interfaces, the animation of icons, actions and services, and the development of image-based, graphically-rich and user-friendly interfaces' (Hearn et al 2014, 15). This is borne out strongly in Census 2021 findings.
- Embedded creative workers in manufacturing 'bring a variety of value-add propositions to their companies, including translation, reaching customers and product differentiation. Creatives in manufacturing, however, often feel that their creative input is not valued by their companies' (Hearn et al 2014, 14).
- There is also the recurring issue—very important for creatives' career strategy—of being embedded as an employee versus providing creative services as a specialist (Goldsmith 2014b, 145-6). Any study of embedded creatives raises the question of 'contracting-in' (employing creatives) and 'contracting-out' (buying services). Much input by creatives into the broader economy may be conducted through contractual services rather than embedded employment.

EMBEDDED WORKERS IN THE CREATIVE TRIDENT

Embedded creatives outnumber creative specialists across the economy. ‘Trident’ analysis of Census 2021 data confirms what many previous studies have shown (Hearn et al 2014; Hearn and McCutcheon, 2020), that employment in creative occupations embedded outside the creative industries is numerically greater than specialist employment within the creative industries (Table 1 and Table 2).

Embedded creative employment is growing faster than specialist creative jobs. Total embedded employment has changed since the Census 2016. Growing from 185,000 people in 2016 to 218,300 in 2021, at an annual average rate of 3.4 per cent per annum, embedded creatives are growing at a slightly faster rate than specialist creatives, and, indeed, at a faster rate than Australia’s workforce as a whole (Table 3).

Embedded creatives earn higher incomes than their specialist counterparts and industry co-workers. One consistent pattern is that the relatively high incomes earned by embedded creatives stand out both in comparison to the incomes earned by creative specialists and to people in other occupations in other industries (Table 4). This is particularly dramatically apparent when comparing embedded creatives to other workers within each industry divisions (as we will see in CREATIVE EMPLOYMENT AND MEDIAN INCOMES FOR SELECTED INDUSTRY DIVISIONS below). This would suggest that, in many industries, embedded creatives’ skillsets are highly sought after and are subject to up bidding—in other words, that creative skill sets in many instances may be in short supply.

Table 1 Trident I—creative employment by creative industry and creative occupation, 2021

714,632 Total creatives	Creative industries	Other industries	Total
Creative occupations	190,896	218,297	409,195
	Specialist	Embedded	
Other occupations	305,439	11,334,778	11,640,217
	Support		
Total	496,334	11,553,076	12,049,410
			Workforce

Table 2 Creative intensity (share of total employment), 2021

5.9% Total creatives	Creative industries	Other industries	Total
Creative occupations	1.6%	1.8%	3.4%
	Specialist	Embedded	
Other occupations	2.5%	94.1%	96.6%
	Support		
Total	4.1%	95.9%	100.0%
			Workforce

Table 3 Average annual growth in employment, 2016 to 2021

3.8% Total creatives	Creative industries	Other industries	Total
Creative occupations	3.3%	3.4%	3.3%
	Specialist	Embedded	
Other occupations	4.4%	2.4%	2.4%
	Support		
Total	4.0%	2.4%	2.4%
			Workforce

Table 4 Median annual incomes and average annual growth (adjusted for inflation), 2021

Total creatives \$85,600	Creative industries	Other industries	Total
Creative occupations	\$76,300	\$87,500	\$82,400
	Specialist	Embedded	
Other occupations	\$90,500	\$61,500	\$62,100
	Support		
Total	\$84,600	\$61,900	\$62,700
	AGR: 2.4%	AGR: 1.7%	AGR: 1.8%

Note: Average annual growth (AGR) is adjusted for inflation using the CPI.

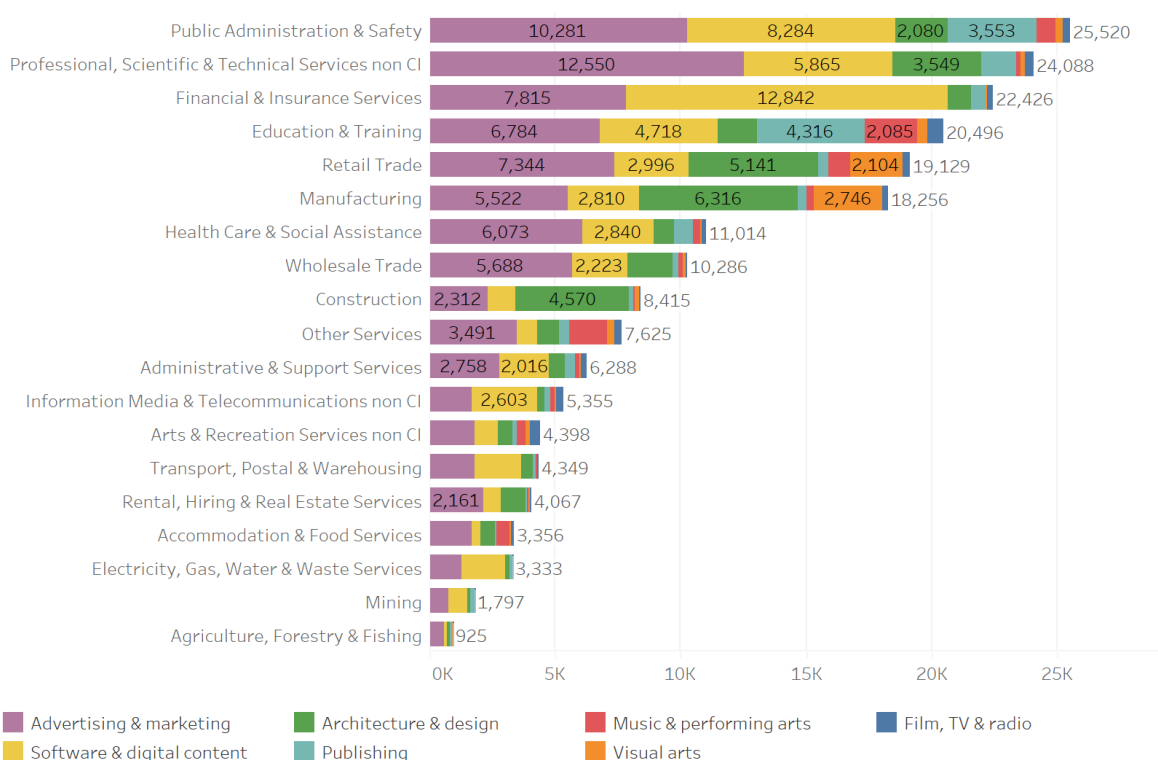
EMPLOYMENT IN CREATIVE OCCUPATIONS BY INDUSTRY

Creative workers are embedded in industries across the economy. In terms of people employed at the time of the Census 2021, the largest creative occupations outside the creative industries are in Advertising and Marketing, and Software and Digital Design (Figure 1). These are sources of significant employment, with thousands of jobs in nearly all industry divisions—almost all enterprises and organisations, public, private and third sector, need basic marketing, advertising and digital interface design services.

The next largest creative occupation sector is Architecture and Design. The Retail Trade and Manufacturing industries each employ more than 5000 and 6000 designers, as well as more than 2,000 visual artists each. This is followed by Publishing specialists. Writers and librarians are found in the Public Administration and Safety and Education and Training industries, which employ 3500 and 4300 Publishing specialists respectively.

The top employers of creatives outside the creative industries are not the top employers of embedded creatives simply due to their size—the correlation between embedded creative employment and total employment by industry division is a strong but not absolute 0.45. The industry that is the largest employer of embedded creatives, Public Administration and Safety, was the fifth biggest employer in 2021, accounting for 797,034 jobs, and the second largest, Professional, Scientific and Technical Services (excluding creative industries classes) employed 593,149.

Figure 1 Employment in creative occupations by industry division, excluding creative industries, 2021

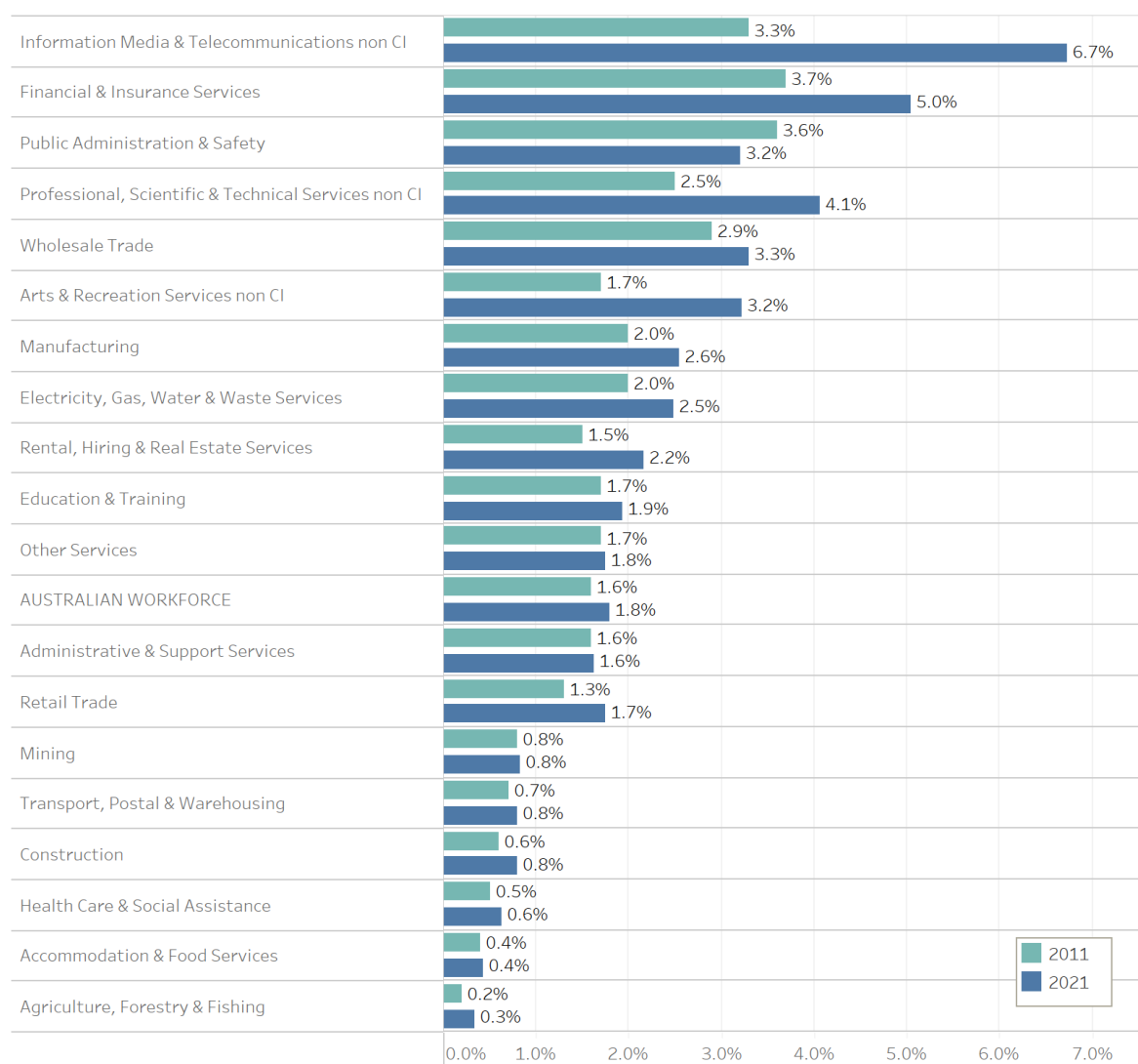


Note – industry divisions that include creative industries here omit relevant creative industry classes. Thus, the chart only shows people working in creative occupations embedded in other industries as their main source of income.

In contrast, the largest employers, Health Care and Social Assistance with 1,751,718 jobs, was the seventh largest employer of embedded creatives, and Retail Trade with 1,099,616 jobs was the fifth.

Embedded creatives are growing as a proportion of the workforce in most industries—however, this trend is not universal. Excluding the Telecommunications industry,¹ the Finance and Insurance Services industry had the highest creative intensity, that is, embedded creative employment as a share of total employment. It grew from 3.7 per cent in 2011 to 5.0 per cent in 2021, exceeding average growth in other occupations with an increase of more than 2,200 workers (Figure 2). The Finance and Insurance Services industry continues to provide particularly fertile ground for the analysis of embedded creative work, particularly of software developers and digital content creators—it employs the highest number of people in Software and Digital Content occupations outside the creative industries with 12,800 workers and the third highest in Advertising and Marketing with 7,800.

Figure 2 Embedded creative employment as a share of total employment, excluding creative industries, 2011 and 2021

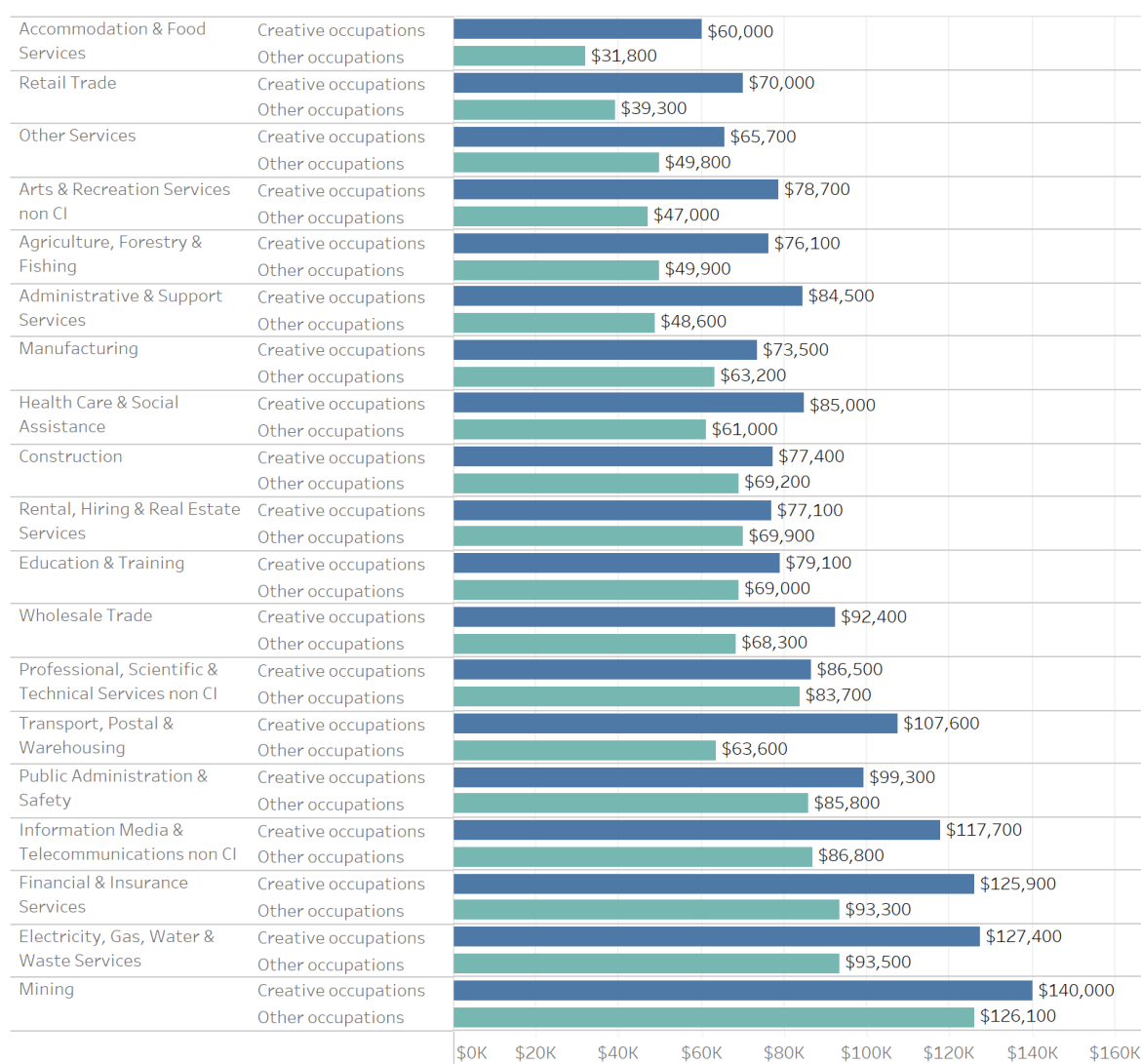


¹ The Information, Media and Telecommunications Industry shed 15,000 workers between 2016 and 2021, more than 15 per cent of its workforce, making change comparisons difficult.

Other industries with large increases in creative intensity include the non-creative industries in Professional, Scientific and Technical Services, which employs the highest number of people in Advertising and Marketing with 10,300 workers, and Arts and Recreation Services. Industries for which creative intensity fell between 2011 and 2021 include Public Administration and Safety and Administration and Support Services. In both cases, the decreases are most likely due to increased levels of outsourcing and subcontracting, and do not reflect a reduced roll for creative skills in these industries.

The relatively high incomes earned by embedded creatives stand out in comparison to incomes earned both by specialists in the creative industries and people in other occupations. The median incomes earned by embedded creatives can be as much as nearly twice that earned other workers in each, with the difference typically in the tens of thousands of dollars (Figure 3) The differences suggest that embedded creatives skillsets are highly sought after and are subject to up bidding—suggesting that creative skill sets in many instances are in short supply.

Figure 3 Median incomes for creative and other occupations by industry division, excluding creative industries, 2021

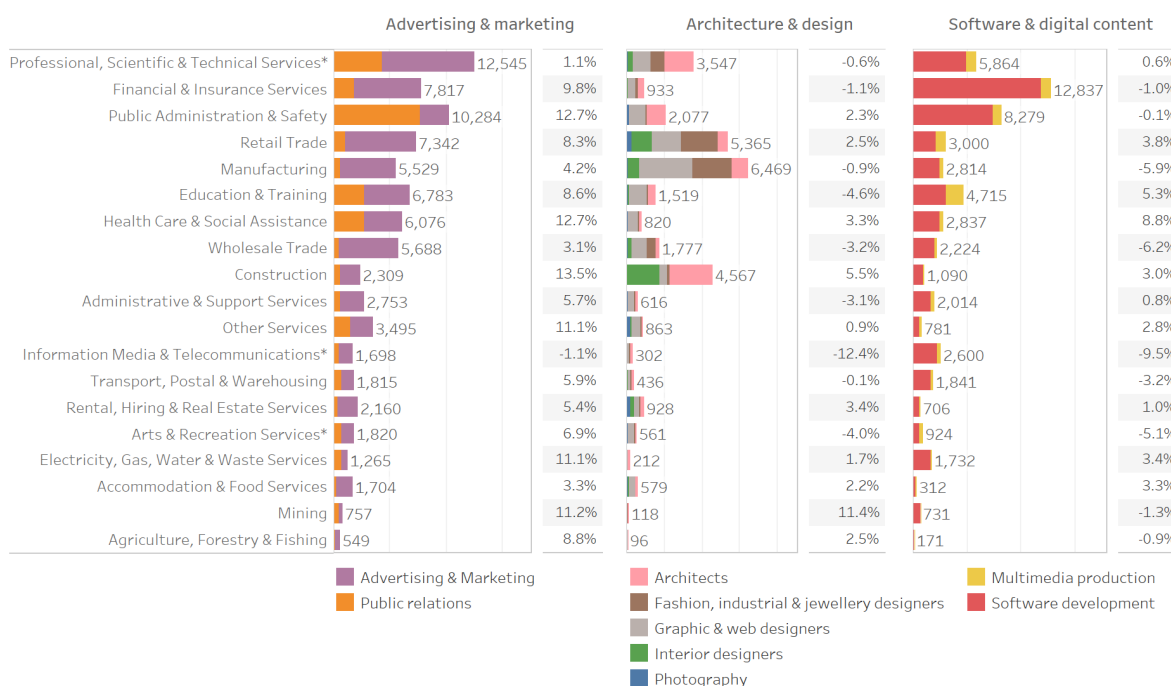


But such comparisons should be made with caution. The small percentages of embedded creatives in each divisional workforce make comparison with the much larger workforces difficult. The median calculations for other occupations also include high earning professionals, the details of which are smoothed out by the median calculations. Figures 4 and 5 show actual numbers of embedded creative workers broken down into the Trident II categories of Creative Services and Cultural Production. These more detailed illustrations reveal hotspots of creative activity—and also those activities and occupation groups that have become key inputs across the economy.

EMBEDDED CREATIVE EMPLOYMENT BY CREATIVE SECTOR

Creative services: the creative occupations most likely to be found embedded in other industries are Advertising and Marketing and Software and Digital Content. In Advertising and Marketing, public relations represents the majority of jobs only in the Public Administration and Safety industry—in all other industries, which are generally more customer-focussed, the majority are in advertising-related roles. While Software and Digital Content occupations are found across industry, there are particularly high numbers of these professionals in Financial and Insurance Services, Public Administration and Safety and in the non-creative parts of the Professional, Scientific and Technical Services industries. Strong growth in Advertising and Marketing roles in the Public Administration and Safety and in the Health Care and Social Assistance industries is likely COVID-related as government agencies and health organisations responded to the pandemic.

Figure 4 Embedded creative services employment in 2021 and average annual growth between 2016 and 2021, by industry division and occupation category, excluding creative industries*



Note: The industry divisions marked * exclude industry classes defined as creative using the dynamic mapping method. Lists of creative industries and creative occupations can be found at <https://research.qut.edu.au/creativehotspots/defining-the-creative-economy/>

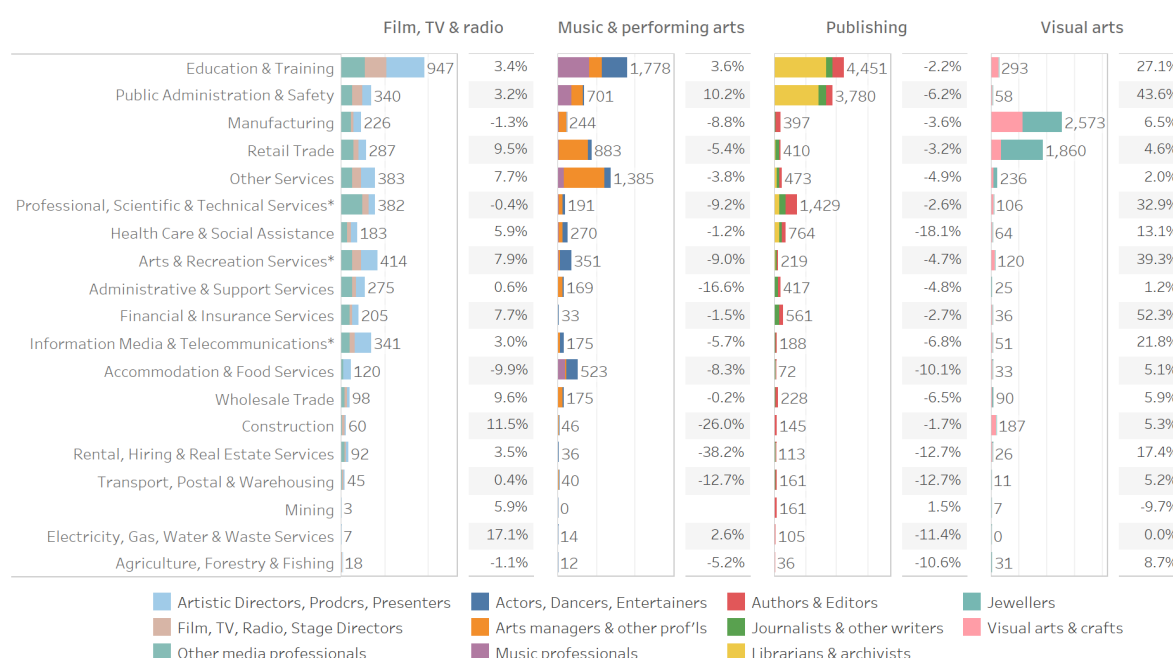
Embedded creatives in Architecture and Design occupations exhibit a different pattern to Advertising and Marketing and Software and Digital Content workers. Here the jobs align with hotspots of creative activity within industry. In 2021, the Manufacturing industry, for example, employed 2,800 graphic and web designers and 2,000 fashion industrial and jewellery designers. The construction industry employed 2,300 architects and 1,750 interior designers.

It should be noted that the employment totals here underestimate creative services work conducted for the wider economy. These are skills that are increasingly contracted out, rather than employed in—a trend that makes tracking employment trends in these occupations particularly fraught.

Cultural production: hotspots of cultural production activity show that demand for these creative skills varies across industry. The largest employers of embedded cultural production specialists are the Education and Training and the Public Administration and Safety industries. The Education and Training industry in particular employs significant numbers of people with cultural production skills in teaching-related roles as their main source of income—in 2021 this included 3,340 librarians and archivists, 800 music professionals, 670 writers and editors and 650 actors and dancers. The Public Administration and Safety industry employed another 2,900 librarians and archivists and 360 music professionals.

The next two largest employers of embedded creatives, the Manufacturing and Retail Trade industries, employ different groups of occupations. Here, the predominant embedded creatives are visual artists, including a total 2,900 jewellers and 1,500 arts and crafts professionals. The Retail Trade industry also employed 1,000 arts managers and other professionals.

Figure 1 Embedded cultural production employment in 2021 and average annual growth between 2016 and 2021, by industry division and occupation category, excluding creative industries*



Note: The industry divisions marked * exclude industry classes defined as creative using the dynamic mapping method. Lists of creative industries and creative occupations can be found at <https://research.qut.edu.au/creativehotspots/defining-the-creative-economy/>

As with creative services, these data do not indicate where contracting-out might be occurring for cultural production. These are activities with large numbers of sole traders and very small businesses—this embedded creative employment data does not capture the very many sole and small practitioners whose services are bought in by larger, established firms.

CREATIVE EMPLOYMENT AND MEDIAN INCOMES FOR SELECTED INDUSTRY DIVISIONS

This section presents detailed embedded employment data tables for select industries: Public Administration and Safety, Financial and Insurance Services, Education and Training, Health Care and Social Assistance, Construction and Mining. These industries were selected because they either have high levels of embedded creative activity, or because they are of particular interest to our industry partners on this project.

PUBLIC ADMINISTRATION AND SAFETY

In 2021, Public Administration and Safety was Australia's largest employer of embedded creative workers, employing 25,500 creative professionals, 3.1 per cent of its total workforce (Figure 1 and Table 5). The number of embedded creatives in Public Administration and Safety grew by an annual average rate of 3.3 per cent between 2016 and 2021, one third more than that of its total workforce.

The largest embedded creative occupation groups were public relations, advertising and software development. These are high-demand skills, with workers in these occupations earning some of the highest median incomes in the industry, compared with other occupations and other creative occupations.

Table 5 Employment in creative occupations in the Public Administration and Safety industry, 2021

		Jobs 2021	Share 2021	CAGR 2016-2021	Median income
Advertising & Marketing	Advertising & Marketing	2,653	0.33%	-11.8%	\$94,700
	Public relations	7,631	0.96%	15.9%	\$104,000
Architecture & design	Graphic & web designers	840	0.11%		\$84,100
	Architects	976	0.12%	6.6%	\$102,700
	Fashion, industrial & jewellery designers	104	0.01%	32.0%	\$115,900
	Interior designers	17	0.00%	-19.7%	\$122,900
	Photography	140	0.02%	0.6%	\$83,900
Software & digital content	Multimedia production	893	0.11%	18.9%	\$95,700
	Software development	7,386	0.93%	-1.5%	\$117,200
Film, TV & radio	Film, Television, Radio & Stage Directors	106	0.01%		\$93,300
	Other media professionals	136	0.02%		\$88,900
	Artistic Directors, Media Producers & Presenters	98	0.01%	12.7%	\$93,600
Music & performing arts	Music professionals	363	0.05%		\$81,100
	Actors, Dancers & Other Entertainers	41	0.01%	3.2%	\$78,500
	Arts managers & other professionals	297	0.04%	5.9%	\$94,500
Publishing	Authors, & Book & Script Editors	439	0.06%	24.3%	\$94,800
	Journalists & other writers	454	0.06%	-11.4%	\$93,300
	Librarians & archivists	2,887	0.36%	-5.9%	\$76,300
Visual arts	Jewellers	3	0.00%		\$0
	Visual arts & crafts professionals	55	0.01%	3.2%	\$71,000
Other occupations	Other occupations	771,520	96.80%	2.2%	\$85,800

The creative occupations with the highest growth coincide with the shift to digital communication, particularly in public relations adapting to social media, and multimedia design and production with the development of websites and apps and in written communication. Factors that may be driving falls in creative employment in Public Administration and Safety include the changing role of libraries and their subsequent need for a broader range of skills, and the impact of COVID on libraries, with many having closed and deployed staff to other roles (Wakeling et al., 2022) .

FINANCIAL AND INSURANCE SERVICES

Financial and Insurance Services is one of the most creatively intense industry in Australia, with 5.0 per cent of its total workforce employed in creative occupations (Figure 2 and Table 6). It is one of the largest industries in Australia, with many of the country's largest corporations. In the City of Sydney, the centre of this industry, embedded creatives made up 7.6 per cent of its entire workforce in 2021, a 50 per cent increase on its share of 5.1 per cent in 2016.

Clearly, embedded creative employment in Finance and Insurance Services is driven by two large segments: Advertising and Marketing, and Software Development. Software Development has driven digitisation over some decades and now, increasingly, automation of such services, while Advertising and Marketing drives competition for market share in what is both a highly competitive and highly regulated industry. Firms in Finance and Insurance Services are increasingly seeing the benefits of expanding their creative capabilities in-house. Big banks, for example, have resources to support their own cross-functional teams, with digital product owners working alongside UX specialists with an intimate knowledge of the product offering.

Table 6 Employment in creative occupations in the Financial and Insurance Services industry, 2021

		Jobs 2021	Share 2021	CAGR 2016-2021	Median income
Advertising & Marketing	Advertising & Marketing	6,029	1.35%	-13.9%	\$125,600
	Public relations	1,788	0.40%	26.5%	\$130,100
Architecture & design	Graphic & web designers	407	0.09%		\$82,800
	Architects	353	0.08%	7.5%	\$146,900
	Fashion, industrial & jewellery designers	134	0.03%	20.8%	\$140,000
	Interior designers	36	0.01%	10.4%	\$136,900
	Photography	3	0.00%	-5.6%	\$71,500
Software & digital content	Multimedia production	948	0.21%	20.4%	\$105,500
	Software development	11,889	2.67%	-1.9%	\$130,200
Film, TV & radio	Film, Television, Radio & Stage Directors	37	0.01%		\$87,100
	Other media professionals	97	0.02%		\$95,400
	Artistic Directors, Media Producers & Presenters	71	0.02%	-1.1%	\$65,000
Music & performing arts	Music professionals	6	0.00%		\$91,000
	Actors, Dancers & Other Entertainers	19	0.00%	3.5%	\$23,400
	Arts managers & other professionals	8	0.00%	-11.8%	\$58,500
Publishing	Authors, & Book & Script Editors	244	0.05%	41.5%	\$92,100
	Journalists & other writers	282	0.06%	-8.3%	\$93,000
	Librarians & archivists	35	0.01%	-25.5%	\$92,300
Visual arts	Jewellers	0	0.00%		\$0
	Visual arts & crafts professionals	36	0.01%	64.4%	\$79,600
Other occupations	Other occupations	422,704	94.96%	3.0%	\$93,300

EDUCATION AND TRAINING

While also reliant on Advertising and Marketing and Software and Digital Content, the Education and Training industry is the biggest employer of embedded Cultural Production employees, despite being the fourth-largest employer in Australia—a clear indication of its reliance on embedded Cultural Production expertise. Education and Training is Australia's largest employer of embedded librarians and archivists, multimedia producers, music professionals, actors and dancers, artistic directors and all film, TV and radio professionals. It is the second largest employer of embedded authors, editors and journalists, and the third largest of embedded graphic designers and visual arts professionals. Growth in these professions has varied, in line with the impacts of digitisation, including online teaching resources and library resources. Changes also reflect responses to the COVID pandemic with growth in the numbers of directors, media productions and presenters and multimedia production likely due to the development of online media and training materials, and falls in advertising and marketing roles due to a contraction of promotional activities targeting international students.

Table 7 Employment in creative occupations in the Education and Training industry, 2021

		Jobs 2021	Share 2021	CAGR 2016-2021	Median income
Advertising & Marketing	Advertising & Marketing	4,134	0.39%	-9.5%	\$77,600
	Public relations	2,649	0.25%	13.8%	\$86,100
Architecture & design	Graphic & web designers	955	0.09%		\$66,700
	Architects	346	0.03%	8.4%	\$92,700
	Fashion, industrial & jewellery designers	95	0.01%	15.1%	\$70,400
	Interior designers	33	0.00%	-3.8%	\$89,400
	Photography	90	0.01%	-5.1%	\$49,400
Software & digital content	Multimedia production	1,690	0.16%	24.4%	\$83,300
	Software development	3,025	0.29%	-0.3%	\$101,700
Film, TV & radio	Film, Television, Radio & Stage Directors	239	0.02%		\$68,800
	Other media professionals	273	0.03%		\$65,400
	Artistic Directors, Media Producers & Presenters	435	0.04%	21.1%	\$76,400
Music & performing arts	Music professionals	799	0.08%		\$40,300
	Actors, Dancers & Other Entertainers	642	0.06%	0.7%	\$33,100
	Arts managers & other professionals	337	0.03%	-6.2%	\$52,400
Publishing	Authors, & Book & Script Editors	672	0.06%	19.5%	\$63,800
	Journalists & other writers	399	0.04%	-9.1%	\$70,900
	Librarians & archivists	3,380	0.32%	-2.9%	\$77,100
Visual arts	Jewellers	10	0.00%	-10.1%	\$18,200
	Visual arts & crafts professionals	283	0.03%	20.8%	\$38,400
Other occupations	Other occupations	1,040,832	98.07%	2.8%	\$69,000

HEALTH CARE AND SOCIAL ASSISTANCE

The Health Care and Social Assistance industry is the largest employer in Australia, with more than 1.7 million people reporting it as their main source of income in 2021. In contrast, it is Australia's seventh-largest employer of embedded creative professionals, with an overall creative intensity of 0.6 per cent, well below the national average.

Any study of embedded creatives raises the question of contracting-in and contracting-out, and the reality that much input by creatives into the broader economy may be conducted through

contractual services rather than embedded employment. Pagan and Rodgers (2014, pp. 99-100) argue that the demand for software and digital content in the health industry has not translated into high levels of employment for programmers either in health or other industries as there is a strong bias toward purchasing proprietary software than using local skills to maintain the IT systems. While Pagan and Rodgers also point to advertising and marketing as a conspicuous feature of the health industry, the comparisons here suggest that advertising and marketing is a common feature across all industry groups. The share of total employment held by advertising and marketing occupations in Health Care and Social Assistance, for instance, is 0.20 per cent, well below the 0.39 per cent in Education and Training and the 1.35 per cent in Finance and Insurance Services—but close to other industries including Accommodation and Food Services, Construction and Transport, Postal and Warehousing, all at 0.2 per cent. On the other hand, the rapid growth in public relations and multimedia production employment, 17.1 and 33.3 per cent respectively, seen here is likely a reflection of public health communications in response to the COVID pandemic.

With regard to music and performing arts in health, hospitals and nursing homes would seemingly offer the prospect of longer-term employment than actors typically experience. However, a number of factors make their situations tenuous. Although there is a growing body of evidence for the role that the arts and creativity can play in supporting mental health and wellbeing (Australia Council for the Arts, 2022), there is a paucity of conclusive demonstrations of physical health benefits from cultural activities other than through music. Even when indicated the benefits tend to be ‘long term and often diffuse’ (Pagan and Rodgers 2014, p. 105).

Table 8 Employment in creative occupations in the Health Care and Social Assistance industry, 2021

		Jobs 2021	Share 2021	CAGR 2016-2021	Median income
Advertising & Marketing	Advertising & Marketing	3,419	0.20%	-7.8%	\$77,900
	Public relations	2,657	0.15%	17.1%	\$86,400
Architecture & design	Graphic & web designers	544	0.03%		\$67,500
	Architects	137	0.01%	6.5%	\$95,000
	Fashion, industrial & jewellery designers	64	0.00%	30.4%	\$88,200
	Interior designers	27	0.00%	1.6%	\$75,400
	Photography	48	0.00%	-1.6%	\$52,000
Software & digital content	Multimedia production	425	0.02%	33.3%	\$83,800
	Software development	2,412	0.14%	6.5%	\$107,500
Film, TV & radio	Film, Television, Radio & Stage Directors	53	0.00%		\$67,200
	Other media professionals	67	0.00%		\$76,100
	Artistic Directors, Media Producers & Presenters	63	0.00%	17.6%	\$63,100
Music & performing arts	Music professionals	45	0.00%		\$32,800
	Actors, Dancers & Other Entertainers	150	0.01%	1.0%	\$38,200
	Arts managers & other professionals	75	0.00%	-7.0%	\$47,100
Publishing	Authors, & Book & Script Editors	308	0.02%	37.4%	\$74,000
	Journalists & other writers	165	0.01%	-11.9%	\$73,900
	Librarians & archivists	291	0.02%	-29.3%	\$81,300
Visual arts	Jewellers	9	0.00%	-2.1%	\$11,700
	Visual arts & crafts professionals	55	0.00%	8.3%	\$34,800
Other occupations	Other occupations	1,740,707	99.37%	5.3%	\$61,000

The embedded creative employment data collected by the 2021 Census likely underestimates the role of art practitioners in healthcare. Capturing only those jobs that are a main source of income, it does not provide any insights into the likely many artists who work in health settings as part of a portfolio of work practices. The Census also does not capture people who are working as art therapists as they are not classified as working in a creative occupation—the last Census records 6452 people as working as complementary health therapists, a category that combines dance, drama, music and play therapists, and hypnotherapists.

CONSTRUCTION

The very close relationship between Architecture & Design and the all-important (to the broader Australian economy) Construction industry is exhibited here. The third largest source of employment nationally, the Construction industry is Australia's largest employer of embedded architects and interior designers—even though its overall creative intensity is relatively low at 0.8 per cent of its total workforce.

Embedded creative employment in Construction reflects the shift to online marketing and public relations through social media apparent in other industries, with its fastest growing creative occupations being writers, multimedia productions and public relations professionals. The number of architects, in contrast, grew only at a rate similar to averages for creatives across the rest of the economy.

Table 9 Employment in creative occupations in the Construction industry, 2021

		Jobs 2021	Share 2021	CAGR 2016-2021	Median income
Advertising & Marketing	Advertising & Marketing	1,714	0.16%	-20.6%	\$73,700
	Public relations	595	0.06%	29.1%	\$122,400
Architecture & design	Graphic & web designers	367	0.03%		\$68,700
	Architects	2,302	0.22%	3.1%	\$78,800
	Fashion, industrial & jewellery designers	129	0.01%	8.7%	\$77,000
	Interior designers	1,750	0.16%	9.5%	\$65,000
	Photography	19	0.00%	7.9%	\$45,500
Software & digital content	Multimedia production	149	0.01%	36.0%	\$80,000
	Software development	941	0.09%	0.8%	\$109,200
Film, TV & radio	Film, Television, Radio & Stage Directors	19	0.00%		\$64,100
	Other media professionals	18	0.00%		\$110,500
	Artistic Directors, Media Producers & Presenters	23	0.00%	18.1%	\$62,800
Music & performing arts	Music professionals	11	0.00%		\$53,600
	Actors, Dancers & Other Entertainers	14	0.00%	-3.8%	\$27,300
	Arts managers & other professionals	21	0.00%	-34.3%	\$65,000
Publishing	Authors, & Book & Script Editors	108	0.01%	48.4%	\$99,300
	Journalists & other writers	27	0.00%	-24.2%	\$65,000
	Librarians & archivists	10	0.00%	-23.4%	\$114,400
Visual arts	Jewellers	4	0.00%	-10.6%	\$0
	Visual arts & crafts professionals	183	0.02%	4.9%	\$53,800
Other occupations	Other occupations	1,059,233	99.21%	3.2%	\$69,200

MINING

Despite being one of Australia's most significant sources of export revenue, the mining industry employs a relatively small proportion of the national workforce (ranked 15 out of 19 industry divisions). As a share of total employment, embedded creatives represent a steady 0.8 per cent of all people working in mining, with no significant change since 2011 (Figure 2). The Mining industry employs the lowest numbers of advertising and marketing professionals and amongst the lowest software developers of any industry.

This is not an indication of low employment of creative skills in the Mining industry. Rather, this reflects the importance of outsourcing in a major industry with a numerically minor workforce due to significant automation over some decades. Understanding the role of creative inputs in industries such as Mining is a challenge for future research.

Table 10 Employment in creative occupations in the Mining industry, 2021

		Jobs 2021	Share 2021	CAGR 2016-2021	Median income
Advertising & Marketing	Advertising & Marketing	307	0.14%	-22.1%	\$126,000
	Public relations	450	0.21%	19.9%	\$168,700
Architecture & design	Graphic & web designers	30	0.01%		\$76,400
	Architects	81	0.04%	14.6%	\$145,800
	Fashion, industrial & jewellery designers	4	0.00%	-12.9%	\$130,000
	Interior designers	0	0.00%		\$0
	Photography	3	0.00%	0.0%	\$0
Software & digital content	Multimedia production	20	0.01%	38.0%	\$106,900
	Software development	711	0.33%	-1.9%	\$143,900
Film, TV & radio	Film, Television, Radio & Stage Directors	0	0.00%		\$0
	Other media professionals	3	0.00%		\$97,500
	Artistic Directors, Media Producers & Presenters	0	0.00%		\$0
Music & performing arts	Music professionals	0	0.00%		\$0
	Actors, Dancers & Other Entertainers	0	0.00%		\$0
	Arts managers & other professionals	0	0.00%		\$0
Publishing	Authors, & Book & Script Editors	128	0.06%		\$123,200
	Journalists & other writers	9	0.00%	-36.8%	\$71,500
	Librarians & archivists	24	0.01%	-17.6%	\$104,000
Visual arts	Jewellers	7	0.00%	-14.1%	\$0
	Visual arts & crafts professionals	0	0.00%		\$0
Other occupations	Other occupations	212,970	99.17%	3.9%	\$126,100

APPENDIX: DATA TABLES

Table 11 Embedded creative employment by industry, 2021

		Wholesale Trade	Transport, Postal & Warehousing	Retail Trade	Rental, Hiring & Real Estate Services	Public Administration & Safety	Professional, Scientific & Technical Services non CI	Other Services	Mining	Manufacturing	Information Media & Telecommunications non CI	Health Care & Social Assistance	Financial & Insurance Services	Electricity, Gas, Water & Waste Services	Education & Training	Construction	Arts & Recreation Services non CI	Agriculture, Forestry & Fishing	Administrative & Support Services	Accommodation & Food Services
Advertising & Marketing	Advertising & Marketing	5,231	1,118	6,304	1,864	2,653	8,241	2,059	307	4,965	1,299	3,419	6,029	641	4,134	1,714	1,169	445	2,246	1,440
	Public relations	457	697	1,038	296	7,631	4,304	1,436	450	564	399	2,657	1,788	624	2,649	595	651	104	507	264
Architecture & design	Architects	206	157	524	211	976	1,567	64	81	888	108	137	353	126	346	2,302	92	33	130	92
	Fashion, industrial & jewellery designers	473	73	1,934	46	104	721	66	4	2,066	55	64	134	17	95	129	33	13	70	12
	Graphic & web designers	832	160	1,555	279	840	928	485	30	2,862	130	544	407	63	955	367	339	34	344	347
	Interior designers	187	23	1,074	204	17	273	15	0	584	5	27	36	6	33	1,750	10	5	31	72
	Photography	79	23	278	188	140	58	233	3	69	4	48	3	0	90	19	87	11	41	56
Software & digital content	Multimedia production	273	165	848	156	893	884	249	20	400	322	425	948	92	1,690	149	370	20	350	82
	Software development	1,951	1,676	2,152	550	7,386	4,980	532	711	2,414	2,278	2,412	11,889	1,640	3,025	941	554	151	1,664	230
Film, TV & radio	Artistic Directors, Media Producers & Presenters	30	18	79	28	98	59	156	0	81	179	63	71	0	435	23	179	8	109	86
	Film, Television, Radio & Stage Directors	23	13	59	27	106	76	100	0	33	59	53	37	3	239	19	106	3	30	10
	Other media professionals	45	14	149	37	136	247	127	3	112	103	67	97	4	273	18	129	7	136	24
Music & performing arts	Actors, Dancers & Other Entertainers	29	16	97	21	41	73	163	0	26	115	150	19	4	642	14	301	3	52	295
	Arts managers & other professionals	134	14	745	11	297	100	1,056	0	200	50	75	8	6	337	21	31	9	105	47
	Music professionals	12	10	41	4	363	18	166	0	18	10	45	6	4	799	11	19	0	12	181
Publishing	Authors, & Book & Script Editors	135	83	112	38	439	709	132	128	282	94	308	244	66	672	108	28	16	203	30
	Journalists & other writers	60	44	255	41	454	397	146	9	81	80	165	282	23	399	27	147	14	176	22
	Librarians & archivists	33	34	43	34	2,887	323	195	24	34	14	291	35	16	3,380	10	44	6	38	20
Visual arts	Jewellers	54	0	1,486	3	3	10	165	7	1,451	0	9	0	0	10	4	5	10	4	4
	Visual arts & crafts professionals	36	11	374	23	55	96	71	0	1,122	51	55	36	0	283	183	115	21	21	29
Total creativ..	Creative occupations	10,287	4,347	19,127	4,059	25,514	24,080	7,631	1,792	18,258	5,354	11,011	22,427	3,329	20,491	8,418	4,401	927	6,283	3,346
Other occupa..	Other occupations	301,582	542,016	1,080,489	183,558	771,520	569,069	427,824	212,970	696,505	74,257	1,740,707	422,704	131,035	1,040,832	1,059,233	132,379	281,301	382,149	780,389
Total	Total	311,863	546,364	1,099,617	187,621	797,031	593,156	435,459	214,759	714,759	79,610	1,751,717	445,121	134,368	1,061,320	1,067,645	136,771	282,227	388,432	783,737

Table 12 Embedded creative employment by industry, growth and income summary, 2016 and 2021

		Jobs 2016	Jobs 2021	% of Total Jobs 2021 ..	CAGR 2016-2021	Median income
Accommodation & Food Services	Creative occupations	3,617	3,346	0.43%	-1.6%	\$60,000
	Other occupations	734,616	780,389	99.57%	1.2%	\$31,800
Administrative & Support Services	Creative occupations	6,013	6,283	1.62%	0.9%	\$84,500
	Other occupations	359,720	382,149	98.38%	1.2%	\$48,600
Agriculture, Forestry & Fishing	Creative occupations	743	927	0.33%	4.5%	\$76,100
	Other occupations	266,203	281,301	99.67%	1.1%	\$49,900
Arts & Recreation Services non CI	Creative occupations	4,316	4,401	3.22%	0.4%	\$78,700
	Other occupations	126,949	132,379	96.78%	0.8%	\$47,000
Construction	Creative occupations	6,228	8,418	0.79%	6.2%	\$77,400
	Other occupations	904,832	1,059,233	99.21%	3.2%	\$69,200
Education & Training	Creative occupations	17,723	20,491	1.93%	2.9%	\$79,100
	Other occupations	908,171	1,040,832	98.07%	2.8%	\$69,000
Electricity, Gas, Water & Waste Services	Creative occupations	2,613	3,329	2.48%	5.0%	\$127,400
	Other occupations	113,141	131,035	97.52%	3.0%	\$93,500
Financial & Insurance Services	Creative occupations	20,198	22,427	5.04%	2.1%	\$125,900
	Other occupations	364,414	422,704	94.96%	3.0%	\$93,300
Health Care & Social Assistance	Creative occupations	8,423	11,011	0.63%	5.5%	\$85,000
	Other occupations	1,342,591	1,740,707	99.37%	5.3%	\$61,000
Inadequately described	Creative occupations	14,330	17,673	4.78%	4.3%	\$70,200
	Other occupations	330,484	352,259	95.22%	1.3%	\$57,400
Information Media & Telecommunications non CI	Creative occupations	7,493	5,354	6.73%	-6.5%	\$117,700
	Other occupations	86,853	74,257	93.27%	-3.1%	\$86,800
Manufacturing	Creative occupations	18,029	18,258	2.55%	0.3%	\$73,500
	Other occupations	665,657	696,505	97.45%	0.9%	\$63,200
Mining	Creative occupations	1,489	1,792	0.83%	3.8%	\$140,000
	Other occupations	176,156	212,970	99.17%	3.9%	\$126,100
Other Services	Creative occupations	6,456	7,631	1.75%	3.4%	\$65,700
	Other occupations	393,177	427,824	98.25%	1.7%	\$49,800
Professional, Scientific & Technical Services non CI	Creative occupations	23,569	24,080	4.06%	0.4%	\$86,500
	Other occupations	479,145	569,069	95.94%	3.5%	\$83,700
Public Administration & Safety	Creative occupations	21,681	25,514	3.20%	3.3%	\$99,300
	Other occupations	691,458	771,520	96.80%	2.2%	\$85,800
Rental, Hiring & Real Estate Services	Creative occupations	3,864	4,059	2.16%	1.0%	\$77,100
	Other occupations	178,287	183,558	97.84%	0.6%	\$69,900
Retail Trade	Creative occupations	15,463	19,127	1.74%	4.3%	\$70,000
	Other occupations	1,038,354	1,080,489	98.26%	0.8%	\$39,300
Transport, Postal & Warehousing	Creative occupations	4,410	4,347	0.80%	-0.3%	\$107,600
	Other occupations	495,077	542,016	99.20%	1.8%	\$63,600
Wholesale Trade	Creative occupations	10,676	10,287	3.30%	-0.7%	\$92,400
	Other occupations	297,062	301,582	96.70%	0.3%	\$68,300

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