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# Arts and Creative - Maori

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in New Zealand



Economics put simply

## Contents

<b>EMPLOYMENT AND ECONOMY</b>	<b>4</b>
How many people work in the sector?	4
How many job openings are forecast in the sector?	10
What is the contribution of the sector to GDP?	14
How large are businesses in the sector?	17
<b>OCCUPATIONS AND SKILLS</b>	<b>19</b>
What is the broad occupational makeup of workers in the sector?	19
What are the top detailed occupations in the sector?	21
What qualifications do workers entering the sector need?	22
What jobs are forecast in the sector between 2023 and 2028?	24
What qualifications are workers in the sector likely to require in the future?	26
<b>DEMOGRAPHIC PROFILE OF WORKERS</b>	<b>28</b>
What is the age profile of workers in the sector?	28
What is the gender balance of the sector?	29
How many hours do people work in the sector?	32
How qualified are workers in the sector?	32
<b>DATA NOTES</b>	<b>33</b>

# EMPLOYMENT AND ECONOMY

Growth in a sector is typically underpinned by expanding employment and growth in employment and gross domestic product (GDP). This section looks at current and historic trends in GDP in the Arts and Creative - Maori sector in New Zealand as well forecast growth in employment.

## How many people work in the sector?

This section looks at the number of people employed in the Arts and Creative - Maori sector and how employment has changed over time. Employment is presented in terms of filled jobs as well as full-time equivalent employment. Forecast employment growth in filled jobs is also provided.

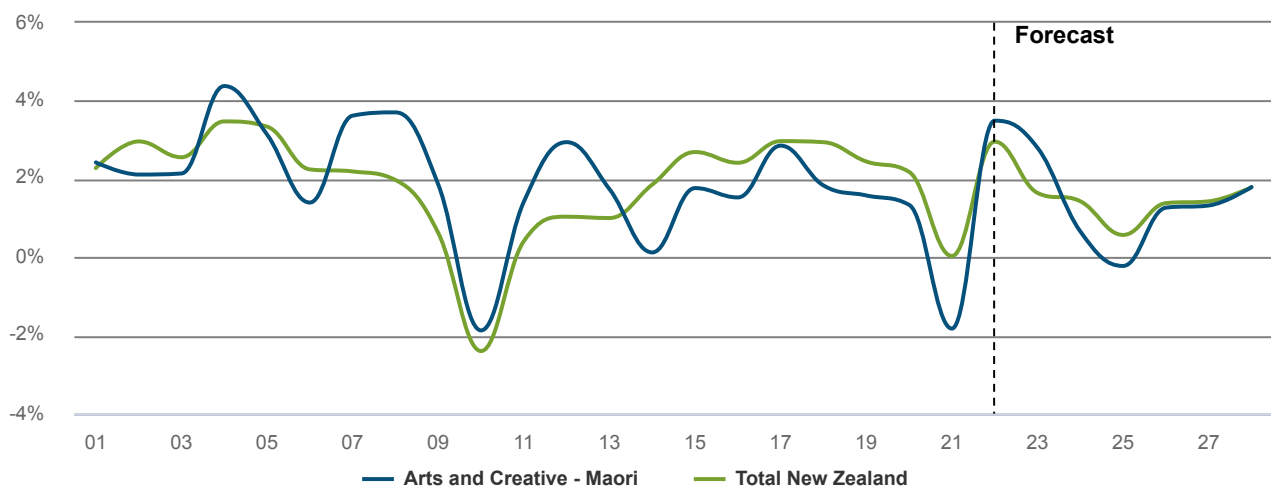
### Employment growth

Employment growth in a sector is driven by a range of factors, including the level of confidence businesses have in their activity outlook. For example, positive employment growth shows that businesses in a sector are confident enough in their activity and outlook to expand their workforce.

The number of filled jobs in the Arts and Creative - Maori sector in New Zealand averaged 10,754 in the year to March 2022. The Arts and Creative - Maori sector accounts for 0.4% of overall filled jobs in New Zealand. In terms of historical and forecast trends for the Arts and Creative - Maori sector in New Zealand:

- Employment grew by 3.5% in 2022 compared with overall growth of 3.0% in New Zealand.
- Employment growth averaged 1.4%pa over the past 10 years compared with overall growth of 2.1%pa on New Zealand.
- Employment is forecast to grow by 1.3%pa between 2022 and 2028. Overall employment in New Zealand is forecast to grow by 1.4%pa over the period.

Figure 1: Employment growth in New Zealand



The following table shows filled job employment in the Arts and Creative - Maori in New Zealand for selected historic and forecast years. The Infometrics on-line Arts and Creative - Maori Sector Profile provides a complete time series of annual employment from 2000 onwards.

**Table 1: Employment in the Arts and Creative - Maori sector in New Zealand**

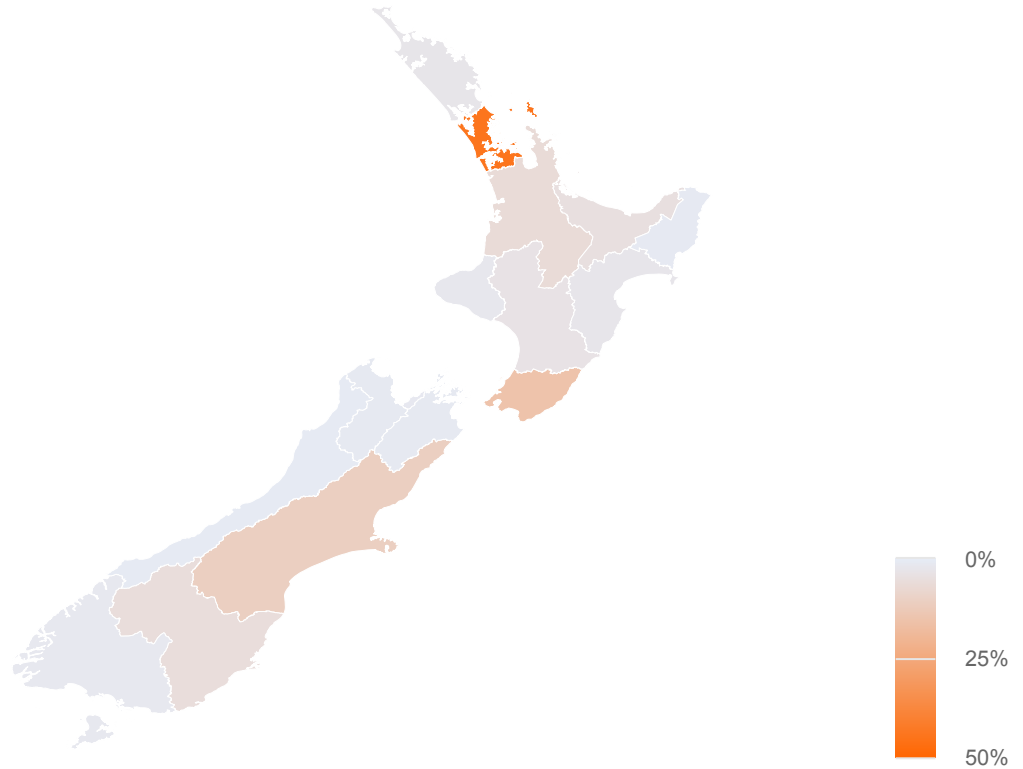
	Arts and Creative - Maori			Total New Zealand	
	Employment	% of total	% change	Employment	% change
2002	7,456	0.4%	2.1%	1,870,235	3.0%
2007	8,615	0.4%	3.6%	2,143,285	2.2%
2012	9,325	0.4%	2.9%	2,177,782	1.0%
2017	10,096	0.4%	2.9%	2,426,508	3.0%
2018	10,281	0.4%	1.8%	2,497,954	2.9%
2019	10,444	0.4%	1.6%	2,559,165	2.5%
2020	10,584	0.4%	1.3%	2,615,079	2.2%
2021	10,391	0.4%	-1.8%	2,615,922	0%
2022	10,754	0.4%	3.5%	2,693,301	3.0%
2023 (f)	11,055	0.4%	2.8%	2,737,655	1.6%
2024 (f)	11,128	0.4%	0.7%	2,776,887	1.4%
2025 (f)	11,104	0.4%	-0.2%	2,792,754	0.6%
2026 (f)	11,245	0.4%	1.3%	2,831,423	1.4%
2027 (f)	11,394	0.4%	1.3%	2,871,953	1.4%
2028 (f)	11,598	0.4%	1.8%	2,923,375	1.8%

## Regional employment

Employment can vary across regions and is largely determined by economic conditions in the area, the makeup of the population and the types of resources available.

This section shows the regional distribution of employment in the Arts and Creative - Maori sector in 2022.

Figure 2: Regional employment in the Arts and Creative - Maori sector, 2022



The following table shows employment in the Arts and Creative - Maori sector by region in 2022.

**Table 2: Employment by region in the Arts and Creative - Maori sector, 2022**

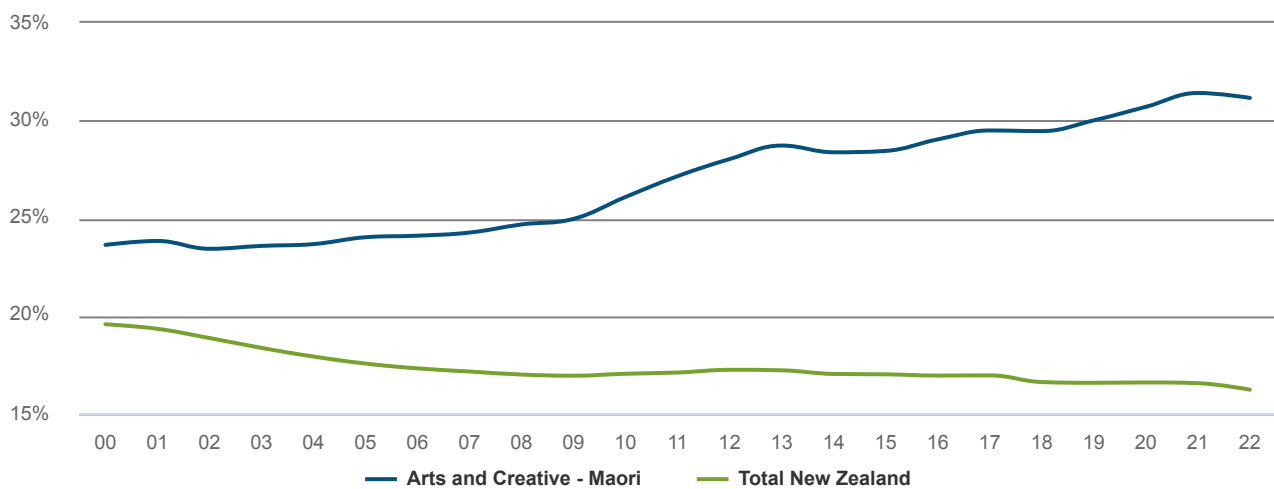
	Arts and Creative - Maori		Total economy	
	Employment	% of NZ	Employment	% of NZ
Auckland	4,747	44.1%	949,891	35.3%
Wellington Region	1,616	15.0%	313,066	11.6%
Canterbury Region	1,130	10.5%	348,920	13.0%
Waikato Region	654	6.1%	239,066	8.9%
Otago Region	569	5.3%	132,014	4.9%
Bay of Plenty Region	491	4.6%	168,041	6.2%
Manawatu-Whanganui Region	353	3.3%	125,270	4.7%
Northland Region	259	2.4%	80,874	3.0%
Hawke's Bay Region	241	2.2%	89,232	3.3%
Taranaki Region	169	1.6%	62,533	2.3%
Southland Region	127	1.2%	55,624	2.1%
Nelson Region	117	1.1%	30,886	1.1%
Tasman Region	80	0.7%	27,732	1.0%
Marlborough Region	79	0.7%	28,856	1.1%
Gisborne Region	70	0.6%	24,650	0.9%
West Coast Region	51	0.5%	16,647	0.6%
<b>New Zealand</b>	<b>10,754</b>		<b>2,693,301</b>	

## Self-employment

Approximately one in six people in employment in New Zealand is self-employed. The rate of self-employment varies by sector and is influenced by things such as the types of roles and functions performed by each sector.

In 2022 there were 3,351 people working in the Arts and Creative - Maori sector in New Zealand who were self-employed. This equates to 31.2% of the Arts and Creative - Maori sector workforce and is greater than the overall self-employment rate in New Zealand of 16.2%. The self-employment rate in the Arts and Creative - Maori sector in New Zealand has increased by 6.9 percentage points over the past 15 years compared to overall self-employment rate in New Zealand which has decreased by 0.9 percentage points.

Figure 3: Self-employment rate in New Zealand



The following table shows the level of self-employment in the Arts and Creative - Maori sector in New Zealand for selected years. The Infometrics online Arts and Creative - Maori Sector Profile provides a complete time series of self-employment from 2000 onwards.

Table 3: Self employment in the Arts and Creative - Maori sector in New Zealand

	Arts and Creative - Maori			Total New Zealand		
	Self-employed	% change	self-employment rate	Self-employed	% change	self-employment rate
<b>2002</b>	1,747	0.4%	23.4%	352,944	0.5%	18.9%
<b>2007</b>	2,091	4.3%	24.3%	367,754	1.2%	17.2%
<b>2012</b>	2,614	6.3%	28.0%	375,547	1.9%	17.2%
<b>2017</b>	2,977	4.5%	29.5%	411,557	3.0%	17.0%
<b>2018</b>	3,029	1.7%	29.5%	415,133	0.9%	16.6%
<b>2019</b>	3,134	3.5%	30.0%	424,339	2.2%	16.6%
<b>2020</b>	3,249	3.7%	30.7%	434,070	2.3%	16.6%
<b>2021</b>	3,264	0.4%	31.4%	433,221	-0.2%	16.6%
<b>2022</b>	3,351	2.7%	31.2%	437,093	0.9%	16.2%

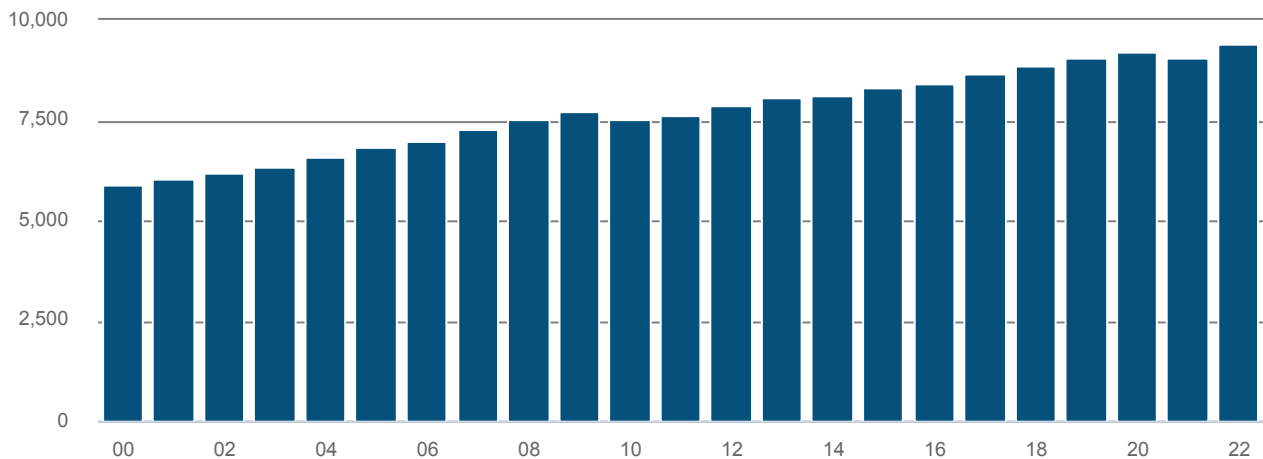
## Full-time equivalent employment

Full-time equivalent (FTE) employment provides a way of looking at the number of filled jobs that takes into account the work-load of people into employment. FTE employment uses full and part-time employment to estimate the equivalent number of full-time employees. Two people who are employed part-time are measured as one FTE.

Using FTEs instead of employment to look at change over time can provide a more consistent comparison of labour resources used in employment over time.

In 2022 there were 9,412 FTEs in the Arts and Creative - Maori sector in New Zealand, up 1.8% pa from 15 years ago. Overall FTE employment in New Zealand grew by 1.7%pa over the same period.

**Figure 4: FTE employment in the Arts and Creative - Maori sector in New Zealand**



The following table shows FTE employment in the Arts and Creative - Maori sector in New Zealand for selected years. The Infometrics online Arts and Creative - Maori Sector Profile provides a complete time series of FTE employment from 2000 onwards.

**Table 4: FTE employment in the Arts and Creative - Maori sector in New Zealand**

	Arts and Creative - Maori			Total New Zealand	
	FTEs	% of total	% change	FTEs	% change
<b>2002</b>	6,166	0.4%	2.5%	1,602,510	3.3%
<b>2007</b>	7,255	0.4%	4.1%	1,862,697	2.6%
<b>2012</b>	7,889	0.4%	3.2%	1,893,335	1.2%
<b>2017</b>	8,668	0.4%	2.8%	2,132,808	2.8%
<b>2018</b>	8,846	0.4%	2.0%	2,200,247	3.2%
<b>2019</b>	9,043	0.4%	2.2%	2,268,122	3.1%
<b>2020</b>	9,191	0.4%	1.6%	2,323,664	2.4%
<b>2021</b>	9,054	0.4%	-1.5%	2,327,823	0.2%
<b>2022</b>	9,412	0.4%	4.0%	2,406,727	3.4%



## How many job openings are forecast in the sector?

Job openings typically arise for two key reasons - business expansion or contraction and people leaving their job. This section draws on Infometrics forecasts (revised in April 2020) to look at job openings arising from new job openings and replacement job openings. Both concepts, along with total job openings are discussed below.

**New job openings** are created when businesses are expanding and are positive about their economic outlook. Conversely job destruction occurs when businesses contract and have a negative perspective of their economic outlook.

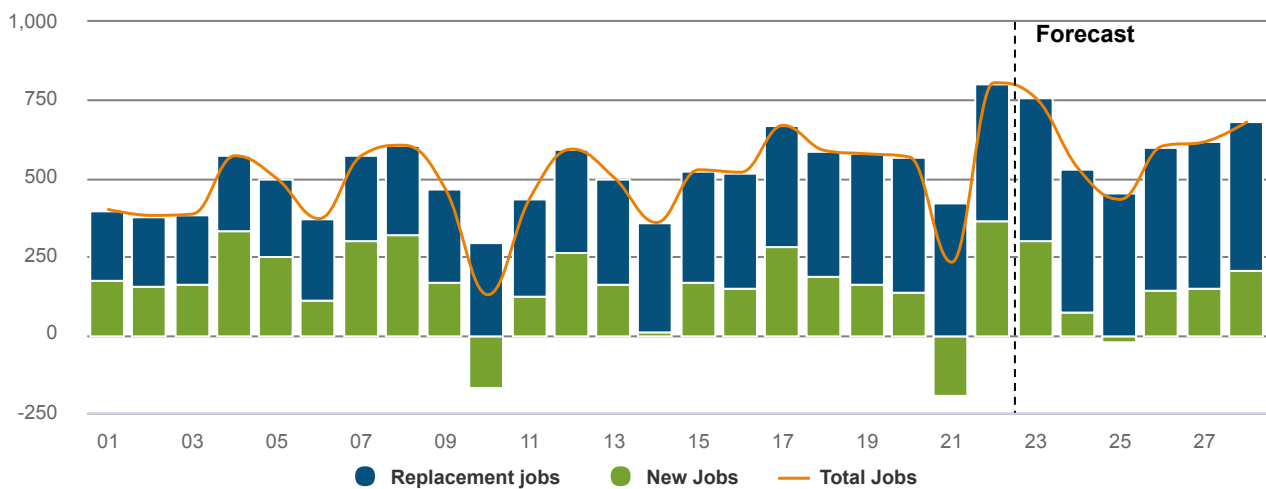
**Replacement job openings** provide an estimate of the net number of job openings in the sector that arise from individuals leaving an occupation (eg, retirement, or migration), net of jobs taken by individuals entering an occupation (eg, returning to the workforce from parental leave).

**Total job openings** estimate overall workers required in a sector as a result of job creation and replacement demand. They are the sum of new job openings and replacement job openings in a given year.

### Total job openings

Infometrics forecasts show 3,619 total job openings in the Arts and Creative - Maori sector in New Zealand between 2023 and 2028. Of the forecast 3,619 total job openings, 844 are forecast to be new job openings while 2,775 are expected to be due to net replacement job openings.

Figure 5: Job openings in the Arts and Creative - Maori sector in New Zealand



The following table shows total job openings in the Arts and Creative - Maori sector in New Zealand for selected years. The Infometrics online Arts and Creative - Maori Sector Profile provides a complete time series of total job openings from 2001 onwards.

**Table 5: Job openings in the Arts and Creative - Maori in New Zealand**

	Arts and Creative - Maori				Total New Zealand	
	New jobs	Replacement jobs	TotalJobOpenings	% change	TotalJobOpenings	% change
2002	155	227	381	-4.7%	111,026	14.5%
2007	301	271	572	54.2%	114,234	2.3%
2012	267	326	593	35.8%	99,390	19.5%
2017	280	389	669	28.9%	166,131	13.0%
2018	186	403	588	-12.1%	172,328	3.7%
2019	163	415	578	-1.7%	166,462	-3.4%
2020	140	428	568	-1.8%	165,395	-0.6%
2021	-193	425	231	-59.3%	112,186	-32.2%
2022	363	442	805	248%	192,832	71.9%
2023 (f)	301	455	756	-6.1%	161,711	-16.1%
2024 (f)	73	458	531	-29.7%	158,170	-2.2%
2025 (f)	-25	457	433	-18.6%	135,337	-14.4%
2026 (f)	141	462	603	39.4%	159,557	17.9%
2027 (f)	149	467	616	2.2%	162,871	2.1%
2028 (f)	205	475	680	10.3%	175,669	7.9%



The following table shows forecast regional total job openings in the Arts and Creative - Maori sector between 2023 and 2028.

**Table 6: Forecast job openings by region in the Arts and Creative - Maori sector, 2023-2028**

	Arts and Creative - Maori			Total economy		
	New Jobs	Replacement Jobs	Total job openings	New Jobs	Replacement Jobs	Total job openings
<b>Auckland</b>	420	1,203	1,624	80,663	252,929	333,591
<b>Wellington Region</b>	114	418	532	28,506	82,109	110,616
<b>Canterbury Region</b>	74	293	367	34,115	94,631	128,746
<b>Waikato Region</b>	53	171	224	17,892	63,874	81,765
<b>Otago Region</b>	52	153	205	16,491	37,006	53,497
<b>Bay of Plenty Region</b>	42	129	171	16,456	45,900	62,357
<b>Manawatu-Whanganui Region</b>	30	96	126	9,249	34,076	43,325
<b>Northland Region</b>	15	67	81	5,397	21,620	27,017
<b>Hawke's Bay Region</b>	14	64	78	6,736	24,404	31,140
<b>Taranaki Region</b>	7	43	50	2,581	16,266	18,847
<b>Southland Region</b>	7	34	41	2,957	15,258	18,214
<b>Nelson Region</b>	3	30	33	2,101	8,274	10,375
<b>Tasman Region</b>	9	21	30	2,139	7,659	9,798
<b>Marlborough Region</b>	6	21	27	2,508	8,091	10,599
<b>Gisborne Region</b>	0	18	18	1,545	6,709	8,254
<b>West Coast Region</b>	-1	13	12	738	4,435	5,173
<b>New Zealand</b>	844	2,775	3,619	230,074	723,241	953,314

## What is the contribution of the sector to GDP?

Gross Domestic Product (GDP) is a fundamental indicator of a country or sector's economic wellbeing. GDP measures the value added in an industry or sector from the production of goods and services. It essentially measures the value of the land, labour, and capital used in the production process.

### Gross Domestic Product

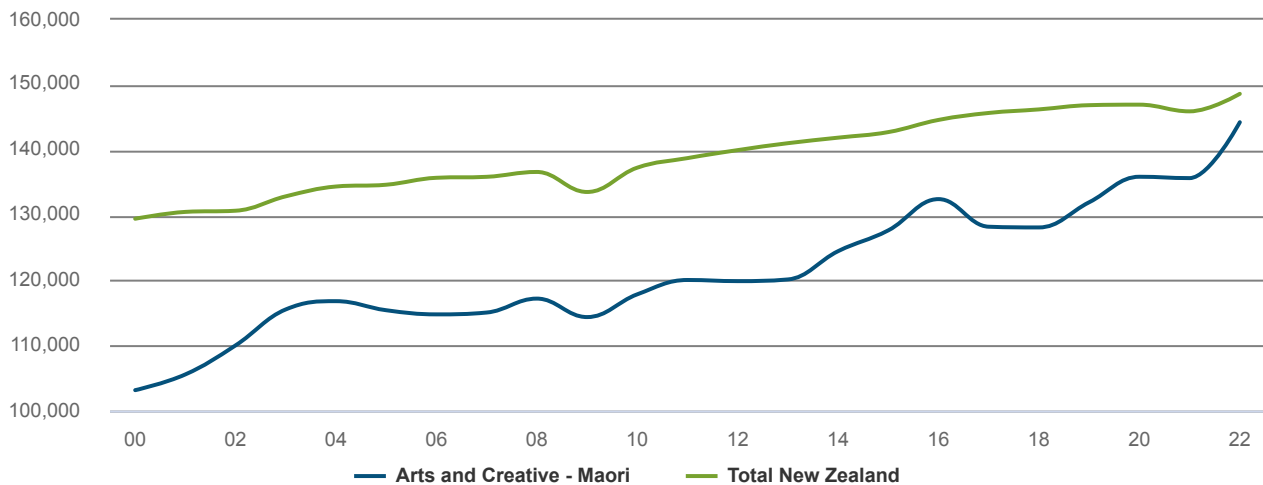
In 2022 the Arts and Creative - Maori sector contributed \$1,358m (in 2022 prices) to GDP in New Zealand. This equates to 0.4% of total New Zealand GDP. Key trends in the Arts and Creative - Maori sector in New Zealand include:

- GDP in 2022 was up 10.5% from a year earlier. Overall New Zealand GDP grew by 5.3% over the period.
- GDP grew by 3.7%pa over the last 10 years compared with overall New Zealand GDP growth of 3.0%pa.

We can express GDP as a proportion of FTE employment in the Arts and Creative - Maori sector to provide an estimate of labour productivity. Growth in labour productivity over time can imply an increase in efficiency and competitiveness.

In 2022 GDP per FTE in the Arts and Creative - Maori sector in New Zealand was \$144,272 compared to \$148,629 in the Total New Zealand. GDP per FTE growth in the Arts and Creative - Maori sector in the past 10 years has been stronger than overall GDP growth in New Zealand.

Figure 7: Productivity (GDP/FTE) in New Zealand



The following table shows GDP (in 2019 prices) and productivity (GDP/FTE) in the Arts and Creative - Maori sector in New Zealand for selected years. The Infometrics on-line Arts and Creative - Maori Sector Profile provides a complete time series of GDP from 2000 onwards.

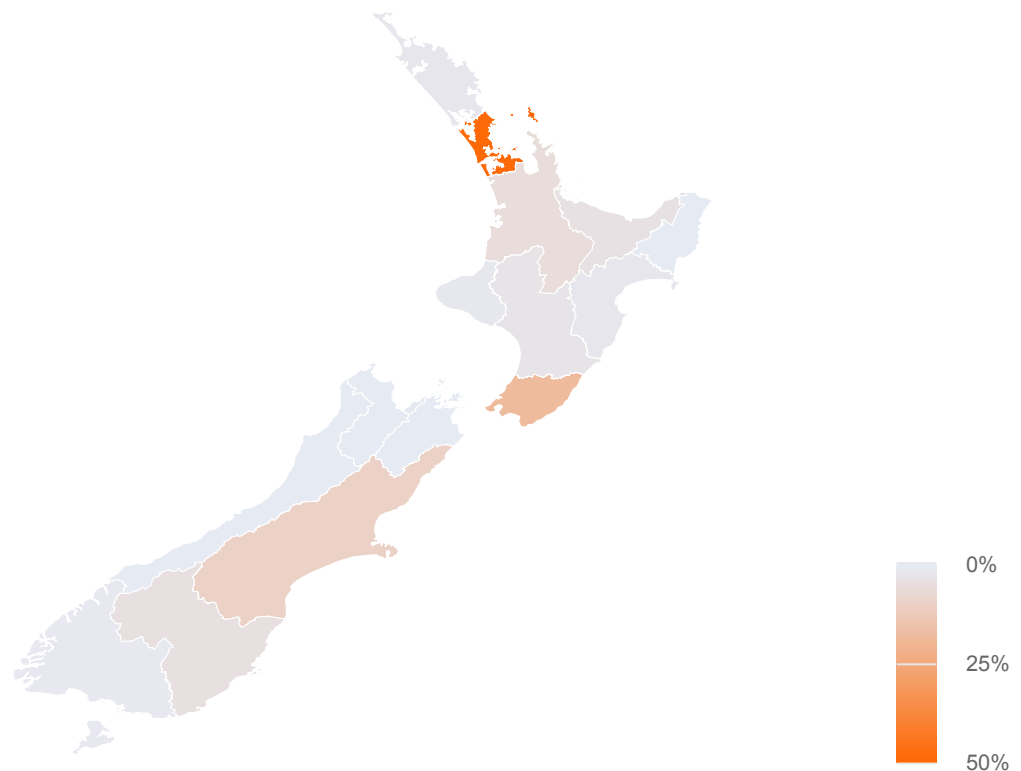
**Table 7: GDP in the Arts and Creative - Maori sector in New Zealand**

	Arts and Creative - Maori			Total New Zealand		
	GDP (\$m)	% change	GDP/FTE	GDP (\$m)	% change	GDP/FTE
2002	\$678m	6.8%	\$110,012	\$209,421m	3.5%	\$130,683
2007	\$835m	4.4%	\$115,053	\$253,115m	2.7%	\$135,886
2012	\$946m	3.0%	\$119,874	\$265,038m	2.1%	\$139,985
2017	\$1,111m	-0.5%	\$128,225	\$310,729m	3.6%	\$145,690
2018	\$1,133m	2.0%	\$128,117	\$321,755m	3.5%	\$146,236
2019	\$1,194m	5.3%	\$131,983	\$333,151m	3.5%	\$146,884
2020	\$1,249m	4.6%	\$135,895	\$341,493m	2.5%	\$146,963
2021	\$1,228m	-1.6%	\$135,687	\$339,713m	-0.5%	\$145,936
2022	\$1,358m	10.5%	\$144,272	\$357,710m	5.3%	\$148,629

## Regional GDP

GDP varies by region due to a number of factors including the size of the workforce, resources available and technology used. In the Arts and Creative - Maori sector, Auckland accounted for 48.4% of overall GDP in 2022.

**Figure 8: Regional share of GDP in the Arts and Creative - Maori sector, 2022**



The following table shows regional distribution of GDP (in 2022 prices) in the Arts and Creative - Maori sector in 2022.

**Table 8: GDP by region in the Arts and Creative - Maori sector, 2022**

	Arts and Creative - Maori		Total economy	
	GDP	% of NZ	GDP	% of NZ
<b>Auckland</b>	\$657m	48.4%	\$133,749m	37.4%
<b>Wellington Region</b>	\$243m	17.9%	\$47,950m	13.4%
<b>Canterbury Region</b>	\$130m	9.6%	\$44,220m	12.4%
<b>Waikato Region</b>	\$72.2m	5.3%	\$31,004m	8.7%
<b>Otago Region</b>	\$57.4m	4.2%	\$15,901m	4.4%
<b>Bay of Plenty Region</b>	\$49.3m	3.6%	\$19,590m	5.5%
<b>Manawatu-Whanganui Region</b>	\$34.9m	2.6%	\$13,988m	3.9%
<b>Northland Region</b>	\$23.4m	1.7%	\$9,485m	2.7%
<b>Hawke's Bay Region</b>	\$23.1m	1.7%	\$9,819m	2.7%
<b>Taranaki Region</b>	\$18.1m	1.3%	\$9,984m	2.8%
<b>Southland Region</b>	\$13.6m	1.0%	\$7,319m	2.0%
<b>Nelson Region</b>	\$10.4m	0.8%	\$3,234m	0.9%
<b>Marlborough Region</b>	\$7.20m	0.5%	\$3,708m	1.0%
<b>Tasman Region</b>	\$7.16m	0.5%	\$2,925m	0.8%
<b>Gisborne Region</b>	\$6.53m	0.5%	\$2,461m	0.7%
<b>West Coast Region</b>	\$5.03m	0.4%	\$2,373m	0.7%
<b>New Zealand</b>	\$1,358m		\$357,710m	

## How large are businesses in the sector?

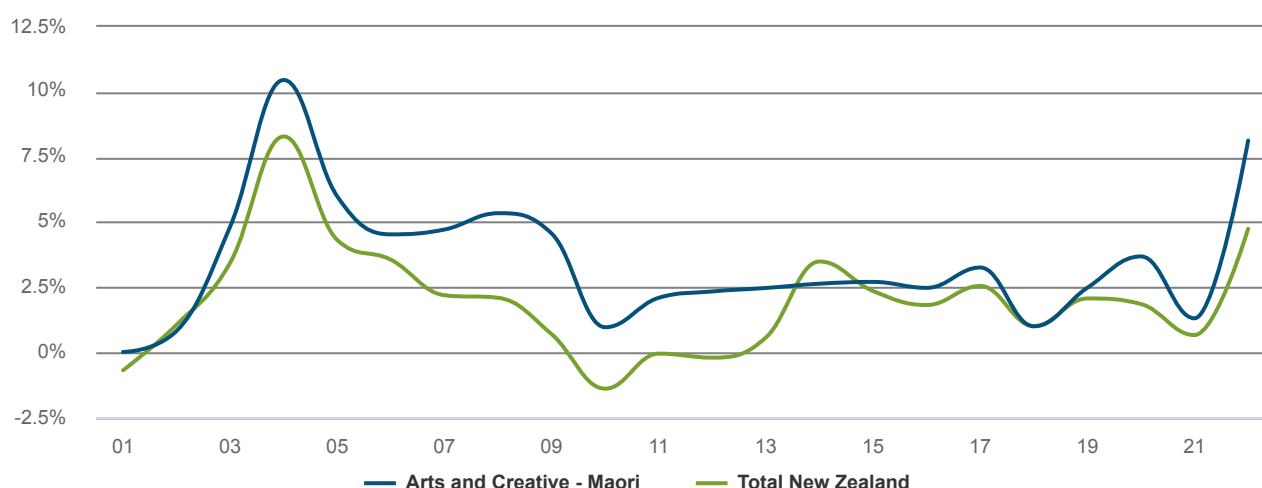
The majority of businesses in New Zealand are small to medium enterprises (SMEs). The number and size of business units in a sector is largely influenced by both the sector's direct economic exposure as well as the typical size of business units within that sector. This section looks the number and size of businesses in the Arts and Creative - Maori sector in New Zealand.

Growth in the number of businesses is an indicator of entrepreneurial activity. It indicates an environment in which entrepreneurs are prepared to take risks to start new ventures. For example, positive growth in the number of businesses in a sector reflects increased entrepreneurial activity and economic activity as entrepreneurs are prepared to take risks and start new ventures. Conversely, a decline in the number of businesses indicates that firms have a pessimistic future outlook.

In 2022 there were 3,254 businesses in the Arts and Creative - Maori sector in New Zealand. Key trends include:

- The number of businesses in the sector grew by 8.1% in 2022 compared with a growth of 4.8% in the total economy.
- Average business growth in the sector over the past 10 years was 3.0%pa. Over the same period the overall number of businesses in New Zealand grew by 2.1%pa.

Figure 9: Business growth in New Zealand



The following table shows the number of businesses in the Arts and Creative - Maori sector in New Zealand for selected years. The Infometrics on-line Arts and Creative - Maori Sector Profile provides a complete time series of businesses from 2000 onwards.

Table 9: Businesses in the Arts and Creative - Maori sector in New Zealand

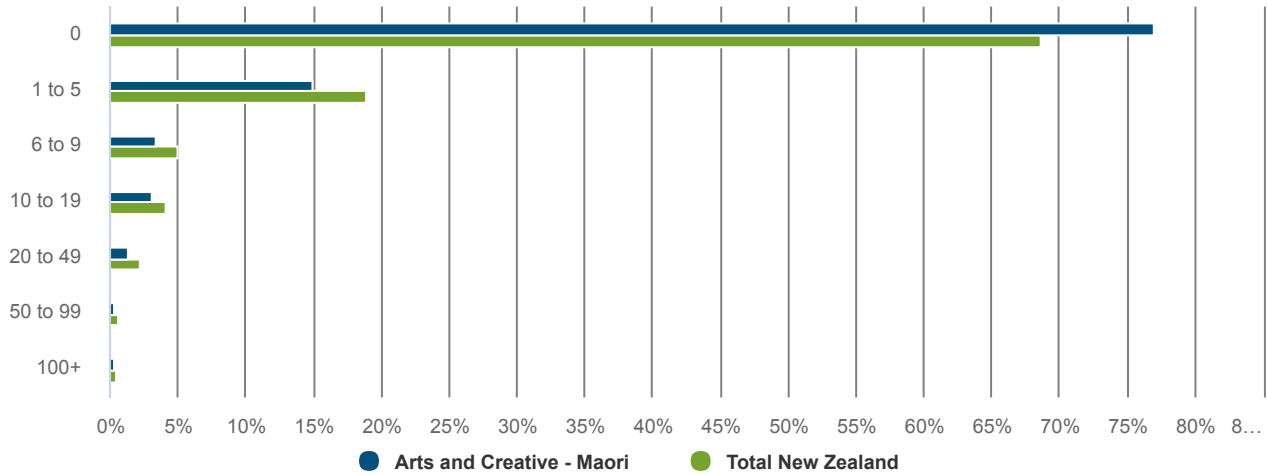
	Arts and Creative - Maori		Total New Zealand	
	Business Units	% change	Business Units	% change
2002	1,549	0.8%	407,742	1.1%
2007	2,082	4.7%	504,372	2.2%
2012	2,420	2.3%	510,243	-0.2%
2017	2,767	3.3%	567,786	2.6%
2018	2,795	1.0%	573,564	1.0%
2019	2,864	2.5%	585,480	2.1%
2020	2,970	3.7%	596,385	1.9%
2021	3,009	1.3%	600,396	0.7%
2022	3,254	8.1%	628,932	4.8%



As well as being a contributor to the economic performance of a sector, the size of businesses is also considered to be an indicator of innovation with larger firms having the capacity and structures to better support innovation.

In 2022 SMEs accounted for 98.1% of all employment in the Arts and Creative - Maori sector in New Zealand.

**Figure 10: Businesses by number of employees in New Zealand, 2022**



Further detailed information about business size is available in the Infometrics online Arts and Creative - Maori Sector Profile.

# OCCUPATIONS AND SKILLS

Occupations are a set of jobs whose main tasks are characterised by a high degree of similarity. Occupations provide the basis for understanding the broad skill level of the workforce. In this section we examine the current, historical and future occupation and skill makeup of workers in the Arts and Creative - Maori sector in New Zealand. To do this we draw on the Australian and New Zealand Standard Classification of Occupations (ANZSCO). An outline of ANZSCO is provided at the end of this report.

## What is the broad occupational makeup of workers in the sector?

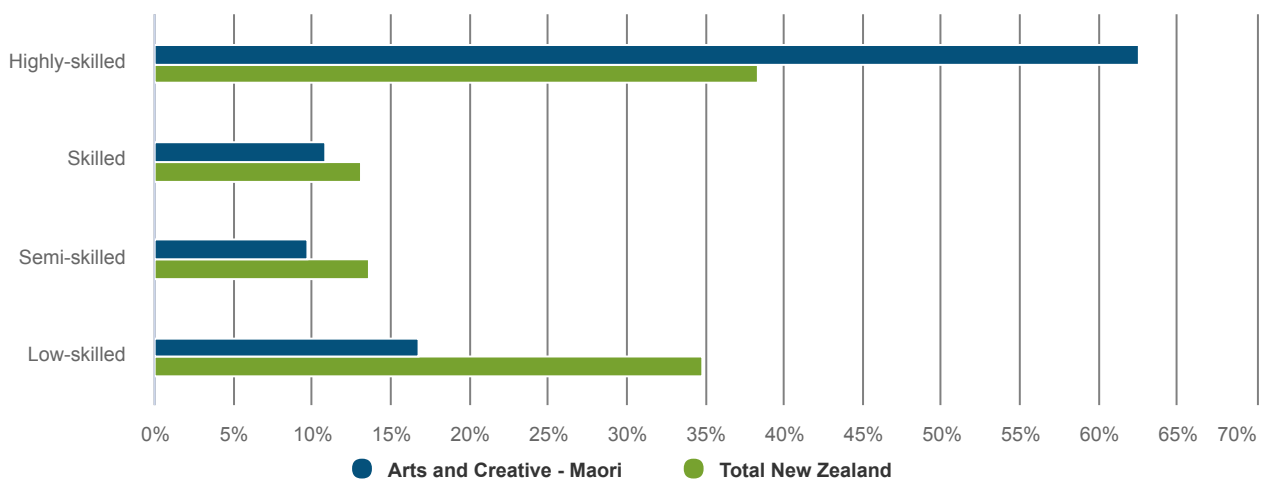
Within a sector, people can perform a diverse range of tasks as part of their job. Occupation categories group the main tasks associated with similar jobs to enable analysis, and can provide a good indication of the broad skill level required to perform these tasks.

### Employment by skill level

Each occupation classification has an ideal skill level that industry have identified as desirable for people to competently carry out the tasks in their role. Grouping occupational classifications by desired skill level provides a high level overview of the the skills required across different sectors.

Approximately 62.6% of the Arts and Creative - Maori sector workforce in New Zealand were employed in Highly-skilled occupations in 2022. This is higher than for all occupations in New Zealand (38.4%).

**Figure 11: Employment by skill level in New Zealand, 2022**



The following table shows how Highly-skilled employment in the Arts and Creative - Maori sector in New Zealand has changed over time. The Infometrics online Arts and Creative - Maori Sector Profile provides a complete time series of employment by all broad skill levels from 2000 onwards.

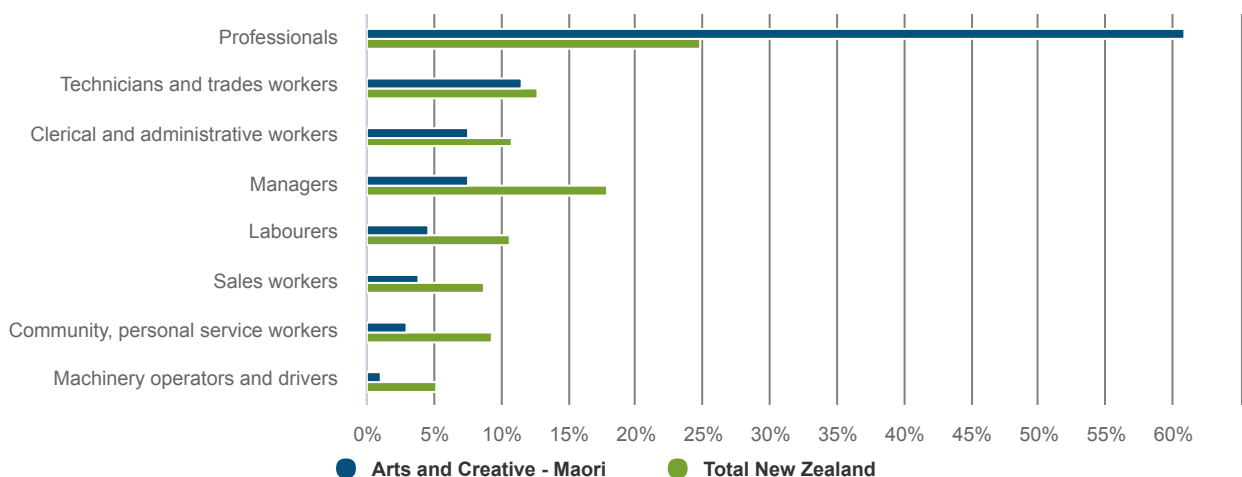
**Table 10: Highly-skilled employment in the Arts and Creative - Maori sector in New Zealand**

	Arts and Creative - Maori			Total New Zealand		
	Employment	% change	% of total	Employment	% change	% of total
2002	3,849	3.5%	51.6%	603,016	5.0%	32.2%
2007	4,727	5.0%	54.9%	741,366	3.2%	34.6%
2012	5,385	4.1%	57.8%	800,405	2.0%	36.8%
2017	6,109	3.6%	60.5%	908,525	3.0%	37.4%
2018	6,262	2.5%	60.9%	937,587	3.2%	37.5%
2019	6,411	2.4%	61.4%	964,075	2.8%	37.7%
2020	6,535	1.9%	61.7%	989,244	2.6%	37.8%
2021	6,488	-0.7%	62.4%	997,763	0.9%	38.1%
2022	6,731	3.7%	62.6%	1,033,711	3.6%	38.4%

## Employment by broad occupation

The ANZSCO classification of occupations is broken into five levels. The one-digit occupation classification groups employment into eight broad occupations. The largest broad (one-digit) occupation in the Arts and Creative - Maori sector in New Zealand in 2022 was Professionals, with 6,546 jobs (60.9% of all employment in the sector). In 2022 the Arts and Creative - Maori sector accounted for 24.8% of all Professionals employed in New Zealand.

**Figure 12: Employment by broad occupation in New Zealand, 2022**



There are 43 two-digit occupations in occupational classifications. The following table looks at employment in the key two-digit occupations in the Arts and Creative - Maori sector in 2022. Further details and timeseries data can be found in the Infometrics online Arts and Creative - Maori Sector Profile.

**Table 11: Employment by 2-digit occupation in the Arts and Creative - Maori sector in New Zealand, 2022**

	Arts and Creative - Maori		Total New Zealand	
	Employment	% of total	Employment	% of total
<b>Arts &amp; Media Professionals</b>	2,761	25.7%	24,594	0.9%
<b>Design, Engineering, Science Professionals</b>	1,858	17.3%	95,062	3.5%
<b>Business, HR &amp; Marketing Professionals</b>	1,056	9.8%	145,920	5.4%
<b>Other Technicians &amp; Trades Workers</b>	816	7.6%	41,691	1.5%
<b>Education Professionals</b>	629	5.8%	154,305	5.7%
<b>All Others</b>	3,633	33.8%	2,231,728	82.9%
<b>Total</b>	10,754	100%	2,693,301	100%

## What are the top detailed occupations in the sector?

At the most detailed level there are around 1,000 occupational classifications. These classifications capture the specific roles undertaken in the economy. Understanding the detailed occupational makeup of a sector provides valuable insights into the key roles and activities performed.

The top five occupations in the Arts and Creative - Maori sector in New Zealand accounted for 21.3% of overall employment in the sector in 2022. Employment in all five of the top five occupations grew between 2017 and 2022.

The following table provides a breakdown of occupational employment in the Arts and Creative - Maori sector in New Zealand in 2022. The Infometrics online Arts and Creative - Maori Sector Profile provides a complete time series of employment by detailed occupation from 2000 onwards.

**Table 12: Employment by 6-digit occupation in the Arts and Creative - Maori sector in New Zealand, 2022**

	Arts and Creative - Maori		Total New Zealand	
	Employment	% of total	Employment	% of total
<b>Graphic Designer</b>	647	6.0%	8,078	0.3%
<b>Librarian</b>	597	5.5%	5,821	0.2%
<b>Architect</b>	433	4.0%	7,379	0.3%
<b>Painter (Visual Arts)</b>	349	3.2%	3,342	0.1%
<b>Library Assistant</b>	269	2.5%	2,603	0.10%
<b>All Others</b>	8,459	78.7%	2,666,077	99.0%
<b>Total</b>	10,754	100%	2,693,301	100%

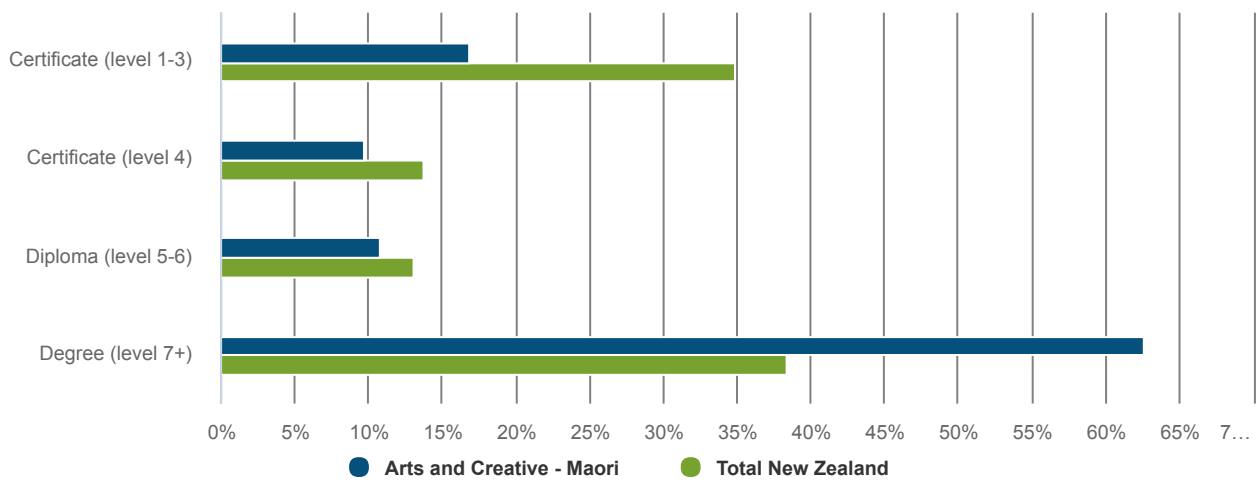
## What qualifications do workers entering the sector need?

Gaining insights into the types of qualifications in demand in a sector and how they relate to skill levels can be useful in identifying and addressing skills gaps.

The Infometrics estimates of qualifications are derived from our occupational estimates by using information by industry (via occupational classifications) about the types of qualifications that are ideally required in each occupation. Our estimates therefore do not describe the educational profile of the sector's actual workforce and instead highlight the type of qualifications that are ideally required. For information about the qualification makeup of workers in the Arts and Creative - Maori sector refer to the Demographics section of this report.

Employers in the Arts and Creative - Maori in New Zealand ideally require people with a Degree (level 7+).

**Figure 13: Qualifications of workers in New Zealand, 2022**



The following table shows the ideal qualification level and field of study of workers in the Arts and Creative - Maori sector in New Zealand in 2022 is a Degree (level 7+) in Creative Arts. A full timeseries of the data in the table back to 2000 is available in the Infometrics online Arts and Creative - Maori Sector Profile.

**Table 13: Employment by qualification required and field of study in the Arts and Creative - Maori sector in New Zealand, 2022**

	Arts and Creative - Maori					Total New Zealand				
	Certificate (level 1-3)	Certificate (level 4)	Diploma (level 5-6)	Degree (level 7+)	Total	Certificate (level 1-3)	Certificate (level 4)	Diploma (level 5-6)	Degree (level 7+)	Total
<b>Natural and Physical Sciences</b>	19	7	15	301	341	16,971	2,238	9,922	80,535	109,666
<b>Information Technology</b>	110	6	20	178	314	43,019	2,461	10,388	39,745	95,614
<b>Engineering and Related Technologies</b>	194	298	160	315	966	152,935	138,717	42,928	105,554	440,133
<b>Architecture and Building</b>	65	243	252	547	1,108	51,440	77,798	18,345	27,543	175,127
<b>Agriculture, Environmental and Related Studies</b>	77	37	14	47	175	73,585	18,921	7,309	27,992	127,807
<b>Health</b>	144	20	75	153	392	65,489	12,200	36,471	145,663	259,823
<b>Education</b>	97	21	47	450	615	39,722	15,897	18,244	139,137	213,000
<b>Management and Commerce</b>	568	64	213	707	1,552	226,033	36,060	112,200	230,949	605,242
<b>Society and Culture</b>	207	33	74	1,488	1,802	108,251	15,319	39,947	174,697	338,215
<b>Creative Arts</b>	93	205	264	2,536	3,099	31,287	8,570	23,836	60,718	124,413
<b>Food, Hospitality and Personal Services</b>	236	116	29	9	391	130,125	39,900	33,060	1,177	204,262
<b>Total</b>	1,810	1,048	1,165	6,731	10,754	938,857	368,081	352,652	1,033,711	2,693,301

## What jobs are forecast in the sector between 2023 and 2028?

Job openings typically arise for two key reasons - business expansion or contraction and people leaving their job. This section draws on Infometrics forecasts (revised in April 2020) to look at job openings arising from new job openings and replacement job openings. Both concepts, along with total job openings are discussed below.

**New job openings** are created when businesses are expanding and are positive about their economic outlook. Conversely job destruction occurs when businesses contract and have a negative perspective of their economic outlook.

**Replacement job openings** provide an estimate of the net number of job openings in the sector that arise from individuals leaving an occupation (eg, retirement, or migration), net of jobs taken by individuals entering an occupation (eg, returning to the workforce from parental leave).

**Total job openings** estimate overall workers required in a sector as a result of job creation and replacement demand. They are the sum of new job openings and replacement job openings in a given year.

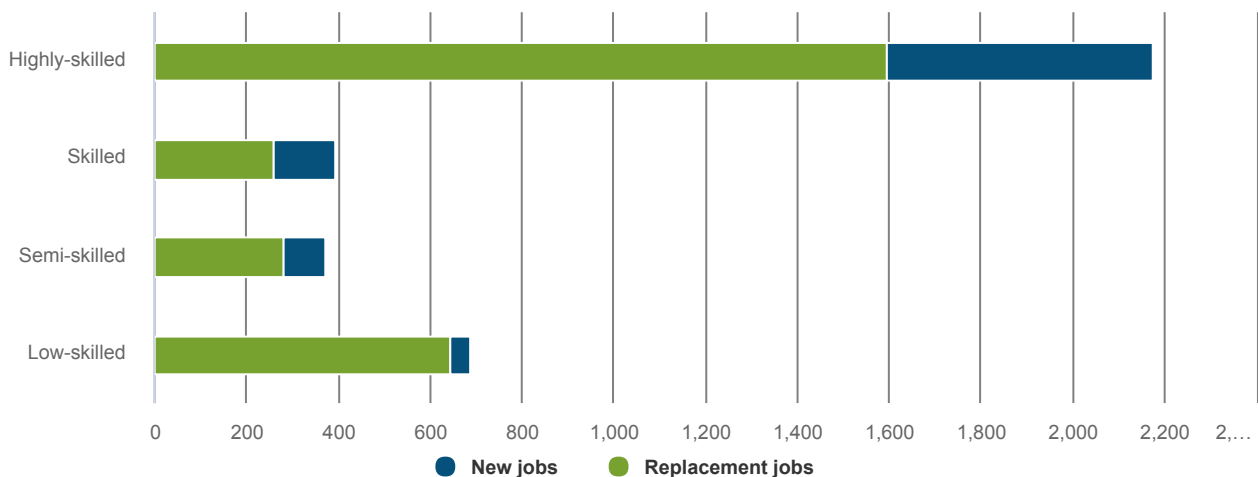
Infometrics estimates there will be 3,619 total job openings in the Arts and Creative - Maori sector between 2023 and 2028. Of these job openings:

- 23.3% are likely to be due to new job growth
- 76.7% are likely to be due to net replace demand.

### Forecast job openings

Of the estimated 3,619 job openings between 2023 and 2028, Infometrics estimates that 60.1% are likely to be Highly-skilled jobs.

**Figure 14: Forecast job openings by skill level in the Arts and Creative - Maori sector in New Zealand, 2023-2028**

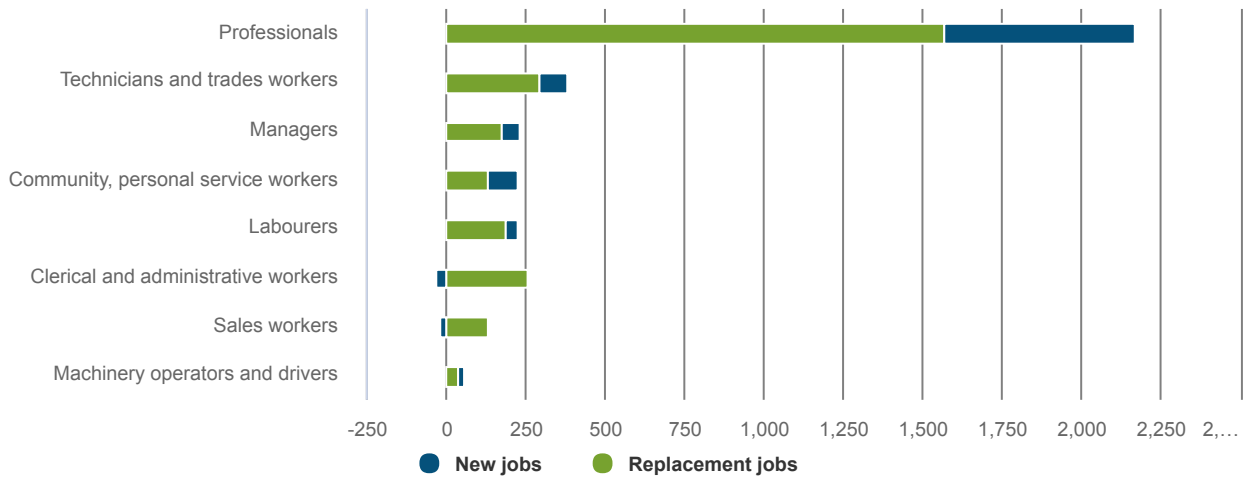


### Job openings by broad occupation

The largest broad (level 1) occupation with job openings in the Arts and Creative - Maori sector between 2023 and 2028 is likely to be Professionals, accounting for 60.0% of job openings in the sector. The majority (72.2% of Professionals job openings are expected to be replacement job openings.

A detailed breakdown of annual forecast job openings by broad occupation in the Arts and Creative - Maori sector in New Zealand can be found in the Infometrics online Arts and Creative - Maori Sector Profile.

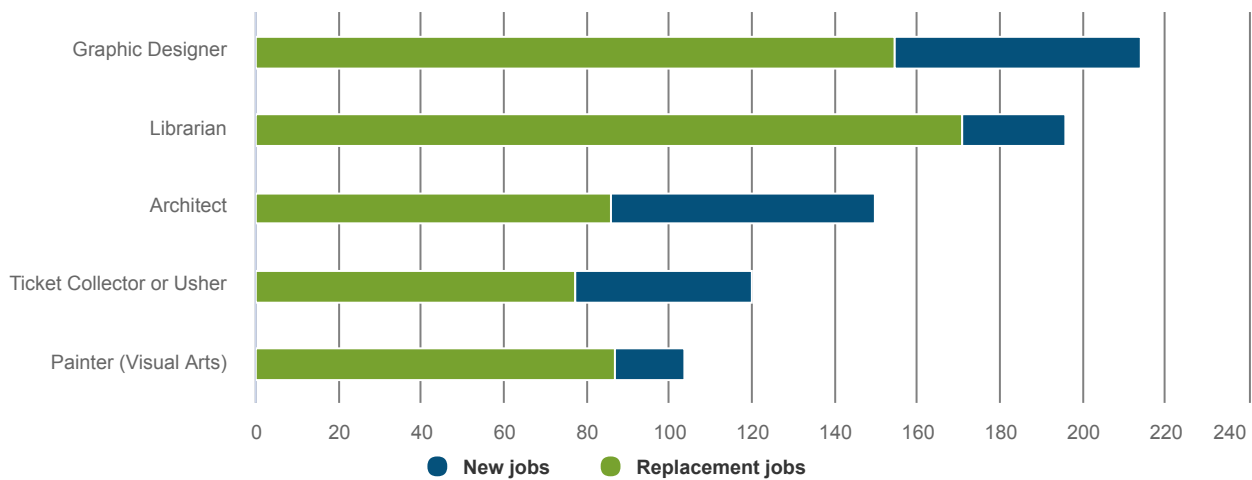
Figure 15: Forecast job openings by broad occupation in the Arts and Creative - Maori sector in New Zealand, 2023-2028



### Forecast job openings by detailed occupation

The top five detailed occupations in the Arts and Creative - Maori sector in New Zealand are expected to account for 20.9% of all job openings between 2023 and 2028. Replacement job openings for these are expected to make up 16.4% of overall job openings in this sector.

Figure 16: Forecast job openings by detailed occupation in the Arts and Creative - Maori sector in New Zealand, 2023-2028





The following table shows forecast total job openings by detailed occupation in the Arts and Creative - Maori sector in New Zealand between 2023 and 2028. A detailed breakdown of annual forecast job openings by detailed occupation can be found in the Infometrics online Arts and Creative - Maori Sector Profile.

**Table 14: Forecast employment and job openings in the Arts and Creative - Maori sector in New Zealand by detailed occupation, 2023-2028**

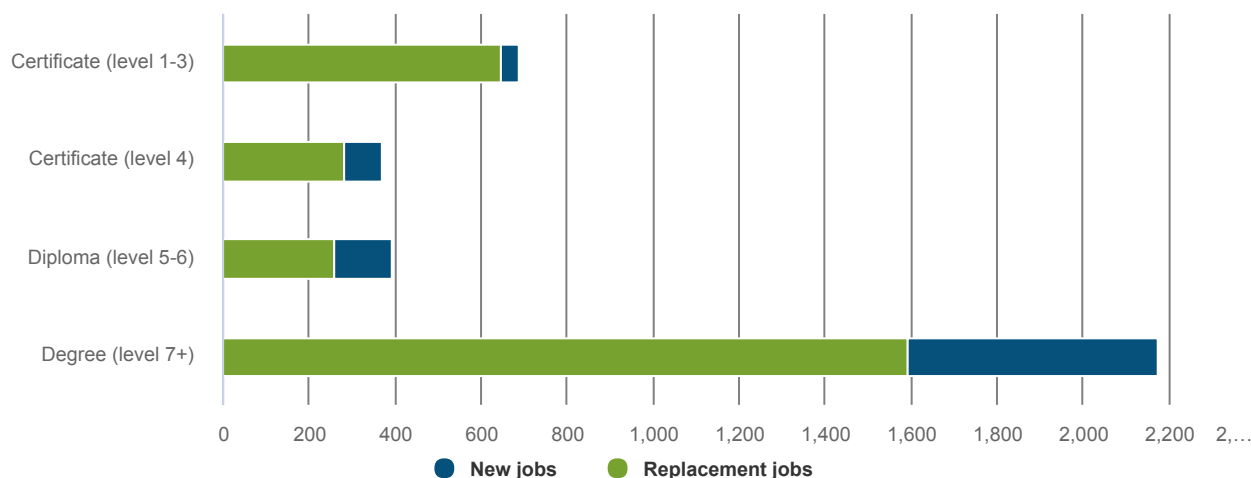
	Arts and Creative - Maori				Total New Zealand	
	Employment 2022	Employment 2028	New jobs	Replacement jobs	Total job openings	Total job openings
<b>Graphic Designer</b>	647	706	59	154	214	2,642
<b>Librarian</b>	597	621	25	171	196	1,891
<b>Architect</b>	433	496	64	86	150	2,571
<b>Painter (Visual Arts)</b>	349	366	17	87	104	999
<b>Library Assistant</b>	269	267	-2	94	92	888
<b>All others</b>	8,459	9,141	681	2,187	2,869	845,512

## What qualifications are workers in the sector likely to require in the future?

It is useful for learners, prospective employees and employers to know about the types of qualifications that are going to be in demand through job openings in their area of interest.

In the Arts and Creative - Maori sector in New Zealand there are likely to be 2,175 Degree (level 7+) between 2023 and 2028. Job openings at Degree (level 7+) account for 60.1% of all job openings in the sector over the period. Most of these job openings are expected to be replacement job openings (1,594 jobs).

Figure 17: Forecast job openings by qualification level in the Arts and Creative - Maori sector in New Zealand, 2023-2028



The following table shows the ideal qualifications and fields of study that employers are likely to require in the Arts and Creative - Maori sector in New Zealand between 2023 and 2028.

Table 15: Job openings by qualification required and field of study in the Arts and Creative - Maori sector in New Zealand, 2023-2028

	Arts and Creative - Maori					Total New Zealand				
	Certificate (level 1-3)	Certificate (level 4)	Diploma (level 5-6)	Degree (level 7+)	Total	Certificate (level 1-3)	Certificate (level 4)	Diploma (level 5-6)	Degree (level 7+)	Total
Natural and Physical Sciences	0	1	1	29	31	1,171	178	989	8,952	11,290
Information Technology	1	1	1	17	19	2,615	147	996	5,847	9,605
Engineering and Related Technologies	-2	22	14	29	63	10,309	10,938	5,140	13,047	39,434
Architecture and Building	3	22	32	69	126	3,413	1,939	2,417	1,746	9,515
Agriculture, Environmental and Related Studies	2	3	2	5	11	4,431	1,382	872	1,379	8,064
Health	13	4	9	19	45	6,100	1,245	3,854	17,775	28,973
Education	2	6	4	40	53	2,795	1,560	1,877	7,268	13,499
Management and Commerce	-5	10	23	48	76	11,227	3,421	10,252	20,992	45,893
Society and Culture	6	6	11	118	141	10,746	1,634	5,795	18,745	36,921
Creative Arts	1	2	34	206	242	1,832	286	2,568	5,198	9,885
Food, Hospitality and Personal Services	19	14	3	1	37	8,973	3,729	4,214	78	16,995
<b>Total</b>	<b>40</b>	<b>90</b>	<b>134</b>	<b>581</b>	<b>844</b>	<b>63,613</b>	<b>26,459</b>	<b>38,973</b>	<b>101,028</b>	<b>230,074</b>

# DEMOGRAPHIC PROFILE OF WORKERS

A workforce that has a diverse makeup, experience, and opinions is likely to have the ability to make higher quality decisions. This section looks at diversity in the the Arts and Creative - Maori sector in New Zealand by examining the demographic makeup of the workforce in terms of age, ethnicity, gender, country of birth, hours worked and highest qualifications.

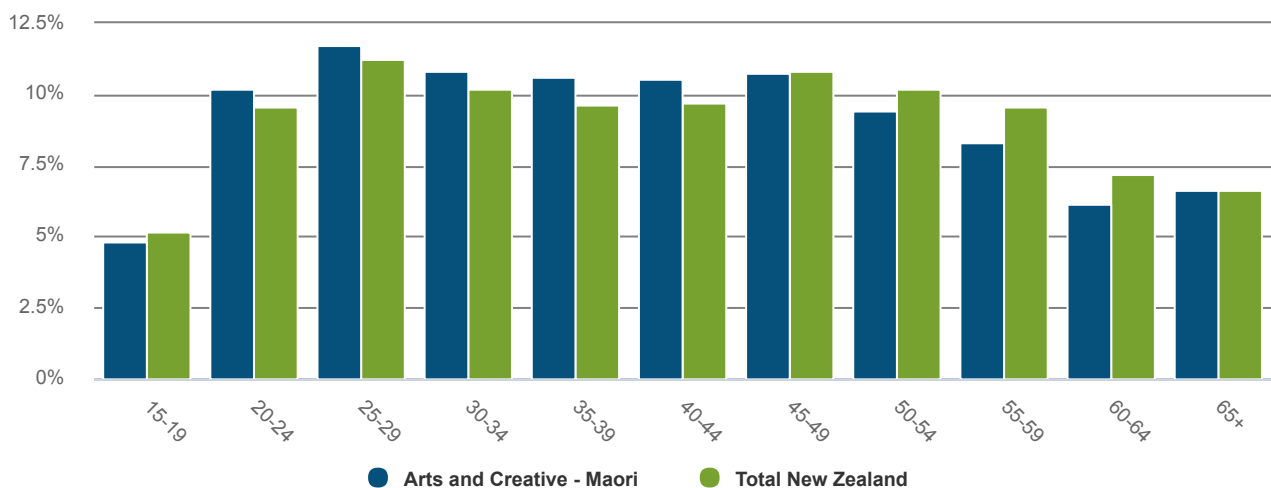
## What is the age profile of workers in the sector?

The age profile of a sector can provide valuable insights into the current and future skill needs of a sector.

For example, a sector with an older age profile can indicate that the workforce is more likely to have fewer formal qualifications and more on-job experience than a sector with a more youthful age profile. An older age profile could also indicate a more immediate need to replace workers who may retire or are more likely to leave the workforce in the coming years.

Workers in the Arts and Creative - Maori sector in New Zealand have a slightly younger average age profile than all workers in New Zealand. In 2018 the average of Arts and Creative - Maori workers was 41.7 years, compared with 42.4 years for all workers in New Zealand.

Figure 18: Age of workers in New Zealand, 2018



The average age of workers in the Arts and Creative - Maori sector in New Zealand fell by 0.0 years between 2013 and 2018. Over the same period the overall average age of workers in New Zealand fell by 0.6 years.

The following table shows the age profile of workers in the Arts and Creative - Maori sector in New Zealand in 2013 and 2018.

Table 16: Employment by age in the Arts and Creative - Maori sector in New Zealand

	Arts and Creative - Maori				Total New Zealand	
	Employment		Share Of Total		Share Of Total	
	2013	2018	2013	2018	2013	2018
<b>15-19 Years</b>	456	493	4.8%	4.8%	4.7%	5.1%
<b>20-24 Years</b>	962	1,051	10.1%	10.2%	9.0%	9.6%
<b>25-29 Years</b>	971	1,204	10.2%	11.7%	9.1%	11.2%
<b>30-34 Years</b>	1,007	1,114	10.6%	10.8%	9.2%	10.2%
<b>35-39 Years</b>	1,064	1,088	11.2%	10.6%	9.9%	9.6%
<b>40-44 Years</b>	1,142	1,087	12.0%	10.6%	11.8%	9.7%
<b>45-49 Years</b>	1,040	1,104	11.0%	10.7%	11.8%	10.8%
<b>50-54 Years</b>	945	966	10.0%	9.4%	11.7%	10.2%
<b>55-59 Years</b>	768	857	8.1%	8.3%	9.6%	9.6%
<b>60-64 Years</b>	604	635	6.4%	6.2%	7.4%	7.2%
<b>65 years and over</b>	531	682	5.6%	6.6%	5.8%	6.6%

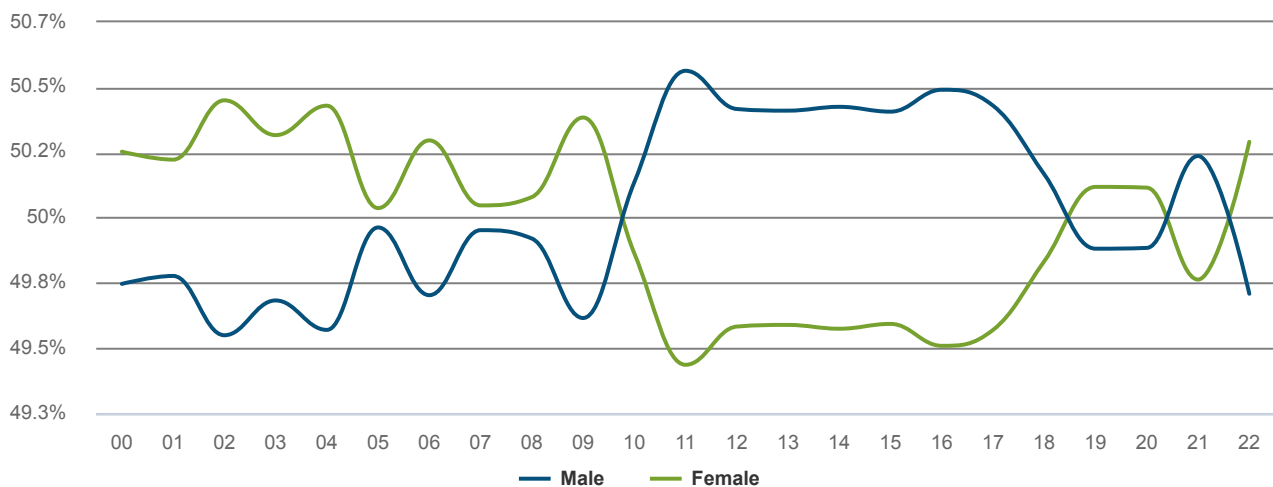
## What is the gender balance of the sector?

Males and females can bring different approaches and insights to the workforce.

### Share of employment by gender

This section looks at how the gender profile of the Arts and Creative - Maori sector in New Zealand has changed over time. The share of female employment in the Arts and Creative - Maori sector in New Zealand increased from 50.0% in 2007 to 50.3% in 2022.

Figure 19: Employment by gender in the Arts and Creative - Maori sector in New Zealand



The following table shows the gender makeup of workers in the Arts and Creative - Maori sector in New Zealand for selected years. A full timeseries of employment by gender in the Arts and Creative - Maori sector from 2000 is available in the Infometrics online Arts and Creative - Maori Sector Profile.

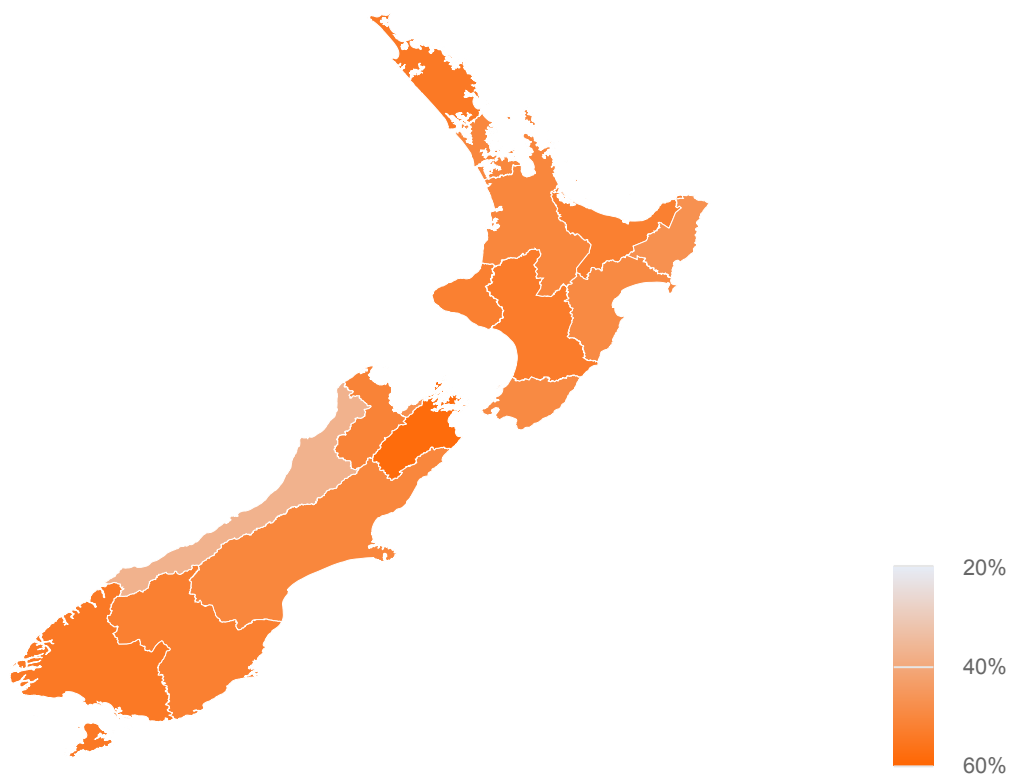
**Table 17: Change in employment by gender in the Arts and Creative - Maori sector in New Zealand**

	Arts and Creative - Maori				Total New Zealand	
	Employment		% share		Male	Female
	Male	Female	Male	Female		
<b>2002</b>	3,694	3,762	49.5%	50.5%	54.3%	45.7%
<b>2007</b>	4,304	4,312	50.0%	50.0%	53.7%	46.3%
<b>2012</b>	4,701	4,623	50.4%	49.6%	52.8%	47.2%
<b>2017</b>	5,091	5,004	50.4%	49.6%	53.2%	46.8%
<b>2018</b>	5,158	5,123	50.2%	49.8%	53.2%	46.8%
<b>2019</b>	5,209	5,234	49.9%	50.1%	52.9%	47.1%
<b>2020</b>	5,280	5,304	49.9%	50.1%	52.9%	47.1%
<b>2021</b>	5,220	5,171	50.2%	49.8%	53.1%	46.9%
<b>2022</b>	5,346	5,408	49.7%	50.3%	52.6%	47.4%

## Regional employment by gender

Female employment in the Arts and Creative - Maori sector is highest in Auckland. The following map shows how the percentage of female workers in the Arts and Creative - Maori sector varies by region.

**Figure 20: Female share of employment in the Arts and Creative - Maori sector, 2022**



The following table provides supporting information on the gender balance of workers in the Arts and Creative - Maori sector in 2022. Data showing the regional gender makeup of workers in the Arts and Creative - Maori sector from 2000 is available in the Infometrics online Arts and Creative - Maori Sector Profile.

**Table 18: Regional employment by gender in the Arts and Creative - Maori sector, 2022**

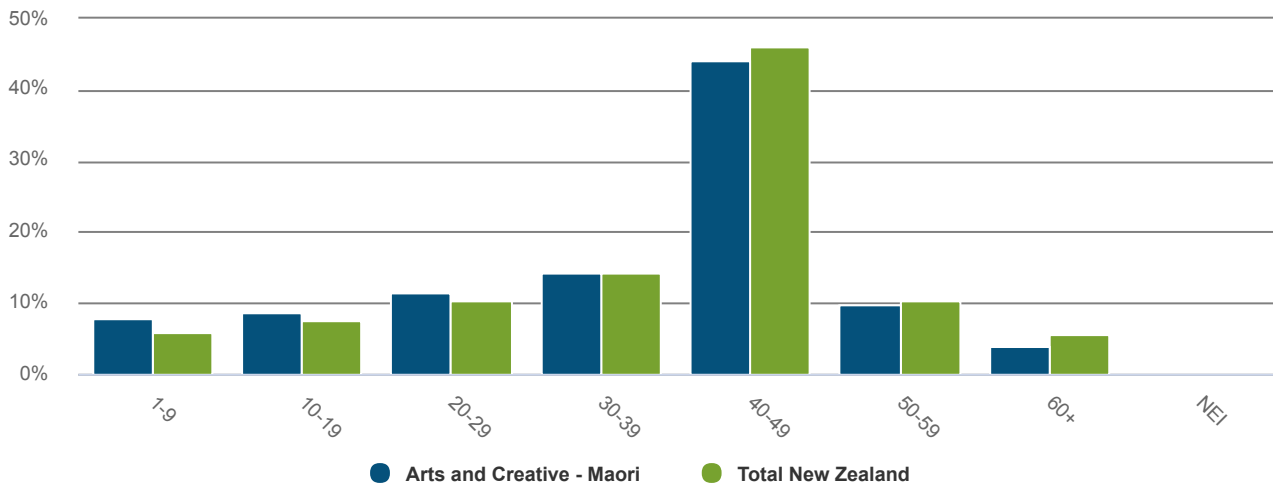
	Arts and Creative - Maori				Total economy	
	Employment		% share		% share	
	Male	Female	Male	Female	Male	Female
<b>Auckland</b>	2,365	2,382	50.0%	50.0%	53.0%	47.0%
<b>Bay of Plenty Region</b>	237	254	48.0%	52.0%	52.0%	48.0%
<b>Canterbury Region</b>	566	564	50.0%	50.0%	53.0%	47.0%
<b>Gisborne Region</b>	37	33	53.0%	47.0%	54.0%	46.0%
<b>Hawke's Bay Region</b>	124	117	51.0%	49.0%	52.0%	48.0%
<b>Manawatu-Whanganui Region</b>	168	185	47.0%	53.0%	53.0%	47.0%
<b>Marlborough Region</b>	33	46	42.0%	58.0%	54.0%	46.0%
<b>Nelson Region</b>	62	55	53.0%	47.0%	51.0%	49.0%
<b>Northland Region</b>	120	140	46.0%	54.0%	52.0%	48.0%
<b>Otago Region</b>	275	294	48.0%	52.0%	52.0%	48.0%
<b>Southland Region</b>	59	69	46.0%	54.0%	54.0%	46.0%
<b>Taranaki Region</b>	81	88	48.0%	52.0%	54.0%	46.0%
<b>Tasman Region</b>	39	41	49.0%	51.0%	54.0%	46.0%
<b>Waikato Region</b>	328	326	50.0%	50.0%	54.0%	46.0%
<b>Wellington Region</b>	822	794	51.0%	49.0%	51.0%	49.0%
<b>West Coast Region</b>	32	19	63.0%	37.0%	57.0%	43.0%

## How many hours do people work in the sector?

The number of hours worked in a sector can be an indicator of worker attachment to the sector. Hours worked in a sector can provide an indication of how much employers could meet growth by utilising their existing workforce without taking on additional labour, and can also highlight how likely people in employment are likely to undertake training.

People may have more than one job, though in New Zealand most people have only one. Here we look at people whose main job is in the Arts and Creative - Maori sector.

Figure 21: Hours worked (main job) in New Zealand, 2018

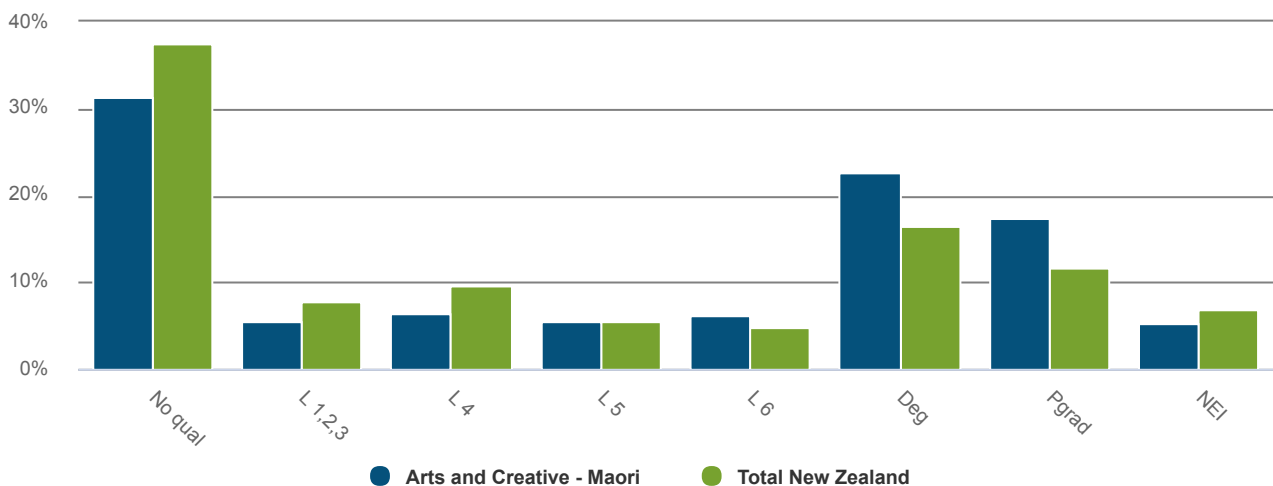


The Infometrics online Arts and Creative - Maori Sector Profile provides more information on hours worked in the sector for both main jobs and all jobs.

## How qualified are workers in the sector?

Higher educational attainment, in terms of recognised qualifications, is associated with a range of positive outcomes, including better income and workplace productivity.

Figure 22: Highest qualification (post school) of workers in New Zealand, 2018



The Infometrics online Arts and Creative - Maori Sector Profile provides more information on school and post-school qualifications of workers in the sector.

# DATA NOTES

## Broad skill level

**Highly-skilled** occupations typically require a bachelor degree or higher qualification and include professionals such as accountants, teachers, and engineers, as well as most managers such as chief executives. This category is consistent with skill level one of the Australia New Zealand Standard Classification of Occupations (ANZSCO).

**Skilled** occupations typically require a level 5-6 Certificate or Diploma on the New Zealand Qualifications Framework (NZQF). The category includes some managers (such as retail managers) and technicians (such as architectural draftspersons, ICT support technicians and dental hygienists). This category is consistent with skill level two of the ANZSCO classification.

**Semi-skilled** occupations typically require an Level 4 qualification on the NZQF. The category includes tradespersons (such as motor mechanics), skilled service workers (such as firefighters), as well as skilled clerical and sales workers (such as legal secretaries and estate agents). This category is consistent with skill level three of the ANZSCO classification.

**Low-skilled** occupations typically require a Level 3 qualification or lower on the NZQF. The category includes a range of lower skilled occupations from general clerks, caregivers, and sales assistants, through to cleaners and labourers. This category is consistent with skill level three and four of the ANZSCO classification.

## Businesses

Data on the number of businesses is sourced from the Business Demography statistics from Statistics New Zealand. Businesses are measured by geographic units, which represent a business location engaged in one, or predominantly one, kind of economic activity at a single physical site or base (eg. a factory, a farm, a shop, an office, etc). All non-trading or dormant enterprises, as well as enterprises outside of New Zealand, are excluded from business demography statistics.

A significant number of enterprises are recorded as having zero employment. Enterprises in the zero employee count size category may have:

- working owners who don't draw a wage from their business
- labour provided by other businesses or contractors
- business activity that requires no labour (eg. holding company).

Only businesses that are economically significant enterprises are included. To be regarded as economically significant they must meet at least one of the following criteria:

- annual expenses or sales subject to GST of more than \$30,000
- 12-month rolling mean employee count of greater than three
- part of a group of enterprises
- registered for GST and involved in agriculture or forestry
- over \$40,000 of income recorded in the IR10 annual tax return (this includes some units in residential property leasing and rental).

## Demographic characteristics of people in employment

The demographic characteristics of workers in each sector are sourced from recent Stats NZ Population Censuses.

Employment in each sector is defined in terms of both industries and occupations using an industry-occupation employment matrix. After defining the sector on the matrix we sum employment across all occupations in each industry. We measure the demographic characteristics of employees in individual industries using data from recent Population Censuses and aggregate across industries to arrive at an estimate for the sector as a whole.



## Employment

Industry employment numbers are from Infometrics' Regional Industry Occupation Employment Model (RIOEM). The model draws heavily on quarterly and annual Linked Employer Employee Data (LEED) published by Stats NZ. RIEM differs from Stats NZ's Business Demography data in that it is a quarterly series (BD is annual), and LEED includes both employees and the self-employed (BD only includes employees).

Employment is measured as an average of the four quarters making up each year. The unit of measurement is filled jobs.

## Forecasts

The employment forecasts in this profile have been generated from the Infometrics Industry Model. This model produces forecasts of employment for 54 industries using a mix of principal component and regression techniques to link macroeconomic key indicators (eg inflation, interest rates, unemployment, the exchange rate, business profitability etc.) to prospects for each industry. A key aspect of this approach is that it produces an outlook for an industry that takes into account the recent performance of that industry, the impact of key influences on business performance in that industry, and is also constrained to ensure that the sum of production in all industries equals our forecasts of overall economic activity. That is, an industry can only grow faster than overall economic growth if past industrial performance and business conditions indicate that it will increase its share of national output.

Infometrics then decomposes these forecasts to a detailed industry level and uses industry-occupation employment matrices for New Zealand in order to measure total employment in a defined sector.

## Full-time equivalent

Full-time equivalent (FTE) employment is a way of looking at employment that takes into account the work-load of people into employment. FTE employment is the sum of all full-time jobs plus half the number of part-time jobs. Two people who are employed part-time are measured as one FTE.

## GDP

Gross domestic product (GDP) presented in this sector is estimated by Infometrics. GDP is measured in constant 2022 prices. GDP presented in constant prices is sometimes referred to as real GDP. By using constant prices we remove the distractionary effect of inflation, which enables us to meaningfully compare GDP from one year to the next.

GDP estimates are calculated by using earning and employment from Linked Employer Employee Data (LEED) to break down national production-based GDP published by Stats NZ.

A top down approach approach is used to break Statistics New Zealand National Production based GDP.

## Job openings

New job openings are created when businesses are expanding and are positive about their economic outlook. Conversely job destruction occurs when businesses contract and have a negative perspective of their economic outlook.

Replacement job openings provides an estimate of the net number of job openings in the sector that arise from individuals leaving an occupation (eg, retirement, or migration), net of jobs taken by individuals entering an occupation (eg, returning to the workforce from parental leave).

Total job openings estimate overall workers required in a sector as a result of job creation and replacement demand. They are the sum of new job openings and replacement job openings in a given year.

## Occupation definitions

Infometrics uses the Australian and New Zealand Standard Classification of Occupations (ANZSCO), which provides a basis for the standardised collection, analysis and dissemination of occupation data for Australia and New Zealand.

ANZSCO identifies a set of occupations covering all jobs in the labour market, defines these occupations according to their attributes and groups them based on their similarity into successively broader categories for statistical and other types of analysis. The individual objects classified in ANZSCO are jobs. In ANZSCO, occupations are organised into progressively larger groups based on their similarities in terms of both skill level and skill specialisation.

ANZSCO is structured into five hierarchical levels. These are around 1,000 occupations at "level 5" of the hierarchy, where occupations are defined in terms of sets of jobs which involve the performance of a common set of tasks. These occupations can be progressively grouped up through the classification hierarchy to come up with eight "level 1" occupations that are based on combinations of skill level and skill specialisation.

More information is available from ABS and Stats NZ: <https://www.abs.govt.nz/ANZSCO>.

## Occupational employment

Occupation employment numbers are from Infometrics' Regional Industry Occupation Employment Model (RIOEM). Employment in each industry is converted to occupational employment using the relationship between industry and occupational employment observed in various Population Censuses. Population Censuses measure the occupational composition of employment in each industry and how this changes over time. Occupations conform to the categories used in the Australian New Zealand Standard Classification of Occupations (ANZSCO).

## Self-employment

Self-employment rates are from Annual Linked Employer Employee Data (LEED).