Toi Mai Workforce Development Plan

2022

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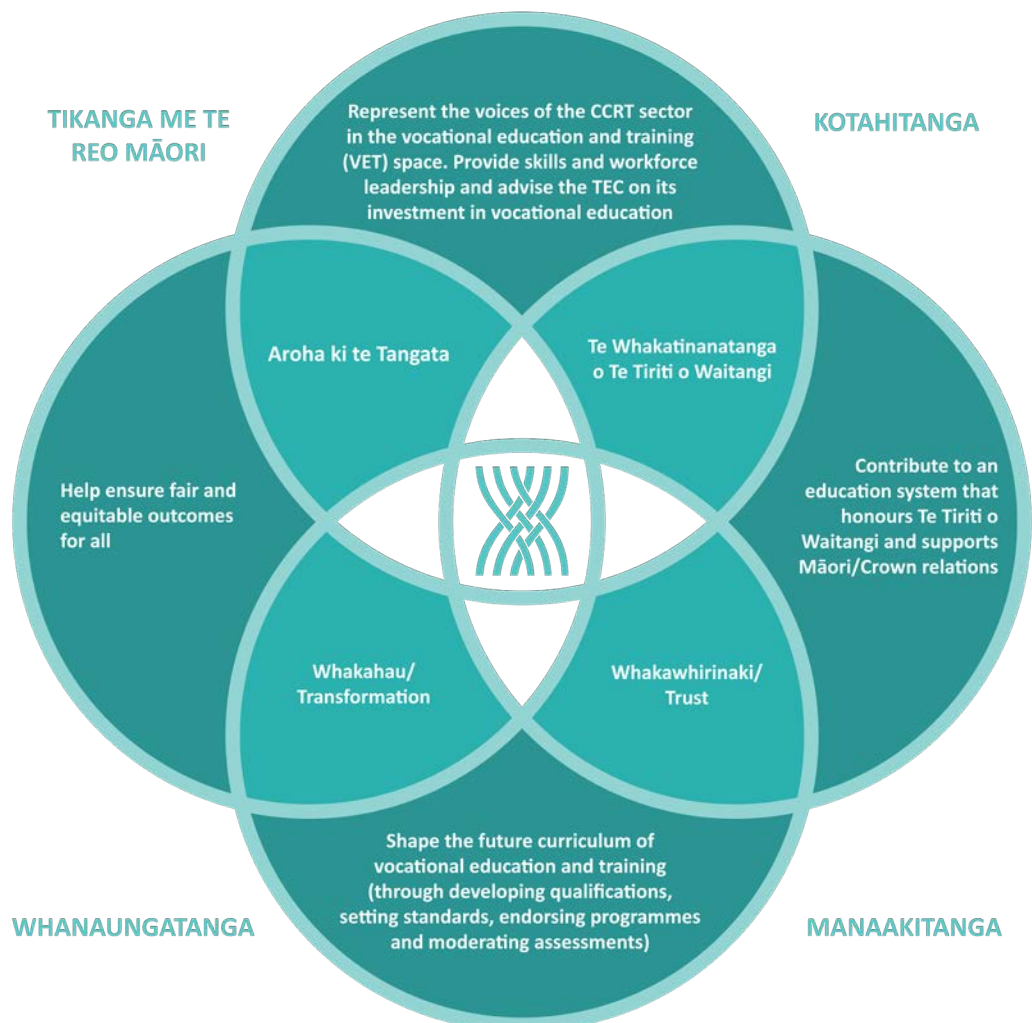
Kia toi te mahi hangarau
Kia toi te mahi auaha
Kia toi te ira tāngata
Ko ngā toi Māori ka puta
E kōkō ko Toi Mai ē!
Turuturu o whiti
whakamaua kia tina! Tina!
Haumi ē! Hui ē! Tāiki ē!

Ka mua, ka mua rā ngā kōrero i kawea ai ngā
whāinga whakaaro,
Ka muri, ka muri nei te aronga e whakahoutia ai te
whakaaro kawe,
Ka mua hapa, ka muri tū ko te Tumu o Toi, kei te Poumatua,
kei ngā Poururuku ōna kawenga,
Ka mua heke, ka muri kake, ka kakea te ara whāiti,
te ara whārahi, ko te ara whātoro ā-ngākau,
Whangaia te ō o te Pā, hei whatu kite, hei mata here,
hei ringa kawe, hei kahu haere,
Ka mua mau, ka muri tau e Toi eee kōkiri.

Te rautaki whakawhanake o Toi Mai

This is the first Workforce Development Plan for Toi Mai, the Workforce Development Council (WDC) for the creative, cultural, recreation and technology (CCRT) sectors. Toi Mai plays a critical role in articulating each sector's workforce requirements to meet their strategic ambitions, with a particular focus on the role of vocational education and training. Toi Mai's role and values are summarised in the diagram below.

TIKANGA ME TE REO MĀORI

KOTAHITANGA

Represent the voices of the CCRT sector in the vocational education and training (VET) space. Provide skills and workforce leadership and advise the TEC on its investment in vocational education

Aroha ki te Tangata

Te Whakatinanatanga o Te Tiriti o Waitangi

Help ensure fair and equitable outcomes for all

Contribute to an education system that honours Te Tiriti o Waitangi and supports Māori/Crown relations

Whakahau/ Transformation

Whakawhirinaki/ Trust

Shape the future curriculum of vocational education and training (through developing qualifications, setting standards, endorsing programmes and moderating assessments)

WHANAUNGATANGA

MANAAKITANGA

A crucial component of Toi Mai's success is its ability to provide the strongest possible evidence to support its advocacy of CCRT sectors. This requires a detailed consideration of the broad economic trends that impact the CCRT sectors' workforce needs, balanced with a strong understanding of industry and employer perspectives.

As such, Toi Mai's Workforce Development Plan (WDP) draws on what we know of the CCRT sectors' strategic ambitions (some of which are more developed than others) and the workforce implications that flow from these with a particular focus on the role of vocational education in realising these ambitions. It considers the implications of learner pathways, particularly in relation to improving learner and employee diversity.

This plan has three broad sections:

1.

A brief analysis of some of the emerging trends, particularly as it relates to the COVID-19 recovery;

2.

An environmental scan of the CCRT sectors drawing on the most up-to-date information available, although it should be noted that there are significant information gaps, and some information is dated;

3.

A cascading set of Toi Mai objectives, outcomes and the associated actions required to achieve these objectives, including Toi Mai's initial investment advice to TEC.

While this plan provides an overarching perspective across the CCRT sectors, it is a first step in what will become a series of more detailed and sector-specific Workforce Development Plans over the next two years. The Baseline Engagement and Data (BED) project (funded through TEC's COVID-19 Relief Fund) has made recommendations for how Toi Mai should prioritise its workflow for the next two years. These recommendations have not been fully integrated into this plan as the draft report has only recently been submitted. One of the recommendations is to divide up Toi Mai's industries into the following six proposed subsectors:

TOI PUAKI
EXPRESSIVE ARTS

Expressive art forms and technologies in music, stage and theatre

TOI WHĀNUI
ENABLING TECHNOLOGIES

Innovative technology platforms, products and services for industry and end-users

TOI PĀHO
BROADCAST AND SCREEN

Content delivered through broadcast and screen media; film, radio, television and online interactive media, which includes the gaming industry
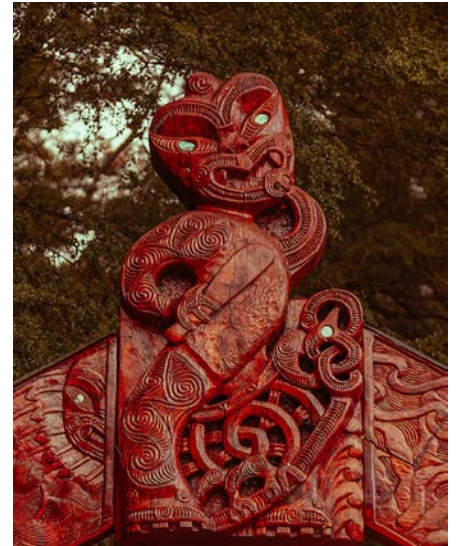
TOI ORA
SPORT AND RECREATION

Activities and technologies that foster wellbeing, socially, physically and mentally

TOI-A-RINGA
ART AND DESIGN

Hands-on art and design (tactile)

TOI MĀORI

Practitioners specialising in the creation of taonga work

In short, this plan should be viewed as setting out the markers of future workforce plans that will draw on Toi Mai's growing capacity to effectively represent and advocate for the workforce needs of the CCRT sectors. It is a chance for our partners — industry, businesses, training providers, iwi, Māori businesses, public sector organisations and learners — to see our emergent thinking. We welcome your feedback on this plan (including the recommendations of the Baseline Engagement and Data Project and the proposed categories above) to help shape our direction over the coming years.

Emerging Trends

Toi Mai Workforce Development Council (Toi Mai) represents the creative, cultural, recreation and technology (CCRT) sectors which include film making, journalism and broadcasting, music, museums, reserves and conservation parks, hairdressing, games, sports, and recreation. Mapping the external and internal landscape of the CCRT sectors is crucial to the formulation of a Workforce Development Plan to give industry a greater voice in the vocational education system and ensure workforce needs are met.

Toi Mai's sectors are facing significant challenges, which include embedding Te Tiriti o Waitangi, the impacts of COVID-19, the bedding in of Reform of Vocation Education (RoVE), lack of previous industry training organisation (ITO) coverage, mismatch between skills and industry needs and global competition for skills.

Embedding Te Tiriti o Waitangi

Embedding Te Tiriti o Waitangi is a key priority and will involve Toi Mai being proactive in the following areas:

- Increasing participation by Māori learners across CCRT qualifications, particularly in technology;
- Māori businesses, skilled iwi and hapū having fit- for-purpose qualifications and workforce support;
- Engaging iwi Māori and other Māori organisations in Toi Mai's strategic decision-making; and
- Toi Mai qualifications reflecting Te Tiriti o Waitangi.

Toi Mai will also seek to leverage the focus of the Regional Skills Leadership Groups (RSLGs) on harnessing the potential of the Māori economy where many of the skills required for Māori to realise this potential sit within Toi Mai's scope. Māori investment in industry is growing rapidly and social procurement policies empower Māori entities to secure projects to employ and train rangatahi.

Impacts of COVID-19

Careers NZ has reported that the effect of COVID-19 on jobs in 2020 has seen the growth of some industries, with others shrinking. COVID-19 significantly impacted parts of the creative, cultural and recreation sectors with the cancellation of major creative, cultural, and sporting events, the limiting of crowds at events, along with the imposition of border restrictions. In the year to December 2020, employment fell by over 3,000 jobs in the arts and recreation services industries.

In 2020, the Ministry for Culture & Heritage reported that the GDP of the arts and creative sector was forecast to decline significantly further than employment due partly to the high-level of self-employment in the sector. As we can see later in the document, this has been proven to be the case. However, the Creative Professionals survey indicates that practitioners are likely to remain committed to the arts and creative industries despite the reduction in hours worked and reduced demand.

On the other hand, while some parts of the technology sector have expanded, such as the increased demand in streaming services, several large IT projects were put on hold due to hiring freezes (*Infometrics, September 2021*). The World Economic Forum's Global Risks Report 2021 stated that: "COVID-19 has accelerated and broadened the Fourth Industrial Revolution with the rapid expansion of e-commerce, online education, digital health, and remote work."

The digital creation and distribution nature of much of the creative sector was accelerated during COVID-19. In the year to 1 April 2020,

96%

of digital and online games creators' income came from overseas audiences *(NZTech, 2020)*.

Infometrics expects all sectors to recover from 2023 onwards. Overall, the New Zealand technology sector avoided job losses in the year to March 2021, but weak job growth is expected in the near term until economic uncertainty dissipates. The arts and recreation services sector has been the second highest recipient of COVID-19 wage subsidies, so recovery is likely to remain a priority for the next few years. Labour shortages will likely be a challenge as event attendance and international travel increase; for example amongst theatre technicians and the outdoor recreation sector.

RoVE reforms still bedding in

The most immediate impacts of fulflling the RoVE reforms are the practical dimensions of developing systems and processes across new organisations that are still being established. This offers an opportunity for Toi Mai, particularly in relation to the proposed new Unified Funding System (UFS) being extended to self-employed people and volunteers, along with the ability to influence the Strategic Components Fund.

While the RoVE reforms are being set in place, the most important role for Toi Mai is to build an effective representation of our sectors. The quality of our insights about the CCRT sectors will rely on our understanding of the data and evidence alongside meaningful engagement with industry and businesses.

There are no clear workforce pathways for parts of the creative, cultural and technology sectors.

Lack of previous ITO Coverage

The lack of previous Industry Training Organisation (ITO) coverage has had significant implications on the creative, cultural and technology sectors. For parts of the creative and cultural sectors, there are no clear pathways. Several occupations in these sectors have no formal vocational qualifications on the New Zealand Qualifications Framework (NZQF), for example: visual arts painter, sculptor, technical director, illustrator, multimedia designer and web designer. The lack of coherent and coordinated voice in the technology sector could have been a contributing factor in the decline in sub-degree study in technology subjects in recent years, despite skills shortages.

While there has not been ITO coverage in the creative sector, many of the organisations and agencies provide capability development that is equivalent to formal qualifications' training to fill some gaps.

As a result of the lack of past ITO coverage, a greater proportion of Toi Mai's resource will need to be devoted to fundamental issues like identifying and building clearer career pathways than in other Workforce Development Councils.

In New Zealand, there was a disconnect between the skills CCRT industries need and the skills available in the market.

Skills mismatch

Skills mismatch occurs when the type of skills available do not correspond to labour market needs. An analysis of skill demand and supply is important to improve understanding on how individuals' qualifications and skills are matched (or not) with changing skill demands and complexities of their jobs. In New Zealand, research has suggested that there is a disconnect between the skills CCRT industries need and the skills available in the market.

In the technology sector (and more broadly across technology professionals in all industries), a skills mismatch is occurring at two levels:

- Technology industry job vacancies tend to be for more senior or experienced roles and there are very few entry-level positions resulting in under-skilled graduates. The Digital Skills Forum's assessment of the market showed there were half as many IT job vacancies as there are potential applicants — domestic graduates or skilled migrants in 2019; and

- There is a mismatch between technology skills employers need and skills on offer by tertiary graduates as suggested by the Digital Skills Forum. The exact scale of this is hard to ascertain from the available data. The Digital Technologies Industry Transformation Plan described a mismatch where "graduates from tech/digital courses, and professionals with skills outside the areas of shortage are often struggling to find work in an industry struggling to find people with the right skills."

Stronger alignment between industry and the needs of employers needs with Tertiary Education Organisation (TEO) provision is one of the main reasons behind the RoVE reforms and is a key objective for Toi Mai. Again, the lack of ITOs operating in Toi Mai sectors in the past increases the scale of this fundamental challenge.

## *There is an increasing demand for creative and technology skills in all sectors of the economy.*

Global competition for skills

The opening of borders across most economies world-wide has led to greater competition for skilled labour which is predicted to compound skill shortages. The situation in the technology sector, in particular, is urgent and requires immediate attention.

The attractiveness of relatively higher wages and lower costs of living in other countries such as Australia, that are also pursuing aggressive recruitment strategies for skilled labour, significantly increases the risk of skills shortage domestically. For example, the Australian Government has committed a A$1.2 billion investment to their Digital Economy Strategy in its 2021–22 Budget and a further $347

million has been provided over the last year. The strategy includes investment in digital skills through cadetships, graduate programs, and scholarships, changes to depreciation rules and a digital games tax offset of 30% to help grow the sector. The 2021 NZ Games Industry Survey findings suggested that Australian tax incentives and border restrictions have put over 300 jobs at risk as New Zealand-based studios are lured into relocating.

Microsoft Data Science is predicting that global lockdowns will accelerate digitisation and create an additional 149 million digital technology jobs globally by 2025. Globally, demand for AI talent has doubled from 2018 to 2020 and there are now two jobs for every AI professional, leaving a vast gap between talent demand and supply. There also appears to be a global supply and demand problem with recruiting candidates with cybersecurity certifications. Cybersecurity Ventures tracked 3.5 million unfilled cybersecurity jobs worldwide in 2021 and predictions state the same number of openings in 2025. In the U.S. alone, the cybersecurity workforce has more than 950,000 workers with almost half of them yet to be filled.

2025

+149 million
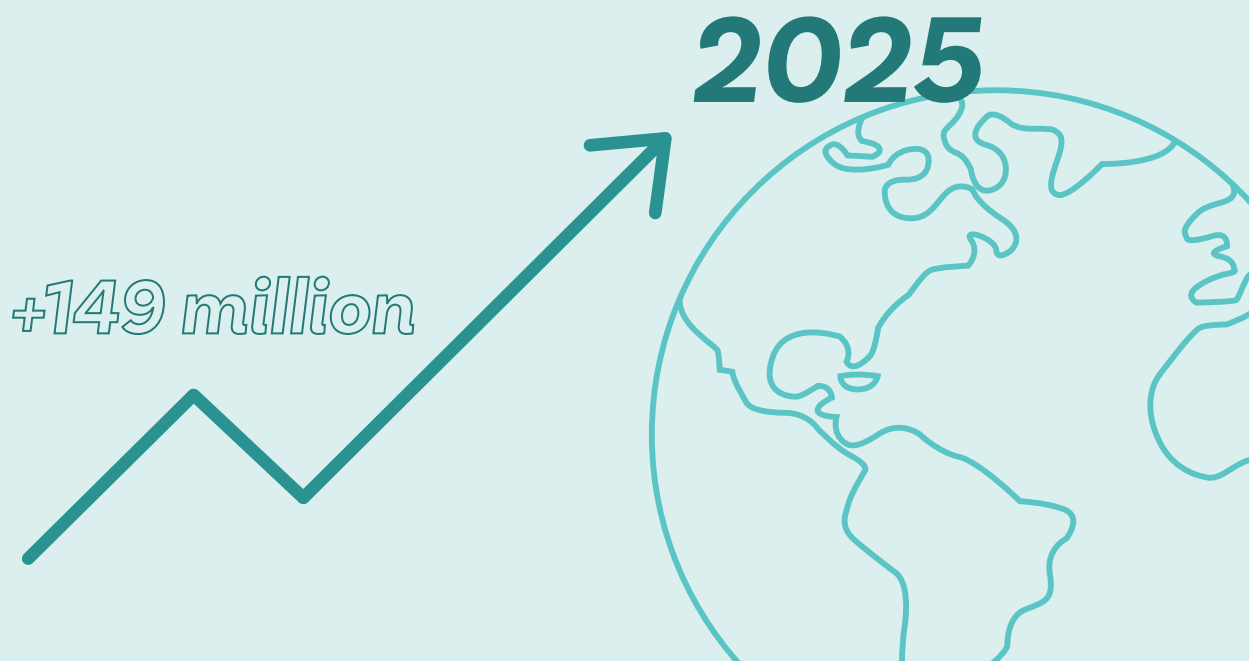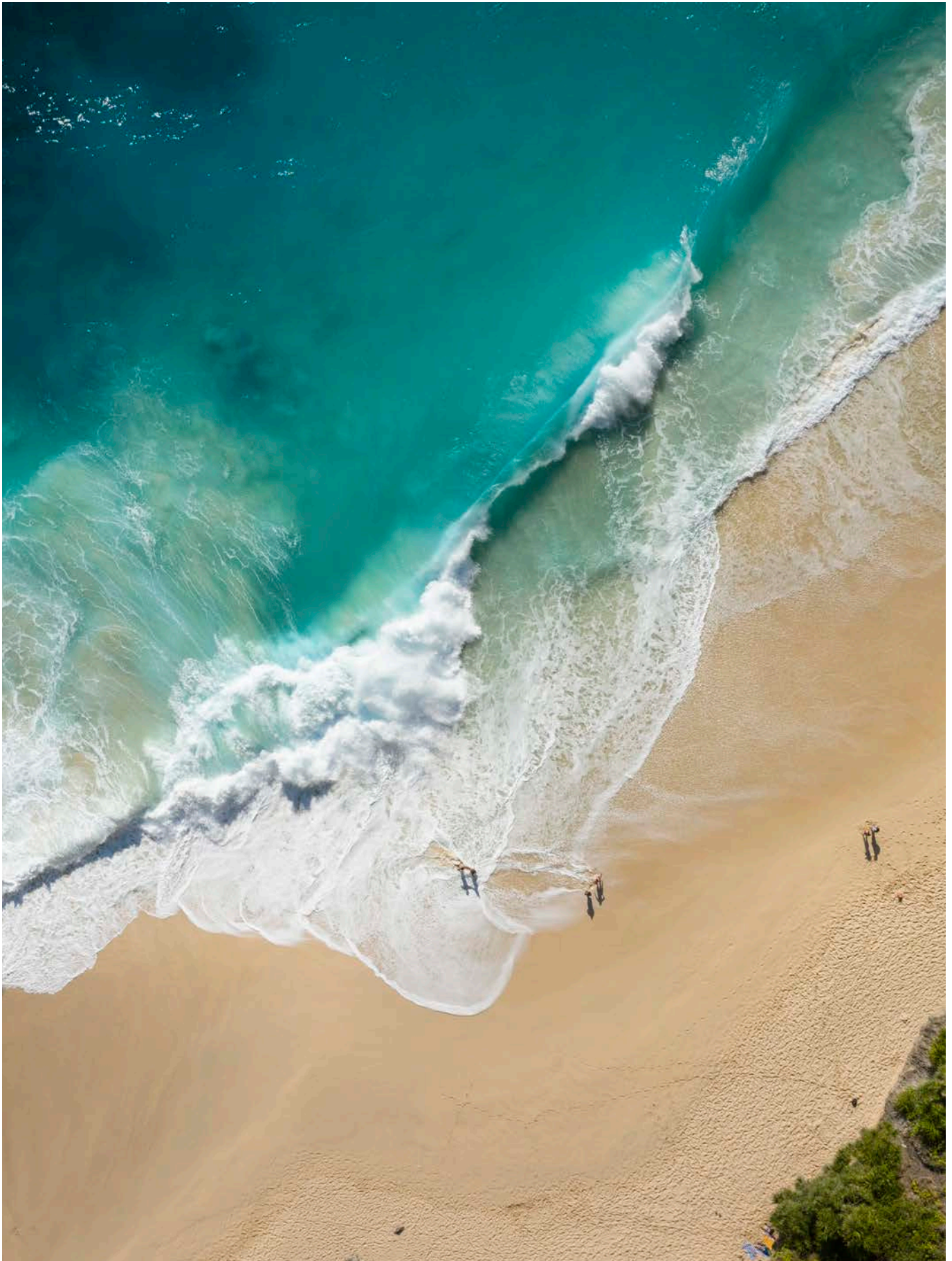
Environmental Scan

The creative, cultural, and technology sectors are made up of predominately highly skilled jobs. Lesser skilled jobs are more prevalent in the recreation sector, but this sector also includes highly skilled supervisor, team leader and management roles.

Workers in the creative, cultural and technology sectors are on average more highly skilled than the rest of the economy.

Infometrics estimates that the CCRT sectors had a Gross Domestic Product (GDP) contribution of over $24.7 billion, which equates to 7.6% of New Zealand's GDP in 2021. Although the sector's GDP fell -0.6% from the previous year, it grew by 4.2% over the past decade. Auckland tops the list in terms of regional share of GDP with 47.3%.
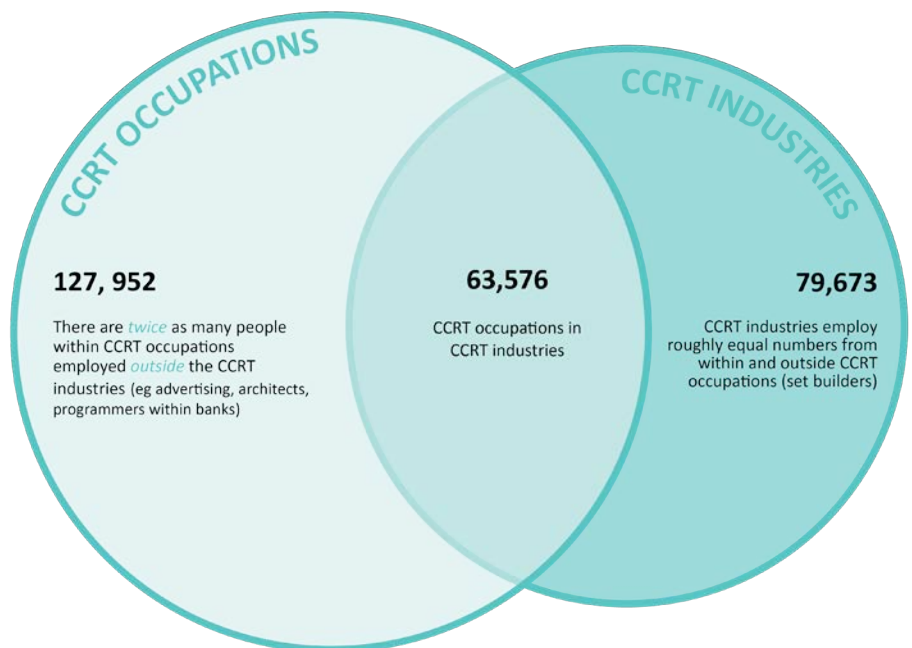
$24.7 billion

Infometrics estimates that the CCRT sectors had a Gross Domestic Product (GDP) contribution of over $24.7 billion and in the year to March 2021, the sector had over 194,000 filled jobs.

In the year to March 2021, the CCRT sectors also had over 194,000 filled jobs (7.4% of overall filled jobs in New Zealand) and more than 53,000 business units (8.9%). The number of businesses in the sector has increased by 0.8% in 2021, which is a positive indication of economic activity despite the impact that COVID-19 has had in the sector. In the same year, small and medium enterprises (SMEs) accounted for 97.4% of all employment in the sector.

An important dimension of the CCRT sectors is the significant proportion of the CCRT workforce that do not work in CCRT industries

(such as software developers in the Agritech and Fintech sectors) and the considerable numbers of people working in non-CCRT occupations that work in the CCRT industries. As the diagram opposite highlights, in 2020 roughly twice as many people (127,952) in CCRT occupations were employed outside the CCRT industries compared to those within (63,576). There are also as many people (79,673) employed within the CCRT industry in non-CCRT occupations.

CCRT OCCUPATIONS

CCRT INDUSTRIES

127, 952

There are *twice* as many people within CCRT occupations employed *outside* the CCRT industries (eg advertising, architects, programmers within banks)

63,576

CCRT occupations in CCRT industries

79,673

CCRT industries employ roughly equal numbers from within and outside CCRT occupations (set builders)

CCRT sectors are integral to Aotearoa's national identity

The arts, culture, sport, and recreation sectors are integral to Aotearoa's national identity, and are valuable contributors to people's physical, mental, and social wellbeing. The technology sector is accelerating quickly, and its impact is felt across most industries and sectors. It is transforming industries such as manufacturing through digitisation, automation, and data analytics into how materials are produced, which is flowing through large parts of our economic and social systems. This is what we know as the Fourth Industrial Revolution or Industry 4.0.

" The demand for tech skills in the Bay of Plenty region will continue to grow as the region's horticulture and forestry sectors automate... There is a need to develop industry-led, stackable micro credentials to enable rapid upskilling of the local labour market".

(RSLG – Bay of Plenty, February 2022)

Macroeconomic indicators such as Gross Domestic Product (GDP) are not sufficient to prioritise action in Toi Mai's sectors. Incorporating a broader wellbeing lens (such as the Treasury Living Standards Framework) that takes into consideration outcomes across multiple domains such as 'cultural capability and belonging' and 'leisure and play' through to more traditional economic measures is essential. The framework also includes aspects of wealth such as human capability and the natural environment, which are not fully captured in the system of national accounts. Toi Mai recognises that further work needs to be done in partnership with organisations like Sport New Zealand, Creative New Zealand and Manatū Taonga Ministry for Culture and Heritage, in gaining a deeper understanding of, and realising the full potential benefits, of the CCRT sectors for Aotearoa.

CCRT sectors expect employment growth

Employment is forecast to grow by 2.9%pa from 2021 to 2027. Between 2022 and 2027, there will be approximately 80,000 total job openings consisting of nearly 37,000 new job openings and net replacement job openings of more than 43,000. Job opening growth is expected to be stronger in the Auckland region, which is forecast to account for 42% of all total job openings in the sector.

Over the past ten years, employment in the CCRT sectors grew 3.1%pa on average, which is higher than the New Zealand Growth rate of 1.9%pa. Auckland, Wellington, and Canterbury are the top three regions in terms of employment in the CCRT sectors with a combined share of almost 71%.

Workers in the CCRT sectors are more likely to be self-employed than workers in New Zealand as a whole.

High rates of self-employment in creative and cultural sectors

Workers in the CCRT sectors are more likely to be self-employed than workers in New Zealand as a whole (23.1% v. 16.7%). The self-employment rate in the sector has increased by 1.8 percentage points over the past fifteen years (from 21.3% in 2006 to 23.1% in 2021). The high level of self-employment and contract employment in the CCRT sectors supports the need for the integration of foundational business skills into the training and education system, or for such courses to be readily available and easily accessible to emerging practitioners and businesses. Practical knowledge and skills around self-employment, marketing, sales, financial planning, tax obligations, and intellectual property are required for many occupations in the sector to be sustainable.

Business skills are also needed to cater to those who want to start a business, employ staff, or apply for funding for events and projects. Anecdotally, many self-employed workers and small business owners fail due to a lack of relevant knowledge and skills regarding entrepreneurship that would enable their talent and passion to flourish in a sustainable way.

Technology is transforming many industries. Transferable skills (communication, creativity, collaboration, problem solving, digital literacy) are needed across the CCRT sectors.

Transferrable skills are also growing in importance across the economy and are needed across the CCRT sectors. The 2020 Digital Skills Survey results show that tech organisations viewed problem-solving skills as the most important for the future development of their workforce. This was followed by collaboration, communication, and critical thinking skills. In a study done by Creative New Zealand in 2019, creative professionals identified the importance of transferrable skills, such as networking, communication, and being able to deal

with rejection and critiques. Roles in the recreation sector generally involve interaction with people, which makes interpersonal and communication skills indispensable.

Digital skills are increasingly in demand in many industries, including the creative, cultural, and recreation sectors. Developments in digital technology have a fundamental impact on how art and other cultural artifacts are created, accessed, viewed, distributed, and purchased. Creative and technical skills are also in demand in parts of the technology sector such as virtual reality, augmented reality, gaming, simulation, and Education Tech (EdTech).

In-work outcomes for CCRT qualifications

In understanding learner outcomes, it is important to note that not all learners who complete a qualification will go on to work in the industry aligned to their qualification or transition to relevant higher-level qualifications. One indicator that measures the success of a qualification and its delivery by providers is the employment outcome. Ideally, employment outcomes would account for the 'added value' of qualifications by considering the background and prior achievement of learners. Employment outcomes can provide some indication of how well qualifications are matched to industry needs and offer insight into which providers should ideally be supported for expansion. In this regard, Toi Mai hopes to utilise the Integrated Data Infrastructure (IDI) for more in-depth analysis of data to provide greater clarity regarding learner pathways – where they come from and where they end up after completing their qualifications.

Employment outcomes for sub-degree qualifications (certificates and diplomas) are often significantly lower than for those with degree level qualifications or above. Pre-COVID-19, there was significant variability in the year-on-year employment outcomes for some CCRT qualifications, particularly in the creative and cultural sectors. Employment outcomes also tend to vary across providers, although this will require further research. Better data and more analysis is

required to ensure provision is linked to industry demand. CCRT sectors are more popular as dream careers than as planned careers among school leavers. Around four in ten school leavers dreamed of careers covered by Toi Mai, but fewer than two in ten were actually planning to pursue careers such as actor, musician, writer, and explorer/traveller (*TEC, 2022*).

TEC's post-study outcomes app captures labour market outcomes. Employment outcomes were measured in the 2018-2021 tax years. The employment outcomes presented in this document cover outcomes three years after qualification completion. It was noted that in the creative sector, for example, dancers have an average employment outcome of just over 50% after completing a dancing qualification (across all levels) although the employment outcomes are significantly lower at Levels 1–3 (33%). Music graduates average just over 49% employment outcome and those with Levels 1–3 certificates have lower employment outcome at 39%. Actor graduates have just over 56% employment outcome. Graduates of graphic design have on average just over 57% employment outcome, but those who completed Levels 1–3 certificates have 43% employment outcome.

Sport and recreation graduates have 58% employment outcome, with Levels 1–3 at 51% employment outcome. Sports coaching, playing sport, officiating, and instructing have 57% employment outcome while Levels 1–3 certificates is slightly lower at 54%.

Information technology graduates have a 61% employment outcome, which is significantly higher compared to the employment outcome of graduates of Levels 1–3 certificates (43%).
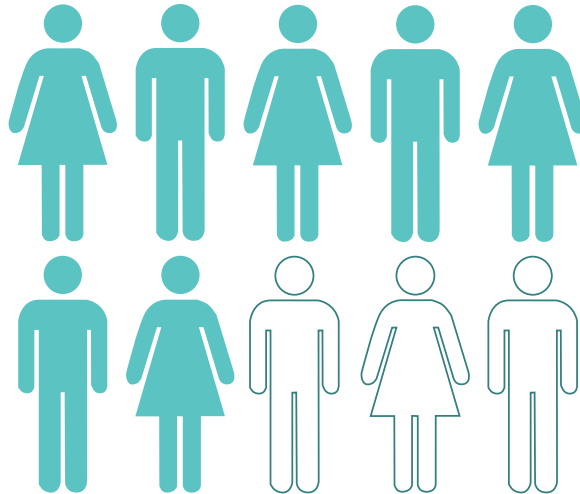
In 2021, approximately seven in ten workers in the CCRT sectors (68.5%) were employed in occupations classified as highly skilled

According to occupation data (ANZSCO which comes from the Census), the top five largest CCRT occupations are all under the technology sector, namely, systems analyst, developer programmer, software engineer, ICT project manager, and ICT customer support officer. These occupations accounted for 29.6% of overall employment in the CCRT sectors. Infometrics estimates that employers in CCRT sectors ideally require people with a Degree (Level 7+).

Improving diversity is challenging

Toi Mai has responsibilities under both the Education and Training Act and its Order in Council to honour Te Tiriti o Waitangi and support Crown-Māori relations. In 2018, Māori made up approximately 11% of the creative and cultural workforce, 15% of the recreation workforce, and 9% of the technology workforce. Overall, the share of Māori in the CCRT sectors workforce was almost 11%. Māori are particularly under-represented in occupations like software engineering. In contrast, one finds a higher proportion of Māori in occupations such as conference and event organiser and advertising and public relations manager.

Female employment made up 33.9% of CCRT the sector's workforce in 2021 mainly due to gender disparities in the tech sector. Workers in the sector have a slightly lower average age profile than all workers in New Zealand (41.6 years v. 42.4 years).

Improving the diversity of our sectors is a key objective for Toi Mai. Greater diversity requires cultural change towards a sense of inclusion for women and ethnic minorities in the workplace and targeted pathways in education.

Training and Apprenticeships Fund delivers diversity

During 2021 and 2022 there was a brief experiment with removing fees for certain technology-related vocational qualifications via the Targeted Training and Apprenticeship Fund (TTAF), along with the Māori Pasifika Trades Training (MPTT) and Māori Trades and Training Fund (MFTT). This move appeared to improve the diversity of learners, attracting more females in particular. Equivalent full-time student (EFTS) data in technology subjects shows overall EFTS have nearly doubled between 2019 and 2021.

Participation amongst Māori and Pacific students saw substantial increases, while female EFTS more than doubled. This shows that additional funding to remove fees for targeted groups and in priority areas is an effective tool for promoting diversity and meeting urgent industry needs.

Snapshot:
Creative & Cultural Sectors

96% of the adult population (16+) have engaged with at least one arts, cultural or heritage activity within the past three years.

Overview   The creative and cultural (C&C) sectors contributed 2.4% of total New Zealand GDP and had over 71,000 filled jobs in the year to March 2021. While the sector's 2021 GDP contribution was down-2.6% from 2020, employment is forecast to grow by 2.3%pa between 2021 and 2027. It is worth noting at the outset that these macroeconomic measures do not account for the contribution of these sectors to our national wellbeing. In particular, He Ara Waiora (Treasury's indigenous approach to lifting living standards) places wairua (spirit) at the centre. The creative and cultural sectors contribute to our wairua by uplifting our sense of identity and belonging (mana tuku iho) and ability to participate and connect within our communities (mana tauutuutu).

Research undertaken by Creative New Zealand in 2020 found that 96% of the adult population (16+) have engaged with at least one arts, cultural or heritage activity within the past three years. The same study showed that an estimated 1.6 million adults value the role the arts play in their lives. In a separate study conducted by Creative New Zealand: New Zealanders and the Arts in 2020, it was found that 17% of New Zealanders are more positive than ever about the vital role the arts play in their lives and two in five (40%) say arts contributed to their wellbeing.

Employment growth in this sector averaged 2.5%pa over the past ten years. In terms of geographical distribution of employment in the creative sector, Auckland leads all regions and generates $3.7 billion in sector GDP. In an industry snapshot article released by the Auckland Council, design is the largest sub-sector by employment, followed by screen production, while digital media is the fastest growing sub-sector in the region. Auckland is the hub of the country's film industry and has a considerable number of screen sector firms, with close to 2,000 businesses located in the region generating $1.2 billion in revenue (82% of the national revenue).

Impact of COVID-19

Engagement with the arts was significantly lower in 2020 (75%) than in 2017 (80%), which was driven by lower levels of attendance, particularly in performing arts. Overall, the drop in attendance was a result of lack of opportunity due to COVID-19 rather than a growing disinterest in the arts. It has been reported that 295 events covering at least 607 performances had to cancel or suffer losses due to COVID-19, with their costs reimbursed through Government's arts and culture recovery schemes (*Stuff, 2022*). Manatū Taonga Ministry of Culture and Heritage Long-term Insights Briefing Discussion Document indicates that this new operating climate has driven the cultural sector organisations to transform post-COVID-19 and be sustainable. There also appears to be an increasing trend toward the digitisation of taonga and cultural sector products, as well as online delivery mechanisms. The more digitally prepared parts of the sector such as streaming, interactive media and recorded music grew during the pandemic and many of these industries now face talent shortages and exodus to more welcoming markets, especially Australia.

In 2021, over 30% of the creative and cultural (C&C) sector workforce were self-employed. Lower-than average incomes, cost of training, lack of tailored training opportunities, and time commitment required present barriers to education and training in the sector.

Potential job growth in creative and cultural sectors

The C&C sector is described as highly productive, gig-oriented, and entrepreneurial. In 2021, 33.2% of the sector workforce or approximately 23,600 people in the C&C sector were self-employed. Nearly four in ten workers in the sector work less than 40 hours a week. The self-employment rate has increased by 5.1 percentage points over the past fifteen years. The sector has many small employers so internships and workplace-based training can be a challenge.

The New Zealand Qualifications Authority (NZQA) has found that occupations such as painter (visual artist), potter or ceramic artist, sculptor, technical director, and illustrator have no vocational qualifications associated with them. Lower-than average incomes, cost of training and the time commitment required also present challenges and barriers to education and training in the sector.

There is no sector-wide strategy for the creative and cultural sector. New Zealand has formulated its Screen Sector Strategy 2030, which signals the strong intent from the sector to increase its involvement in education and training such as growing business skills among business owners and producers. The sector also signalled its desire to work with Toi Mai to examine the state of skills and skills funding in the sector, map career paths to improve alignment between education providers and the sector's employment and skill needs, and explore how to expand internships and apprenticeships.

It is estimated that more than 26,000 total job openings in the C&C sectors will be available within the next five years. Of the forecast total job openings, around 39.5% will likely be due to new job growth, while 60.5% are expected to be due to net replacement job openings.

A February/March 2022 local insights report by the Hawke's Bay Regional Skills Leadership Group (RSLG) revealed that Te Awanga, an estate in Hawke's Bay, could become the home of a new $40 million studio development, which is expected to employ about 70 permanent staff and 350 more on-site during film production. It has been recently announced that a Far North producer has established a film office, Toi Te Hiku, and is keen to create a screen hub in Kaitaia to open pathways for locals, particularly Māori, to the creative screen industry (*NZ Herald, 2022*).

New training and skills needed

In 2021, there were 23,764 businesses in the C&C sector, up 1.1% compared to the previous year.
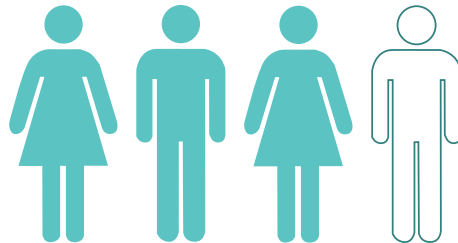
The latest data shows that approximately three in four workers (76.2%) in the sector were employed in highly skilled occupations and SMEs accounted for about 98% of all employment in the C&C sector in New Zealand.

According to ANZSCO data, the top occupations in the sector, in terms of employment, are graphic designer, architect, advertising or public relations manager, conference and event organiser, and music teacher (private tuition). It should be noted that the available occupation codes do not necessarily reflect the work people do in any interactive media or digital creative role.

Infometrics estimates that the average salary for the sector in 2020 is $69,000 compared with the national average of $64,000. The high skill requirements of creative and cultural roles suggest earnings should be higher.

In the 2019 Profile of Creative Professionals, it was reported that 63% of creative professionals felt their remuneration was unfair and 55% worked outside of the creative sector to supplement their income. Necessity rather than choice was likely the reason many creative professionals work outside of their industry. In the same report, creative professionals in media production (mainly

in the screen sector) and game development were assessed to have the most sustainable careers, whereas jobs in acting and theatre production and music and sound making sectors were more likely to be the least sustainable.

The creative workforce needs to develop new skills to hone their craft and be successful.

Technology has enabled the digitisation of creative services, such as publishing, music, design, gaming, and media. It has changed how art is produced, and allowed artists and audiences to directly connect with each other. Digital technologies have also paved the way for new forms of art such as digital art and hybrid art, otherwise known as multimedia installation. The fusion of art and technology presents a breadth of opportunities in the ways creative services are created and delivered. Technology also helps facilitate collaboration amongst artists. This means that the creative workforce needs to develop new skills to take advantage of these opportunities and succeed in their crafts. In the interactive media industry for example, animators may use coding to achieve visual effects (*Infometrics, September 2021*). Upskilling artists on using digital technology is the main driver behind Creative New Zealand's work to create a Digital Arts Agency.

The creative sector has not historically had organised connections to the tertiary education system, which has led to complex and patchy qualification pathways. Also, Māori and Pacific people are underrepresented in many parts of the sector's qualification pipeline and there is a gender imbalance across several qualifications.

Qualifications review: journalism, broadcasting, and communications

Toi Mai is conducting a review of the existing qualifications across communication, journalism, and radio broadcasting at Levels 6 and below. Industry has indicated this attention is well overdue as many issues have built up over time. Journalism, broadcasting, and communications training have mostly shifted to a three-year model across both polytechnic and university offerings.

Journalism, specifically, has declining numbers across all programmes, and most offerings in the polytechnic space have ceased or are making modified pathways integrated into other degree programmes. The journalism industry itself advocates for shorter training programmes with work- integrated learning opportunities.

Currently, there is a clear misalignment between education and industry. This misalignment has led to a diversity issue in training/ education and this trend continues into employment. Journalists and reporters with strong Te Reo Māori and lived experience in Te Ao Māori are in high demand, resulting in increased salaries and causing organisations to poach talent from one another. The biggest impact is on smaller entities like Whakaata Māori and Pacific Media Network (PMN). It also has an effect on regional radio and iwi radio. Smaller entities are left with the task of recruitment, induction and providing on-the-job training for Māori and Pacific peoples. Once the profile has been built, the talents become targets and are poached by mainstream entities.

Some key insights so far are below:
- The former, cadetship model from the 1980s was a model that worked.
- The closure of key programmes due to numbers means that the pipeline has dried up and providers have gone towards communications-type quals e.g., Universities have embedded skills needed as a journalist into communications degree.
- Industry has stated that communications degree skills don't match industry needs.

- Industry is saying 18 weeks to 36 weeks of training is sufficient for entry level roles. Degree would be suited to management/ leadership roles in Media.
- Traditional education has poor representation of Māori and Pasifika in their programmes.
- Whakaata Māori and Pacific Media Network (PNM) have done the majority of the training of Māori and Pasifika in-house, however they are only funded to cover operational costs. This leads to journalist and media personalities being poached by mainstream media leaving a gaping hole for Whakaata Māori and PMN to recruit, induct and retrain.

From discussions and meetings with the Tāmaki Makaurau Regional Skills Leadership Group and information shared by industry stakeholders, the following workforce challenges were identified:

1.
Low job security and continuity of roles based on project-based work and working conditions and practices;

2.
Sustainability of employment due to the casual nature of work;

3.
Absence of a national approach, fragmentation within the industry, working in silos, and short-term thinking holding the screen sector back;

4.
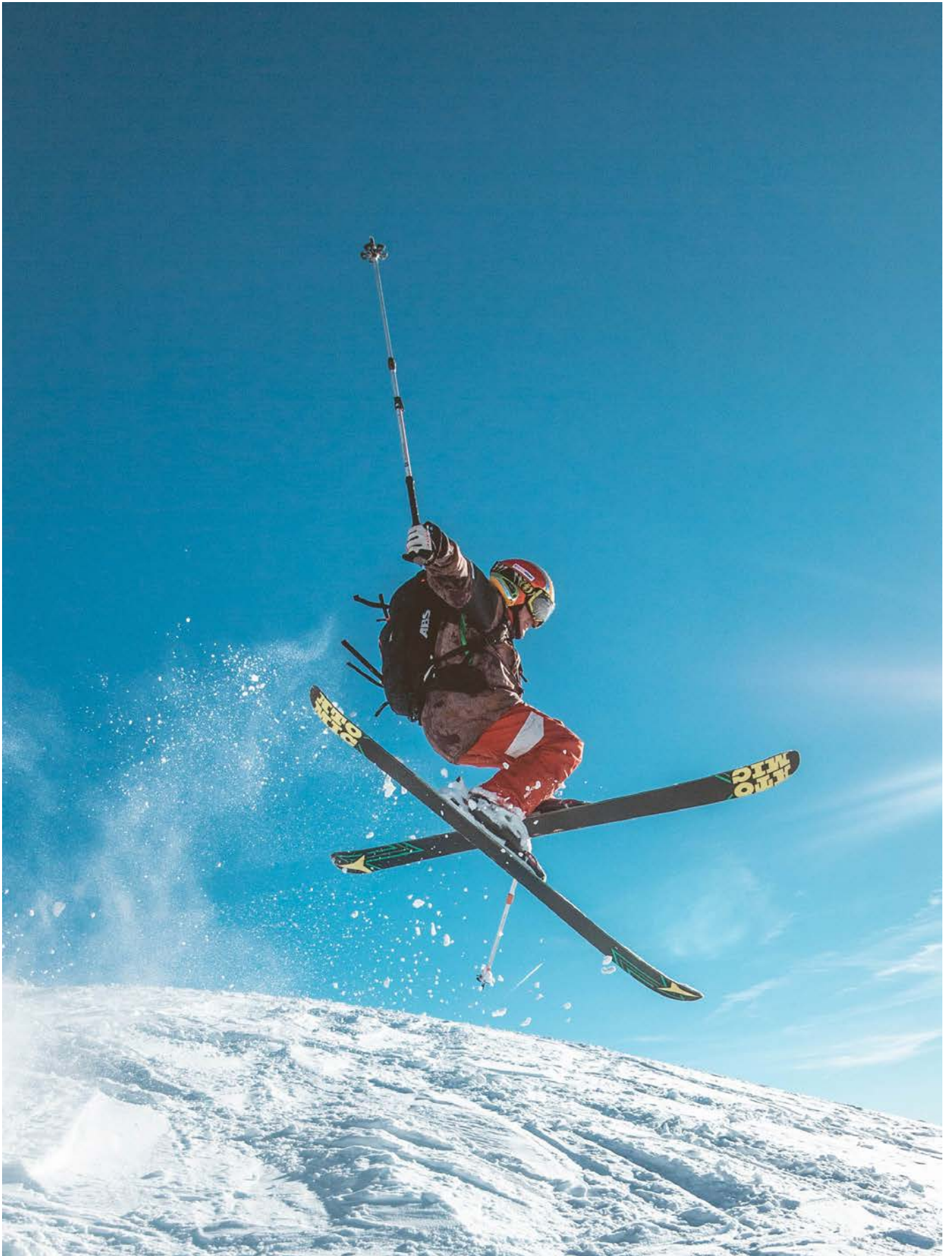Need for workforce support for freelance gig-based vocations; and

5.
Need for entrepreneurial skills and mindset training.

Snapshot:
Recreation

Employment in the recreation sector is estimated to grow by 3.6% between 2021 and 2027. The outdoor recreation industry is forecast to reach close to 14,500 jobs by 2024.

Overview

The recreation sector contributed 0.7% to New Zealand's GDP in 2021, down -4.6% from a year earlier. The number of filled jobs in the recreation sector averaged over 26,000 in the year to March 2021. This accounts for 1.0% of jobs in New Zealand; Auckland had a share of 35.6% of the sector's workforce.

Employment in this sector was down by -1.5% in 2021 compared to 2020. It is expected that more than 14,500 total job openings in the recreation sector will be available within the next six years where 42.2% are likely to be due to new job growth. The 2020 Outdoor Recreation Workforce Scan reported that the sub-sector had employed more than 12,000 workers in 2018. Estimates show that employment in the recreation sector is forecast to increase by 3.6%pa between 2021 and 2027.

"Sport and active recreation creates happier, healthier people, better connected communities and a stronger New Zealand" (Sport NZ).

As with the C&C sector, the economic data only tells part of the tale when it comes to wellbeing. The Active NZ Survey 2019 showed that 72% of adults participate in sports or active recreation every week. Water Safety New Zealand reported that each year, there are 20 million visits to public swimming pools, 3.5 million people visit beaches, 4.5 million people go boating, more than 1.1 million people participate in swimming and more than 700,000 people go fishing.

Sport New Zealand's Value of Sport research revealed that "Sport and active recreation creates happier, healthier people, better connected communities and a stronger New Zealand." The study revealed that around nine out of ten New Zealanders believe that engaging in active recreation keeps them fit and healthy and more than eight in

ten perceive that playing sport teaches life skills like teamwork and cooperation. Skills Active data shows that there are more than 200 national and regional sport and recreation organisations, 14 regionals sports trusts, and some 15,000 clubs delivering sport and recreation and associated services.

COVID-19 impact on recreation sector

Treasury's Living Standards Framework 2021 captures 'leisure and play' as one of the aspects of people's lives that have been considered as important for the wellbeing of individuals, families, whānau and communities.

Reduced demand due to border restrictions heavily impacted the recreation sector.

The recreation sector was heavily impacted due to border restrictions reducing both the demand for tourism services and the available workforce. In a research report released by Lincoln University, an exploration of outdoor recreationists' perceptions and experiences revealed that the COVID-19 lockdown led to many people engaging in a new or different form of recreation during the lockdown period and an increased interest in domestic travel. A survey undertaken by the Mountain Safety Council found that almost eight in ten hunters and trampers disagree/strongly disagree that COVID-19 has changed how they think about their personal safety outdoors.

The outdoor recreation industry has reported a decline in guide numbers from over 1,000 in 2020 to 884 in 2021. Furthermore, demand remains constrained due to COVID-19, although systems to manage risks are in place. This reduced capacity could become an issue as tourism returns and schools resume outdoor education experiences.

Just over 18% of the recreation sector workforce (or 4,802 people) were self-employed in 2021. The self-employment rate of the sector

has increased by 0.9 percentage points over the past five years. The outdoor recreation sub-sector describes around 2,000 of its workforce as self-employed.

The sport and recreation sectors rely on volunteers, but volunteer numbers are falling. The total number of people who volunteered in community organisations in 2018 was 1,008,000 – a decrease from 1,229,054 volunteers in 2013. This reduction may be a result of time pressures on families and the overall time commitments of volunteering, but further research in this area is needed as most of the available research is dated. The Unified Funding System includes self-employed and volunteers and offers an opportunity to work with these groups to better understand how education and training could be more effectively delivered to them.

Last year, there were slightly more than 6,400 businesses in the recreation sector where 96.4% were SMEs. The average business growth (size of business units) in the sector over the past decade was 3.3%pa. Approximately 43% of the sector workforce were employed in occupations that require low levels of formal training (typically Level 3 qualification or lower on the New Zealand Qualifications Framework). In 2020, more than half of the outdoor recreation workforce were low-skilled.

The top ANZSCO occupations in the sector are fitness instructor, other sports coach or instructor, swimming coach or instructor, lifeguard, and sports administrator. These occupations accounted for 68.6% of overall employment in the sector in 2021. Infometrics estimates show that employers in the recreation sector ideally require people with a Level 5–6 Diploma. Jobs in the sector are characterised by low incomes and seasonal or events-based work. In 2020, the average annual earnings in the sector were $52,400, which is almost $12,000 lower than the national average earnings.

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Recruiting local candidates, work-readiness of candidates, and seasonality of work are a few of the challenges of the recreation sector workforce.

Skills in short supply

A Skills Active survey for the outdoor recreation sector found that recruiting local candidates has been a challenge for many organisations in the outdoor recreation industry. Around 80% of the respondents said they had either frequent or occasional problems finding New Zealand candidates. In a separate Skills Active survey of the sport, community recreation and aquatics workforce, results showed that a lack of available workers was a major concern for most of those surveyed. Staff retention also emerged as a concern with 65% of respondents saying that the industry was perceived as a "stop-gap on the way to a real career".

Lifeguards and swim teachers were the two most difficult roles to fill, and majority of these roles are seasonal. From 1980 to 2020, drowning deaths fell, but the total number of drowning incidents had increased. In 2020, there were six drowning incidents per hundred thousand population where 43% of these incidents involved people aged 24 years or below (*Water Safety NZ, 2020*). The data could suggest the need to improve lifeguards' pay and working conditions or provide more training opportunities for swim teachers.

For certain parts of the recreation sector, there has been a significant decline in vocational education enrolments for some time. Overall enrolments at Level 6 and below have fallen from a peak of 13,110 in 2016 to 7,335 in 2022. Those studying sports coaching, playing sport, officiating, and instructing have declined from more than 5,300 in 2011 to about 1,500 in 2021.

5,300
2011

1,500
2021
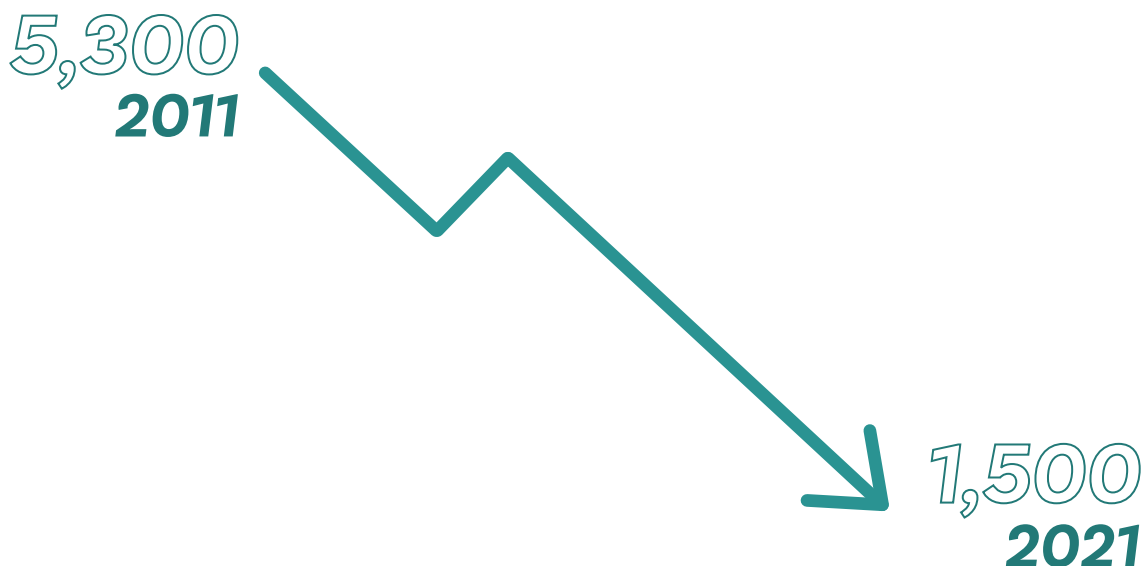
Snapshot: Technology

The 2021 Digital Skills for life Aotearoa report emphasised the importance of widespread digital skills and inclusion in building economic resilience and keeping inequality in check. The report further stated that there must be equitable opportunities for New Zealanders to improve their digital skills to be able to fully participate in society and the economy. The report's 2022 version found that "having essential plus digital skills increases the likelihood of working in an industry that pays relatively high wages." The report also highlighted that people equipped with digital skills are more likely to put those skills into practice 'a lot'.

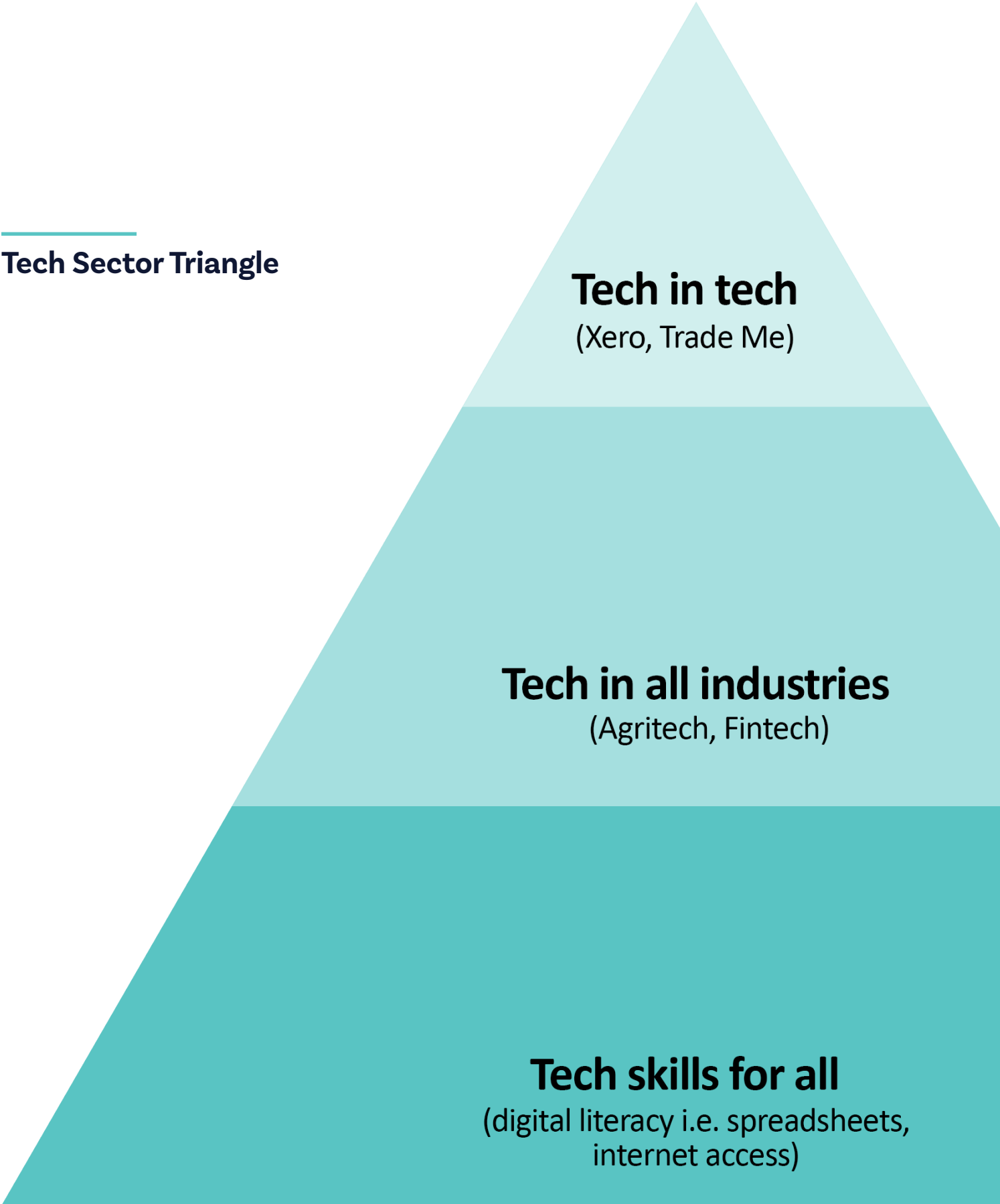## *Toi Mai is aligned with the Regional Skills Leadership Groups (RSLGs) in focusing on technology*

Focus on tech

A specific focus on the technology sector has been identified as a priority for most of the 15 RSLGs. This focus includes the following three dimensions:

- Strengthening the domestic technology workforce through upskilling the existing workforce and ensuring that technology education and training is more fit for purpose to lessen reliance on immigration
- Providing targeted education and training support to facilitate New Zealand's tech industry expansion
- Assisting the broader economy to upskill its workforce in technology-based skills

Tech Sector Triangle

Tech in tech
(Xero, Trade Me)

Tech in all industries
(Agritech, Fintech)

Tech skills for all
(digital literacy i.e. spreadsheets,
internet access)

These issues align strongly with the concept of the 'Tech Sector Triangle'. This describes the cross-cutting impact of improving tech skills. Not only has the tech sector spawned its own sector (Tech in Tech), but it is also transforming other sectors, creating new sub-sectors (such as Agritech and Fintech). Finally, it has created generic skills needed by all (Tech for all).

All regions appear to place importance on basic technology skills for all as a means of building workforce resilience and enabling a positive response to environmental, technological, and socio-economic changes. Many regions are also concerned about the use of technology in other industries, especially agriculture, as an essential component in innovations such as automation, field-to-table tracing, and precision agriculture. The regions representing major metropolitan centres also have a 'tech in tech industry' focus, noting that this would include software development, creative, screen, and virtual reality, which would transfer into other sectors via automation, business tools and more.

Currently, no Workforce Development Council is resourced or mandated to cover transferrable skills such as technology skills for all. Toi Mai's responsibility covers technology skills for the technology sector. We share responsibility with Muka Tangata on AgriTech and with Ringa Hora on FinTech as illustrated in the technology sector triangle above. Toi Mai is planning to create an engagement pilot on AgriTech in partnership with Muka Tangata and the initial engagement will be based on the findings of the AgriTech Industry Transformation Plan.

The technology sector has a skills mismatch. In the years 2014 to 2019, over 27,000 visas were granted for people entering New Zealand to work in ICT occupations. All stakeholders will play a key role in transforming the technology sector.

Growth, skills mismatch

New Zealand's technology sector has a skills mismatch, resulting in an over-reliance on immigration with more than 50% of new roles filled via immigration. In the years 2014 to 2019, over 27,000 visas were granted for people entering New Zealand to work in ICT occupations. Within the same period, two out of the top ten occupations for which Long Term Skill Shortage List Work Visas had been approved were ICT roles (developer programmer and software engineer).

Under the Digital Technologies Industry Transformation Plan (Digital Tech ITP), "the domestic talent pipeline, supplemented by immigration, is key to the sustainable growth of the sector".

The draft Digital Tech ITP further points out that to enable scaling up and transformation of the state of skills in the digital tech industry, significant commitment, investment, and contribution from all stakeholders- Government, industry, and the education sector - is needed, including Māori sector groups and businesses who are in the tech sector eco-system.

The technology sector's GDP grew by 4.6%pa over the past ten years. It contributed around $14.8 Billion to the national GDP in 2021 or a GDP share of 4.5%. This was 1.1% higher than the sector's contribution from a year earlier.

The sector had more than 98,000 filled jobs in the year to March 2021. This number accounts for 3.8% of overall filled jobs in the country, with employment growth averaging 3.5%pa over the past ten years. Forecast estimates reveal that employment in the sector will grow by 3.3%pa between 2021 and 2027. Government is the largest employer of technology capability in the New Zealand. In 2020, average earnings for the sector were $87,100.

Software Development, Business Analysis, DevOps, Support/Helpdesk, and Testing/QA are the top five skills in demand for 2022.

Skills in demand

In the past year, 17.3% of people working in the technology sector were self-employed. Between 2022 and 2027, 40,183 total job openings in the sector are forecast to be available and 52% of these are likely to be new job openings. Auckland and Wellington are estimated to account for almost two thirds of all job openings in the sector within the same period.

The top five skills in demand for 2022 are

- **software development**
- **business analysis**
- **DevOps**
- **support/Helpdesk**
- **testing/QA**

(*Absolute IT Recruitment, 2022*).

Using Callaghan Innovation's Software-as-a-Service (SaaS) sector forecast model, at an annual job growth rate of 16%, 43,000 new SaaS jobs are expected to be created from 2020 to 2030. SaaS companies in the country such as Auror, Volpara and LawVu are just some of the local organisations that have growth globally *(Horan, 2022).*

The Government is supporting the growth of New Zealand's digital technologies and has provided an additional $20 million over four years (*Beehive, 2022*). The SaaS sector is part of the software industry, which is described as a "growing weightless industry" whose productivity growth is driven mostly by its intangible capital. Software propelled the growth of the ICT and digital sectors in the

past decades (*Lewis et al., 2021*). Copyright Licensing New Zealand is an example of SaaS development in a creative business *(CLNZ, 2022).*

In 2021, the sector had 23,880 businesses, which is 0.9% higher than in 2020. Just under 80% of the technology sector workforce were employed in highly skilled occupations, which typically require a bachelor's degree or higher qualification. Almost three in five workers (58.4%) in the sector are employed in either of the following ANZSCO occupation codes: systems analyst, developer programmer, software engineer, ICT project manager, and ICT customer support officer. Developer/programmer ranks fourth as New Zealand's most-needed job and seven out of the top ten highest paying jobs in the country are ICT jobs *(Seek, 2022).*

At the regional level, pockets of Aotearoa still do not have access to levels of connectivity needed to participate in the digital economy. There are also socio-economic barriers to connectivity for some households. For example, digital connectivity is an issue in the Eastern Bay of Plenty (28% of homes) and poor digital infrastructure is a barrier to learning and participating in the workforce for high deprivation communities *(RSLG – Bay of Plenty, February 2022).*

People with low level or no qualifications, as well as unemployed and low-income earners, are less digitally active. Despite this, 95% of people agree on the benefits of internet use *(BNZ, 2021*). In Wairarapa, gaming is being used to spark enthusiasm towards working in the industry through digital technologies used in game development such as virtual reality, coding, and design. The local tech skills group aims to foster Wairarapa's future digital workforce *(RSLG – Wellington Region, April 2022).*

Need to accelerate digital skills training

In the 2022 IT Job Market and Remuneration Report by Absolute IT Recruitment, 82% of tech employers stated that they are planning to hire permanent staff. In the same report, 46% of employers cited that the biggest challenge for them this year is attracting or retaining staff – this IS the biggest challenge facing employers in the sector. It was also reported that 20% of surveyed tech professionals are considering a move overseas. The Auckland RSLG pointed out that the opening of the Australia/NZ border may lead to a net brain drain (especially in the ICT sector). In the Wellington region, some tech companies are outsourcing work to Sri Lanka and India, while others are reporting a loss of experienced staff to Australian companies *(RSLG – Wellington Region, April 2022).*

There is a need for upskilling, but two major barriers keep workers from upskilling - lack of time and lack of awareness of upskilling options.

In a study commissioned by Amazon Web Services, one million workers need to be upskilled in the next twelve months as rapid digital transformation creates the need to accelerate digital skills training. In the same study, almost all the 300 organisations surveyed saw the need for digital skills training programmes but only 25% had fully implemented these programmes. The upskilling required ranges from basic technology advances to the development of specialised skills. Furthermore, four in five workers surveyed signalled an appetite for more digital skills, however, two major barriers keep them from upskilling – lack of time and lack of awareness of upskilling options. The survey results also suggested that cloud and cybersecurity skills are increasingly in demand across workplaces in the country *(IT Professionals NZ, 2022).*

Respondents to the 2020 Digital Skills Survey said the lack of available time for training, as well as prioritisation of training against business-

as-usual activities, were the greatest challenges. In 2018, the majority of the technology workforce worked 40 to 49 hours in their main job in the sector. Employers also said the main barrier to taking on interns is the cost to their business, which includes the direct cost of hiring an additional employee, cost of management time, impact on regular work, and other support.

Internships align with industry needs

The Bachelor's degree pipeline is growing, and the sub-degree technology qualification pipeline is shrinking with overall domestic student enrolments in technology related courses falling 4.0% pa on average between 2015 and 2019 to just over 14,200. Completions fell 8.6% pa on average to just over 3,300 over the same period. Some of this discrepancy may be due to people enrolling in sub-degree courses and going on to complete degrees. In addition, 53% of domestic technology qualification completions in 2019 were at Levels 7 to 8 (Bachelor's degree) and only 29% were at certificate/diploma Levels 5 to 7. In 2019, 73% of domestic technology qualification enrolments were at Levels 7 to 8 (Bachelor's degree).

The Digital Skills Forum reports that tertiary education qualification completions have begun to reflect changes in market demand with 29% growth in students graduating with AI qualifications and 7% in cybersecurity.

Most degree level courses have some element of work placement or internship to help ensure alignment of students' skills with industry needs. These are now mandated for IT degree programmes through the international industry degree accreditation operated in New Zealand by IT Professionals NZ. However, while internships are hard to secure due to limited entry-level positions or limited capacity of technology firms with most being SMEs, learners who get into internships are likely to get employed. For example, in 2019 only 533 of over 3000 registrations were placed into formal intern programs, which translated into 73% of interns on-hired by their employer.

Support is needed for more work-integrated learning opportunities.

There is a need for more coordination and integration among all stakeholders – Government, industry and providers. Work-integrated learning placements are currently delivered on an ad hoc and programme-by-programme basis. Summer of Tech is an industry-led initiative that bridges the gap between learning and earning by connecting employers with top local students and graduates for paid work experience and graduate jobs. It provides a platform that matches learners with industry. While this programme has a national footprint, it is currently predominantly offered in Auckland and Wellington and places about 600 students per year.

The Digital Tech ITP seeks to develop that coordination and collaboration amongst government, industry and providers, and community initiatives. It has identified work-integrated pathways (including internship and apprenticeship models), which are a key vehicle to increasing entry into the skills pipeline, as particularly needing this collaborative and integrated approach. Ngāi Tahu via Tokona te Raki, along with industry partners, are working towards an apprenticeship model primarily for Māori learners as a pilot funded by the Ministry of Business, Innovation and Employment (MBIE). The Tokona Te Raki project has begun through a small apprenticeship pilot model, with the aim to support the development and creation of a new career pathway that will empower and support more rangatahi Māori into roles in the technology sector. The project closely aligns with and supports the Digital Tech ITP and specifically its skills and Te Ao Māori components. The pilot will deliver analysis, an insights report, an apprenticeship prototype and a roadmap for implementation. These insights and learnings will benefit others looking to implement similar apprenticeships.

Several tertiary providers have indicated their desire to implement an apprenticeship degree model in the tech sector. IT Professionals New Zealand supports this initiative and industry partners like Datacom have also expressed support. Ultimately, what the sector seems to be seeking are the financial and other supports (such as intensive mentoring) that are currently part of the apprenticeship model, including the in-work components.

Future thinking:
objectives, outcomes and actions

At a practical level, and within the bounds of the architecture of the reform of vocational education, there are several concrete actions that Toi Mai as one of six WDCs can, and should, undertake to progress the objectives and outcomes below. Several of these objectives and outcomes will require collaboration and input across the broader vocational education ecosystem if the full ambitions if the needs and amibitions of the CCRT sectors are to be fully realised.

This list of objectives, outcomes and actions is relatively extensive and ambitious. As noted earlier, this is a 5-year plan that Toi Mai will consult more broadly on. As a consequence, it is likely to change as a result of consultation. Equally, these objectives, outcomes and actions provide a precursor to the sector-specific workforce development plans that will be progressed over the next two years.

For this first Workforce Development Plan Toi Mai has identified eight key objectives:
• Hei reo whai hua mō ahumahi o Toi Mai/ An effective voice for the CCRT sectors
• Ko te rautaki whakamāui mai i te KOWHEORI-19/ COVID-19 recovery
• Kia honoa paitia te mātauranga ahumahi ki ngā hiahia o te ahumahi, o te kaiwhakawhiwhi mahi hoki/ Vocational education meets industry/ employer needs
• Kia poua te Tiriti o Waitangi ki roto o Toi Mai/ Embed Te Tiriti o Waitangi
• Kia whakapai ake te toronga kanorau puta noa i te aronga ahumahi o Toi Mai/ Improved diversity across CCRT sectors

- Hei kōwhiringa ara umanga e kite pai ai/ Clearer career pathways
- Ko tā te wawata kei ngā ahumahi o Toi Mai: Ko te toitūtanga ā-umanga/ Creative, cultural and recreation sector objective: sustainable careers
- Ko te wawata o te ahumahi hangarau: Whakatupuranga/ Technology sector objective: growth

This paper will set out each of these objectives in more detail below, including cascading outcomes and actions for each of those objectives.

Objective:
Hei reo whai hua mō ahumahi o Toi Mai
An effective voice for the CCRT sectors

Each of the CCRT sectors will require a nuanced approach to how Toi Mai effectively represents them. Some have had no previous ITO coverage, but in the case of technology are relatively well organised at a strategic level (across Government agencies and industry peak bodies). Other sectors have well-articulated strategic aims including the workforce components, as evidenced through the draft Digital Technologies Industry Transformation Plan (the Digital Tech ITP), which will be finalised in late 2022 and the Digital Skills and Talent Plan developed for the Digital Tech ITP, which forms the basis of its skill priority area. Critical tasks for Toi Mai are ensuring that it is responsive to industry's established priorities, its qualifications are fit for purpose and that it plays its distinctive role across government, industry and within the vocational education space.

Among the recreation sector's peak bodies, Sport NZ's report Everybody Active sets the organisation's strategic direction for 2020–2024. While it was drafted pre-COVID-19, realising the plan's aims of greater participation, particularly for underserved groups, has significant workforce implications: from the large numbers of

volunteers within the sector at community level through to elite level sport.

There is little by way of overarching strategic direction or resourced industry bodies to help coordinate across the creative and cultural sectors. There are some industry level strategies such as the Screen Sector Strategy 2030.

Outcomes
- CCRT industries and employers believe that Toi Mai is effective in representing their workforce interests;
- Toi Mai has a strong understanding of the broader economic, social and environmental drivers in both the short and medium term of workforce, qualification and education and training needs across the CCRT sectors;
- Toi Mai is able to accurately articulate the specific workforce and vocational education and training needs of each of the CCRT sectors;
- Toi Mai is able to describe the impact of immigration settings in meeting the workforce requirements of CCRT industries and the interface between immigration and vocational education and training;
- Toi Mai is an effective advocate for CCRT industry vocational education and training requirements in both the short and medium term with TEC;
- CCRT industry and employers value Toi Mai qualifications;
- Toi Mai can identify and promote genuine innovation and quick wins in CCRT vocational education and training provision that is effectively meeting industry needs.

Actions

Sector Engagement Plan

In order to achieve these objectives Toi Mai will conduct a broad range of engagements across the stakeholders involved in the CCRT sectors. Toi Mai aims to attain the CCRT sector's trust and confidence in their abilities to effectively represent their sector and to give positive recognition that their voice is clearly heard.

Toi Mai's Engagement Plan will set out how engagement will be accessible and inclusive, including prioritising the needs of the CCRT sectors. This living document guides the kaupapa that Toi Mai will follow to perform the engagement tasks and duties they are accountable for, and which has been mandated by The Education (Toi Mai Workforce Development Council) Order 2021.

Data collection and analysis

Toi Mai's effectiveness as a sector advocate will require collecting and analysing aggregate sector information and combining that with more nuanced sector intelligence to help understand the 'why' that sits behind the statistics. To achieve this Toi Mai will need to:

- Survey sector organisations regularly (both industry peak bodies and employers)
- Analyse trends across the short, medium and longer term, which consider the interface of broader sector trends (sector growth/ contraction etc), the impact of immigration settings and trends along with the consequential workforce implications, including where vocational education fits as part of these trends;
- In the short and medium-term, place a particular focus on the COVID-19 recovery for each of the CCRT sectors, meaning that trend data will be analysed and assessed against this context;
- Seek out examples of excellent delivery and innovation across CCRT sectors that warrant an increase or further investment by TEC each investment cycle;
- Develop an understanding of qualification effectiveness (including a cost benefit analysis) – are the vocational qualifications delivering the outcomes for both learners and employers that meet the overall sector ambition?

Toi Mai Research Plan

Data and research across all CCRT pathways is poor and does not create a reliable map of education and training development needs across these sectors. This issue is especially prevalent in the creative, cultural and technology sectors as they have not previously had an ITO to undertake the collection of data at an industry or employer level (although they do have sector groups that have filled some of

this void). The creative and cultural sector also struggle to have a coherent industry voice due to high rates of self-employment and lack of industry bodies or large employers. To date, Skills Active has filled this void in the recreation sector, but even there the gains will be quickly eroded if insights are not kept up to date.

In order to stay abreast of broader economic, environmental and social trends, Toi Mai will engage with Future of Work Forum, Industry Transformation Plans, Climate Commission and cross- government Strategic Futures Group. Staying abreast of this work will help fulfil the goals in our Order in Council.

A full understanding of our sector skills gaps, current and future workforce need to be met by collating existing data held in different pockets of our sectors, identifying data gaps and conducting one or two high level sector workforce surveys to start with.

Key gaps in our knowledge include:
- Why don't employers value vocational training? Or alternatively, which ones do they value? This could be incorporated into the survey work above.
- What future scenarios should we use to guide our long-term thinking? For example, future of work, climate change, circular economy, industry 4.0.
- What is the impact of sustainability trends on Toi Mai's industry and skill mix? For example, climate change and circular economy.
- What are the perceptions of the gig economy by those involved with it? How could policymakers better support those within it?
- Sport NZ has a comprehensive research programme underway on the wellbeing impact of play, sport and recreation and will begin reporting results later this year. However, the contribution of the creative and cultural sectors to individual subjective wellbeing remains unknown. We know that the sectors make a contribution, but how much and for whom? Much of the evidence for this currently comes from overseas. Toi Mai will work with Creative

New Zealand and Manatū Taonga Ministry for Culture and Heritage to fill this gap.

- Building the business case for digital accessibility. The digital divide (otherwise known as digital desert) was highlighted as an issue during COVID-19. While ad hoc attempts were made to solve it, how can we ensure sustainable solutions going forward? The equity issues are reasonably well canvassed, but what is the business case? If a cross-government approach were taken to move to a digital society, would this investment justify the cost?

- What is driving the fall in volunteering across the creative, cultural and recreation sectors and how might this be remedied?

- How much evidence is there of the growing importance of transferable skills in New Zealand and what can actually be done to improve these skills? Ohu Mahi recognises that transferable skills (including digital literacy and the Four C's: creativity, communication, collaboration, critical thinking) are growing in importance. If resourced, Toi Mai could lead work across all Workforce Development Councils/Ohu Mahi.

- Which frameworks should Toi Mai draw on for our work? In particular, how can we ensure that Māori and Pacific perspectives are integrated into our thinking?

- Toi Mai will work with other WDCs to build our capability to access the Integrated Data Infrastructure (IDI). This will help us understand:
  - What are the demographic characteristics of the different workforces across our industries?
  - What are the demographic characteristics of the different learners/ākonga undertaking vocational education?
  - How does vocational training affect workforce entry/exit and career progression?
  - How does pre-workforce education and qualification level impact the continuation of learners into the workforce and career progression?
  - Where are the gaps in the workforce, and how can those gaps be addressed by education and training?

○ What are the flows and movements within, between and
   out of workforces (workforce transitions)?

Sector Specific Workforce Development Plans

As Toi Mai improves its understanding of the sectors within our remit, we will develop sector specific Workforce Development Plans. The first will be Toi Pāho - Broadcast and Screen. This will cover content delivered through broadcast and screen media, film, radio, television and online interactive media. This first detailed Workforce Development Plan will be published by the end of 2022.

Toi Mai aims to roll out four more detailed plans covering other sub sectors by the end of 2024:

TOI WHĀNUI - ENABLING TECHNOLOGIES
Innovative technology platforms, products and services for industry and end-users

TOI-A-RINGA - ART AND DESIGN
Hands-on art and design (tactile)

TOI ORA - SPORT AND RECREATION
Activities and technologies that foster wellbeing, socially, physically and mentally

TOI PUAKI - EXPRESSIVE ARTS
Expressive art forms and technologies in music, stage and theatre

Objective:
Ko te rautaki whakamāui mai i te KOWHEORI-19
COVID-19 recovery

On one level, the short-term strategy of the CCRT sectors is to recover from the impacts of COVID-19; this is likely to manifest itself differently across each sector. The creative, cultural and recreation sectors were extensively impacted by COVID-19 and have a significant task to rebuild their core workforce (many of whom were displaced into other employment), including those parts that are reliant on vocational qualifications.

Alternatively, parts of the creative sector such as the screen sector have already signaled a strong post-COVID-19 pipeline of projects that have significant workforce implications. While the tech sector had some growth over the past two years, it still has significant skill shortages to realise its ambitions, although it is not clear how much of this is focused on vocational qualifications. With several IT occupations on Immigration New Zealand's fast tracked 'straight to residence' pathway (ICT managers, software engineers, ICT security specialists and multimedia specialists) it is likely that the sector will look to immigration to fill a large part of its skill needs in the short term.

Outcomes
- Toi Mai has a strong understanding of the workforce needs of CCRT industries in their COVID-19 recovery;
- CCRT sectors have their workforce, qualifications, vocational education and training needs addressed in the short and medium term through their COVID-19 recovery;
- Industries and employers in the CCRT sectors are able to grow in the short and medium term.

Actions

Consulting Agencies Te Amokura and Toi Āria have been contracted to co-design an engagement framework for Toi Mai to:

Baseline Engagement and Data Project

1. Ensure that Toi Mai is engaging with, and attending to the needs of sectors most affected (negatively and positively) by the COVID-19 pandemic; and
2. Provide trusted, useful and accessible data, advice and information to funders, providers and stakeholders so all can be confident that Toi Mai's interventions and public investment are making a measurable difference to Toi Mai's industries and learners in the post-pandemic economy. As this project has continued Toi Mai has also engaged data consultants Scarlatti to investigate how people move in and out of the CCRT sectors, and how this might inform educational provision. The final report to TEC will be delivered on 28 October 2022.

Embracing Digital Transformation Project

This qualitative research project will investigate how five areas in CCRT (Kapa Haka, Polyfest, personal training, comedy, and dance instruction) which are predominantly live and face-to-face, pivoted into online offerings during the first and subsequent lockdowns and COVID-19 alert level settings. The project will gather insights to inform best practice and educational resourcing in these practices. Insights gleaned will be distributed via social media and video throughout the final quarter of the year and a final report will be delivered to TEC on 30 November.

Createch Leaky Pipeline Project

Massey University creative arts researchers have been engaged to explore, define and report on the barriers facing women wishing to pursue education and training for careers in the Creative Technology (Createch) sectors. It will also test the scalability and transferability of Massey's methodology for application in other sector workforces impacted by under-representation. The report is due for completion by 15 December 2022.

Screen Workforce Capability Project

Assurity Consultants have been engaged and begun the discovery phase of an extensive investigation into skills shortages, and appropriate education and training for the screen sector (film, tv and interactive media). This will produce a clear set of actions and recommendations for training and education in this sector. As in the above section this will be Toi Mai's first detailed sub-sector Workforce Development Plan.

Objective:
Kia honoa paitia te mātauranga ahumahi ki ngā hiahia o te ahumahi, o te kaiwhakawhiwhi mahi hoki
Vocational education meets industry/employer needs

Another strategic issue all CCRT sectors have raised with Toi Mai is the ongoing misalignment between what industry and employers are seeking from the vocational system and what is being delivered by providers. Toi Mai is responsible for the qualifications across the CCRT sectors and is an advocate for these sectors through its investment advice to the TEC and the promotion of Workforce Development Plans.

Through Toi Mai's new programme endorsement function, industry will be able to signal its needs and expectations to providers. Toi Mai will also be developing collaborative working relations with providers. Over time, Toi Mai aims to strengthen these levers through TEC requiring providers to demonstrate how they are giving effect to the expressed industry and employer needs from the vocational educational system (along with ongoing monitoring of provider performance).

Outcomes
- Improved employment outcomes across CCRT qualifications;
- Increased employer satisfaction with Toi Mai qualifications;
- Toi Mai is responsive to industry and employer needs for new and updated qualifications;
- TEO provision is increasingly aligned to industry and employer needs.

Actions

Developing models of delivery for transferable skills

Several of Toi Mai sectors have indicated how critical transferable skills are to the success of their workforce. A critical action for Toi Mai is understanding the most effective method of delivering transferable skills. One option would be to include these in the learning outcomes in new skills standards, while another option is looking to develop standards or micro-credentials that address these needs, which could be picked up by other industries.

Including transferable skills in learning outcomes would allow programme developers to evidence these elements based on their demographics, intent, audience etc. This also means that qualifications developers are not expected to specify what this means and narrow the definition unnecessarily. An important step will be parameters of what these transferable skills are such as critical thinking, project management, time and self-management, and prioritisation skills.

Summer of Tech is largely focused on ensuring that graduates with technical ability have the transferable skills needed to thrive in the workplace. Toi Mai intends to work with Summer of Tech to understand which transferable skills are most important to learn and understand how they are taught. One option is to work alongside Summer of Tech as they explore credentialing both the internship and the optional training experience learners have prior to joining businesses.

Five-year Qualification Plan

Toi Mai has developed a five-year workplan to ensure that our qualification system products remain current, relevant, and fit for purpose. The plan will also include new development projects as they are identified and prioritised so they can be planned for, resourced, and effectively developed in collaboration with our industries, communities and providers. This plan will be updated regularly to respond to industry workforce needs and priorities, and the recommendations identified in the workforce development plans.

See the Appendix: 5-year Qualifications Plan.

In the short term this plan includes:

- Hairdressing
- Make-up and Beauty
- Journalism, Communications Media
- Radio Broadcasting
- Performing Arts
- Screen Production
- Exercise
- Sport, Recreation and Exercise
- Sport Coaching and Officiating
- Waka Ama
- Te Ao Tūroa
- Entertainment and Event Operations
- DJ and Electronic Music Production
- Audio Engineering and Production
- Cybersecurity
- Piano Tuning
- Museums
- Outdoor First Aid

The first two reviews have begun so more detail is available below:

The Make Up and Skin Care Qualification review

- There are nine qualifications up for review in the beauty arena, three of which Toi Mai has responsibility for (six sit with Toitū te Waiora).
- Toi Mai has worked with Toitū te Waiora to develop a new proposed draft of the NZ Certificate in Makeup and Skin Care (Level 3) for national conversation in July/August. The changes made include incorporating nail technicians and reinforcing the introductory nature of the qualification.
- The remaining performance makeup and prosthetics, and makeup artistry qualifications (both Level 4), are still in the data gathering phase.

Hairdressing and Salon Services Unit Standards Review

• There are 46 unit standards under review. New drafts of these standards went out for consultation earlier this year and feedback on these standards is being worked through. Feedback from providers and industry indicates that the draft new capstone standard requires further discussion. Toi Mai will facilitate a series of advisory group meetings to progress this work.

Objective:
Kia poua te Tiriti o Waitangi ki roto o Toi Mai
Embed Te Tiriti o Waitangi

Embedding Te Tiriti o Waitangi is a core objective for Toi Mai that will require concrete action across all facets of Toi Mai's activities to ensure it not only meets its statutory obligations, but unlocks the full potential of Māori across the CCRT sectors.

Outcomes
- Increased participation by Māori learners across CCRT qualifications, particularly in technology;
- Māori businesses iwi and hapū have fit-for-purpose qualifications and workforce support;
- Iwi Māori and other Māori organisations are engaged in Toi Mai's strategic decision-making;
- Toi Mai qualifications reflect Te Tiriti o Waitangi.

Actions

This work is embedded in all Toi Mai activities and there are several dimensions to the practical application of Te Tiriti o Waitangi in Toi Mai's mahi:
- Being responsive to the needs of Māori learners including exploring options to remove barriers to increased Māori participation across CCRT qualification;
- Ensuring the particular needs of Māori businesses across CCRT sectors are addressed;
- Increasing the advancement of 'by Māori for Māori'-led and matauranga-informed qualifications;
- Recognising the existence of ngā toi Māori occupations and industries and addressing their qualification needs;
- Engaging iwi Māori and other Māori organisations in ongoing strategic decision-making;
- Initial project or pilot with one iwi/Māori partner underway in 2022/23
- Embedding Te Reo and Mātauranga Māori in qualifications
- Participating in a cross-sectoral Te Reo Māori Workforce Development Plan (see Advice to TEC section);
- Leveraging existing Mātauranga Māori mentoring schemes and qualifications to increase their coverage (see Advice to TEC section for more detail).

Objective:
Kia whakapai ake te toronga kanorau puta noa i te aronga ahumahi o Toi Mai
Improved diversity across CCRT sectors

Beyond the obligations of embedding Te Tiriti o Waitangi, improving diversity remains a strategic priority across all CCRT sectors. Sectors such as technology have particularly low levels of female participation in its workforce, while almost all sectors have low levels of particpation by Pacific peoples and tāngata whaikaha. These trends also stem from enrolment patterns across CCRT qualifications.

Outcomes
- Toi Mai has a strong understanding of the determinants of diversity, including existing barriers to diversity, across CCRT sectors;
- Increased diversity in participation in CCRT qualifications;
- Increased diversity in the CCRT workforce;
- Increased diversity in more senior roles within CCRT industries in the medium and longer term.

Actions

- Toi Mai's equity team will research current best practice programmes which enable and highlight workforce capability with a focus on inclusion in our sectors.
- Equity officer to use insights from Toi Mai's relationship managers to look at advocacy programmes for diversity and inclusion for industry to attract, recruit and retain Māori, Pacific peoples, those with learning needs and the underserved.
- A focus of Toi Mai's research in this space will be on how to improve diversity in the technology sector. The first step is bringing together and summarising the work already done to understand the gaps.

Objective:
Hei kōwhiringa ara umanga e kite pai ai
Clearer career pathways

As noted above, there are several parts of the CCRT sectors that have not been served by ITOs in the past. These areas generally have poorly formed career pathways. This issue needs urgent attention in order to encourage more young people from a diverse range of backgrounds into these industries.

There are several dimensions to the challenge of creating clearer career pathways across the CCRT sectors. A critical first step is to improve Toi Mai's understanding of the existing pathways and the dynamics that sit behind them. It is also important to understand the relationship between careers advice and information sources with learner and employment pathways. Finally, Toi Mai must understand the pathways within employment, particularly as they relate to upskilling and retraining. In this context, retention is a particular dimension of the workforce challenges across the creative, cultural and recreation sectors.

Outcomes
- Toi Mai has a strong understanding of career pathways across the CCRT sectors, including where learners come from, where they go after graduating, as well as other workforce dynamics such as retention and progression with industries etc;
- Improved understanding by learners of career pathways across CCRT qualifications;
- More young people want to work in the CCRT sectors;
- Increased opportunities for retraining and upskilling within the CCRT workforce.

Actions

- The Vocational Pathways Team will seek insights to map career pathways in our industries and ensure they align with qualifications, the secondary curriculum and transferable skills required to enter our industries. They will map these visually and build narrative for the communications and marketing team to build content for our audiences
- The pathways team will work on building relationships with schools and CATE Aotearoa, to help align the National Certificate of Educational Achievement (NCEA) curriculum change with the National Education Learning Priority (NELP) 4 to build potential pathways in the creative, cultural, recreation and technology sectors.
- Gaining data from the insights team via TEC's information database Ngā Kete and other sources (including the IDI) regarding what is currently working well to enable people to understand pathways into our sectors.
- Mapping the current qualifications with the vocational pathway framework and the WDC colours and standards.
- Piloting a programme with Wellington College in partnership with Waihanga Ara Rau and industry to align curriculum with pathways in our sector with a particular emphasis on ākonga Māori.

Launching Tahatū

In 2023, the Tertiary Education Commission intends to launch a new platform called Tahatū to replace the existing www.careers.govt.nz. The new platform will use O*Net codes which will increase the careers listed from approximately 400 to 800. This is an opportunity for Toi Mai to support the creation of new content, and also review existing content. Working with TEC, we will recommend areas of focus for the development of video content across the CCRT sectors; as we have noted above the lack of clear career pathways is a problem right across the board. We will support this project with data sources to reflect accurate starting rates and job opportunities, as well as share visual content created to promote our industries.

Sector Specific Objectives
Ko tā te wawata kei ngā ahumahi o Toi Mai: Ko te toitūtanga ā-umanga
Creative, cultural and recreation sector objective: sustainable careers

The nature of employment across large parts of the creative, cultural and recreation sectors (high levels of self-employment, seasonal and gig-based work, and low levels of pay in the recreation sector) have made sustainable employment, even pre COVID-19, difficult to attain. As noted above while the short-term focus will be on COVID-19 recovery, in the medium to longer term, success will flow from more sustainable careers in these sectors.

Outcomes
- Improved retention within the creative, cultural and recreation sectors;
- Reduced recruitment of people outside the sector into leadership positions.

Actions
(greater detail of several of these is provided in our Advice to TEC on page 81)

Business Skills The creative, cultural and recreation workforces have a high proportion of self-employed and contract workers. This creates the need for integration of foundational business skills into the training and education courses that feed these areas of the economy, or for such courses to be easily accessible to emerging practitioners or businesses.

Creative and Cultural sectors

- Work alongside Creative New Zealand and the Manatū Taonga Ministry of Culture and Heritage on their work programme to improve the resilience of artistic careers and build an economically sustainable art system;
- Encourage upskilling on new technology to improve creative sector retention (working with Creative New Zealand's Digital Arts Agency);
- Revive dedicated qualifications for journalism with a particular focus on Māori journalism and Iwi radio including scholarships and cadetships.

Recreation sector

- Explore the opportunity of the Unified Funding System (UFS) being extended to volunteers to strengthen how qualifications are delivered to this critical part of the recreation sector;
- Develop community coach qualifications / micro-credentials aimed at volunteers delivering exercise programmes to whānau and communities without any recognised qualifications;
- Explore a pre-choreographed group training instructor qualification/micro-credential;
- Explore solutions for critical skilled labour shortages in both the outdoor recreation and aquatics sectors; post-COVID-19, both are experiencing significant challenges attracting and retaining entry and mid-level staff;
- Conduct further research into TEC funding models that (anecdotally) negatively influence tutor/student ratios in the outdoor recreation space. Post-COVID-19, the outdoor recreation sector is facing a shortage of well-trained outdoor recreation/ adventure tourism instructors, who have skills which need to be developed with significant field time while studying. Teaching these outdoor skills requires a high tutor to student ratio (1:4) which traditional funding models don't encourage. With Aotearoa being regarded as the adventure tourism capital of the world, and the post-COVID-19 tourism sector anticipating a substantial rebound in numbers, the lack of skilled instructors could cause significant harm to sector reputation. Toi Mai considers that the

best way to meet this need immediately would be through a temporary reduction in fees. However, since the TTAF subsidy is coming to an end, Toi Mai will focus on finding medium-term solutions;

- Engage with local government on fitness centre pay rates to ensure that the sector is attracting and retaining sufficient quality candidates;
- Engage with Sport NZ and the sector on how to improve retention

Ko te wawata o te ahumahi hangarau: Whakatupuranga
Technology sector objective: growth

For some time, the technology sector has been a critical source of domestic economic growth, and this remains a key focus for Toi Mai. Indeed, technology has become integral to growth across the the wider New Zealand economy. Given the pace of change internationally and the competition globally for those with technology skills, growing and upskilling the technology workforce is an urgent priority.

Outcomes
- Reduction in skills shortages
- Increased entry level pathways
- Improved pathways into senior positions
- Reduced reliance on immigration in the long term

Actions

Implementing sector-driven plans

Toi Mai will continue its involvement in the implementation of the Digital Technologies Industry Transformation Plan (the Digital Tech ITP), which will be finalised later in 2022. The Digital Tech ITP is a long-term vehicle for achieving alignment among industry and government in the Digital Tech sector, built on a partnership approach. The ITP will include actions that look to build New Zealand's national reputation around tech and innovation, invest in digital skills, build Māori participation and activity in the sector, and focus on Software as a Service as a high-growth, high employment subsector.

Toi Mai is a key participant for the skills priority area of the Digital Tech ITP. The skills priority area will deliver the targeted implementation of the industry's Digital Skills and Talent Plan (DSTP), and provide an integrated, coordinated and prioritised approach to addressing current skill mismatches and pipeline issues for the sector. Toi Mai will provide a valuable interface between industry and providers to ensure the right skills are developed at the right time, along the skills pipeline from entry to ongoing career progression.

Toi Mai will also continue its involvement in the Software as a Service priority area of the Digital Tech ITP, particularly in the skills development workstream.

Mapping the Skills Framework for the Information Age (SFIA) to the NZQF

- As part of the skills priority area of the Digital Tech ITP, the Department of Internal Affairs (DIA) and MBIE have purchased a country licence for SFIA for New Zealand.
- SFIA, a global skills and competency framework for the digital world is a model for describing and managing skills and competencies for professionals working in information and communications technology, software engineering and digital transformation. DIA and MBIE have formed an implementation plan to assist the roll out of SFIA within government and industry.
- Toi Mai will work with DIA, ITPNZ, NZQA and MBIE (and other government agencies as required) to map the Skills Framework for the Information Age (SFIA) with the NZQF.

- SFIA will help Toi Mai better understand skills shortages and the level and focus of training provision needed. The framework provides GPO (graduate profile outcomes), that when mapped to the NZQF, will drive changes to the review of existing qualifications and the development of new qualifications, skills standards and micro-credentials.

The Baseline Engagement and Data project (funded by the TEC COVID-19 recovery fund) found in their consultation that all sectors require digital upskilling. They recommended that there should be a digital education strategy and responsive fit-for-purpose provision to meet this need. Toi Mai has not been resourced to cover digital skills generally, and it is unclear which agency across government is responsible. Toi Mai is happy to progress this work if resourced to do so.

Compulsory education system

Toi Mai will advocate for continued focus and investment in primary and secondary school teacher professional learning to support teaching of the digital curriculum as well as on-going training of specialist digital technology teachers. This should also include influencing teacher training to ensure digital technology is embedded across the curriculum.

Advocacy for game development industry

The gaming industry has raised concerns with Toi Mai over losing skilled workers to Australia as a result of the Australian digital game tax offset. As part of the Digital Tech ITP, MBIE is currently exploring options and advising Ministers on ways to support the NZ game development sector, particularly in light of the competitive Australian regime. Discussions with Ministers are still in progress and the outcomes and details of those discussions are likely to be known in the coming months once decisions have been made. Toi Mai will continue to advocate for a vibrant local industry that provides valuable opportunities and clear pathways for rangatahi and those looking to retrain.

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Developing work-integrated Learning Qualifications	• This will require significant research and stakeholder management (Te Pūkenga, MBIE, TEC, MoE, NZQA, groups within Te Pūkenga). However, all the key players across the sector have strongly expressed their desire for this to occur. Toi Mai will take the lead in developing good practice and policy in this area. • Any degree is likely to be the sum of micro-credentials, certificates and diplomas which would also offer an opportunity to upskill those already within the sector to help progress them into senior positions. This would in turn reduce the reliance on immigration to fill those senior roles and create more entry level opportunities.
Expanding public sector mentorships and internships	Toi Mai will advocate for public sector agencies to be more active participants in providing internships and employment opportunities in the technology sector as they look to build their capacity. Collectively, the public sector is the largest procurer of independent contractors in this sector.
Supporting the development of career changer short course offerings	Toi Mai will work with the SaaS (Software as a Service) skills development product owner MBIE and partner providers to develop qualifications to support the growth of SaaS companies. Toi Mai will support ITPNZ and TechNZ in developing resources for SaaS employers to ensure they are better placed to support diversity in their workplaces. If successful, this approach may be widened to include other sub-sectors over time.

Improving diversity in the tech sector

The tech sector is growing rapidly, creating large numbers of highly paid jobs faster than it can find skilled workers. However, it is not very diverse in its makeup. Improving the diversity of the workforce could help reduce societal inequality, while also providing the industry with a greater pool of workers that better reflects their users. How do we make sure that everyone can access tech opportunities?

- Toi Mai will research the barriers to improving diversity in the tech sector.
- 2023 Budget bid to improve diversity: remove fees in target areas. Toi Mai wants to ensure that women, Māori, Pasifika, disabled and other underserved learners have opportunities to enter a fast growing and well-paid industry. The research we are undertaking will,no doubt, highlight a number of solutions that will allow this to happen. However, based on the encouraging results of TTAF, MTTF and MPTT (discussed in the Environment Scan above), Toi Mai will continue to advocate for schemes that reduce fees or provide scholarships for target groups in areas of high industry demand. For example, the MPTT scheme could be expanded to include tech qualifications. Such support would ideally be targeted at providers with better outcomes (see Advice to TEC below). In the interim, Toi Mai strongly supports TEC directing funding towards these programs from within its existing baseline to ensure the current increase in diversity is sustained (see our Advice to TEC below).
- Toi Mai will support initiatives to increase the participation of women, Māori, Pacific people, LGBTQIA+, neurodiverse and disabled people, such as Tokona te Raki's Technology Apprenticeship pilot and Te Huakirangi provided by Tiaki.
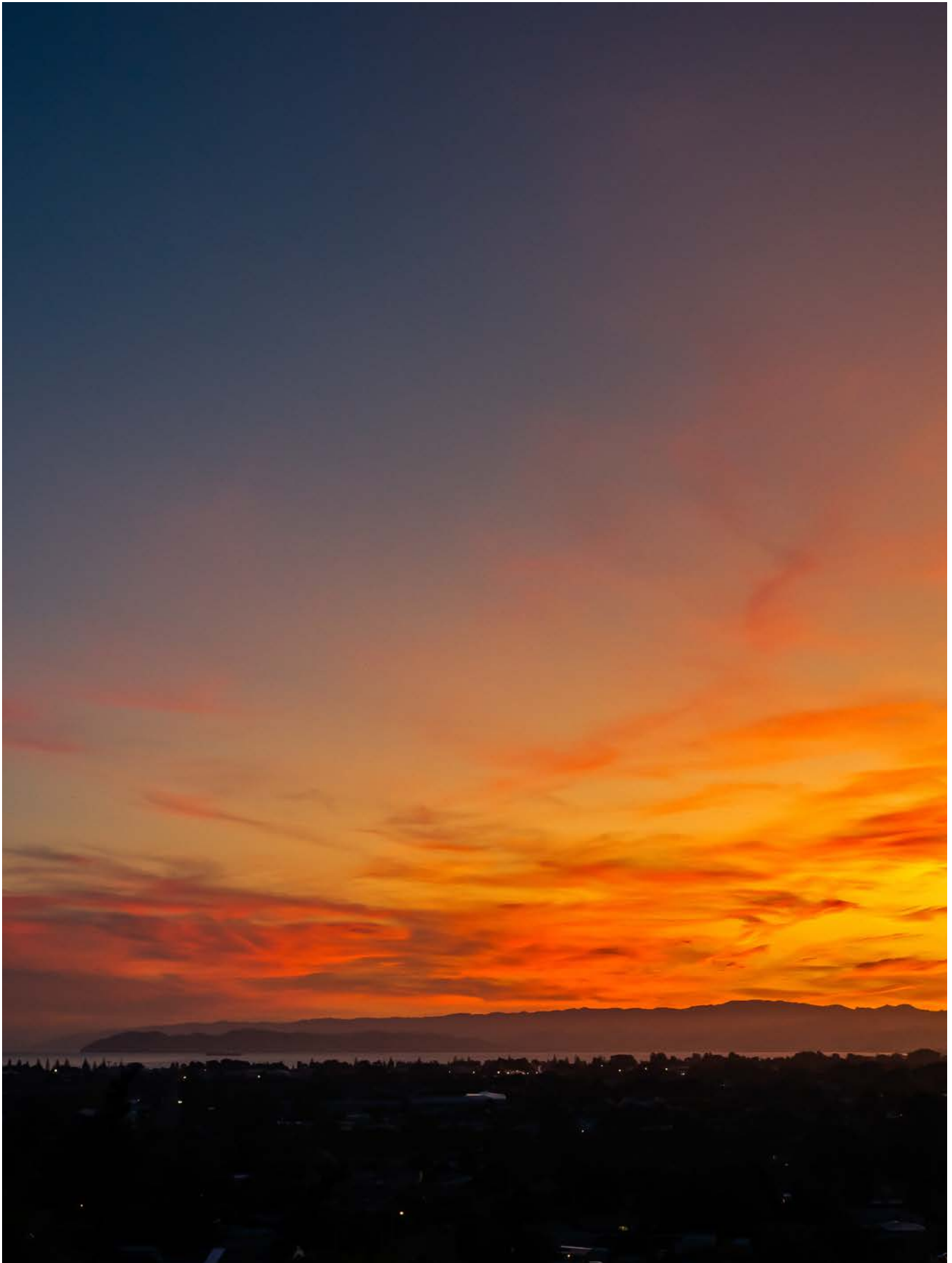
Toi Mai's Final Investment Advice to TEC (submitted 30 June 2022)

Toi Mai has a legislative responsibility to provide investment advice as it relates to the CCRT sectors. This is both overall advice and specific advice linked to the Strategic Components of the new Unified Funding System (UFS). Drawing on the objectives, outcomes and actions outlined above, Toi Mai believes there are significant opportunities for TEC to prioritise investment across the CCRT sectors as follows.

Toi Mai's opportunities for priority investment within Strategic Component Element One - Regional and National skill priorities for vocational education

The strategic component provides funding (non-volume-based) to support providers to respond to key challenges within the system. This element of the Strategic Component will fund Te Pūkenga and private training establishments (PTEs) to respond to regional and national skills priorities.

Recommendations

Business Skills   The creative, cultural and recreation workforces in particular have a high proportion of self-employed and contract workers, which creates the need for the integration of foundational business skills into the training and education courses that feed these areas of the economy, or for such courses to be easily accessible to emerging practitioners or businesses.

Responding to specific training needs

Pilot partnership schemes developed between providers to serve iwi or Not in Employment, Education and Training (NEET) cohorts, often struggle to meet the enrolment numbers and timelines needed for the course to be considered financially viable. Where there is significant need and value to the sector, Toi Mai advocates for specific targeted programmes to be guaranteed funding, in recognition that the enrolment processes and timelines can be challenging for many first-in-family learners to engage with.

Training needs to be provided in regionally appropriate locations to enable access and diversity, and investment needs to be made into online provision to support workplace-based training. Many regional employers struggle to get trained people to move to their area to work, and often have to train people themselves from their communities. We recommend that this portion of the UFS is used to support trialling localised provision. Initial priorities include:

AgriTech

The need for skills to engage in AgriTech has been identified as a consistent theme across many RSLGs. Many of the highly specialist skills such as software engineering and automation are largely consistent with the rest of the tech sector. As such, regions could benefit from trialling the provision of specialised tech skills. Such a trial is already underway with a partnership between Wood Engineering Technologies and Trust Tairawhiti to work with Enspiral Dev Academy to meet their specific training needs. This is being funded by a combination of the Provincial Growth Fund and Trust Tairawhiti.

Toi Mai will be working with RSLGs and Muka Tangata to better understand regional AgriTech needs. As part of this, Toi Mai will be watching the results of this trial closely and would support similar trials elsewhere.

Cybersecurity

This is a growth industry in New Zealand and there is significant demand and shortage of cybersecurity graduates. The New Zealand Diploma in Cybersecurity is a Level 6 qualification taught by Unitec, UCOL and Ara, with a portion of work-integrated learning as part of the qualification.

In some cases, two years of full time study is required until a learner is ready to enter the cybersecurity industry.

Toi Mai will continue working with public and private sectors to ensure learners of this qualification are able to engage in the internship activities and subsequently gain employment opportunities post-graduation. This will then enable providers outside of Auckland and Wellington regions to deliver the programme designed to create the entry-level cybersecurity workforce in Aotearoa New Zealand. Toi Mai would support more providers picking up this qualification.

In the creative and cultural sectors

The creative industries have poor retention of older workers and understanding of rapidly changing technology has been identified as one of the issues. Creative New Zealand is leading the establishment of a Digital Arts Agency to help address this need and improve the economic sustainability of the sector. Toi Mai will collaborate with this new agency when it is established, and in the meantime would support providers aiming to upskill existing creative industry workers on new technology to improve creative sector retention.

In the recreation sector

Toi Mai would support providers looking to explore the opportunity of the UFS being extended to volunteers to strengthen how qualifications are delivered to this critical part of the recreation sector.

As noted above (in the section entitled "Creative, cultural, recreation sector objective: Sustainable careers") there are likely to be pressing workforce issues around Outdoor Recreation instructors as we come out of the COVID-19 pandemic. This could be addressed in the short term by TTAF-style lower fees, but in the long-term issues around retention need to be addressed.

In the technology sector

Summer of Tech

There is a need for a provider-to-industry conduit to help provide work-integrated learning placements, such as internships/ paid workplace opportunities, which are often recognised for credit towards study by institutions.

At the moment, these placements are ad hoc and on a programme-by-programme basis. However, Summer of Tech provides a platform that matches learners with industry. While this programme has a national footprint, it is currently predominantly offered in Auckland and Wellington and places about 600 students per year.

We recommend that Summer of Tech is funded to grow capability and capacity for a national IT work-integrated learning job placement platform and increase the number of placements available nationally. We acknowledge that Te Pūkenga is setting up a work-based learning subsidiary. In Toi Mai's view, growing Summer of Tech will complement that activity, providing opportunities for learners across the sector including private training establishments and wānanga.

Removal of TTAF

TTAF funding allowed learners to undertake some tech courses without fees. While this experiment has been short lived, as noted above, there has been some improvement in the diversity of learners. For example in cybersecurity, some students used TTAF for Level 5 before using their one-year fees-free option for the Level 6 qualification, thus undertaking two years of study without tuition cost.

In Toi Mai's view, TTAF helped meet industry needs while increasing diversity within the sector. Given TTAF will be discontinued at the end of 2022, Toi Mai would support using the Strategic Fund to reduce fees for priority learners in priority areas. If TEC don't see this as a priority for this funding stream, Toi Mai will be pushing for a Budget bid to meet this need (as per the section above entitled "Technology sector objective: Growth").

Toi Mai's opportunities for prioritised investment within Strategic Component Element Two - Vocational programme development and maintenance

The Strategic Component provides funding (non-volume-based) to support providers to respond to key challenges within the system. This element of the Strategic Component will fund Te Pūkenga, PTEs and wānanga to support the costs of programme development and maintenance, including for extramural programmes. Programmes that are innovative, flexible, and responsive to new elements in the system will be prioritised.

Recommendations

In the creative and cultural sectors

Journalism - The future of Te Rito Cadets (for context see Snapshot: Creative & Cultural)

Te Rito Cadets is a media industry-run pilot training scheme funded through the *Public Interest Journalism Fund*. Twenty-five Māori, Pacific and Asian cadets from a pool of 100 applicants were selected, to develop journalistic talent capable of sharing Aoteroa's diverse stories and ensuring Māori culture is recognised, valued and embraced through the media sector. These cadets are taking part in a taught curriculum, supported by staff predominately engaged in Māori and Pacific media, followed by rotating work placements through New Zealand Media and Entertainment (NZME), Whakaata Māori, Discovery / Newshub and the Pacific Media Network. This model appears to have been successful, but the funding is now

complete. Toi Mai believes this work-integrated model is needed by our media sector. This model helps ease the financial burden on PMN and Whakaata Māori to train Māori and Pasifika media personalities. Toi Mai suggests there is a need for targeted funding to continue the pilot through a second cohort or to replicate the model. We would support bids from credible providers to meet this need, building on this existing model and cross-organisation partnership.

Journalism - Regional and iwi radio provision (for context see Snapshot: Creative & Cultural)

Radio is critical to the sharing of information with iwi and communities in the regions. Iwi radio is central to ensuring that iwi and Māori are supported to achieve their cultural aspirations.

Finding and retaining staff is a consistent challenge in regional radio, with community personalities often moving on to more lucrative roles in communications, and iwi radio hosts being picked up by larger media outlets.

Iwi and regional radio predominantly hire based on existing community engagement, Te Reo Māori and Te Ao Māori knowledge. Significant training is required to enable the creation and distribution of digital content. Iwi radio is recognised as the critical starting point for many Māori in the media sector, and investment at this regional level will significantly impact Māori representation and capability in the wider media sector.

Toi Mai will work with The New Zealand Radio School at Te Whare Wānaga o Awanuiārangi to develop micro-credential qualifications to suit people working in iwi and regional radio stations. The intention is to create online delivery, in combination with the existing station visits and weekend wananga currently funded for iwi radio through Te Māngai Pāho. These new micro-credentials will replace the Level 6 New Zealand Diploma in Radio Broadcasting. We recommend

investment in the digital infrastructure needed to develop and deliver this new programme of learning.

Mātauranga Māori

Expand Mātauranga Māori mentoring schemes and qualifications. While the Ministry of Education has developed a Level 5 Diploma (Te Kawamatakuru) to address this need, it does not have large coverage and is limited to those within the secondary schooling system. There are several kaupapa Māori creative and cultural skills that are held by a few ageing practitioners (eg waka carvers, Māori artefact curators); retaining these skills is essential to honour Te Tiriti o Waitangi and to protect this knowledge which is unique to Aotearoa.

In the recreational sectors

Community Coach Pathway

Currently there are many passionate volunteers delivering exercise programmes to whānau and communities without any recognised qualifications. This is where a community coach pathway would be of benefit, while providing a starting point that could be built upon to achieve a higher-level qualification for those looking to progress into this sector (using the concept of stackable, modular micro-credentials).

New fitness qualification

A pre-choreographed group training instructor qualification / micro-credential could be developed in response to the rapid growth of the 'circuit sector'. F45, Orange Theory and others are fitness facility franchises that offer pre-choreographed circuit workouts that are often delivered by unqualified trainers who may have been through an internal training programme. This is currently out of alignment with the majority of the fitness industry roles which require REPS (Register of Exercise Professionals) registration in order to deliver fitness provision in commercial organisations.

In the technology sector

Work-integrated learning degree

To be developed by Toi Mai Workforce Development Council and Te Pūkenga. The industry's Digital Skills and Talent Plan, which is the basis of the skills priority area of the Digital Technologies Industry Transformation Plan, signals the need for workplace learning in the IT industry.

In consultation with industry and providers, Toi Mai proposes helping to develop a three-year work-integrated learning IT degree in conjunction with Te Pūkenga, to be delivered across Te Pūkenga's network. Toi Mai's proposal for all providers to consider is that, at the end of the first two academic years, ākonga would engage in an industry-led project, culminating in a capstone project at the end of the degree. This would allow participants to engage with a number of external stakeholders throughout the degree, therefore increasing the chances of employment. Furthermore, it will provide professional development opportunities for the teaching staff across Te Pūkenga network.

The proposal for the degree is to incorporate 'stacked' qualification levels (5-7), incorporating existing certificates and diplomas, allowing for multiple exit qualifications for the learner depending on workplace demand and readiness. Learners can exit if they are work-ready at certificate and diploma levels, but continue studying if they choose for the full three years full time. Each stage of learning will be mapped to the international Skills Framework for the Information Age (SFIA) framework by Toi Mai, ITPNZ, DIA, NZQA and MBIE. The proposal is for the degree to allow micro-credential offerings as electives for specific software and hardware requirements (such as Fortinet or Microsoft), which will be developed in conjunction with Toi Mai to suit industry needs and allow upskilling of current IT employees.

Creating this qualification will require cooperation and agreement across multiple stakeholders, including NZQA (who would need to allow exit qualifications within a unified degree programme), Te

Pūkenga, and the subset of heads of school in The Computing and Information Technology Research and Education New Zealand group (CITRENZ), TEC (who would fund the development), MBIE (who would help provide industry and governmental oversight of the development and interface with industry), and industry (who would agree to take on and fund learners in the workplace), as well as industry peak bodies such as ITPNZ and NZ Tech, among others.

Digital Apprenticeship – Service Delivery Trial
Businesses are concerned that graduates from IT qualifications are not considered 'work ready'.

In addition, enhancing the ability for Māori and Pacific peoples to fully participate and contribute to our digital future is well recognised with a range of initiatives at both grass roots and across the business community. There are however, limited formal pathways for ākonga to 'earn and learn' and have the pastoral support required to succeed in on-the-job learning.

The Digital Apprenticeship – Service Delivery Trial will be developed by Te Pūkenga with Toi Mai's support. The trial will aim to solve these issues by:
- Strengthening the focus on growing New Zealand's own IT talent pool
- Addressing the current growth of demand for IT skills and capabilities in Aotearoa which is projected to increase significantly over the next 10 years as it follows global trends
- Strengthening the quality and range of education delivery to introduce digital 'apprenticeships' at all IT qualification levels to address the lack of diversity in the sector.

The New Zealand Diploma in Information Technology Technical Support (Level 5) will be scoped as a possible alignment for the Digital Apprenticeship (DA). ITP NZ has also indicated that, if successful, the proposed DA would address the skills shortages in the entry level space for IT support.

Toi Mai's general investment advice

Toi Mai has heard from some providers that they will be moving out of providing vocational training and will instead focus on degree qualifications. We are working with other WDCs to understand this issue and what the drivers are. It may be an unintended consequence of the RoVE reforms, Unified Funding System and/or immigration changes.

In the creative and cultural sectors

Te Reo Workforce Development Plan
Learners with Te Reo skills are in hot demand in a variety of industries including journalism and adult education. Given the limited pool of competent Reo speakers there is a risk that the current practice of poaching kaiako from kōhanga reo, kura kaupapa and wānanga continues, undermining the long-term source of fluent Te Reo speakers.

While this plan is not yet under development; Toi Mai recommends that a formal cross-government process commences and will participate on behalf of the other Ohu Mahi. In the meantime, Toi Mai is working alongside other WDCs and TEC to ensure Tahatū (the careers portal) reflects the career opportunities offered by learning Te Reo.

In the technology sectors

Expand the funding for successful providers

Technology is an area of strong employment growth. However, historically vocational education has struggled to provide the skills needed by industry.

Where providers have a demonstrable track record of effective targeted training and meeting employer needs in the technology sector, they should be allowed and encouraged to expand. While Toi Mai's engagement is at an early stage, we have received positive feedback that some providers are meeting industry needs for software development in particular (which is an area of critical shortage). These providers include Enspiral Dev Academy, Mission Ready HQ and Developers Institute.

Enspiral Dev Academy has a strong track record of employment outcomes. In 2020, they had employment outcomes that were over 10 percent higher than the average for the technology sector overall as well as contributing to improved diversity outcomes (with the assistance of TTAF). While Mission Ready HQ and Developers Institute don't have the same long-term track record of employment outcomes, they are showing very positive initial outcomes and should also be encouraged to expand.

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