Engineering

REVISED EDITION JULY 2025

HANGA-ARO-RAU
Manufacturing, Engineering and Logistics
Workforce Development Council

The engineering sector employed 75,600 in 2024, with a highly diverse workforce. Forecasts show, however, that the sector will need to fill over 26,800 job openings over the next 5 years to 2030, an average of 5,400 per year, to meet the industries need to grow and ensure continued productivity (Infometrics 2024). Our industries face global talent competition, particularly in areas of technical skill.

This sector includes: Mechanical Engineering (including Maintenance and Diagnostics; Metal Casting; Tool Making; CNC Machining; General Machining; Robotics - Welding and Manufacturing), Dairy Process Engineering; Light and Heavy Fabrication; Refrigeration, Heating, Ventilation and Air Conditioning; Locksmithing; Fire Protection (Active and Passive); Welding; Engineering Design and Consulting Services

What matters to industry matters to us

Hanga-Aro-Rau engages with the sector through our Industry Stakeholder Group (ISG) and National Industry Advisory Group (NIAGs) composed of industry leaders from around the country. This is supported by regular site visits and engagements with sector associations, business owners and key stakeholders annually. We have heard what issues this sector is facing specifically and below have outlined our planned actions to address each priority.

Actions

Objective	Outcome	Hanga-Aro-Rau Actions	NIAG Actions	Timeline
Qualifications **Advocate for inclusion of Fluid Power and Passive Fire on the TEC Tahatū Careers Website so that pathways are visible to attract people to this sector**	Fluid Power and Passive Fire profiled in the Tahatū Careers website.	• Request for Fluid Power and Passive Fire to be profiled on the Tahatū Careers website • Work with industry to assist in making this a success	• Provide support to HAR for contacts with Associations and Business to facilitate Tahatū profiles	31 December 2025
Air Compressor Technician Business case for new development	A business case for new Development is completed and transitioned to the new ISB.	• In collaboration with stakeholders, complete a business case for new developed of an Air Compressor Technician qualification product	• Support and endorse actions taken by Hanga Aro Rau to address objectives	31 December 2025

2024 WDP Action	What has been actioned over the last 12 months	What will be actioned to Dec 30 2025
Qualifications Development of Engineering-Focused Leadership/Management Qualifications	Industry engaged in Te Manu Arataki Leadership qualification review through Ringa Hora Workforce Development council. • NZ Certificate in Leadership level 3 and 4 have been completed and approved by NZQA We will be looking to stack these standards into generic leadership micro-credentials.	Consultation for Skills standards being developed that align with leadership qualifications. These skill standards can be used: • in programmes towards the NZC in Leadership (Level 3) and the NZC in Leadership (Level 4) qualifications • in programmes with leadership components • stand-alone • or packaged into micro-credentials.
Other Engineering qualification reviews and development work completed in the last 24 months	**Approved reviewed qualifications:** • **2579** New Zealand Certificate in Fire Protection Systems Technology (Inspections) (Level 4) with strands in Fire Detection and Alarms Systems, and Fixed Fire Protection Systems. • **2718** New Zealand Certificate in Locksmithing (Trade) (Level 4) **Approved New micro-credentials:** • **5138** Mechanical Engineering CNC Operator (Micro-credential)	Completed
Supporting the development of trade essentials qualification.	Hanga-Aro-Rau supported Waihanga Aro Rau in the development of the Trade Essentials qualification, which is now approved.	Raise awareness of the qualification with industry and other stakeholders, including providers to have a program developed to support the qualification.
Update Pathways document for Engineering Qualifications	Easier to read Pathways document developed.	Completed

NIAGs tabled for the ISB to pick up post-January 2026

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| Objective	Outcome
Strong Workforce Pipeline Perception of trade vs. university qualifications	Enhance the perceived value and equivalency of trade qualifications in engineering by promoting trades as a viable, respected, and intellectually rigorous alternative to university pathways.
Need for better links to education initiatives	Better links are provided between NCEA Level 1-3 courses and school-based programmes such as Youth Guarantee, Gateway, and Trades Academies.
Skills Gaps among School Leavers and Apprentices:	School leavers and new apprentices enter the engineering sector with strong foundational knowledge by strengthening pre-apprenticeship education and aligning training programmes with industry expectations.
Insufficient Industry Involvement in Training Resource Development:	ISB promotes better collaboration between the engineering industry and Training Providers by establishing structured, ongoing involvement of industry stakeholders in programme development, ensuring course content and resources remains aligned with evolving industry standards and workforce needs.
Theoretical Emphasis with Limited Practical Training:	ISB to support discussions between Industry and Providers to look at ways to integrate more practical, hands-on training alongside theoretical instruction, ensuring graduates are better prepared for real-world industry demands.
Continuation of Qualification reviews, Development, and Engagement	ISBs continue to engage with Industry for new development and qualification reviews.
Advocacy	The NIAG advocate for continuation of this advisory group in an ISB setting.

Sector snapshot

Size of the sector

$9.5 billion GDP
2.3%

GDP: In 2024, the engineering sector contributed $9.5 billion, which is 2.3% of the total economy.

18,246
Engineering Design and Consulting Services = 72% of industry

No. of businesses (2024): 18,246, with engineering design and consulting services 72% and maintenance engineering 17%.

857
7.7%
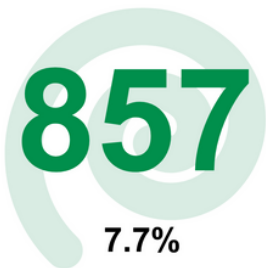
Māori-owned businesses (2021): The sector had 857 or 7.7% (in ⅓ where ownership data was available).

Employment and people

75,600
2030 forecast 87,400

Employment: Continues to grow and is forecast to reach around 87,400 in 2030, around 11,800 more than 2024.

6,400
8%

No. of Māori employed (2023).

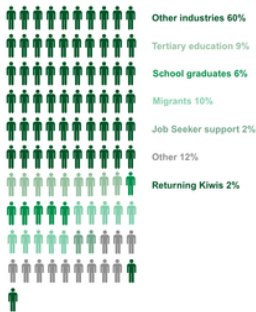Māori - 8%
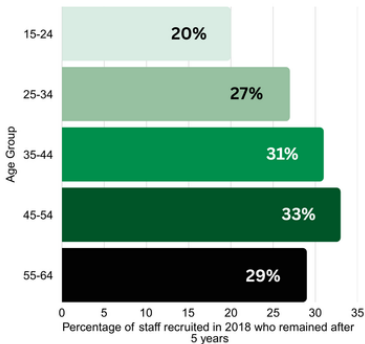Pacific Peoples - 5%
Asian - 19%
MELAA - 3%
NZ European - 62%
Other - 2%

Ethnicity data for sector (2023). Total response ethnicity allows multiple ethnicities for each individual.

Trends and forecasts

Other industries 60%
Tertiary education 9%
School graduates 6%
Migrants 10%
Job Seeker support 2%
Other 12%
Returning Kiwis 2%
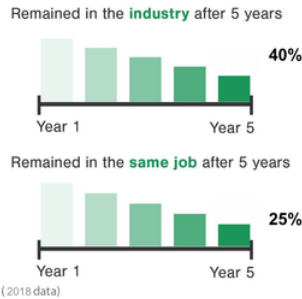
New entrants: From 12,900 to 14,300 between 2015 and 2023. Most from other industries, showing opportunity for attraction.

| Age Group	
15-24	20%
25-34	27%
35-44	31%
45-54	33%
55-64	29%

Percentage of staff recruited in 2018 who remained after 5 years

Retention of new entrants: Of the 2018 new entrants, the proportion of each age group who remained after 5 years.

Remained in the industry after 5 years
Year 1 — Year 5 — **40%**

**Remained in the same job after 5 years**
Year 1 — Year 5 — **25%**
(2018 data)

Overall retention: Of the 2018 workforce, 40% remained in the industry after 5 years and 25% were in the same job after 5 years.

| Age Group	
15-24	12%
25-34	31%
35-44	25%
45-54	17%
55-64	11%
65 +	4%
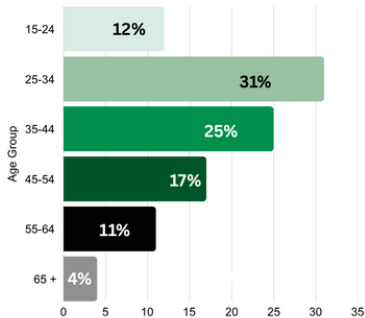
Age breakdown: 15-24-year-olds increased from 11% to 12% (2015-2023), 55+ age group decreased from 20% to 15% over the same period.

30%
70%
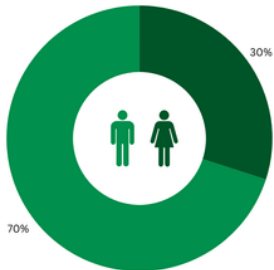
Gender split (2024): 30% of the workforce is female, up from 29% in 2015.

26,800
forecast next five years to 2030
average 5,400 per year
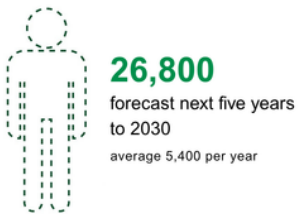
Forecast: 26,800 openings over the next 5 years (average 5,400 p/a), 44% due to growth and 56% due to workers leaving/retiring.

30,814 ... 75,584 ... 87,423
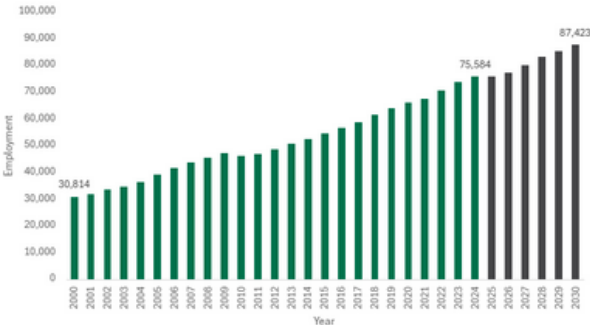
Employment: History and forecast

Cross-Sector Action Plan

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The below forms part of HAR actions until 31 December 2025 and will be tabled to the new ISB for future actions

Objective	Outcome	Hanga-Aro-Rau Actions	NIAG Actions	Timeline
Qualifications and Recognition **To address challenges with Recognition of Prior Learning, current skills and experience in our sectors**	The vocational education system effectively recognises and validates prior learning and experience, enhancing upward mobility, transferability, and transparency of current skills. The result will be formalising skills and knowledge through qualifications.	Actively advocate for Recognition of prior learning as a programme of work/conversations all WDCs are having with NZQA and providers.	Support and endorse actions taken by Hanga Aro Rau to address objective.	31 December
Advocate for funding gaps to recognise Prior Learning in Manufacturing, Engineering and Logistics (MEL)	Adequate funding is secured for the formal recognition of prior learning and experience in manufacturing, engineering and logistics for the benefit of employers and learners to help alleviate financial burden.	HAR has responded through our Advice to TEC function.	Support and endorse actions taken by Hanga Aro Rau to address objective.	31 December
Better streamline qualification development to address delays in sector training	The development and implementation process for qualifications, programmes, and unit standards in the MEL sectors is expedited and efficient.	HAR have worked across the vocational education system with TEC, NZQA, and Providers to address the systemic challenges that slow things down by: • Early signalling to providers by giving early notice of upcoming reviews • Tighter project management • Shared language and expectations • Proactive engagement with system agencies • Early and deep industry involvement • Expanding our provider network.	Support and endorse actions taken by Hanga Aro Rau to address objectives.	31 December

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Objective	Outcome	Hanga-Aro-Rau Actions	NIAG Actions	Timeline
Ageing Workforce **Providing Transition support for retaining the older workforce in Hanga-Aro-Rau Industries**	Transition support is provided to experienced older workers to move into less physically demanding positions and to transition and retain senior workers into leadership and training roles. Employers will be able to develop and maintain succession planning and attract and retain talent.	We keep industry updated on quantifiable data and new research on the ageing workforce giving industries the opportunity to respond.	Support and endorse actions taken by Hanga Aro Rau to address objective.	31 December
Acknowledging the skills gap for older workers in a rapidly evolving technological environment	Older workers receive the necessary training and support to adapt to new technologies and processes, ensuring they can effectively keep pace with rapidly evolving sector advancements. Industry retains the skills and knowledge of older workers.	• Promote the Level 3 digital skills qualification and the development of a Level 4 qualification. • Incorporation of new technology skills into our qualification reviews.	Support and endorse actions taken by Hanga Aro Rau to address objective.	31 December

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Objective	Outcome	Hanga-Aro-Rau Actions	NIAG Actions	Timeline
Stronger Workforce Pipeline **Attracting young talent and improving the industry profile**	Improved visibility of MEL sectors to attract younger talent, ensuring they are well-informed about the career opportunities available within the MEL sectors.	• HAR has delivered the TEC **Inspiring the Future** (ITF) programme and continues to support the development of the Tāhatu Career Navigator website. ITF events seek to break down barriers and stereotypes, especially for young Māori and Pacific students. • HAR works with other organisations like Chambers of Commerce, Economic Development agencies and AMA to promote and attract talent. • HAR will develop and publish qualification pathways. • Communicate and publish case studies.	Support and endorse actions taken by Hanga Aro Rau to address objective.	31 December
Overcoming Literacy and Numeracy Barriers: Enhancing Training and Advancement Opportunities	Industry is more aware and has better access to literacy and numeracy support, ensuring that all individuals could receive future training and advancement. This approach promotes equitable access to education and career growth, enabling a more skilled and capable workforce.	• HAR advocate in this space through our TEC advice and by advising employers of the various literacy and numeracy programmes to engage. • Supporting digital literacy awareness by promoting Level 3 digital skills qualification and the development of a Level 4 qualification. • Broker introductions between industry and providers for specialist support.	Support and endorse actions taken by Hanga Aro Rau to address objective.	31 December

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Objective	Outcome	Hanga-Aro-Rau Actions	NIAG Actions	Timeline
Enabling a strong economy, including a strong Māori economy	Employers successfully engage, attract, and retain a diverse workforce, including Māori, Pacific, Women, and Disabled Peoples, by looking beyond traditional employment pools. This approach addresses labour shortages and fosters an inclusive, dynamic, and skilled workforce that meets the evolving needs of the sector. Industry successfully embeds Te Tiriti o Waitangi principles and embraces Te Reo Māori, creating a supportive environment for the growing Māori workforce. This approach enables the estimated 50,000 Māori entering the workforce over the next five years are well-supported, helping to address labour shortages and fostering a more inclusive and culturally aware industry.	HAR advocate the importance of the growing Māori workforce. We're identifying workforce gaps and leveraging opportunities to enhance access for Pacific Peoples within MEL sectors. Through engagement of **Lumana'i o Tangata Moana, Hanga-Aro-Rau Pacific Peoples Workforce Development Action Plan**, we're working to ensure strengthened outcomes within the vocational education system, empowering Pacific learners and workers to thrive. Empowering Disabled Individuals: Our Disability Research Project Report, informed by extensive engagement and research, identified barriers and opportunities to enhance support for disabled individuals in training and employment. **Let's level up** disability project launched to promote potential of disabled workforce to meet skill needs of the sector.	Support and endorse actions taken by Hanga Aro Rau to address objective.	31 December White Paper: Unlocking the potential of Māori and the Māori economy Mahere Whanake Māori Plan White Paper: Unlocking the potential of Pacific Peoples Lumana'I o Tangata Moana White Paper: Unlocking the potential of the disabled workforce Let's level up

We want to hear from you

These Workforce Development Plans are our functions in action and remain agile to changing Industry and VET sector needs. We encourage and seek continual feedback, so if you would like to contact our team, please email info@hangaarorau.nz