

Women in Advanced Manufacturing

EVIDENCE-BASED STRATEGIES FOR LIFTING WOMEN'S
EMPLOYMENT IN THE SECTOR

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Executive Summary

Project Gender was engaged by Hanga-Aro-Rau to provide evidence-based recommendations for actions the Workforce Development Council could take to attract and retain more women in the manufacturing, engineering and logistics industries.

Having reviewed the relevant literature and recent research, and interviewed manufacturing employers and industry association leaders, we make the following eight recommendations, in order of priority.

Action 1: Awareness campaign showcasing the Advanced Manufacturing sector

We recommend a national awareness campaign that showcases the range of jobs and opportunities within the Advanced Manufacturing (AM) sector, utilising social media and paid advertising and drawing on insights research we recommend is carried out on the AM sector (see Action 2 below). The creative approach must include content that is appealing to, and reflects the experiences of all women, including older and younger women, wāhine Māori, Pasifika women and disabled women in order to have maximum reach and to be inclusive.

The campaign should also include clear information about pathways into the AM sector, including for older women, i.e. not just school-leavers, in a format that is accessible and culturally-responsive for all women.

Evidence from the research

- Little is known about Advanced Manufacturing (AM) and pathways into the sector are not clear. AM is rarely, if ever promoted in high schools as a legitimate career, with universities being the destination of choice for school-leavers.
- Employers often rely on word-of-mouth and their personal networks, i.e. friends and family, to recruit staff – a process that disadvantages women, who are more likely to be recruited via more formal channels.
- There is a common perception that AM jobs are dirty, involve long-hours working, require physical strength and are therefore better suited and/or more likely to be offered to men rather than women.
- Manufacturing employers are in support of a national awareness campaign.

Alignment with strategy plans

Advanced Manufacturing Draft Industry Transformation Plan

Project Gender's Action 1: Awareness campaign showcasing the Advanced Manufacturing sector (AM) aligns with Initiative 1 under Priority 1 of the Advanced Manufacturing Draft Industry Transformation Plan, which states that the AM sector needs to "improve the understanding and attractiveness of the

sector to potential employees, students, educators, women, workers, investors, and consumers” (MBIE 2022, p.28).

Project Gender’s Action 1 also aligns with Initiative 11 under Priority 4 of the Advanced Manufacturing Draft Industry Transformation Plan, which states that the AM sector needs to “develop the skills of the existing workforce, attract new workers, and improve diversity and inclusion” in order to bring about the evolution in advanced technologies that is required to grow productivity (MBIE 2020, p.46). The awareness campaign recommended by Project Gender would include key messaging and communication to attract new workers, including older women from other industries by highlighting their transferable skills, into AM.

Project Gender’s Action 1 also aligns with Initiative 14 under Priority 4, which sets out the development of an attraction strategy for “young people, students at all education levels, educators, women and workers” (MBIE 2020, p.52) and builds on Initiative 1 “to improve the understanding and perceptions of advanced manufacturing”. The awareness campaign recommended by Project Gender would include key messaging and communication to attract new workers into AM, including “young people, students at all education levels, educators, women and workers”.

We see a focus on women’s participation as part of the mapping of the future state of the AM workforce and in this way Initiative 11 in general aligns with the broad kaupapa of this strategy report.

Te Mahere Whai Mahi Wāhine - Women's Employment Action Plan

Project Gender’s Action 1: Awareness campaign showcasing the Advanced Manufacturing sector (AM) aligns with the following actions included as part of *Te Mahere Whai Mahi Wāhine: Women's Employment Action Plan (2022)*:

- Ensure wāhine Māori, Pacific women, ethnic women have access to information about employment programmes and initiatives in the form they need it and where they need it
- Continue the four-year Vocational Education and Training (VET) marketing campaign (including women in non-traditional trade roles)
- Develop an Online Career Planning solution to provide quality information and support on learning and career pathways (includes wāhine Māori)

Te Mahere Whai Mahi Māori - Māori Employment Action Plan

Project Gender’s Action 1: Awareness campaign showcasing the Advanced Manufacturing sector (AM) aligns with the following action included as part of MBIE’s *Te Mahere Whai Mahi Māori - Māori Employment Action Plan (2022)*: Research incentives for employers to give kaimahi Māori lifelong opportunities to upskill, learn and develop.

Ministry for Pacific People's Pacific Employment Action Plan

Project Gender's Action 1: Awareness campaign showcasing the Advanced Manufacturing sector (AM) aligns with the following action included as part of Ministry for Pacific People's *Pacific Employment Action Plan* (2022): Deliver careers support and information that responds to Pacific identities and experiences

Working Matters: An Action Plan to ensure disabled people and people with health conditions have an equal opportunity to access employment

Project Gender's Action 1: Awareness campaign showcasing the Advanced Manufacturing sector (AM) aligns with the following action included as part of the Ministry of Social Development's (MSD) employment action plan for disabled people: Information and support for employers, to build employer confidence in recruiting and retaining disabled people and people with health conditions.

Action 2: Insights and evaluation research

We recommend that insights research is carried out with Advanced Manufacturing (AM) employees, with a particular focus on hearing from wāhine Māori, Pasifika women, disabled women, and older/younger women, on what they need to succeed in AM. We also recommend that insights research is carried out with AM employers to better understand their experiences and needs when it comes to hiring and retaining women employees.

Such research would be useful to test out and validate this report's other recommended actions, as well as feed into their design and implementation.

We also recommend that external evaluations of all new initiatives taking place within Hanga-Aro-Rau workplaces are supported. We recommend process and impact evaluations utilising a case study approach (one to three businesses) to measure the acceptability of the model and the impacts of the policies, new systems and programmes that are introduced based on this report's recommended actions.

Evidence from the research

- No insights research has been done in New Zealand about what might attract women into AM, nor about what employers need to know in order to feel confident that they can employ women. For the recommended awareness campaign (see Action 1 above) to succeed, understanding the barriers and opportunities for both potential women employees and AM employers is a critical part of campaign design. Better understanding of what AM employers need support with when it comes to hiring women would also support the design and implementation of new policies and programmes aimed at improving equity in the workplace.
- The research shows that monitoring and evaluation is necessary in order to assess the impacts of any new policies and programmes that are put in place to improve equity and inclusion in the workplace

Alignment with strategy plans

Advanced Manufacturing Draft Industry Transformation Plan

Project Gender's Action 2: Insights and evaluation research aligns with Initiative 14 under Priority 4 of the Advanced Manufacturing Draft Industry Transformation Plan, which includes a focus on identifying actions to deepen understanding of Māori participation in the Advanced Manufacturing (AM) sector to enhance efforts to support Māori success in AM. The insights research recommended by Project Gender would gather insights on diverse groups of women – i.e. wāhine Māori, Pasifika women, disabled women and older/younger women – to better understand their experiences and what they need to succeed in the sector.

Te Mahere Whai Mahi Wāhine - Women's Employment Action Plan

Project Gender's Action 2: Insights and evaluation research aligns with the following action included as part of *Te Mahere Whai Mahi Wāhine: Women's Employment Action Plan (2022)*: Increase diversity and inclusion in the workplace: investigate workplace inclusiveness.

Te Mahere Whai Mahi Māori - Māori Employment Action Plan

Project Gender's Action 2: Insights and evaluation research aligns with the following actions included as part of MBIE's *Te Mahere Whai Mahi Māori - Māori Employment Action Plan (2022)*:

- Research incentives and barriers for employers providing flexible work, and how flexible work could benefit kaimahi Māori
- Research how workplaces can be more inclusive for kaimahi Māori
- Research incentives for employers to give kaimahi Māori lifelong opportunities to upskill, learn and develop

Action 3: Create a framework of initiatives to support formal harassment, sexual harassment and bullying policy

We recommend that the Advanced Manufacturing (AM) sector commits to promoting and putting into action:

1. Consultant support on how to design effective fit-for-purpose policy and ensure its consistent application across all areas of the workplace
2. Regular impact evaluations, including surveying of staff by an external provider (who guarantees anonymity) to communicate their experiences around harassment, sexual harassment, bullying, and discrimination

3. Ongoing education, training and communication activities about what sexual harassment is, including for leaders and managers

Evidence from the research

While many workplaces have formal policies around harassment, sexual harassment and bullying, the research is very clear that policy alone is not effective unless it is part of a suite of measures to address these behaviours. The evidence strongly supports the implementation of the following measures alongside formal policy:

1. Implementation – policy must be consistently applied across all areas of the workplace
2. Monitoring and evaluation (and review), including anonymous surveying of staff
3. Leadership buy-in and role-modelling
4. Ongoing education about what sexual harassment is
5. Ongoing training for managers
6. Easy to understand with examples of unacceptable behaviour
7. Inclusive policy development
8. Alignment with organisational values

Alignment with strategy plans

Te Mahere Whai Mahi Wāhine - Women's Employment Action Plan

Project Gender's Action 3: Create a framework of initiatives to support formal harassment, sexual harassment and bullying policy aligns with the following action included as part of *Te Mahere Whai Mahi Wāhine: Women's Employment Action Plan (2022)*: Address bullying and harassment at work.

Action 4: Consulting support for employers on adapting workplaces to increase diversity, equity and inclusion

We recommend partnering with agencies such as Project Gender, Be. Lab and Tupu Toa to support employers to adapt their workplaces to improve diversity, equity and inclusion in advanced manufacturing workplaces. Employers would benefit from advice on how to bring in more flexible working options for employees (including options around childcare), make their workplaces more culturally-responsive, and more accessible for disabled people.

Evidence from the research

- Research has shown that women working in the Hanga-Aro-Rau and Waihanga Ara Rau sectors do not have access to the following aspects of paid employment that are known to be necessary for gender equity: role models/mentors and inclusive networks, flexible working, and childcare.
- Employers also need to take account of the needs of disabled women, wāhine Māori, Pasifika women and older and younger women, in order for there to be equity in the workplace.
- Employers who have brought in flexible working, including school hours shifts, report that it has supported many of their employees, not just women, and has built loyalty to the company.

Alignment with strategy plans

Te Mahere Whai Mahi Wāhine - Women's Employment Action Plan

Project Gender's Action 4: Consulting support for employers on adapting workplaces to increase diversity, equity and inclusion aligns with the following actions included as part of *Te Mahere Whai Mahi Wāhine: Women's Employment Action Plan (2022)*: -

- Increase diversity and inclusion in the workplace: investigate workplace inclusiveness
- Explore improved access to affordable childcare

Te Mahere Whai Mahi Māori - Māori Employment Action Plan

Project Gender's Action 4: Consulting support for employers on adapting workplaces to increase diversity, equity and inclusion aligns with the following actions included as part of MBIE's *Te Mahere Whai Mahi Māori - Māori Employment Action Plan (2022)*:

- Research incentives and barriers for employers providing flexible work, and how flexible work could benefit kaimahi Māori
- Research how workplaces can be more inclusive for kaimahi Māori
- Improve access to childcare, to help parents and other carers take up mahi or education when they and their pēpē are ready

Working Matters: An Action Plan to ensure disabled people and people with health conditions have an equal opportunity to access employment

Project Gender's Action 4: Consulting support for employers on adapting workplaces to increase diversity, equity and inclusion aligns with the following actions included as part of the Ministry of Social Development's (MSD) employment action plan for disabled people:

- Information and support for employers, to build employer confidence in recruiting and retaining disabled people and people with health conditions.

- Partner with businesses and innovators to grow employment opportunities (including part-time, full-time and intermittent work) for people with diverse support, access, or health needs.
- Innovative labour market support and business development.

Older Workers' Employment Action Plan

Project Gender's Action 4: Consulting support for employers on adapting workplaces to increase diversity, equity and inclusion aligns with the following actions included as part of MSD's *Older Workers' Employment Action Plan* (2020), which states that a labour market to support the needs of older workers is one:

- That does not discriminate against older workers
- Where jobs are flexible and responsive to the needs of older workers
- In which older workers in employment can continue to upskill or retrain and are supported to change career

Action 5: Buddy/Mentor system formalised

We recommend a formal "buddy" or mentoring system is implemented, whereby women coming into the workplace are paired up with another staff member who onboards them and helps them integrate into the workplace culture. The "buddy" would also act as a role model for other employees around how to make the new employee feel welcome, encouraging everyone to adhere to a shared code of (acceptable) conduct.

We also recommend that Te Pūkenga and/or Worksafe considers formalising the role of "buddy" with a qualification or accreditation.

Evidence from the research

- Research has shown that women working in the Hanga-Aro-Rau and Waihanga Ara Rau sectors tend to experience poor access to mentoring opportunities
- Manufacturing employers are in support of the idea of a "buddy" or mentor system.

Alignment with strategy plans

Advanced Manufacturing Draft Industry Transformation Plan

Project Gender's Action 5: Buddy/Mentor system aligns with Initiative 12 under Priority 4 of the Advanced Manufacturing Draft Industry Transformation Plan, which involves the development of Individual Development Plans "across all levels of the sector (including lifting leadership and management capability) in collaboration with Hanga-Aro-Rau and Te Pūkenga (MBIE 2020, p.49). The Buddy/Mentor system recommended by Project Gender would support the use of Individual Development Plans as well

as the goals of improving people leadership, creating positive work cultures and promoting positive behaviours.

Te Mahere Whai Mahi Wāhine - Women's Employment Action Plan

Project Gender's Action 5: Buddy/Mentor system formalised aligns with the following action included as part of *Te Mahere Whai Mahi Wāhine: Women's Employment Action Plan (2022)*: Explore improved access to mentoring services for wāhine Māori, Pacific women, ethnic women, disabled women, and older and younger women in business.

Action 6: Champions for Change-style group for Advanced Manufacturing

We recommend that the innovation of sector leaders is harnessed through the creation of a formal network, along the lines of Champions for Change but specifically for Advanced Manufacturing employers, where ideas and insights can be shared.

Evidence from the research

- Manufacturing employers are implementing innovative ideas that are proving successful at recruiting and retaining women employees, which could benefit others in the sector.
- Manufacturing employers are in support of the idea of a formal leaders' network, including the CEO of one of New Zealand's largest food processing companies spoken to by Project Gender.

Action 7: Professional development for women in Advanced Manufacturing

We recommend that existing programmes are accessed (e.g. for women's leadership) - or new programmes and training specific to the Advanced Manufacturing sector are developed - that support professional development pathways and opportunities for women in the Advanced Manufacturing industry.

Evidence from the research

- Research has shown that women working in the Hanga-Aro-Rau and Waihanga Ara Rau sectors tend to experience a lack of access to: pay equity, promotion/advancement/senior roles, professional development/training opportunities.

Alignment with strategy plans

Te Mahere Whai Mahi Wāhine - Women's Employment Action Plan

Project Gender's Action 7: Professional development for women in Advanced Manufacturing aligns with the following action included as part of *Te Mahere Whai Mahi Wāhine: Women's Employment Action Plan* (2022): Explore improved access to mentoring services for wāhine Māori, Pacific women, ethnic women, disabled women, and older and younger women in business

Youth Employment Action Plan

Project Gender's Action 7: Professional development for women in Advanced Manufacturing aligns with the following actions included as part of MBIE's *Youth Employment Action Plan* (2019):

- Improve the quality and effectiveness of pastoral care/mentoring programmes including approaches that build on cultural and community strengths
- Improve brokering of employment opportunities and careers assistance, including the development of the Career Systems Strategy

Action 8: Wellbeing policies and programmes/services

We recommend that guidelines are brought in that show employers how to prioritise mental wellbeing in the workplace, including by providing access to psychological support and chaplains, and mental wellbeing policies and programmes/services that include education and training on interpersonal skills. This would support the creation of a healthy workplace culture that is inclusive of all people but especially women.

Evidence from the research

- The research shows that women working in the Hanga-Aro-Rau and Waihanga Ara Rau sectors often experience workplace cultures that are counter-productive to good mental wellbeing. Women are more likely than men to experience stress at work, and more likely than men to say the behaviour of others contributes to their feelings of stress in the workplace. COVID-19 has also been shown to have impacted mental wellbeing.
- Manufacturing employers who already have wellbeing policies and programmes/services in place believe it to be critical to their operational success.

Alignment with strategy plans

Advanced Manufacturing Draft Industry Transformation Plan

Project Gender's Action 8: Wellbeing policies and programmes/services aligns with Initiative 12 under Priority 4 of the Advanced Manufacturing Draft Industry Transformation Plan, as it supports the goals of creating positive work cultures, applying diverse cultural values and promoting positive behaviours. The

ITP states that there is “a need to improve leadership and management capability-building, including people leadership, creating positive work cultures, understanding and applying diverse cultural values (particularly Māori and Pasifika, but also other groups), and promoting positive behaviours” (MBIE 2020, p.49)

Working Matters: An Action Plan to ensure disabled people and people with health conditions have an equal opportunity to access employment

Project Gender’s Action 8: Wellbeing policies and programmes/services aligns with the following action included as part of the Ministry of Social Development’s (MSD) employment action plan for disabled people: Inclusive and wellbeing-enhancing workplaces.

Youth Employment Action Plan

Project Gender’s Action 8: Wellbeing policies and programmes/services aligns with the following action included as part of MBIE’s *Youth Employment Action Plan* (2019): Improve the quality and effectiveness of pastoral care/mentoring programmes including approaches that build on cultural and community strengths.

Background & Approach

Background

Hanga-Aro-Rau is one of six Workforce Development Councils (WDCs) whose role is to give industry a greater voice in the vocational education system to ensure that workforce needs are met. The industries represented by Hanga-Aro-Rau are manufacturing, engineering and logistics, which include wood manufacturing, bakery, butchery, mechanical, automotive and marine engineering, dairy processing, extractives and drilling, and transport.

Hanga-Aro-Rau work with employers and leaders within these industries to better understand the skills that are needed. This information is then passed to education and training providers (e.g. Te Pūkenga, Wānanga and Private Training Establishments), who are then expected to create learning programmes that will give people the relevant skills required by future workforces. In this way, Hanga-Aro-Rau supports the development of industry qualifications, the setting of industry standards and the quality assurance of training provision against these industry standards.

Hanga-Aro-Rau has joined forces with Waihanga Ara Rau (Construction and Infrastructure) to lead the Industry Equity Project 2022, which aims to improve equity and participation in the industries represented by these two Workforce Development Councils.

Supporting women into the manufacturing, engineering, logistics, construction and infrastructure industries, particularly those whose employment was disrupted by the COVID-19 pandemic, is the initial, major focus of the Industry Equity Project. Currently just one-quarter of those working in manufacturing, engineering and logistics are women – a statistic that has been relatively static for decades - presenting a clear opportunity to lift women's representation in the Advanced Manufacturing sector.

The work of the Industry Equity Project is occurring against a backdrop of critical skills shortages, low unemployment, and restrictions on immigration. There has never been a better time to improve women's participation in the traditionally male-dominated workforces represented by Hanga-Aro-Rau and Waihanga Ara Rau.

Project Gender have been engaged by Hanga-Aro-Rau to provide evidence-based recommendations on actions the Advanced Manufacturing sector could take to attract and retain more women in their workforces.

About the author

The author of this report, Tania Domett, is co-founder of Project Gender, a social change agency that delivers insights research, campaigns and real-world solutions to advancing gender equity. Tania is also co-founder of the Gender Justice Collective, the Backbone Collective, and founding director of Cogo.

In the past 15 years, through these agencies, Tania has delivered extensive research relevant to the kaupapa of this report for Hanga-Aro-Rau. These include: [Trade Careers Insights Research](#) for the Tertiary Education Commission; Diversity, Equity and Inclusion Insights Research for New Zealand Trade and

Enterprise (NZTE) and Westpac; the evaluation of Be. Employed and Access 2020 for Be. Accessible (now [Be. Lab](#)); evaluation research for [Project Mobilise](#) for the Human Rights Commission's Disability Rights Commissioner; insights research for Auckland Council's 2022 bullying and harassment strategy; Cogo's Workplace Wellbeing Survey 2020; insights research for the [Single Parents Project](#) in partnership with Ngāti Kahungunu, and; insights research for YWCA Hamilton.

Our approach

Project Gender's recommendations for Hanga-Aro-Rau have been developed from three main information sources:

1. Review of relevant research that investigates the barriers and opportunities for improving women's labour market participation
2. Employer and sector leader interviews
3. Key strategy documents including employment action plans

1. Review of strategy documents

It is important, for reasons of efficiency and collaboration, that Project Gender's recommendations for Hanga-Aro-Rau align with initiatives that are already in place across government to improve skills shortages and increase the participation of key demographic groups in the New Zealand labour market.

We have reviewed key strategy documents and employment action plans and present an overview of the strategic environment in which any actions recommended in this report will need to take place, highlighting areas where there is alignment with the Industry Equity Project's kaupapa.

To be effective, it is important that any actions designed to lift women's representation in Advanced Manufacturing take an intersectional approach that considers women's multiple identities and lived experiences as, for example, wāhine Māori, Pasifika women, older or younger women, and disabled women. Focusing solutions on gender alone would not be successful at addressing the multiple sources of discrimination that many women face. Our selection of employment action plans to review has supported this approach.

These are:

1. Advanced Manufacturing Draft Industry Transformation Plan (consultation draft, June 2022)
2. MWA's Women's Employment Action Plan 2022
3. Māori Employment Action Plan
4. Pacific Employment Action Plan
5. Employment Action Plan for Disabled People

6. Older Workers' Employment Action Plan
7. Youth Employment Action Plan

2. Review of relevant research

In order to design actions that will result in increased numbers of women in Advanced Manufacturing workforces, an understanding of the barriers and opportunities that exist for both employers and employees is critical. We have drawn on the following research sources to present key insights that are relevant for, and contribute to, the kaupapa:

1. A literature review carried out by Hanga-Aro-Rau, "*Women's Experiences in Hanga-Aro-Rau and Waihanga Ara Rau Sectors in Australia and Aotearoa New Zealand*", which covered open access material published over the last ten years (2012-2022) and was focused on Hanga-Aro-Rau and Waihanga Ara Rau sectors in New Zealand and Australia.
2. Trade Careers Insights Research, carried out by Cogo in 2021.
3. YouChoose 2020, carried out by Cogo as part of the Gender Justice Collective.
4. Workplace Wellbeing Research 2020, carried out by Cogo.
5. Insights and evaluation research for disability organisation Be.Accessible, now Be.Lab, carried out by Cogo during 2018-2020.

3. Employer/Stakeholder insights

Individual interviews were sought with employers and leaders in the Advanced Manufacturing sector, with the Hanga-Aro-Rau team leading this process. We were able to speak with four employers/stakeholders, which is less than the eight to 10 we had originally hoped for in early discussions with Hanga-Aro-Rau, however we were made aware that currently there are more demands than usual on people's time – particularly given the ongoing challenges brought about by the Covid-19 pandemic - and that leaders in the sector may be going through "engagement fatigue".

Despite the relatively small number of interviews, we achieved excellent diversity among the interviewees in terms of their role, organisation, and experience (see below), and we were able to identify several useful themes that have supported our recommended actions. In our view, the interviews were stronger in terms of depth/length than originally planned. Three interviews were held over Zoom, and one was held in person. All were recorded and transcribed.

We interviewed:

1. The owner/operator of a small engineering firm (around 20 employees)

2. The CEO of one of New Zealand's largest food processing companies (1200+ employees)
3. An industry association leader
4. A senior leader in a large global electronics company (550+ employees)

Using a semi-structured interview protocol, we asked:

1. What people in the sector think of moves to get more women into advanced manufacturing.
2. What people in the sector think of current education and training pathways into the sector for all ages and career stages.
3. What might be the challenges when it comes to bringing in more women (from their perspective and experience as an industry employer/association).
4. What might need to change in some workplaces to attract and accommodate/retain more women (including recruitment processes).
5. What would make it easier, i.e. what would support manufacturers to attract and accommodate more women?
6. How could Hanga-Aro-Rau support manufacturers to attract and accommodate more women? What do they see as Hanga-Aro-Rau's role here?

**Research results: Current
barriers and opportunities for
lifting women's employment
in Advanced Manufacturing**

Barrier 1: Little is known about Advanced Manufacturing and pathways into the sector are not clear

The Advanced Manufacturing Industry Transformation Plan (MBIE 2022) states what most employers and leaders in the sector arguably already know:

“Despite being a significant contributor to employment and GDP, New Zealand’s advanced manufacturing sector is not widely known or understood.... While advanced manufacturing is characterised by advanced technologies, sustainable practices and high-skilled high-wage jobs, some New Zealanders have a perception that manufacturing is in decline, dirty, and has limited capacity for fulfilling well-paid careers...” (p.26)

The employers spoken to by Project Gender support this claim, with all four interviewees talking about what they see as a widespread misconception of what is involved in a career in Advanced Manufacturing (AM) if people even think about it at all. For example:

“We need to broaden the mindset of what manufacturing is. Manufacturing, people think, is: loud, dirty, greasy, oily, sweaty... We show people through our plant, and lots of plants are like this, it’s an electronics plant and so it has to be clean, it has to be a nice environment. For a lot of our processors it has to be 20 degrees plus or minus a couple of degrees and luckily that’s good for humans as well. Some of our roles, there’s heavy lifting but most of it’s not. Light production we actually find people with smaller hands are often better for these types of roles, because they have better dexterity. I say people with smaller hands and often that means ladies rather than guys, but not exclusively” (personal interview, 6th October 2022)

Employers we spoke to said that AM is rarely, if ever, promoted in high schools as a legitimate career choice, with universities being the destination of choice for all school-leavers with everything else being the “second-best” option. For example:

“They’ve got to value it at school – at high school and primary, intermediate – manufacturing is not talked about at all and it’s not catered for. If you go to [careers/vocational guidance] it’s not even offered up as a route. So they’ll talk about tertiary, university, they may talk about apprenticeships, they may not, but they certainly don’t talk about going and entering into a manufacturing environment and working your way up through that system and if you’re talented you could go all the way up to GM of Operations and that is one of the highest-paid roles you’ll get in New Zealand... And there are people who are young who it would suit. You know that they’re bright, but school doesn’t suit them. And you can see, they’re good with their hands and they’ve got leadership ability because you can see they’re leading kids into trouble... so there’s got to be work done to value manufacturing in school and until that changes, really you’re bugged. I truly believe that. And we’ll just get whoever we can attract” (personal interview, 27th October 2022)

“Even just showing in the schools that manufacturing is an option, that we actually still do it in New Zealand. It’s not thought of as a career. And also within manufacturing, it’s not just people

building products, it's also the logistics, the planning, the distribution (personal interview, 4th October 2022)

It is likely because there are few formal efforts to promote AM in schools, that many of the employers we spoke to mostly rely on word-of-mouth and their personal networks, i.e. family and friends, to recruit staff. The Trade Careers Insights Research carried out by Cogo in 2021 also found this to be the case for the trades sector: women who did not have a family member in the trades had little idea of what was involved in a career in the trades, nor where to begin to try and get “their foot in the door” (p.40).

Barrier 2: Perceptions about the nature of the job - isn't 'for women' or 'women-friendly'

Linked to the general lack of awareness of the Advanced Manufacturing (AM) sector, and what characterises the types of jobs available ([Barrier 1](#)), is a common perception that the opportunities (whatever they are) will tend to be more suitable for men than women.

Arguably, this gendered perception is increasingly being challenged as industry employers we spoke to told us that given the critical labour and skills shortages they are experiencing, they currently will consider any and all candidates available. For example:

“We're severely short-staffed and there's a lot of competition for staff currently. It used to be that agencies could give us two or three candidates to pick from, now each candidate has two or three roles to pick from” (personal interview, 6th October 2022)

A literature review carried out by Hanga-Aro-Rau in 2022 found that women working in the Construction, Manufacturing, Engineering and Logistics Sectors in Australia and New Zealand tend to experience:

1. Aggressive “macho” masculine work culture, involving long-hours working, heightened competition, working through injury/sickness.
2. Having to work full-time and over-time to be considered part of the team.
3. Mental wellbeing not being prioritised, with stress, anxiety and burnout often the result.

It is therefore likely that women who might benefit from a career in AM are dissuaded by stories of these experiences of others already working in AM, and would assume all jobs in the industry would be dirty, involve long-hours working, require physical strength, and would therefore be better suited and/or more likely to be offered to men.

Research carried out last year for the Trade Careers Project (Cogo 2021) found that women interested in a career in the trades think that jobs in the trades are more likely to be offered to men for similar reasons, and it is therefore possible that the same would apply for AM.

Barrier 3: Women’s experience of the Advanced Manufacturing sector reveals deep gender inequality

The literature review carried out by Hanga-Aro-Rau in 2022 found that women working in the Construction, Manufacturing, Engineering and Logistics Sectors in Australia and New Zealand tend to experience a lack of access to the following in the workplace:

1. Pay equity
2. Promotion/Advancement/Senior Roles
3. Professional Development/Training Opportunities
4. Appropriate equipment e.g. PPE, bathroom facilities
5. Fair recruitment practices e.g. men are more likely to be employed via “word of mouth” whereas women are more likely to have to go through formal (and more stringent) recruitment processes.

As well, the literature shows that women working in Hanga-Aro-Rau and Waihanga Ara Rau sectors do not have easy access to the following aspects of paid employment that are known to be necessary for gender equity:

1. Role models/Mentors and Inclusive Networks
2. Flexible working
3. Childcare

Recent research carried out by Cogo for the Trade Careers Project supports the literature. Cogo gathered insights from 161 women working in the trades which align with the findings above: just 12% reported that the trades provide a healthy work environment, 14% a supportive working environment, 16% to offer flexible working hours and 35% to lead to career advancement opportunities, (2021, p.33).

Barrier 4: Harassment, sexual harassment and bullying in Advanced Manufacturing workplaces

Managing harassment, sexual harassment and bullying in the workplace is a requirement for employers under the Health and Safety at Work Act 2015. New Zealand businesses need to have measures in place to prevent sexual harassment at work because an employer can be held liable for the unlawful behaviour of all employees, customers and clients (under the Employment Relations Act 2000, the New Zealand Bill of Rights Act 1990 and the Human Rights Act 1993).

Experiences of sexual harassment in Advanced Manufacturing workplaces

The literature review carried out by Hanga-Aro-Rau found that women working in the Construction, Manufacturing, Engineering and Logistics Sectors in Australia and New Zealand experience:

1. Sexual harassment
2. Sexual assault
3. Gender-based bullying/harassment
4. Sexuality-based bullying/harassment
5. Racism
6. Lack of support from leaders when experiencing inappropriate/unlawful behaviour from colleagues, including there being no sanctions for colleagues' behaviour

Data collected from trades employers as part of the Trade Careers Insights Research in 2021 align with findings from the literature review on Hanga-Aro-Rau and Waihanga Ara Rau sectors: 20% “Strongly agree” or “Agree” that inappropriate jokes and/or negative comments are tolerated about Sexuality, 19% agree that they are tolerated about Women, 16% about Age, 14% about Ethnicity, 14% about Religion, 11% about Mental wellbeing, and 8% about Disability (Cogo 2021, p.68).

Many trades employers believe that women employees will often experience harassment/bullying, however others believe that workplace cultures are changing (Cogo 2021, p.60).

The Trades Careers research also found that women who were interested in a career in the trades expected to experience discrimination, bullying and harassment and that this was a barrier putting them off from applying (Cogo 2021, p. 41). It is reasonable to assume this barrier would exist for women considering applying for jobs in AM.

Current policies and practices to address harassment, sexual harassment and bullying are ineffective

Many workplaces have formal policies around harassment, sexual harassment and bullying. However, research consistently shows that policy alone is not effective unless it is part of a suite of measures to address workplace sexual harassment.

Informal rules, norms and practices – “the way things are done around here” – are not necessarily held in check by formal rules and policies that may be in place that aim to improve gender equity.

As one employer Project Gender spoke to says with reference to their own Code of Conduct, “At the end of the day, it’s a bit of paper, right? Unless you’ve got ways of managing that and ensuring it’s applied. You’ve got to rely on managers and how they manage people” (personal interview, 27 October 2022)

New Zealand's Ministry for Women's Affairs (2019) carried out an extensive literature review¹ of international best practice for preventing and responding to workplace sexual harassment and found that mandatory policies alone are ineffective:

"The literature suggests that well-intentioned good practice, such as mandatory policies about and complaints procedures for dealing with sexual harassment, are ineffective if they are not well implemented, monitored and evaluated and if the culture of workplaces is unsupportive. Strong leadership, inclusive policy development and proactive role-modelling from senior staff need to sit alongside the promotion of respectful relationships throughout the organisation." (p.5)

MBIE (2020) in their *Bullying and Harassment at Work Issues Paper* also argue that to prevent bullying and harassment in the workplace, it is not enough to just have policies in place:

"Managers and human resources must be trained to use them, and they must follow the policies when complaints are received" (2020, p.29).

Galea et al (2015) find that sexual harassment policies need to have buy-in and cooperation from line managers and leaders, line up with company values, be consistently applied (with rewards/sanctions), be easy for everyone to understand, run across all aspects of the business, and be regularly reviewed. Similarly, Vagins and Gatta (2019) argue that sexual harassment policies must include examples of prohibited behaviour, that the policy needs to be included in the employee handbook and that employees and supervisors should receive regular training and other forms of engagement. They also recommend that employers should conduct regular, anonymous "climate surveys" to ascertain the existing workplace culture and identify areas of improvement.

MWA (2019) argue that the principles and strategies shown to constitute best practice in violence prevention more generally also apply to preventing sexual harassment in the workplace. They suggest that efforts need to be made to ensure sexual harassment is better understood in terms of how it operates and what causes it, that education and communication strategies need to be deployed to bring about social change, that multiple strategies and interventions in the workplace must be developed that are context-specific (i.e. for different settings, including different operating beliefs and norms), and that where programmes and interventions are implemented, they must go through a "comprehensive process of impact evaluation" (p.5).

OECD reporting in 2017 showed that over the previous four years, 19 countries had introduced new measures aimed at eliminating sexual harassment in the workplace. The new measures typically took the form of law reform around sexual harassment and/or "information or awareness-raising campaigns

¹ The MWA review focusses mainly, but not exclusively, on public information and literature from 13 countries with similar legal systems to New Zealand: Australia, Belgium, Canada, Denmark, France, Germany, Iceland, the Netherlands, Norway, Sweden, Switzerland, the United Kingdom (UK) and the United States (US). Publications from international organisations such as the Organisation for Economic Co-operation and Development (OECD), the International Labour Organisation (ILO) and the United Nations (UN) are also included. The review draws primarily on material published in the past 10 years and considers the current legal and policy frameworks in place in these countries, the impact and effectiveness of these arrangements, and any new or promising strategies.

around what constitutes sexual harassment and the right to a life free from sexual harassment” (2017, p.47).

In 2020, the Australian Human Rights Commission carried out *A National Inquiry into Sexual Harassment in Australian Workplaces* and found that workplaces needed to take action in certain key areas to stamp out sexual harassment. Among the usual calls for strong leadership and the building of cultures of trust and respect, Respect@Work includes the following, more action-oriented recommendations (pp.34-35):

1. New and better approaches to workplace education and training...[towards] a collective understanding of expected workplace behaviours and processes
2. Prioritise worker wellbeing and provision of support to workers
3. Make it easier for workers to report sexual harassment
4. Collection of data at a workplace level and industry level to help improve understanding of the scope and nature of sexual harassment. Includes insights research into the nature, prevalence and impacts of sexual harassment, but also evaluation research on the effectiveness of workplace initiatives designed to combat it

In summary, according to the literature, the following measures must accompany formal policy:

9. Implementation – policy must be consistently applied across all areas of the workplace
10. Monitoring and evaluation (and review), including anonymous surveying of staff
11. Leadership buy-in and role-modelling
12. Ongoing education about what sexual harassment is
13. Ongoing training for managers
14. Easy to understand with examples of unacceptable behaviour
15. Inclusive policy development
16. Alignment with organisational values

Opportunity 1: Showcase the Advanced Manufacturing sector as an employer of women

Employers we spoke to raised the lack of public awareness of Advanced Manufacturing (AM) as a critical factor hampering the sector’s efforts to recruit staff. Some suggested a national awareness campaign as a solution. For example:

“Maybe you do an awareness campaign around how successful women are in manufacturing...you’ve got to highlight the attractiveness through successful women who in are in

operations cos it's all very well for companies to do more to try and attract women, it's another thing for women to feel that it's a vocation that they wanna do. And that's not for companies, that's not their job to do" (personal interview, 27th October 2022)

"I think the biggest part to getting more women in is to show the value of manufacturing, and part of that is to give different versions of what manufacturing is, because I think to a lot of people – and boys included actually – they think, oh I'm not that handy, or I don't really see myself in overalls and grease all over me. But that's not what a lot of manufacturing is like at all" (personal interview, 6th October 2022)

A recent report produced by Deloitte for Hanga-Aro-Rau on Post COVID-19 workforce development needs in the AM sector found that employers and training providers are not attracted to the manufacturing and engineering industries and that "more work is needed to communicate the opportunities and career pathways in these industries" (2022, p.11).

As such, there is a significant opportunity to improve New Zealanders' awareness and knowledge of the AM Sector in general, and as an employer of women.

Opportunity 2: The benefits of workplace wellbeing

Employers we spoke to told us how critical a focus on employee wellbeing and pastoral care was to their operation. For example, the owner of a small engineering firm of around 20 employees described in detail what supports they have in place:

"In our workplace, we're tiny, but I've got a community chaplain, I have a psychologist, a counsellor and an advisory board, all on standby to wrap around these people and it's nothing to do with what's going on at work, it's all this [personal] stuff that's coming in and it's going to continue to get worse as we move through the rest of Covid...by the time I get them I'm usually providing some sort of counselling, external wrap-around support...like it's a whole issue. We're getting these young ones in, and what I'm noticing is there's almost a trending thing around anxiety and stuff like that and so as a force of habit now, we offer this to everybody...The community chaplain is great, he's like a dad – I can't parent them all! He's good at steering them into other things like Men's Shed, Citizens Advice, financial help and advice – it's good because he's independent" (personal interview, 21st October)

Another employer interviewed similarly sees wellbeing policies and programmes as part of operational requirements, rather than as perks, benefits or "nice-to-haves". He says:

"We don't have any of those issues, because we've got programmes in all of those areas and we have done for quite a long time. We run our own wellness programme and it's part of our focus on Health and Safety but we also have HR involved as well including Leadership and Development running some really quite cool things" (personal interview, 27th October)

In 2021, Cogo released the results from their Workplace Wellbeing Survey which captured in-depth information from 1,525 people from workplaces around Australia and New Zealand, about their experience of stress and mental wellbeing in the workplace. They found that women are more likely to feel stressed at work than men (60% of women felt stressed at work more than once a week compared to 47% of men). Women are also more likely than men to say the behaviour of others contributes to their feelings of stress in the workplace with 37% saying that “the behaviour of my manager/management” contributes to their feelings of stress at work (vs. 22% of men) and 37% saying that “the behaviour of my co-workers” contributes to their feelings of stress at work (vs. 22% of men).

A recent report produced by Deloitte for Hanga-Aro-Rau on Post COVID-19 workforce development needs in the AM sector found that “COVID-19 has impacted mental wellbeing. Education institutions and employers have observed increased learner stress and the need for additional pastoral support” (2022, p.10)

Based on the Cogo and Deloitte insights, there is an opportunity for workplaces to bring in wellbeing policies and programmes that include education and training on interpersonal skills. This would support the creation of a workplace culture that is welcoming and inclusive of all people, but especially women and would therefore result in better retention rates.

Opportunity 3: Adapting Advanced Manufacturing workplaces to increase diversity

Many industry employers are adapting their operations, bringing in flexible working for example, in order to recruit and retain staff, particularly women.

Some have seen the economic benefit of this and are positive about their new way of working. In response to the argument that it is too hard to run school hours shifts in manufacturing, one employer says “well you can, it’s just hard work”. His company started running school hours shifts initially because it was a tight labour market but now he says they wouldn’t get rid of it:

“It’s been good for how our people feel about us as an employer and equally we’ve provided work to people who couldn’t find work otherwise. And once they’ve finished having their kids, they’ve become loyal to you and you’ve got a chance of retaining them as a full-time worker” (personal interview, 27 October 2022)

Other employers however are struggling to see how it is possible to adapt. For example.

“Our shifts are 8:30 to 4:30 and our operation is based on an 8-hour shift. It just wouldn’t be productive for us to have machinery sitting idle for a school hours shift” (personal interview, 6th October 2022)

The industry association leader we spoke to said, “it’s difficult, but it’s not impossible”. He says:

“The rigid patterns of current work organisation make it very difficult if not impossible for women, so if you have children who you need to look after and they go to school but you need to work from 7am to 4pm, which is the standard shift - you just can’t do it. But my challenge to manufacturers and I think people, because they’re desperate, are starting to think about different ways of organising work...my challenge to manufacturers is to really think about it and see if there isn’t a way of accommodating it” (personal interview, 4th October 2022)

The Gender Justice Collective research – YouChoose 2020 – surveyed over 3,500 women, wāhine, trans, intersex and non-binary people in 2020 (Gender Justice Collective 2020). Just 18% of respondents reported that it’s easy for them to combine paid work with their caring responsibilities and “responsibilities at home”, and childcare responsibilities are the top two barriers preventing them from accessing paid work. The Trade Careers Insights Research carried out in 2021 shows that flexible working and access to affordable childcare are important to women to be able to do paid work, regardless of industry (Cogo 2021, p.10).

There is therefore a clear opportunity for the AM sector to be successful in attracting and retaining more women into their workplaces, if employers consider offering flexible working and affordable childcare (ideally onsite) to their employees.

Partnering with an agency such as Be.Lab is another opportunity for industry employers to attract and retain more women, including disabled women. Cogo’s 2018 evaluation of Be.Lab’s employment programme for disabled people - Be. Employed – showed that a formal paid internship is an effective way of supporting disabled people in the workplace, with benefits for the employer as well.

Be. Lab’s programme Be.Welcome which assesses workplaces for accessibility (for workers and clients) is another opportunity for manufacturing employers to adapt their workplaces to attract and retain more disabled people.

Opportunity 4: Professional development for women in Advanced Manufacturing

One of the employers spoken to by Project Gender discussed how women in his company often would not put themselves forward for leadership roles or promotion, he felt due to a lack of confidence. He says:

“If we want to change for the future, the amount of women in leadership roles in manufacturing, we’ve got to build training programmes specifically around self-belief. Because what I’ve found is there are women who are incredibly good at their job who have a lot of doubt in their ability to step into leadership. So they’re functioning technically really well and they’re really good with people and you can see how they go about conducting themselves, but they won’t step into a leadership role. And two reasons for that – one, they doubt their own ability, and the second thing is they worry about how they’re seen by their peers and how that feels as the person to have been advanced versus the people on the same level. I think finding a way of changing that paradigm of thinking and providing that for manufacturing businesses, training women on how to step up AND

take people with you...that would be one really good option” (personal interview, 27 October 2022)

As well as women being less likely to put themselves forward for professional development opportunities that may exist, we know from the Hanga-Aro-Rau literature review that women also have poor access to professional development and training opportunities in the Hanga-Aro-Rau and Waihanga Ara Rau sectors (Hanga-Aro-Rau, 2022).

There is therefore an opportunity for employers in the AM industry to take specific actions to improve professional development pathways and opportunities for women, and to better support women to take advantage of these. Women in AM would potentially benefit from training and confidence-building courses that would support them to see the value that they bring to AM and inspire them to put themselves forward for promotion.

Opportunity 5: Formal mentoring system in Advanced Manufacturing workplaces

Employers we spoke to discussed the value of a Buddy or Mentor system, where all employees (not just women) are paired up with another staff member who onboards them and helps them integrate into the workplace culture.

One employer is about to put such a system in place. He says:

“I prefer to call it a Buddy System because mentor/mentee...comes across as a very structural thing that carries responsibility...as opposed to – we’re just going to match you up with a buddy who’s been through it, and is good at what they do and are there for you to talk to, to look after you... It covers sexual harassment too, it’s pretty full on” (personal interview, 27 October 2022)

We also know from the Hanga-Aro-Rau literature review that women have poor access to mentoring opportunities (Hanga-Aro-Rau, 2022).

There is an opportunity to formalise a Buddy/Mentor system that would support women to feel that they belong and are valued, but as well, the “buddy” would also model appropriate behaviours for other employees around how to make the new employee feel welcome, encouraging everyone to adhere to a shared code of (acceptable) conduct. In this way, the Buddy/Mentor system could also play a role in addressing harassment, sexual harassment and bullying in the workplace.

Opportunity 6: Harness the innovation of sector leaders

Employers we spoke to are implementing great ideas that are proving successful, reflecting the innovation that is arguably inherent to the AM sector. For example, one initiative from the owner of the small engineering company was to partner with the Christchurch Broadcasting School to produce short recruitment videos at low-cost, fulfilling a business need but also providing valuable experience for the school’s students.

The opportunity exists to bring employers and sector leaders together on a formal basis to share insights and ideas on how to attract and retain more women in AM.

Project Gender's Recommended Actions

Recent research on women and gender equity in the manufacturing, engineering, logistics, construction and infrastructure industries, and interviews carried out by Project Gender with employers and industry association leaders, lead us to make the following recommended actions for Hanga-Aro-Rau to consider.

While we present a total of eight recommendations, the evidence for prioritising the first three is in our view the strongest: an awareness campaign showcasing the Advanced Manufacturing (AM) sector, insights research on women and AM, and create a framework of initiatives to support formal harassment, sexual harassment and bullying policy.

Action 1: Awareness campaign showcasing the Advanced Manufacturing sector

The research shows that little is known about the Advanced Manufacturing (AM) sector and it is consequently difficult to attract people to want to work in it, especially women.

We recommend an awareness campaign that showcases the range of jobs and opportunities within the AM sector, utilising social media and paid advertising. The creative approach must include content that is appealing to, and reflects the experiences of all women, including older and younger women, wāhine Māori, Pasifika women and disabled women in order to have maximum reach and to be inclusive.

Part of the campaign should shine a light on women role models within the sector – in line with the theory that “in order to be it, you have to see it”. Role models of all ages, who are Māori, Pasifika and disabled must be included.

The campaign should also include clear information about pathways into the AM sector, including for older women i.e. not just school-leavers, in a format that is accessible and culturally-responsive for all women.

The campaign should appeal to women by promoting the positive things employers have said about hiring women in manufacturing.

The Trade Careers Insights Research findings on the benefits of hiring women in the trades could provide a useful starting point for developing creative content for an AM awareness campaign, although there are significant differences between the sectors. Nonetheless, clear themes from trades employer insights are useful: a good attitude is the main attribute employers are looking for, skills can be taught; women are lighter on the tools; women are better at completing tasks and have more attention to detail; women are more dedicated, with something to prove; women are good at customer service and better at time management; women tend to ask questions and suggest new ways of doing things that are often better; having women in the workplace changes the workplace environment for the better (Cogo 2021, p.69).

The Cogo research findings relating to the appeal for women of entering the trades however arguably do not relate as closely to AM industries: being outdoors, not in an office; pushing stereotypes about appropriate roles for women; refuting the perception that tradespeople have to be physically strong; being a role model for others; having good physical and mental health; being self-sufficient; creating

something tangible; stability of employment; being able to transfer their skills (2021, p.36). The industry association leader interviewed by Project Gender confirms this: *“I don’t see a lot of similarity between the trades and manufacturing and would suggest that the research you did for the Trades Careers Project will have limited application here”* (personal interview, 4th October 2022).

Therefore, as part of our recommended Action 1, we suggest that industry-specific insights research should be carried out with both AM employers and women employees in order to support the development of creative content for the awareness campaign. This approach has already been shown to succeed, with the Trade Careers Project as a highly-relevant New Zealand example.

Action 2: Insights and evaluation research

There is a lack of knowledge about what might be appealing to women about a career in AM, and what might support AM employers to welcome more women into their workplaces.

1. We recommend that insights research is carried out with Advanced Manufacturing (AM) employees, with a particular focus on hearing from wāhine Māori, Pasifika women, disabled women, and older/younger women, on what they need to succeed in AM. We also recommend that insights research is carried out with AM employers to better understand their experiences and needs when it comes to hiring and retaining women employees. Such research would be useful to test out and validate this report’s other recommended actions, as well as feed into their design and implementation.
2. Given the importance of evaluation shown by recent research on the Hanga-Aro-Rau and Waihanga Ara Rau sectors, we also recommend that an external evaluation of all new initiatives taking place within Hanga-Aro-Rau workplaces is supported. We recommend process and impact evaluations utilising a case study approach (one to three businesses) to measure the acceptability of the model and the impacts of the policies, new systems and programmes that are introduced based on this report’s recommended actions.

Action 3: Create a framework of initiatives to support formal harassment, sexual harassment, and bullying policy

The research shows that formal policy aimed at stamping out harassment, sexual harassment and bullying needs to be part of a framework of other measures/activities in order to be effective. We recommend that the AM sector commits to promoting and putting into action:

1. Consultant support on how to design effective fit-for-purpose policy and ensure its consistent application across all areas of the workplace
2. Regular impact evaluations, including surveying of staff by an external provider (who guarantees anonymity) to communicate their experiences around harassment, sexual harassment, bullying, and discrimination

3. Ongoing education, training and communication activities about what sexual harassment is, including for leaders and managers

Action 4: Consulting support for employers on adapting workplaces to increase diversity, equity and inclusion

The research shows that, currently, Advanced Manufacturing (AM) workplaces could be improved when it comes to flexible working and other initiatives that would support women as parents, and accessibility.

Employers would potentially benefit from tailored, specific support in how to make their workplaces accessible and appealing to women employees.

We recommend partnering with an agency such as Project Gender who would deliver onsite consulting for businesses that assesses what roles and functions could be made flexible, including for example bringing in school hours shifts, and the feasibility of offering onsite childcare.

We also recommend promoting to AM businesses partnerships with disability organisations e.g. Be.Lab, who support disabled people into internships and advise on accessibility in the workplace, and organisations like Tupu Toa, who support internships with young Māori and Pasifika graduates.

Action 5: Buddy/Mentor system formalised

The research shows that many Hanga-Aro-Rau and Waihanga Ara Rau employers need support with transforming their workplace culture in order to be welcoming and inclusive of women employees.

As a first step on the way to this transformation, we recommend a formal “buddy” or mentoring system is implemented, whereby women coming into the workplace are paired up with another staff member who onboards them and helps them integrate into the workplace culture. The “buddy” would also act as a role model for other employees around how to make the new employee feel welcome, encouraging everyone to adhere to a shared code of (acceptable) conduct.

We also recommend that Te Pūkenga and/or Worksafe considers formalising the role of “buddy” with a qualification or accreditation.

Action 6: Champions for Change-style group for Advanced Manufacturing

During the employer interviews, it became clear to Project Gender that many employers are implementing innovative programmes and other initiatives that are proving successful at attracting and retaining more women employees.

We recommend that a formal network, along the lines of [Champions for Change](#), but specifically for employers in Advanced Manufacturing, to be set up as a forum or network where ideas and insights can be shared.

Based on our conversations with employers, we are confident that this would be popular and have excellent support within the sector. The CEO of one of New Zealand's largest food processing companies spoken to by Project Gender supports the idea saying that "it would be great just to get insights on what others are doing". He suggested that it would also be good to have sub-groups within this group for him to put some of their up-and-coming factory/manufacturing women leaders onto (personal email, November 4th 2022).

Action 7: Professional development for women in Advanced Manufacturing

The research shows that women in Advanced Manufacturing (AM) have poor access to professional development opportunities and that employers believe this to be key to their advancement in the organisation (and therefore their ability to retain them as workers).

Women in AM would potentially benefit from training and confidence-building courses that would support them to see the value that they bring to AM and inspire them to put themselves forward for promotion.

Action 8: Wellbeing policies and programmes/services

The research shows that women working in the Hanga-Aro-Rau and Waihanga Ara Rau sectors often experience workplace cultures that are counter-productive to good mental wellbeing.

We recommend that guidelines are created that show employers how to prioritise mental wellbeing in the workplace, including by providing access to psychological support and chaplains, and mental wellbeing policies and programmes/services that include education and training on interpersonal skills. This would support the creation of a healthy workplace culture that is inclusive of all people but especially women.

Alignment of recommended actions with government strategies

Areas of alignment in the Advanced Manufacturing Draft Industry Transformation Plan

The Ministry of Business, Innovation and Employment's (MBIE) Advanced Manufacturing Draft Industry Transformation Plan (AMDITP) has been put in place in order to accelerate the growth and transformation of the Advanced Manufacturing sector:

“Advanced manufacturing was selected as a priority sector because of its scale and importance to Aotearoa New Zealand's economy, jobs and communities. Seven other sectors have been identified for targeted support through an ITP. They are Agritech, Construction, Digital Technologies, Food and Beverage, Forestry and Wood Processing, Fisheries and Tourism.” (MBIE 2022, p.12)

The goal of attracting women into Advanced Manufacturing (AM) aligns with two of the six priorities identified in the Advanced Manufacturing Draft Industry Transformation Plan: Priority 1 and Priority 4.

Several of this report's recommendations align with how Priorities 1 and 4 have been set out in the ITP:

AMDITP Priority 1: improving the understanding and perceptions of advanced manufacturing

As part of Priority 1, the ITP states that the AM sector needs to “improve the understanding and attractiveness of the sector to potential employees, students, educators, women, workers, investors, and consumers” (MBIE 2022, p.28).

Project Gender [Action 1](#) - to launch an awareness campaign showcasing the AM sector - aligns with “Initiative 1” under Priority 1, relating to “Improving the understanding and perceptions of advanced manufacturing”.

AMDITP Priority 4: Attracting and developing a diverse high-skilled high-wage workforce

As part of Priority 4, the ITP states that the AM sector needs to “develop the skills of the existing workforce, attract new workers, and improve diversity and inclusion” in order to bring about the evolution in advanced technologies that is required to grow productivity (MBIE 2020, p.46).

A skills system map (as part of Initiative 11 under Priority 4) is intended to reflect the current state of the advanced manufacturing workforce and the future state of the workforce in a transformed industry, and is to be developed collaboratively by employers, unions and Hanga-Aro-Rau.

We see a focus on women's participation as part of the mapping of the future state of the AM workforce and in this way Initiative 11 aligns with the broad kaupapa of this strategy report.

Similarly, a long-term workforce plan - also part of Initiative 11 - which captures all of the skills needs of a technologically-advanced and net-zero carbon advanced manufacturing future also includes a clear opportunity to include increasing women's participation in Advanced Manufacturing in its scope:

“Using the information and data from the skills system map, the long-term workforce plan would identify current and future workforce needs, including how potential workers could transition from other industries into the advanced manufacturing sector using their existing skills (for example, workers displaced from sectors in decline or from industries impacted by the move to a low carbon future)” (MBIE 2022, p.48)

Project Gender [Action 1](#) – to launch an awareness campaign showcasing the AM sector - aligns with “Initiative 11” under Priority 4 as the campaign would include key messaging and communication to attract new workers, including older women from other industries by highlighting their transferable skills, into AM.

As part of Priority 4, Initiative 12 involves the development of Individual Development Plans “across all levels of the sector (including lifting leadership and management capability) in collaboration with Hanga-Aro-Rau and Te Pūkenga. It also involves adopting mechanisms to ensure that employers implement these pathways:

“The actions in the Individual Development Plans could include a mix of mentoring, on the job training, placements in other firms, and formal learning...There is also a need to improve leadership and management capability-building, including people leadership, creating positive work cultures, understanding and applying diverse cultural values (particularly Māori and Pasifika, but also other groups), and promoting positive behaviours” (MBIE 2020, p.49)

Project Gender [Action 5](#) – Buddy/Mentor system formalised - aligns with “Initiative 12”, as it would support the use of Individual Development Plans as well as the goals of improving people leadership, creating positive work cultures and promoting positive behaviours.

Project Gender [Action 8](#) – Wellbeing awareness for employers - also aligns with “Initiative 12”, as it supports the goals of creating positive work cultures, applying diverse cultural values and promoting positive behaviours.

As part of Priority 4, Initiative 14 sets out the development of an attraction strategy for “young people, students at all education levels, educators, women and workers” (p.52) and builds on Initiative 1 “to improve the understanding and perceptions of advanced manufacturing”.

Project Gender [Action 1](#) – to launch an awareness campaign showcasing the AM sector - aligns with “Initiative 14” as the campaign would include key messaging and communication to attract new workers into AM, including “young people, students at all education levels, educators, women and workers”.

Initiative 14 also includes a focus on identifying actions to deepen understanding of Māori participation in the AM sector to enhance efforts to support Māori success in AM.

Project Gender [Action 2](#) – Insights and evaluation research - aligns with “Initiative 14” as it will gather insights on diverse groups of women in the AM sector – i.e. wāhine Māori, Pasifika women, disabled women and older/younger women – to better understand their experiences and what they need to success in the sector.

Areas of alignment in government employment action plans

Te Mahere Whai Mahi Wāhine - Women's Employment Action Plan

Project Gender’s recommendations align with the following actions included as part of *Te Mahere Whai Mahi Wāhine: Women's Employment Action Plan (2022)*:

Success area two: the labour market is inclusive for women

Immediate actions are:

- Ensure wāhine Māori, Pacific women, ethnic women have access to information about employment programmes and initiatives in the form they need it and where they need it
- Continue the four-year Vocational Education and Training (VET) marketing campaign (including women in non-traditional trade roles)
- Develop an Online Career Planning solution to provide quality information and support on learning and career pathways (includes wāhine Māori)

Medium-term actions are:

- Explore improved access to mentoring services for wāhine Māori, Pacific women, ethnic women, disabled women, and older and younger women in business
- Increase diversity and inclusion in the workplace: investigate workplace inclusiveness
- Address bullying and harassment at work

Long-term actions are:

- Continue the Reform of Vocational Education in supporting greater choice in vocational education, including for women
- Support women to understand their career and study options through a national career systems strategy

Success area three: women are supported to meet their paid and unpaid work commitments (without incurring penalties)

Immediate action is:

- Explore improved access to affordable childcare

Te Mahere Whai Mahi Māori - Māori Employment Action Plan

Project Gender's recommendations align with the following actions included as part of MBIE's *Te Mahere Whai Mahi Māori - Māori Employment Action Plan* (2022):

Immediate actions (1-2 years)

- Research incentives and barriers for employers providing flexible work, and how flexible work could benefit kaimahi Māori
- Research how workplaces can be more inclusive for kaimahi Māori
- Research incentives for employers to give kaimahi Māori lifelong opportunities to upskill, learn and develop

Medium-term actions (2-5 years)

- Improve access to childcare, to help parents and other carers take up mahi or education when they and their pēpē are ready (MSD)

Pacific Employment Action Plan

Project Gender's recommendations align with the following actions included as part of Ministry for Pacific People's *Pacific Employment Action Plan* (2022):

Objective 1: Diversity the Pacific Workforce

- Deliver careers support and information that responds to Pacific identities and experiences

Disabled People's Employment Action Plan

Project Gender's recommendations align with the following actions included as part of the Ministry of Social Development's (MSD) employment action plan for disabled people, *Working Matters: An Action Plan to ensure disabled people and people with health conditions have an equal opportunity to access employment* (2020):

Objective 2: Back people who want to work and employers with the right support

Priority 4: Information and support for employers, to build employer confidence in recruiting and retaining disabled people and people with health conditions.

Objective 3: Partner with industry to improve work opportunities for disabled people and people with health conditions

The Government will partner with businesses and innovators to grow employment opportunities (including part-time, full-time and intermittent work) for people with diverse support, access, or health needs.

Priority 5: Inclusive and wellbeing enhancing workplaces.

Priority 6: Innovative labour market support and business development.

Older Workers' Employment Action Plan

Project Gender's recommendations align with the following actions included as part of MSD's *Older Workers' Employment Action Plan* (2020):

The labour market supports the needs of older workers

A labour market to support the needs of older workers is one:

- That does not discriminate against older workers
- Where jobs are flexible and responsive to the needs of older workers
- In which older workers in employment can continue to upskill or retrain and are supported to change career

Youth Employment Action Plan

Project Gender's recommendations align with the following actions included as part of MBIE's *Youth Employment Action Plan* (2019):

Actions to support young people to make informed choices through complexity

- Improve brokering of employment opportunities and careers assistance, including the development of the Career Systems Strategy
- Improve the quality and effectiveness of pastoral care/mentoring programmes including approaches that build on cultural and community strengths
- Increase opportunities for young people to gain the vital skills they need to transition out of compulsory schooling into further education, training or employment, including through improvements to NCEA and RoVE

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