Grasping the nettle: skills, workforce and the future of manufacturing

Speech by Ai Group Chief Executive, Innes Willox, to the National Manufacturing Workforce Forum Melbourne 16 April 2024

In opening, I would like to the acknowledge the work that Manufacturing Industry Skills Alliance (MISA) has done to prepare the initial workforce plan.

The plan rightly identifies that manufacturing remains crucial to our economic success. Despite the naysayers, it is a diverse and growing sector, with a significant contribution to Australia's economic value and d to employment, both directly and indirectly.

The plan recognises new sub-sectors that require a skilled workforce – defence, space, renewables and medtech/pharmaceutical manufacturing.

And it highlights that alongside an ageing workforce, there is a need for greater diversity and an increasing need for more and higher skill levels.

On balance, the interim plan has done a good job of problem identification. But arguably, it could make more of what is at stake.

The manufacturing sector has a critical role to play in Australia's future. If we want a vibrant, complex economy, a thriving manufacturing sector is crucial.

It is essential to Australia's transition to a clean economy. It is essential to developing the capacity and capability to manage our geopolitical risks.

And the sector has a key role to play in securing Australia's long-term prosperity, especially by being able to drive the sustained productivity growth our economy is crying out for.

But to realise its full potential, we must succeed in attracting, training, and retaining an increasingly highly skilled workforce.

This is not optional.

Having the skills we need, when and where we need them, are the only way we are going to be develop any manufacturing agenda that is brought forward. All the plans in the world are pie in the sky without a motivated, skilled workforce.

And so my question – my challenge – to everyone here today is: are the proposed strategies bold enough?

While you consider that, I would like to briefly touch on the opportunities and challenges for the manufacturing sector in their broader context.

Opportunities and challenges for manufacturing

Given the range of pressures facing Australian businesses, many are now thinking differently about their business strategies.

AI Group's Industry Outlook survey published earlier this year found that industry leaders are concerned about the year ahead. Very concerned.

Three factors – uncertainty, ongoing supply-side constraints and weakening industrial demand – are the main inhibitors for business this year.

While Ai Group's Australian Industry Index points to some moderate recovery in industry across the first quarter of 2024, leaders are making productivity a focus in this more difficult environment.

They are investing in technology and innovation, focusing on business improvement to better control costs, and investing to upgrade the skills of their current workforce.

Many – particularly larger organisations – are already looking to digital solutions to improve their productivity and competitiveness.

Digitalisation, and all that it involves, is certain to become increasingly important to business success, and indeed skills and labour shortages may be one of the catalysts for speeding up the digital transition from the use of artificial intelligence to the implementation of robotics and automation and, if necessary, offshoring.

Technological change and artificial intelligence

Technology has long driven change in industry, bringing economic and social development and wealth and significant evolution of work – dating right back to the industrial revolution.

Manufacturing has consistently been at the forefront of technological change – and is now increasingly leveraging technologies like big data analytics, robotics and artificial intelligence (AI).

Generative artificial intelligence has been a hot topic since the release of Chat GPT around 18 months ago. But artificial intelligence has been used in manufacturing for many years. The use of AI dates to the 1950s.

Generative AI uses patterns in data to create new content such as text, code, voice, images and designs. Generative AI is more about problem solving – including innovations in content creation and human-like interaction.

By some accounts, we may see embodied generative AI. In other words, artificial intelligence in robots, in humanoid or other forms.

Microsoft and the Australian Tech Council have identified up to $5 billion in economic opportunity for Australia from Generative AI in manufacturing by 2030 – with value derived from shorter design cycles and greater quality control.

McKinsey also see value in manufacturing from generative AI through significant operational efficiency. Internationally, this could reduce costs in manufacturing and supply chain by up to half a trillion dollars.

This suggests that the goal posts will continue to shift for Australian companies to be competitive.

One thing that is unclear is how quickly the available technologies will be adopted – and where the technologies will go in future.

McKinsey is now arguing that adoption is happening much, much faster than anticipated even a year ago – and that it is possible for half of work tasks to be automated by 2030.

At Ai Group, we are cognisant of the risks of AI and are actively involved in CSIRO's responsible AI initiatives. However, we do see significant potential.

Ai Group research is showing that many large businesses are engaging with AI – business analytics and optimising operations are currently their top avenues for engagement.

Small and medium size businesses are less likely be engaging and identify insufficient understanding and skills as a barrier to adoption.

Higher level skills and advanced manufacturing

Skills needs in manufacturing are broad and deep, needing a mix of technical/specialist, generalist and leadership skills.

Data in the initial workforce plan shows that the skills that are increasingly in demand in the sector are advanced manufacturing skills, including digital.

Robotics and the future development of artificial intelligence, including generative AI, will increase the importance of advanced manufacturing and digital skills within the industrial skills mix.

We can anticipate that digital skills will be essential not just for specialist roles, but the entire manufacturing workforce.

It is imperative that developing digital skills forms a key element of the workforce plan.

There is also a whole of economy aspect to digital skills and it is essential there is a lead entity for this across all industries.

The interim plan rightly includes a focus on skills and training that is responsive to emerging demand such as advanced electronics and semiconductors, as well as IoT, Industrial IoT and sensor technology.

While the VET sector pays an important and ongoing role in meeting employer needs in this area, it is not the only answer. A broader, tertiary sector perspective that includes universities is also needed.

The final version of the workforce plan would benefit from strategies to support a better connected and integration tertiary sector.

Reflecting demand from industry for a higher skilled workforce, Ai Group is driving the development of degree apprenticeship models.

Already recognised in the federal government's employment white paper and the National Skills Agreement, Ai Group is leading several pilots and testing different models.

They are attracting high quality candidates, for example in the software engineering program that has commenced in South Australia and due to be launched next week.

Ai Group would like to see this model piloted – and eventually rolled out – as an option for the manufacturing sector. This should form part of the workforce plan.

Responses to skills and labour shortages

Ai Group's most recent skills survey – the results of which are currently being analysed – continues to show that finding skilled staff is an issue.

Between 2022 and 2024, the businesses surveyed reported that skills requirements have increased across all occupations.

This is particularly true for trades and technicians. In 2024, 79% of businesses we spoke to reported an increase in difficulty finding these workers, compared to 60% in 2022.

There is also rising difficulty finding managers and professionals, with 58% struggling to find and train managers and 61% for professionals (compared to 41% and 44% respectively in 2022).

As we know, the national economy is also facing labour and skills shortages. This means manufacturing is competing for skills in an increasingly crowded market.

Many of manufacturing's occupations in shortage are also in demand in other areas of the economy.

Ai Group supports an industry approach to skills and workforce needs – but also acknowledges that in areas of acute skills shortage across industries, a different approach may be needed.

There may be benefit in cross-sector consideration of occupations in shortage such as trades and technician occupations, perhaps through Jobs and Skills Australia.

As identified in the interim plan, we do need to focus on apprenticeships. And not only apprenticeship commencements, but also completions.

The current financial incentives for employers of apprentices and trainees have been reduced in recent times, especially for those that are not deemed priority occupations, and are set to reduce even further on 1 July 2024.

This is likely to result in lower numbers of commencements which will compound the skills problems for industry.

This needs to be addressed in the upcoming federal Budget.

Ai Group would like to see the MISA workforce plan support the following specific actions:

- Raising apprenticeship incentive rates to reflect the rising costs to employers of supervising and training apprentices;
- Incentives for apprentices to complete; and

- Providing funding support for apprentice supervisor workshops for employers of apprentices eligible for Commonwealth incentives.

These initiatives are important and urgent to sustain apprenticeship commencements and completions.

A diverse sector needs a diverse workforce

The interim plan rightly highlights that manufacturing has an ageing workforce; and an under-representation of women and First Nations Australians.

Actions to retain and learn from the existing workforce are welcome.

As are strategies to attract and retain more women and First Nations Australians.

Focusing on women in manufacturing, it is important to recognise that gender segregation is much broader than the manufacturing sector.

Jobs and Skills Australia identified a relationship between occupations facing skills shortages and gender segregation.

These are longstanding issues, with deep-rooted causes. But that doesn't mean we shouldn't take action.

Ai Group undertook a project on behalf of the Victorian Government to attract more women into manufacturing apprenticeships.

Plenty of employers got on board. But there were limited placements made because it was hard to attract women into these roles.

That project showed that there is a big job to do in raising awareness of the sector with young women and girls.

We need to break down the stereotypes of what working in the manufacturing sector looks like.

With an opportunity to see first-hand what the sector involves, and informed careers advice, we might see more girls and young women seek a career in the sector.

Ai Group would like to see a stronger focus on careers advice and work experience in the strategies contained in the final plan.

And do we need to think more boldly – for example to look at more flexible models of work-based training to encourage older women workers into the sector?

And do we need to do more to encourage flexibility in work organisation including more access to part-time work?

Around 15% of workers in manufacturing are employed part-time, compared to 31% across the whole economy.

There are many reasons for this including important production imperatives.

We must look at what more we can do to support employers and supervisors, particularly SMEs, to attract and retain a more diverse workforce?

For example, Ai Group was involved in developing a Queensland initiative, the Women in Manufacturing Strategy, that includes a range of initiatives including the development of toolkits to assist employers.

Other actions in the Strategy include mentoring and leadership programs.

It has been hard to shift the dial in women's engagement in the sector – and we will need a broad-based effort to achieve change.

The opportunity of productivity growth

The interim plan talks about the comparative wages of manufacturing and other sectors as a potential barrier to attraction and retention in the sector.

The data does show that wages can be a factor in apprenticeship completions, as is finding a better job.

The strategies touched on in the interim plan include 'working with industry and government to review the pay and conditions for apprentices'.

Ai Group is glad to be contributing to the review of apprenticeship incentives.

But at the beginning of my speech I mentioned just how tough businesses are already finding the current economic circumstances and strategic challenges.

There is little room in the tank for businesses to simply award higher salaries with no clear overall economic return.

But there is an opportunity to move up the value chain, and towards sustainable higher wages, through higher skills and higher productivity.

As the former Governor of the Reserve Bank, Philip Lowe rightly said recently:

> *At the moment, productivity growth is close to zero… If we can't get stronger productivity growth, everything's going to get harder.*

Productivity enables sustainable economic and wage growth and is integral to maintaining and improving living standards and quality of life.

And it provides an opportunity to invest in services such as healthcare, education and infrastructure.

Skills development is one of the key drivers of productivity growth.

There is significant opportunity for upskilling to boost the adoption of new technologies.

There is also an opportunity for greater flexibility. For example, we could consider the structure and duration of apprenticeships.

The manufacturing sector has a long history of dealing with change and working in partnership to do so, for example through the productivity reforms of the 1990s.

We have an opportunity to work together on a skills and productivity agenda to bring about productivity improvements – and the higher incomes that better productivity can bring.

Ai Group would like to see the manufacturing sector once again step up to implement productivity reforms.

This would be to the benefit of businesses and workers - and to help secure Australia's future prosperity.

Thank you.

[ENDS]