

INDUSTRY SPOTLIGHT REPORT

Engineering & Manufacturing

JULY 2023

PIVOTAL INDUSTRY DRIVERS

- AI and advanced technologies will lead to growth in the Australian engineering and manufacturing sectors only if leaders and workers adapt to leverage the value from these change.
- Global political unrest and supply chain challenges are leading Australian manufacturing and engineering organisations to look towards local capabilities to mitigate these offshore risks.

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“Technology has transformed the workforce and, despite fears of it taking jobs away, it is actually creating more jobs and opportunities. The World Economic Forum estimates that by 2025, technology will create at least 12 million more jobs than it destroys.”



Scott Wooldridge
President, Asia Pacific Rockwell Automation
July 5, 2023

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Industry contention

There is a widely held perception that the Australian manufacturing industry is declining, with most manufacturing-related work being performed offshore. This view is not supported by the facts. Industry data suggests that manufacturing and engineering in Australia remain significant contributors to the economy and in fact will potentially increase in importance. However, the growth in these sectors will rely on adaptation by leaders and workers to leverage the value of technological innovation.

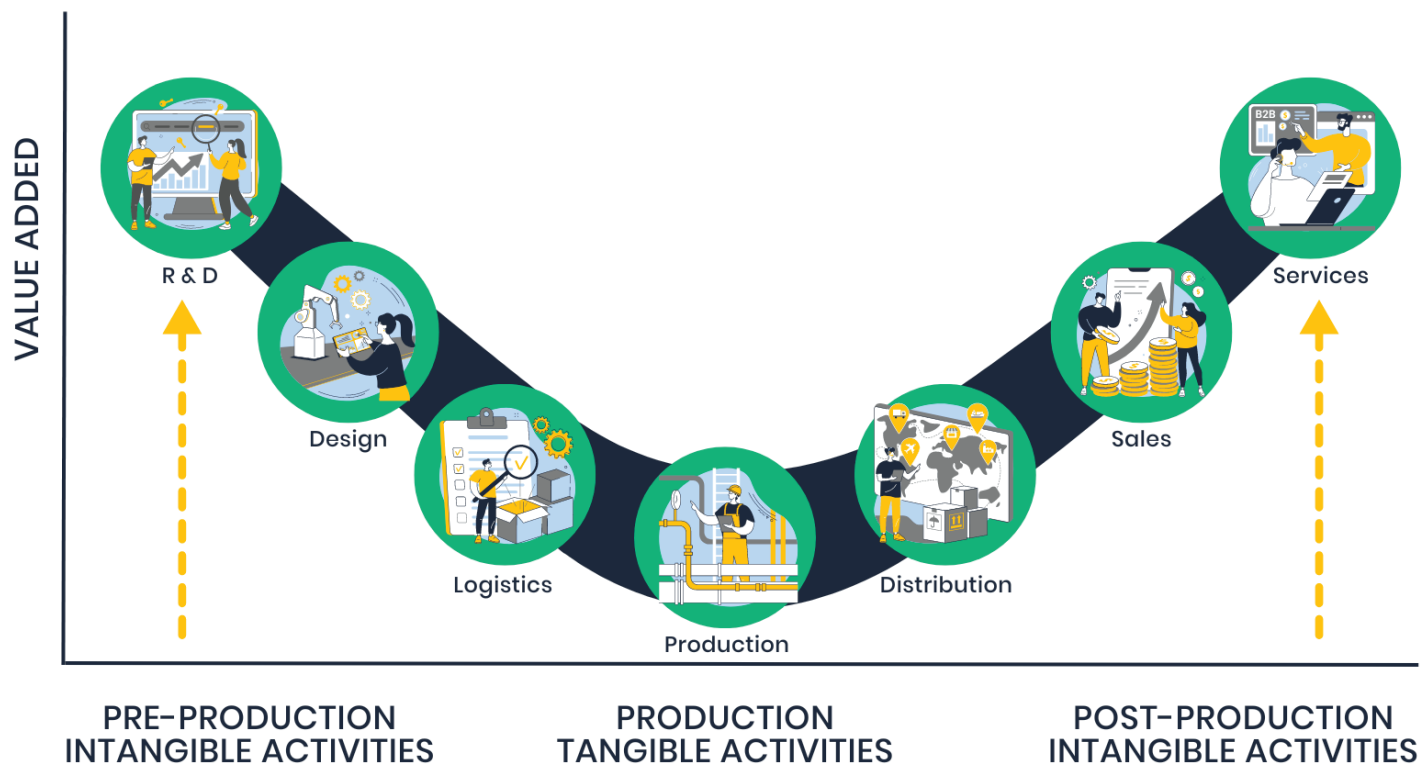
INDUSTRY TRENDS

Key statistics

- Manufacturing is Australia's 7th largest employer and accounts for 6.8% of all employment.
- Manufacturing is Australia's 5th largest industry for economic output, contributing 6.3% of GDP.
- The manufacturing supply chain supports 1.27 million Australians in work.

Figure 1 shows the 'smiley curve' that outlines the lifecycle of a manufacturing process. Due to advancements in technology, labour shortages, the rising cost of labour and challenges around global supply chains, Australia is increasingly edging towards a period when onshoring could be more commercially viable than offshoring.

Figure 1



Source: [Perceptions of Australian Manufacturing](#)

According to the Advanced Manufacturing Growth Centre (AMGC), manufacturing in Australia is estimated to grow by 25-35% by 2026.

CHALLENGES

COVID-19 turned out to be a significant catalyst for the elevation of some of the challenges that the manufacturing industry has been trying to address. These challenges include:

- generating ROI from technology investments
- tackling workforce shortages
- minimising risks to supply chains
- cybersecurity threats.

In this report, we will focus on the challenges in the manufacturing and engineering workforce, the skills gap, and the impact of leaders in their organisations.

Competitive edge #1 Skilled workforce

If manufacturing and engineering growth in Australia will rely on companies increasing skills in their workforces to derive greater value from evolving technology, those organisations that can attract, retain and develop talent for the most critical skills will have an edge over their competitors. This logic is supported by Figure 2, which details the top concerns manufacturers have with regard to being competitive in the marketplace.

Compared to 2021, there is an 11% increase in respondents who believe that a skilled workforce is key to being competitive.

Figure 2

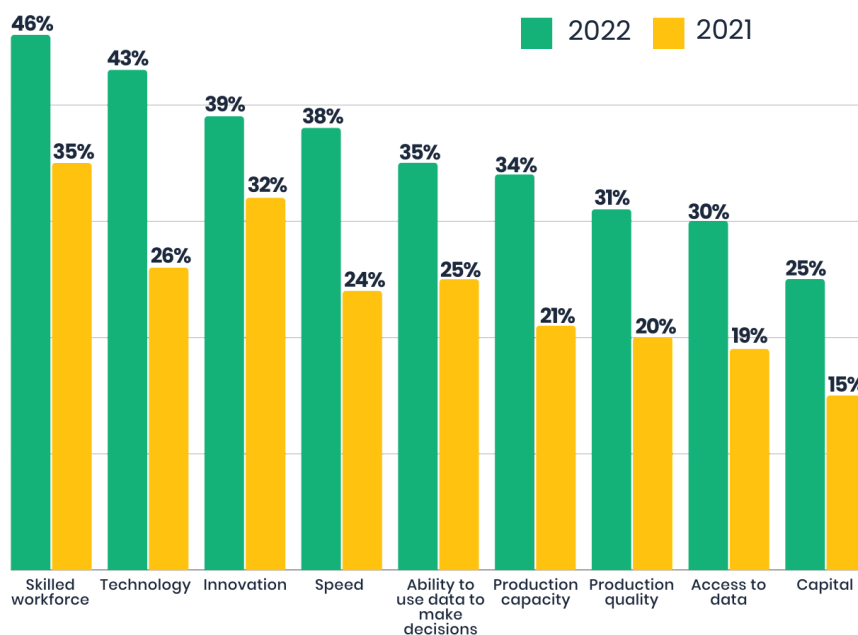
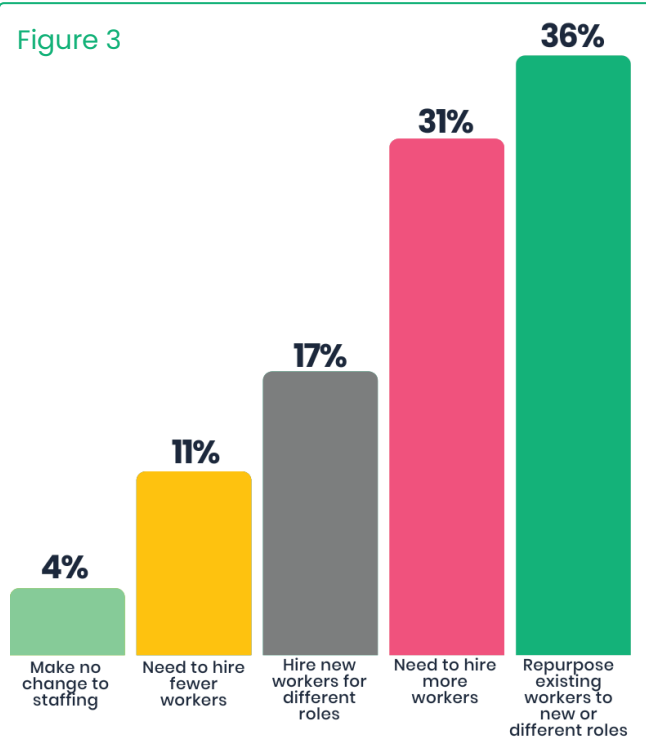


Figure 3



Competitive edge #2 Technology

While changes in technology represent a risk to some organisations and jobs, manufacturers will need to adopt the latest technology to help their organisations mitigate internal and external risks around supply chains, labour shortages and cybersecurity. This increasing reliance on technology comes with opportunities for those companies that align their investment to support their strategic growth plans. Currently, 89% of manufacturers are expecting to maintain or grow employment as a result of technology adoption.

Figure 3 shows the impact of technology on the workforce, with more than a third of workers needing to acquire new skills to be relevant and of value to their organisation. This level of re-skilling and change has the potential to significantly disrupt organisations, meaning that people and culture plans will be vital for effectively navigating towards a prosperous future.

Competitive edge #3

Leaders

With significant change and potential disruption to workforces playing out so strongly in the manufacturing and engineering sectors across Australia, strong leadership will be required in order for companies to thrive. While this could be said to be true across all sectors, the extent of changes anticipated by disruptive technologies in manufacturing and engineering will be potentially more challenging for leaders in these sectors when compared to others.



Figure 4 outlines the top six obstacles for leaders in the manufacturing sector. These challenges can be categorised as ‘soft skills’, such as communication, decision-making and people management. It will be crucial for business leaders to understand the obstacles that their team members are likely to face and provide support to them, including the right tools. While Human Resources (HR) and Learning and Development (L&D) professionals will play key roles within various programs, business leaders will need to actively participate in developing their leaders.

In September 2022, Make UK published a survey-based report that found that 67% of manufacturers claimed to have a shortage of management skills. As the industry is recovering from the impact of COVID-19, leaders have a pivotal role to play when it comes to supporting their people and driving productivity and, in turn, the profits of the organisation.

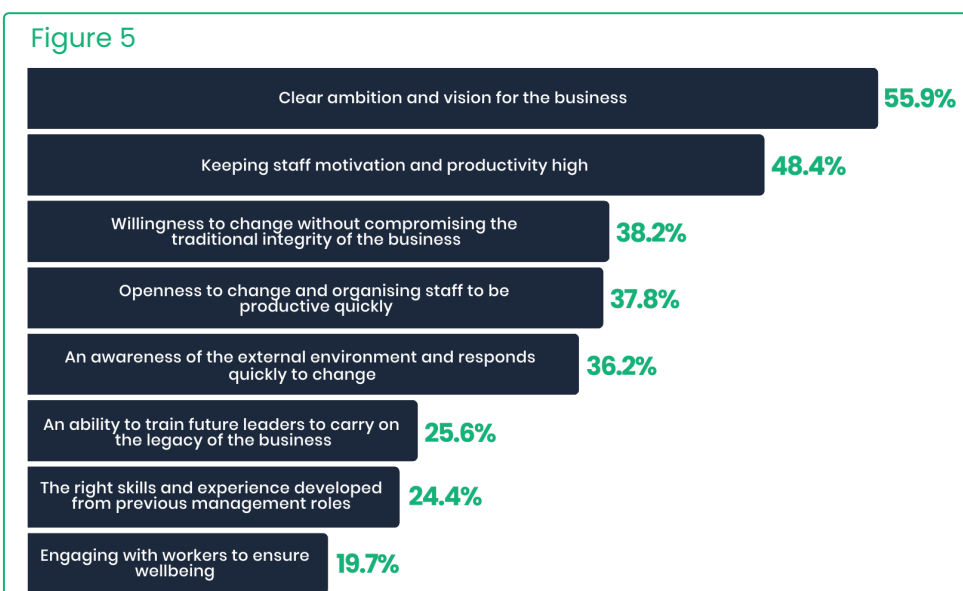


Figure 5 outlines the qualities required by manufacturers in their leaders for their business goals to be achieved. The ‘soft skills’ referred to earlier in this paper are clearly dominant in this figure, indicating that it is these skills, and not necessarily technical skills, that provide the most value.

The 2023 State of Smart Manufacturing Report, which collated the results of a survey of 1353 global manufacturers, identifies skills such as communication, teamwork, adaptability, employee engagement and employee initiative as being of far greater importance than knowledge of smart technology. While automation in processes is making certain aspects of some jobs simpler and safer, the need to collaborate and delegate has increased.

THE RISE OF A NEW GENERATION OF LEADERS

Regardless of the size of an organisation, developing leadership is likely to be on the priority list. Those who are optimistic about what the future holds for their organisation have designed programs that genuinely help their leaders to acquire new skills. For the most part, training seems to be a key element of the solution, but the impact of training can be short-lived.

As per DDI's Global Leadership Forecast 2023, which surveyed 13,695 leaders across 1,556 organisations, the top three concerns that keep CEOs up at night are attracting and retaining top talent, developing the next generation of leaders, and maintaining an engaged workforce. So, what do the leaders of today want when they think of their development?

Figure 6 outlines the learning experiences that are highly sought after by leaders. Today's leaders and aspiring leaders are looking for a purpose-led, meaningful and interactive learning experience with their peers. Manufacturers will need to carefully and skilfully develop programs that take into account the remote and hybrid working environments that many now find themselves in as a result of the pandemic.

Figure 6

MOST SOUGHT-AFTER LEARNING EXPERIENCES



RECOMMENDATIONS

1. Be purposeful

Your leaders have a broad and significant impact on the workforce. So, invest in your leaders through supporting them in acquiring new skills rather than assuming they will learn on the job.

2. Personalisation and consistency

Human beings suffer from the 'forgetting curve'. We lose our learning if it is not used in a consistent manner. Learning sticks when it is highly personalised and repeated over a consistent timeframe.

3. Catch them young

As leaders evolve from emerging to developing to executive, they need a different set of skills, and it is critical to support those leaders from the initial years so they can develop attributes that are in line with the purpose of the organisation.

Sources

- [8th Annual State of Smart Manufacturing Report](#)
- [Asia-Pacific Manufacturers Struggle to Outpace Competitors Due to Lack of Innovation, Skilled Workforce: Study](#)
- [Leadership and Management Skills Report](#)
- [Perceptions of Australian Manufacturing](#)
- [State of Australia's Skills 2021: now and into the future](#)

TURNING THIS INFORMATION INTO ACTION

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