



Comment

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Australia's manufacturing future – the industrial shift needed



LAST month, I wrote of the importance of leadership in manufacturing during the COVID-19 pandemic, exploring five imperatives: recognising and protecting value drivers, prioritising breakthroughs, collaborating on shared problems, mitigating risk through co-funding programs and building resiliency through local supply chains. Where to now as we start emerging from the worst of this crisis?

to do our best; we must do what is required”, and that is what we must do to refashion Australian manufacturing and build our industrial capability and capacity. Organisations such as the IMCRC have been pushing these values and concepts for some time, but often uphill with calls to action and investment only being heeded by the most willing and ambitious partners.

So, how do we do what is required? As the COVID-19 crisis evolves, it is challenging the old order and forcing

where manufacturing is much more vital.

We need, first and foremost, to see manufacturing as both a vertical industry sector and a horizontal enabler for most primary Australian industry sectors, in terms of key enabling technologies, supply chain capability, accelerating digitalisation and the uptake of Industry 4.0 and associated new business models. We need to balance short-term and critical initiatives with longer-term strategic

investment, jobs and prosperity in bio, energy and fuels, minerals, food and agribusiness, construction, defence and space, as well as in digital platforms and cyber. We have world-beating capability and exemplars in all of these areas, and need to upscale by design.

We need manufacturing – and industry generally - to be attractive to investors, businesses, researchers, government, current and future employees (think school children and the parents that influence what they will do) and to the community. And we need this attraction to be both local and from overseas to insure and assure our future relevance and economic prosperity.

All of which can and should have manufacturing front and centre, both to design, engineer, make and service, and also to enable and lead. It is time to build sufficiency of capability and scale and to create both the future of work and the jobs of the future.

Professor Roy Green (Chair of the new Advanced Robotics for Manufacturing Hub) has put forward (much more eloquently than me) the need for the establishment of a new National Industrial Strategy Commission to develop national priorities in consultation with industry sectors, aimed at growing “industries of the future” with new technologies and business models. I would add to this argument some key ingredients for success in Australia.

First, a **strong focus on small and medium sized businesses (SMEs)**. SMEs make up the very large majority of most industry sectors, and manufacturing is no different. If strategies for Australia are to work, they need to work for SMEs in terms of leadership development, collaboration, investment in design, innovation, R&D, talent and competitiveness. This will need larger companies to actively help develop and promote smaller ones and government programs to incentive and catalyse the right



There is a need to reflect on needs and opportunities for value creation across multiple platforms during this challenging period.

“Never waste a crisis,” said Winston Churchill – something I tried to apply in three decades of automotive manufacturing. We must not waste this one. What is old is now new; what was once unfashionable is now fashionable. Concepts and virtues such as leadership, collaboration, innovation, ingenuity, and, dare I say, even local manufacturing, are not just in vogue but important and necessary. Churchill also said, “sometimes it is not enough

questions about what sort of future we want for Australian manufacturing and for industry in general. We must look at what is required of businesses, research organisations and government to create a thriving, relevant, resilient, and globally integrated manufacturing sector. In the past few weeks, the views of society and industry have rapidly changed and if there is to be a “new normal”, then it appears to be one

needs linked to a compelling, engaging vision for our future that is clear on “races that we can win”, both locally and globally.

And we will need to test this through the lens of industry sovereign capability and needs, perhaps in collaboration with New Zealand. While much focus is rightly on the medical, pharmaceutical and health sector, we also need to reflect on needs and opportunities for value creation,



behaviours, rather than propagate entitlement or protectionism. Catalyst organisations like IMCRC have shown this is possible, with much of the \$200 million manufacturing R&D investment portfolio being led by Australian-owned SMEs.

Second, the **leadership and management maturity and capability** of SMEs in Australia needs to be lifted. To do so, greater emphasis needs to be directed towards showcasing what good leadership looks like in a fast-moving, rapidly digitalising world. In my experience – and not just in Australia – the single common denominator in businesses who “can and do” versus those that “can’t and don’t” is the quality, willingness and ambition of SME leadership. A strong

focus on management and leadership education and development would complement the more traditional focus on workforce and trade skills.

Third, **effective collaboration** – even in competition (as long as it isn’t collusion) – across all business sizes will be critical in achieving a sustainable manufacturing future. We know peer to peer learning works. Also, recent mask, ventilator and hospital bed local collaboration initiatives have demonstrated that we already have the skills and know-how. Perhaps this might also open the floodgates for collaboration between business and the research community.

Fourth, a focus on **breakthrough innovation** – as distinct from invention – that reshapes business

models and create new products and services that can be sold locally and internationally. Key to both innovation and continuous improvement is the rapid adoption in Australia of digital manufacturing technologies and the uptake of Industry 4.0 and associated business models. This will be key to deliver much needed step changes in competitiveness, while enabling superior value to be both captured and created. R&D is a critical element of innovation, however not all innovation is R&D – just look at companies such as Atlassian who have built global software platforms and created new and valued business models.

Finally, **purposeful research** in science and technology, including frontier technologies, is important to not only rebuild the economy, but to fuel the “races that we can win”. We are blessed with an abundance of academic resources in Australia – we need to better utilise these and be clear on what activities are to be industry and market led versus research and discovery pushed. Scale matters, however this is diminished by duplication of resources and effort and fragmentation of incentive programs.

To bring all these ingredients together, and looking overseas for success models, a proven approach involves the creation of a national network of technology, innovation and collaboration hubs, at scale, with both multinationals and SMEs working in safe spaces

with researchers. Such examples include the Manufacturing USA Institutes and the UK’s High Value Manufacturing Catapult Centres, that both spearheaded long term national industrial and manufacturing strategies, and incentivised significant investment well beyond the initial government support.

This is a breakthrough opportunity for Australia, and it is the type of ‘good different’ thinking and planning we will need to not waste this crisis – IMCRC has a blueprint for how this can work in Australia and build on existing resources.

Where do we start? Significantly, we already have a vision for where we could go – the 2019 CSIRO NAB Australian National Outlook paints a compelling outlook vision for Australia by 2060, with key building blocks being both a national industrial shift and significant investment and growth in manufacturing. It is a great read, especially for a manufacturer!

And while COVID-19 has created new optics through which we need to view both risk and opportunity, there has arguably not been a more compelling time in Australia to do what is required and build a new, attractive and outward looking industrial and manufacturing future. **M**



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