

Could manufacturing aid Australia's economic recovery?

June 4 2020

Following a federal government call for the reignition of domestic industrial activity, University of Sydney experts comment on the role of advanced manufacturing and boosting the digital workforce in Australia's post-coronavirus economy.

Digital skills vital for post-COVID economic recovery

Professor Eric Knight is an expert in strategic management from the University of Sydney Business School who says that to bolster modern manufacturing, there must be an emphasis on building digital skills.

"The Prime Minister's vision for a competitive advanced manufacturing sector will only be realised if we feed the best Australian digital talent into [global supply chains](#)," said Professor Knight.

"Australia has a major opportunity to create a sustainable economy by pursuing closer ties with the United States. Specifically, the [technology sector](#) along the US West Coast has faced a long-term shortage in key skills like [software engineering](#) and data analytics.

"The road to [economic recovery](#) post-COVID-19 will become clearer once global R&D companies start headhunting Australian workers. We need to mobilise Australia to these kinds of global opportunities and aim bigger and broader than pure self-sufficiency."

Act local—think global

The pandemic has exposed Australia's vulnerability and dependence on global supply chains, says materials engineering expert Professor Simon Ringer.

"COVID-19 has revealed more about Australia's exposure to complex global supply chains—a crisis emphasised by the mismatch between our upstream domestic production and our demand for downstream manufactured products. We need to grow our downstream capacity," said Professor Ringer from from the Faculty of Engineering.

"Whilst the pandemic has rung the bell on this, now really is a critical opportunity for industry, government and academia to come together around a reinvigoration of the national manufacturing capacity.

"The essence of opportunity is advanced manufacturing—integrating additive technologies or 3-D printing, advances in [materials science](#), automation and "industry 4.0" together with design-led innovation.

"Australia needs a plan to get this integration right: we have the ideal "raw materials" to achieve this integration and a well-educated and creative workforce. Now is the time for our country to "act local—think global"."

A return to manufacturing—but not like we've seen it

Professor Stefan Williams, Head of the School of Aerospace, Mechanical and Mechatronic Engineering, says that modern manufacturing will require skills in a variety of fields, such as nano-technology and aerospace engineering.

"We see great potential in the future of advanced manufacturing," said Professor Williams.

"We are currently working on the design and characterisation of novel materials, from shedding light into the structure of these materials at the nano-scale all the way through to understanding their performance in a variety of challenging application domains.

"New manufacturing processes, including 3-D printing, are providing opportunities to rethink the way that we design and optimise the performance of complex manufactured goods using metals, ceramics and polymer composites.

"We are working closely with industry partners in a diverse range of areas including in the aerospace, biomedical, defence, energy and robotics sectors.

"The University of Sydney has recently invested heavily in the establishment of the Sydney Manufacturing Hub, a new Core Research Facility that will provide our staff and students with access to state-of-the-art [manufacturing](#) capabilities that will further accelerate our research in this area."

Provided by University of Sydney

Citation: Could manufacturing aid Australia's economic recovery? (2020, June 4) retrieved 24 June 2024 from <https://phys.org/news/2020-06-aid-australia-economic-recovery.html>

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