

MEDIA RELEASE

We're designing robots that see for Aussie SMEs

Brisbane, August 10, 2017 – Meet the first in a new wave of robots that will revolutionise manufacturing among Australia's small to medium size enterprises – creating more jobs locally.

Key points:

- Current manufacturing robots are inflexible machines that perform one pre-programmed task repeatedly.
- QUT, UAP and the IMCRC are creating the first in a new wave of agile, adaptable robots that can see what they're working on and make on-the-fly decisions.
- Agile robotics will change the face of manufacturing for small-medium sized manufacturers in Australia, generating more jobs local.

For more than 40 years robots have been the workhorses for manufacturing giants – inflexible machines pre-programmed to perform one task repeatedly in a highly-controlled environment like an assembly line.

Unlike its blind cousins, this one is being trained at Brisbane's UAP (Urban Art Projects) to create large-scale, bespoke public art pieces that until now were impossible to produce economically.

It's the start of an \$8 million design robotics research project to develop vision-enabled, agile and adaptable robots that SMEs can use easily to make high-value products that open export opportunities and create more jobs in Australia.

"We build big, one-off, high-quality art pieces for organisations around the world," said UAP founder and managing director Matthew Tobin, a QUT alumnus.

"We really love what we do but we are challenged by every project – each is very different from the last and each involves a lot of hand-crafting techniques to design the pieces, which we then have manufactured in China before we assemble and install them.

"While our team certainly has the skills to deliver these artworks, the cost of making these increasingly complex pieces is becoming prohibitive, particularly given the rising manufacturing costs in China.

"Having a robot on site with the intelligence to see what it's working on and make adjustments on the fly will allow us to manufacture more of the pieces here in Brisbane, broaden the scope of designs we can achieve and employ more designers and technical staff."

QUT is leading the five-year design robotics project in partnership with UAP, the newly-established Innovative Manufacturing Cooperative Research Centre (IMCRC), RMIT and construction company Laing O'Rourke.

QUT interaction design expert Dr Jared Donovan said his team was using design principles to determine exactly how robots could best be used to improve manufacturing SMEs.

“Robots can be extremely useful tools for businesses and creatives but we need to approach them as more than just a high-tech wonder solution – we need to think carefully about where it makes real business sense for an SME to use a robot effectively,” Dr Donovan said.

“SMEs can’t afford to employ a full-time engineer just to program a robot – that’s why we’re designing a system for UAP that is agile, adaptable and easy for technical staff to re-task day-to-day.

“This is a very exciting project because it will showcase to companies how using robots strategically can upskill and expand an SME’s staff while increasing the range of products it can manufacture.”

IMCRC Managing Director and CEO David Chuter said introducing design-led robotics into Australia’s manufacturing SMEs would give those companies a competitive advantage domestically and internationally.

“Australia’s competitive advantage is in high-quality, high-value manufacturing and integrating agile, vision-enabled robots is one of several ways we believe we can boost the commercial value of the sector, creating more export and job opportunities,” Mr Chuter said.

“Australia’s manufacturing sector is dominated by SMEs and we are eager to apply the lessons we learn from this project to the broader sector.

“We want to improve collaborative opportunities between companies, universities and governments into the future to boost the capability and accelerate diversification of the sector into ‘new manufacturing’ opportunities and value chains.”

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About the Innovation Manufacturing CRC

The IMCRC is a not-for-profit, independent cooperative research centre that helps Australian manufacturing companies increase their relevance through collaborative, market-driven research in business models, products, processes, and services. In collaboration with manufacturing businesses, research organisations, industry associations, and government, the IMCRC co-funds broad, multidisciplinary and industry-led research projects that deliver commercial outcomes, and advances the wider cause of manufacturing transformation through industry education and public advocacy.

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