

Report Summary - Robotics Innovation Precinct

Introduction

Australian organisations are increasingly applying automation, data science, AI and robotics to remain internationally competitive, increasing their contribution to the West Australian economy. A strong domestic supply chain has historically supported these primary firms when they add capacity or improve productivity, however that supply chain is relatively immature in the development and application of automation, data science, AI, cyber security, and robotics when compared with international competitors. Rapid acceleration of the supply chain's capability and capacity to support Australian organisations as they harness automation and robotic technologies in the energy resources and mining sectors alone, could add over \$70 billion of gross value to the Australian economy by 2030 and create over 80 thousand jobs, and more if the supply chain's export potential is realised. \$30bn of this alone in Western Australia.

To fully realise the value of building a supply chain around automation and robotics in the Resource sector there needs to be a cross sector approach to diversify the supply chain. The automotive industry through the Future of Mobility (all modes of existing transport and our transport needs into the future) is now the global driving force in robotic mobility. Large companies are more likely to locate, invest and have presence in Western Australia if they can service both the resource sector and the Future of Mobility. The value of the Future of Mobility sector is around \$3bn today, growing to \$20bn by 2030 in Australia.

Key Development Areas

By creating a collaborative robotics precinct in Joondalup, this will support the resources sector and provide a broader and more attractive environment to attract large firms who also have a focus on urban robotics. Urban robotics is a natural fit for the resource sector as the base technology is largely compatible and interchangeable. This enables the step change from firms applying technology locally to the resource sector to building technology locally for multiple sectors. For this to occur four key developments need be actioned.

- Establish a controlled area for the testing of urban robotics through regulatory reform with a defined area in the City of Joondalup with education precinct as its hub. This also includes the creation of an association to manage the permits over the city location.
- Develop an entrepreneurial eco-system where there is access to funding, availability of skills, places to work, locations to innovate and an ability to reach potential customers easily.
- Build a skill and research & development matrix, working with educational, research and development institutions along with industry to improve short and long term skills in advanced field technologies and incentivize key research and development activities to create an education precinct.
- Create an automation, data science, AI, cyber security, and robotics business park within the City of Joondalup that strengthens collaboration between primary firms, supply chain firms and educational and research institutions.

Joondalup as the Robotics Innovation Precinct

Joondalup is classified as a strategic centre for Perth by the state government. In its current form it is a commercial and retail centre for the north-west corridor as well as a primary source for health care and education. Economically it represents a constrained model whereby there are far more people commuting out of the city for work than there are local jobs. There is also limited data to suggest that Joondalup is a business centre for professional and financial services.

The business-as-usual model shows limited economic growth, due in part to the constrained nature of the city and negative growth in key industries, such as retail.

An unconstrained model requires a catalyst for professional and financial services and a process to bring Edith Cowan University further into the City's economy. The catalyst proposed in this model is the development of robotics, automation, AI, cyber security and data science. These are fast-growing, high-density industries that are also linked to the resources sector that can be serviced, in part, by the current commuting workforce in Joondalup and retain graduates from the education precinct of Joondalup.

This has the potential to create 18,500 jobs over a ten-year period, this is double the constrained model with most employment coming through the activation of various sectors that would either support the key targeted industries or as a flow on effect. Of these around 3,000 would directly be attributable to the target industries.

It is possible this result can be replicated with another set of industry priorities other than those that focus on robotics, but those priorities would need to be unique to the north of Perth and be linked to the resources sector. Almost half the growth value is tied to creating value for an education precinct with Edith Cowan University. Without creating an attractive environment for students and graduates to work within the city, almost \$2bn of economic output is lost in this model.

Creating a professional services industry coupled with an ecosystem for new and emerging business from the education precinct puts Joondalup on target for matching working professionals living in the City with jobs available within twenty years. With its limited available land, the model indicates the needs to internally adjust its land profile.

The Report looks at the current skills gap and impact of doing nothing through to developing an accelerated knowledge process. Taking into consideration previous reports as well as data collected from industry through this process, skills shortage and regulatory challenges were labelled as the biggest inhibitors to growth in this space. Nearly all respondents to industry consultation indicated that they would employ more people if they were available in the target skillsets and they would develop more products in Western Australia if the regulatory environment were more competitive.

Conclusion

These key development areas are a blueprint for the City of Joondalup to become a focus centre for urban and service robotics by 2032. This includes creating a world class education hub and an active ecosystem that supports emerging business and global organisations. Actioning these key development areas has the potential to significantly grow the Gross Value Add of the Joondalup economy over the next decade.

The report looks at the challenges and opportunities that exist to achieve these goals and lays out a roadmap for the City of Joondalup and other industry and education partners. Key amongst these challenges is the need to advocate for regulatory reform for autonomous

vehicles, build an ecosystem that attracts talent from the education sector into starting businesses locally, and building a closer relationship between the City and the education precinct that develops Joondalup into a true 'University City'. The focus areas include Automation, Robotics, AI, Data Science and Cyber Security in the Resources, Health Care, Manufacturing and Transport Sectors.

This will not only have a direct benefit for the range of organisations operating in Western Australia but will also support local communities and encourage diversification and growth of SMEs, suppliers, services, research, education and training organisations.

This is unlikely to happen organically and will require government, education and industry working together to support these developments and this includes;

- Advocacy around regulatory reform to allow the testing of level 4 autonomous vehicles in the public space. Up to 70% of the potential value is locked in the approval process and regulatory challenges.
- Developing a landing pad for new and emerging business to support cluster development and connect education facilities to incubators and accelerators and enable grants to focus on the precinct. This includes supporting a Robotics Cluster.
- Transforming Joondalup into a 'University City' that allows for a concentration of education providers to set up and provide the services that retain people within the city.
- Provision of available land close to education providers and within the testing precinct for businesses to locate.

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