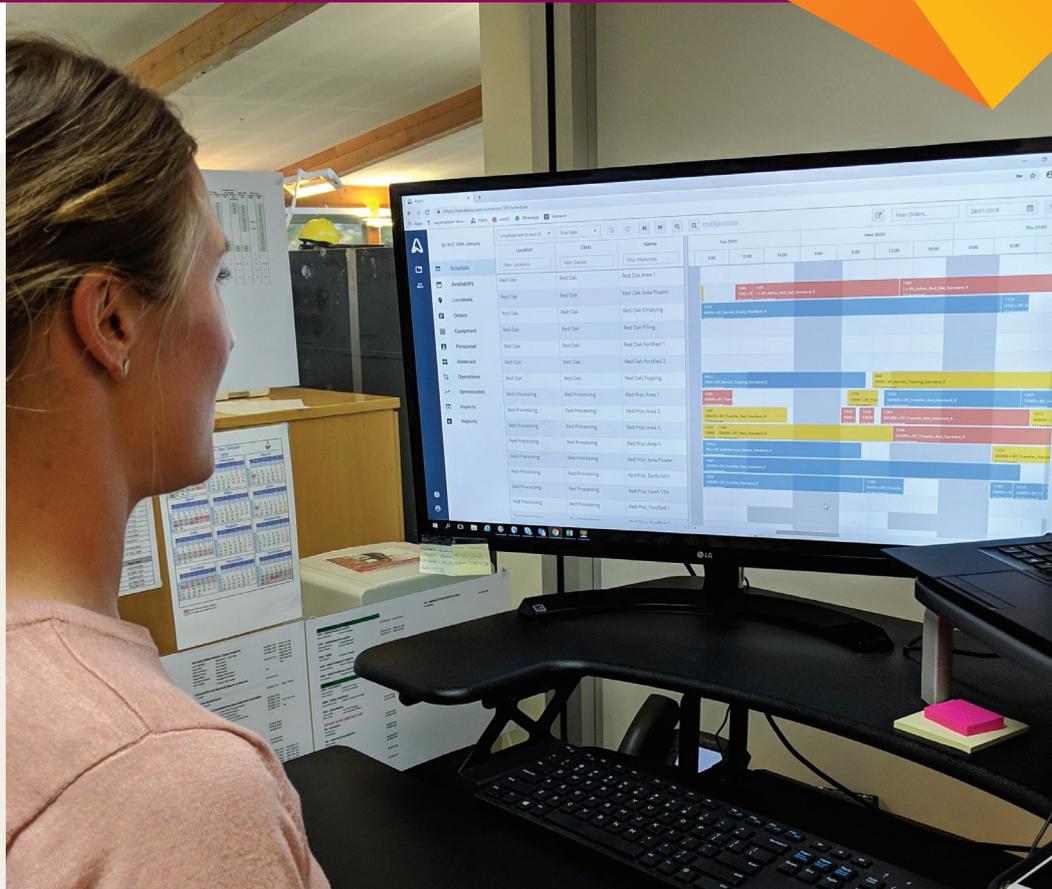


ARTIFICIAL INTELLIGENCE COUNTERMEASURES



Ailytic is a fast-rising Adelaide-based provider of software and sensors for smarter manufacturing. This project will bring a new “real-time artificial intelligence countermeasure” solution for production anomalies from Technology Readiness Level (TRL) 3 to TRL 8.



How the Growth Centre helped?

The Advanced Manufacturing Growth Centre is contributing \$224,370 in co-funding to the project. Ailytic credits AMGC with helping identify a suitably differentiated end-state product, deliverable within a short timeframe.

What’s changed?

Ailytic’s AI countermeasure solution will take a promising smart manufacturing product to near-production readiness. New full-time software engineers and data scientists will be required for its next stage manufacturing process. The global demand for the SME-friendly solution under development is expected to grow sharply, reaching \$25 million in sales within three years.

Success story overview

Real Time Data enriched by artificial intelligence can help manufacturers reduce costs and increase efficiency in a range of different ways.

Adelaide-based Ailytic has proven this across food and beverage, steel, plastics and electrical component industries to date. Its “prescriptive analytics” software, fed by information from production equipment and personnel, has helped optimise schedules across a diverse set of businesses.

1 <http://theleadsouthaustralia.com.au/industries/primary-industries/australian-wine-industry-innovators-honoured/>
 2 <https://citymag.indaily.com.au/commerce/business-profile/introducing-ailytic/>

Ailytic was founded in 2016, and the year after it won a Wine Industry Suppliers Australia Award in the startup category for its success saving time and money in that industry¹. Its first major client was Oliveri Sinkware².

End-user and management decision making can be augmented with AI, in particular when using common language and standards across different industry verticals, according to Ailytic co-founder and CEO James Balzary.

“When you look at inputs and outputs to the decision-making process between a maker of kitchen sinks, a wine producer or electronic component manufacturer, they are not actually that different when it comes to what drives efficiency and production improvement” he says.

“We heavily leverage standards like ANSI/ISA95 that allow us to define and model equipment, people, resources and materials in a generic way which improves interoperability and consistency between sites and different industries”

Balzary co-founded the company after a decade in large industrial automation technology multinationals. His experience helped inform an idea that small and medium enterprises (SMEs, which represent the overwhelming majority of Australian and global manufacturers) were an underserved market for smarter factory technology.

“Factory owners and managers are constantly thinking, what is the most efficient or best way to make and deliver to their market demand?” explains Balzary of where the company sought to improve operations.

“If they are not on track or are constantly deviating from expectation, how do we get back on track as far as what makes the company money?”

Ailytic’s expansion has seen them open their first international office, in Changzhou, China in mid-2019 to deliver existing and future capability to that large market.

This project aims to expand Ailytic’s usefulness to manufacturers through development of further AI-based products. Four leading national and international manufacturers will provide testing and development arenas for an operational “countermeasures and co-pilot” product, which will provide decision support when production deviates from plans.

A cloud-based AI and simulation engine will suggest optimised solutions, or countermeasures, for an unexpected event or production improvement opportunity.

The four collaborative partners will each provide “detailed requirements validation, functional design approval, sample/test data, results validation assistance, user feedback, visualisation guidance and system workflow testing,” for the project. Each will allow for development within a different environment.

Treasury Wine Estates is contributing \$8,400 through in-kind support, with their case focusing on resource utilisation (people and equipment) and scheduling in large winemaking facilities.

Yalumba Family Vignerons is providing \$12,000 worth of in-kind support. It will have a focus on high-speed bottling lines and real-time optimisation, countermeasure, simulation and triage for deviation from regular operation.

Schneider Electric’s Clipsal business is contributing \$15,600 in in-kind support, with its case concerned with conformance to scheduling at an injection moulding operation, with real-time updating of plans.

Tasman Sinkware is providing \$7,200 of in-kind support. Their pilot is focused on deviation from plans in their pressing area, processing these in near-real-time, and reallocating workers based on production bottlenecks.

AMGC is contributing \$224,370 in co-funding to the project.

Ailytic expects to hire two highly-skilled full-time equivalent workers over completion, which will see the Technology Readiness Level (TRL) move from 3 to TRL 8 over 12 months.

The demand for industrial automation and supply chain optimisation software is significant and growing. One market research report estimated its value at \$US 120 billion in 2018³.

Ailytic’s product, which is deliberately SME-friendly and able to provide value to companies that have not invested in a Manufacturing Execution System, is a novel and accessible option. It is confident of reaching \$25 million in Asia Pacific sales within three years.

Balzary says AMGC has assisted refining the countermeasures project to target an unmet, high-value market area.

“We had a reasonable understanding about the market requirements for this, but AMGC really made us focus on something tangible that we could achieve in the projected timeframe,” he says.

“That means, refining the market opportunity, targeting the differentiation and pushing us to be as unique as we possibly could technologically at a price point suitable to the SME market, relevant to all sizes of companies and that is easy to deploy.”

3 <https://www.arcweb.com/market-studies/automation-software-expenditures-discrete-industries>

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