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APAC Agriculture, Food, and Beverage industry lean on collaborative automation - Analysis

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How Cobots Could Help Make the Most of â??Asiaâ??s Food-bowlâ??, By Adam Sobieski, Regional President APAC, Universal Robots



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Countries across the Asia-Pacific region have been synonymous with the export of agriculture and the manufacturing of food. From Southeast-Asian countries like Thailand and Indonesia, to Australia and New Zealand representing Oceania, these nations have long and proud histories as agricultural exporters. In fact, Thailand is responsible for roughly 34.5% of the worldâ??s rice exports, and Australia alone produces enough produce to feed 80 million people, despite having a population of just 26 million.

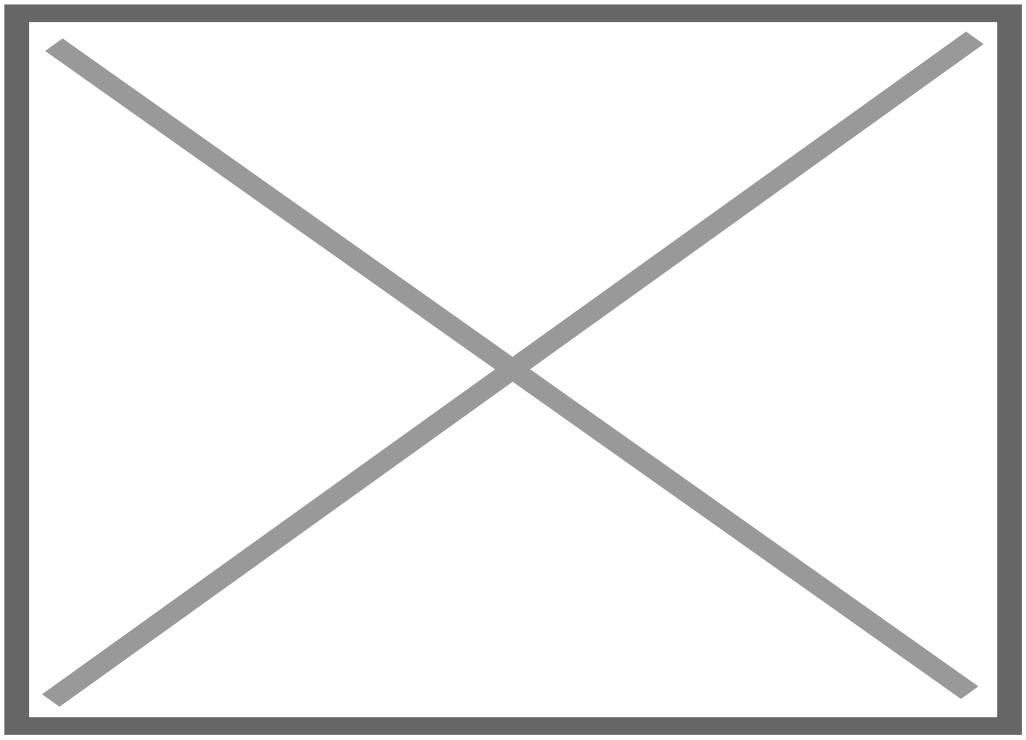
Taking a micro look into Australiaâ??s food sector, it has been smashing records for production, exports and farm income. Their food and drinks are exported all over the world, notably to the US and other parts of Asia, with China being a major end-customer. From the likes of seafood and meat to grains, dairy and wine, Australia and New Zealandâ??s agriculture, along with their food and beverage industries, make a major contribution to employment and their economies ($71 billion in Australia). Currently, over 243,000 people are employed in the food and beverage manufacturing sectors in Australia.

Elsewhere, Singapore is home to a thriving food manufacturing industry supplying safe and quality food products for local consumption and export around the world. Consisting of approximately 1,000 food manufacturers across 10 sub-sectors, it houses established MNCs, home-grown brands and an increasing number of food-tech start-ups. In 2018, the food manufacturing industry employed about 50,500 employees and contributed more than S$10.7 billion.

As dainty as everything sounds, food production is extremely labour-intensive and a thriving industry is heavily dependent on having a large workforce to prepare and package food and drink for both domestic and export use. Currently, the APAC sector is facing the tightest labour market in decades due to immigration slowing down since the start of the COVID-19 pandemic. Despite borders opening up and businesses getting back in the saddle, collaborative automation lightens the workload with the smaller workforce through assisting them with repetitive tasks, allowing them to focus on other tasks that require that human touch. When the workforce slowly repopulates, the addition of collaborative automation to more manpower only makes businesses more efficient and effective.

In fact, it has been estimated that by 2030, 1 in 3 new jobs created in the agriculture industry will be technologyâ?¯related. Singapore is prime example of a workforce decreasing rapidly in population, with the United Nations estimating a decrease of about 600,000 workers between 2023 and 2043. Ultimately, collaborative automation will aid the declining labour force population in the decades to come.

The Automated Saviours of Food and Beverage



As with the trends globally, automation has evolved into an important role supporting businesses of all sizes, and it is no different in the food industry. According to the most recent World Robotics report from 2022, it was indicated that 26% of industrial robot installations in 2021 within Australia and New Zealand stemmed from the food industry. In the midst of labour shortages, collaborative robots (cobots) are well placed to support Australia and New Zealandâ??s food and beverage sector to with solutions that include packaging and palletising its output.

Labour shortages have had several driving factors, mainly aging populations along with the catalyst which was COVID-19. The pandemic forced businesses to source for different solutions in filling in for the lack of manpower, and automation was found to be a viable solution. Over the last couple of years, industrial robots have been steadily gaining popularity amongst manufacturers throughout the region, especially with handling and assembly tasks. With the increased payload of the Danish cobot developers Universal Robotsâ?? latest model, the UR20, palletising products in bulk especially will become increasingly accessible, giving businesses alternatives to spending big on industrial robots. This comes in handy especially for the packaging of beverages.

The field of automation has much untapped potential as both Australia and New Zealand are way under the global average ratio of industrial robots to manufacturing employees. The adoption rates of automation in other Asian countries have been slow as well, with developed countries such as Singapore only installing 3,467 new robots in 2021 â?? 35% lower than in 2020.

Though the food and beverage industry rapidly takes steps towards automation, it remains important to ensure opportunities are not just for conglomerates of the industry, but are available for companies of all sizes. Robotics should not only be for large scale operations which are accompanied by significant capital investments, but is crucial to provide the tools for local companies that will help them stay competitive and remain relevant in the fast-paced and ever-evolving industry.

The Automation-ready Future Workforce

Robotics are starting to play a key part in many businesses across various industries, they are becoming increasingly common in the workplace. With that, it is important for the future workforce to be well-versed in robotics to fit seamlessly into future vocations. Educational institutions in Australia have seen this, and are now including technical training in their curriculum. Universities and vocational training centres are offering robotics education including exposure to real world applications such as palletizing.

Collaborative robots are commonly used in the classroom as a part of this training. Currently there are approximately 150 cobots installed across educational institutions in Australia. With the increasingly important role automation is starting to carve out in various industries, it is vital that the emerging workforce is well-versed in its ins and outs for a seamless transition from school to the workplace.

In due time, the ability to understand automation and work together with it will become prevalent, which will aid everyone be more efficient and effective in delivering the results they need.