

# CASE STUDY

## Lion Smithfield

→ Industry 4.0



Lion turns to Foodmach for an agile, flexible packaging line and Industry 4.0 integration.

Lion Dairy and Drinks, owner of Australia's iconic juice brands including Berri, Daily Juice and Just Juice, processes hundreds of thousands of bottles a day at its Smithfield plant in Sydney, ranging from 250ml to 3L.

In the face of changing juice consumer preferences in Australia, Lion has made a shift to producing a wider variety of premium and specialist beverage products. What this means from a production point of view, is that Lion is producing a greater number of SKUs in a range of PET and HDPE bottles in sizes from 250ml to 3L – but at reduced production volumes for each format. Lion therefore needs fewer production lines but ones that are highly agile, allowing quick changeovers with minimum downtime, while maximising production efficiency.

The company downsized four beverage production lines to two and repurposed some existing equipment along the way, while also integrating a high level of connectivity between all the equipment to bring the factory closer to Industry 4.0 standards.

*'The objectives were to create a consolidated and efficient packaging process that allowed us to provide better quality and value to our customers, as well as unlocking the full potential of some of our existing assets,' says Michael Riches, Engineering Leader, Lion.*

*'It essentially reduced four juice bottling lines down to two by turbocharging the secondary and tertiary packaging lines.'*

**Foodmach was chosen to execute the project on the basis of our integration, automation and end-of-line solution specialisation. The project scope included:**

- design of two complete filling lines
- empty and full bottle conveying system
- end of line Robomatrix palletising system for both lines
- a centralised high speed, rotary ring Robopac stretch wrapper

*Cont...*



# LION

Lion Dairy & Drinks brings delicious natural goodness to every Australian, every day.

Lion produces, markets and distributes some of Australia's most iconic brands in milk, dairy beverages, cheese, yoghurt, juice and soy. Every year it purchases around one billion litres of milk from over 550 Australian dairy farmers, and crushes approximately 75,000 tonnes of fruit from orchards across the country.

# FOODMACH

Automation | Robotics | Integration | Turnkey Projects

# THE SOLUTION

## Industry 4.0

*'The equipment was specified to transform a site with essentially zero ability to generate meaningful production data—into one that could.'*

**Michael Riches, Lion**

Foodmach also reintegrated the existing line equipment such as bottle unscramblers, bottle debaggers, bottle labellers, pack labellers, bottle fillers and spiral elevators.

One of the challenges of the project was installing an end-of-line system that would operate efficiently in a chilled environment.

*'Installation of the palletising and stretch wrapping system in the cool store was critical to ensure that we were able to get our product from mixing to a chilled environment to ensure cold chain compliance,'* explains Riches.

To enable this, the cool store had to be increased by 30 per cent; this meant the Lion team had to work closely with Foodmach in redesigning the palletising system to fit and work within the confines of the existing factory footprint, and to ensure it was suitable for a cool store environment.

*'Foodmach was able to modify the design of the Robomatrix palletiser to suit this new application. We were very happy to be able to provide this service to Lion in order to meet their changing needs. Our local engineering and fabrication expertise allows this level of support in contrast to what's available via off-shore suppliers,'* says Earle Roberts, CCO at Foodmach.

*'Foodmach was able to offer everything including conceptual designs, fabrication, installation, automation, and control. The key benefit was the ability to take an asset that was no longer required and repurpose it for a major turnaround project for the site,'* Riches says.

Commenting on the partnership between Lion and Foodmach, Riches says: *'We have completed a number of successful projects with Foodmach across various sites, and have learned a lot from each other.'*

An important part of the project was installing a line control system that would allow all machine data to be accessed by a centralised system, making the lines Industry 4.0 ready.

*'The equipment was specified to transform a site with essentially zero ability to generate meaningful production data—into one that could. This data will be used to generate projects focused on operational efficiencies and waste reduction,'*

**Michael Riches, Engineering Leader, Lion**

# INDUSTRY 4.0





# ROBOPAC

A key part of the installation is a Robopac Genesis HS50 high-speed rotary ring pallet stretch wrapper, using Cube Technology™ for precise use of film, position and containment force.

*'The Robopac stretch wrapper was evaluated through our normal procurement processes; it was the best fit for our requirements, was good value for money, and—with Foodmach as the agent—allowed for seamless integration.'*

*'The Robopac stretch wrapper met our production rates of 100 pallets per hour; was capable of operating in a cool store environment; met our site-specific electrical and automation specifications; was at the right price point and rated well in total cost of ownership.'*

*'And, importantly, Foodmach met our project timelines.'*

**Michael Riches**  
Engineering Leader, Lion



A Robopac pallet stretch wrapper offers:

- reduction of consumables
- 30-55% film savings
- improvement of load containment
- reduction of damage to the palletised load

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