



Doubling the production capability of a growing pastry butter sheet line

Fonterra is New Zealand's largest dairy cooperative, with a business that spans over 100 countries. Processing milk is their core business, producing bulk cheese, milk powders, butter, and an extensive range of nutritional food supplements.

With dramatic increases in the sales volume of butter sheets, Fonterra required a solution to produce, cut and wrap butter sheets onto parchment. So, our engineers jumped straight to work. With our experience and expertise in the dairy industry, we began developing an innovative custom solution for Fonterra.



THE CUSTOMER

Fonterra

“Working with RML on an innovative solution was straightforward. Their in-house expertise in all aspects of the design and build added value to the project delivery process and made some tough challenges easier to overcome.”

Will Rouse
Senior Engineering Project Manager,
Fonterra

THE CHALLENGE

The original pastry butter sheet production line at Fonterra Edgecumbe had reached its realistic rate limit. It was an innovative but old production line that also had many inherent issues with product presentation and customer quality. The butter dosing and parchment wrapping steps were the key bottlenecks and, as the only line of its type across the Fonterra asset base, were limiting sales in a rapidly growing market.

The butter-making process was also in need of an upgrade, so Fonterra engaged a process design vendor to lead the line upgrade. They in turn recognised the expertise of RML and engaged us to lead the redesign and replacement of the cut and wrap section of the line. We leveraged our design knowledge to develop an innovative machine to improve the wrapping and product presentation, while closely matching the general appearance of the packed product to allow some market continuity.



THE SOLUTION

We designed a customised butter sheet wrapper capable of producing 40 butter sheets per minute. One of the biggest challenges faced by Fonterra was their old machinery could not handle processing the number of sheets to meet the market demand.

We delivered a solution to extrude, cut and wrap the butter in a delicate, temperature-controlled process. We provided a solution to unroll and cut the paper into sheets suited to the size of the butter; two-axis active closing rollers are used to close the paper on the top of the butter sheet.



THE SOLUTION CONTINUED...

This custom solution exceeded production expectations from the first start up and continues to do so. The improvements made with Pentair and RML allowed Fonterra to achieve the desired 60% throughput and production increase to meet forecast market demand.

Utilising synchronous timing in the unrolling, cutting, and closing steps, the machine we developed for Fonterra completes these processes with a continuous flow, speeding up production and reducing wear on machine components.



W103 Butter Sheet Wrapper Render



As stated by Will Rouse (Senior Engineering Project Manager), "The workshop facilities and design approach of RML added value to the project process. Their automation expertise and innovative mindset enabled the commissioning team to swiftly overcome challenges in integrating their machine with the butter dosing system."

The machinery designed and built for Fonterra has since contributed to the butter sheets produced on this line being nominated for and winning the below awards:

- **Gold medal** - 2022 NZ Butter & Cheese Awards (AFP Culture Butter Sheets)
 - **Silver medal** - 2022 World Champion Cheese & Butter Contest (Unsalted Pastry Sheets)
 - **Silver medal** - 2021 International Cheese & Dairy Awards (Unsalted Pastry Sheets)
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We love solving challenges that free our customers and maximise human potential.

