

MONASH INDUSTRY TEAM INITIATIVE (MITI) WATER MAPPING PROJECT (2022-2023)

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BACKGROUND

Fonterra is a global milk company that has set targets to reduce their water usage by 30% by 2030. To reach this goal, the MITI team has analysed the Darnum Milk Processing factory and produced tools, maps and tailored water saving recommendations that will enable the site to improve water management and use into the future.

SCOPE

- To validate, verify and remap the Darnum water, CIP (Cleaning in Place) & milk lines.
- To produce an accurate and live water map of the validated lines.
- To provide water saving recommendations from findings.

OUTCOMES

VALIDATE, VERIFY & REMAP WATER, CIP & MILK LINES

Before any water saving recommendations could be made, an updated and accurate map of the factory was required.

PRODUCE A LIVE WATER MAP OF VALIDATED LINES

With updated schematics of the Darnum milk, CIP and water lines, the onsite digital flowmeters were then utilised through multiple data processes to determine specific and important factory flows.

WATER SAVING RECOMMENDATIONS AND FINDINGS

Once the important flows were calculated and collated, scrutiny of the results were then undertaken along with searching through historical data to provide the most comprehensive and researched water savings recommendations possible.

EXPERIENCE

- Learned, in detail, how milk powder is manufactured.
- Understanding priorities, protocols and procedures of a milk factory.
- Organise and manage a self-directed team project.
- Organise and run meetings with managers and experienced personnel.
- Working within tight deadlines.
- Understand, navigate and map complicated fluid systems.

ACKNOWLEDGEMENTS

We would like to thank the entire Darnum team for their endless time and generosity throughout our time at the facility. We would also like express our deepest gratitude to Paul W, Paul M, Russell, Glenn, Malcom & Katrina for their continuous support and guidance throughout our extremely challenging and rewarding project. We could not have completed our project without the incredible groundwork previously achieved by so many. We cannot thank you enough.

DELIVERABLES

Our deliverables consisted of the 3 maps, as shown below, a live and updateable water map and a series of water saving recommendations. These recommendations use the data that was collated from the tools produced in this project.

