CASE STUDY: COBOT SYSTEM

Diverseco
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SA Water Bottle De-Capping Cobot System

Delivering Laboratory Efficiency for SA Water's Australian Water Quality Centre

SA Water

SA Water's Australian Water Quality Centre processes thousands of water samples each day to ensure compliance with water quality standards. Prior to Diverseco's involvement, lab technicians manually removed bottle caps and discarded liquids from up to 800 sample bottles daily. This process was time consuming, labour intensive, and exposed workers to repetitive strain injuries and potential biohazards.

Challenge

The manual disposal process required significant staff hours, with around 20 employees assigned to bottle disposal duties, amounting to approximately 10 hours per week. Additionally, the lab faced challenges in maintaining an adequate supply of empty trolleys for new samples, leading to operational inefficiencies and bottlenecks.

Solution

Diverseco designed and implemented a fully automated Cobot System tailored to meet the needs of the Australian Water Quality Centre.

Doosan Cobot System

Automated the handling of bottles, including picking, tipping, and liquid disposal.

Rotary Bottle Feeding Conveyor System

Ensured a continuous and streamlined flow of bottles for processing.

Custom Engineered De-Capping Unit

Efficiently removed caps from bottles, enabling seamless integration into the disposal process.

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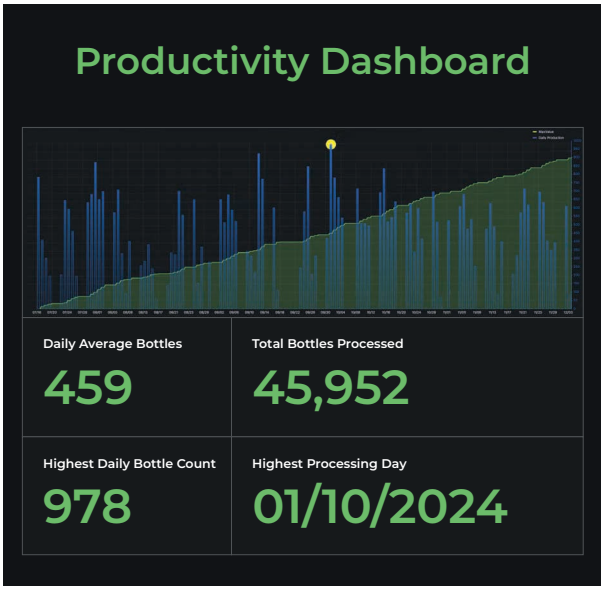
SA WATER BOTTLE DE-CAPPING SYSTEM

The system was nicknamed ‘Chucky’ by the SA Water team, reflecting its pivotal role in improving their laboratory operations.

Results

The installation of the Cobot System resulted in the following improvements:

1. **Increased Efficiency:** The lab regained approximately two full days of productive time each week, equivalent to nearly two months of work recovered over five months of operation.
2. **Resource Optimisation:** With ‘Chucky,’ the lab consistently maintained a surplus of spare trolleys, eliminating operational bottlenecks and enabling the processing of additional samples from other areas.
3. **Reduced Manual Effort:** Tasks previously requiring approximately 10 hours of manual labour weekly, plus 4-5 hours from an additional area, are now fully automated.
4. **Enhanced Safety:** The system minimises exposure to repetitive tasks and reduces risks associated with handling biologically or chemically hazardous samples.



Conclusion

Diverseco’s tailored Cobot System at SA Water’s Australian Water Quality Centre has automated labour intensive tasks. The facility now operates more efficiently and safely while reallocating staff time to higher priority tasks.

This project underscores Diverseco’s commitment to delivering innovative automation solutions that drive productivity and enhance workplace safety.