

# Automated palletising system for Danone SA

Bosch Rexroth South Africa Group Company, Tectra Automation, has delivered on a contract for Danone in Boksburg for a turnkey solution to simplify and improve the reliability of the dairy producer's palletising process.

**D**anone Boksburg wanted a solution that would automate its manually operated palletising process. Tectra Automation was awarded the contract and has now successfully designed, supplied, installed and commissioned a turnkey solution that simplified the palletising process while increasing reliability. The system also offers increased pallet consistency across the company's product range.

Danone's products include essential dairy and plant-based products and specialised nutrition products.

The solution, 14 months in the making, includes palletising robots, state-of-the-art shrink-wrapping machines, conveyor systems, light curtains, safety sensors and scanners. The system also makes use of a Profisafe system over Wi-Fi for the safe control of carts and cells to the required EN safety levels.

Tectra Automation's scope of work was comprehensive, from specifying the project through to commissioning the solution. In the

design phase, Tectra Automation designed each robotic cell individually to ensure that each met the required performance level and adhered perfectly to its scope of operation.

Working closely with equipment suppliers and other stakeholders in the fabrication phase, Tectra Automation partnered with preferred leading solutions providers. These included Yaskawa South Africa, using its latest MPL 190 range of palletising robots; Future Packaging, which supplied and installed the state-of-the-art OMS shrink wrapper for wrapping pallets at a rate of 70 pallets per hour; Productive Systems for all the conveyor equipment; Omron for light curtains and sensors; and SICK Automation for the safety scanners and various sensors.

## Three-phase approach

To manage a project of this magnitude, Tectra Automation devised a three-phased approach. The first phase consisted of palletising three cells, including robotic palletising

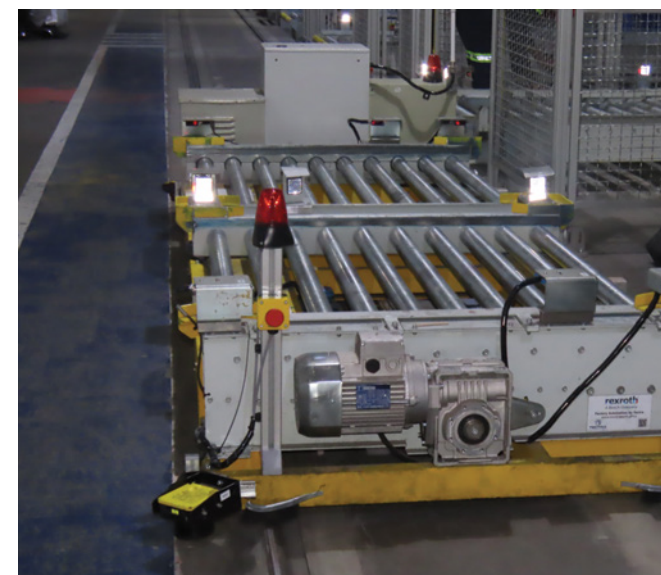
to service four production lines, and manual cell palletising. This phase also included the installation of a stretch wrapper; one de-stacker and two transfer cart installations, as well as an integrated warehouse management system (WMS).

"The WMS automatically realises its orders from Danone's ordering system," says Jaco de Beer, Mechatronics Engineer and Engineering Projects Manager at Tectra Automation. "Information from the ordering system is sent to robot palletising cells and is used to make any required adjustments before actual palletising begins."

Phase 2 consisted of another two palletising cells for more of the manufacturer's brands, a de-stacker and a transfer cart, while Phase 3 entailed palletising three cells for different product ranges and the two final transfer carts.

## Functionality and safety

To overcome network latency and improve



Left: Tectra Automation's solution increased pallet consistency across Danone's product range. Right: Tectra Automation's solution for Danone included Yaskawa palletising robots, state-of-the-art shrink-wrapping machines, conveyor systems, light curtains, safety sensors and scanners.



the palletising solution's functional safety, the WiFi-operated, rail-powered transfer carts are controlled by an onboard PLC and make use of a UPS, 5G industrial routers and ProfiSafe. All carts and cells are controlled by the main Bosch Rexroth PLC – a Bosch Rexroth XM 42 PLC – with each cart performing its own function while interacting with other carts on the same rail. To ensure bystander safety, Tectra Automation contracted SICK

Automation sensor and scanner specialists for safety scanners specifically designed for use in mobile applications.

All fabricated parts, whether by Tectra Automation or the respective suppliers, were assembled into modular sections at Tectra Automation's premises in Johannesburg before being transferred to Danone for installation. Commissioning of Phase 2 was completed in February 2022, with installation and

commissioning of Phase 3 completed by April. "Danone has been running Phase 1 equipment for several months," de Beer points out, "two palletising cells uptime tests on this equipment yielded an uptime of 98% and more."

Tectra Automation provided training for all operators and technicians prior to the handover process and continued after project completion.

[www.boschrexroth.africa](http://www.boschrexroth.africa)



A turnkey solution from Bosch Rexroth SA Group company, Tectra Automation, has automated Danone's palletising systems for increased reliability.



**measure with confidence**

Tel: 010 595 1824  
[sales@comtest.co.za](mailto:sales@comtest.co.za)  
[www.comtest.co.za](http://www.comtest.co.za)

Contact us for technical or seminar information, demonstrations or to locate your nearest **AUTHORISED Comtest Channel Partner**.

**Buy Fluke by Comtest, where SERVICE AND SUPPORT is guaranteed**



SCAN ME

## CHEMICAL PROCESSING TEST TOOLS

Maintain operational reliability and environmental safety







