PRESS ARTICLE

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Unilever Ploiesti expansion sustained by Sidel's futureproof central robotic palletising system

Sidel has delivered a central palletising system composed of eight robotic cells, connected to 28 packing lines at Unilever's nutrition factory in Ploiesti, Romania, for savoury brands including iconic, Knorr.

Unilever is one of the world's leading FMCG companies with sales in 190 countries and products used by 3.4 billion people every day. Its nutrition factory in Ploiesti, Romania manufactures products for one of the company's most well-known brands, Knorr.

The entire dry nutrition portfolio includes meal makers, dish and sauce bases, and seasonings amongst others in various packaging formats - pouches, bags, cartons, and multipacks. These different product lines also handle a large variety of secondary packaging options – American boxes, tray and hood, tray and shrinking foil, and shelf-ready packaging.

Unilever Ploiesti's production capability has gradually evolved. Volumes have tripled from 12,000 tons per year to 35,000 tons per year; SKUs have risen from 200 to 1000; packaging lines increased from 14 to 28; and personnel has jumped from 200 to 700.

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It was no longer feasible to utilise the factory's existing end-of-line system to manage the breadth of brands packed on site. Unilever Ploiesti has invested in a new central palletising solution, fundamentally designed for the continuous production site transformations.

Futureproof robotic palletising

Sidel installed a centralised palletising system comprising eight robotic cells; several hundred metres of case and pallet conveyors; four pallet handling shuttles; and two stretch wrappers, achieving a production rate of up to 98 pallets an hour. This consolidated system is connected to 28 packing lines.

The robotic cells are divided into two separate clusters - one with five robots, and the other with three. Each cluster has one central pallet magazine for all pallet types and sizes, one induction shuttle for full pallet discharge and one compact shuttle for empty pallet delivery integrated underneath the robotic islands.

According to the capacity of each packing line and the palletising pattern requested, the cells have three or four product infeeds, ensuring a robot utilisation rate of 92 per cent.

Modular build in a compact space

Unilever's masterplan for the Ploiesti site was to keep the palletisation space in a separate area from the packing hall to easily accommodate the recurring packing line modifications. To connect the two areas, Sidel proposed a high-level conveying solution with spiral elevators to save space, facilitate circulation and increase the overall flexibility linked to site transformations.

Iuliana Popescu Colt, Operations Manager at Unilever, comments: "We've been impressed by Sidel's design capability to fit the detailed palletising specifications we required in a compact area and simultaneously oversee the complexity and high throughput coming from the packing lines."

Laurentiu Badulescu, Technical Manager at Unilever, said: "This was a complex project, however the solution developed by Sidel is based on standard proven modules, which have been developed and implemented in other projects. Sidel has combined them in a smart way, to deliver a custom solution, avoiding any complex start-up issues brought by a made-to-order one-shot solution. "

Comprehensive project management

Sidel was able to demonstrate its proposed arrangement using virtual reality glasses which allowed Unilever to visualise the full installation, check the space constraints and solve potential issues related to platforms, the operators' access and the raw material flows. Speed simulations also helped to confirm the speed levels and the robot utilisation rate.

After the design phase, Sidel's project management spanned from factory acceptance testing to site installation. All eight robot cells were completed in less than eight months. The modular concept accelerated installation as each cell was commissioned individually and at once integrated into the factory's live packaging operations.

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Laurentiu adds: “Spending a little bit more time in design and simulations helped during the installation phase. The virtual model fitted exactly in the physical space, so that we achieved the desired throughput in a very short time.”

Energy savings and integrated digital process

The central palletising system is integrated in the Unilever digital process. As soon as the operator selects the production order from the packing line, all the information related to the palletisation, including pallet size, type of pattern, number of rows/layers, and the label to apply is all automatically set and transmitted to the corresponding palletising cell and the entire end-of-line setup.

Lucian Tarida, Process Engineer at Unilever, adds: “At Unilever, in every project, we prioritise energy reduction as we’re aiming to achieve a zero-carbon footprint by 2030. By using an energy saving module for each robotic cell of this palletising installation from Sidel, we’re able to generate energy from the robotic arm deceleration and re-inject it into the network to be used by other robots or equipment within the line. Similarly, when a packing line is stopped for cleaning or changeover, conveyors enter standby mode as the photocells detect no products are being transported.”

Find out more about Sidel’s palletizing solutions and how you can access this kind of support for your business on the Sidel website.

Ends.

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Sidel is a leading global provider of packaging solutions for beverage, food, home and personal care products in PET, can, glass and other materials.

Based on over 170 years of proven experience, we help shape the factory of tomorrow, through advanced systems and services, line engineering, eco-solutions, and other innovations. With over 40,000 machines installed in more than 190 countries, Sidel has 5,000+ employees worldwide who are passionate about providing equipment and service solutions that fulfil customer needs.

We continuously ensure we understand the evolving business and market challenges our customers face and commit to meeting their unique performance and sustainability goals. As a partner, we apply our solid technical knowledge, packaging expertise and smart data analytics to assure lifetime productivity at its full potential.

We call it **Performance through Understanding**.

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