ENGINEERING
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Danfoss

Case story | VLT® FlexConcept® solution

Maximizing uptime for high-volume bottle filling

About Pivara Skopje

Pivara Skopje is the Macedonian region's leading producer of Coca-Cola beverages. The facility is owned by Heineken and the Coca-Cola Hellenic Group who are committed to increasing energy efficiency and operational optimization across their locations.

The situation

To meet the new standards for uptime, flexibility, and energy efficiency—and to keep up with the consistent demand for Coca-Cola's broad range of beverages—Pivara Skopje's returnable glass bottle (RGB) production line needed modernization. The conveyor belt system was operating on outdated gearboxes and a nearly obsolete PLC solution—with inefficient bottle-filling that led to downtime and high maintenance costs.

Discover how Danfoss VLT® FlexConcept® helped reliably increase the production line speed and accommodate flexibility with ease—all while improving energy efficiency.

The challenge

Pivara Skopje's conveyor line relied on motors started directly-on-line (DOL). That meant the conveyor belt speed couldn't be regulated—leading to bottles falling, filling mishaps, and, sometimes, production coming to a standstill.

Combined with an outdated and nearly obsolete PLC automation system behind it, the production line faced expensive maintenance costs and caused difficulty sourcing spare parts.

As the region's largest producer of Coca-Cola beverages, Pivara Skopje needed a future-proof solution that empowered their production line to accommodate multiple recipes, quantities, and speeds with agile precision.

The solution

At Pivara Skopje's Coca-Cola conveyor line, our long-standing partner INDAS implemented Danfoss VLT® FlexConcept®, a highly efficient solution that enables agility in modern production lines while dramatically improving reliability.

- The outdated mechanical variator gearboxes on all nine drives were replaced with Danfoss VLT® OneGearDrives® controlled by a VLT® Automation Drive FC 302
- With an open system architecture compatible with solutions from any other controls vendor, the VLT® FlexConcept® solution seamlessly integrated with Pivara Skopje's new PLC system
- The VLT® OneGearDrive® features a hygienic housing designed specifically to meet the demands of modern food and beverage production and reduce cleaning costs
- With fewer variants, project planning, integration, commissioning, and maintenance were simplified

"The ability to seamlessly

integrate the VLT® FlexConcept® into Pivara Skopje's bottle-filling conveyor line has resulted in the highest level of uptime and efficiency."

Darko Kovac, PLC & SCADA Programmer at INDAS and
Nenad Mirosavljevic, Sales Engineer for Danfoss Drives

The outcome

At Pivara Skopje, the implementation of the VLT® FlexConcept® has resulted in the highest level of flexibility and uptime for the conveyor line. They gained faster and more reliable beverage production, instant energy savings, and an increased charging capacity—all while reducing downtime. Plus, with fewer drive variants, they have reduced inventory costs by 70%.

That means the Pivara Skopje production line can accommodate several recipes with different parameters while increasing energy savings, reducing inventory costs, streamlining maintenance procedures—all with a relatively short return on investment.

Read the full story **here,** and discover more case stories on our **website.**

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