

ENGINEERING  
TOMORROW



Case story | VLT® FlexConcept®

# Peroni Brewery selects Danfoss VLT® FlexConcept® to optimize operating costs



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**35,000**  
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## Danfoss VLT® FlexConcept® delivers **best total cost of ownership (TCO)**

**"Maintenance Manager Davide Scebba** explains the reasoning behind the decision: "When we evaluated the upgrading of our bottling lines equipped with Danfoss drives at the end of their service life, we also evaluated all other solutions on the market, and we decided to continue our relationship with Danfoss because we found what we were looking for in the VLT® FlexConcept®: a high degree of energy efficiency and great ease in replacing the existing concept.

*This simplicity is evidenced by the fact that we independently installed and tested the new drive system."*

The Peroni Brewery belongs to the SABMiller Group, one of the largest beer producers in the world with over 200 brands and around 70,000 employees in 75 countries, and is now one of the leading players in the brewing industry.

The Peroni Brewery has been working with commitment and passion for over 160 years and now produces 4.8 million hectoliters of beer annually.

Since 1846, the brewery has renewed its respect for the needs of consumers and customers on a daily basis through its high quality products.

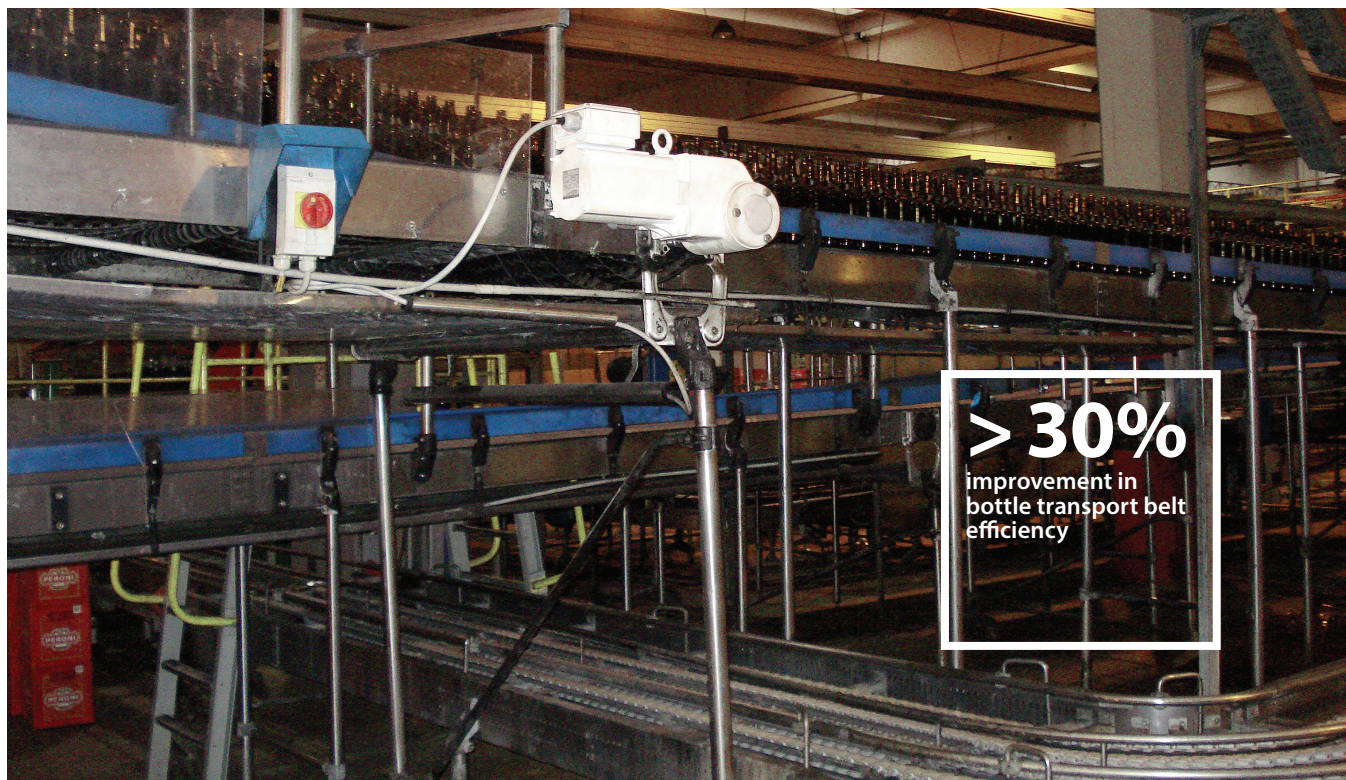
The plant's Technical Office conducted a study on energy consumption in the bottling lines as part of a series of investments aimed at reducing energy costs.

This analysis was carried out in response to a need to replace the now obsolete pool of VLT® 3000/5000 series AC drives.

An accurate assessment of the various solutions available on the market based on Total Cost of Ownership (TCO) principles led to the designation of the Danfoss VLT® FlexConcept® solution as the best solution for the needs of the plant in Rome due to the many advantages it offers.

This is based not only on the increase in energy efficiency, but also on the reduction of various costs related to the management of bottle transport along with the extreme ease of retrofitting.





Therefore, a decision was made to upgrade not only the drive that utilizes the VLT® AutomationDrive FC 302, but also the engines, with the VLT® OneGearDrive® permanent magnet gear motors replacing the traditional gear motors that had been installed.

In 2014, a total of 20 complete power drive systems (geared motors plus drives) were installed in Bottling Line No. 2 at the Rome plant, followed by another 36 in 2015.

#### **ROI of 23 months**

The total electrical efficiency of the bottle transport belts was increased by more than 30%, with a ROI of just over 23 months, thanks to the exclusive benefits that the VLT® FlexConcept solution offers for the bottling industry.

The VLT® FlexConcept® guarantees backward compatibility with previous generations of Danfoss products.

The space requirement for the VLT® AutomationDrive FC 302 is identical to or less than that of the previous VLT® 3000/5000 series. In addition, the numbering of the terminals and corresponding functions of the previous drives have been retained. The PROFIBUS emulation board of the

previous series allows the drive to be replaced without reconfiguration of the PLC.

#### **Future-proof**

The permanent magnet motor which the VLT® OneGearDrive® gear motor is equipped with, has an efficiency of 96%, which is higher than the IE4 standard.

This value, therefore, not only exceeds the current legislation, but will also be able to meet future legislative developments for at least the next decade, guaranteeing significant energy savings.

In addition, the VLT® FlexConcept® drive system complies with the requirements of the IES2 energy efficiency class, as defined by the new EN50598-2 standard for drive+motor systems.

#### **Ultra-low maintenance**

Energy savings comprise only one of the benefits of the Danfoss transport solution for the bottling sector. The only maintenance operation expected for the VLT® FlexConcept® solution is a change of the lubricating oil after 35,000 hours of operation; in other words, seven years with no need to work on the gear motor.

Due to the smooth surface and lack of cooling fins, the EHEDG-certified hygienic design decreases cleaning time by 40% compared to conventional systems, while the IP67 and IP69K protection grades guarantee the water-tightness of the system, making it fully washable.

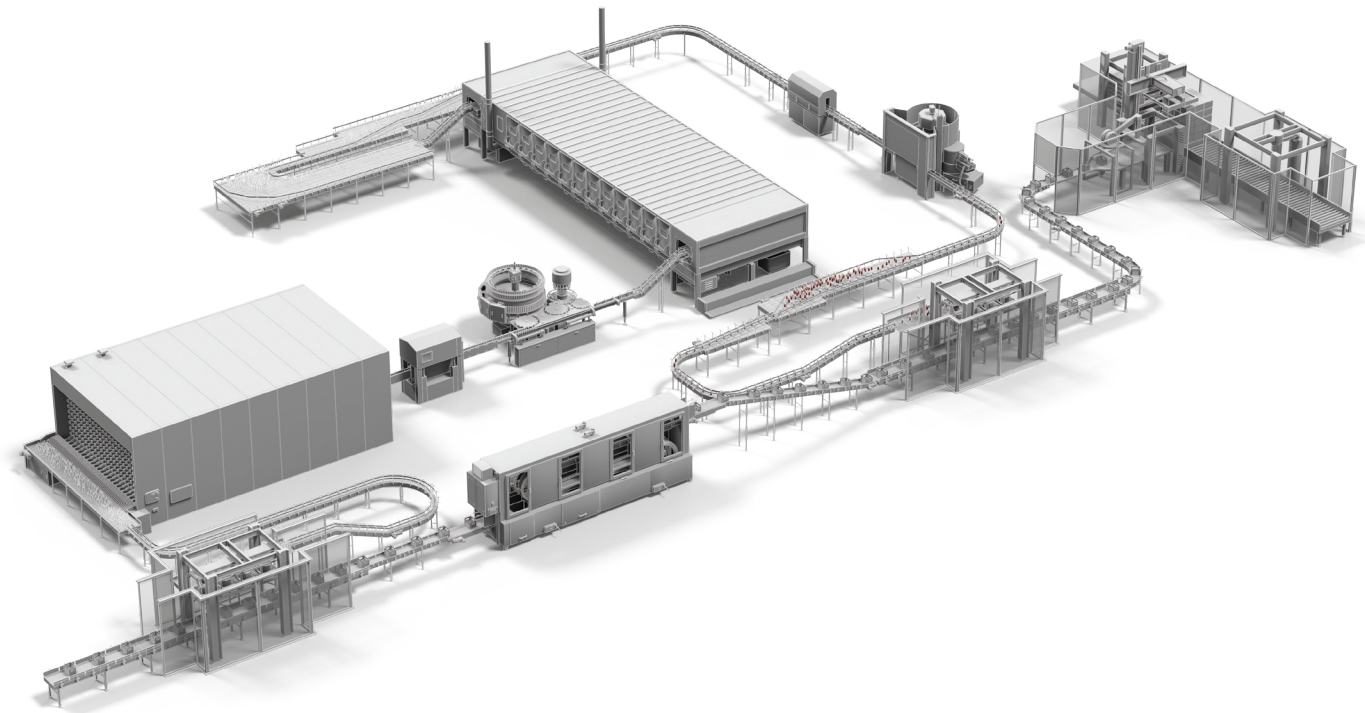
#### **Reduced inventory**

Two drives and three reduction ratios were sufficient to cover all applications for the upgrading of Line 2 at the Peroni Brewery plant in Rome because of the high degree of standardization coupled with extreme flexibility. With only three replacement units for the mechanical component and one unit for the electronic control component, this means there is complete coverage against the risk of plant downtime due to delays for repairs.

The advantages that the Peroni Brewery in Rome has gained after choosing the Danfoss VLT® FlexConcept® solution include high energy efficiency, easy and quick replacement of the existing solution, minimal maintenance, and reduced storage space.



# Danfoss Drives is the ideal partner for **food and beverage applications**



VLT® OneGearDrive® comprises a highly efficient permanent-magnet synchronous motor coupled to an optimized bevel gear box. As part of the Danfoss VLT® FlexConcept®, the drive system is an energy-efficient product that helps to optimize plant productivity and reduce energy costs.

The VLT® FlexConcept® includes the **VLT® OneGearDrive®** in combination with a decentralized **VLT® Decentral Drive FCD 302** drive, or with a centralized **VLT® AutomationDrive FC 302** drive.

The VLT® OneGearDrive® is available in two versions: the **VLT® OneGearDrive® Standard** for use in wet and dry production areas, and the **VLT® OneGearDrive® Hygienic**, for use in wet areas and areas with high cleaning intensity, including aseptic and cleanroom production areas.