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AUTOMATION

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**Automated Order Picking
System for Beverages
Case Olvi – Iisalmi Brewery**



Customer quote

Hannu Fränti, Warehouse Manager at the Olvi brewery in Iisalmi, Finland: "Automation has significantly increased our order picking capacity. Now we can manage peaks in demand with no problem at all. Our other objectives of error-free picking and improved pallet space utilization have also been met by the automated system."



Olvi plans for the future with a state-of-the-art automated handling system

The customer

Olvi plc is Finland's third largest brewery and soft drink company and is the only Finnish-owned brewing company with operations nationwide across Finland. Founded in 1878, Olvi has been a pioneer in the Finnish brewing business, being the first to introduce both one-liter glass beer bottles and six-packs. The company's latest innovation is a 12-pack of beer cans, known as a 'crocodile'.

Olvi's brewery, soft drink plant and headquarters are located in Iisalmi, in central Finland, but the group also has a number of subsidiaries – AS A. Le Coq Group, AS A. Le Coq Tartu Õlletehas, A/S Cesu Alus and AB Ragutis – located across the Baltic States.

Employing some 1,000 people, Olvi plc distributed 106.4 million liters of beverages in 2005, amounting to sales of EUR 147.5 million. Olvi's key product groups are beers, mineral waters and ciders, although the company also manufactures soft drinks and long alcoholic drinks for the Finnish market. Well-known brands include Olvi Special, Olvi Export, CXX and Sandels beers, as well as FIZZ ciders, the Olvi Classic range of soft drinks and the mineral waters Olvi KevytOlo and Olvi Vichy.

Logistics data

Olvi's distribution in figures (2005)

- Delivery fleet: 60 vehicles
- Deliveries: 1,300 per day
- Order lines: 14,000 per day
- Sales units: 50,000 per day
- Delivery volume: 850,000 liters per day



◀ Dollies

Two MultiPick® Dolly robots pick dollies – that is, products stacked on a dolly with plastic spacers between them – according to customer orders.

Full crates ▶

Four MultiPick® robots pick full crates, which are combined for customer orders with dollies picked by the MultiPick® Dolly robots.





Cimcorp's scope of supply

- Concept design and development
- Detailed engineering and simulation
- Project management and implementation
- Cimcorp's WCS warehouse control system
- Four MultiPick[®] robots for automated full crate picking
- Two MultiPick[®] Dolly robots for automated dolly picking
- Conveyor and transfer car system, including palletizers and depalletizers
- Order picking software for both automated and manual picking
- Control system for robots and conveyors
- Customer training
- Preventive maintenance

"Automation has significantly increased our order picking capacity."



Olvi's order picking in figures

- Robotic storage capacity: 1,800 locations for crates in stacks (MultiPick) and 1,000 locations for dollies (MultiPick Dolly)
- Throughput: circa 1,100 crates/hour and max. 120 dollies/hour
- SKUs in automated picking system: 70 products
- Operation: 24 hours a day, 6 days a week

Materials handled

MultiPick[®]

- Beverage crates – 6 different types
- Maximum stack height of 1,975 mm
- Infeed/outfeed of crates on pallets sized 1,200 mm x 900 mm

MultiPick[®] Dolly

- Product stacks on dollies sized 600 mm by 400 mm
- Maximum stack height from 1,410 mm to 1,590 mm
- Infeed of dollies on in-house, wooden pallets

The project

In order to be prepared for future expansion of the product range, Olvi decided to invest in an automated order picking solution. Automation answers the logistical challenges of the beverage industry in a number of ways, providing the flexibility required to adapt to variations in distribution volume. With automation, the lead-time for orders can be reduced by up to half and the number of deliveries made can be doubled.

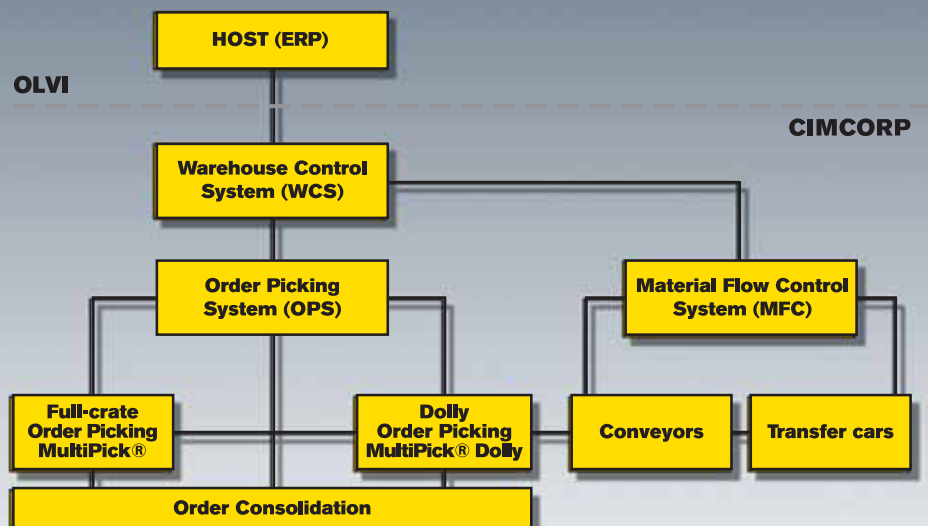
The robotic order picking system supplied by Cimcorp enables deliveries to be made within 24 hours of order and accommodates several deliveries a week to each customer. In principle, the order picking can now be carried out in a cool and unlit environment, which is beneficial for the products themselves in terms of quality.

As Olvi distributes beverages both in crates and on dollies – that is, products stacked on a dolly with plastic spacers between them – Cimcorp's solution was designed to automate the order picking of both crates and dollies, with the minimum order quantity being either one crate or one dolly. The system was designed around the use of returnable plastic crates. The Cimcorp control system receives order data directly from the Olvi ERP (Enterprise Resource Planning) system and the six MultiPick robots then pick products onto customer-specific pallets.

The benefits

Olvi has enjoyed a number of key benefits provided by the automation:

- **Higher picking capacity** – the robotic picking is fast and efficient, increasing overall picking capacity and lowering handling costs.
- **Lower distribution costs** – improved utilization of the pallet load space, through robotic loading, has resulted in lower costs per pallet dispatched.
- **Improved customer satisfaction** – accurate order picking results in error-free deliveries which, combined with the increased frequency of deliveries, has improved levels of customer satisfaction.
- **Greater efficiency** – with an automated solution, the system determines the pace of work, rather than human beings, which increases efficiency.
- **Labour savings** – automated handling reduces the need for human resources and improves the quality of work for staff by eliminating monotonous work and manual lifting.
- **Better traceability** – the control system makes a range of follow-up tools available to help in tracing erroneous products or delivery shortages.
- **Improved safety** – the reduction in forklift traffic has improved occupational safety in Olvi's dispatch department
- **Lower overheads** – as robotic order picking can take place in a cool and unlit environment, automation reduces energy costs, which also brings an environmental benefit.
- **Fewer product losses** – the secure, robotic handling results in fewer breakages.





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