WESTHOF BIO

Westhof BIO revolutionizes vegetable freezing with Movu atlas pallet shuttles.

Westhof BIO used Movu atlas pallet shuttles to revolutionize deep-freeze storage, achieving unmatched efficiency and scalability in organic vegetable preservation.

BIO-FROST Westhof GmbH, a family-owned business founded in 1998, stands out as **Germany's sole freezer** dedicated to processing exclusively **certified organic vegetables,** in line with all Westhof companies. Renowned as a Bioland, Demeter, and Naturland processor, BIO-FROST adheres to the stringent **Organic Basic Regulation (EU) 2018/848.** The company ensures that **vegetables are processed immediately after harvest and shock-frozen at -40°C to preserve freshness.** Their diverse organic frozen range includes carrots, cauliflower, broccoli, parsnips, potatoes, leeks, beetroot, white cabbage, peas, zucchini, pink banana pumpkin, fennel, and celery, all available in various cutting techniques and delivered by pallet.

BIO-FROST Westhof, as the **Europe's largest organic freezer**, embarked on a strategic initiative to **enhance its storage capabilities** to meet growing demand for organic produce. The project aimed to implement a state-of-the-art deep-freeze storage solution near Hamburg in Friedrichsgabekoog, integrating advanced automation technologies to **optimize efficiency and sustainability in vegetable preservation**. This facility aimed to accommodate Westhof BIO's annual processing of **10,000 tonnes** of organic vegetables, ensuring **year-round availability and freshness** for their diverse product range.

FACTS & FIGURES

5,148
pallet positions

17m
height

6
shuttles over 6 levels

60
pallet (in & out) movements / h

Project Nature and Customer Requirement

The project involved the **construction and implementation of a high-density deep-freeze storage facility** featuring **Movu atlas pallet shuttles within a stow Racking silo.** The installation was carried out in partnership with Körber for the end to end integration. The automated system was designed to handle **over 5,000 pallets of organic vegetables at -24°C**, ensuring **reliable and efficient storage and retrieval processes year-round**.

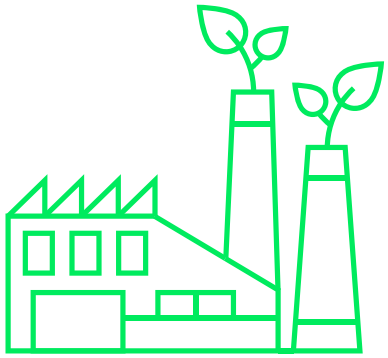
To meet Westhof BIO's high-quality standards, the new facility demanded **efficient, closely synchronized processes in production and logistics.** Freshly harvested organic vegetables are **processed immediately after harvesting, frozen,** and **fully automatically filled into octabins** provided by the logistics system. These octabins are **stored in the deep-freeze warehouse for further processing**. Organic vegetables requested for further processing are to be **retrieved from storage and delivered to the appropriate production machines.** Finished, packaged, and palletized organic vegetables are then **stored in the deep-freeze warehouse** until delivery to customers. Additionally, the **quality of the organic vegetables is monitored at ergonomic workstations** integrated into the logistics system, ensuring **consistent quality and operational efficiency.**

Solution Scope

Westhof BIO's solution scope involved the integration of **six Movu atlas pallet shuttles across six levels within a 60 m x 32 m x 17 m silo**, facilitated **high-density storage of over 5,000 pallets at -24°C.** This scalable system allowed for **seamless expansion during peak seasons, accommodating fluctuations in demand while maintaining optimal storage conditions.** The plug and play automation facilitated swift setup and maintenance, ensuring **minimal downtime and operational disruptions**.

" Movu atlas automated our deep-freeze warehouse, eliminated -24°C work, and improved efficiency, safety, and reliability in handling organic vegetables. "

Berit Carstens-Larsk
BIO-FROST Westhof GmbH Managing Director



Project Timeline

The project was meticulously planned to go live by **June 2024.** It involved phases of design, installation, and testing to ensure the seamless integration of the deep-freeze storage system with Westhof BIO's existing production and logistics operations.

Challenges and Solutions

Key challenges included:

- ensuring uninterrupted operations **at -24°C**
- managing **high-density** storage efficiently.

Solutions included:

- the implementation of **oxygen reduction fire protection** systems to safeguard stored inventory
- ergonomic workstations for **efficient quality control**,
- a **robust maintenance schedule** to uphold system reliability and performance standards.

Achieved Results

The implementation of Movu atlas pallet shuttles and the stow Racking silo significantly enhanced Westhof BIO's storage capacity and operational efficiency and provided a **tailor-made solution, ensuring all components and systems were seamlessly integrated and optimized for their specific needs**. The design featured roof and wall cladding fixed directly to the rack structure, reinforced with longitudinal and horizontal bracings to guarantee stability.

This **integrated approach facilitated seamless project management**, adhering to consistent high engineering standards and reliable project lead times, delivering a robust and efficient storage solution. The system achieved a throughput of 60 storage and retrieval operations per hour, meeting the company's goal of **optimizing production and warehouse processes and delivering high-quality organic vegetables while optimizing resource utilization and reducing environmental impact**.

Impact on Company Performance

The new storage solution had a profound impact on Westhof BIO's performance, enhancing its ability to meet **customer demand for high-quality organic vegetables year-round**. It improved overall operational efficiency and contributed to increased customer satisfaction.

Sustainable Development Dimension

By adopting advanced automation and energy-efficient technologies, Westhof BIO demonstrated its commitment to sustainable development. The **system minimized energy consumption and reduced environmental footprint**, aligning with the company's eco-friendly practices.

Future Prospects

Looking ahead, Westhof BIO plans to further optimize its deep-freeze storage capabilities. Future initiatives include **expanding storage capacity, integrating additional automation technologies, and exploring opportunities for enhancing product traceability and quality assurance measures.** These initiatives aim to solidify Westhof BIO's position as a leader in organic vegetable freezing while continuing to uphold its commitment to sustainability and innovation.

Vertical Market	Food & Beverages
Pallet locations	5,148
Shuttles	6 on 6 levels
Throughput / Performance	60 storage and retrieval operations per hour
DC's Footprint	1,920 sqm
Custom request	▪ Deep-freeze high-bay warehouse at -24°C ▪ Fire protection through oxygen reduction ▪ Compact and dynamic storage using pallet shuttles instead of heavy storage and retrieval machines ▪ Highly automated, climate - and resource -saving production facility for organic vegetables with a closely integrated logistics system
WCS Software	Included
Height	17 m
Loading Equipment	Euro and Industrial Pallets of max. 1.100 kg
Application	Deep-freeze high-bay warehouse at -24°C to store frozen food (Organic vegetables)
Location	Germany

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To discover how we can help you find the best automated solution for your warehouse, **get in touch with us today!**

HEADQUARTER

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