

SOLUTION STUDY - OMIROS DAIRIES SA

Compact solution for automated packaging of vacuum pouches.

Gizelis Robotics has developed an advanced robotic solution for OMIROS DAIRIES SA, that consists of two pairs of robotic cells that feature a total of eight robotic arms. This innovative system is designed to handle the collection, stacking, and boxing of vacuum pouches with high levels of flexibility and safety.



About the Company

OMIROS DAIRIES SA is a dairy producer located in Trikala, Thessaly. OMIROS was founded by the Giannitsi family in 1984 and was named after the Ancient Greek poet Homer (Omiros in Greek), who made the earliest reference to the cheese we now call "FETA" in the text of his "Odyssey"

OMIROS is 100% export oriented in recent years, distributing its products to more than 20 countries in Europe, America and Australia and is positioned among the top greek exporting companies.

Omiros has managed to combine innovative production processes with tradition and can guarantee high-quality products with exceptional taste that meet all international legislative requirements at all stages, from production to distribution.

The Challenge

The challenge at OMIROS DAIRIES SA was the time-consuming boxing process of vacuum pouches into display boxes. It created bottlenecks in production, requiring additional buffers and extra space, while simultaneously making it difficult to keep up with the increasing demand.

Following a manual process, operators were lined up at the end of each packaging line and picked the vacuum pouches, rearranged them, formed stacks, and placed them vertically into display boxes.

After an extensive study by the engineering team of GIZELIS ROBOTICS, this process has been analyzed and reengineered with the implementation of robotic arms, equipped with top notch EOAT that can meet the productivity of the packaging line and guarantee a seamless packaging process, within a limited space.

Its small footprint and high productivity rate make it a perfect match for companies struggling with space constraints, and a lack of personnel.

G-ROBOBOX



ROBOBOX = Plug and Play

Robobox was assembled and tested at our facilities in Schimatari, ensuring quick installation times and the highest quality.

The cell's structure features all electrical components positioned at the top, along with multiple access points around its perimeter. This design ensures easy maintenance access and protects sensitive electronic systems, which are completely isolated and shielded.

The Solution

For the implementation of this application, each pair of robotic cells has been combined in one structure. Each robotic cell consists of a pair of robotic arms that operate synchronized to receive, stack, and correctly place the vacuum pouches inside each display box.

The grippers are made of stainless steel, ensuring the cleanliness of the area and the equipment, while meeting the highest hygiene and food safety standards. The cell is covered with plexiglass, providing transparency and allowing the operators to overview the process, while the peripheral safety doors allow them to enter the cell for maintenance purposes guaranteeing highest safety standards. A user-friendly operating software designed by GIZELIS ROBOTICS offers full overview of the process and an extremely simple, easy, and quick setup for different "recipes," i.e., pouches and packages of different size. A touch screen enables the operator to enter the recipe number, dimensions, and quantity of pouches in the box. After this information is entered, the cell is ready to operate.

To minimize the footprint of the cell and the length of the conveyor belts after the completion of the packaging process by each pair of robots, the streams of filled display boxes are unified to a common exit. At that point, the boxes are ready to be covered with lids and then palletized.

The modular design concept enables the upgrade and expansion of the system with additional peripheral equipment for automated card box forming, automated lid placement, and palletizing.



Watch the official OMIROS DAIRIES SA video

Results and Benefits of the Robotic Solution

Below you can find the Key Features of the Solution:

Increases Efficiency:

- The system can dynamically handle production peaks, achieving a productivity rate of up to 480 pieces per minute*.
- Each cell can attain a productivity rate of up to 120 pieces per minute*.
- Short setup times minimize idle periods during product changes.
- Ergonomic design minimizes maintenance time.

User friendly Interface:

- A user-friendly interface allows for easy operation and reduces training time.

Modularity and Scalability:

- The cell design makes the system expandable, enabling it to accommodate higher productivity rates.
- The gripper design can be adapted to handle different product types.

Space savings:

- Each robotic cell has a small footprint, covering 2000mm x 1450mm.
- Consistency and Quality:
- Automation ensures uniformity in stacking and boxing, reducing errors and maintaining high quality.

GIZELIS ROBOTICS CEO Mr. Evangelos Gizelis stated: "We are proud because the application of Gizelis Robotics' solution at OMIROS dairy industry's facilities is a true example of successful robotic technology implementation that ensures production flexibility, productivity increase, process safety, improved working conditions, and product and process safety."