



Case Study  
End-of-Line Solution  
for Packaged Sugar Bag Bundles

HELLENIC SUGAR INDUSTRY S.A.  
LARISA (GR)





## Hellenic Sugar Industry

Hellenic Sugar Industry SA is the sole sugar producer in Greece. The main activity of the company is the production and trade of sugar, as well as the trade of its by-products. The company produces white crystal sugar whereas in the course of production a set of by-products is also being produced which following a proper processing are made available in the market.

The Hellenic Sugar Industry required a palletizing and wrapping system for their packaging facility at Larisa to handle packaged bundles of sugar bags. Kinematik won the contract by offering a complete end-of-line solution with a minimized footprint, including a compact layer palletizer and a stretch wrapping machine with top sheet.

## The Solution

- Compact Layer Palletizer (11 packages/min)
- Automatic pallet dispenser (15 pallets magazine)
- Turntable Stretch Wrapper with Top Sheet having 2 infeeds (18 pallets/hour)
- Infeed package roller conveyor line with rotating mechanism
- Outfeed pallet roller conveyor line
- Safety Equipment
- Engineering, Automation and Integration

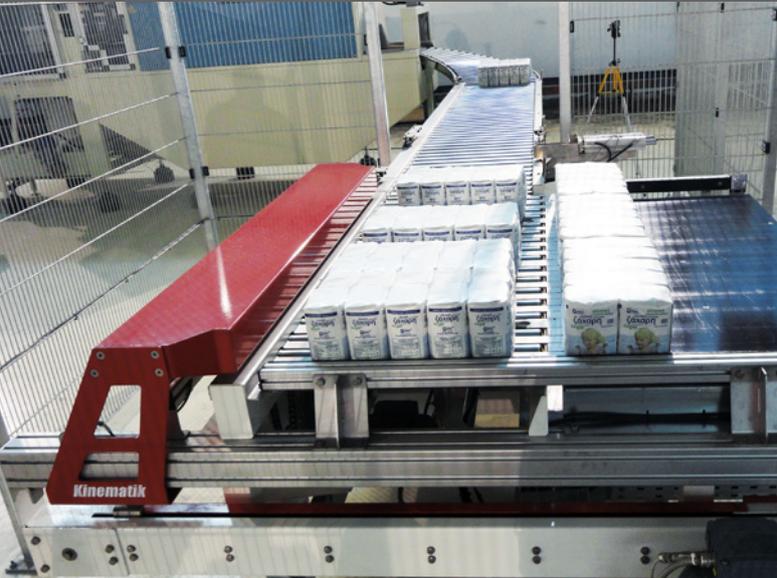


## Operation Description

The packages enter the palletizing system through an infeed conveyor, which can either accumulate if necessary or directly forward the packages to the palletizer. The packages are then rotated if needed at the rotation conveyor and forwarded in the row building area of each layer. Row-by-row the builded layer is then pressed and released on the pallet using a stripping plate. Empty pallets are fed to the palletizer using a pallet dispenser capable of storing up to 15 pallets.

The completed pallet is then wrapped at a turntable stretch wrapping machine with topsheet. The wrapped pallet exits the palletizing line using an outfeed roller conveyor, capable of buffering up to four wrapped pallets.





## Product Quality

Throughout the process the packages are handled gently, maximizing the final product packaging quality. Pressing each layer forms aligned stacks and with layer interlocking guarantees stability during transportation.

## Compact & Flexible

The system has a small footprint, requiring less space. Moreover, it has an increased flexibility, consisting of easily assembled submodules. Future expansion is possible by adding a second palletizer and sharing the wrapping machine.

## Intelligent

The infeed conveyor controls automatically the supply of packages choosing whether to accumulate or directly forwarding them. Moreover, there is a sleep function in case of being empty. Special care is taken to minimize the wear of the treated packages at the infeed conveyor and at the palletizer. The pallet dispenser offers an anti-block mechanism, so that if a pallet is blocked the system is aware of it, protecting the equipment and reducing downtime.

## Simple Use

The system, except the wrapping machine operated by its own touch panel, is controlled through a touch panel. Both signal alarms and warnings, allowing instant troubleshooting.

The palletizer can be programmed to build various types of layer patterns. The layer patterns are interlocked one with the other, so that the pallet load is stabilized.

## Safety

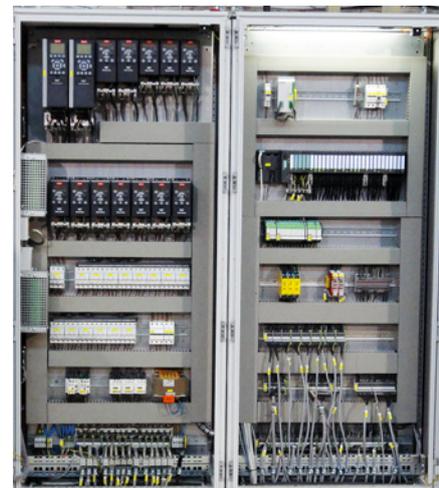
The safety equipment consists of emergency buttons, safety fences with doors, safety light barriers at pallet entry and exit locations.

## Features

Smooth motion and gentle handling is achieved, by using frequency inverters to all the gearmotors, by fully guiding with linear guides all the palletizer's motions and by employing encoders to position the lifting and pushing mechanisms. Each layer is pressed from four sides, with regulated pressure, achieving the best possible layer form.

## Minimum Maintenance & Reliability

The system was designed especially to require the minimum maintenance consisting of top quality materials and equipment. Based on the easy to assemble and troubleshoot philosophy, all the electrical connections are pluggable.





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