

## CUSTOMER SUCCESS STORY

# No spillage, high productivity: Italian Pack and OMRON revolutionise soup and ready meal packaging

Italian Pack S.p.A.

Como, Italy



Increased  
Productivity



Enhanced  
hygiene



Sustainable  
packaging



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### Key Benefits

1

**No spillage, high productivity:** Argo increases productivity by 30-40%.

2

**Enhanced hygiene:** Reduces machine contamination and improves seal quality.

3

**Sustainable packaging:** Minimizes tray waste, contributing to sustainability efforts.

4

**Customizable solutions:** Italian Pack offers flexible, tailored packaging lines

5

**Comprehensive support:** OMRON provided technical expertise for successful integration and development.

### At a glance

Italian Pack and OMRON have joined forces to introduce Argo, an **automatic tray sealing** machine equipped with an **innovative anti-sloshing system**, addressing the challenge of packaging liquid and semi-liquid products without spillage.

Argo offers a significant **increase in productivity by 30-40%**, ensuring high seal quality and hygiene standards. With reduced machine contamination and minimized tray waste, it contributes to sustainability efforts.

Italian Pack's **customizable solutions**, coupled with OMRON's technical expertise, enable access to new customer segments with high standards, strengthening their market position. Argo represents a successful collaboration, delivering tangible benefits to manufacturers of soups, sauces, and ready meals.

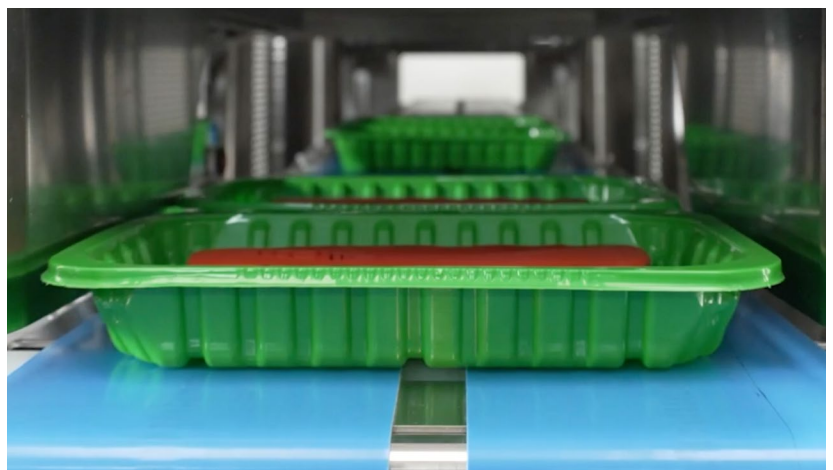


Italian Pack has been in the packaging market since 1988, offering packaging systems for trays, cartons, cans and pouches. Based in Como, the company has built its position in the food market by offering manual and semi-automatic machines with vacuum, gas and skin technologies, complex lines and complete turnkey systems.

One of the brand's recent challenges has been to provide manufacturers of liquid and semi-liquid food products with a solution capable of operating at high cycle times while avoiding product spillage. This need led to the creation of a new automatic tray packaging line - called Argo - which quickly caught the market's attention because of its special intelligent transport system, called the Smart Liquid System, a solution that uses an innovative, patent-pending anti-sloshing system to package products at high speed, avoiding spillage problems.

A key factor in the success of the project was the collaboration with OMRON. OMRON's team of Italian and European engineers supported Italian Pack both in developing the algorithm underlying the anti-sloshing system and in supplying the hardware components needed to implement the line.

Argo is an automatic sealing machine that uses an innovative anti-sloshing system to prevent liquid and semi-liquid products from spilling out of the trays. Without compromising on productivity.





## The key is in the anti-sloshing system

Argo is an **automatic in-line tray sealing machine** designed to meet the needs of end users - mainly producers of soups, sauces and ready meals - that are forced to limit their production rhythm in order to avoid the problems of product spillage during packaging.

At the heart of the complex handling system is an **algorithm** developed by Italian Pack's R&D department in collaboration with OMRON, which estimates the resonance frequency of a liquid inside a container in order to dampen the waves generated when the trays move forward and stop, thus preventing spillage.

"The challenge was to transform a mathematical model into a real application," explains **Marco Coduri**, Field

Application Engineers Coordinator at OMRON. For this reason, the integration was carried out on two different packaging stages, but managed by a single function block: on the one hand, the introduction of the trays into the machine and, on the other hand, the more critical one related to the intelligent conveyor, which is necessary to phase the trays to ensure their equidistance.

**Devis Bernasconi**, After Sales Manager at Italian Pack S.p.A., explains: *"In a standard transport system, we generally act on acceleration, deceleration and speed to reduce the wave effect generated inside the container during the transport phases, but at the expense of performance and speed. The anti-sloshing system used in our Smart Liquid System, on the other hand, allows us to phase the trays at very high speed without the liquid spilling out of the container".*



## One controller for 8 axes

In addition to the research and development work on the anti-sloshing system, Argo required the integration of several **OMRON technologies**. These are essential to make the various processing stages more efficient. In fact, the line is designed to receive the trays from a conveyor belt, bundle and equidistance them at high speed, feed them under the packing station and transfer them at the outlet to the next labelling station.

It is therefore necessary to integrate an OMRON NX1P2 PLC with Sysmac devices: 1S servo systems and M1 EtherCAT inverters. The PLC manages and coordinates the entire process, from the introduction of the trays to the actual sealing, including the tensioning and movement of the sealing film. The latter, also based on an algorithm, has been configured to ensure constant and repeatable film tension and scrap collection.

A total of 8 axes are managed, driven by brushless motors (ranging from 400W to a maximum of 5.5 kW for the movement of the sealing bell) to ensure high positioning accuracy and reduced cycle times.

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## Up to 40% increase in productivity

Thanks to the innovative anti-sloshing system developed in collaboration with OMRON, Italian Pack can now enter the market for packaging liquid and semi-liquid products with a **30-40% increase in productivity**. Specifically, Argo can operate at up to 25 cycles per minute in sealing mode, up to 18 cycles per minute in modified atmosphere (MAP) mode and up to 10 cycles per minute in skin mode.

As well as offering customers increased performance, Argo also provides a **tangible benefit in terms of hygiene**, meaning less machine contamination, better seal quality and less tray waste, contributing to sustainability.

Results that enable Italian Pack to satisfy a customer base that would otherwise be out of reach due to the high standards required. *"One of the most important challenges we face every day as a company is to be able to develop new products, but above all to be able to customise lines for our customers, guaranteeing flexibility, performance and reduced waste"*, comments **Tomaso Petrini**, CEO of Italian Pack. *"Argo's innovative Smart Liquid System, developed in collaboration with OMRON, allows us to solve these problems in a concrete way. And to significantly improve our market position"*.

*"This application can also be considered a success story for OMRON"*, concludes Gianluigi Vismara, Area Sales Manager at OMRON. *"We made the case not only for the technical hardware part, but above all for the development part with the customer, thanks to our technical specialists. Our ambition is to grow the market both technologically and strategically"*.



### About ItalianPack SpA

Italian Pack S.p.A. has been active in the packaging industry since 1988 and is a leading manufacturer of tray sealing, vacuum packaging and lidding machines. Based in Como, Italy, the company produces a wide range of machines, from simple tabletop sealers to complete, fully automatic, high speed lines for tray picking and positioning, conveying, filling, film sealing and lidding. Applications include standard air sealing, modified atmosphere packaging (MAP) and skin packaging. For more information, visit <https://www.italianpack.com/>

### About OMRON Corporation

OMRON Corporation is a global leader in the field of automation based on its core technology of "Sensing & Control + Think". OMRON's business fields range from industrial automation and electronic components to social systems, healthcare, and environmental solutions. Established in 1933, OMRON has about 29,000 employees worldwide, working to provide products and services in around 120 countries and regions. For more information, visit OMRON's website: <http://industrial.omron.eu>