CUSTOMER REFERENCE

Prolongo-Faccsa embeds AI inspection across dry cured sausage and meat production chain

Prolongo-Faccsa,
Málaga, Spain

Automated inspection for food safety

Predictive maintenance

Single platform

Click here for more information on Prolongo-Faccsa

Key Benefits

1. **End-to-end food safety.** Automated inspection with AI across drying, processing and packaging.
2. **Reduced curing time and energy use.** AI vision predicts batch readiness.
3. **Predictive maintenance.** Equipment wear identified before a breakdown occurs.
4. **Single platform.** Six distinct inspection applications running on one controller, software environment and AI framework.

At a glance

Prolongo-Faccsa, a Spanish meat producer with over 200 years of history in dry cured sausages and ham, wanted to ensure quality, safety and efficiency across its production chain, from the drying room to the packaging line. Prolongo-Faccsa and OMRON participated in ALIMENTE21: a four-year collaborative R&D programme co-funded by Spain's Centre for the Development of Industrial Technology (CDTI), under the Ministry of Science and Innovation, that deployed AI-powered vision and predictive analytics across six distinct applications. Using OMRON's FH Series Vision System, the project demonstrates how a single integrated platform can address fundamentally different inspection challenges within one unified architecture.

Prolongo-Faccsa and OMRON: AI-powered inspection in the meat industry

With over 200 years of tradition, Prolongo-Faccsa knows that quality is built into every stage of production. When the company joined the ALIMENTE21 research consortium, the ambition was to find out how far AI-powered vision could go in automating the inspection challenges that had always required human expertise: reading the subtle signs of a curing batch reaching its peak, detecting contamination invisible to the naked eye, or locating a fragment hidden between slices. The answer, developed over four years and six applications, was further than anyone had expected.

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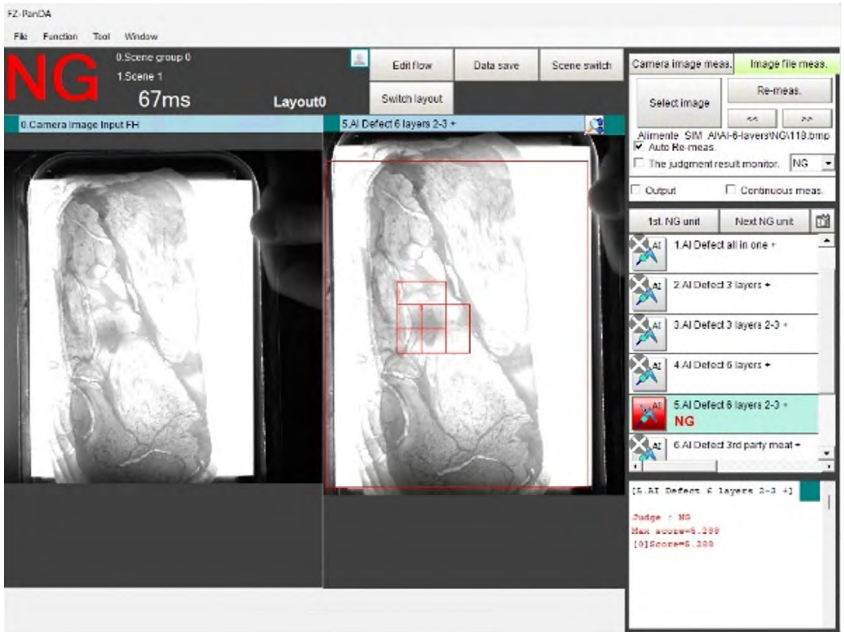
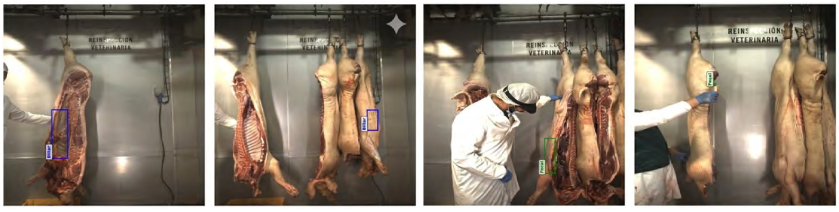


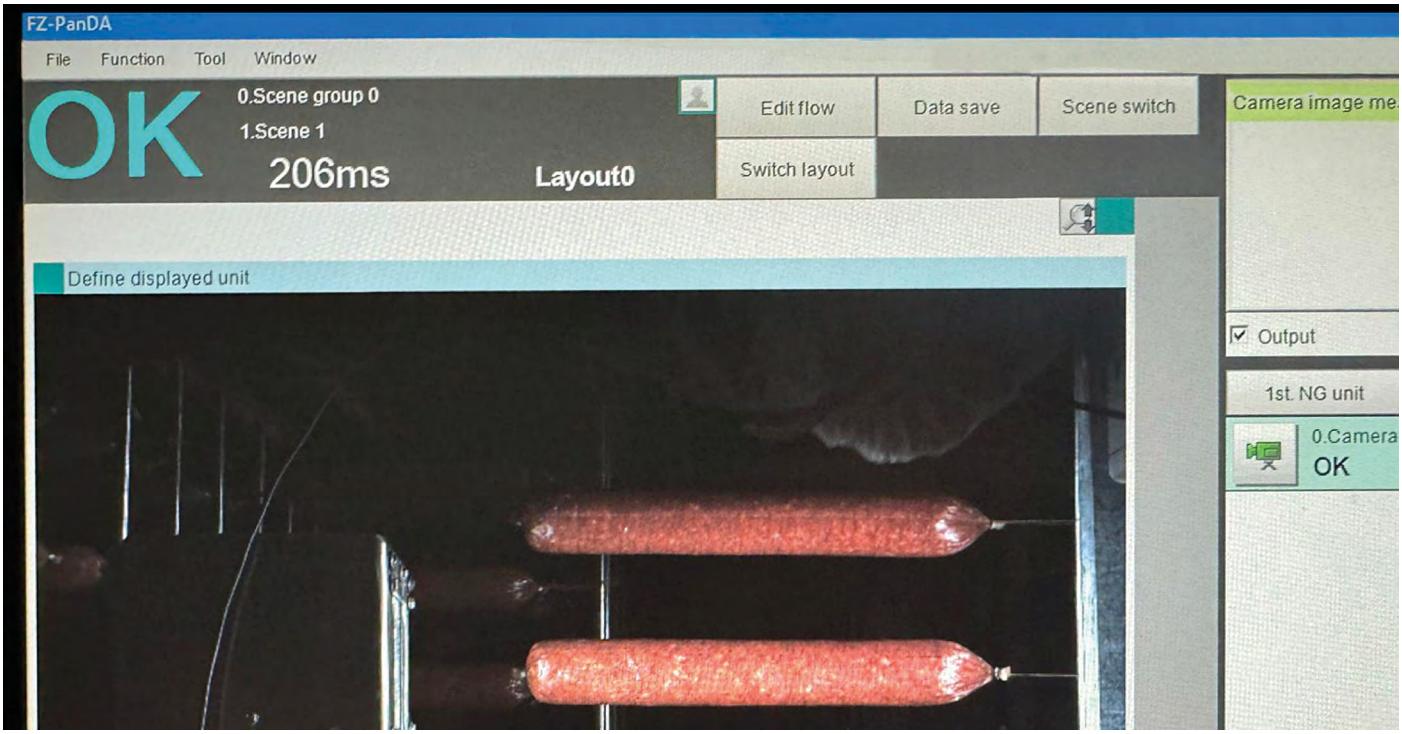


The Challenge: Automating food safety across a complex production environment

Prolongo-Faccsa produces a wide range of dry cured sausages and hams at its facility in Cártama, Málaga. The production chain spans multiple distinct environments, drying rooms, primary meat processing, slicing lines and packaging, each presenting its own quality and safety challenges.

Some of these challenges had historically been addressed through manual inspection: veterinarians and operatives visually checking carcasses for contamination, technicians monitoring curing progress by experience, maintenance teams responding to breakdowns after the fact. Others, such as detecting bone fragments hidden between slices of sliced ham or identifying bacterial biofilm on processing surfaces, were simply beyond the reliable capability of conventional automation.

The company wanted to move from reactive to predictive across the board: anticipating when a curing batch would be ready, catching contamination before it reached the consumer, and preventing equipment failures before they caused production stoppages. The challenge was that no single technology could address all of these needs, and deploying separate, unconnected systems for each application was neither practical nor scalable.



The Solution:
ALIMENTE21, six applications, one platform

In 2021, Prolongo-Faccsa joined ALIMENTE21, a collaborative R&D project approved and co-funded by Spain's Centre for the Development of Industrial Technology (CDTI), under the Ministry of Science and Innovation. As part of the consortium, and working with OMRON Industrial Automation, Prolongo-Faccsa developed and deployed six AI-powered applications built on OMRON's FH Series Vision System.

Drying room with predictive curing

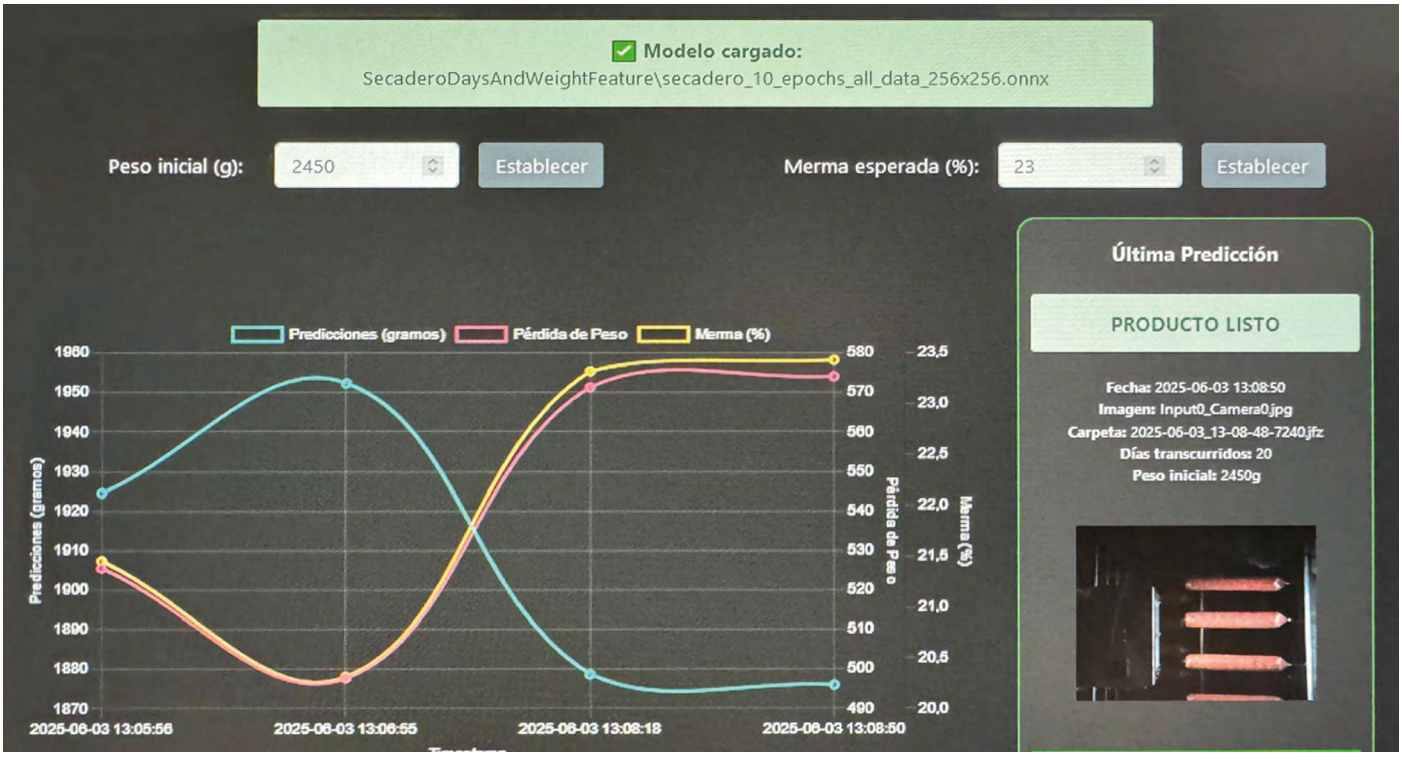
AI vision cameras monitor sausages throughout the curing process, measuring how they shrink in size and weight over time. By combining live observations with predictive models, the system forecasts precisely when a batch will be ready for release, reducing curing time, cutting energy costs and freeing up production capacity.

Primary processing with contamination detection and predictive maintenance

Quality control on carcasses has traditionally relied on human inspection by operatives and veterinarians. The system developed in ALIMENTE21 identifies automatically, with very high precision, the presence of bile residue or intestinal matter, even when contamination is minimal, and can serve as support to visual inspection by Official Veterinary Services. In the area of equipment maintenance, a system reads variables such as motor current intensity and vibrations from the carcass transport chains, identifying the first signs of wear with sufficient notice for maintenance teams to intervene before a breakdown occurs.

Packaging with biofilm detectionand bone detection

UV-light cameras on the slicing lines distinguish between ordinary surface residue and dangerous bacterial biofilm in real time. SWIR cameras combined with AI inspection algorithms detect bone fragments as small as 10mm, even when concealed between slices of dry cured ham.



The OMRON FH Series Vision System

The technical foundation for all six applications is OMRON's FH Series Vision System: a high-speed image processing platform that pairs a broad camera range with AI-based inspection algorithms. The FH Series runs OMRON's AI Fine Matching technology, which builds inspection models from images of good products rather than requiring manual rules to be programmed for every defect type, allowing the system to detect subtle anomalies with a sensitivity that conventional rule-based vision cannot match.

For the bone-detection application, the project deployed FH Series SWIR cameras, which operate in the short-wave infrared spectrum and can see through the surface of food products. This makes it possible to locate fragments as small as 10mm even when they are hidden between layers of sliced ham. This is something neither standard visible-light cameras nor the human eye can achieve reliably at production speeds.

"Each stage of the Prolongo production chain presented a completely different inspection challenge," explains Rubén Rojo, Director of Marketing at OMRON Electronics Iberia and project owner. "The FH Series gave us one platform, one controller, one software environment, one AI framework that could handle all of it. That integration is what made a project of this scope possible."

The Benefits: Measurable gains in safety, efficiency and uptime

The ALIMENTE21 project delivered improvements across all three of the dimensions Prolongo-Faccsa had targeted: food safety, process efficiency and equipment reliability.

Automating curing prediction reduced batch turnaround time and energy consumption, while freeing technical staff from manual monitoring. Automated contamination detection on carcasses raised the consistency and reliability of a hygiene check that had previously depended entirely on human attention. Bone detection in sliced product addressed a risk that conventional inspection could not reliably manage, removing affected trays before they reached the consumer. Predictive maintenance on transport chains reduced unplanned stoppages.
"ALIMENTE21 has given us capabilities we could not have imagined a decade ago," says Sergio Vega, Director of R&D, Innovation and Sustainability at Prolongo-Faccsa. "Monitoring and predicting the optimal curing point of a sausage batch through machine vision, verifying the correct cleaning and disinfection of surfaces, checking slice by slice for the presence of any small bone or cartilage fragment. These are not just incremental improvements. They change what food safety and process efficiency mean in practice."

The results of the project were presented publicly for the first time at Advanced Factories 2026 in Barcelona, where Rubén Rojo and Sergio Vega shared the full case study, including live data, at the Advanced Industry and Digital Congress.

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About Prolongo-Faccsa
For more information, please visit www.prolongo.es.

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