



OLYMPIA ELECTRONICS

# ONE AI-NATIVE INSPECTION STANDARD ACROSS SMT PRODUCTION

Olympia needed an AOI approach that could handle difficult components without adding engineering effort or operational complexity. Horus brought complex inspections, shared recipes and one operating environment into the same production workflow.

## LIFE-SAFETY ELECTRONICS

Emergency lighting, fire detection and alarm systems

## APPLICATION

3D AOI across SMT production

## DIFFICULT COMPONENTS

Glass diodes, reflective bodies, tall pins and OCR in one workflow

## THE CUSTOMER

Olympia Electronics manufactures electronic life-safety systems, including emergency lighting, fire detection, alarm systems and integrated safety solutions. Because its products are used in safety-critical applications, consistent inspection is a core production requirement.

## THE CHALLENGE

- **Difficult components** Reflective bodies, glass-diode polarity, tall pins and OCR challenged threshold-based inspection.
- **Engineering effort** Borderline results and component-specific issues required repeated programming and fine-tuning.
- **Operational complexity** Separate inspection environments meant different recipes, interfaces, training and maintenance routines.

## WHY HORUS

Olympia chose Horus because its AI-native inspection approach was suited to the components creating the most engineering effort. Neural networks recognize and classify during live inspection, combining high-resolution 2D imagery with true-3D data instead of relying only on fixed thresholds. The platform also gives Olympia one shared hardware and software environment, one programming interface and a common database, so recipes can be reused across Horus systems. Through Training Manager, engineers guide neural-network training directly on the machine using production images, extend the inspection library internally and reuse the resulting models across systems.



## ON THE LINE

### Glass diodes and reflective components

Horus assesses polarity and component identity using image and 3D data during inspection. The same workflow covers reflective bodies, tall pins and OCR.

### MELF resistor recognition

With Macro Inspector, Olympia can create a dedicated process for components outside standard inspectors. For MELF resistors, the process extracts the colour bands, identifies the resistor and verifies the component.

### Shared recipes

The systems use one database. A recipe configured on the master platform can be reused on other Horus systems, supporting consistent inspection without recreating the setup line by line.

## RESULTS

- **Inspection coverage** Difficult and non-standard components are handled within Olympia's 3D AOI workflow.
- **Engineering work** Shared recipes and one programming environment reduce duplicated setup and repeated fine-tuning.
- **Continued adoption** After more than a year in production, Olympia extended Horus to additional SMT lines.

## IN THEIR WORDS



Our decision to invest in another Delvitech Horus 3D AOI system reflects the platform's outstanding performance, reliability, flexibility and future-proof design. It has become an integral part of our SMT manufacturing process, enabling us to maintain the highest quality standards while increasing production efficiency.

DIONISIOS LAKASAS | Chief Technology Officer, Olympia Electronics S.A.

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