

PCIM Europe 2026

## ASYS Group Redefines AOI – Autonomous Inspection as a Key Enabler for Process-Stable Power Electronics

**With the presentation of AISPECTURE AOI – the “World’s first true unsupervised inspection”, the ASYS Group sets a new technological benchmark in power electronics manufacturing at PCIM Europe 2026. The solution represents a fundamental paradigm shift: moving away from supervised, parameter-driven inspection systems toward a self-learning, AI-led quality authority that ensures process reliability from the very first component.**

The focus of ASYS’s trade show presence is on manufacturing solutions that address precisely those areas where conventional automation reaches its limits: narrow process windows, increasing product variance, and the highest demands on reproducibility. In addition to AISPECTURE, ASYS will showcase a new generation of inline print process monitoring for screen printing, as well as modular automation concepts for final assembly, specifically tailored to the requirements of power electronics production.

### **Autonomous AOI – Rethinking Inspection**

Power electronics manufacturing demands maximum process stability. High power densities, thermal cycling, new materials, and long product lifetimes leave virtually no room for deviation. Especially in printing and inspection processes, even minimal deviations have a direct impact on quality, reliability, and overall cost efficiency. ASYS addresses these challenges with integrated process and line solutions designed consistently for series production capability, scalability, and statistical stability.

With AISPECTURE AOI, ASYS takes a decisive step further: the system is not “operator-free” in the traditional sense, but AI-autonomous. The underlying algorithms are deliberately trained using verified, fault-free print images, from which they develop a robust understanding of the manufacturing process. Decisions are therefore not based on fixed rules or static thresholds but on context-aware learning and continuous self-validation – entirely without a human-in-the-loop during production.

### **World’s First True Unsupervised Inspection**

AISPECTURE AOI combines real-time monitoring of the printing process with automated, high-precision inspection of the printed result. The system integrates 3D laser scanning, high-resolution 2D imaging, and customer-specific AI models. The key differentiator compared to conventional AOI systems: no extensive training using defect images and no manual parameterization are required.

The result is consistently high inspection quality from the first part, stable first-pass yield rates, and a significant reduction in rework and false decisions. Especially for high-mix products and small to medium batch sizes – typical for many power electronics applications – autonomous AOI becomes a strategic enabler for stable and efficient series production.

### **HYCON XH2 inline screen printer with data-driven process control**

Complementing inspection, ASYS will present the HYCON XH2 inline screen printer, which enables continuous, data-based monitoring and control of the printing process. During printing, an integrated piezo sensor measures the vibration and deformation behavior of the screen in real time.

The captured signals are continuously transmitted to the Central AI Box, where they are analyzed. Changes in signal behavior allow conclusions to be drawn about the current screen condition, enabling automatic adjustment of the process parameters. In particular, the snap-off is precisely controlled and adjusted.

The result is consistently high print quality over extended production periods, along with a significantly extended screen lifetime due to reduced mechanical stress. For demanding power electronics printing applications, this translates into greater process stability and reduced scrap.

### **INVENTUS Assembly Automation: modular scaling from small batches to full lines**

With INVENTUS Assembly Automation, ASYS will also demonstrate modular automation solutions for final assembly. The platform is designed to grow with the requirements of power electronics manufacturing – in terms of production volume, product variants and complexity.


The range extends from individual modules and semi-automated workstations to fully integrated lines and factory-level concepts. Short ramp-up phases, reproducible processes and flexible configuration options support an economically viable transition from pilot production and small series to stable series manufacturing.

### **Focus on process-stable series production**

With its presence at PCIM Europe 2026, the ASYS Group underlines its approach of delivering manageable, reproducible manufacturing processes for power electronics, rather than isolated machines. The focus is on the interaction between intelligent inspection, data-driven process monitoring and scalable automation – forming the foundation for reliable products in series production.

### **ASYS Group at PCIM Europe 2026**

 **Nuremberg Exhibition Center, Hall 4, Booth 131**

 **June 9–11, 2026**

**Further information:** <https://www.asys-group.com/en/pcim-2026>

**About ASYS Group**

The ASYS Group is one of the world's leading suppliers in the field of automation and digitalization with more than 1,400 employees. As a technology leader, ASYS develops and produces process and line solutions up to autonomous shop floor solutions for the world's most successful companies. Specialized and broadly positioned with long-term security, the corporate group is at home in many industrial markets: a market leader in Electronics, as well as in Energy and Life Science.

Consisting of a total of 15 operational subsidiary and standalone companies, the ASYS Group has a global sales network with local contacts in more than 40 countries. Twenty-seven branch offices in Europe, Asia, and the Americas enable close, customer-focused support.

**Press Contact**

Elke Markart

[elke.markart@asys-group.com](mailto:elke.markart@asys-group.com)

+49 7348 9855 5106

Iris Kosina

[Iris.kosina@asys-group.com](mailto:Iris.kosina@asys-group.com)

+49 7348 9855 5110