

Session	Poster Presentation
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25 Years of AI Exploration: Pioneering Quality Control in Glass Manufacturing

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Biography

Alessandro Liani is the founder and CEO of Video Systems Srl, an Italian company specializing in artificial vision systems for industrial automation. Since 1993, he has integrated AI and vision technology to optimize production and quality. Since 2001, he has focused on quality control in the glass industry, leveraging AI to enhance precision and efficiency. He is Chair of the Manufacturing group in AIOTI, Vice-Chair of the IEEE CIS Industrial Activity Committee, and Chair of the IEEE CIS Industrial AI TaskForce. His interests include parallel computing, robotics, embedded systems, and AI.

Abstract

For 25 years, we have pioneered AI-driven optical inspection of glass containers, evolving our approach to meet industry challenges. Until recently, some inspections could not be fully automated, relying on manual verification, while traditional ****machine vision**** systems—without AI—often struggled with high false positive rates and required complex setup. AI has transformed quality control, improving defect detection, reducing human intervention, and simplifying system configuration. The rise in computational power and lower AI costs are accelerating the evolution of glass inspection, mirroring changes across all industries. These advancements enable more precise, reliable, and efficient systems, supporting greener and more sustainable production. We'll explore AI's role in optical inspection with real-world applications, including **Linea**, a contactless system for cut analysis, **Pyxides** for pharmaceutical bundle inspection and **Oculus** a camera based inspection solution for carousel-based machines. These AI-powered solutions enhance accuracy, minimize false positives, and support the ongoing evolution of glass manufacturing.

Notes

2023 IEEE Computational Intelligence Society Outstanding Organization Award
For contributions using computational intelligence for product quality control.

2020 European Commission Seal of Excellence

