



Title: AI in Cold End Inspection, Feedback of 8-Year of deployment and Measurable added value:

Over the past years, Artificial Intelligence has been increasingly deployed in glass manufacturing, particularly in cold end inspection systems. AI-based approaches, driven by machine learning and deep learning, have improved defect detection and classification while enabling early defect prediction linked to the forming process. These developments have raised expectations for reduced operator dependency and measurable gains in pack-to-melt.

This presentation addresses a key question: **what is the real impact of AI in glass inspection after eight years of deployment?** It builds on our previous work on defect prediction using Evolution inspection systems and collective intelligence.

Based on eight years of field experience across multiple glass plants using AI-based Evolution inspection systems, IRIS presents a practical return on experience. The analysis shows how different AI strategies have produced different operational outcomes.

Rather than being a miraculous solution, AI is a flexible toolbox. Through real case studies, we demonstrate that AI can deliver measurable improvements in quality, efficiency, and process understanding. However, these benefits depend on high-quality input data, well-defined quality targets, and avoiding over-quality, which can negatively affect overall performance.

This presentation provides a **pragmatic, experience-based overview to help industry professionals understand where AI creates value** in cold end inspection and how to implement it effectively.

Keywords:

Artificial Intelligence, practical experience, digitalization, defects prediction, real-time monitoring, sustainability