

Session	Glass in The Digital Age
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Chair	Seçil Erman



Advanced Digitalisation in Inspection for Predictive Defect Detection

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Biography

Graduated from the University of Economics in Bratislava, Slovakia, with a Master's Degree in International Relations, Sonia Debets has spent fifteen years gaining experience across various industries in different European countries. The most significant milestones in her career come from her experience in the electronics packaging industry and the container glass industry.

Mrs. Debets has consistently focused on exporting high-value technological solutions. Fluent in English, French, Russian, Slovak, and Hungarian, she has been working as Area Sales Manager at IRIS Inspection Machines since 2013. Over the years, she has developed in-depth knowledge of the European, Turkish, American, Central Asian, and Indian glass markets.

Her expertise in the glass industry enables her to provide tailor-made inspection solutions to glass plants, optimizing quality control processes, enhancing production efficiency, and ensuring compliance with industry standards.

Abstract

We live in a world undergoing unparalleled technological transformation even in traditional industries such as glass production. In addition, the challenge of decarbonisation is increasing the need to adapt even faster and to achieve better quality assurance and production efficiency.

Thanks to advanced digitalization in glass inspection, it is possible to meet these modern challenges. At IRIS Inspection Machines, we identified two axes which allow to be more data-driven and sustainable:

- 1) Real Time Monitoring by an intelligent assistant
- 2) Integration of AI and Machine Learning

The perception of inspection machines as tools that destroy production is now outdated. Today, the intelligent inspection machines have a role of connected sensors, that collect precious data from glass production in real-time: the size and number of defects, their values and dimensions, the amount of inspected and rejected articles and many more... The AI-based reprocessing of this data uncovers trends and correlations that are imperceptible to a human being.

IRIS Inspection Machines' R&D team has created an AI-based assistant monitoring all its inspection machines 24/7. The concept of collective intelligence developed by IRIS goes far beyond interconnecting machines. Data collected by each machine from the entire furnace are analyzed and refined with the goal of optimizing and fine-tuning the settings of your inspection machines, supervising production, highlighting process drift and detecting early defects.

Understanding the origin and the criticality level of the produced defects, correlating them with mould numbers, and recognizing the trends in their evolution, allows us to identify process variations before they affect your pack-to-melt.

In conclusion, advanced digitalization, including real-time monitoring and AI integration, is transforming glass production. IRIS Inspection Machines enables data-driven insights, optimizing processes, detecting defects early, all while answering decarbonization and inspection challenges in a sustainable way.

