

Session	Poster Presentation
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## Securing Interoperability in Mechanical Engineering and Flat Glass Processing

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### Biography

Head of Forum Glass Technology, VDMA e.V., Germany

1996 – 2000 TU Bergakademie Freiberg | Glass, Ceramics, and Construction Materials

2000 – 2002 Fraunhofer IKTS, Dresden | Ceramic Foams for hot gas filtration and automotive applications

2002 – 2005 Deutsches Zentrum für Luft- und Raumfahrt, Köln | Materials for Re-Entry Vehicles

2005 – 2017 Research Association of the German Glass Industry, Offenbach | Hot forming of glass - from feeder channel to annealing lehr

2017 – now German Mechanical Engineering Association - Forum Glass Technology, Frankfurt/Main | Industry standardization, membership consultancy, markets

2020 – 2021 Mannheim Business School, Mannheim | Executive MBA

### Abstract

OPC UA is a widely adopted communication architecture in mechanical engineering, known for its integrated cybersecurity features and semantic information models. The 1st OPC UA industry standard for flat glass processing already provided capabilities for identification, machine condition monitoring, and job management, enabling the seamless exchange of job-related process information regardless of the machine manufacturer or software used.

The second version, published in October 2024, builds upon this foundation with improved harmonization with the ISA 95 specifications and the CS OPC UA for Machinery OPC 40001-1 (Basic Building Blocks) and OPC 40001-3 (Job Management). These updates, developed with input from the Flat Glass Industries working group, have made job management more universally applicable across industries. For flat glass processing specifically, the new JobTargetDefinition, defined in VDMA standard sheet 24124, serves as a recipe for producing panes or insulating units.

Moreover, definitions for calculating key performance indicators (KPIs) outlined in ISO 22400 have been expanded and refined in collaboration with the ISO 22400 committee. By combining definitions of time elements from ISO 22400 with machine-specific states, the calculation of Overall Equipment Efficiency (OEE) is now more precise.

The next step will be the standardization of data for machine qualification, particularly for functional qualification.

The presentation will provide an overview of OPC UA interoperability principles and demonstrate the application of the presented specification to support flat glass processing in the digital age.

