Innovative Glass Processing: Unlocking Efficiency and Sustainability in the Circular Economy

binder+co

Toledo, Ohio, USA | October 6-9, 2025

GLASSWEEK 2025

glassproblemsconference.org

86th Conference on Glass Problems

- - - What to Expect - - -

- **Binder+Co** *Insights into our Company, Technologies and Solutions*
- **Glass in the Loop** *Closing cycles, opening possibilities*
- **Recycling in Action** *From Waste to High-Quality Material*
- **Sorting with Vision** *Smarter systems, cleaner outcomes (two case studies)*
- **Power of Data** *Insights that drive performance*
- **Q&A** *Your thoughts, our dialogue*

Binder+Co – Product-Portfolio

STATEC BINDER
highly efficient bagging and palletizing solutions

- CRUSHING
- SCREENING
- WET PROCESSING
- THERMAL PROCESSING
- SENSOR-BASED SORTING
- BAGGING PALLETIZING

Processing Technology

Industrial minerals
Building raw materials
Mining
Iron- and steel industry

Environmental Technology

Recycling industry,
glass, metal, plastics, compost,
construction & demolition waste

Packaging Technology

Petrochemical,
food & animal feed,
chemical industries,
agricultural products and minerals

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Glass: the Perfect Model for the Circular Economy

Infinite recyclability without loss of quality

Energy efficiency in recycling

Closed-loop recyclability

Closed-Loop Recycling of Container Glass

Glass container

Filled containers,
incl. labels, caps, etc.

Collection system

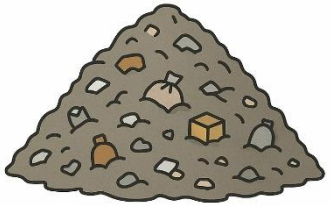
COLLECTION RATE

80%

30%

Transport

Landfill



DISPOSAL RATE

20%

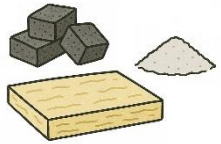
70%

Closed-Loop Recycling Rate

75%

35%

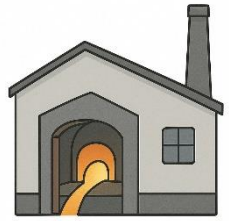
(Foam Glass,
Glass Wool, …)



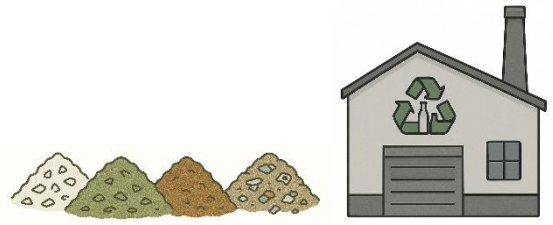
Open-Loop Recycling Rate

25%

65%



Glass production plant



Glass treatment plant (CTPs)

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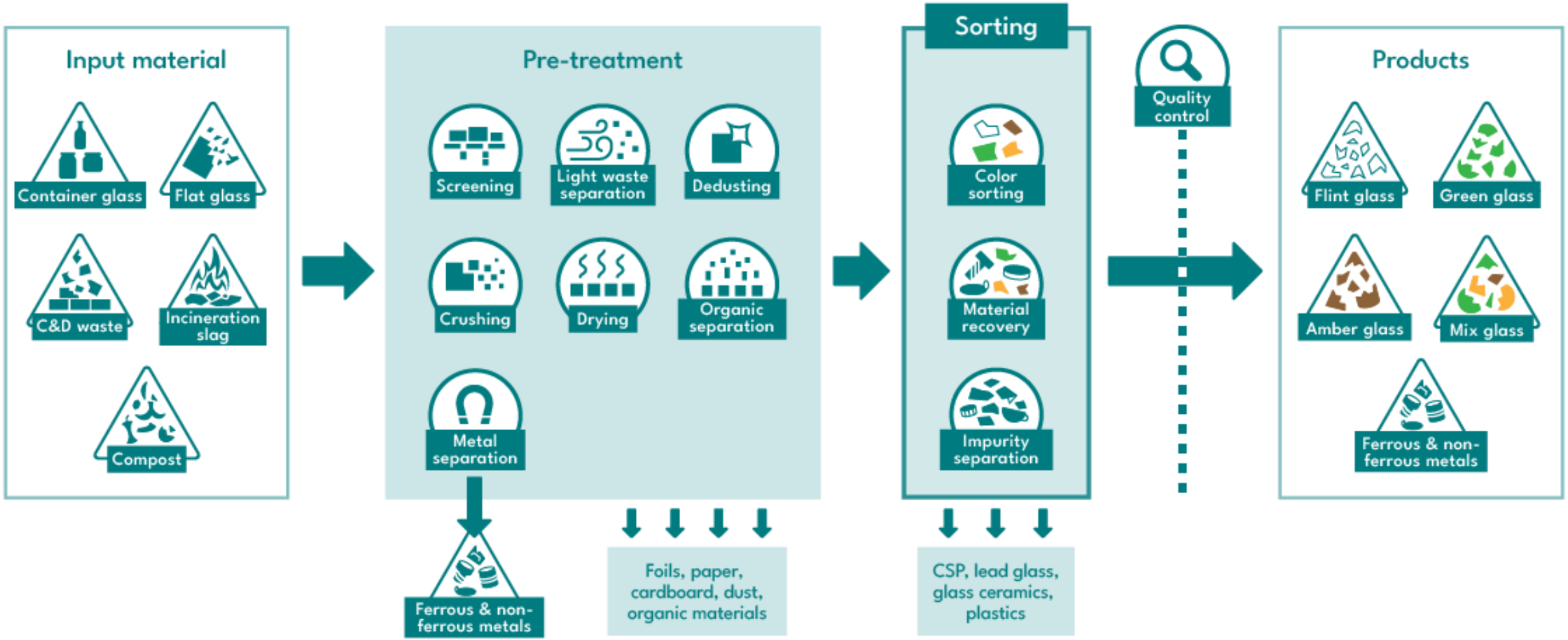
Cullet Treatment: Pre-Processing & Optical Sorting

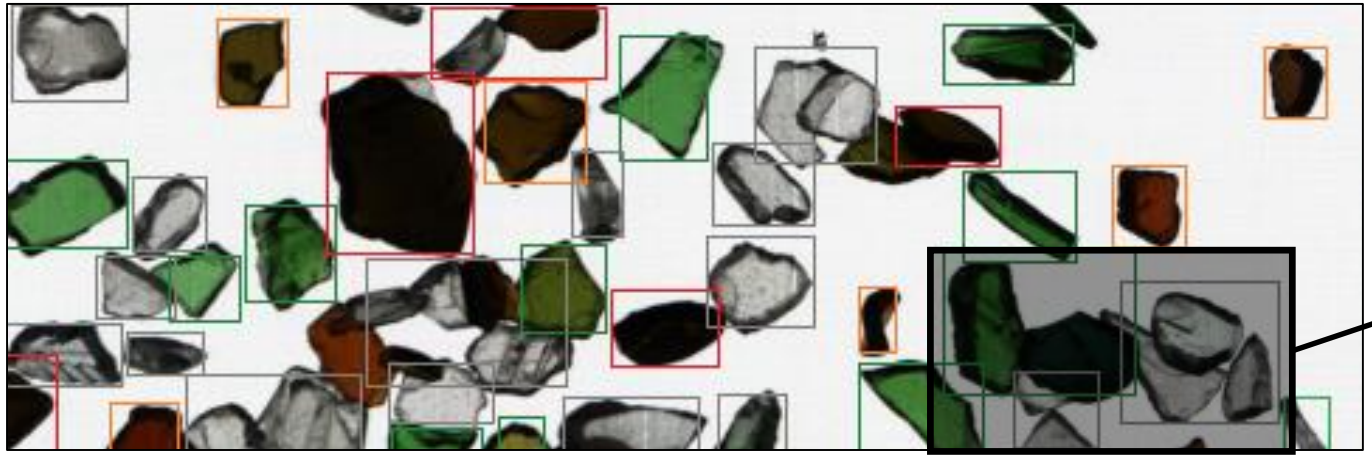


CLARITY QC: Automated Cullet Quality Control

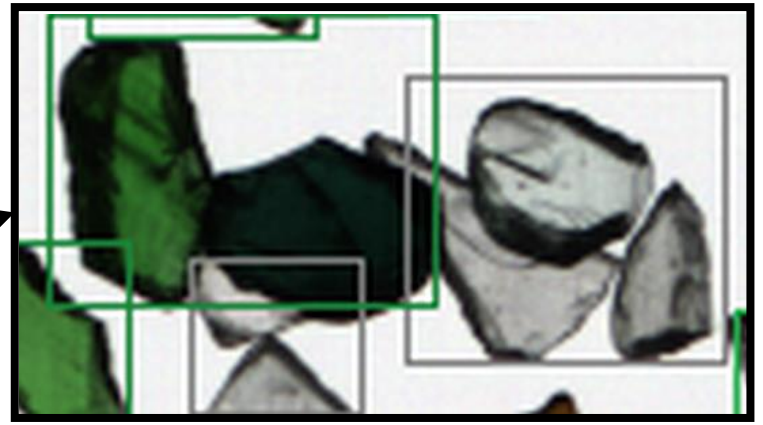
- **Fully automated material analysis:**
  Efficiently analyzes large sample volumes with consistently accurate results.
- **Continuous product monitoring:**
  Real-time evaluation of key parameters like grain size, weight, color, and material composition.
- **Reliable data evaluation:**
  Automation ensures objective, and consistent, results.
- **Early warning system:**
  Automatic alerts when predefined thresholds are exceeded or not met – enabling fast intervention.
- **Impurity detection and removal:**
  Impurities are identified and sorted out for further analysis – supporting continuous improvement.

Case Study 1: Two Methods of Material Classification

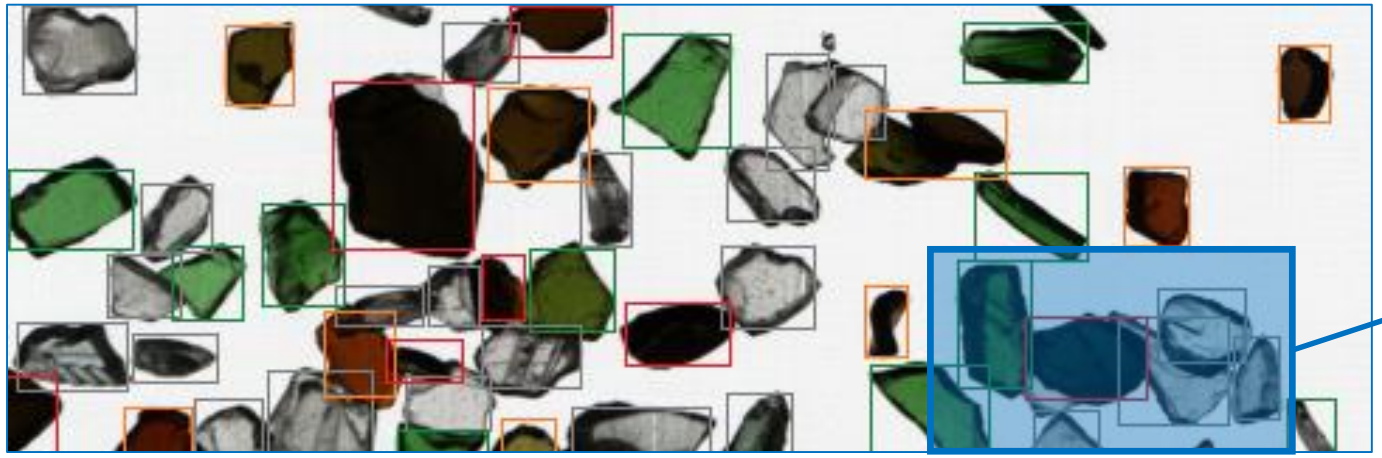
Conventional Classification Method



Flint
Green
Amber
CSP



AI-supported Classification Method



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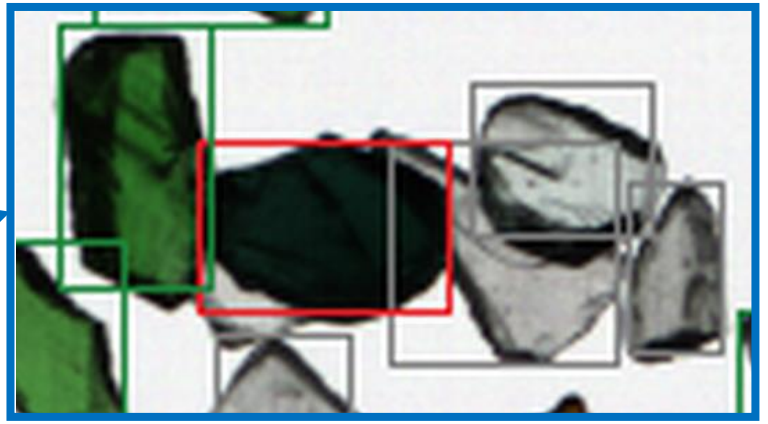
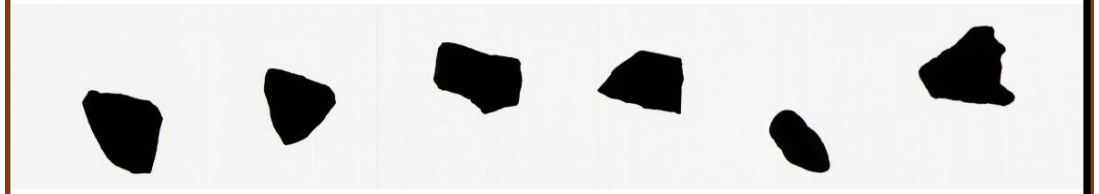
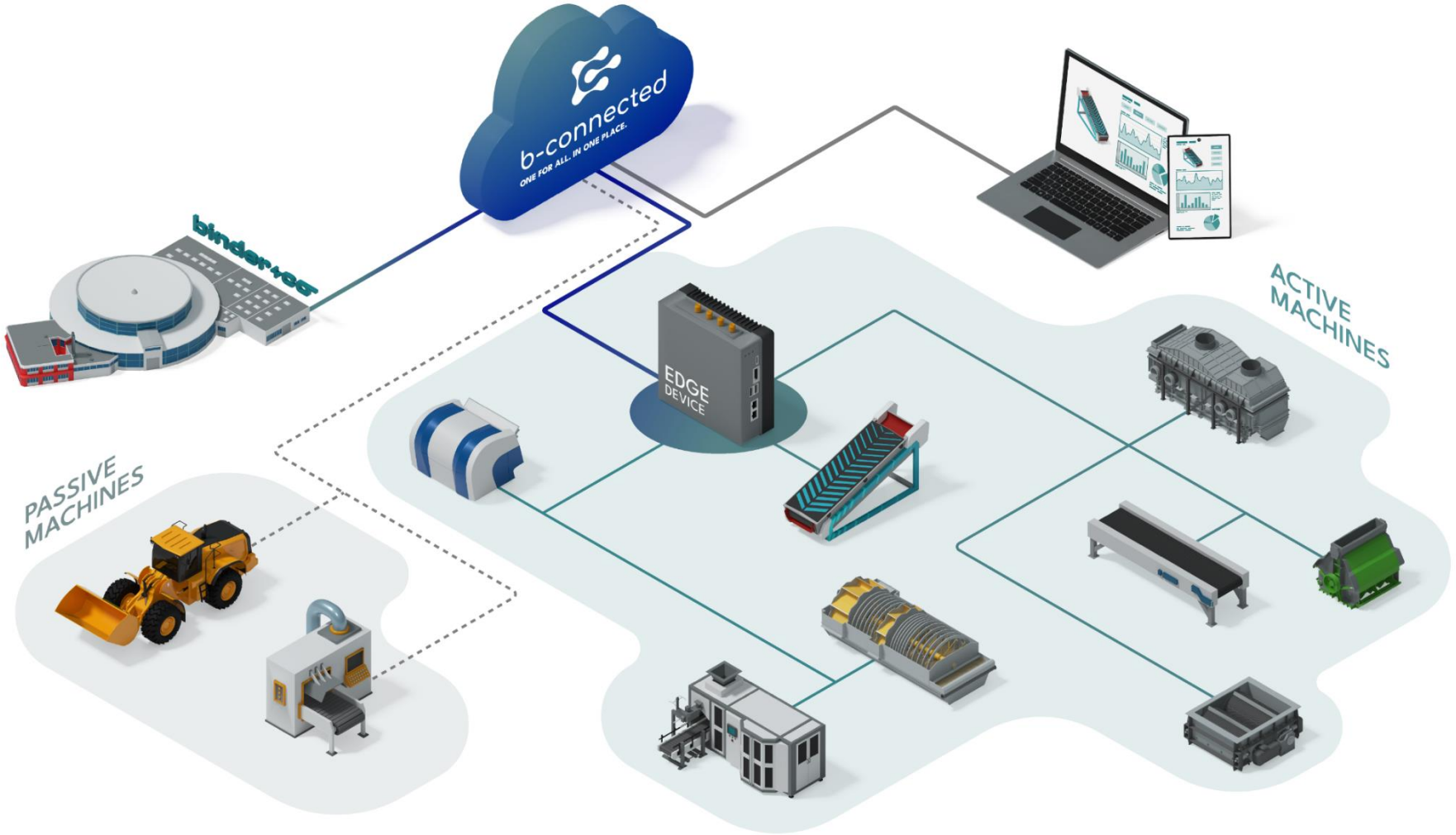


Case Study 2: Possibilities in Optical Detection Using AI

Material A		Material B
	Conventional Detection Technology	
	AI-supported Detection Technology	
valuable dark cullet 		 clean ceramics & porcelain

Data and IoT: The Future of Glass Recycling



Collect

Analyze

Optimize

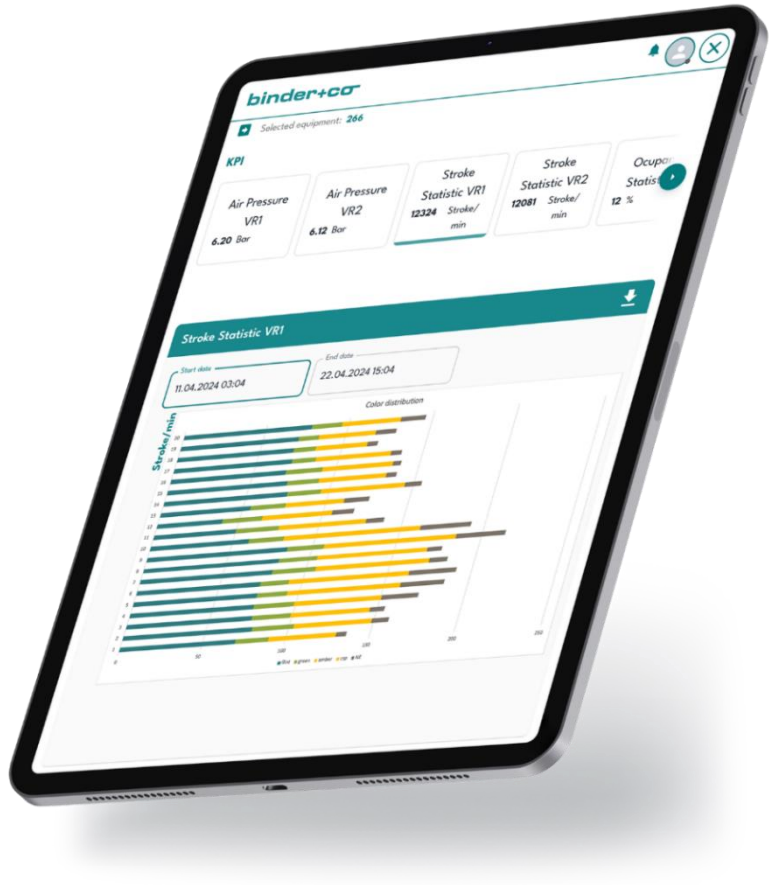
Data and IoT: The Future of Glass Recycling

Main advantages of data analysis

Increased efficiency in the overall process (e.g. more throughput, better quality)
with understanding global correlations

Reduced use of operating supplies (e.g. energy)
thanks to early recognition of unwanted conditions

More targeted use of resources (e.g. maintenance)
because of early detection of errors



Summary & Future Outlook

KEEP GLASS IN THE LOOP

Ongoing optimization required throughout the entire glass-loop.
Collection and recycling rates must be increased worldwide.

AUTOMATED QUALITY CONTROL

Key requirement for an efficient recycling process
and transparent processing of recyclable materials.

GAME CHANGER DATA & AI

Analyze and utilize operating and process data.
Conventional technologies remain important.

QUESTIONS?

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