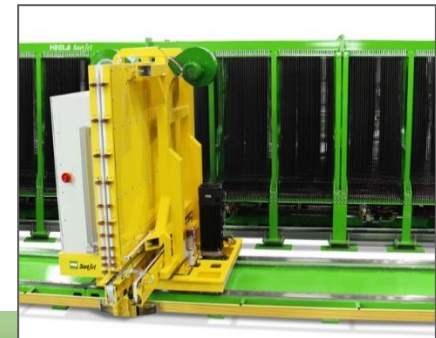


glass technology



Glass marking – When traceability becomes an obligation

VDMA Symposium 2019



Glass marking



Glass marking

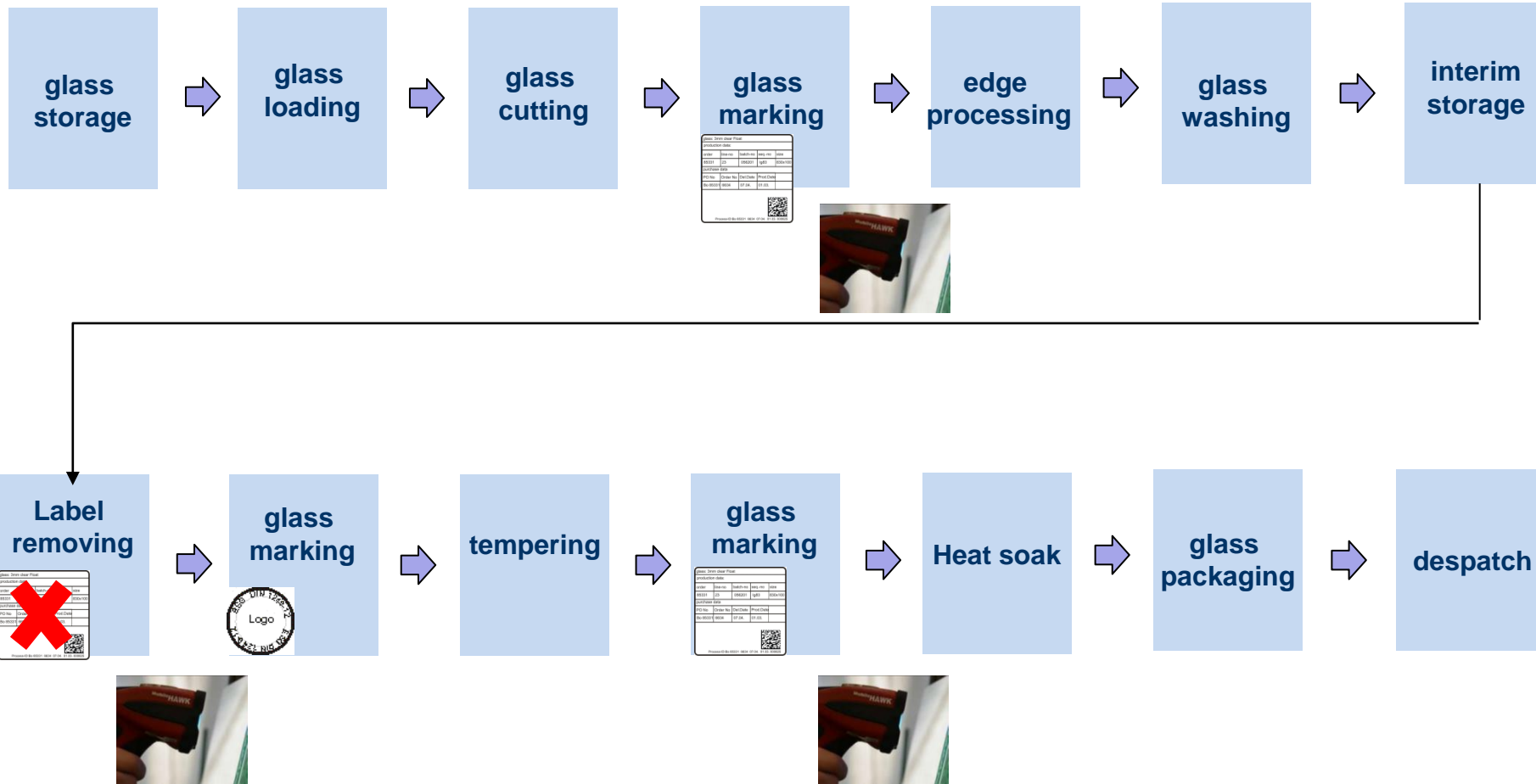


Marking with Product-ID

- process traceability during production
- Influence production steps in order to:
 - improve the Quality Management
 - reduce production costs by less defaults

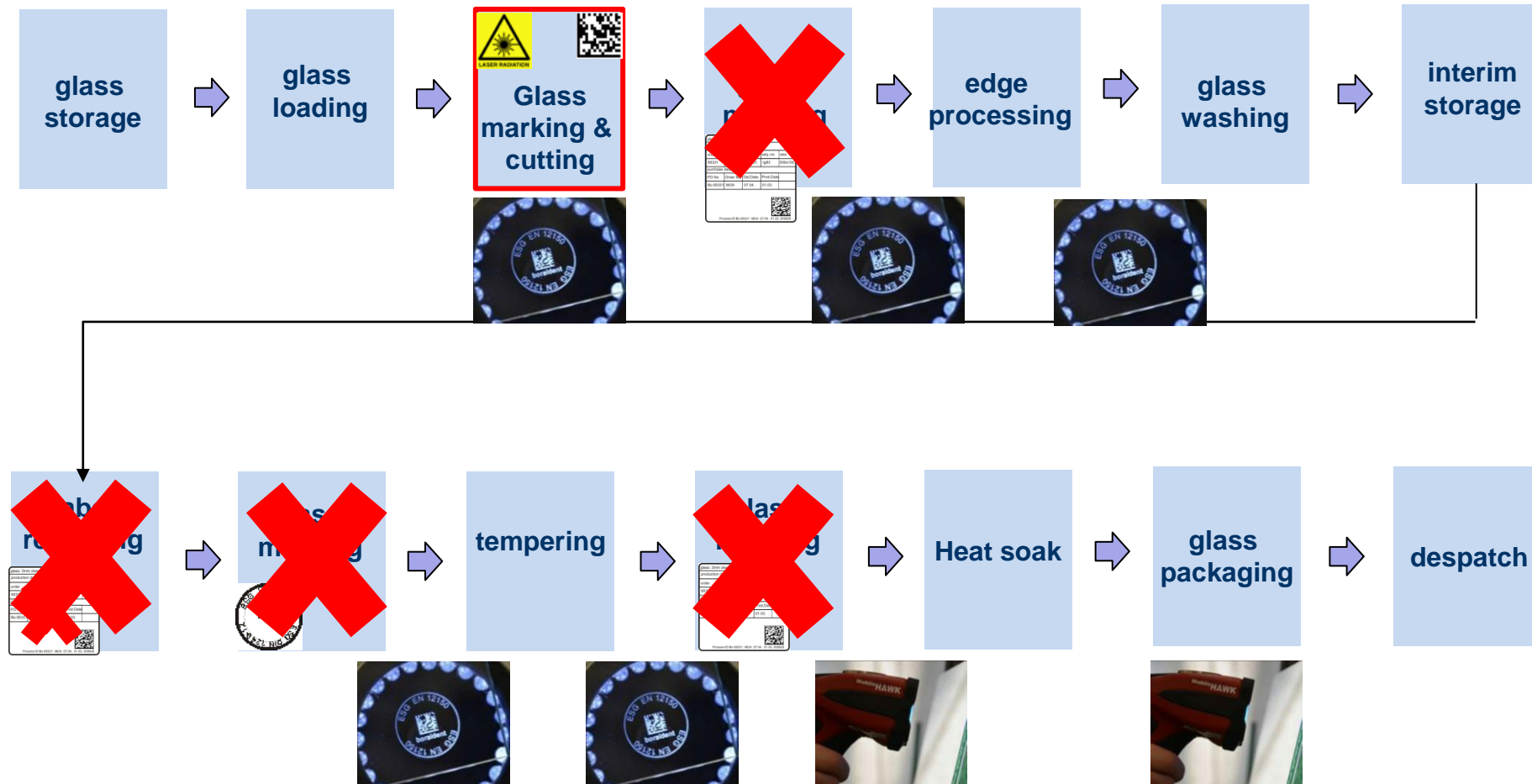
Glass marking

process control – state of the art – 2 label system



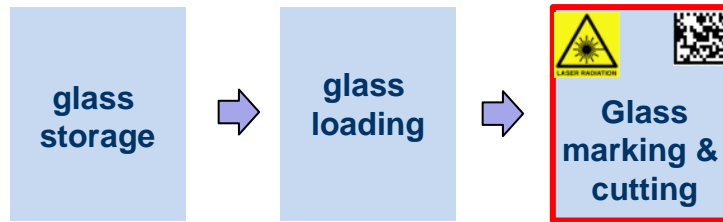
Glass marking

process control – NEW: Laser Marking with Product ID



Glass marking

process control – NEW: Laser Marking with Product ID



Example Marking of the pane with:



Declaration of standard:

- e.g. Tempered glass accordingly to

Name of producer:

- LOGO

Product ID with Data-Matrix-Code:

- Order number
- Data
- Individual Number

Product ID in plain writing:

- A45_180511_00025

Glass marking

process control – NEW: Laser Marking with Product ID



Glass marking

process control – NEW: Laser Marking with Product ID



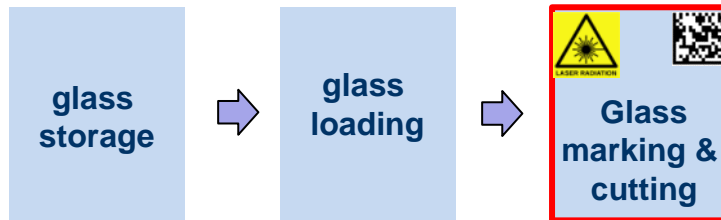
benefit of marking at glass cutting

- control of the production by individual Product-ID and machine-detection at each production step
- optimize the production time
- optimize the yield
- prevention of
- automatic quality management
- reduce production cost

cost float glass	4 EUR/m ²
process costs- cutting up to tempering	10 EUR/m ²
sum	14 EUR/m ²
average capacity tempering line	114 m ² /h
daily production (16h / 2 shift)	1.830 m ²
annual production (215 days)	393.536 m ²
annual costs	5.509.504 EUR
saved costs per year by 1% cost reduction	55.095 EUR

Glass marking

process control – NEW: Laser Marking with Product ID



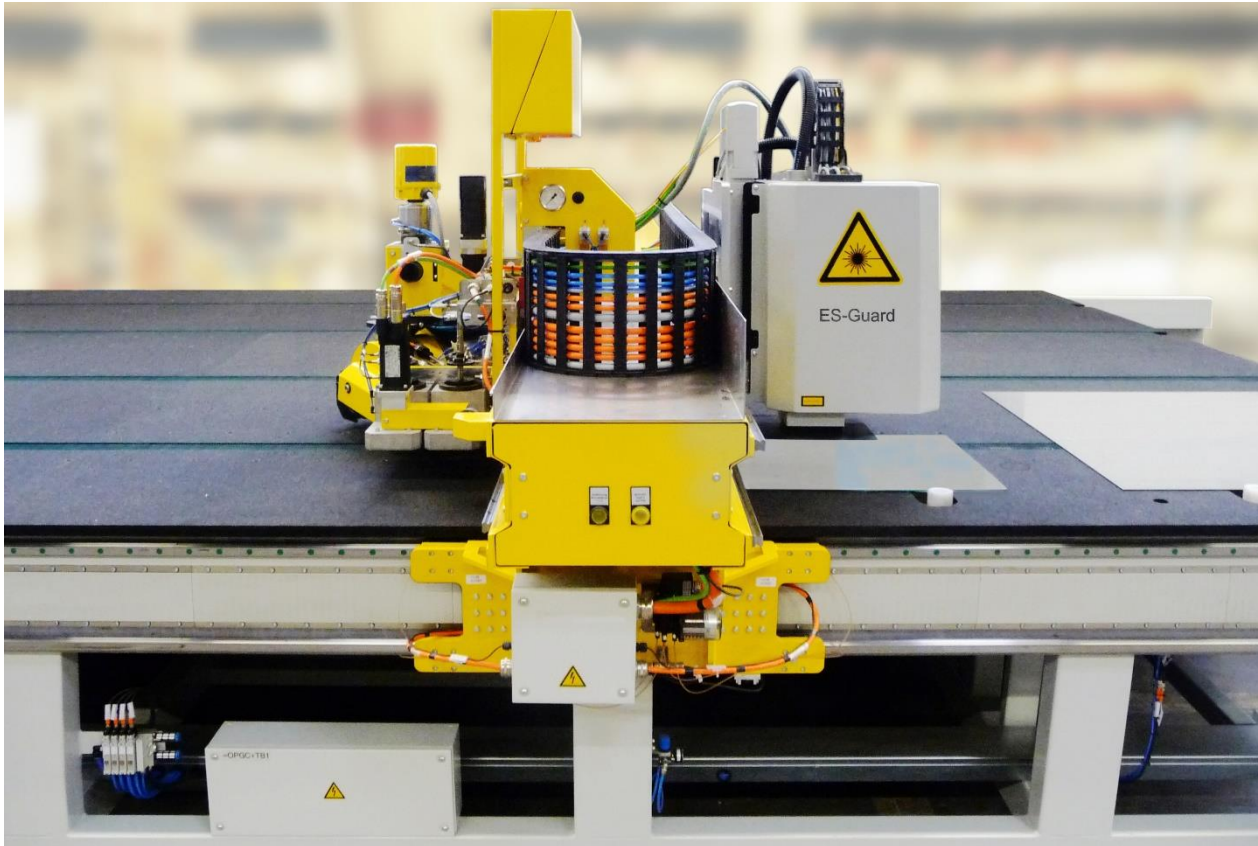
requirements / preconditions for efficient use of Laser marking:

- upgrade or replacement of existing machines (mainly the cutting table)
- upgrade or replacement of process software (ERP & MES)
- re-organisation of production process
- Investment cost for e.g. Scanner(s), factory IT (Server, Network, Wi-Fi)
- running costs

ROI after 3 years

Glass marking

process control – NEW: Laser Marking with Product ID



Glass marking

process control – NEW: Laser Marking with Product ID



Laser Marking in the first production step leads to the following advantages:

- control of the production process due to individual product ID's and reading at each production step
- possibility to optimize the quality management in order to increase the product quality (efficiency)
- possibility of error classification and typology of causation
- prevention of shortcomings and their avoidance through systematic detection of the product stage
- decrease defective goods to decrease production costs

Glass marking

process control – NEW: Laser Marking with Product ID

Marking with Product-ID

- process traceability through the production
- Optimization of quality and costs
- Allocation of the individual pane to the thermal processes
- Allocation of the pane to the installation position
- product traceability

