NEWS in Card Personalization
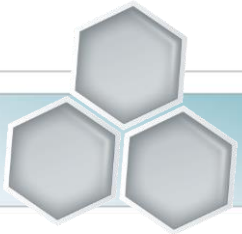
Presentation by Ms. Marija Novakovic,
Mr. René Heidner

Technobank 2023

NEWS in Laser Systems & Laser Features

Mühlbauer – New Generation of Lasers

- DPPS Lasers – for „premium" marking qualities
- Fiber Laser – for „economic" investments & long term usage (life span of the laser light source)
- CO2 Lasers – for „special" applications

CLEAR LASER MARKING   SECURE CLEAR IMAGE

FIBER LASERS

GREYSCALE LASER - LES 20 FP

GREYSCALE LASER - LES 22 FPEM   *NEW*

FIBER LASER - LES 31 F

FIBER LASER - LES 32 FPEM   *NEW*

DPSS LASERS

DPSS LASER - LES 16

DPSS LASER - LES 25

CO_2 LASERS

LES 30 C

LES 30 C-SCI   *NEW*

LPS 150

4/3/2023

Mühlbauer – Comparison of Laser Types

Laser Type
- DPPS Lasers
- Fiber Lasers

LES 16

LES 25

LES 22 FPEM

LES 32 FPEM

LES 20 FP

LES 20 F

Marking Quality & Product Flexibility

Speed / Performance

Mühlbauer – Secure Clear Image
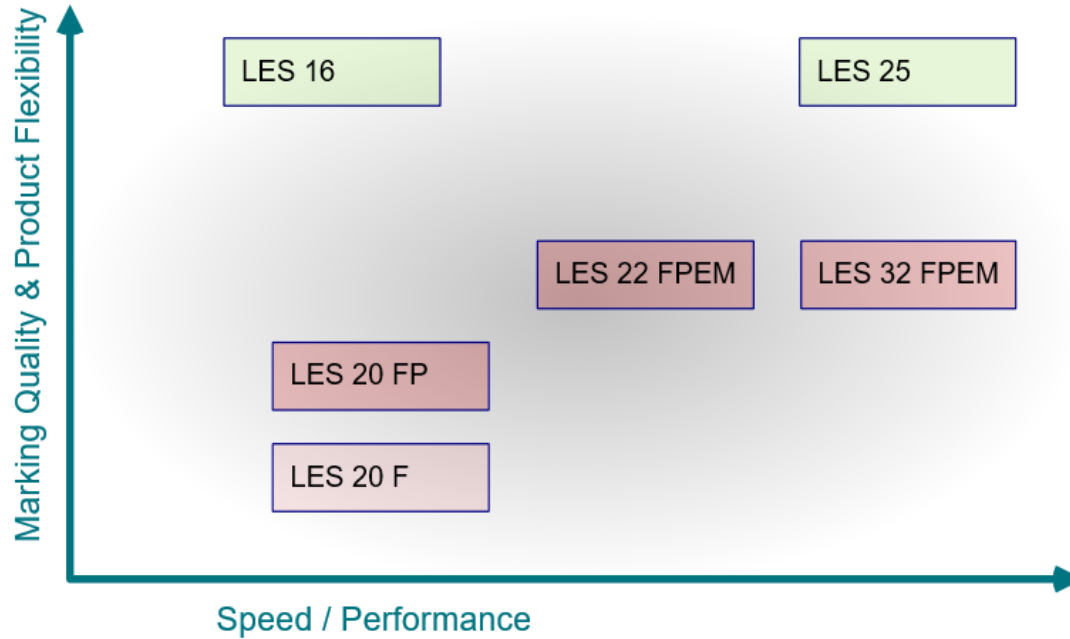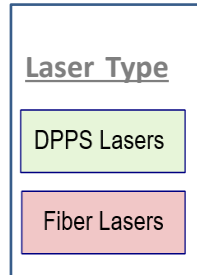
- Additional security feature (level 1+2)

- For documents based on Polycarbonate substrate

- Contains document holder specific & indivial data

- Personalization into the document structure results in a non removeable data element

Pictures 1-4: Secure Clear Image in different angels

Mühlbauer – Picture in Shadow

- Additional security feature (level 1)

- For documents based on Polycarbonate substrate as well as Paper (e.g. pass books)

- Can contain document holder specific & indivial data + combination of static data

- Personalization through the complete document (cards) or selected pages of a book

Picture: Feature visible through background light

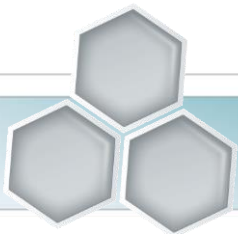# Mühlbauer – Laser for PVC, Metal & Metal Hybrid Cards

- Most suitable system for laser engraving using high power fiber laser (30W)
- Economic versions possible, e.g. 20W but might have limitations for some card products and impact on productivity
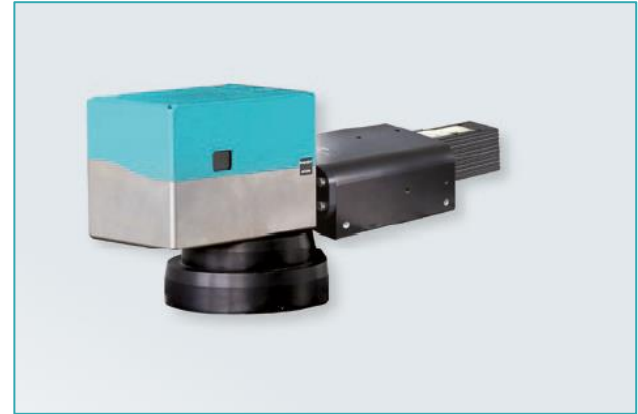
Picture: 30W laser

NEWS in Inkjet Technology & Features

Advantages:

- Real full „edge-to-edge" printing – simplifies the blank card stock management

- High resolution of 600 dpi – perfect print quality

- Available for PVC material and documents based on PC as single pass print engine

- Various applications, e.g. payment cards; loyalty cards; identity documents

- Several additional features with varnish (MB Liquid Coating)

Picture 1: Full color printed banking card

Picture 2: PC card with colored pictur + laser

Mühlbauer – White DOD-Inkjet Printing

- Depending on kind of substrate, 2 kind of personalization processes available

    #1: white substrate -> white data elements are „non-printed" areas

    #2: dark substrates -> special ink printing system with special white ink

Picture1: white card body & full color edge-to-edge print

Picture 2 & 3: silver / golden card body with white + black ink prints

Varnish is an innovative card feature:

- For commercial and non-commerical cards providing a NEW kind of tactile surface structure

- Types of varnish:
  - **Basic**: Clear varnish

Picture: Clear Varnish with tactile structure

Mühlbauer – Varnish as Feature(s)

Varnish is an innovative card feature:

- Types of varnish:
  - **Enhanced**: UV fluorescent (clear under normal light)

Video

Picture: UV fluorescent varnish (green)

Mühlbauer – Varnish as Feature(s)

Varnish is an innovative card feature:

- For **ID documents** = additional security feature

- Capability to contain document holders' specific information

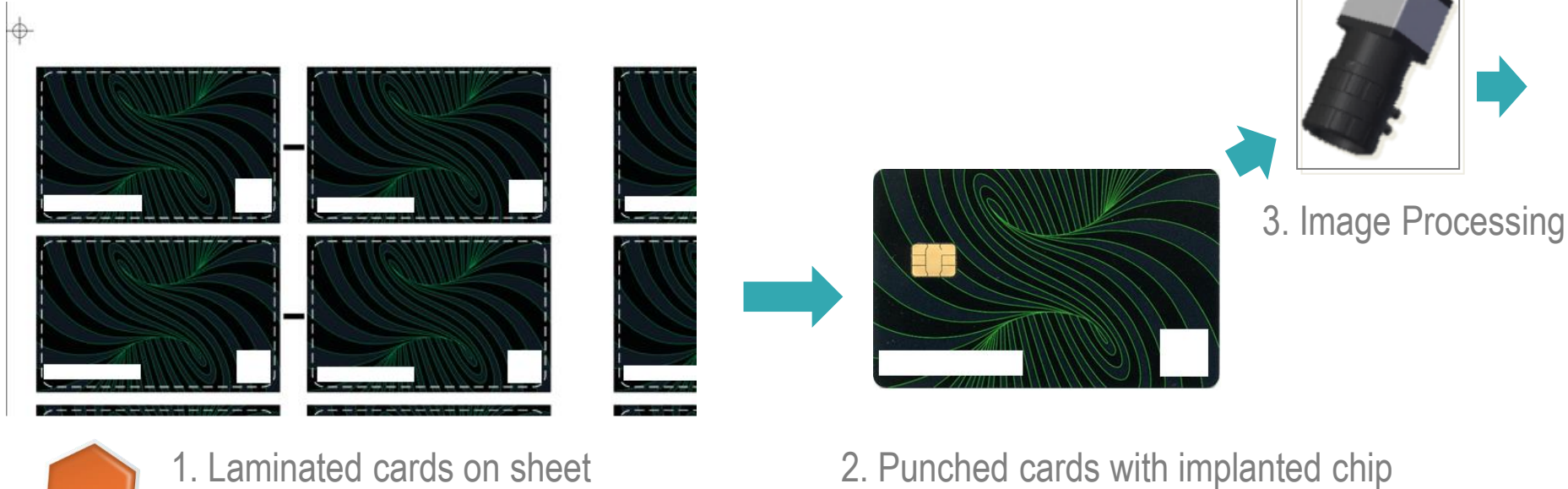- Verification function during personalization process by special camera system

Pictures: Data verification

Mühlbauer – Varnish as Feature(s)

Varnish as an **„add-on"** feature:

- For mass commercial & non-commercial cards = refining capability

- Process flow:

  - Usage of offset printed, blank cards

  - Detection of structure of the artwork – individually for each card!

  - Generation of the Liquid Coating layout – individually for each card

  - -> Therewith compensation of print/lamination/manufacturing deviations

  - Verification of the „add-on" by special inspection system

- MB innovative technology – IP pending

Varnish as an **„add-on"** feature:

- For mass commercial & non-commercial cards = refining capability

1. Laminated cards on sheet

2. Punched cards with implanted chip

3. Image Processing

Mühlbauer – Varnish as Feature(s)

Varnish as an **„add-on"** feature:

- For mass commercial & non-commercial cards = refining capability
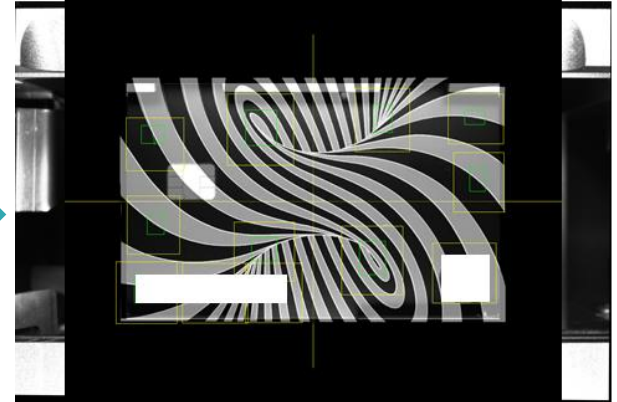
4. Creation of <u>Individual</u> varnish print layout

5. Print of Varnish by machine

6. Automated Quality Control (QA)

Mühlbauer – Varnish as Feature(s)

Varnish as an **„add-on"** feature:

- For mass commercial & non-commercial cards = refining capability

6. Result: Always perfect matching of varnish to the offset print!

Mühlbauer – Varnish as Feature(s)

Varnish as an **„add-on"** feature:

- For mass commercial & non-commercial cards = refining capability

- Comparison:

Card using generic varnish design without adaption
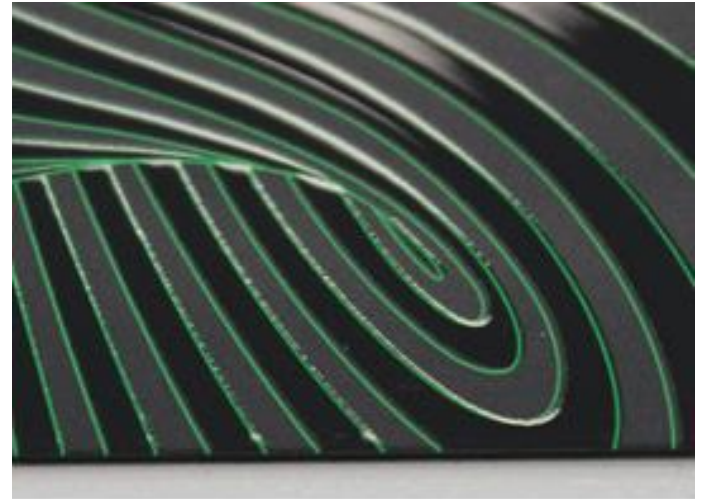
Card with individually adapted varnish design

Card Personalization Systems

Mühlbauer High Tech International
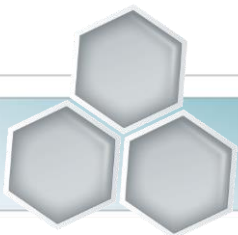
Banking Cards & others based on PVC

SCP 2000 DOD

SCP 6000 DOD

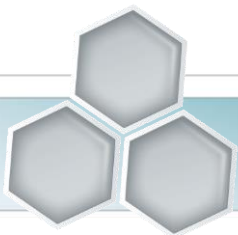PRODUCTION VOLUME / THROUGHPUT

SCP 60 NOVUS

SCP 300

SCP 2000 DOD

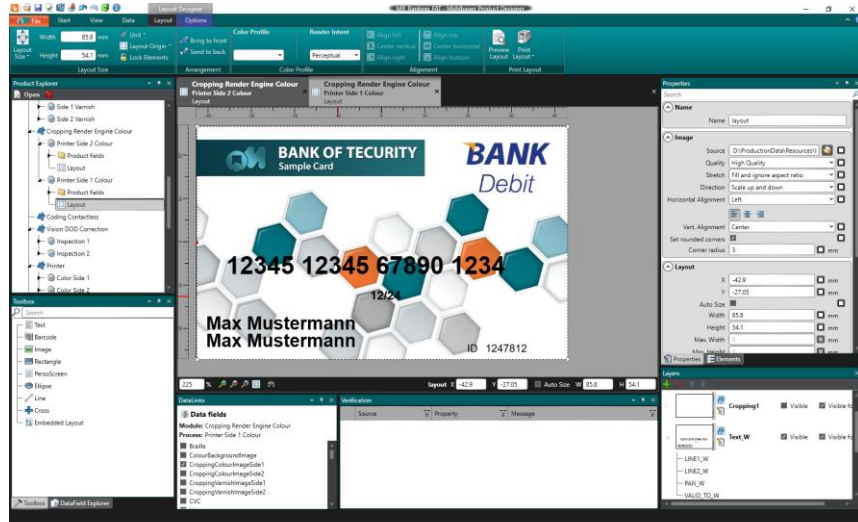SCP 6000 DOD

ID Cards & others based on PC

# MB Personalization Software
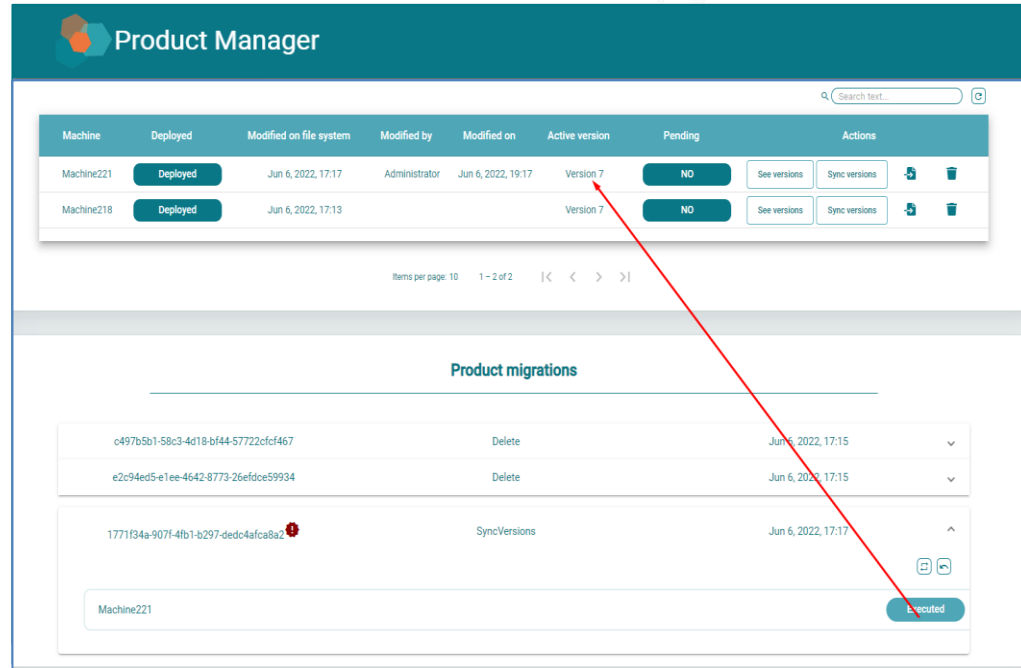
MB Product Designer

- Modern UI and Windows-based Look&Feel:
  - Simple ribbons
  - Just a few clicks away..
  - Easy to learn for that familliar with Windows tools
- All in one place for easy design of the product
  - Drag&Drop
  - Different objects for successful card design
  - Customize fonts and multimedia
  - Multiple layouts
- Reuse of other layouts and templates

MB Product Designer

- Translate complex ideas into easily digestible visuals for the machines:
  - Specification of product and machine-specific parameters
    (e.g. Coding Plugin, Printer Layout, Visual Inspection
    Templates, Process Workflow)
- Easy to verify, test and preview
- Import/Export functionality:
  - Save products to persistent storage
  - Import existing data into the layout
  - Create multiple releases
- Constant updates based on customer feedback
- SF2R – Stable, Fast, Relaible, Robust

MB Product Manager
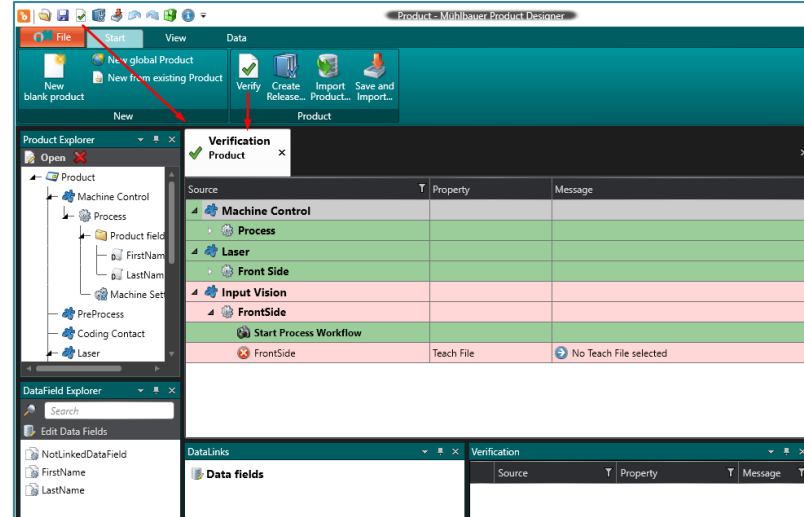
- Web-based solution:
  - Integrated with MCES2
  - Group similar machines
  - Access products from the browser
  - Share products
  - Allow/restrict access to different users
  - Share directories both on the machine's file system and on the FTP server
  - Initiate migrations of the products with the undo option
  - Track statistics and history

- Responsive design
- Support for different languages
- Easy customization and integration with other tools for:
  - Logging
  - Identity providing
  - Containerization
- User friendly
  - Change UI
  - Track warnings and errors
- Organize data: list, search, filter, sort
- Check progress
  - Do multiple actions at once

Globalization

Improved Efficiency

Modern Design

Higher Security

Scalable Architecture

Support

Cross – Platform Compatible
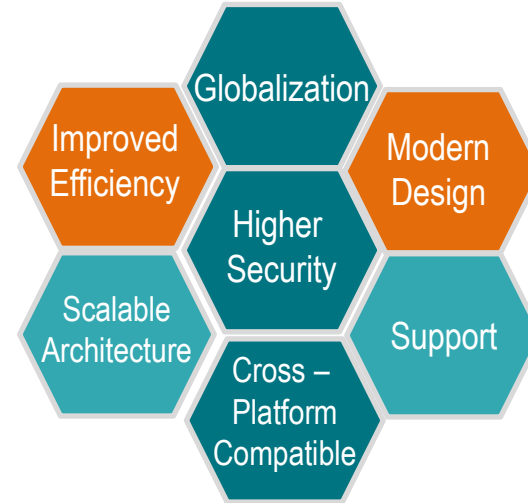
Thank you for your attention

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