

# Mühlbauer: The Evolution of Personalization in the Banking Sector

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# Company



Embossing is not state-of-the-art

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## HISTORY

- Cards continued to be embossed in case a transaction needs to be processed manually

## NOW

- No longer in practice of such payment transactions worldwide

## ZIP-ZAP MACHINE

- Mechanical version of the modern POS machine



# Embossing is not state-of-the-art

- 2008 **VISA** announced freedom of choice for the banks in terms of personalization technology
- The embossing process has increasingly lost this technical purpose because of electronic payment processes
- Embossing now serves more as a **visual enhancement** than as a security feature
  - Limited security
  - Cost and complexity
  - Aesthetic considerations



# Embossing is not state-of-the-art

- Released alternatives for “optical” card personalization
  - DOD Inkjet Printing
  - Laser Engraving
  - D2T2 Printing
  - Retransfer Printing



- Innovative: Card refinement functionality
- Innovative: Metal cards



# Card Personalization Systems

## Overview

# Overview of New Card Personalization Systems

Production volume / throughput

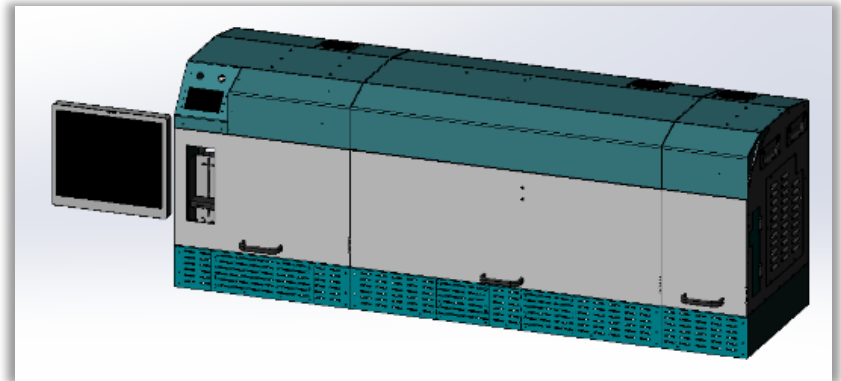
 <p>CLP 60</p>	 <p>New: SCP 150</p>	 <p>SCP 4000</p>
 <p>CLP 60 E</p>	 <p>SCP 501 / 801 / 1501</p>	 <p>SCP 2000 DOD</p>
 <p>SCP 60 NOVUS</p>	 <p>SCP 300</p>	 <p>SCP 6000 DOD</p>

Banking / ID Cards & others



# News in Desktop Laser Personalization

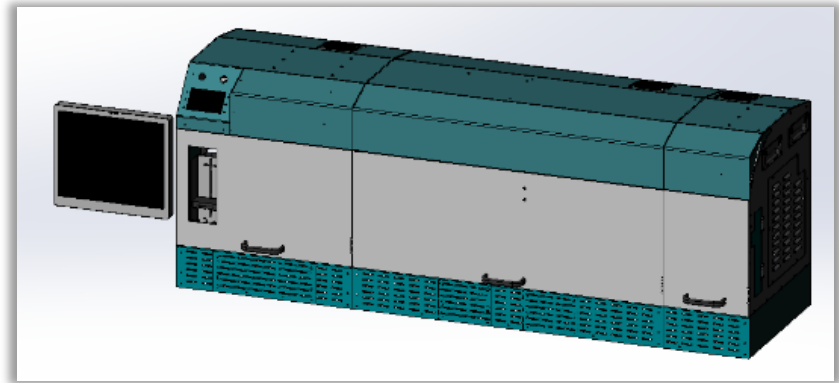
- Desktop Laser Personalization System - Processes
  - Chip Encoding
  - Print Alignment (PC)
  - Laser Engraving
- Additional functions
  - Card serial number detection by camera
  - Chip Encoding contact / contactless
  - Print on PVC & PC with full alignment
  - Laser Engraving
  - Data verification unit: Optical Check, electrical Check



SCP 150 – New Development of SCP 60 Novus



- Machine features
  - Long-established basic machine based on the CLP 60 (more than 1.000 machines in the market)
  - Input vision on both card sides
  - Contact / contactless coding in parallel
  - Laser Engraving (different laser types selectable) with full vision correction
  - Full color inkjet with up to 8 colors
  - Full QA System integrated



SCP 150 – New Development of SCP 60 Novus



# News in Inkjet Technology

# White DOD-Inkjet Printing

- New version of white ink personalization
  - Enhanced process for banking cards
  - New version of print head and white ink
  - Print resolution 360dpi with excellent ink coverage on card substrate



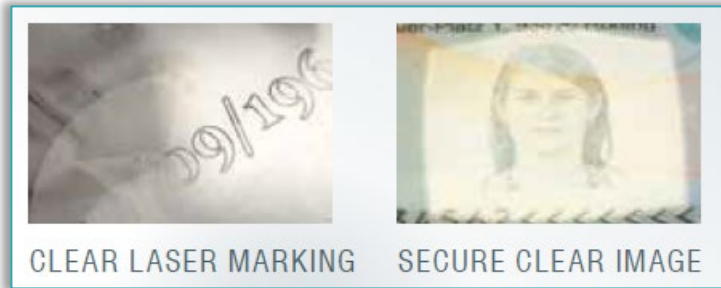
Silver / golden card body with white & black ink prints



# MB Laser Personalization Technology

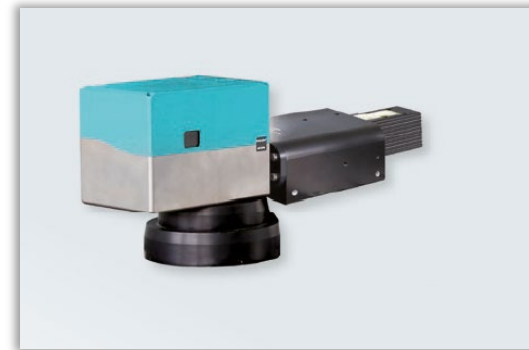
# New Generation of Lasers

- DPSS Lasers – for „**premium**“ marking qualities
- Fiber Lasers – for „**economic**“ investments & long term usage (life span of the laser light source)
- CO<sub>2</sub> Lasers – for „**special**“ applications



# 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

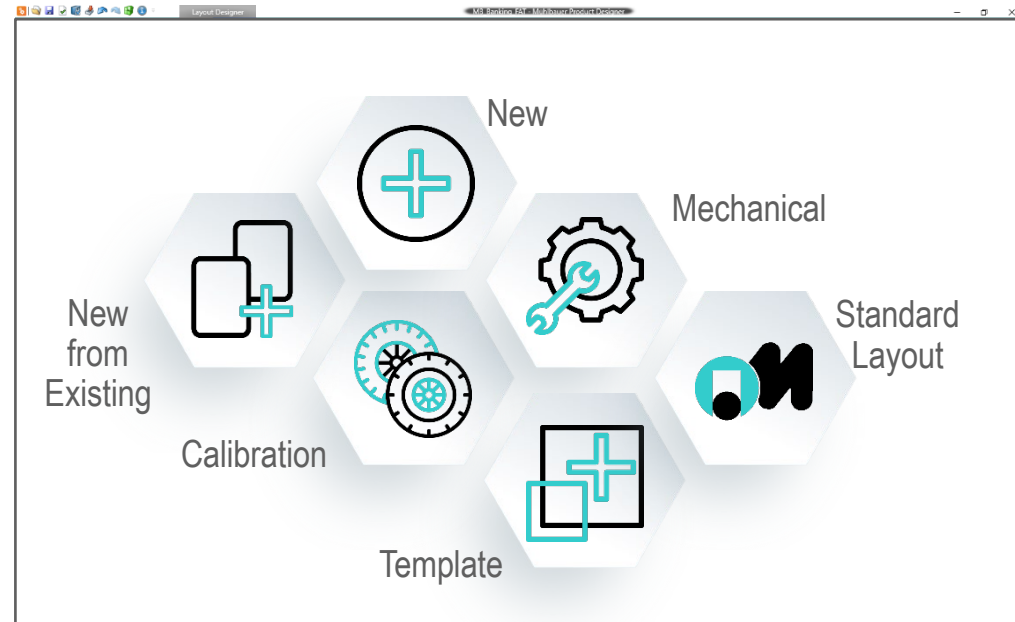


30W laser



# MB Personalization Software on Machine

- Modern UI and Windows-based look & feel
  - Just a few clicks away
  - Smart system that guides you step by step in creating the required product
  - All in one place for easy product design
  - Optimization possible at any time
  - User-friendly drag-and-drop system
  - Different objects for successful card design
  - Customized fonts and multimedia
  - Flexible management of each layout element independently
  - Multiple layouts / layers / variables within one product
  - Test samples are automatically created to show a specimen of how your card will look
- Live communication with the customer server using Web API
- Machine secured against cyberattacks



# Thank you for your attention

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