



Agenda

- **Who is BEIL**
- **Product Overview**
- **Why automation?**
- **Required information for offering automation projects**
- **Questions?**



Quick Overview: BEIL-Registersysteme GmbH From Abensberg - Germany

- Manufacturer of special purpose machines – especially punch & bending machines for the printing industry
- Founded in 1981 and still family-owned
- 80% printing industry/ 20% other areas (mainly medical)
- Export in approx. 185 countries / export rate over 60%
- Certification: ISO 9001:2015
- New leadership team since Feb. 2016

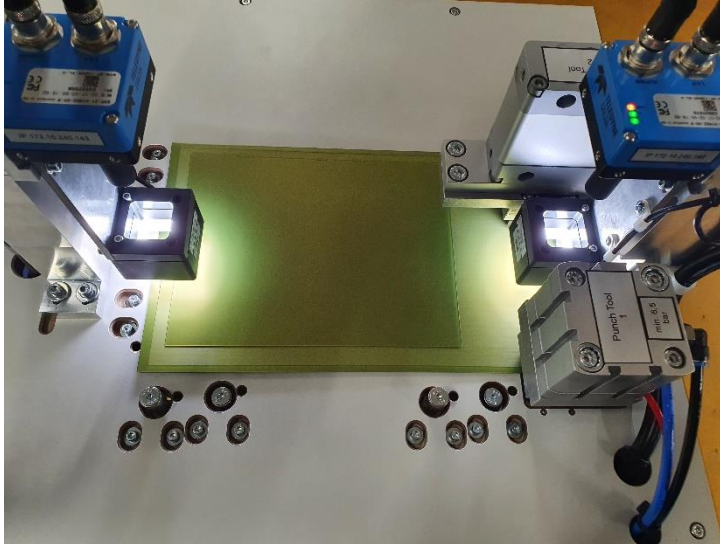
Manual Punch-Bender



Manual Punch-Bender

- Positioning via 2/3-pin registration
- Multi formats processable
- [Link to Video](#)

Video-Punch with optical positioning



Pneumatic Register-Punch

- Positioning according to exposed image
- Independent of printing plate quality or for a mix production of more than one CTP-System
- Mitigates influence of operating errors
- [Link to Video](#)

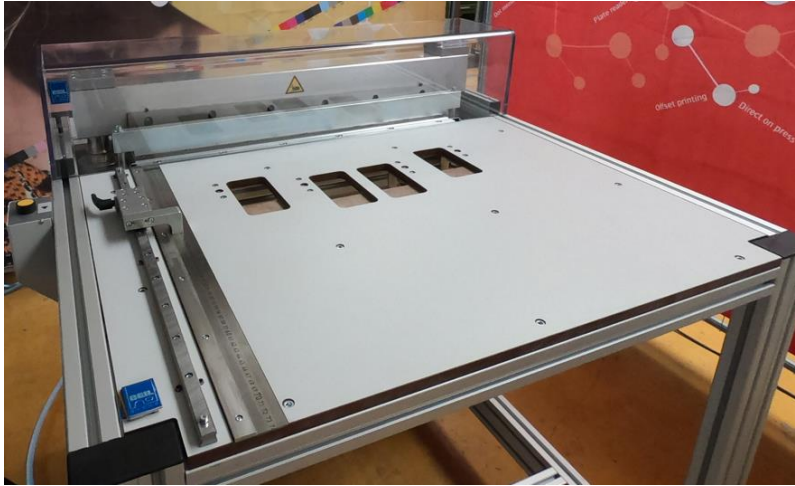
Semi automatic (Punch-) Bending machines web presses



Pneumatic (Punch-) Bender for web-presses

- Printing Plate length up to 3 m
- Double sided punching and bending
- Camera-system for optical positioning possible
- Remote access possible

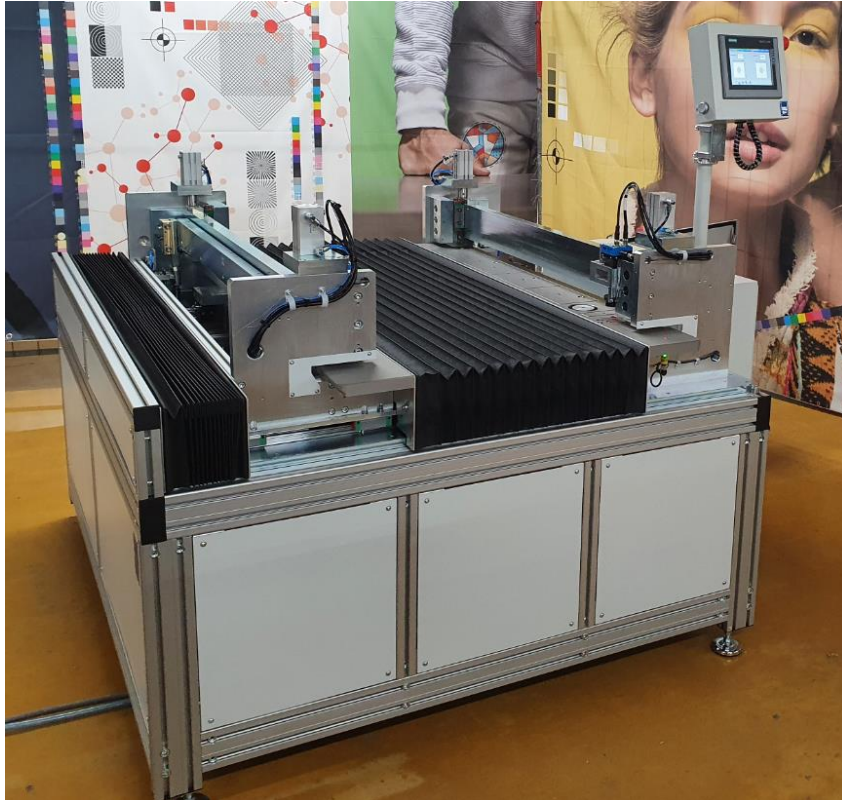
Printing Plate Shears and Divider



Pneumatic Plate Shear

- Ideal for cutting or dividing of plates
- Stepless length adjustment possible
- Specially treated cutting unit
- [Link to Video](#)

Video-Bending-Machines for label presses



Semi automatic Video-Bender with optical positioning

- Printing Plates from 14" to 36"
- Double sided bending
- Automatic positioning via camera system
- [Link to Video](#)

Stand-Alone Stacker



Printing plate stacker for plates up to 1.640 x 1.700 mm

- Electrically powered standalone printing plate stacker
- Speed up to 72 printing plates/hr
- Printing plate cart with capacity of up to 120 printing plates
- Adjustable conveyor speed
- Adjustable conveyor height
- [Link to Video](#)

RAL - Robotic Pallet Loader

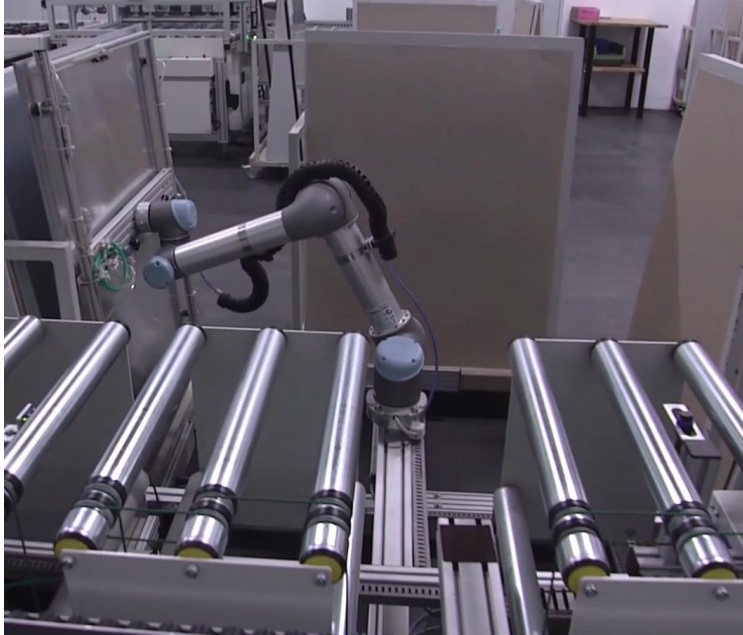


Robot for loading plates from pallets into a CTP

- Several printing plate formats in direct access
- Loading of several CTPs possible
- Simple positioning of the printing plates
- Flat depositing of the interleaving paper in a container
- Flexible use of the available space
- Low loss of value
- [Link to Video IIIB](#)
- [Link to Video VLF](#)

RAS – Robotic Auto Stacker

Printing Plate-Stacker with 6-Axis-Robot-Arm



- Loading of up to three Plate Carts
- Sidewise stacking of printing plates enables comfortable withdrawal of already produces printing plate jobs
- Usage of existing Plate Carts to save costs, if possible [Link to Video](#)

Impression – News Paper



Optical Punch-Bender with Stacker

Impression – Web Offset



Multi-Format-Bender with Sorter

Impression – Web Offset

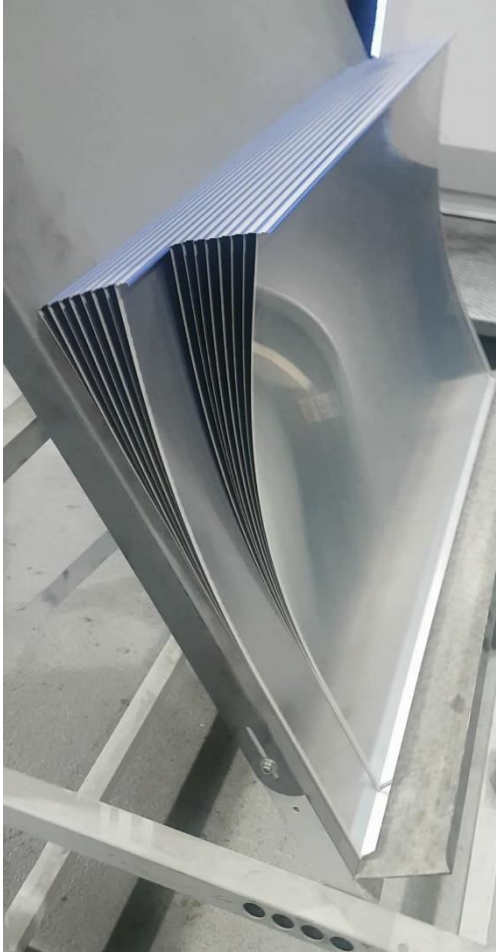


Horizontal plate storage [Link to Video](#)



Printing plate lifter [Link to Video](#)

Impression – Web Offset



Plates stacked on a Plate-Cart



Plates hanging in a Plate-Cart [Link to Video](#)

Sheet Fed Compact-Bender



Compact - Bender

- Inline (Punch-) Bender
- Small footprint (ca. 2.400 x 1.850 mm)
- Plate-to-Unit Compatible
- [Link to Video](#)

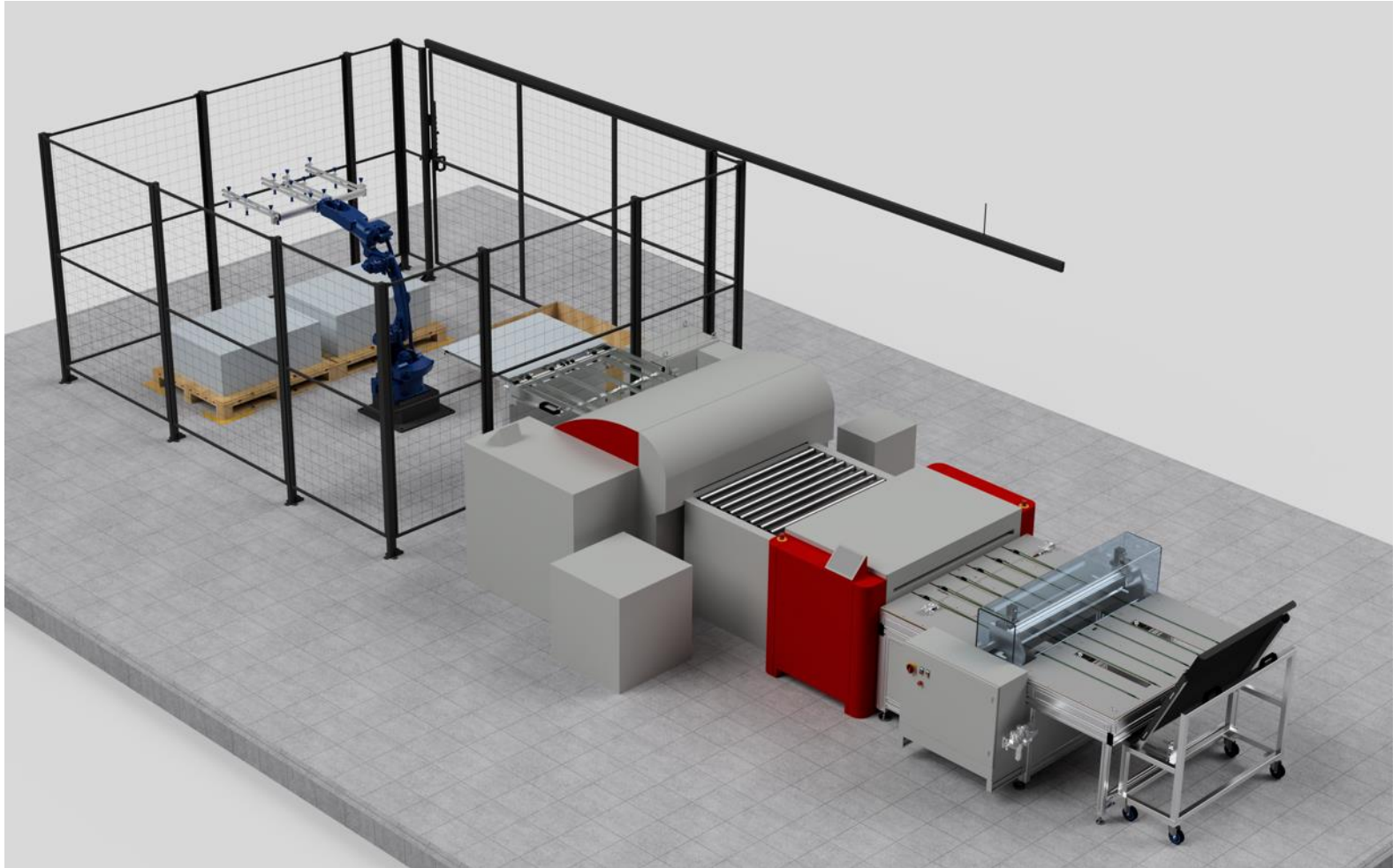
Impression – Sheet-Fed



Impression – Sheet-fed



Sheet-fed example configuration (CTP Straight)



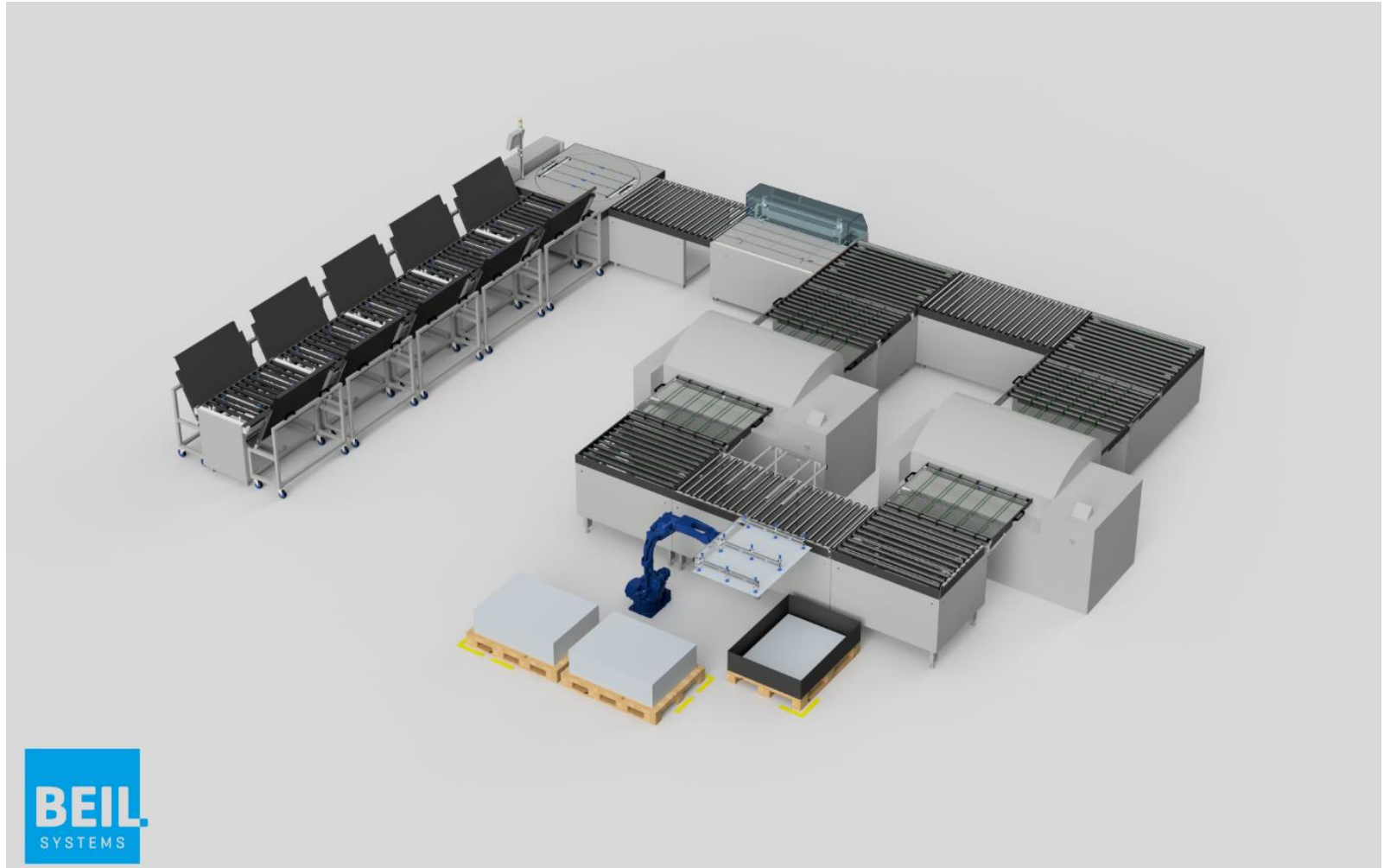
➤ 1x RAL Pallet loader + Compact Bender

Sheet-fed example configuration (CTP Side-by-Side)



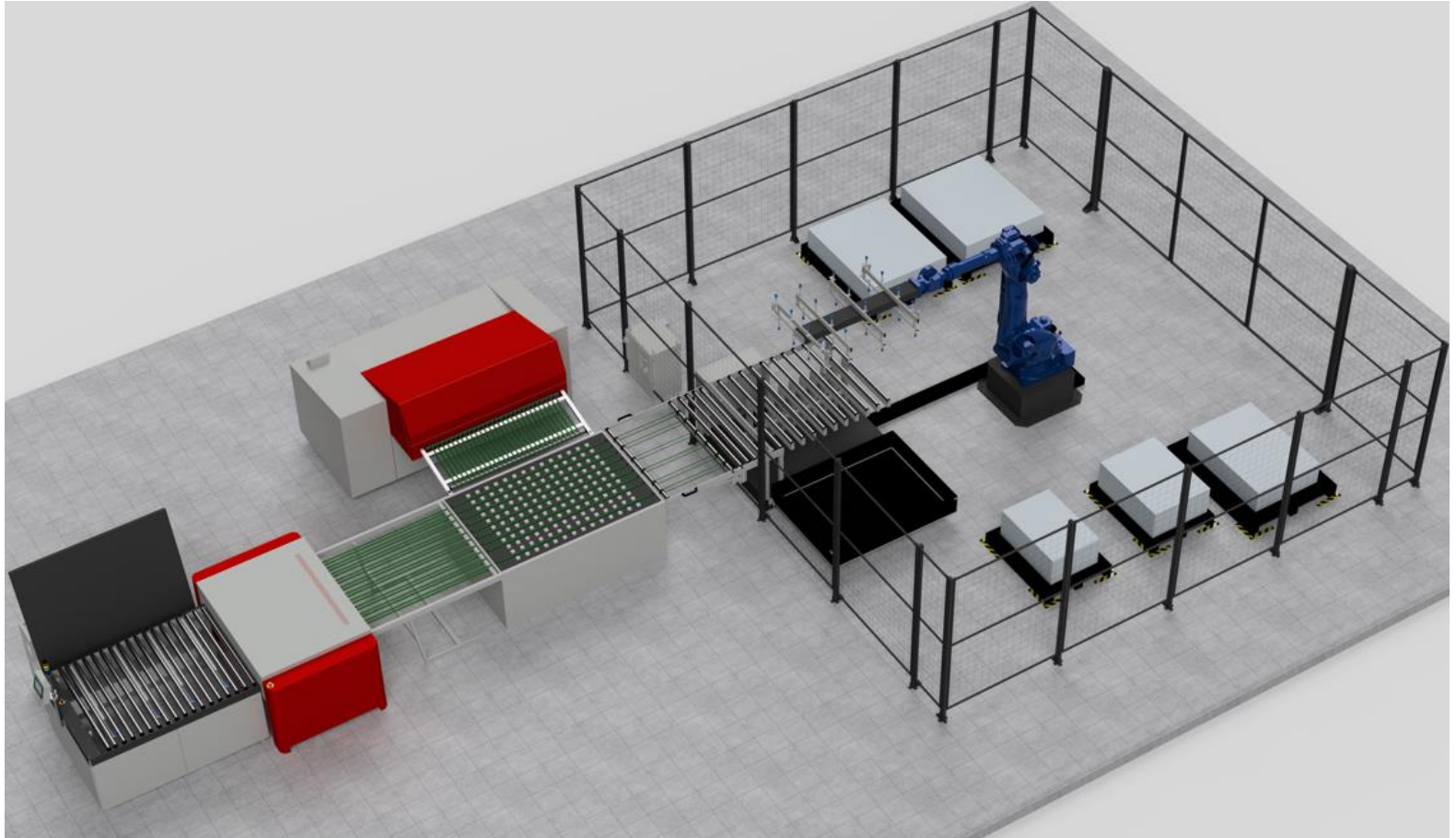
- 2x CTPs Face-to-Face; Cross Conveyor; Turning Unit; Bending Machine; Turning Unit; 8x Plate Stacker with 8x Plate Cart Position

Sheet-fed example configuration (U-configuration)

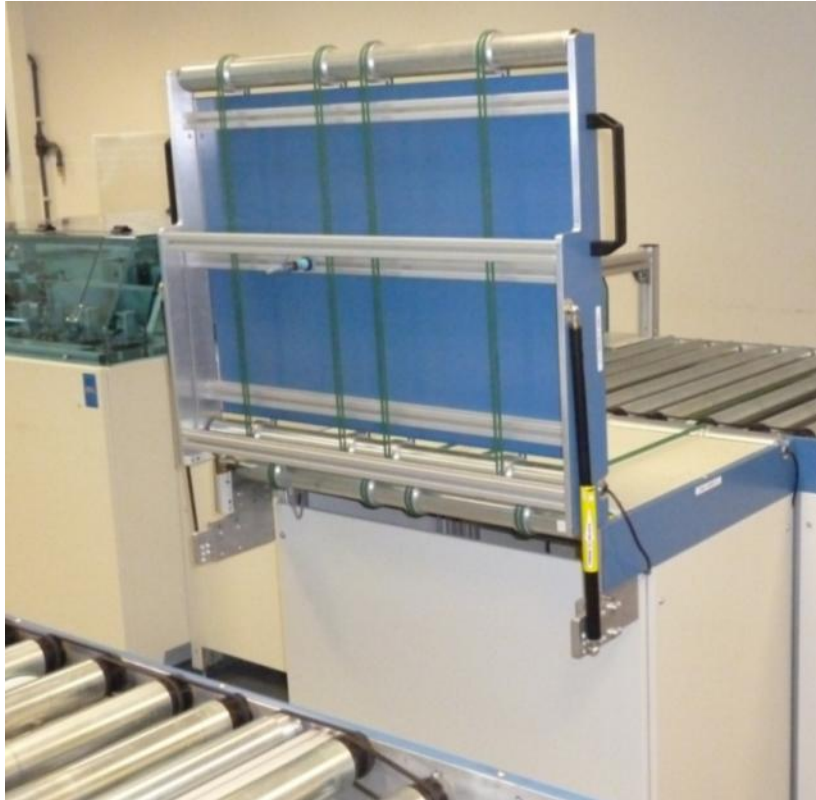


- 2x CTP side by side with RAL pallet loader, inline bender and 10 stacking positions

Sheet-fed example configuration (U-configuration)

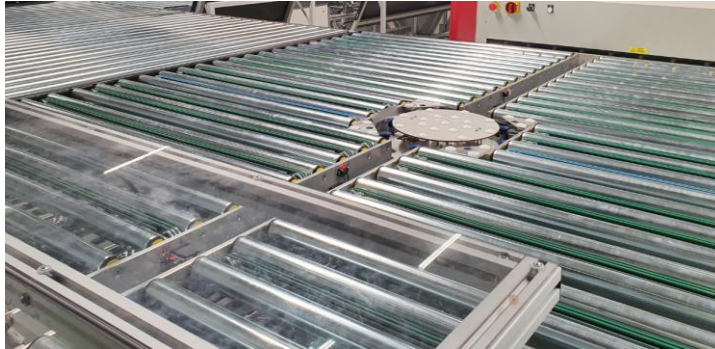


- 1x CTP, RAL pallet loader for large format and one stacking position



Swivel Conveyor

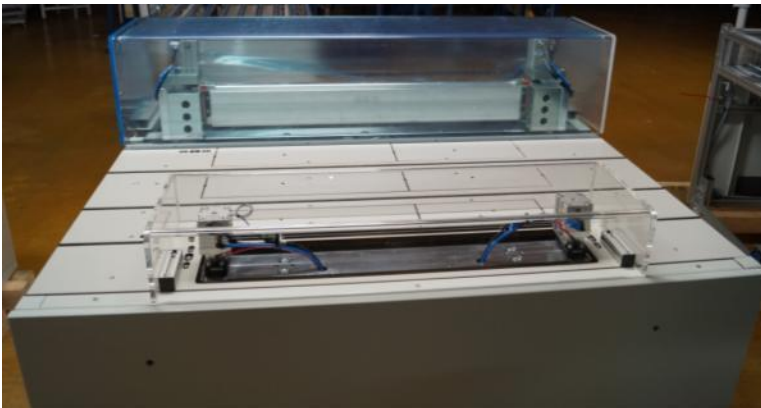
- Swivel conveyor as men or material passage



Turning Station

- Turning station with cross conveyor for changing the direction of the printing plate
- Turning station for flat plates
- Turning station for bent plates

Module

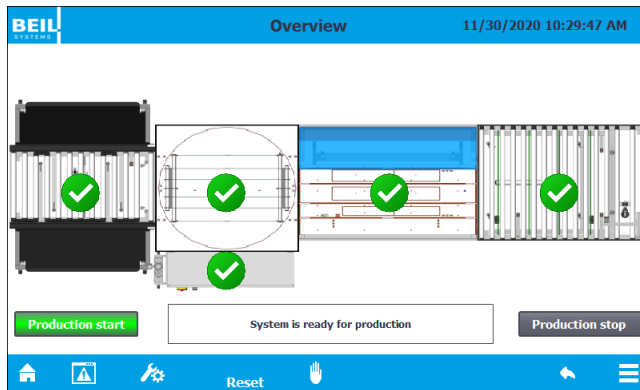


Module - Hardware: Inline Bending-Machine with optional Punching Unit

- Plate alignment via 3-pin-registration
- Up to 210 plates/h
- Branded components: Siemens, Festo, Hiwin, etc.
- Good spare part availability; low maintenance
- Optional Punching Unit as back-up or as alternative to the CTP-Inline-Punch

Module

Module - Hardware: Touch-Panel, Barcode-Reader and Signal Lamp



- Intuitive Operable Touch-Panel
- Reader for 1D and 2D Barcodes; upon request also for process less plates
- Signal Lamp gives visual and acoustic feedback of the current status of:
 - Production readiness
 - Disruptions
 - Filling level of Plate Carts

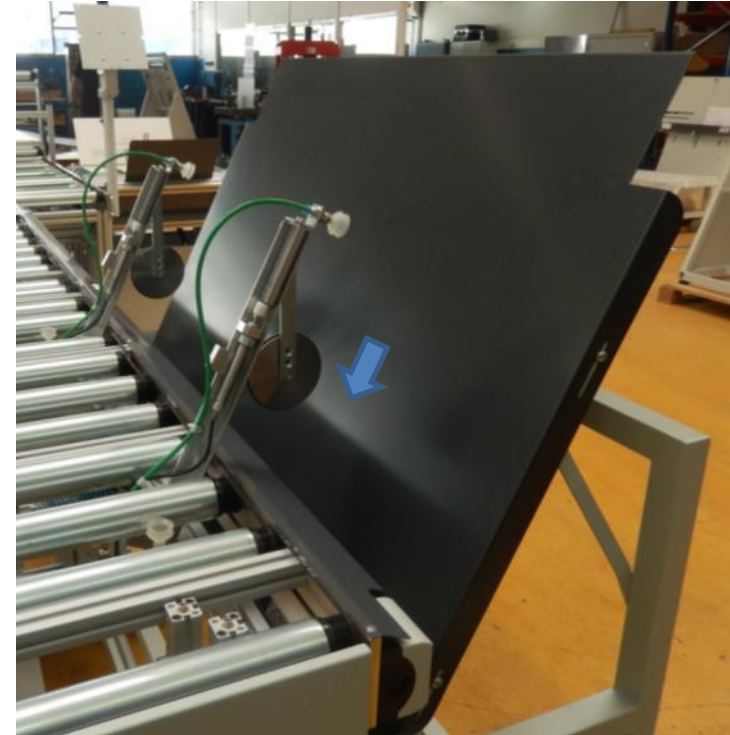


Printing Plate Stacker for one or two Plate Carts

- Sensors for monitoring the Plate Cart (no stacking without Plate Cart)
- Centering and electro magnetic locking of the Plate Carts

Module

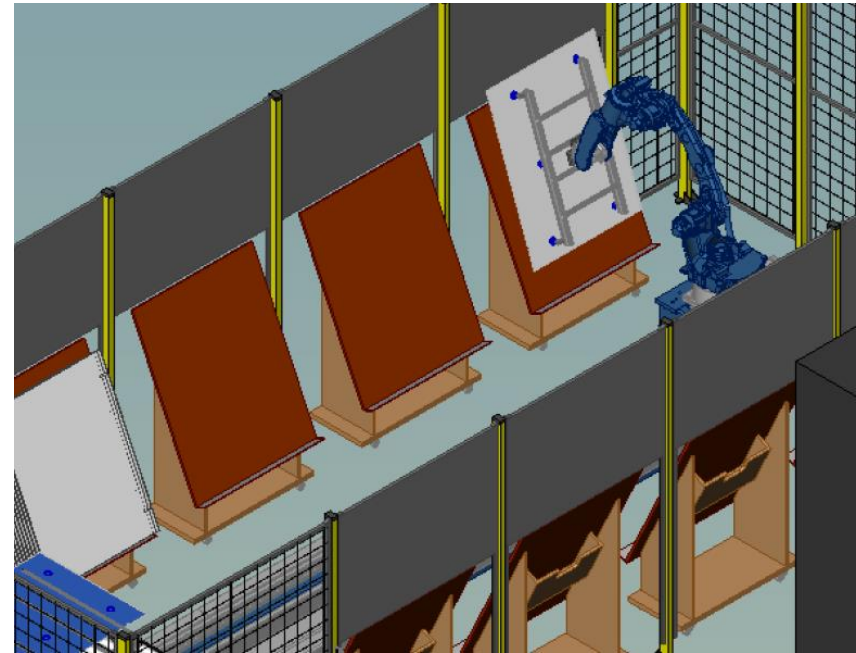
Lowerable stacker arms with suction cups



- After positioning the printing plate above the Plate Cart, the printing plate sinks down by its own weight
- The printing plate flaps gently against the other plates
- No scratching, independently of the filling level of the Plate Cart [Link to Video](#)

Module

Printing Plate Carts with lateral placement



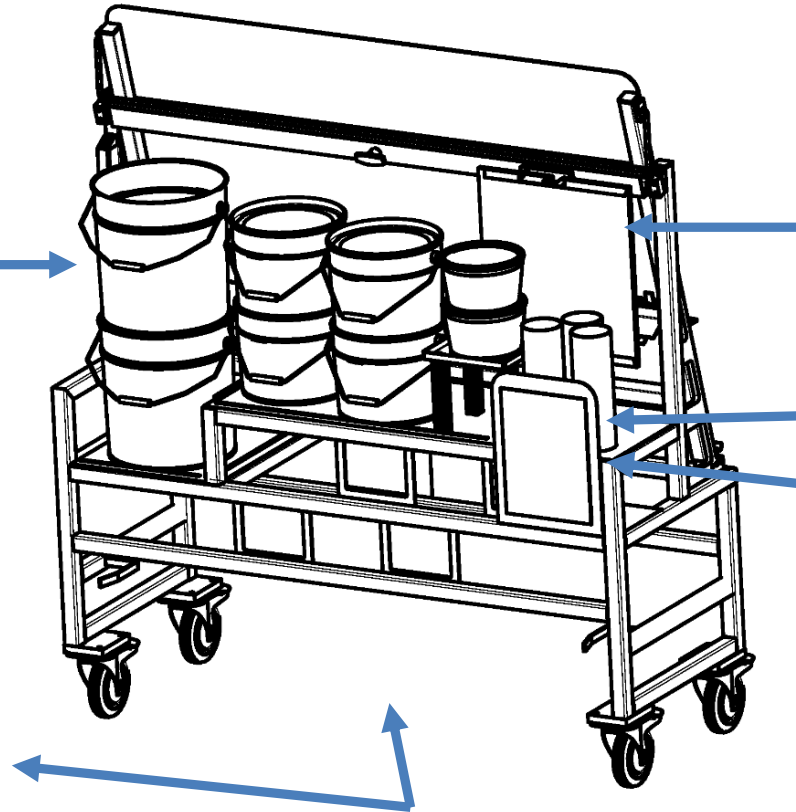
- Up to 120 printing plates can be stacked in each other
- In case of sidewise stacking (bending to right or left) the length defines the no. of plates per Plate Cart
- A lateral displacements indicates a job-shift in both cases

BEIL Printing Plate Cart Format 145/162

Storage areas for
order-specific
colours
25/10/5/2 litres



Up to 120 70x100 printing
plates or 60 165x120 printing
plates



Leitz-Orga System

Tubes for coating
blankets

Magnetic board for
job tickets

Cut-out for scissor lifter at gallery
of the printing press

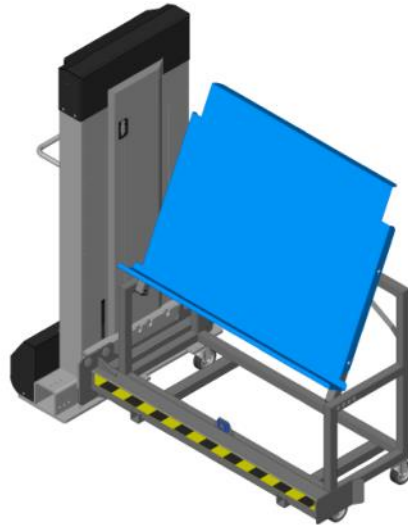
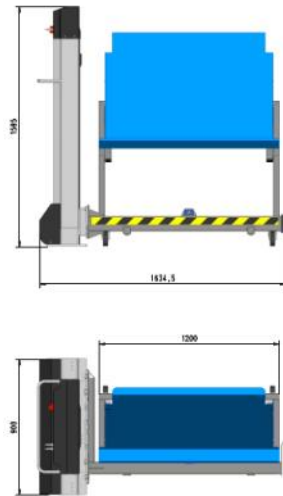
[Link to Video](#)



Plate cart at the plate stacker

Module

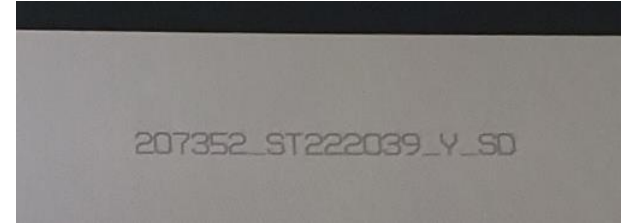
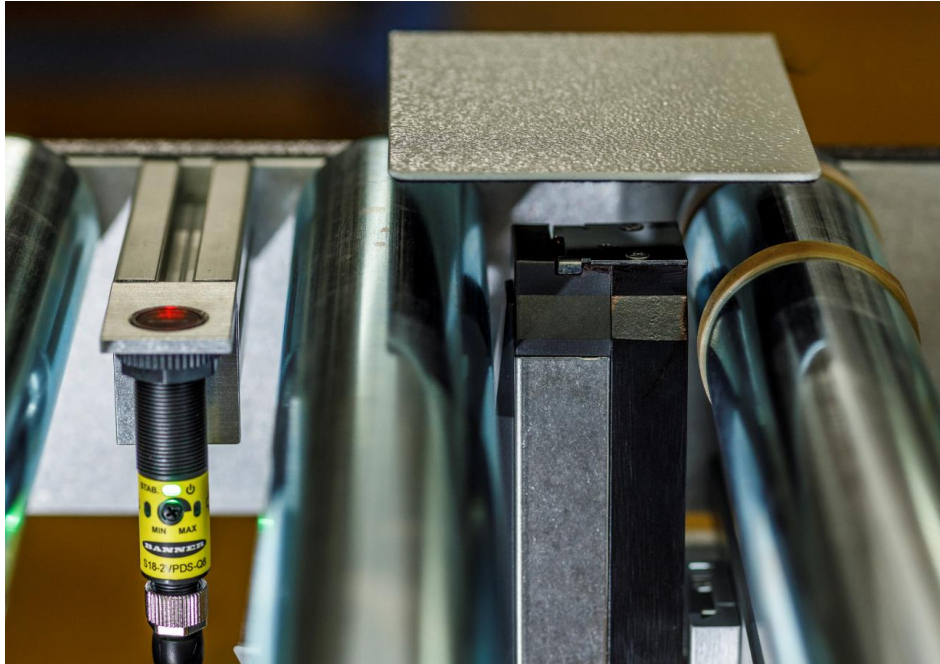
Plate Cart-Lifter:



- Low-built lifting table or fork lifter for lifting Plate Carts at the Printing Machine
- Preserves the Operating staff → avoids one-sided movements
- Safety bolts and –brackets prevent a movement of the Plate Cart

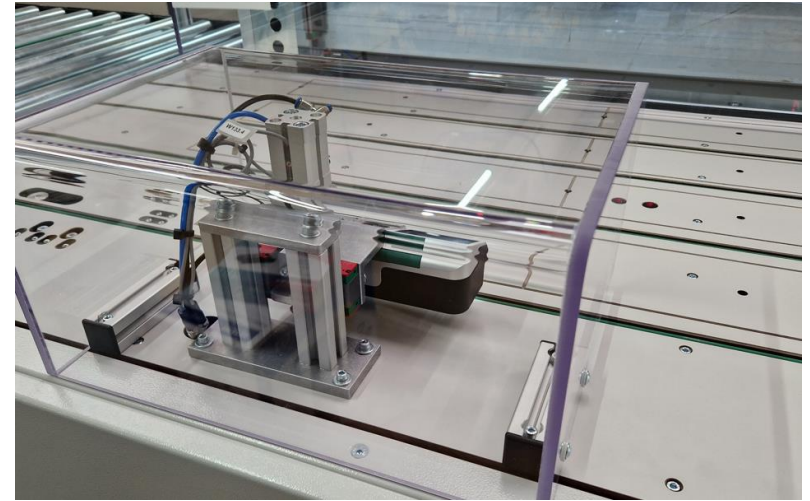
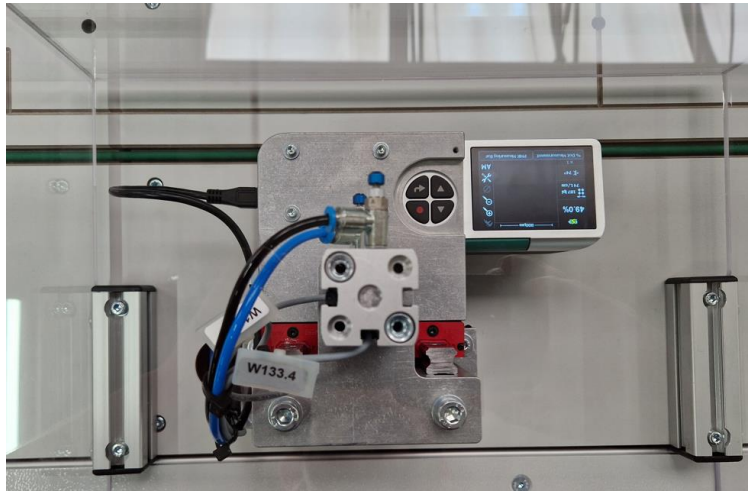
Module

Ink-Jet Printer



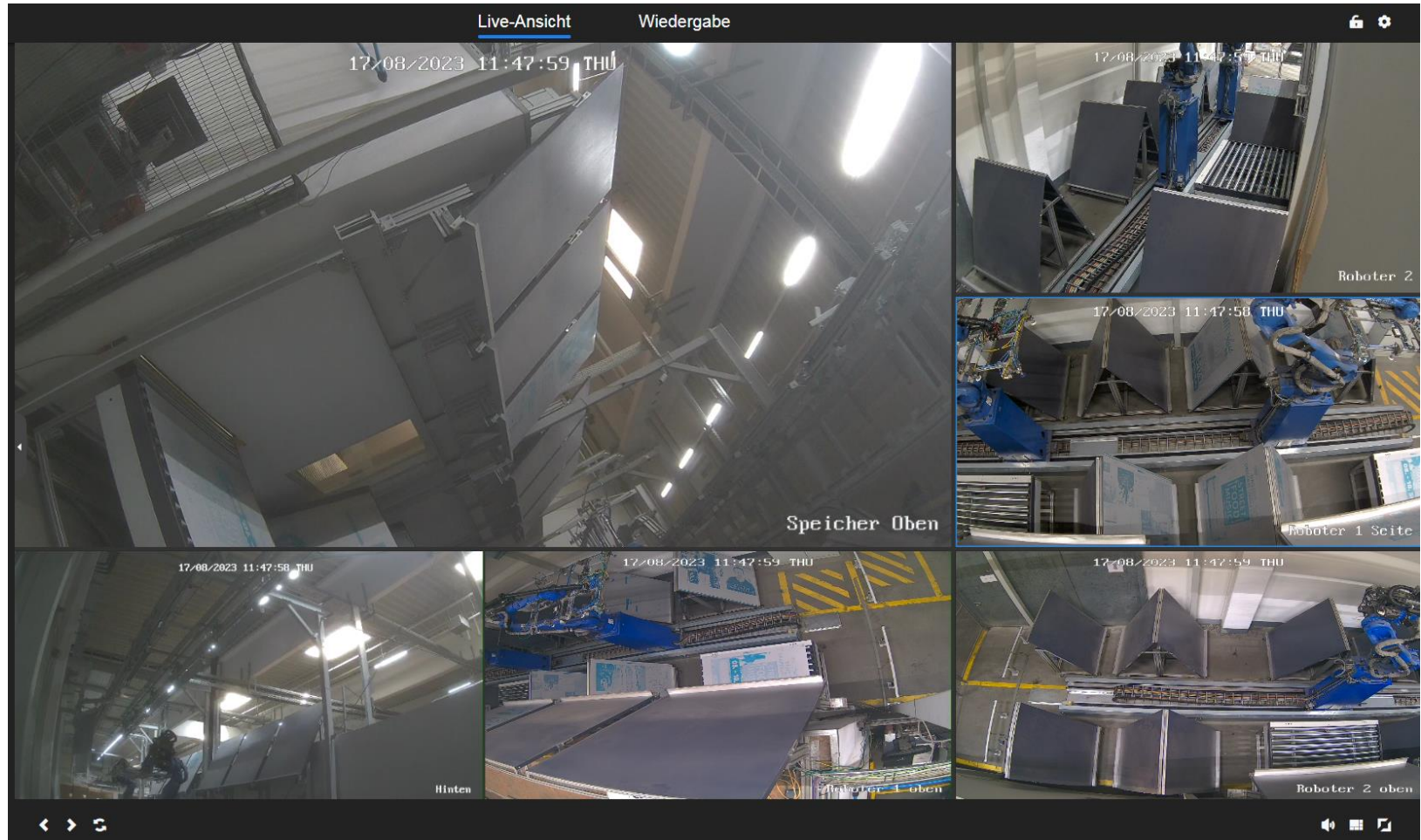
- For marking the backside of a printing plate with plain text.
- Eases the identification of printing plates
- Particularly recommended for process-free printing plates, since the exposure is difficult to read due to the weak contrast [Link to Video](#)

BEIL Techkon SpectroPlate Device



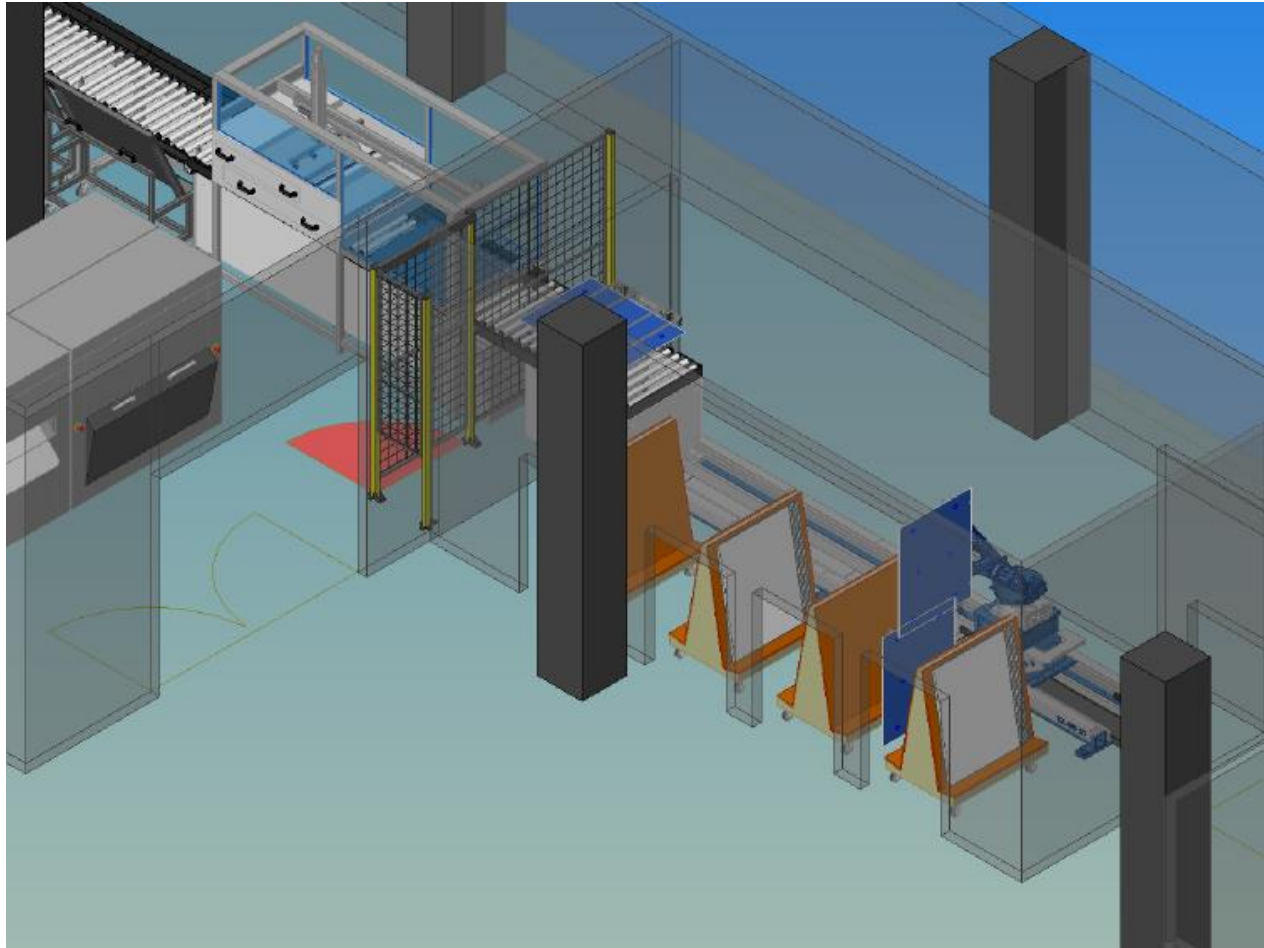
- Integration of Techkon device
- Automatic inline measuring of each plate
- Threshold comparison of “Dot measurement (Rasterprozentwert)” **FM-Raster**
- Threshold comparison of “Dot measurement , Screen angle and Screen frequency (Rasterprozentwert, Rasterwinkel und Rasterweite)” **AM-Raster**
- Feedback of results via: connection to MIS, Inkjet-Printer, Job-Ticket, Visualization Push-E-Mail, sound, etc.
- Not possible for unprocessed plates yet [Link to Video](#)

Module – Camera system for machine monitoring



- Remotely accessible; recording of ca. one week; up to eight cameras per station

Robot as plate Sorter with interleaf paper

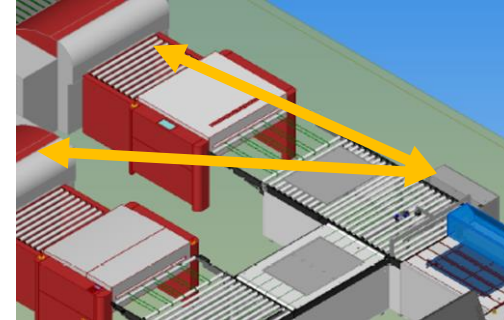


- An ionizer statically charges intermediate sheets so that the paper adheres to the plates during the stacking process. [Link to Video](#)

Software

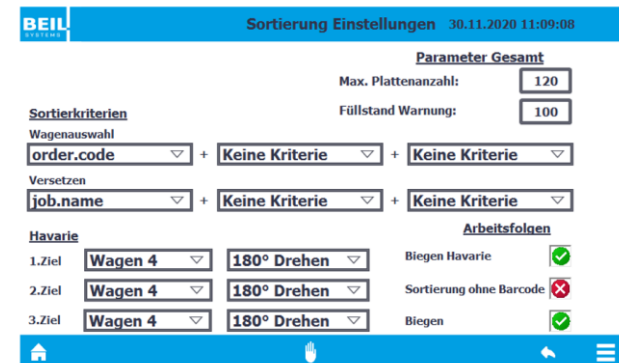
Signal Exchange with 3rd Party Devices:

- Signal Exchange of production readiness / disruptions
- Independent of CTP-Manufacturer
- Link between BEIL and CTPs



BEIL Plate Tracking:

- Sorting of printing plates according
- According to individual criteria's (Printing Machine, Job, Sheet, etc.)
- Precondition: Barcode-Reader and Barcode generation of the Workflow



BEIL Sortierung Einstellungen 30.11.2020 11:09:08

Parameter Gesamt

Max. Plattenanzahl: 120

Füllstand Warnung: 100

Sortierkriterien

Wagenauswahl
 order.code ▼ + Keine Kriterie ▼ + Keine Kriterie ▼

Versetzen
 job.name ▼ + Keine Kriterie ▼ + Keine Kriterie ▼

Havarie

1.Ziel Wagen 4 ▼ 180° Drehen ▼

2.Ziel Wagen 4 ▼ 180° Drehen ▼

3.Ziel Wagen 4 ▼ 180° Drehen ▼

Arbeitsfolgen

Biegen Havarie ☒

Sortierung ohne Barcode ☒

Biegen ☒

Software

Connection to the workflow (MIS):

- Generates a file for every plate stacked, containing:
 - Time and date of stacking
 - Stacking position
 - All additional barcode information



This can be used in your system for further steps

RFID or QR-Code-Identifier for Plate Carts:

- Allows easy locating of the required Plate Cart
- Recognition of the respective Cart at each individual des Stacker Position
- Can be visualized on monitors and/or at designated work stations
- Required also for Heidelberg Plate-to-Unit



Fully automatic plate feeding



HD Plate-to-Unit

[Link to video](#)



Koenig & Bauer lifter system

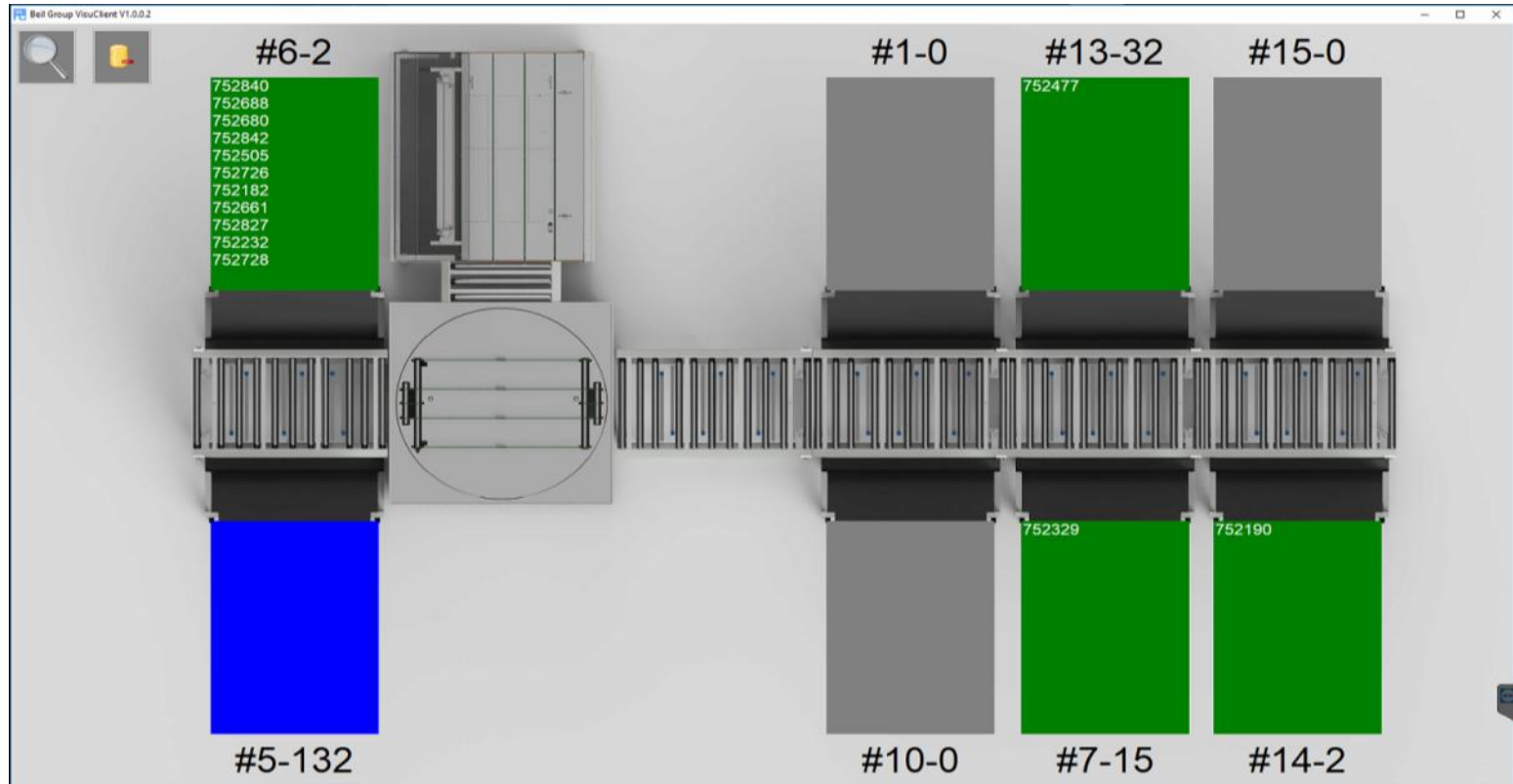
[Link to video](#)

BEIL has with both manufacturers working systems in the field and is absolutely compatible.

Our sorters/benders can be used as they are, or updated with small interventions.

Software

Job-Data-Visualization + Monitor + Print out



- Displays job-data; e.g. current printing plate jobs in the Plate Carts
- Print out of a job-ticket including all relevant job-data
- Displays via monitor in the CTP-room, the printing machine, or somewhere else
- Allows a fast and easy monitoring of the printing plate production

Customized Automation, - Handling or Pick-and-Place Systems upon request

We gained a lot of experience in handling-systems of printing plates with various layouts and different components . Thus we realized projects which are not related to printing plates. (Elevators / Lifting tables, Turning stations for paper bundles in post press).

We are always open to further improve single steps or complete working sequences within your production facilities.

Why automation - arguments

- **Increased overall productivity**
 - Higher degree of automation
 - More transparency due to software interfaces
 - Mitigates risk of down-time of presses
- **Reduction of handling errors**
 - Mitigates risk scratches
 - Less missing plate due to pre-sorting
- **Relief of operators**
 - Less ergonomic strain
 - Staff can focus on core competencies
- **Easier personnel and production planning**
- **Better cost planning of plate making process**

Required information for offering automation projects

- **Printing plate formats; ideally with the plate drawing**
- **Printing plate consumption per format**
- **Room layout of pre-press room (the more space the better)**
 - Fire walls, doors, pass ways, etc.
 - Quality of the ground (False floor, stairs, etc.)
- **CTPs and developer in use**
- **Process free or conventional plates**
- **Rough location of customer for planning of commissioning and transport**
- **An idea of stacker positions and the sorting of the plates**



BEIL-Registersysteme GmbH
Kagrastr. 17
D-93326 Abensberg
Tel.: +49 (0) 9443 / 7050
E-Mail: sales@beil-group.com
<http://www.beil-group.com>