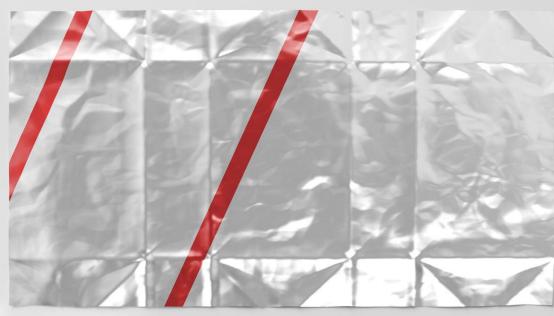


We print your world.



November 30, 2021







### Agenda

Dr. Andreas Pleßke	10:45	Dr. Stephen Kimmich
09:30 Our Markets, Products & Customers Ralf Sammeck	11:15	Short break
	11:20	<b>Time for Q&amp;A</b> Dr. Stephen Kimmich
Short break	13:30	Start 1-on-1
Spotlight: Digitalization Sandra Wagner		
Spotlight: The Banknote Bridge Aurélie Berthon		
	Dr. Andreas Pleßke  Our Markets, Products & Customers Ralf Sammeck  Short break  Spotlight: Digitalization Sandra Wagner  Spotlight: The Banknote Bridge	Dr. Andreas Pleßke  Our Markets, Products & 11:15 Customers Ralf Sammeck 11:20  Short break 13:30  Spotlight: Digitalization Sandra Wagner  Spotlight: The Banknote Bridge





## Successful transformation in recent decades, especially in the direction of packaging printing

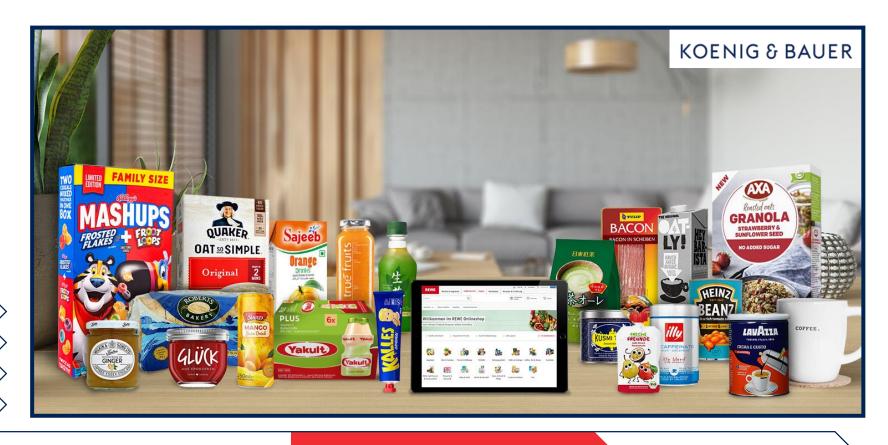


2013: Fit@all – (Restructuring)

2016: Growth Initiative 2023

2017: Service Initiative

2020: P24x



Yesterday

Today

2021: Exceeding Print

Future

5

# Exceeding Print is our answer to the constant change triggered by complex dynamics: The megatrends



Megatrends do not act in an one-dimensional way, they are diverse and complex. They unfold their dynamics cross-sectionally and across all social and economic areas and of course also influence Koenig & Bauer.

# The sustainability megatrend, according to Smithers Pira will be the most important driver to 2030

Lifestyle/healthy food and beverage



Sustainability

sustainability.

We are the only machine manufacturer that masters all industrial printing processes on almost every substrate.
We therefore see our role as "trusted advisor" for our customers particularly in the area of











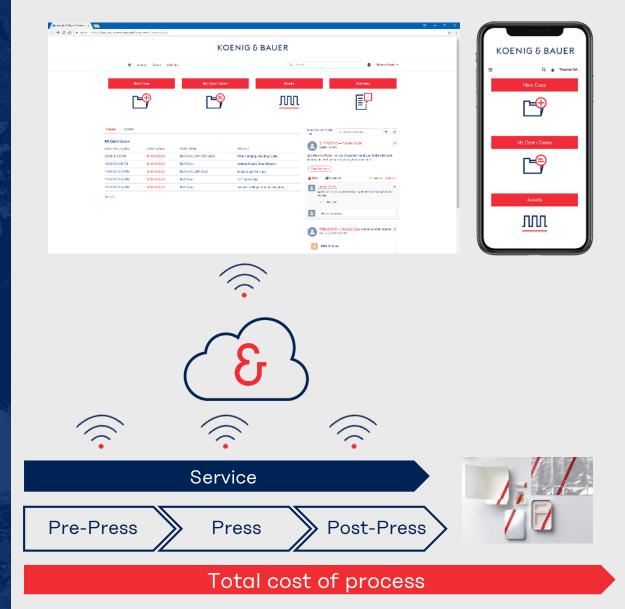


#### Megatrends don't act isolated – they influence each other and mutually reinforce each other's effect

#### Predictive analytics



We supply equipment for complete printing processes, including service, which is becoming increasingly digital e. g. Kyana, Customer Community, Visual ServiceSupport. "Total cost of process" is our sales argument.



# Megatrends have been accelerated in part by the pandemic

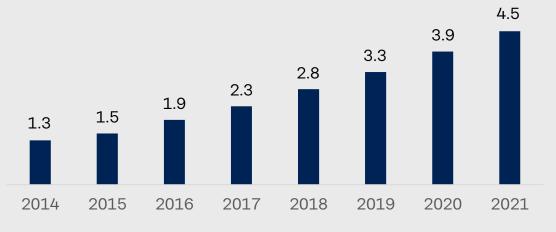
#### E-Commerce



We entered the corrugated market at an early stage and our sales success with the CorruCUT shows, that we have been able to further expand our unique selling position as the "Trusted Advisor" for the future challenges of our customers.



### Total worldwide e-commerce sales in trillions of U.S. dollars



#### Challenges of the customer industry

Food / beverages / pharma / securities This is shown by the careful analyses & surveys of experts & customers.

Smart products and packaging

Circular economy

Sustainability

### Packaging

Flexible printing systems

Carbon footprint

High national and international legal requirements

Digital printing

Increase in E-Commerce

High-quality packaging

Plastic ban Biodegradable

> Rising costs for energy and wages

Increasing product diversity

Reliability of production

Resource efficiency

**Minimization** 

Customization and Versioning

Reduce, reuse, recycle

Diaital services

**Traceability** 

**Brand protection** 

Digitalization of processes

Digitalization

Individualization

Personalization

Workflow and process automatization

Data-based business models

Collaboration driven

Decentralized printing

Integrated and connected systems

Track- and trace.

authentication

Change in business models

Partial shift in supply chains

# Koenig & Bauer is actively shaping change!

Because together with our customers, we have actively looked at the future and found answers to future challenges:

For our customers. For their customers. For our shareholders. For the society.

PACKAGING

**POSTPRESS** 

INDUSTRIAL COMMERCIAL PRINTING

SECURITY PRINTING

### EXCEEDING PRINT





# **Sustainable**

- Accelerate solutions portfolio for a circular economy through products, substrates and process know-how.
- Create new innovations to replace non-ecological packaging & reduce waste.
- Enable customers to operate energy- and resource-efficient.
- Reduce the company's ecological footprint by transforming our infrastructure to more sustainable operations.

### Becoming more sustainable

Sustainability is the greatest challenge of our time. We design our products and processes to be fit for the future.

The biggest drivers externally and internally:







### **Implications**

On a product & process level it means that we **work together** with customers and partners across the value chain providing technologies for:



Ink consumption



**Energy consumption** 



Waste reduction



Environmentally friendly consumables and inks



Printing on recyclable substrates

#### Partners & initiatives











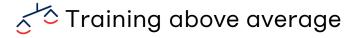


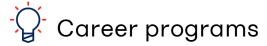
### **Implications**

Additionally, we see **cultural implications treating our own resources and capacities sustainable.** 

That means to also provide:







#### Our ambitious sustainability goals:

By 2025, we aim to reduce  $CO_2$  emissions in our production plants by 75%, and by 2030 we want to be completely  $CO_2$  neutral.





- Accelerate the growth of our highly innovative digital printing machines in several segments.
- Increase the implementation of software development.
- Enhance our digital services through customercentric applications and performance tools.
- Utilize new tools.

19

# Becoming more digital

- digital printing technology
- digital business processes
- digital business models
- digitalization within the organization

It also means:



### Becoming more digital

- The importance of **software and digital solutions** is becoming increasingly more important than hardware for customer benefit.
- Digital printing processes will enable new business models for our customers e. g. through faster response time, individualized print jobs, print-on-demand, the possibility of short print runs and increased time-to-market.
- We assume that a large part of our future customers is not even founded today.











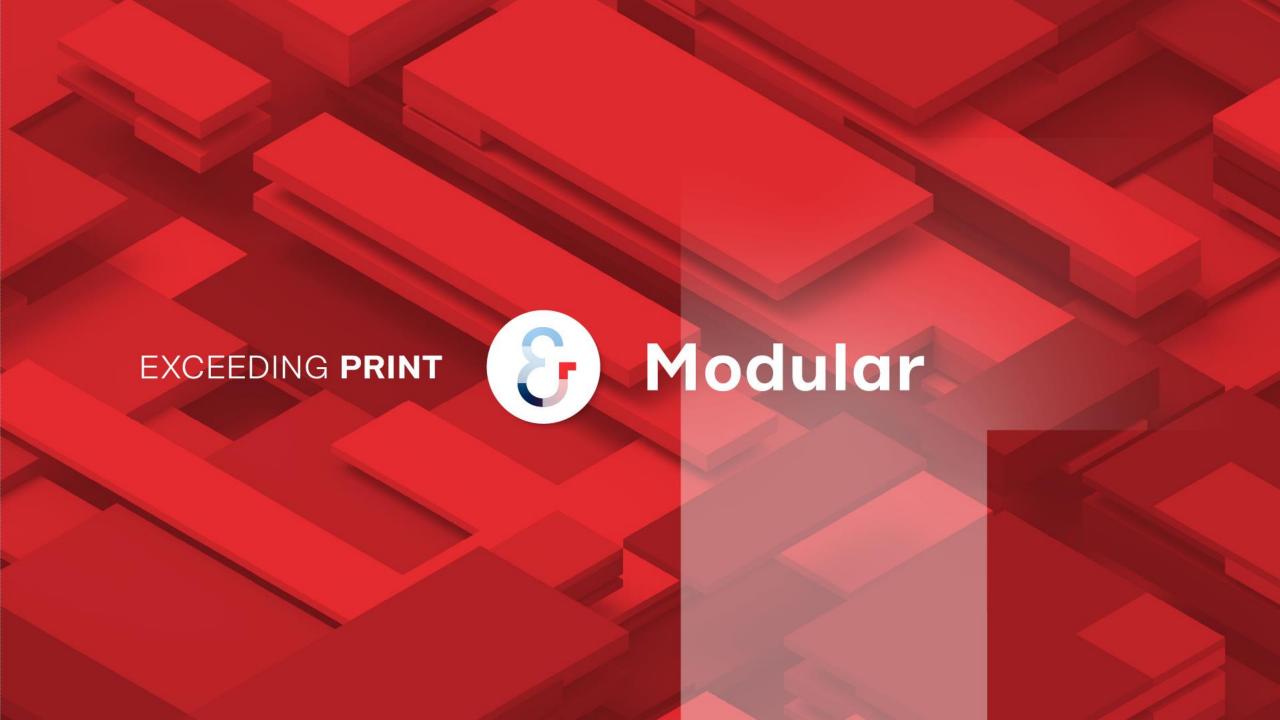




### **Implications**

- Look for the **best talents** in this field of software development and train own software developers at the company's vocational school.
- Being open for new business models.
- Expand the portfolio of the existing most powerful digital printing machine in the world.
- Further expand our **service business**.





# Modular

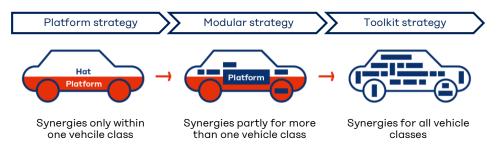
- Build a modular platform to continue developing and producing the broad portfolio of printing and finishing machines tailored to the needs of customers, controllable from end to end but more uniform in maintenance.
- Strengthen the value-based and technological innovation by freeing-up resources and setting focus.
- Ensure a high degree of vertical integration to guarantee entrepreneurial independence, speed and a direct influence on the manufacturing costs

   through innovation from the small gear wheel to the complex unit.

### Becoming more modular

Flexibility and freedom through modularity proven in automotive development.

#### The evolution of the modular assembly toolkit





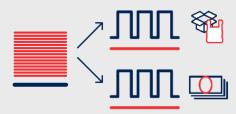
### Objective and effects:

- Machine platform integrates cross-customer required functions and structures product/service portfolio
- Standardization of the machine platform via assemblies/functions has an effect on aggregates and enables standardization across the board
- Cost reduction through standardization
- Reduction of design effort Reduction of active parts
- Business unit independent service

24

- Faster development or market adaptation
- Cross-site use of common parts Quantity effects
- Increase in availability through standardization
- Overlapping use of commissioning and service capacities
- Spare parts inventory and availability simplified

Assembly level



Parts level





### **Implications**

- A new kind of engineering mindset that is following this module-based approach.
- Appropriate and sensible use of freed-up resources.
- Expand the established Operational Excellence
   Team to speed up processes and further decrease manufacturing costs.



### More sustainable, more digital & more modular means more growth!

For our core markets.

For our portfolio.

For our employees & our entire organization.

For our shareholders.

PACKAGING

POSTPRESS

INDUSTRIAL COMMERCIAL PRINTING

SECURITY PRINTING

### Koenig & Bauer in 10 years

- Leading company in the world for high-tech printing and packaging processes
- 2 Fully digitalized operations & service with Al support through the life cycle

... and a few more concepts to support our customers and the customers of our customers which are in our think tank!

### Ralf Sammeck

CEO Koenig & Bauer Sheetfed AG & Co. KG, CDO & Member of the Executive Board Koenig & Bauer AG





## Koenig & Bauer is growing in the major regions and markets!



#### Markets addressed

30



### Trusted advisor for key accounts and brands

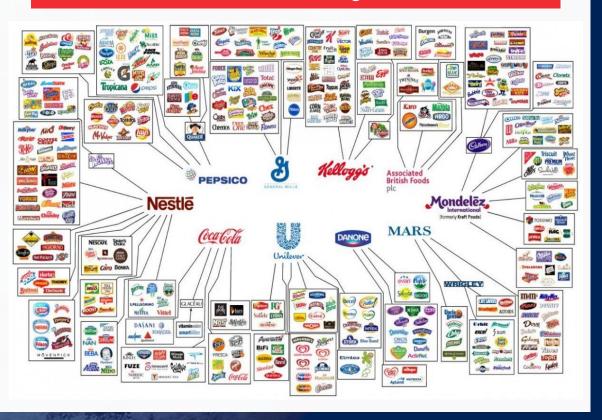
#### **Key Account Management**





31

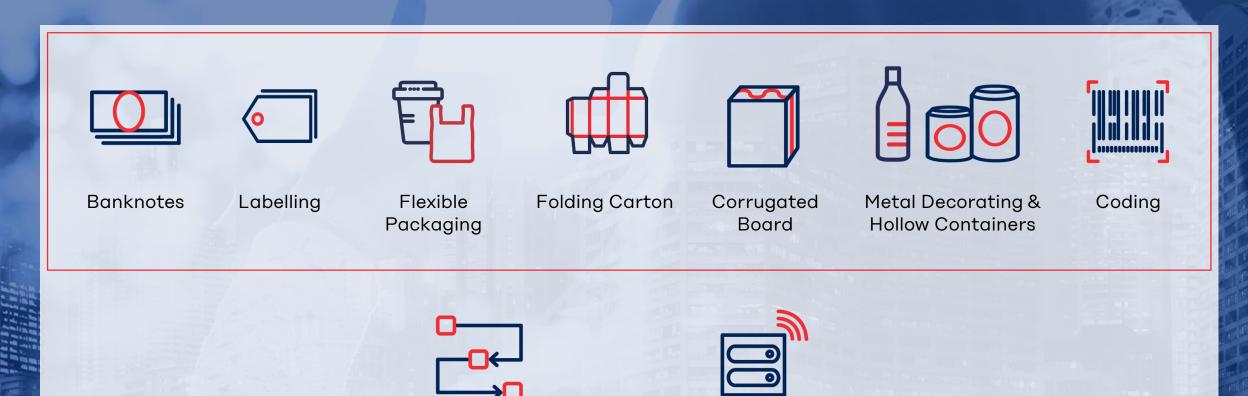
#### **Brand Owner Management**



### Focus on growing and stable markets

Workflow

Packaging and more



Digitalization

### Focus on growing and stable markets

Everyday in your hand















Banknotes

Labelling

Flexible Packaging

Folding Carton

Corrugated Board

Metal Decorating & Hollow Containers

Coding











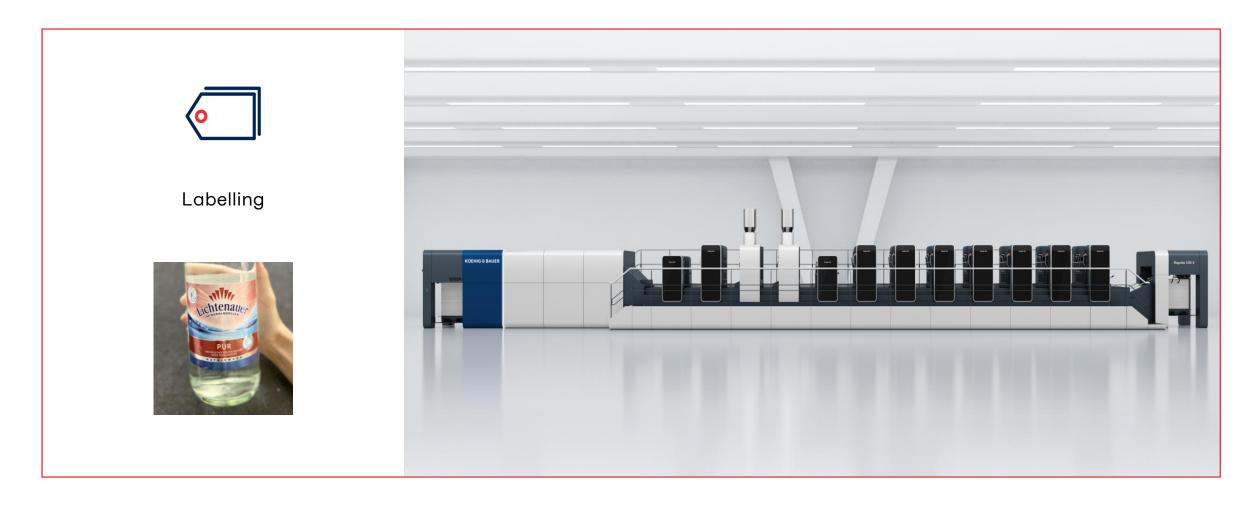






### Product portfolio: Rapida 106X

Labelling



### Product portfolio: NotaScreen II & Super Orlof Intaglio evo

Banknotes



### Product portfolio: Evo XC

Flexible packaging



### Product portfolio: MetalStar 4

Metal decorating



**Metal Decorating** 





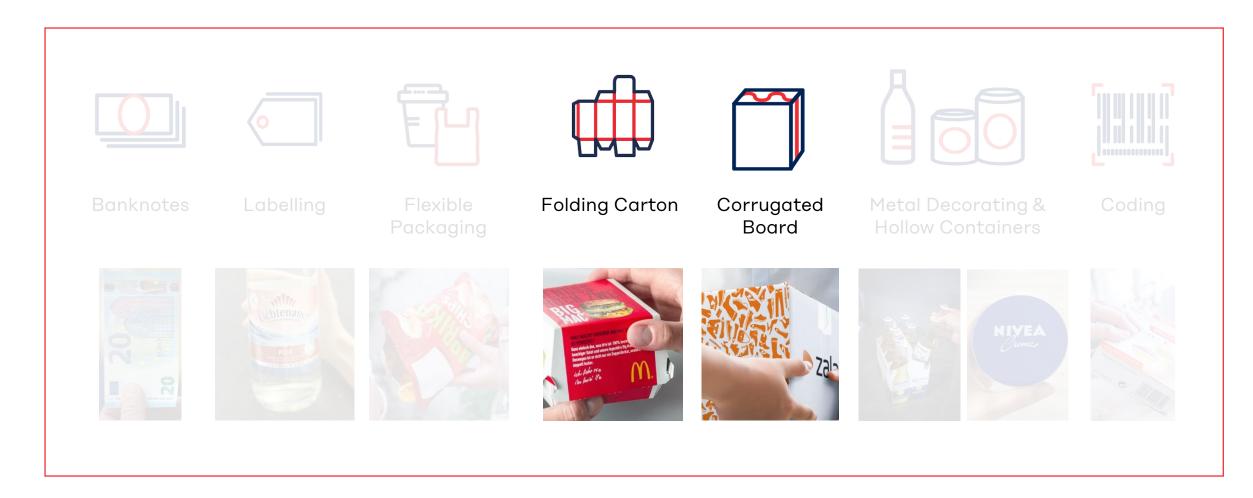
# Product portfolio: HS 300

Hollow containers



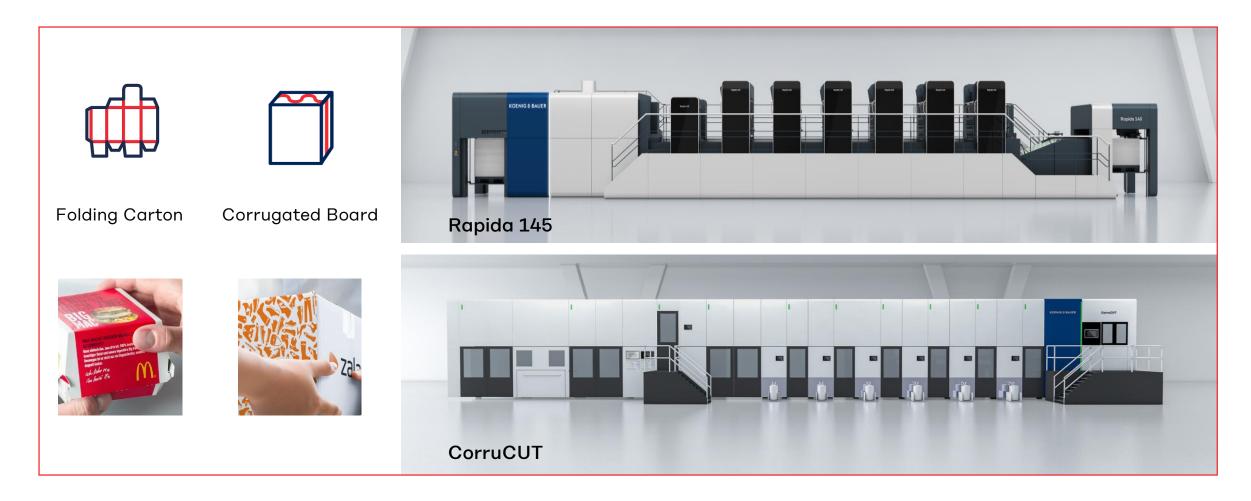
# Focus on biggest and growing markets

Folding carton & corrugated board



# Focus on biggest and growing markets

Folding carton & corrugated board



### KOENIG & BAUER

Product portfolio for the whole value chain in packaging printing

we're on it.

# Product portfolio

Folding carton



#### Print

















# Customer expectations are changing

Providing the highest profitability through digital services throughout the entire asset life cycle.



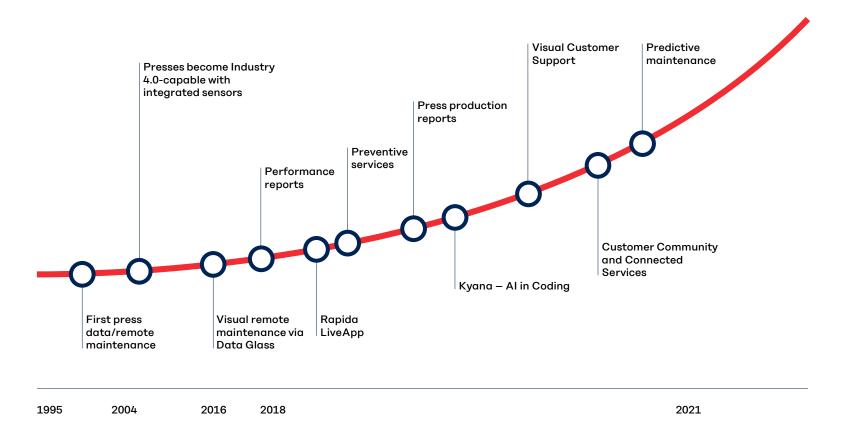
# Focus on growing and stable markets

Packaging and more



# Digitalization – support & empower customers

Total cost of process – connected assets – highest productivity & availability

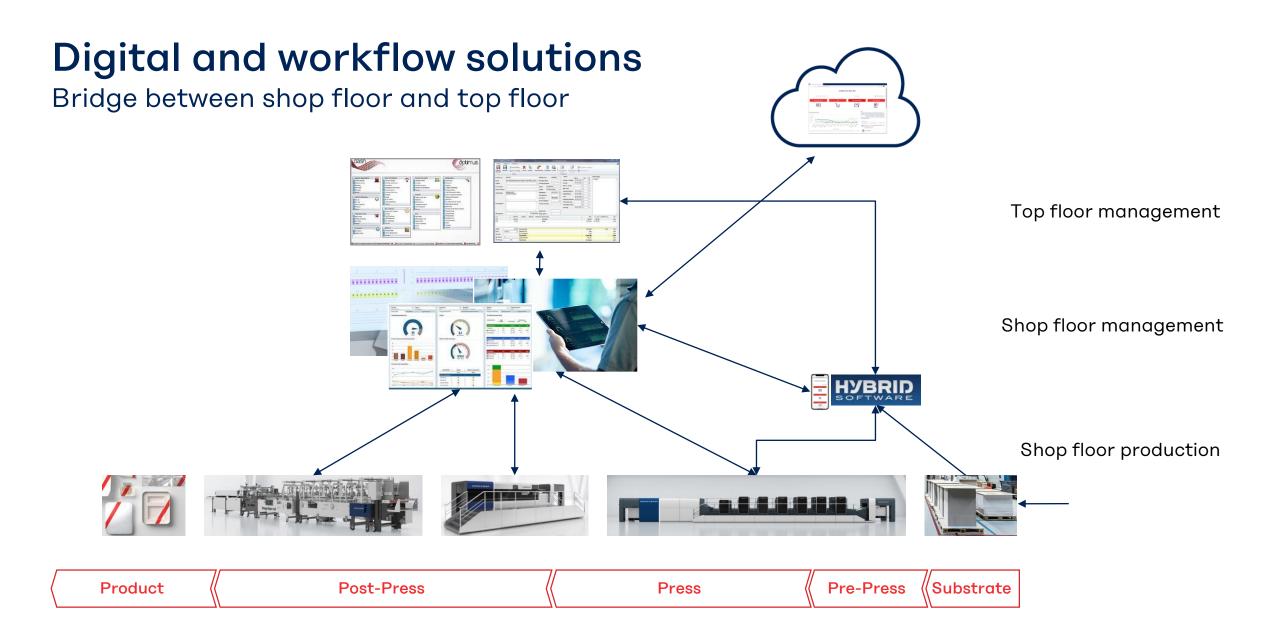


- 20,0000-30,000 data sets per day containing machine operational data can be provided by a Koenig & Bauer machine
- 80 % of all Koenig & Bauer service operations can be processed remotely
- approx. 5,000 findings have been automatically generated in 2021 by our Al driven Industrial Analytics Engine and addressed by the Koenig & Bauer service team

# Service, digitalization, analytics

Reactive – connective – proactive



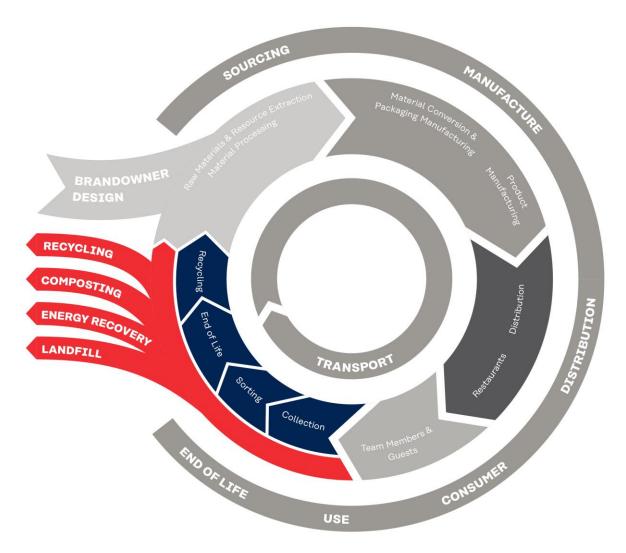


KOENIG & BAUER

47

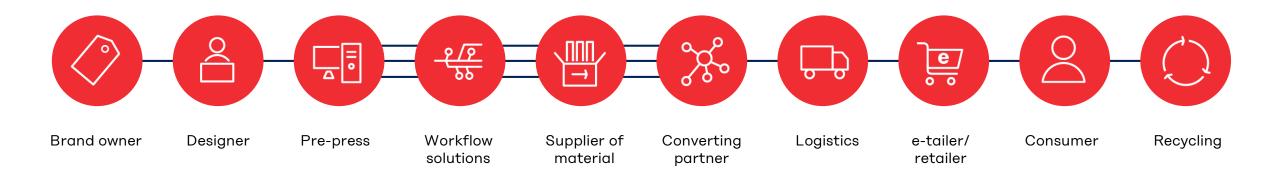


# It's all about the packaging life cycle ...

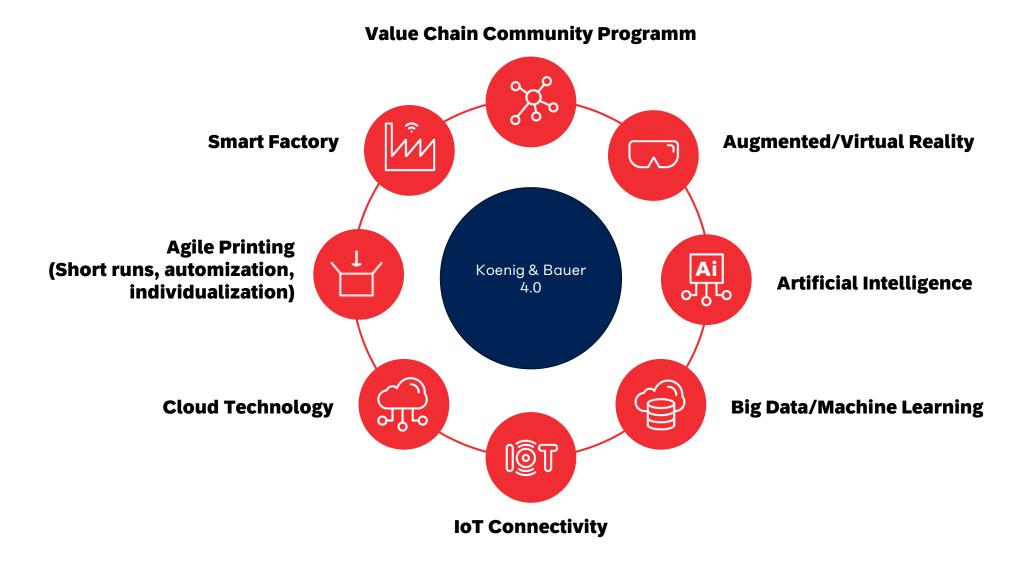


# Print & Packaging industry 4.0

- The whole value chain process is extended.
- To ensure a full circular economy all processes of the complete value chain needs to be connected.
- Demands from brandowners like designs which can be also used for augmented content, smart packaging and "consumer connect" will impact heavily the value chain.



# Our technology approach



# Customer process (workflow) and our digital solutions



Plan & Check

- Sales Calculation
- Sales Process
- Order Management
- Approval Process
- Job Management
- Stock Management
- Purchase Process
- Delivery Dispatch
- Customer Invoicing
- Job Optimizer
- Sheet Optimizer



**Print & Data** 

- Automated Setting
- Production Data
- Status Machine
- Color Database
- Automated Printing
- Conditional Monitoring
- Productivity Analysis



Service & Maintain

- Maintenance Radar
- MINT
- Industrial Analytics
- PredictiveMaintenance
- Augmented Support
- Visual Press Support



Improve & Succeed

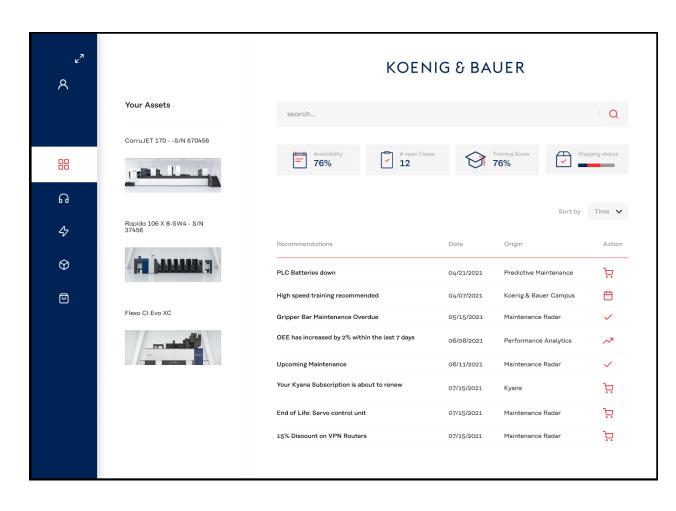
- Production Costs Analysis
- Process Time Analysis
- Sales Analysis
- Business Intelligence
- Machine Productivity Analysis
- Quality Protocols
- OEE



Connect

- CustomerCommunity
- Optimus Cloud Web-to-print (Purchase & Customer)

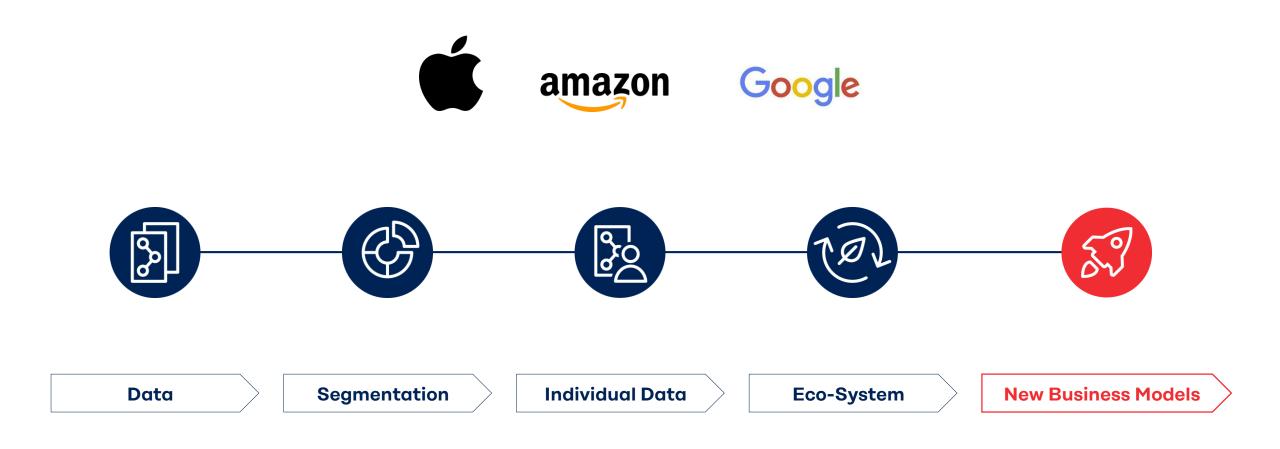
# Our eco-system – the Customer Community

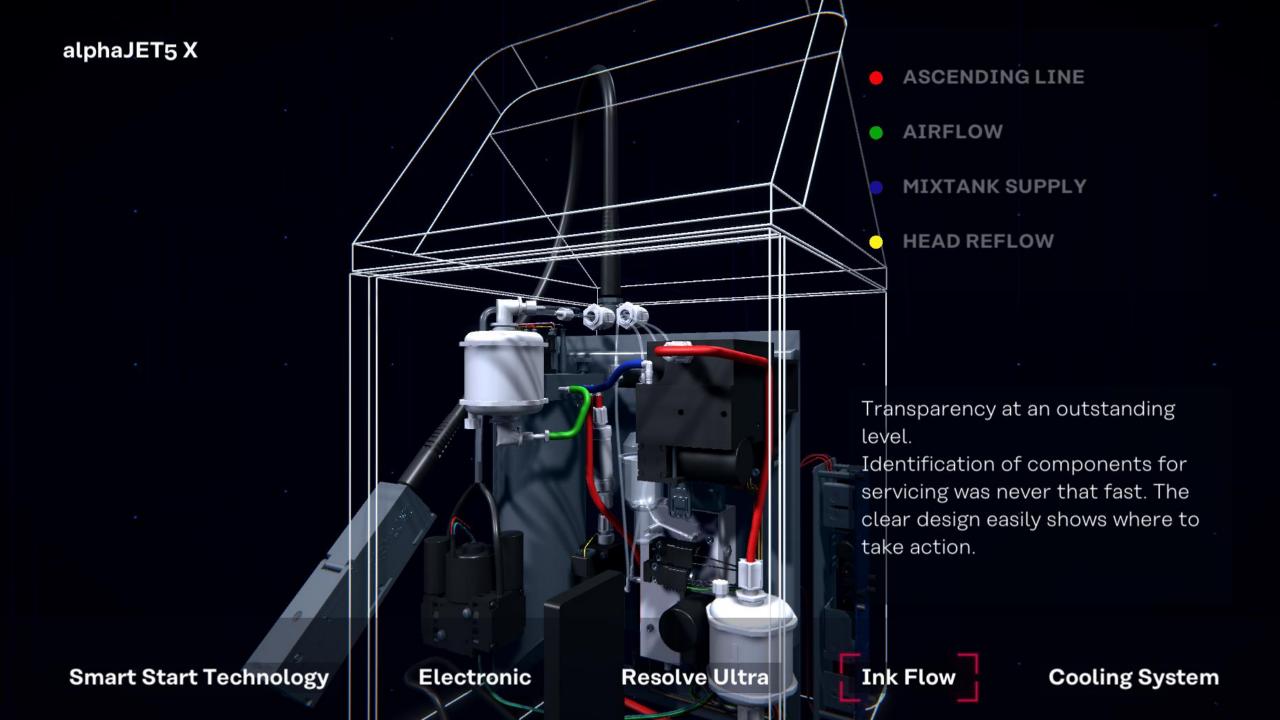


- Our Customer Community is the eco-system for Printing & Packaging 4.0.
- Intelligent functions show asset data, service stats & easy online support, as well as smart e-commerce options.
- BI functions, benchmarking and available digital products supports the customer to increase productivity, performance and helps him monitoring and monetizing the life cycle process of his product.



# Learn from the best – they all have the same pattern





# What is a digital twin?

- A digital twin is a digital representation of a physical object, process or service.
- It's updated from **real-time data and uses simulation, machine learning and reasoning** to help decision-making in the R&D process.
- A digital twin can also be used for monitoring diagnostics and prognostics to optimize asset performance and utilization during the life cycle.



# What is a digital twin?

#### Mainly it's giving following benefits:

- Visualizing products in use, by real users, in realtime
- Building a digital thread connecting disparate systems and promoting traceability
- Redefining assumptions with predictive analytics
- Troubleshooting far away from equipment
- Managing complexities and linkage within systems-of-systems.



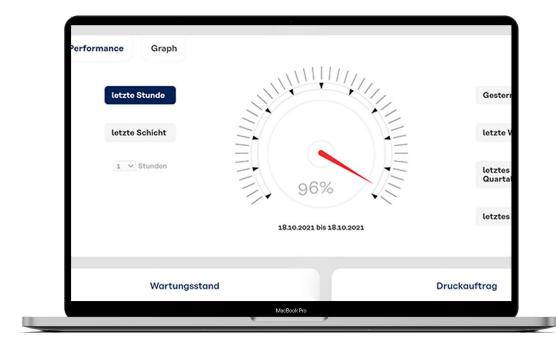
Easy to use – only with a mobile device

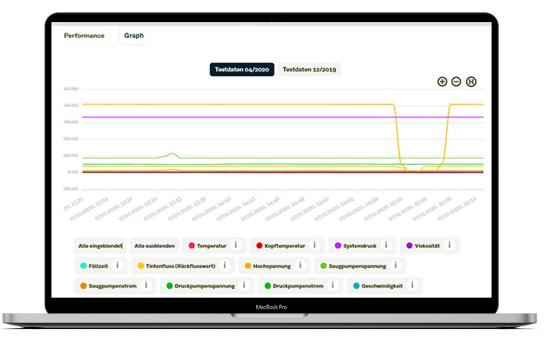


Real time gesture control – customer sees the hands of the technician



Real-time data and machine learning for real AI based technology





Voice communication & several intuitiv help & tutorial functions

Hello, I am Kyana, the artificial intelligence from the alphaJET. Nice to meet you. Would you like to get some general information about the alphaJET?

Start



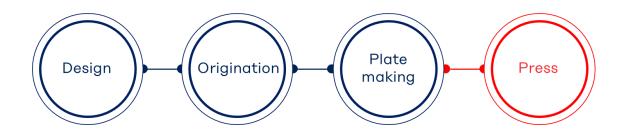
- Our digital twin helps brandowners from all industries to ensure a running production and generates significant more uptime.
- Functions like voice communication, Augmented Reality and integrated tutorials build a strong bridge between the digital world and human expertise.
- Data is collected in real-time and integrated in KI based software. The system will develop more and more knowledge and support over time when you use it.
- In 2019 we won with the prototype the prestigous **Steinbeis Transferpreis** a price for outstanding projects in business and science & technology
- We launched officially mid 2021 the first modul **Managed Services**.
- With all that functions Kyana our digital twin will have an impact on sustainability as well as with the data in the complete packaging life cycle.

There is one more thing ...

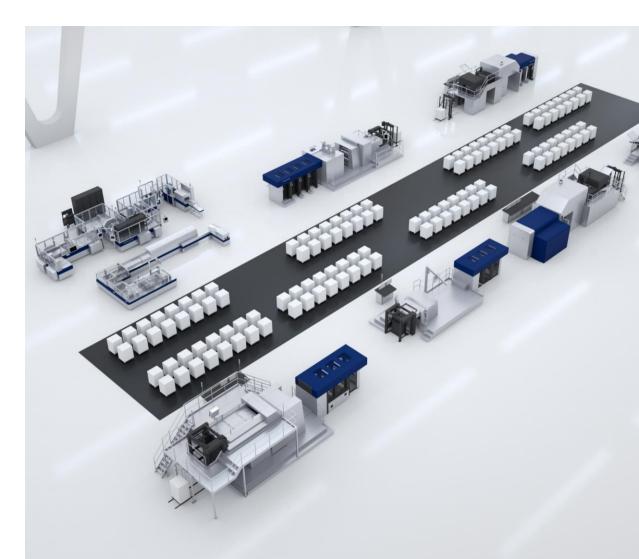




# **Koenig & Bauer Banknote Solutions**

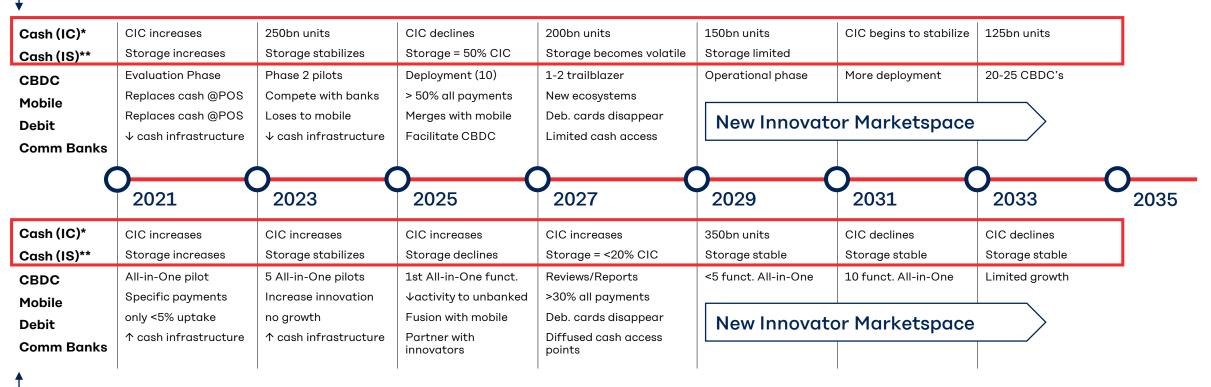


- Modular machine design to answer all market needs
- Innovation towards a more sustainable banknote production
- Digital solutions



# What will happen with cash?

#### **Developed Nations**



**Developing Nations** 

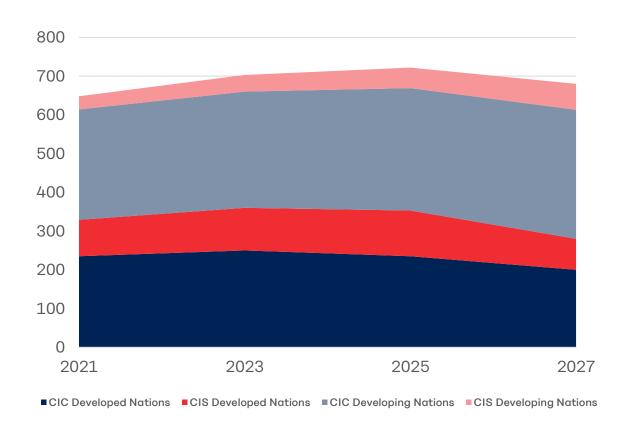
Source: internal analysis based on publicly available data and statistics

<sup>\*</sup> Cash (IC) = Cash in Circulation

<sup>\*\*</sup> Cash (IS) = Cash in private Storage/Reserve

# What will happen with cash?

#### Cash in circulation & storage (in bn units)



Until 2027 the increased demand in developing countries outsets the reduced demand due to electronic payments in developed countries.

A plateau will be reached after 2027.

Several countries are planning investing in new Printing Works with the latest technologies and security features capability.

Source: internal analysis based on publicly available data and statistics

Cash will continue to be heavily used by more than 50% of the world population.

# Cash has its place in the payment landscape

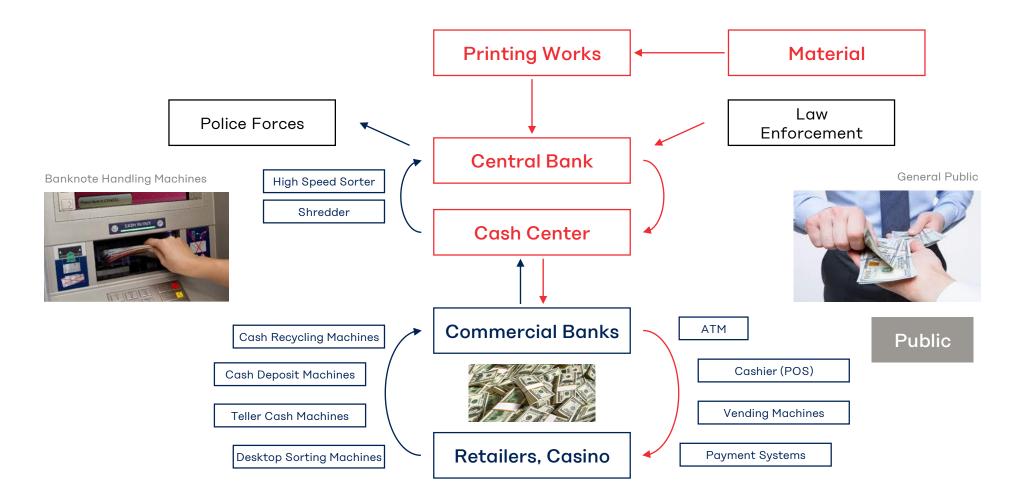
#### Cash needs to become more:

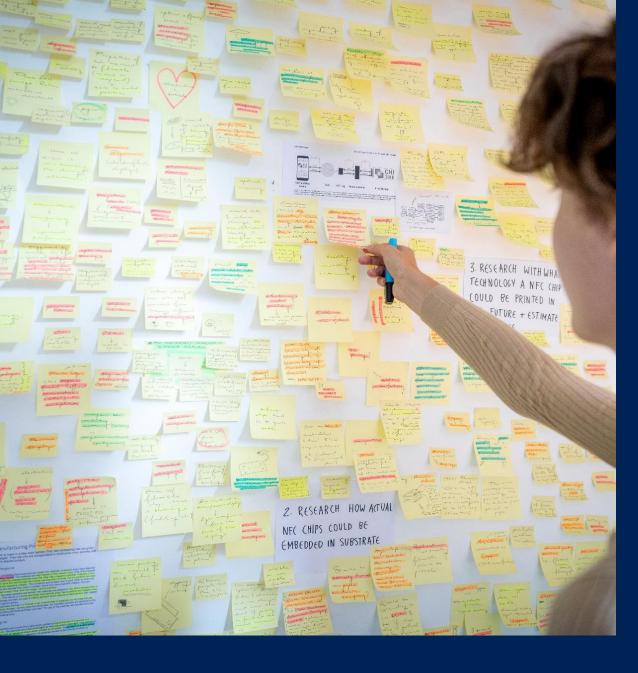
- Cost effective
- Sustainable
- Easy/attractive to use:

### Make cash friction less.



### Banknote production belongs to a complex cash cycle





By working with partners, start-ups, universities and the young generation we explore the coming changes in the use of banknotes and in the cash cycle.

# How to bridge the physical world of print with the digital world?

























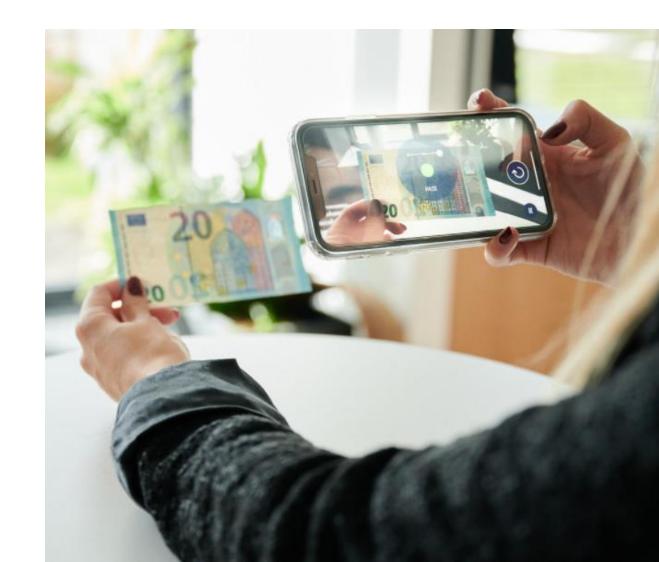


Link zum Video

### **ValiCash**<sup>TM</sup>

### Quick authentication of banknotes

- The app runs a verification system based on specific optical characteristics of high-security printing processes, like Intaglio or screen printing features
- Does not require any specific inks or hidden features in the design: banknotes already in circulation can be authenticated
- The app is available on the Apple App Store and can authenticate all euro banknotes for now



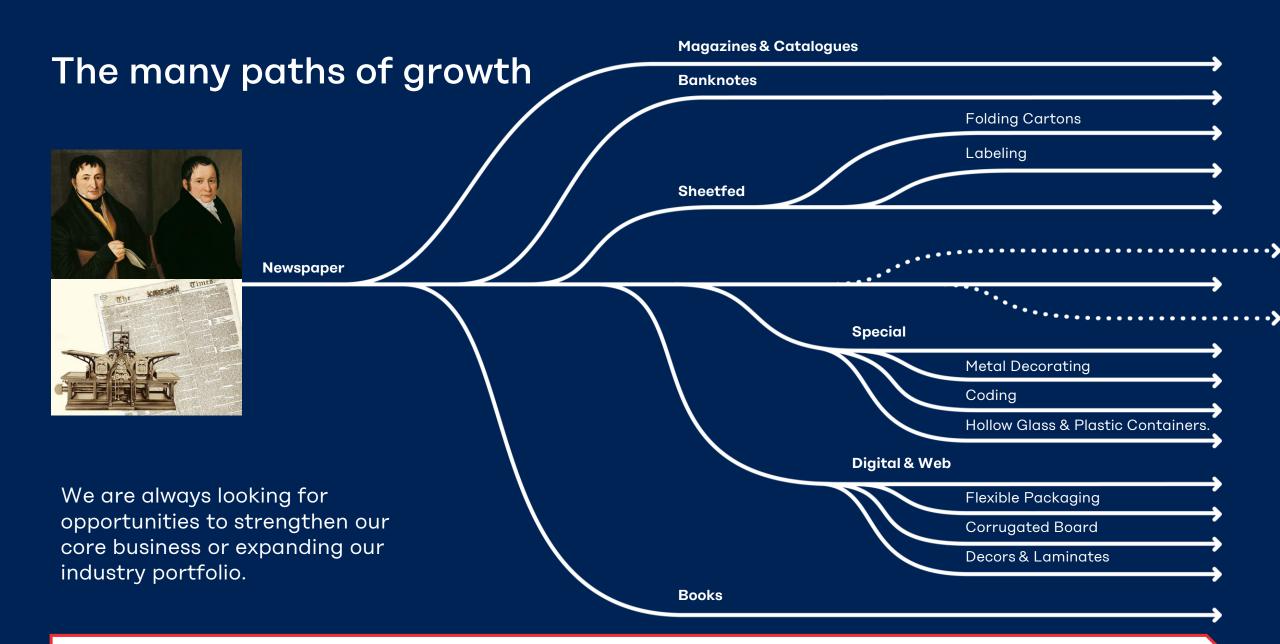




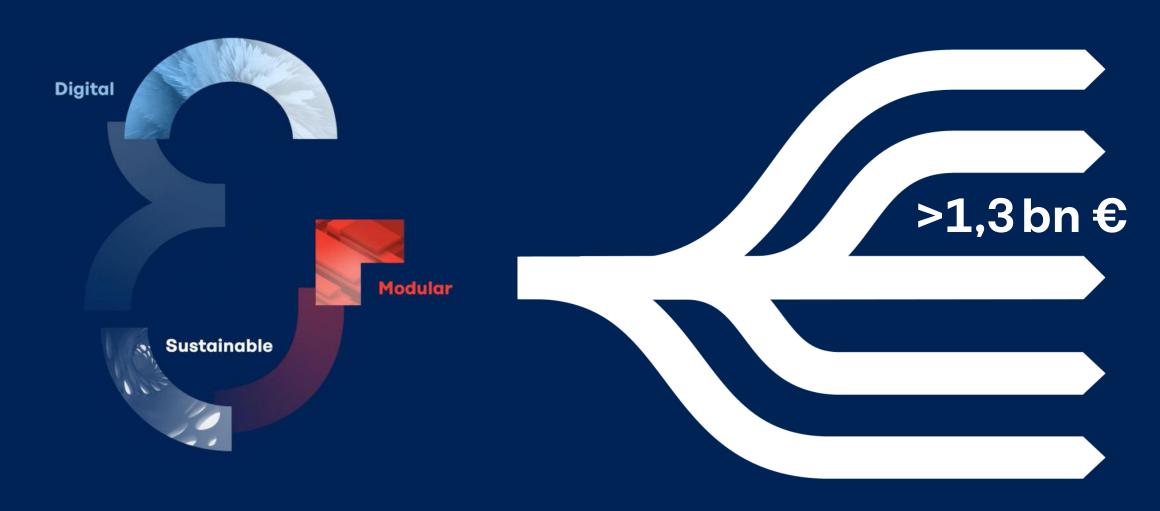


# Forecast for 2021 and medium-term targets confirmed

		2020		2021e	Mid-term targets
Ш	Turnover	1,029	7-10 %	1,100 – 1,135	1,300
	EBIT EBIT-Margin	-68 -6,6 %		+2 %*	>7 %
000	P24x			>30 %	2023: >90 % 2024: >100 Mio. €
	Cash- Generation				Net Working Capital max. 25 % of Turnover



# Many paths to growth



# Growth in printed packaging and industrial decoration.

Packaging and industrial consumption – value 2026

\$ billion	2026	CAGR % 2021-26		
All Graphics	329.4	0.0		
Labels	48.6	3.8		
Corrugated packaging	146.9	2.5		
Cartons	121.9	2.7		
Flexible packaging	96.1	3.6		
Rigid plastic packaging	33.0	2.8		
Metal packaging	49.7	3.2		
Printed glass packaging	0.9	6.4		
Packaging & labels	497.1	3.0		
Industrial decoration	123.1	6.5		

### Growth also through Covid-19

Impact on packaging industry as well as industrial decoration





// Increase in household packaging



// Increase of do-ityourself



// Increase in home delivery:
Nielsen forecasts that 70% of
consumers globally will do their
grocery shopping online by 2024.



Booming e-commerce is also changing the supply chain and has increased its complexity.

E-commerce packaging means additional packaging, both primary and secondary, to allow a packaged product to move through the longer, more complex distribution chain of an e-commerce world and meet the changing expectations of consumers in that space, the so called "unboxing experience".



Improving the safety of pharmaceuticals and food will also assume more importance, as consumers reflect and raise their sense of wellbeing as a result of the virus.

Packaging safety will necessarily go hand-in-hand with this.

### Unique position among our competitors

The diversity is what makes us unique



- We are the only machine manufacturer that masters all industrial printing processes on almost every substrate – now also on corrugated board.
- We therefore see our role as "trusted advisor" for our customers particularly in the area of sustainability.
- We supply equipment for complete printing processes, including service, which is becoming increasingly digital "total cost of process" is our sales argument.
- This unique know-how enables us to provide our customers with the best advice tailored to their needs also in comparison with all our competitors. Today and in the future.

### Our new technologies

### Digital printing and corrugated market

**CorruCUT** | High-Board-Line rotary die-cutter

**CorruFLEX** | Flexo post printer

CorruJET | Digital corrugated sheetfed printing KOENIG & BAUER | DUST





RotaJET | Digital web printing



VariJET | Digital sheetfed printing KOENIG & BAUER | durst



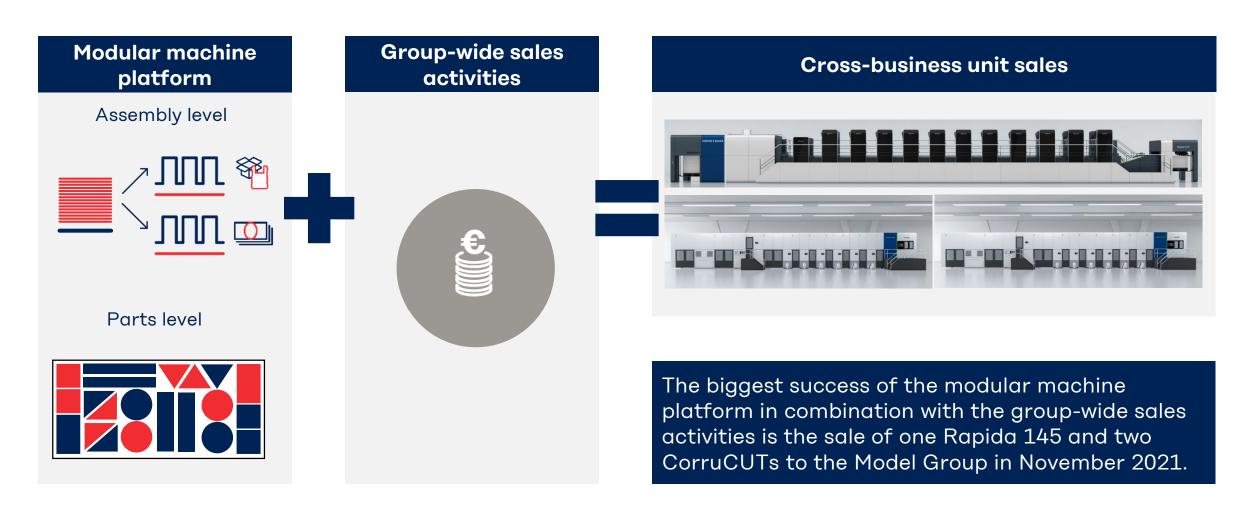




Beta 2022

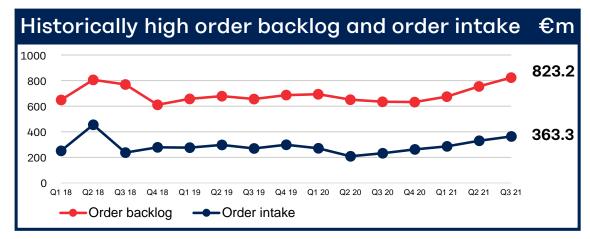
### How to manage the unique complexity

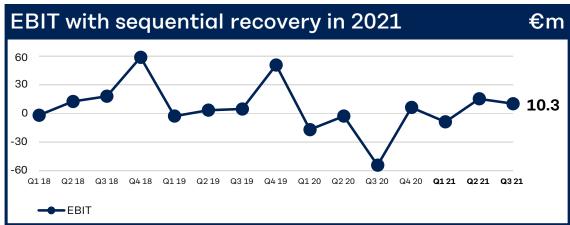
Modular machine platform (internal) & group-wide sales activities (external)



### We have already grown

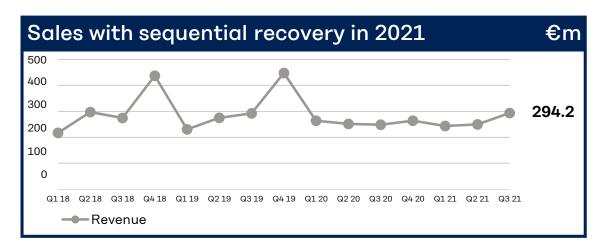
Big picture of the first 9 months and Q3 2021\*

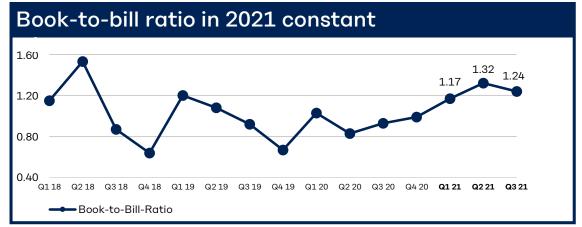




<sup>\*</sup> New revenue guideline in 2020; quarterly figures for 2018 and 2019 not adjusted.

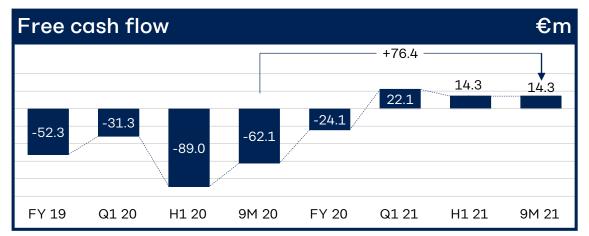
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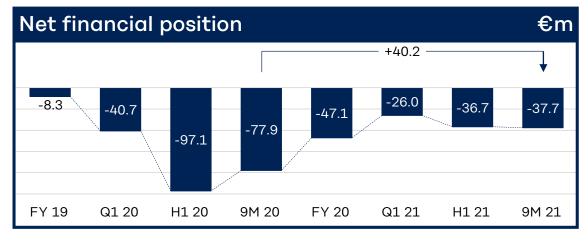


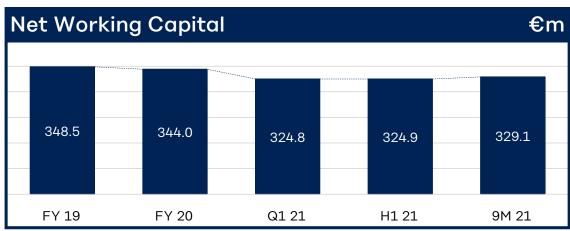


### Growth is also evident on the cash side

Financial and asset position first 9 months and Q3 2021







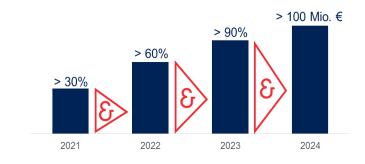


<sup>&</sup>lt;sup>1</sup> Previous year's figures are adjusted

# P24x efficiency programme

### After 9 months 2021 "on track"

- The savings effects from P24x had a positive impact of around € 31m on the Group's earnings development in the first nine months of 2021. This means that the gross savings target of > 30% for 2021 was already achieved after nine months.
- The savings effects from the use of short-time work in the previous year were successfully replaced by long-term and sustainable measures within the framework of P24x.



#### Highlights of the efficiency programme

• Change of the supply chain organisation by adapting Group-wide structures, processes of procurement and production in one organisation as well as innovative approaches to parts and component optimisation.



• Cost reduction of administration with further bundling of tasks as shared services, adaptation of sales and service structures



• Optimisation of the production and assembly plants including Group-internal bundling, relocation and realignment of production and assembly.





~60%

on track



of the **measures** will be installed in **2021**, with full annual effect in 2022.

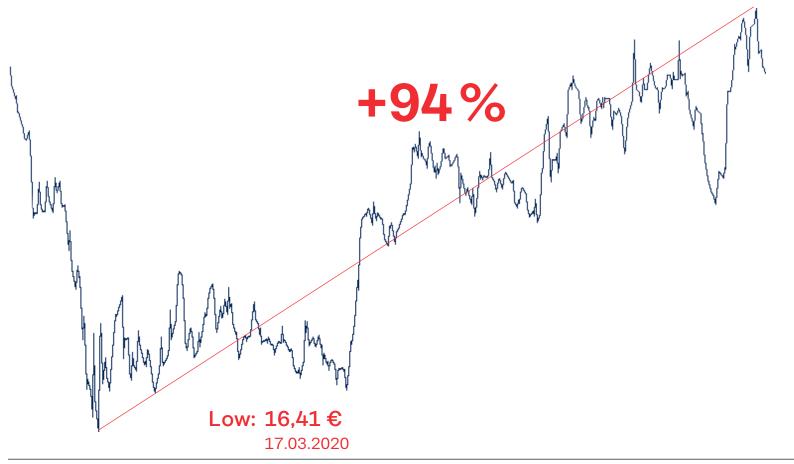
~30%

to do in 2022

of the **measures** will be installed in **2022**, with full annual effect in 2023.

### Back on track also for share price development

Share price almost doubled since April 2020



High: 31,85 €

16.11.2021

Jan 2020 Nov 2021

# Strategic group targets: Exceeding Print

Growth is our goal - both organically and further with acquisitions and joint ventures

#### **Strategic Targets**

#### Expand

- Packaging and industrial printing
- InkJet digital printing
- Service business
- Market positioning as a trusted advisor, especially in the area of sustainability

#### **Strategic Fields of Action**



#### Strengths

- Digitalization offensive for products & services
- Machine platform & innovation process

#### **Emphasis 2022**

#### **Packaging & Digital Print**

 Intensive addressing of the growth market of packaging, in particular through leading digital printing platforms

#### **Machine platform**

Establishment of the module and platform strategy for all new machine types

#### Sales Growth

Exploit sales potential and increase market share in attractive market segments

#### Digitalization

• Continue the digitalization offensive in products, processes, and services.

#### **Mid-term targets**



> **7%**EBIT-Margin

1,3 bn €



max. 25%
Net Working Capital



~ 30%

Service revenue share



CO<sub>2</sub>-neutral

from 2030 in the production plants

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