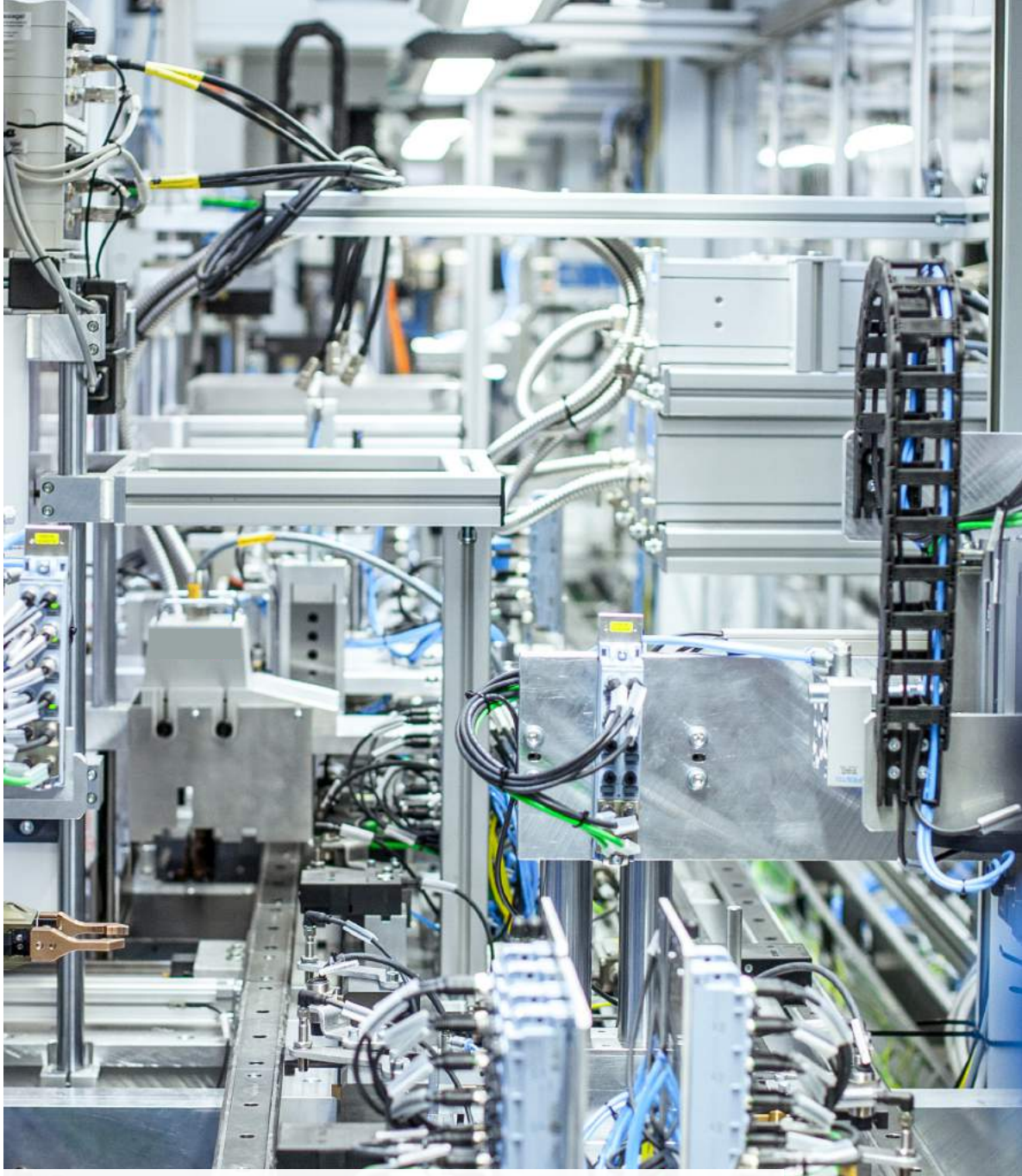

Precision and competence in perfection

We understand automation

BRAUN SONDERMASCHINEN

WE UNDERSTAND AUTOMATION

FOREWORD

The rapidly changing requirements on the market present the automotive supply industry in particular, is constantly facing new challenges. In order to remain successful, it is essential to break new grounds and meet the demands of the market. Braun Sondermaschinen GmbH deals with current topics such as Industry 4.0 or e-mobility and is already setting the course for a successful future. Since the company was founded in 1983, Braun Sondermaschinen GmbH has grown under the management of owner Gerhard Braun from a 4-man operation into one of the most renowned machine manufacturers in Germany with 140 employees and 5,600 m² of production space.

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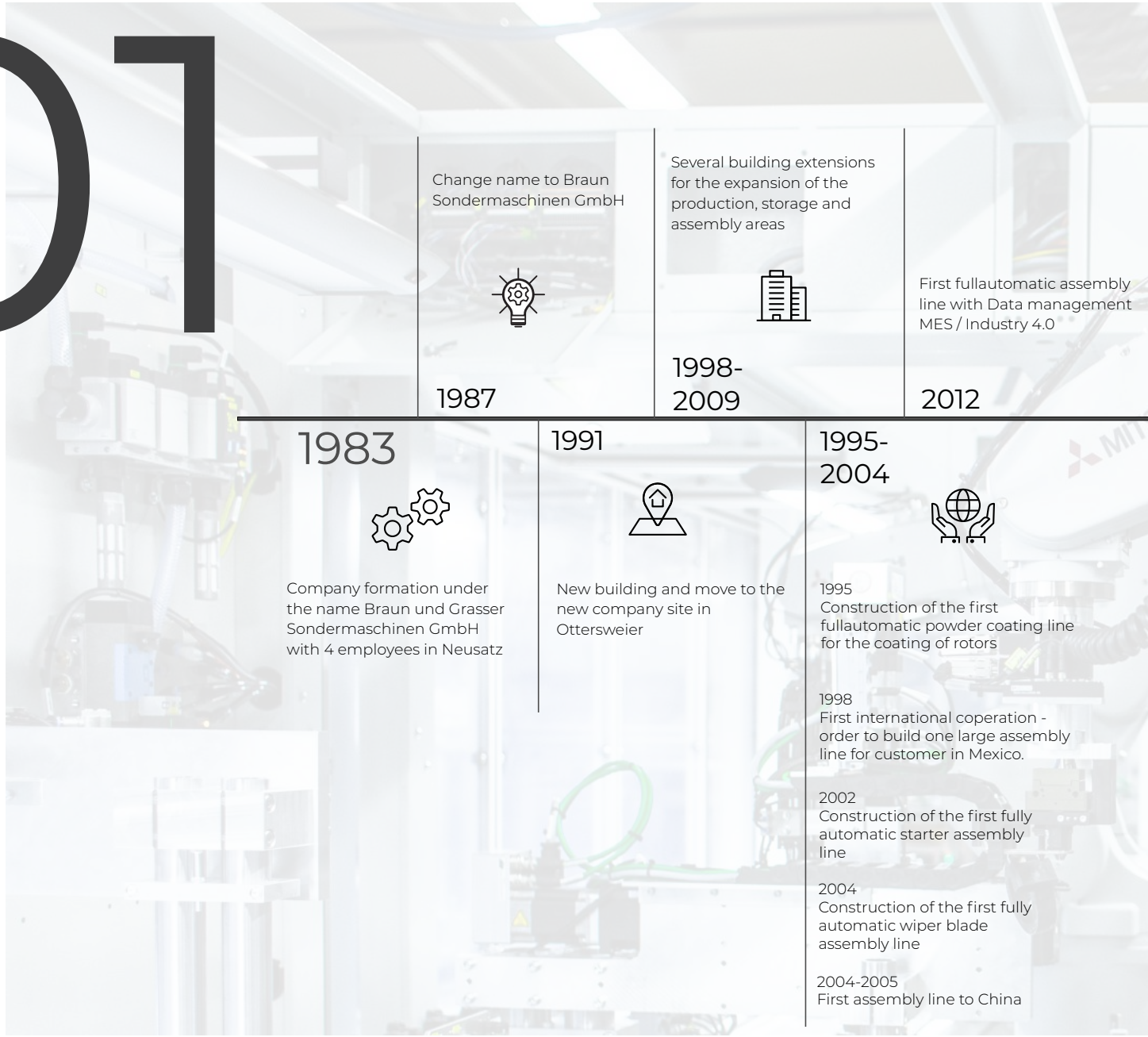
01



1983

Company formation under the name Braun und Grasser Sondermaschinen GmbH with 4 employees in Neusatz

1987

Change name to Braun Sondermaschinen GmbH

1991

New building and move to the new company site in Ottersweier

1995-2004

1995
Construction of the first fullautomatic powder coating line for the coating of rotors

1998
First international coperation - order to build one large assembly line for customer in Mexico.

2002
Construction of the first fully automatic starter assembly line

2004
Construction of the first fully automatic wiper blade assembly line

2004-2005
First assembly line to China

1998-2009

Several building extensions for the expansion of the production, storage and assembly areas

2012

First fullautomatic assembly line with Data management MES / Industry 4.0

OUR SUCCESS STORY

IN AUTOMATION, WE ARE A RELIABLE PARTNER.

Then as now, we convince our customers with concepts that are precisely tailored to their requirements. Assembly lines from our company are used at every major industrial location worldwide. Despite our international activities, we are a regionally rooted medium-sized company that develops and produces exclusively at the company headquarter in Ottersweier, and aligns itself with the requirements of our globally minded customers.

2015

Development of the Modular Automation Concept (MAK)

2019

New Servicepartner Shanghai Tuozhan Intelligent Technologies Co. LTD

First assembly line with fullautomatic AGV connection through OEM partnership with MiR (Automated Guided Vehicles)

2022

Expansion of the machinery with state-of-the-art automation solutions

Operating hours have been expanded to three-shift operation to produce 24/7

New Servicepartner GSN Mexico

2023

Extension of the building complex

2024

170 INTERNATIONAL BUSINESS PARTNERS

147 EMPLOYEES

25 MIO € SALES / YEAR

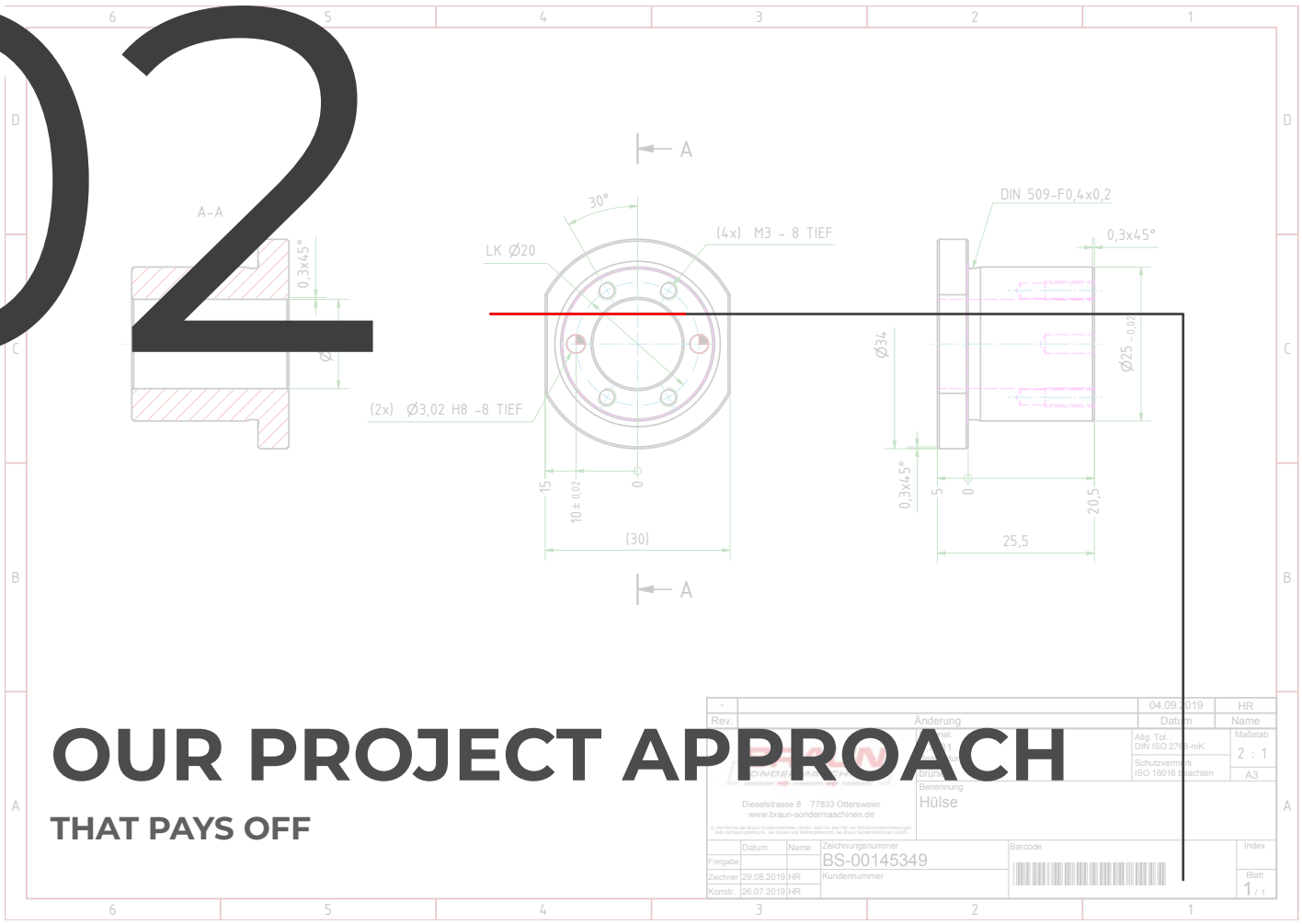
5600 M² PRODUCTION AREA

OUR PHILOSOPHY

THE GOAL OF OUR WORK - THE COMPLETE SATISFACTION OF OUR CUSTOMERS

To achieve this, we act proactively and reliably. At Braun, we have made it our mission to fully support our customers in their automation projects. It is important to us to provide our customers with the right machines, focusing on the latest technologies, with optimal automation levels, tailored to their individual needs, and with the best possible service, all delivered on time. Thus, our customers receive everything they need from the initial idea to the final implementation, all from one source.

02



OUR PROJECT APPROACH

THAT PAYS OFF

WE DEVELOP - YOU BENEFIT.

Our assembly lines are manufactured 100% in-house. With our experience and creativity, we develop the optimum rational and technical solution for each individual customer. Before and during the entire design phase, our designers are in close contact with the customer in order to adapt the layout design to the conditions of the future location. Internal communication then takes place with the relevant specialist departments in order to set the course for successful project implementation right from the start. The exchange of knowledge that takes place in this way has a positive effect on the subsequent system design and enables the customer to achieve cost savings and efficiency improvements.

A concept that benefits everyone!

PROCESS-OPTIMIZED THINKING

FROM BEGINNING TO END

Our design engineers and project managers support you right from the planning stage of a new product series or a modified production process, setting the course for perfectly coordinated, automated processes right from the start. We consider the entire process, including material logistics. We also identify optimization potential for existing assembly lines and achieve clearly identifiable improvements by adapting them to the current state of technology. Whatever your requirements, we will do our best to implement them.

Regardless of whether it is a question of reducing cycle times, integrating our autonomous floor conveyor systems, shortening set-up times through „flying set-up“ or converting your system to the latest state of the art.

SYSTEMATIC VALUE ENHANCEMENT

Through a joint product value analysis with you, we also achieve:

- Minimization of material costs
- Process reliability through optimal design
- excellent assemblability through automation-oriented design
- the reduction of manufacturing costs

PLANT DEVELOPMENT

FROM LAYOUT DESIGN TO COMMISSIONING

Inquiry & offer phase

- Visit to get to know each other, discuss the specifications and identify potential for improvement
- Review and evaluation of the specifications by the individual specialist departments
- Layout creation, development of concept proposals and development of solution proposals in close coordination with the customer
- Preparation of quotations

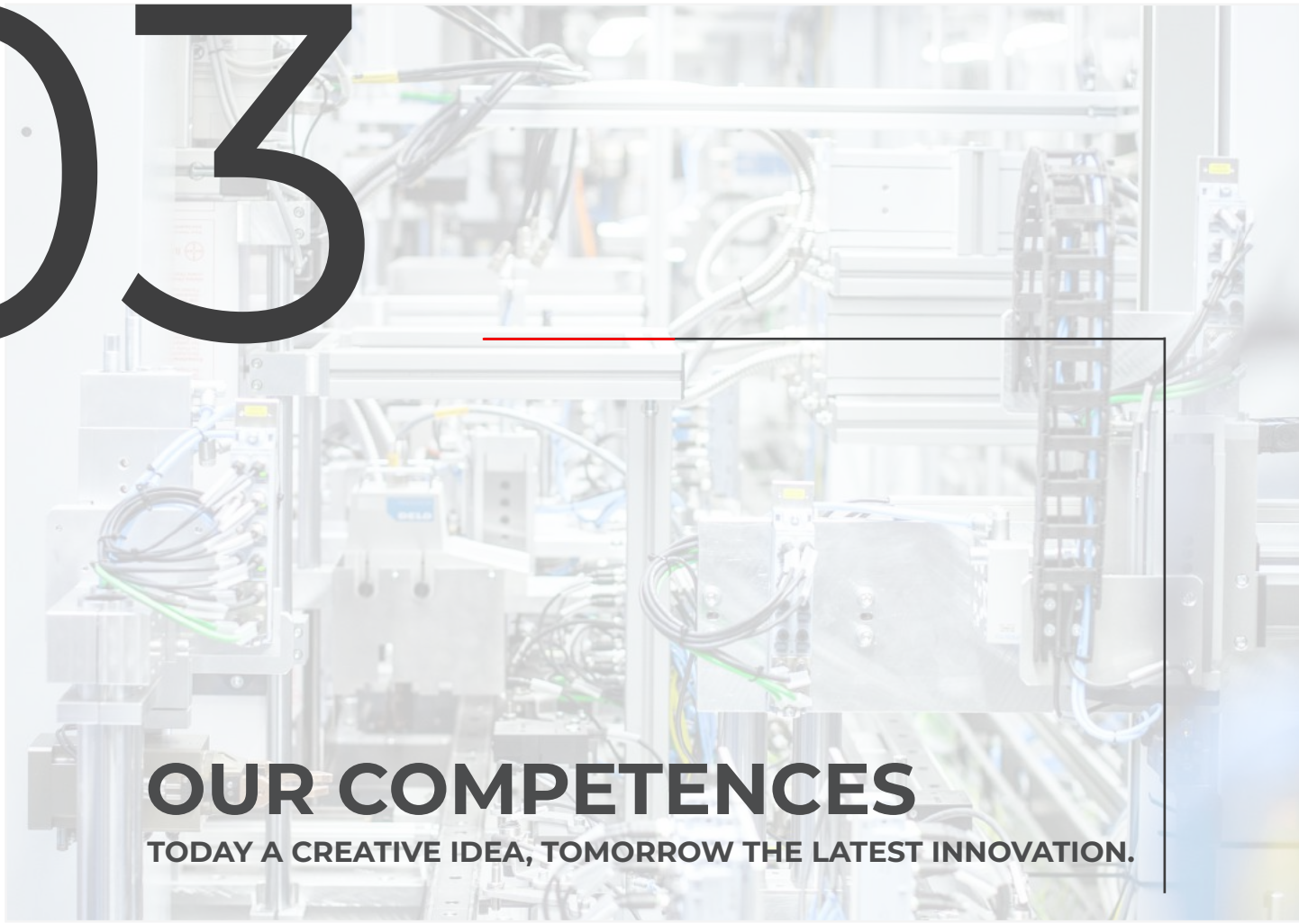
In the project phase

- Design of the system, hand in hand with the customer
- Use of Braun standard solutions, if possible (MAK concept)
- Project planning and tracking Design presentation and approval
- Parts production, assembly, installation, programming and commissioning as well as carrying out all necessary safety tests
- Training of customer operating personnel
- Delivery and commissioning of the system at the customer‘s site (worldwide)

After-Sales & Service

- Short-term spare parts supply thanks to in-house warehousing and rapid spare parts production
- Service assignments can be carried out worldwide at short notice
- Comprehensive services via Online Service
- Processing of your spare and wear part requirements via our after-sales service Cooperation with service partners for Asia and NAFTA

03



OUR COMPETENCES

TODAY A CREATIVE IDEA, TOMORROW THE LATEST INNOVATION.

CUSTOMIZED DESIGN

We are at your disposal with all our experience and the know-how we have acquired over the years to realize an all-round successful project together.

Driven by the vision of developing ever better solutions, our team at Braun Sondermaschinen GmbH develops highly modern systems that optimally complement the customer‘s portfolio and provide decisive advantages.

We plan specifically tailored to the requirements of our customers, regardless of whether large or small quantities are involved or whether the type of assembly is to be fully automatic, partially automatic or manual.

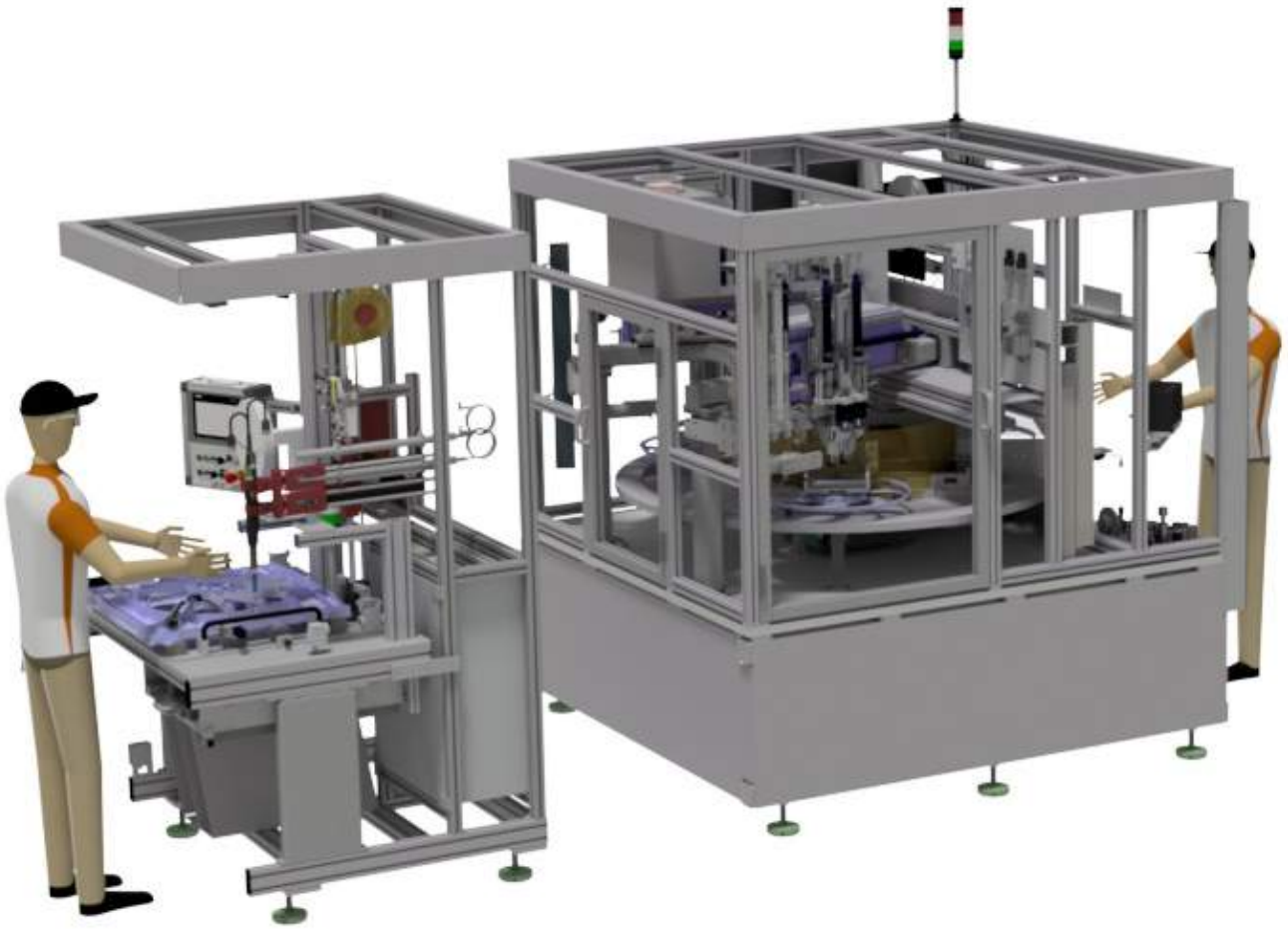
We have the following expertise:

- Manual workstations
- Fully and partially automated assembly lines
- Coating systems.

TÜVRheinland®
ZERTIFIZIERT

Management System
ISO 9001:2015
ISO 14001:2015
ISO 45001:2018

www.tuv.com
ID 9000013493



3.1 Manual workstations

Manual workstations can either be integrated into automated production lines or built as a stand-alone solution. We ensure that the workstations are designed efficiently, ergonomically and in line with the latest ergonomic findings. With partially automated manual workstations, our customers ensure high product quality in their production.

Factors for increasing productivity:

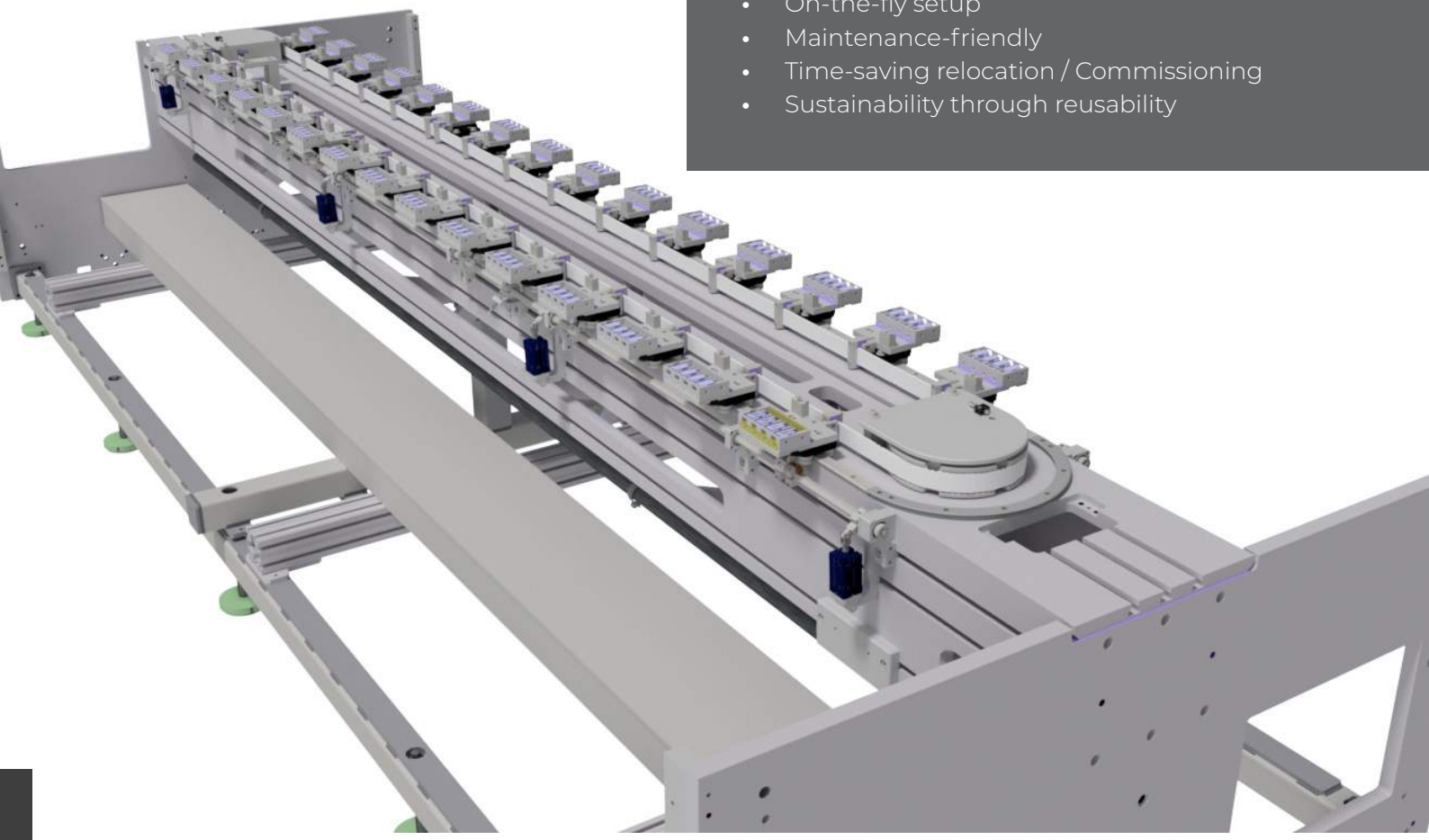
- Ergonomically optimized work design
- Easy conversion to other products
- Optimized process flow
- Individual degrees of automation
- Compliance with the latest safety regulations

3.2 Fully and partially automated assembly lines

- Cycle times from < 1 second
- Standardized superstructures
- Fully automated material handling AGV (Automated Guided Vehicle)
- Production lines with latest technology

OUR MAK - YOUR ADVANTAGES:

- Scalable automation
- High flexibility in the integration of new product
- Integrated logistics
- Central material station
- On-the-fly setup
- Maintenance-friendly
- Time-saving relocation / Commissioning
- Sustainability through reusability



3.3 MAK - The modular automation concept

AS STANDARDIZED AS CAN BE, AS PERSONALIZED FOR THEE.

The Modular Automation Concept (MAK), developed in 2015 for the purpose of enhancing plant design efficiency, provides customers with long-term benefits. Product and process expansions can be flexibly implemented due to its unique design. Upon request, the entire material logistics can be integrated into the system as part of MAK, taking charge of component feeding or product discharge.

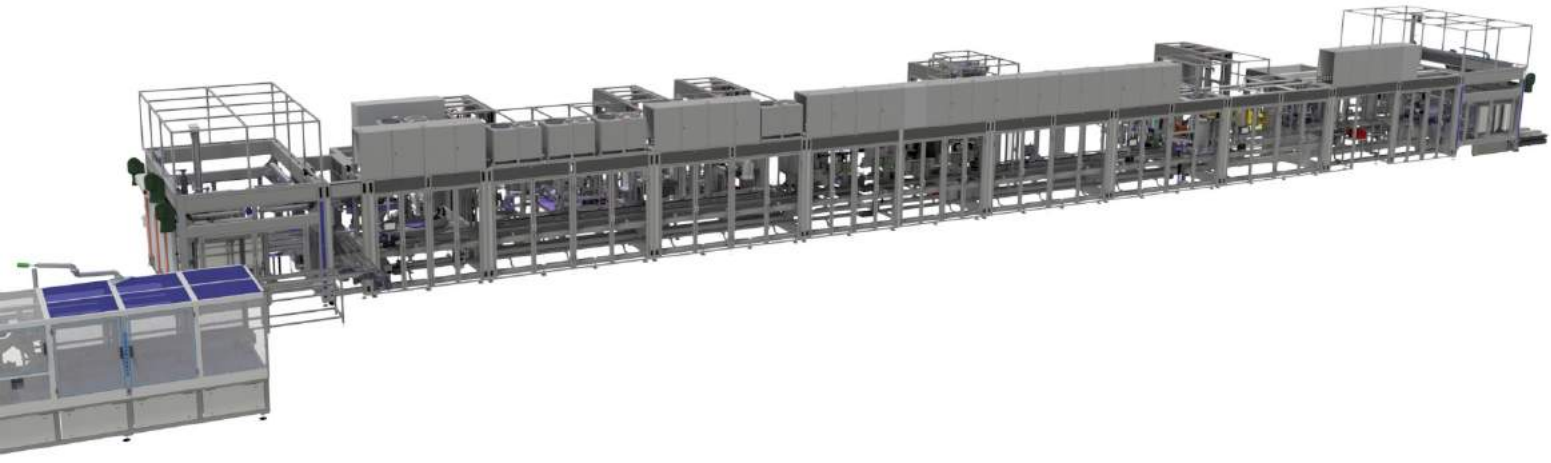
Using the scalable modular principle allows for faster planning and implementation of individual modules. Our MAK combines a variable, customer-optimized layout design with shortened lead times. Sustainability is not just a term for us but a matter of course, thanks to the principle of reusability.

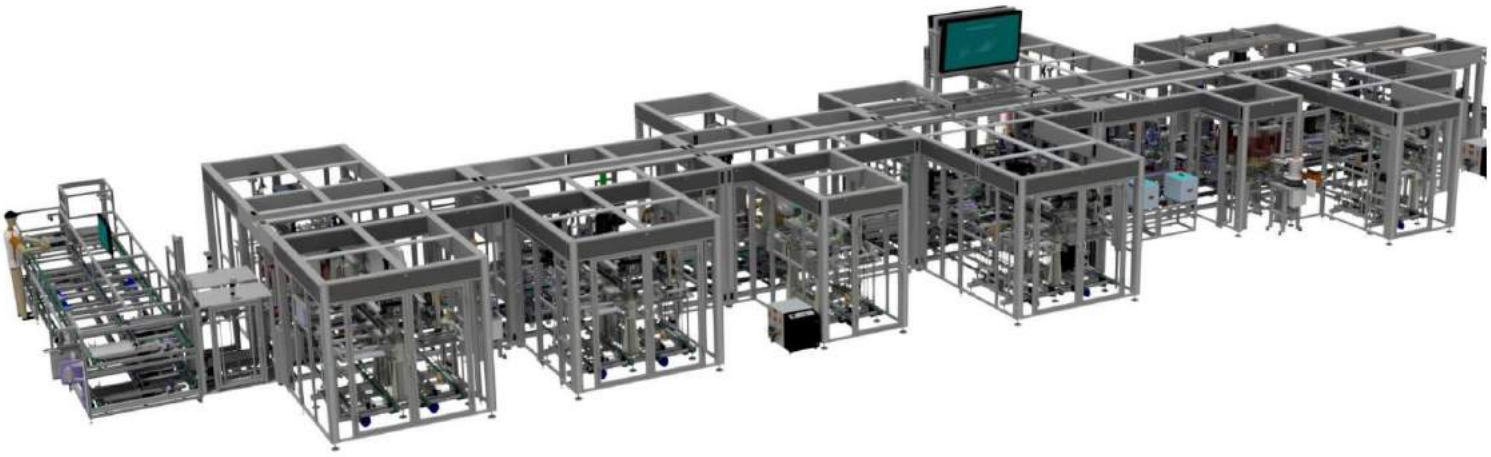
MAK - E-Motor Assembly (BLDC)

3.4

- Joining processes
- Cooling processes
- Cleaning-processes
- Laser welding
- Measuring and testing
- Magnetizing processes
- Camera control
- Bin-Picking

Cycle time: 7,5 seconds
Line dimension (W x L x H): 6 m x 35 m x 3.2 m





3.5 MAK - Key assembly line

- Ultrasonic welding
- Friction welding
- Laser welding
- Screwing process
- Camera inspection
- Robot systems
- Central material logistics

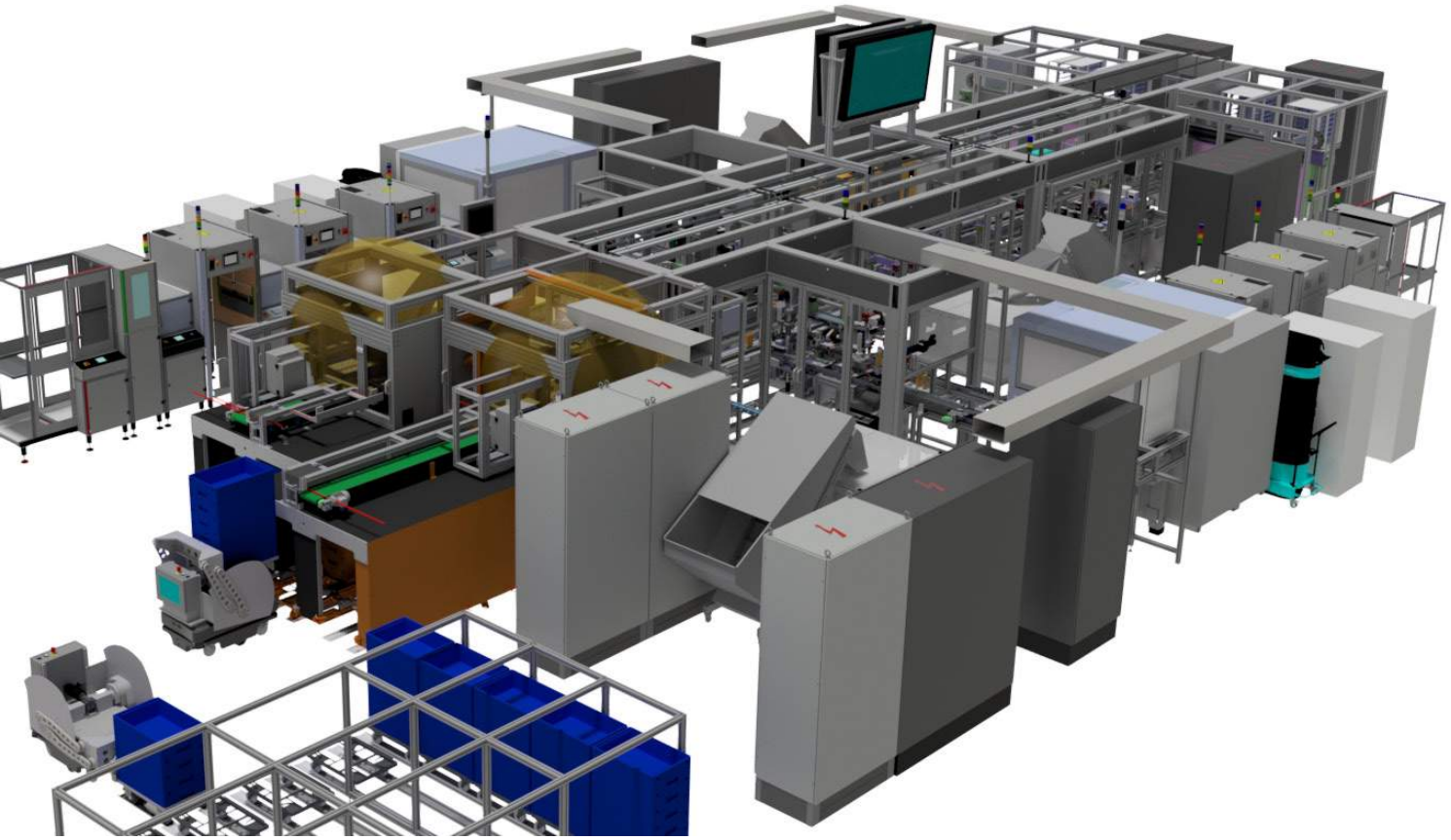
Cycle time: 5 seconds
Line dimension (W x L x H): 12 m x 30 m x 2.4 m

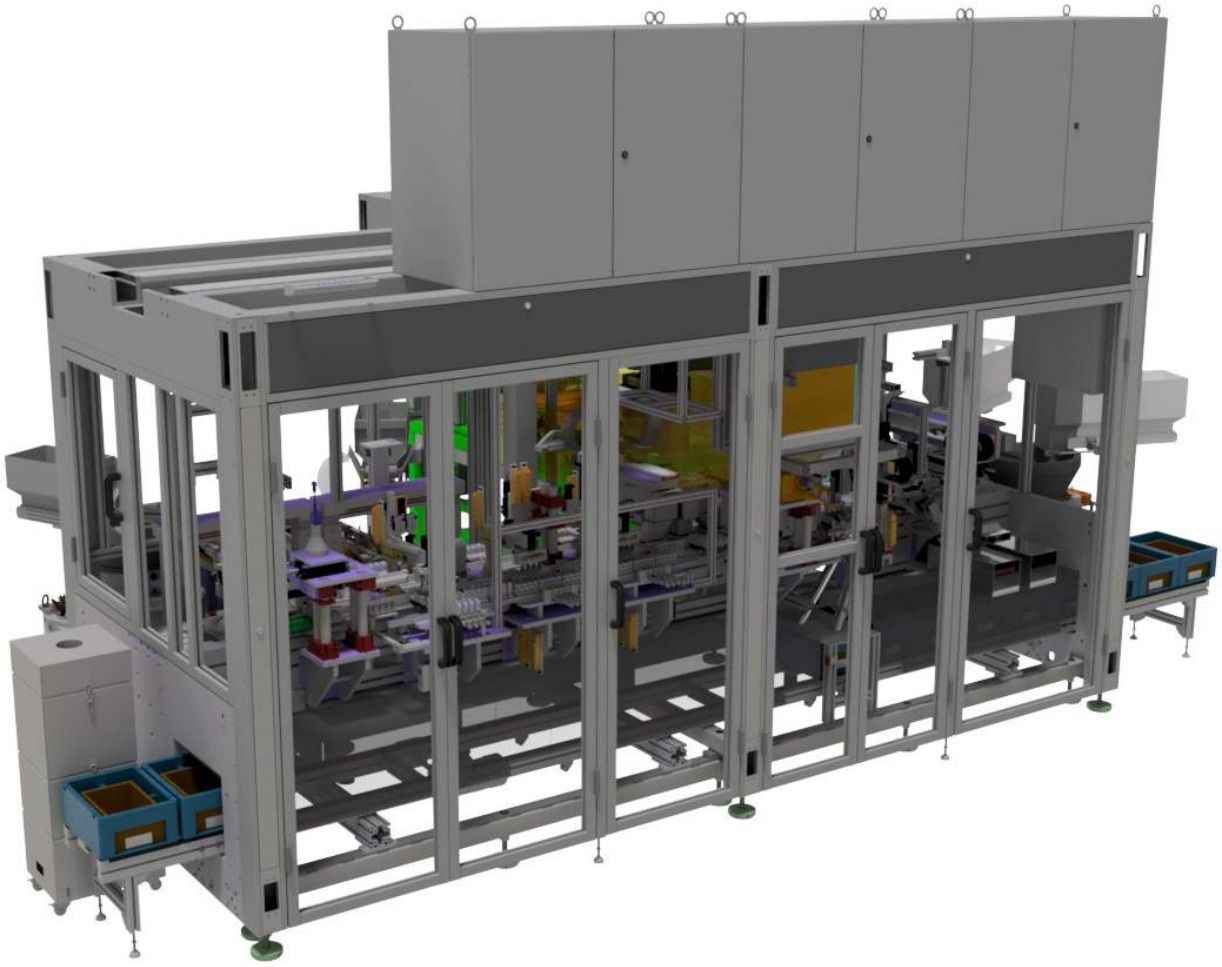
MAK - control unit assembly line

3.6

- Contact pins bending and joining
- Laser welding
- Leak test
- Laser marking and checking
- Camera control
- Packing in KLT with robot

Cycle time: 5 seconds
Line dimension (W x L x H): 12 m x 20 m x 2.4





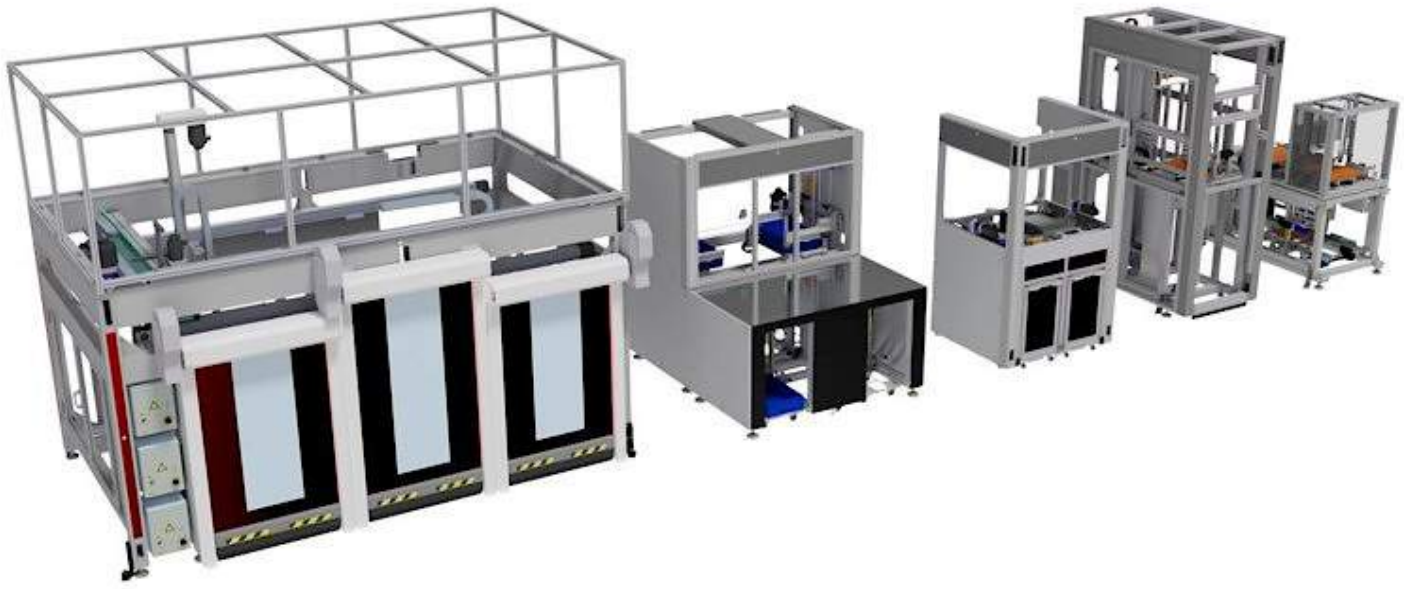
3.7 MAK - Rapid cycler LED- assembly line

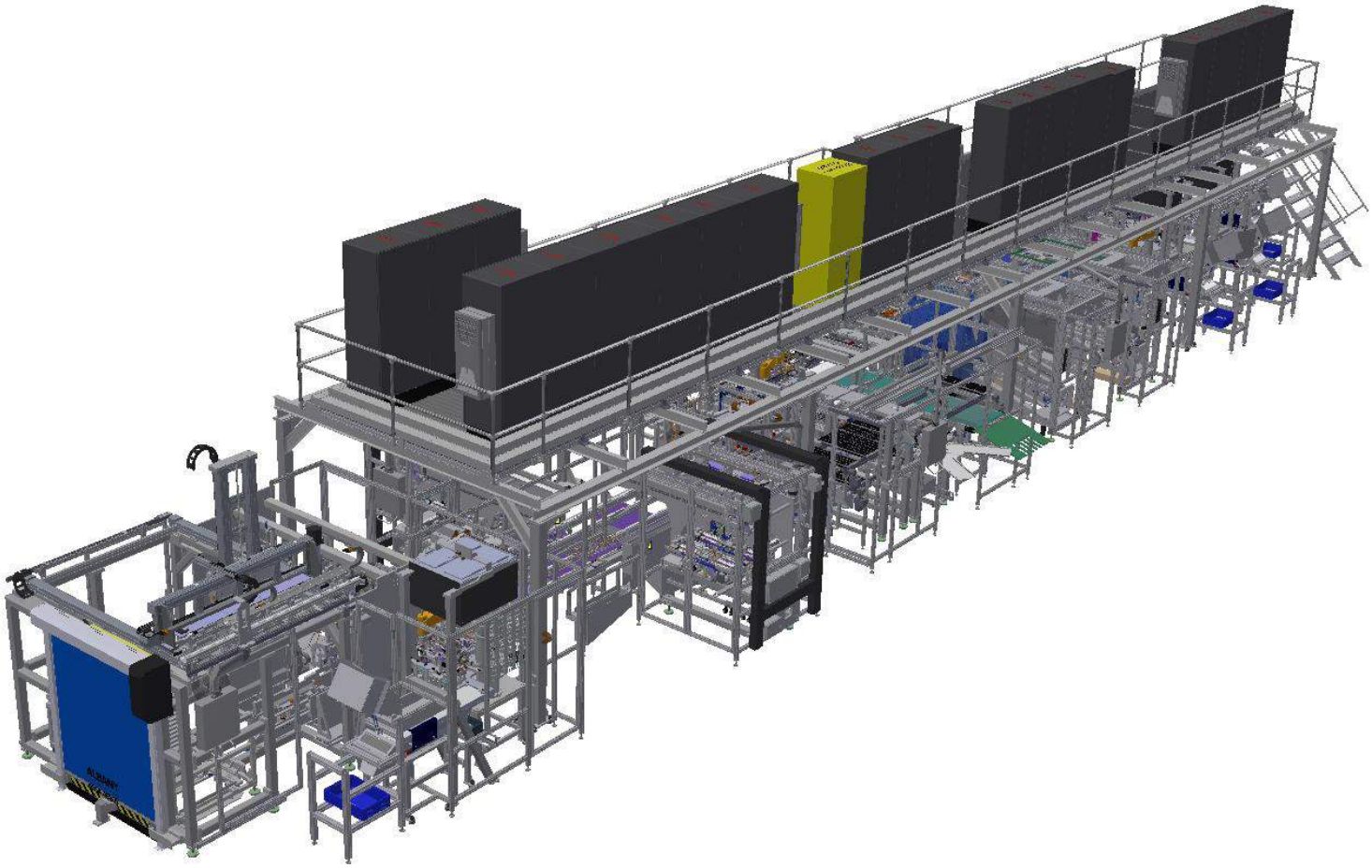
- High-speed axis systems
- Parts feeding
- Camera control
- Material supply via palletizer
- EOL Testing
- Laser marking and proofreading
- Packaging

Taktzeit: 1,1 Sekunden
Anlagen-Dimension (B x L x H): 6m x 4m x 3,2m

3.8 BS - Palettizer Family

- Automatic loading and unloading
- Handling via robot or XYZ axis
- Solution for all material containers
- Bin picking possible
- Other special processes possible in the palletizer
- Docking via AGV (Automated Guided Vehicle)





3.9 Assembly line for windshield wiper

- Wiper length from: 320mm to 800mm
- Automatic infeed and outfeed of large magazines via floor rollers
- Handling via robot or XYZ axis
- High speed shuttles and multiple parts handling
- Scara robot with anyfeeder
- Ultrasonic welding
- Laser welding
- Complex mechanical assembly processes such as:
- Assembly of of the rubber lip

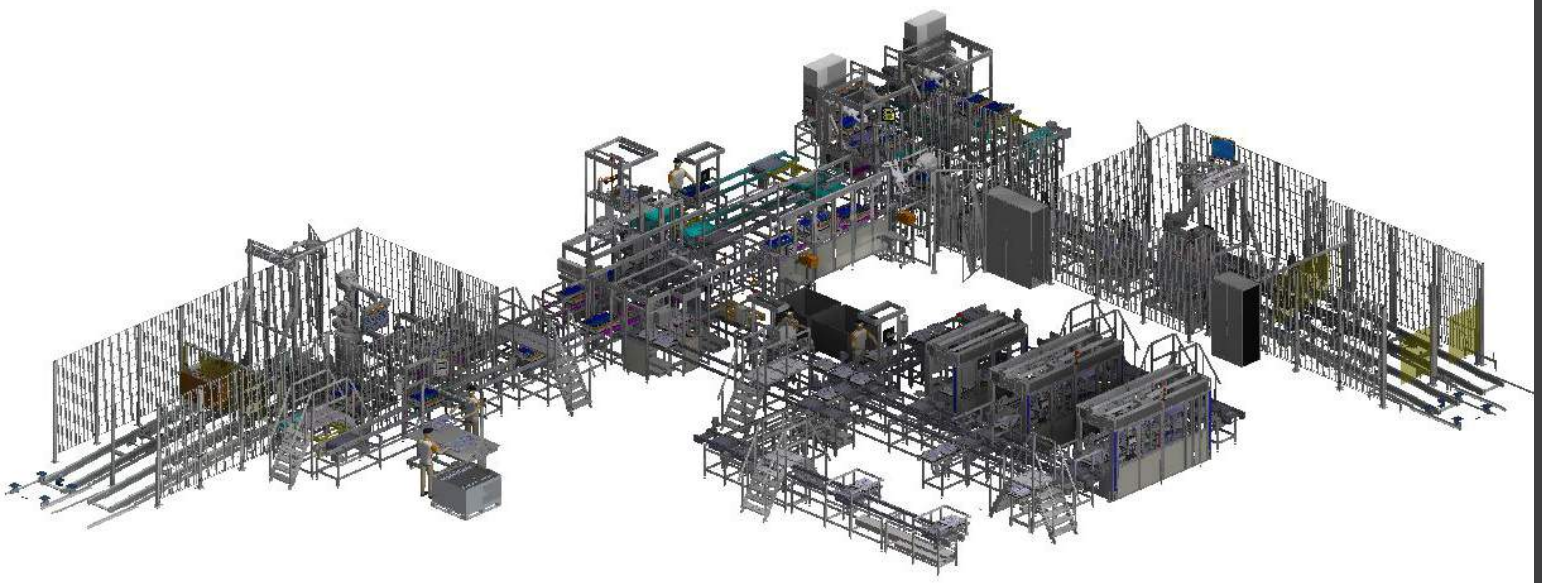
Cycle time: 2,5 seconds
Line dimension (W x L x H): 28 m x 6 m x 5 m

Assembly line for Battery cooling

3.10

- Hot caulking
- Balancing
- Screws
- Radiator leak test
- Bin picking with robot (30kg tool weight)
- Automatic infeed and outfeed of large
- material trolleys 1300mm
- Radiator assembly
- Handling via robot or XYZ axis

Cycle time: 30 seconds
Line dimension (W x L x H): 30 m x 15 m x 3.5 m



3.11 Tailored Epoxy Coating Systems for DC Motor Insulation

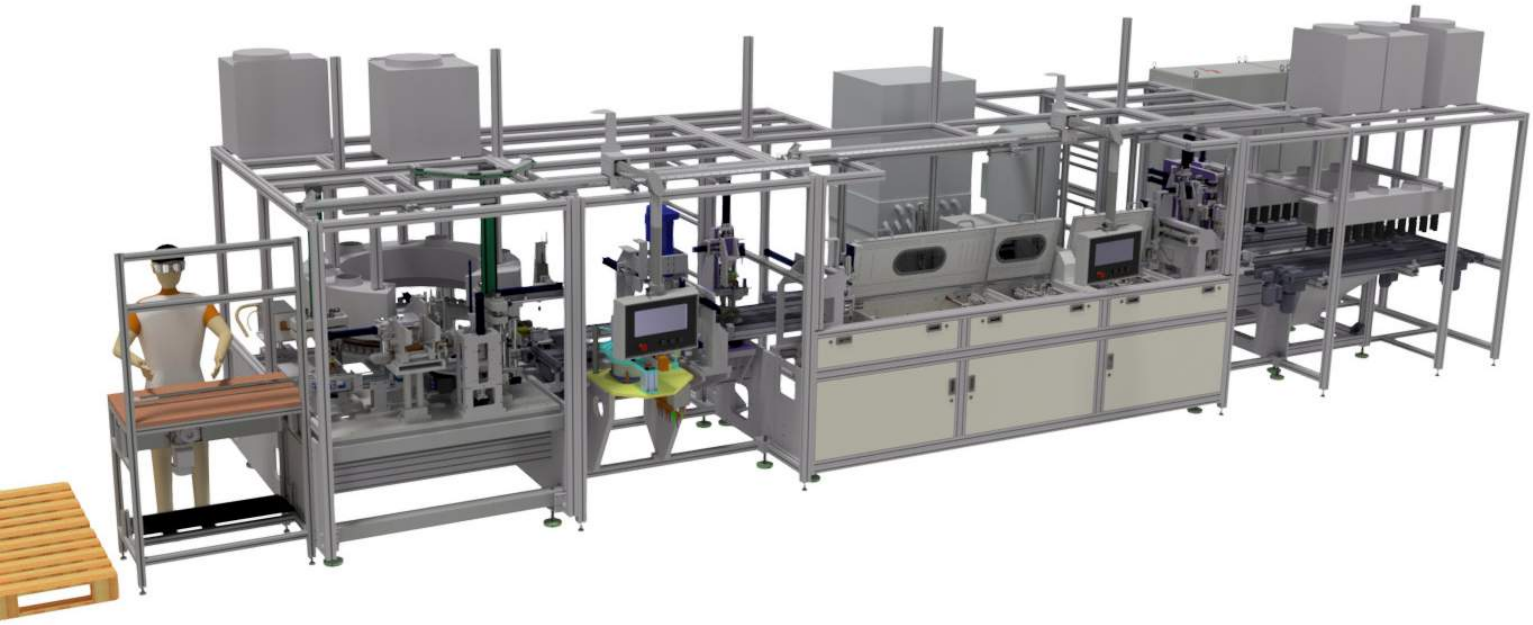
For more than 25 years, we have been successfully building customized epoxy coating systems for the insulation of small armatures in DC motors for well-known customers all over the world. Thanks to intelligent machine technology, our systems achieve an availability of more than 95%. The compact design, optimum handling and reliable and safe throughput of the parts to be coated ensure consistently high quality results. The in-house developed powder recovery system offers added value. It ensures that unused powder is extracted and returned to the powder store so that it can be reused, thus saving powder and costs. The lower powder consumption means that potential savings can be exploited without compromising the coating result.

Advantages of powder coating:

- Copper wire fill factor ≈ +12 %
- High package stiffness (less imbalance)
- Simpler winding technology
- Bonding of the commutator technically feasible
- More cost efficiency and less waste due to direct powder recovery

3.12 HAIRPIN-coating

- Coating of hairpin and busbar
- Coating of 1-sided and 2-sided stators
- Laboratory equipment for sample coating or small series production
- Series production lines with complete high-end solutions for
- secondary isolation (impregnation and hairpin-coating)



3.13 Rotor coating inkl. assembly

- Packing lines of single sheets and packs of sheets with
- shaft assembly
- Pre-cleaning of the sheet packages
- Powder coating process incl. inductive curing
- Commutator assembly

04

SPECIAL MACHINE CONSTRUCTION MEANS: MANUFACTURING PROCESSES THAT FIT

Special machine construction is our passion, and the will to do it better and faster every time is what motivates us to achieve new top performances every day. The optimal interplay of intelligent system planning and the use of the most suitable process engineering and technology is the key to fast, efficient and durable assembly lines. While the basic structure determines the ideal flow of parts and thus forms the basis for achieving short cycle times, the process technology brings the assembly line to life and plays a key role in how quickly an assembly process can be completed. We have been working for years with numerous high-performance manufacturers whose versatile processes we integrate into our systems.

- Screwing processes
- Laser marking
- Bonding
- Joining processes
- Laser welding
- Resistance welding
- Feeding technology
- Camera inspection
- Robot technology
- Palletizing
- Magazining
- Handling technology
- Assembly processes
- Magnetization
- Friction welding

05

CONTRACT AND ASSEMBLY PRODUCTION

ALWAYS ON THE CUTTING EDGE

CUSTOMIZED CONTRACT MANUFACTURING

Customers benefit from our expertise and extensive experience in machining manufacturing, as well as our flexibility to handle orders starting from single pieces and to produce urgently needed parts on short notice. We work with virtually any material and offer a wide range of surface finishes. Over the past years, significant resources have been invested in expanding and modernizing our in-house machinery. These additional capacities allow us to also serve as a service provider in the field of contract and assembly manufacturing.

YOUR ADVANTAGES

- Single and small batch production
- Assembly manufacturing
- Flexibility
- Precision
- Individual service
- High material availability

MATERIAL

- Aluminum
- Stainless steel
- Steel
- Special materials such as gunmetal, brass, Ampco, submarine steel
- Plastics
- on request

SURFACE FINISHING

- Burnishing
- Anodizing
- Hard coating
- Hardening
- Phosphating
- TiN coating
- Nickel plating
- on request

OUR MACHINERY

	Year of manufacture	Length X (mm)	Width Y (mm)	Height Z (mm)
Milling machines (3-axis)				
CMX 600 V	2019	600	560	510
DMU 635 V ecoMill	2016	635	510	460
CMX 1100 V	2018	1100	560	510
Miling machines (3+1-axis)				
DMF 200-8	2021	2000	800	850
Miling machines (5-axis)				
DMU 60 eVo + Roboterautomation RoboTrex 52	2022	600	500	500
DMU 50 3rd Gen. + Roboterautomation RoboTrex 52	2018	650	520	475
DMU 75 monoBlock	2015	750	650	560
DMU 75 monoBlock	2015	750	650	560
Eroding machine				
Sodick VL600Q	2019	600	400	270
Turning-/Miling maschine				
DMG CTX Beta 500	2010	Ø60mm spindle passage / max Ø on request		
DMG CLX 450	2019	Ø80mm spindle passage / max Ø on request		
Surface grinding				
Kauni Hanseat Blohm				
Geibel + Hotz FS 40-C				
Coordinate measuring machine				
Wenzel LH65	2022	650	1200	500
Mahr Surf PS10				
Mitutoyo Durotwin				

06

OUR SERVICE

TODAY AND IN THE FUTURE: YOUR RELIABLE PARTNER FOR ALL AUTOMATION NEEDS

Customer satisfaction is our top priority, which is why we are constantly developing new solutions in order to build assembly lines with the highest possible level of technology for our customers, also with a view to the future. Our long-term goal is to further expand the technological and economic advantages of our assembly lines. In doing so, we are always guided by market conditions and the new requirements that arise from them. As a consequence of this, we are currently setting the course towards digitalization. Among other things, we are focusing on electromobility and innovative system concepts as well as autonomous supply systems as part of Industry 4.0.

We are constantly working on making our systems even more efficient and attractive in order to generate even greater benefits and savings for our customers. Service partnerships with companies in China and Mexico enable us to guarantee faster response times worldwide in terms of service. With these and other planned service partnerships, we want to ensure that we can respond flexibly and appropriately to the wishes and needs of our customers worldwide. Braun Sondermaschinen GmbH is and will remain your reliable partner for all automation matters, because:

We understand automation.

07

OUR SERVICEPARTNER

OUR GLOBAL PARTNERS FOR TOP SERVICE

Shanghai Tuozhan Intelligent Technologies Co. LTD (Asia):
Since 2019, we have a strong partnership with Shanghai Tuozhan Intelligent Technologies Co. LTD in Asia. They align with our values and consistently deliver exceptional service to our customers in the region. Together, we strive for the highest quality to meet the demands of the Asian market.

GSN México (Americas):
Our partnership with GSN México since 2022 in the Americas strengthens our presence and enables us to fulfill the needs of our customers in North and South America optimally. Together, we work on innovative solutions for the special machinery industry in the Americas.

Global Network: Thanks to our partnerships with Shanghai Tuozhan and GSN México, we offer global support and rapid assistance.

Quality and Innovation: We adhere to high-quality standards and innovative technologies for the best solutions.

At Braun Sondermaschinen GmbH, we combine industry expertise with global reach to provide you with optimal solutions.

TUOZHAN

Ihr Partner für Technologie und Service

08

INVESTING IN THE FUTURE - OUR APPRENTICESHIPS

At Braun, we are not only at the forefront of technology, but we also invest in the further education of our employees. We enable students to make an individual entry into the world of special mechanical engineering. In addition to apprenticeships, we also offer dual study programs and further education opportunities supported by us. Every individual counts as a person with all their abilities. Thus, we promote both professionally and personally.

Our approach, Support & Challenge:
We rely on personal support, variety, high practical relevance, and a culture of action

Dual Study Program at DHBW Karlsruhe -
Mechanical Engineering Design & Developement

Duration of Study: 6 semesters

- Insights into industrial design, testing, development, project planning, sales, and equipment design
- Participation in the development of innovative products as well as new production processes

DHBW
Duale Hochschule
Baden-Württemberg
Karlsruhe

Precision mechanic (A)

Duration of Study: 3,5 years

- Construction and commissioning of machines, devices, equipment, systems and plants systems and installations, including control and control and regulation equipment
- Manufacturing workpieces and components using manual and mechanical production processes
- Measuring and testing mechanical and physical physical parameters

Electronics technician (A)

Duration of Study: 3,5 years

- Circuit technology, measurement technology and programming
- Installing electrical drive systems
- Creating test setups with a programmable logic programmable control system (PLC)
- Carrying out functional tests and analyzing the control system

Industrial clerk (A)

Duration of Study: 3 years

- Personnel management
- Goods purchasing and warehouse management
- Finance and accounting, controlling
- Sales and marketing
- Managing production processes
- Commercial workflows and structured office organization

Technischer Produktdesigner (A)

Ausbildungsdauer: 3,5 Jahre

- Documentation of assembly lines
- Selecting materials and assembly techniques
- Developing products, from design to calculation of components
- Creating components with the help of 2D/3D CAD applications
- Optimizing your own designs

HELLA
ITW
dunkermotoren
advanced motion solutions
Continental
brose
ZIEHL-ABEGG
SIMONSWERK
BANDTECHNIK
PWO
ENGEL
ElektroMotoren AG
BOSCH
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TECHNOLOGIES
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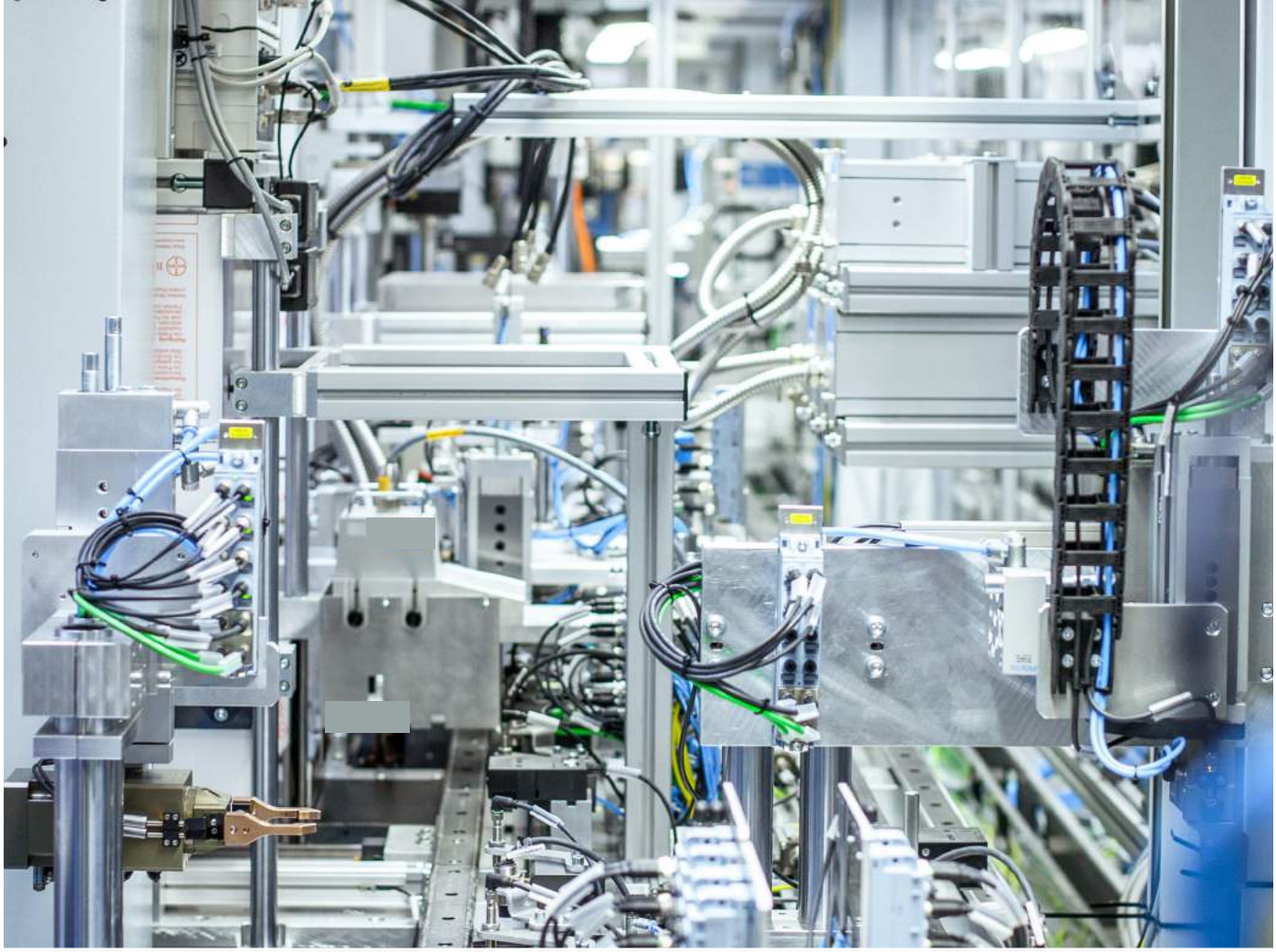
Tunesia
Worldwide project deliveries



together - creative - passionate

Where High-Tech Solutions Take Shape.

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