



AUTOMATION EXCELLENCE



Daniela Feder
IT Technician



M. Ganesh Kumar
Software Engineer

PEOPLE AT BAUMANN

We give 100%

Our aim is to have a long-term cooperation with our customers. From the initial concept to ideal implementation of your project, you can count on us to be there every step of the way.

Our solutions provide more than the simple implementation of your ideas. We work with you to realize the full potential of your ideas. With over 20 years of experience developing solutions for a wide range of applications, we understand what is critical to optimize the results.

Our entire team is committed to providing you with a real competitive advantage with the best concepts, optimum performance and quality, the lowest cost of ownership and enhanced flexibility.

We give you 100%.



Christian Donhauser
Software Engineer



Frank Madl
Programmer



Rudi Neumann
General Manager

Josef Konrad
General Manager

The features that distinguish us

Focused on people

Machines are only as good as the people who engineer them. The initiative, creativity and innovativeness of our staff makes a significant contribution to the maximum success of your project.

Only one solution counts – the best one

Our comprehensive experience in handling a wide range of customer mandates in the automotive, electronics and telecommunications, life science and the solar and glass sectors, secures you the best possible solution.

Prepared for the future

It is of little use if today's automation systems are obsolete tomorrow. baumann thinks long-term, providing you with sustainable, future-proof machine concepts that can be easily and affordably adapted to changing requirements – even after years of use.



Josef Schönberger
Design Engineer



Process and System
Consulting

System Design
and Layout

System Manufacturing
Detailed Design

Mechanical Assembly



OUR RANGE OF SERVICES

We offer you best in class automation

baumann develops and produces turn-key automation systems for customers in the automotive, electronics and telecommunications, life science and the solar and glass industries.

From a single lean automation cell to a completely automated production line, baumann leverages a standard automation platform concept to tailor a solution that provides the customer with the optimum productivity, cost, quality, reliability and flexibility for their specific application.

To create and compliment the best in class solutions, baumann also offers extensive process and applications expertise, and an ever expanding network for global service and technical support.

We guarantee tailor-made automation systems from a single source - from consulting and system conception through comprehensive technical support.

Facts and figures

- Established 1984
- 6,000 sq. m. office and production area
- State-of-the-art technical facilities
- More than 200 employees
- More than 1,200 installed systems worldwide

Electrical Assembly



Programming



System Verification and Optimization



Technical Service and Support



Process and System Consulting

- Design for manufacturing
- Process and product validation
- Process flow modeling

System Design and Layout

- Optimize process flow
- Optimize cycle time

System Manufacturing

- Detailed design
- Mechanical assembly
- Electrical assembly
- Programming

System Verification and Optimization

- System performance verification
- Process performance verification
- Process flow and manufacturing quality optimization

Technical Service and Support

- 24/7 support
- Regionally deployed technical experts





DEVELOPMENT

Leveraging our expertise – from the initial concept to implementation

Our customers benefit from our expertise right from the outset. Our internal development department, with more than 40 engineers, offers a comprehensive array of capabilities. The result for our customers: short development times, high-quality products, low costs and maximum process reliability.

In addition, baumann is continuously investing in research and development ensuring that our automation solutions utilize the latest hardware, software and process technologies.

Leading through development

With an array of highly flexible and capable platforms, the bulk of our development effort is focused on high performance process peripherals, and their seamless integration to our platforms/systems. This strategy allows us to leverage the numerous benefits of standardization, while optimizing the process and performance for the customer's specific application.

Customers are increasingly relying on their automation partner to provide a complete process and assembly solution. This emphasizes baumann's real strengths in developing hardware and software interfaces to 3rd party processes and factory control systems.

Innovative development, efficient production

To ensure the best possible system production, we apply leading-edge analyses, including simultaneous engineering, FMEA and FEM, in the design phase. To achieve the best possible result, we optimize the interaction of all components and perfectly coordinate them to one another.

The best solution for each requirement

For our customers, we focus on providing the best possible value for each individual installation. We therefore trend toward tried and tested standard software and hardware elements as much as possible, which are then individually tailored to the customer's specific production requirements. baumann has built its business on providing maximum process quality and reliability with over 1,200 systems installed worldwide.

Easy operation for complex systems

Ergonomic, user-friendly system controls are an important constituent of our automation solutions. All our interfaces are menu-guided and intuitive.

Quality management

Above all, quality means setting the highest standards for ourselves. We are continuously establishing new benchmarks for our products, processes and services. Our quality management system encompasses all current industry standard methods, including machine and process capability analysis, etc.





OUR CORE MARKETS

Bundled expertise for your markets

We are at home in an extremely diverse range of industries: in the automotive and telecommunications sector as well as the domestic appliance industry. Our automation solutions are always oriented closely to the requirements of the customer – whatever the sector.

Automotive

baumann is one of the world's leading suppliers of assembly systems for manufacturers of automotive components. We have developed standardized assembly solutions which not only provide outstanding performance,

but are also designed to respond ultra-fast to the rapidly changing requirements of the automotive OEM's. Our systems are used throughout the world to successfully manufacture an extremely diverse range of automotive components. Examples include transmission and ABS control units, hybrid selectors, servo units, twin rocker shafts and aluminum wheel assemblies.

Electronics & Telecommunications

The electronics industry is characterized by huge product diversity and short innovation cycles. Together with our customers, we design flexible and cost-effective production solutions



to handle products that are constantly changing. Our standardized automation platforms put us in a position to rapidly respond.

baumann solutions are used for applications from inserting odd-form components to fully assembling and packaging complete mobile phones.

Life Science

Life science applications typically have very unique and challenging requirements. Some examples are the handling of very small and complex components, compliance with stringent quality standards and manufacturing under clean-room conditions. baumann automation solutions are painstakingly validated in terms of design qualification (DQ), installation

qualification (IQ) and operational qualification (OQ). They meet all GMP directives and FDA quality requirements. baumann systems are used to produce heart pacemakers, insulin pens and blood sugar meters.

Solar & Glass

Accessing sustainable energy sources drives the development of the solar industry. The rising demand can be efficiently addressed with flexible automation systems. In addition, handling the delicate silicon wafers requires ultimate precision. baumann systems are used for a range of applications, including visual inspection of wafers and packaging finished solar modules.

Clip attach

Ultrasonic welding

Labeling

Laser marking

Palletization

Plasma cleaning

Electrical testing

Material

Substrate singulation

Screw driving

Loading and unloading

Mechanical testing

Assembly

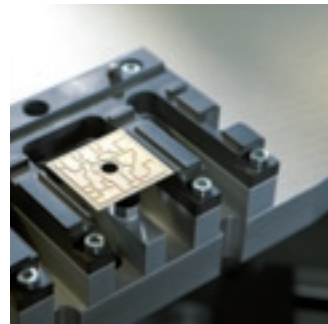
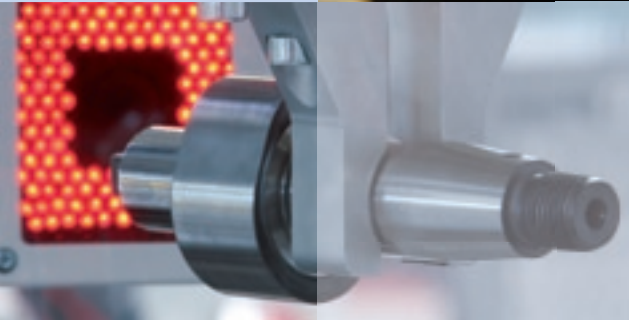
Vision inspection

Contacting

Optical measurement

Firmware flashing

baumann




 Odd-form assembly


 Riveting
handling


 Foil application


 Deburring


 Bonding


 Dispensing

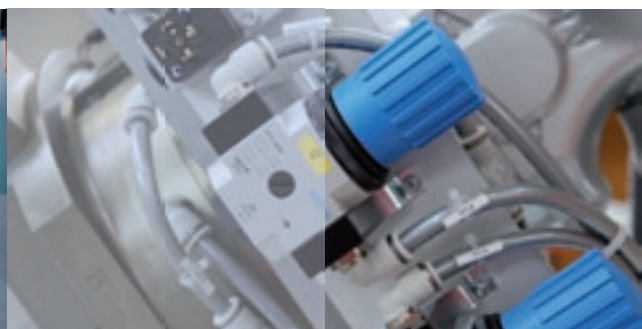
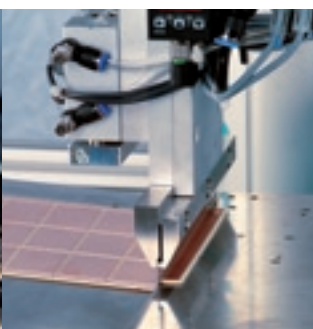
TECHNOLOGIES AND PROCESS SOLUTIONS

Our expertise is your advantage

Our systems are based on a range of automation platforms, each involving a core process, e.g. handling, assembly, loading and unloading or palletization. These core processes are augmented, as required, by additional applications such as bonding, welding or dispensing. Depending on the product and application, additional technologies, such as measurement and testing can be integrated. In addition, drawing on many years of experience, baumann has developed a wide variety of mechanical and electrical testing techniques including functional, hot functional, in-circuit, thickness and hermeticity testing.

Vision is at the core of all our systems and is used in many ways. Examples include guiding handling processes, identifying parts via barcode or datamatrix and evaluating material characteristics such as form, dimensions, surface finish and completeness of assembly.

baumann has extensive experience in data collection, material tracking, traceability and production management. Our software tools and development capability ensure efficient operation, quality control, complete data retention and seamless interfacing with your factory control system.



OUR STANDARDS

Standards for improved availability

baumann systems represent a perfect combination of standardization and customization. Our cells act as standard building blocks that can be combined in unique ways through software and standard interfaces to process peripherals. All individual components interact perfectly. We create optimized, customized configurations with high availability today, and easy adaptability in the future. In this way, we keep the costs for service and maintenance or later upgrades as low as possible.

Modular concept for all requirements

Our automation solutions are based on our highly configurable standard cells that can easily be adapted to suit your needs. We are leveraging the reliability by using standard components. All cells are fully inline-capable and can be integrated in countless ways.

Ready for the markets of tomorrow

Standardized interfaces and industry-standard PLC program modules give you the necessary flexibility for later conversion or integration of additional components. An intuitive user interface, based on Windows, enables user-friendly system control without extensive training.



ro | baumann
box

The standard cell for robot applications, with the focus on handling and assembly. The cells are scalable in 500 mm increments and are suitable for use with SCARA, articulated arm and Cartesian robots and designed for rapid changeover.

Typical configuration:

Repetition accuracy	± 0.1 mm
Load capacity	5 kg
Working range	800 mm



feed | baumann
box

The powerful solution for automated loading and unloading of machining centers and injection molding machines. The machines are fed from a magazine trolley, drawer or conveyor belt.

Load capacity	≤ 2kg
Working range	920 mm
Sizes	
FB4	1500 x 1585 x 2100 mm
FB6	1500 x 1785 x 2100 mm
Pallet weight	≤ 30 kg
Pallet size	≤ 400 x 600 mm



sem | baumann
box

Linear-axis module for all applications requiring maximum precision at maximum speed. The cell is equipped with a gantry-style positioning system, driven by linear motors. The platform is used for applications, including pick and place, testing and dispensing tasks, or specialized component insertion.

Positioning accuracy	< 40 μm (4 σ)
Load capacity	10 kg at top speed
Working range	x 600 mm, y 1100 mm
Main axis	R ± 180°
Vertical axis	Z 100 mm



MMI

The Windows-based interface is used to visualize the system structure and the process data. The user is able to access all system and product level information. The touch-screen interface can be set to run in multiple languages.



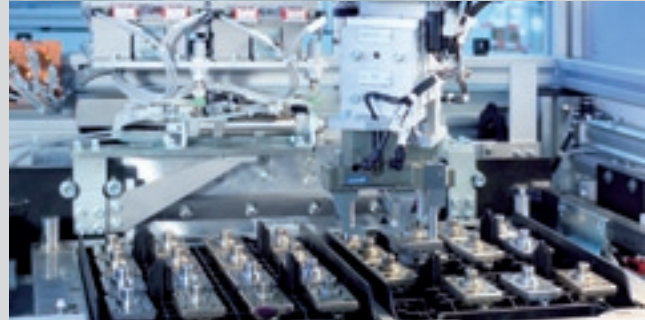
Programming

The software systems used in baumann automation solutions are CoDeSys, S7 and other industry standard PLC and robotic programming languages. Programming follows standardized guidelines which simplifies software maintenance.



Standard interfaces

baumann makes use of standardized mechanical and electrical interfaces to transfer power and signals between the individual process modules. These rugged industrial plug connectors enable easy plug-and-play configuration of the system.





PRODUCTION AND SERVICE EXCELLENCE

24 hours a day – 7 days a week – 365 days a year

baumann develops sustainable, forward-looking automation solutions with maximum flexibility. You define the requirements – we implement them in a fully optimized manner. And when you wish to change a production cycle or launch a new product, we can rapidly and affordably adapt your system to the new requirements. The high degree of standardization of our components guarantees you maximum process certainty, reliability and economy at all times.

Service – comprehensive and totally individual

We place a high value on supporting you in your plant, anywhere in the world – even after successfully commissioning of your system; by telephone, online via data network, on site

or through our spare parts warehouses. With our services, we respond to your individual needs.

We can offer you a range of service packages, giving you access to our in-house service department up to 24 hours a day, 365 days a year. You benefit from fast response times and expert support by highly-qualified staff – even for conversion, expansion and process optimization.

baumann sets high standards in all business areas. Take advantage of our many years of experience, the expertise of our specialists and our service quality.

With creativity and innovativeness, we will always develop the best solution for you – and make your production best in class.



AUTOMATION

baumann



ASTEC **BAHMÜLLER** **BEHR** **benq** **BIHLER** **BIOTRONIK** **BLANCO**
excellence for life

BMW **BOSCH** **B/S/H/** **CHERRY** **Continental** **Continental** **Curamik**
TEMIC member of thyssenkrupp

DELPHI **DURAN GROUP** **elcetro kontakt** **GERRESHEIMER WILDEN** **GRAMMER**

GRUNDIGS **GRUNDIG** **HANSR** **HEIDENHAIN** **HELL** **INA** **inibacher**
made for you

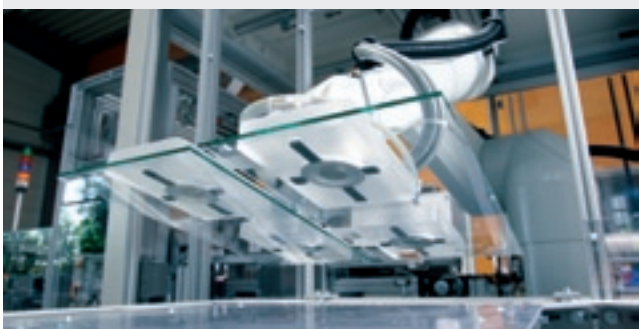
JUNKER **JUNKERS** **KADIA** **KH** **KRONES** **LUK**
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glass made of ideas innovation+service Söhnergroup

MIKROSA **Willy & Wob** **VW** **ZF Lenksysteme** **SACHS** **SCHOTT ZWISSEL** **UKM**



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