



Innovative solutions for the electronics industry

PERFECTION IN AUTOMATION
A MEMBER OF THE ABB GROUP



Perfection in Automation for the electronics industry



Wafer fabrication



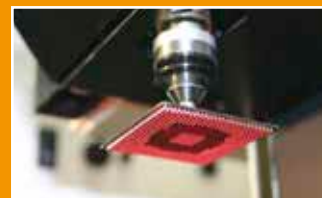
Wet processing



Selective soldering



Pick & Place



Bonding



Assembly



Machining



Test handlers



Visual inspection



In-circuit testing



Perfection in Automation for the electronics industry

An innovative global industry needs partners to match

Rapid market growth and Moore's law are driving the electronics industry to continuously boost productivity while optimizing costs. With its commitment to innovation, premium quality, international standards and worldwide support, B&R is the perfect partner for the job.

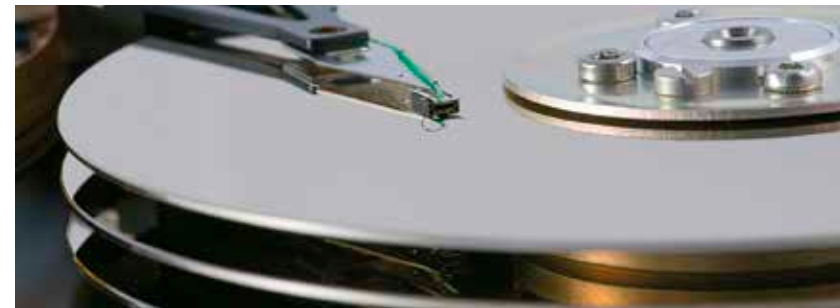
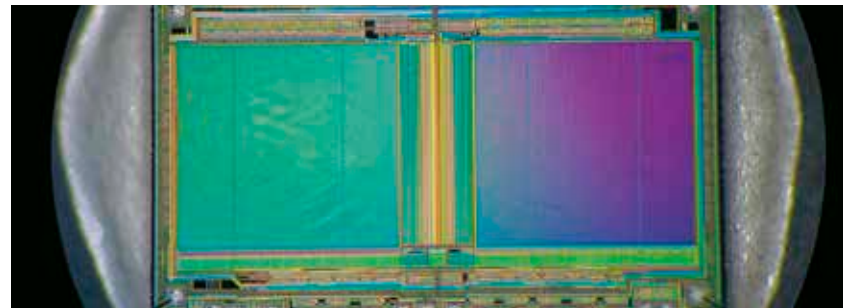


The line solution

Today's electronics manufacturers have to deal with frequent product changeovers. Fully integrated, perfectly orchestrated hardware and software components allow lines to be converted in minutes. Faster changeovers and less downtime boost efficiency and productivity. Continuous communication between individual machines and to higher-level production planning and control systems guarantees seamless records and traceability of the entire process.

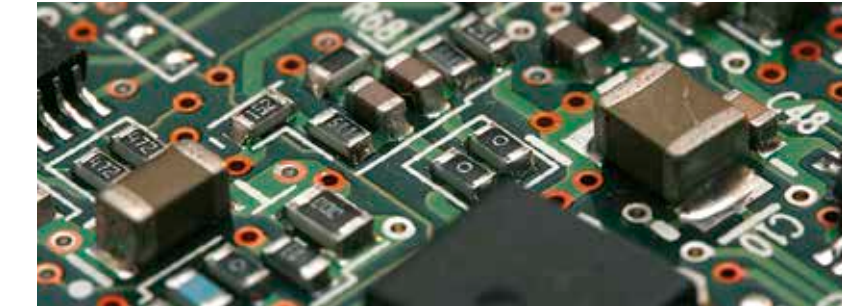
Integration provides a competitive edge

Completely integrating control, motion and HMI tasks substantially reduces communication delays and drastically improves system performance. B&R's dedication to open standards provides a decisive competitive edge. Complete transparency is ensured throughout development and operation thanks to the full integration of all automation components in a central engineering tool.



Maximum precision

Speed and precision are not mutually exclusive – B&R's high-performance control electronics with built-in intelligence control processes with microsecond precision. Real-time Ethernet POWERLINK is the foundation for perfectly synchronized interaction between individual sub-processes. POWERLINK also provides the ideal approach for future innovations and modular machine concepts.



Open system architecture

Innovation is key. With this guiding principle and a completely open system structure, B&R is an ideal partner for companies who share its passion for innovation. In addition to the integration of highly sophisticated algorithms (programmed in C, for example), dynamic I/O configurations make it possible to use the same software on different hardware topologies.

Total cost of ownership

In a competitive market, the total cost of a system becomes an increasingly influential factor in the decision-making process. B&R guarantees substantial reductions in overall costs through increased system availability, optimized machine performance, uniform HMI operation, streamlined modular design, system-wide compatibility and a reliable worldwide support network. This is a partnership that pays off.



24 hours a day, 7 days a week

In the semiconductor industry, the availability of systems and machines is an absolute necessity. Minimizing downtime is just as important as optimizing performance during uptime. B&R supports high availability by providing open interfaces and sophisticated, intuitive diagnostic functions as well as a global network of expert service and support.



Process security

Inline quality control, flexible product identification and product tracking are requirements for high-quality electronic components. Continued development guarantees that B&R meets the requirements of the industry and the market in this fast-paced industry.

Wafer fabrication	Lithography	Wafer doping	Chem-mech planarization	Wafer assembly & dicing	Wire bonding	Flip chip	Enclosures	IC test handlers	Laser marking	Visual inspection	Packaging	Automatic placement machines	Soldering processes	In-circuit testing	Pick-and-place assembly
→ Melt control → Temperature → Clean room technology → Maximum precision → Extremely smooth surfaces	→ High-speed photomask alignment → Etching process monitoring → Time-critical production steps → Non-stop parallel processing	→ Vapor pressure and vacuum control → Ion beam control → High-precision temperature control → Gas concentration control	→ Polishing agent application control → Speed control → Maximum precision → Extremely precise pressure control	→ Pick-and-place applications → Precise positioning → Direct drive systems → Online position correction → Drive-based measurement system	→ Real-time synchronization → High-speed movements → High-performance cam profiles → Shortest possible movement profiles → Direct force control using servo drives	→ Die tracking and management → Integration of linear motors → High-speed vision integration for target position correction → Optimized movement profiles for high-speed placing → Force and position control	→ High-speed data acquisition and storage → Form protection via software → Fast changes between movement and force control → Movement profiles for optimal module processes → Bent lever compensation	→ Direct drives for turn tables without indexers → Optimized movement using cam profiles → GB-IP interface → Simple integration of instruments	→ Synchronized movement sequences → Control of additional external devices → Product detection using trigger input → Online quality data acquisition → Customized product labels	→ Fast data acquisition → Die tracking and management → Movement sequences synchronized to vision system → Fast I/O reactions for discharging products	→ Trigger positioning → Synchronous system → Product tracking → Automatic format configuration → Consistent sealing times	→ Movements optimized for short positioning times → Maximum precision with a short settling time → High-speed data communication with subsystems → Precise placement of components for maximum quality	→ Temperature zone control → Online temperature profile changes → Integrated visualization → Nitrogen atmosphere → RoHS	→ Various drive concepts available → Minimum settling times for stabilization → Optimal integration of measurement devices → Fast product changeovers	→ Integration of various robot kinematics → Emphasis on short cycle times for maximum throughput → Digitalized process control → Link to ERP system

Integrated automation
Global presence
Solid partnership



ETHERNET 
POWERLINK

open 
SAFETY