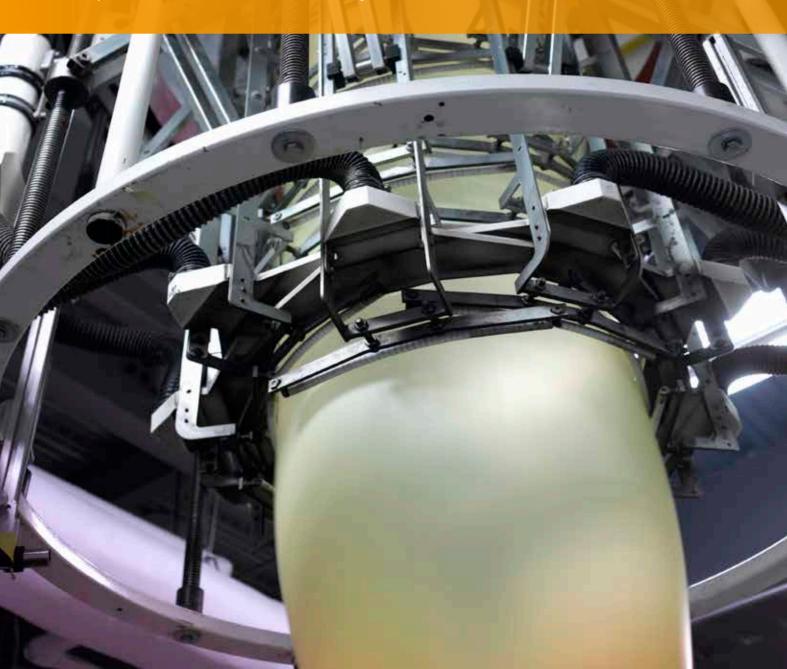


Innovative technologies and products for the plastics industry





Your automation partner









Calibrating and pulling



Cutting and winding





Calendering

for the plastics industry



Injection molding



Handling and palletizing



Blow molding



Molding and pressing



Thermoforming



- → Development completed an average of 3x faster
- → Intelligently linked components
- → Configure basic functions instead of programming them

Components are available for individual steps performed by plastics machinery, including the injection process. mapp Technology allows 0EMs to focus their time and resources on what matters most: developing and optimizing machine-specific functions.

EUROMAP - The next step toward Industry 4.0

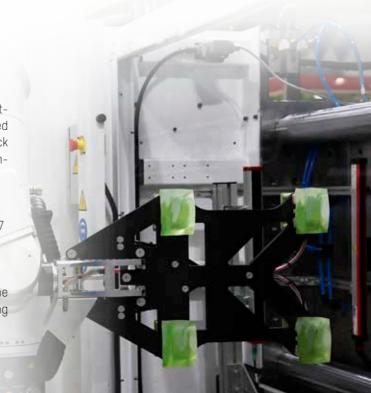
The unprecedented levels of machine-to-machine and plant-wide networking that distinguish IoT and I4.0 solutions can only be achieved with uniform communication standards. The plastics industry was quick to recognize and implement this requirement with the EUROMAP recommendations:

- → For extrusion line communication: EUROMAP 27
- → For the interface between MES and injection press: EUROMAP 63, 77
- → For the interface between robotics/handling unit and injection press: EUROMAP 67

B&R has incorporated these interfaces directly into its products in the form of precoded blocks that offer OEMs ultimate convenience during development.







More than 200 manufacturers of extruders, injection molding, blow molding and thermoforming machines already rely on B&R automation.







































































Temperature control made easy

Precise temperature control is a hallmark of all types of plastics processing machinery - from injection and blow molding to extrusion and thermoforming. B&R offers a comprehensive array of ready-made function blocks for fully automated control loop tuning, multi-zone synchronization and efficient, robust closed-loop control. Users can also take advantage of B&R's sample applications to streamline development of their own applications.



Your automation partner

"Sustainability and energy cost reduction are an integral part of our product development culture, and B&R technology helps us achieve our energy goals while improving system compatibility and performance."



Brian Bish Global Product Manager, Milacron

Optimal tuning for hydraulic controls

Servo hydraulics play an essential role in plastics processing machinery. Automatic tuning processes help get the most out of every system – for machines that are fast to set up and efficient to operate. The quality of the end product depends heavily on pressure and speed being regulated with extremely fast response times. B&R offers integrated functions for optimizing servo-hydraulic systems:

- → Integrated control loop optimization
- → Automatic valve identification
- → Powerful diagnostics

Process and evaluate data efficiently

Modern production processes generate enormous volumes of data that can provide valuable feedback about equipment utilization, productivity and energy efficiency. With this data available in real time, the potential is there for continuously optimized operation. This means filtering a flood of

data into a stream of reliable information that allows you to draw the right conclusions. That's a daunting task that requires intelligent

tools like these APROL solutions from B&R:

- → APROL PDA
- Centralized data acquisition and analysis
- → APROL EnMon
 Optimized energy consumption and costs
- → APROL ConMon

 Early detection for maximum uptime



for the plastics industry

"With its complete solutions, B&R is our preferred partner. Their control systems have always been highly advanced, including technology specific to plastics and injection molding. With B&R technology, we're able to reach a whole new range of customers and compete with the top players on the international market."

Dietmar L. Morwitzer CEO, Woojin Plaimm,

European Headquarters



Higher productivity, more functions, easy safety

Integrated safety technology enables safe reactions that make plants more productive. Safety solutions with digital, analog and temperature measurement modules from B&R satisfy all of today's toughest requirements for safety technology, from general guidelines like EN ISO 13849 and IEC 61508 to C-type standards such as EN 201 and EN 1114. B&R safety is so efficient, it even pays off for small-scale applications with few I/O channels. Other benefits include:

- → Minimal space requirements
- → Improved diagnostics
- → Easy scalability
- → Cost-effective hardware





POWERLINK for maximum efficiency

The communication protocol also has a decisive impact on the performance of a machine. Direct connection of servo valves simplifies installation and ensures fast response times for optimal injection molding performance. Connecting handling robots directly to plastics machinery increases the efficiency of the entire system. Advantages of POWERLINK:

- → Open source solution
- → Very short cycle times
- → Outstanding diagnostic options
- → Simple integration
- → Listed as communication protocol in EUROMAP 75-3





Integrated automation Global presence Solid partnership



POWERLINK

open SAFETY