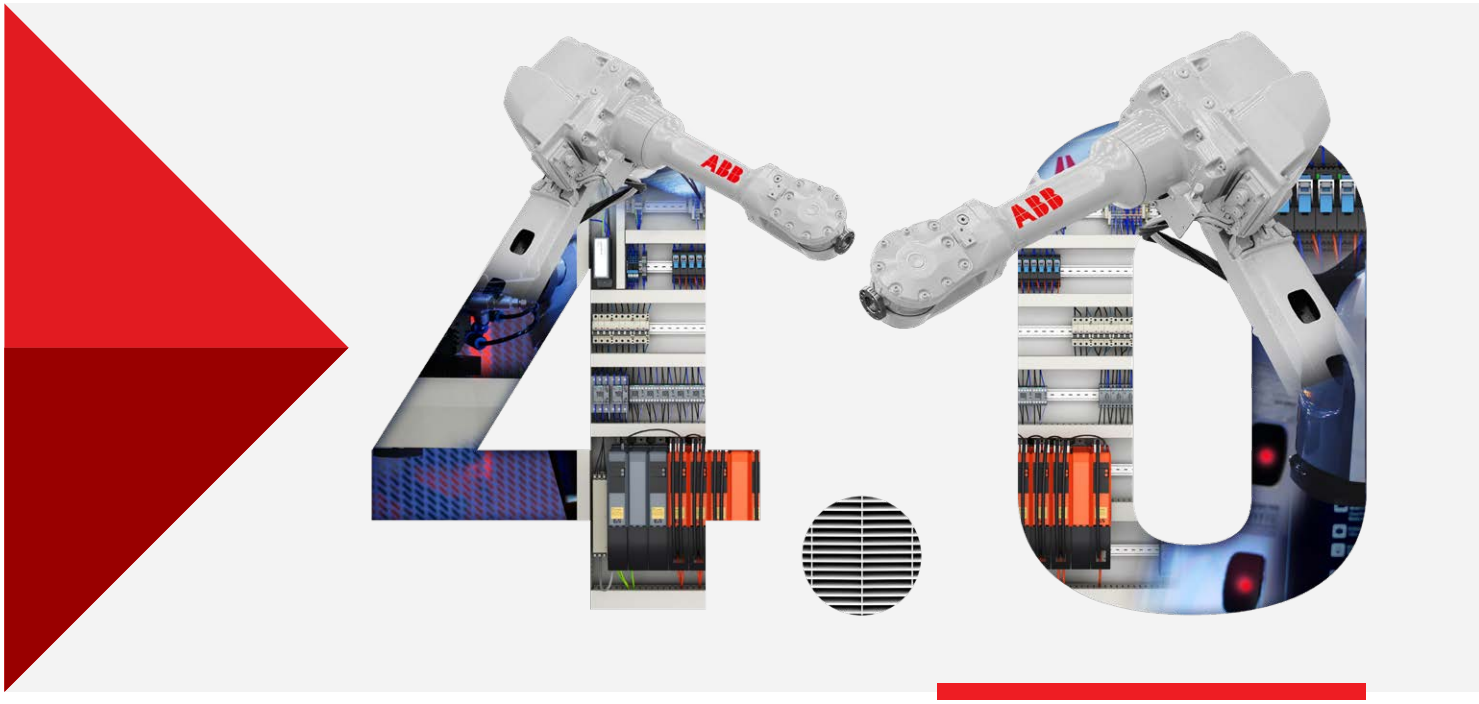
November 2021

CIRCULAR CUSTOMER-SUPPLIER RELATIONSHIP AIDS AUTOMATION'S ADVANCE

How Henkel and ABB Collaboration Yields Benefits All-Around

Industry 4.0's automation and the digitalization of manufacturing protocols are delivering positive results across market sectors. Massively improved efficiency and consequential cost savings are clear advantages of the transformation, with reliability and maximized performance the enablers that underpin this hands-free capability. Dependable systems that operate efficiently 24/7/365 bring human benefits, too, such as safety and sustainability. These important outcomes are what drive Henkel and leading technology innovators to collaborate for a productive and sustainable future that does more with less.



Controlling Automated Processes, Driving Efficiency

Enhancing or replacing traditionally manual processes with automated solutions is at the heart of the smart factory and what Sonderhoff is providing to a variety of markets and applications including eMobility, solar, lighting and power. Foam sealing, gasketing and potting are used to seal housings, protect electronics and provide improved system reliability by prohibiting entry of environmental contaminants. However, the traditional manual application of protective materials can be costly, time-consuming, and produce unnecessary waste.

Sonderhoff's Smart L dosing cell completely automates the application of these materials, tapping into the power of sophisticated controls and the ability to perform automated low-pressure mixing and dosing for two- or three-component formulations. The dosing cells process the customized materials with high manufacturing quality through repeatable consistency and dimensional accuracy. The use of cutting-edge sensors and actuators provides further reassurance of reliable system quality and process regulation.

Partnering with **ABB's B&R** division, Sonderhoff equipment relies on Digital EnDat encoders of the servo motors from **#ABB #B&R** to enable outstanding path accuracy of the servo axes when moving the mixing head. The use of an electronic plate in the servo motor offers the advantage of automatic parameterization of the servo controller to the current parameters of the connected motor.

Not only is quality exponentially improved through this level of precision, but the cost-saving potential is immense. A case study analysis illustrates the bottom-line impact in a comparison of a manually-applied gasket versus a Sonderhoff-applied formed-in-place foam gasket (FIPFG):

CASE STUDY ANALYSIS

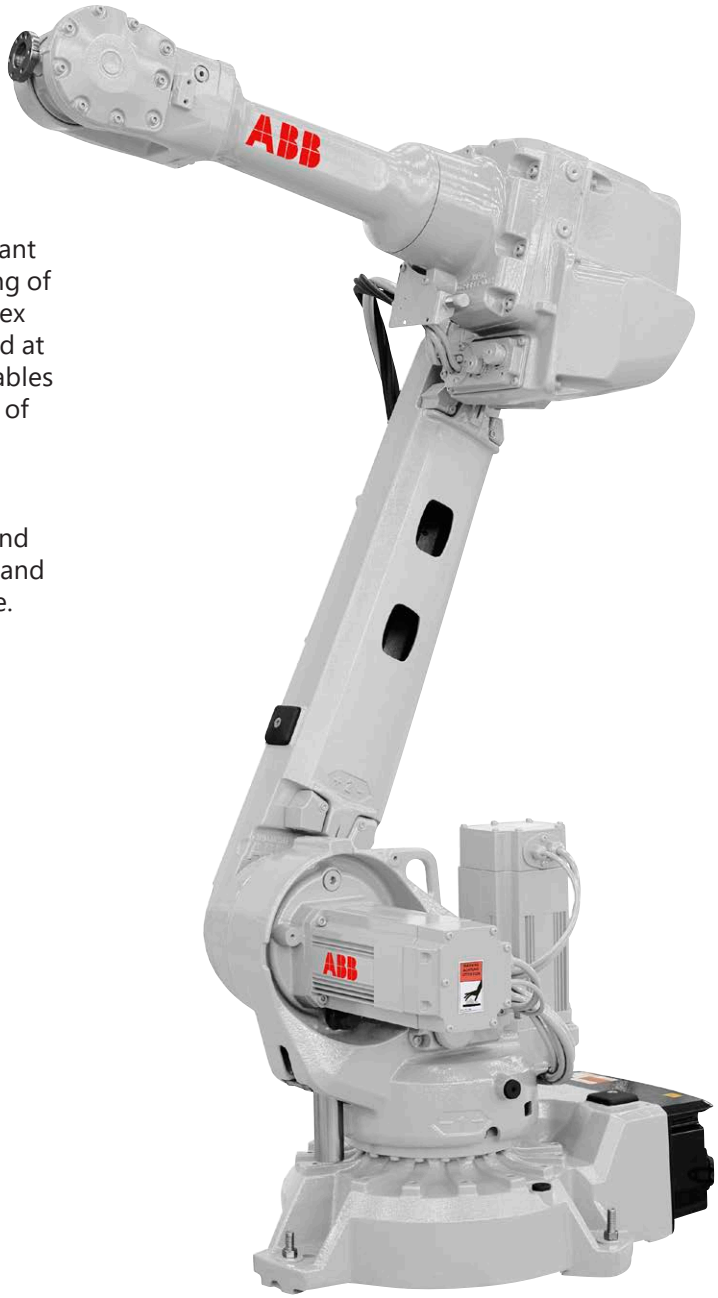
2,000,000 pieces per year

Sonderhoff vs. Manual Application

- Material cost per gasket reduced by up to 60%
- Labor cost per part reduced by up to 30%
- Potential total cost savings of over 60% annually through labor and material cost reductions and quality improvements

As in the above example, advanced B&R control solutions such as PLCs, CNCs and Servo Drives – all managed through a single software tool – help Sonderhoff secure automation value for its global customers.

Robotics:
When Extreme Automation is Required



For applications that call for very high volume and free-range movement, robots can provide significant automation flexibility. Take, for example, the sealing of automotive micro-filter housings which are complex designs. With this process, several seals are applied at different component levels. The FIPFG process enables the sealant (a two-component foam system made of polyurethane or silicon that cross-links at room temperature) to be directly applied to the various parts with an ABB robot. In the past, the housings were manually sealed with conventional O-rings and profile packing. This required several line workers and was, therefore, very cost intensive and error-prone.

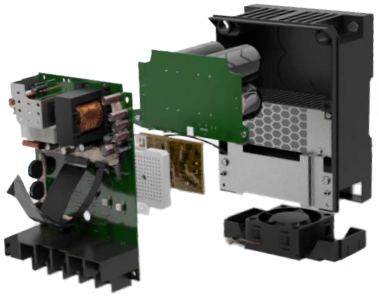
Not only does Henkel's Sonderhoff equipment rely on **ABB** robotics but, as a key component of its corporate digitalization and automation strategy, Henkel employs **ABB** robots in several of its own manufacturing facilities for palletizing and/or packaging.

Full Circle
Reliability and Sustainability

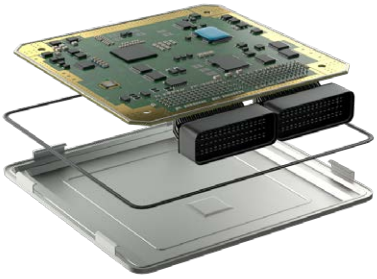
Henkel's partnership with ABB and its B&R division is creating real value for Henkel and its customers, as the organizations collectively seek to advance sustainably and drive higher efficiency processes through digitalization. Likewise, Henkel materials are helping ABB and B&R ensure better product reliability and protection. Throughout ABB and B&R systems – whether an embedded microprocessor in a PLC, a general-purpose electrical enclosure, high-wattage electrical motor, drives or a power module for EV and charger– Henkel is supplying innovative electronic materials that optimize operational performance and reliability.

Robust heat dissipation is achieved within PLCs using BERGQUIST GAP PAD® thermal interface materials (TIMs), while drives rely on phase change TIMs for thermal management. Electrical enclosures and motors are protected with foam-in-place gaskets (FIPGs) and industrial sealants that provide a barrier to contaminants. And, LOCTITE® high-performance potting materials protect transformers and switchgear sensors against vibration, temperature extremes and fluids.

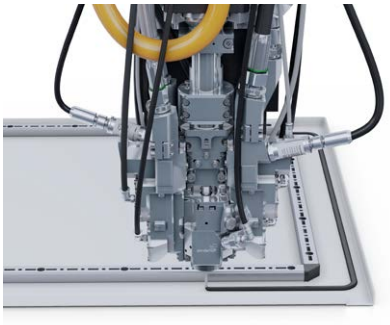
In these applications and more, Henkel formulations help raise efficiency, extend system life and improve reliable function.



Phase Change Material on Motor Drive



GAP PAD material on Electronic Control Unit



Gasketing material on Electrical Enclosure

"At Henkel, Industry 4.0 is in full swing, with ambitious corporate goals for sustainability and efficiency we aim to reach by 2030. Implementing advanced automation and robotics solutions – which are reliably built on Henkel materials – is an important step toward accelerating our goals for digitalization, making Henkel processes more agile, efficient, and sustainable."

Yassine Chinbo
Global Key Account Manager

Additional resources:

- ***Sustainability in Motion***
- ***The Big 8***
- ***Realizing the Promise of Industry 4.0***
- ***Innovations Driving Industrial Automation***

Contact

Email:
yassine.chinbo@henkel.com

LinkedIn:
www.linkedin.com/in/yassinechinbo