

# CASE STUDY

## Installation Technology Specialist Supports Flexible, Automated Packaging

Increasing production figures driven by rising demand would please any business management professional. This happens when certain production volumes are reached, most usually only after automating processes. Murrelektronik GmbH has taken this approach consistently and successfully for many years. The company applies efficient automation solutions in its manufacturing processes and sought similar solutions to package its products.

Close scrutiny of modern signal and energy distribution systems in machines and facilities often uncovers Murrelektronik GmbH products. As a leading installation technology company, Murrelektronik provides I/O systems that are peripherally installed in a machine and collect and distribute signals. Any type of electrical connection is reliably conducted over a suitable interface to the switch control box, where Murrelektronik products guarantee efficient supply and distribution of energy.

### A Given: Plug Connector for Any Eventuality

The required connection technology is produced at a manufacturing plant based in the town of Stollberg in the Erzgebirge mountains. Today 380 employees are engaged in development, manufacture and logistics at a site that in 2012 had more than twice the production and logistics space of the Stollberg location. Since over 17,000 of the various products featuring the connector technology are manufactured here, manufacturing and logistics automation is a compelling necessity. The connector variations include, for example, M8/M12 round connectors, valve connectors or field bus connections. Therefore, Murrelektronik launched an automation offensive encompassing all of its Stollberg Plant divisions several years earlier. Using automated lines for overmoulding, checking and for grouting connectors with directly interlinked manufacturing cells and installation systems, the Stollberg teams now manufacture roughly 8.5 million products per year and the trend is growing.

### Wanted: Flexible Packaging

The ever increasing production volumes finally required new approaches to packaging as well. Up until that point, time and labour-intensive manual product packaging in cardboard boxes and pressure seal pouches dominated the field. The time had come to package connectors at a significantly higher speed using packaging systems operating in yet to be introduced semi-automatic and fully automatic mode. This includes a wide variety

#### Company Name

Murrelektronik GmbH

#### Products Being Packaged

Cable Connectors

#### Equipment Used

Autobag® AB 180™

Autobag® AB 255™

#### Materials Used

Autobag® Bags-on-a-Roll



of connectors with differing cable lengths and ready-made or not ready-made plugs in individual parts. In addition, the packaging pouches were to feature labels containing product information and even the installation instructions for individual connectors. Michael Beck, the Stollberg Plant's Industrial Engineering customer service specialist, explains, 'As part of our packaging automation drive we searched for pouch baggers with a flexible operation. They have to be flexible because the piece count for the same product being packaged can quickly change from one to two hundred. At other production plants we had positive experiences with Autobag® machines. After successful sample tests using our products we once again went with this provider.'

Several Autobag AB 180™ and AB 255™ pouch packaging systems from Automated Packaging Systems (APS) are now in use at Murrelektronik. The semi-automatic and completely automatic AB 180 and AB 255 baggers are mobile and modular. They have a touchscreen for settings and accessing operating parameters and jobs. They also have integrated diagnostic and help tools. Combined with Autobag bags-on-a-roll they provide an efficient packaging solution for pouch packing with smaller sized products. The AB 180 bagger packs up to 80 pouches per minute in widths up to 270 mm. The AB 255 wide bagger can process up to 55 pouches per minute and pouch widths of up to 400 mm. Both machines can be combined with peripheral technology via existing interfaces and integrated into available production lines.

### **Found: Combination Bagger - Printer - Feeding System**

The APS baggers at the Stollberg plant are combined with APS product feed systems and Markem-Imaje printers. Michael Beck explains: 'We had assigned technicians the job of integrating the available Markem-Imaje printers into the packaging process for labelling purposes. Jointly we created a solution that has worked seamlessly so far.'

The thermal transfer printer receives the necessary printing data through a network from the Murrelektronik database after the work order is scanned. Logo, product data, barcode, etc., are printed onto the self-adhesive product-specific label before it is automatically glued to the Autobag pouch, which is as yet unfilled. The pouch is subsequently taken to be packaged, pre-opened by a stream of air and filled with the connector. The pouch is sealed in the final step. An AB 180 bagger featuring an APS Maximizer product feeder belt packages unmounted connectors. At this point the operator places the individual connector parts into the compartments of the product feeder belt. The conveyor belt carries the product to an electronic product collection point and subsequently into a collector funnel. The products go through this funnel into the pre-opened pouch, which is then sealed and forwarded on. Simultaneously, the next pouch is prepared for the following packing process. The Maximizer makes it possible to collect and count products with a length of 6 mm to 138 mm and with a width of up to 75 mm.

The label, which the printer creates and glues on, also contains the installation instructions for the packaged connectors and product information. This sensible method eliminates the need for a special paper insert.

Every year approx. 1.2 million product specific pouches with dimensions of 140 x 180 mm to 300 x 350 mm go through the product packaging process at the Stollberg plant. Customer service specialist Michael Beck sums it up: 'Unlike flat film machines, the Autobag pouch sealing seams are always reliably and tightly sealed. The APS machines can be easily operated and so far have worked without disruption and are now well integrated into our manufacturing processes.'

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