

Passion for paper: collaborative robots offer new perspective for the printing trade



Owner Jürgen Pipp sees the advantages above all in the use of robots in print finishing.

The German printing industry is changing: since the advent of the internet and due to the ongoing process of digital transformation, the industry is facing increasing challenges. For some years now, the printing industry, once a pace-setter generating a turnover to rival that of the automobile industry, has been encountering strong competitive pressure and high production costs. Innovative strategies for the future are required if it is to remain capable of action: automation needs to be brought into the printing trade. Collaborative robot arms offer companies of any size a flexible technology which allows them to manufacture profitably.

Daily newspapers, magazines, books, flyers or posters: print products are part of our daily life. Since the turn of the millennium, however, what was once a core industry has been fighting to hold its own against competition from electronic media: It is no longer possible to imagine our daily life without digital media, which have become extremely popular not only with the younger generations and in addition, generate next to no production costs. The decrease in the circulation of printed newspapers is a good indication of future developments within this industry.

Ahead of the competition: cobots in the printing trade

In order to manufacture profitably and compete with prices from low-wage countries, German print production has to reduce costs and increase cycle times. "Personnel costs currently account for up to 50 percent of total costs in printing companies. Robotics offers great potential for the printing industry, where automation has as yet hardly been a topic –

in particular in view of the shortage of qualified professionals in production," explains Bodo Tegtmeier, Regional Sales Manager and Technical Sales Support at MBO Postpress Solutions GmbH.

With 450 employees and six factories in Europe, Asia and the USA, MBO not only has the largest turnover worldwide in the market segment, but is also one of the global leaders in the printing trade. Part of the Komori Group since 2020, the company has a long tradition in the production of machines for the finishing process in bookbinderies. Over a year ago, MBO began to incorporate collaborative robots (cobots) in its solutions.

"The few robotics solutions in use in printing companies today are still classic industrial robots. They require the corresponding safety technology and moreover, they are stationary. These robots are simply not flexible enough for our industry. In our opinion, cobots offer a completely new perspective for the printing trade," says Tegtmeier.

Safe and flexible co-operation with collaborative robots

Automation solutions which quickly adapt to the various machine types and can be incorporated into production processes with no major effort required offer a basis for the future success of the industry. However, in a sector which has as yet had little contact with robots, some have reservations against the flexible cobots: "Safety is the top priority in all areas where personnel work in co-



For Alexander Cyrus, authorised signatory (l.), and Christoph Konietzny, book binder, the MBO CoBo-Stack is labour-saving.

operation with robots. As we are the only manufacturer focusing on cobots in the printing trade, there is still much uncertainty as regards working with lightweight robots," says Tegtmeier. "As they have no protective cage, many companies don't consider them safe enough, despite the fact that the collaborative robot arms are certified to exacting standards and that successful risk assessment is required before they can be used in the direct vicinity of employees."

The numerous safety functions of cobots are in fact a great advantage: Without a protective device, the robots are space-saving and mobile, allowing companies to integrate them flexibly into print production. They offer a wide range of options for use in companies of all sizes – even in small printshops – a significant competitive advantage. Moreover, robotics solutions which require no additional safety technology offer price advantages: a classic industrial robot with a protective cage not only takes up a lot of space, but is also expensive.

Reducing the workload and increasing cycle times

One year ago, in response to the challenges within the industry, MBO introduced the application MBO CoBo-Stack: a solution for the automated placement of stacks of paper which is also viable for small and mid-sized companies. This collaborative application features an integrated UR10e which can be used flexibly at various machines.



At Jürgen Pipp Papierverarbeitung Und Versandservice E.K., two MBO CoBo-Stacks are already in operation.

During the work process, the cobot picks up stacks of paper of widely varying sizes and deposits them on pallets in various formats. The cobots shifts many, many tonnes of paper every day, relieving personnel of this physically demanding task. Pallets can be positioned on both sides of the delivery, allowing uninterrupted operation.

"We use the MBO CoBo-Stack to process paper at our MBO folding machines," says Jürgen Pipp, CEO of Jürgen Pipp Papierverarbeitung Und Versandservice E.K. "With the robot, we have doubled our cycle times and considerably reduced the physical workload for our employees. This gives them time for more demanding tasks such as quality control or preparing the next job."

Cobots as a strategy for the future in printing companies

Thanks to the collaborative robot, one employee at Pipp can now operate two machines at the same time, thus doubling productivity per employee. The flexibility of the cobot and its space-saving design mean that it can be used for widely ranging production processes. "It takes just a few minutes to parametrise the robot for new requirements, and with its flexible design, it is quickly ready for use at other machines," states Pipp. "The robotics solution has been a great success for us. It's high time for automation to become the standard in our industry, too."



A CoBo-Stack can move nine tons or more of paper per shift

Cobots are the space-saving, flexible and easy-to-operate alternative to industrial robots. "But first and foremost, they are safe," emphasises Tegtmeier. "We at MBO see lightweight robots as the key to success in our trade. And despite the many digital innovations, one thing is already clear: the printed book remains extremely popular!"