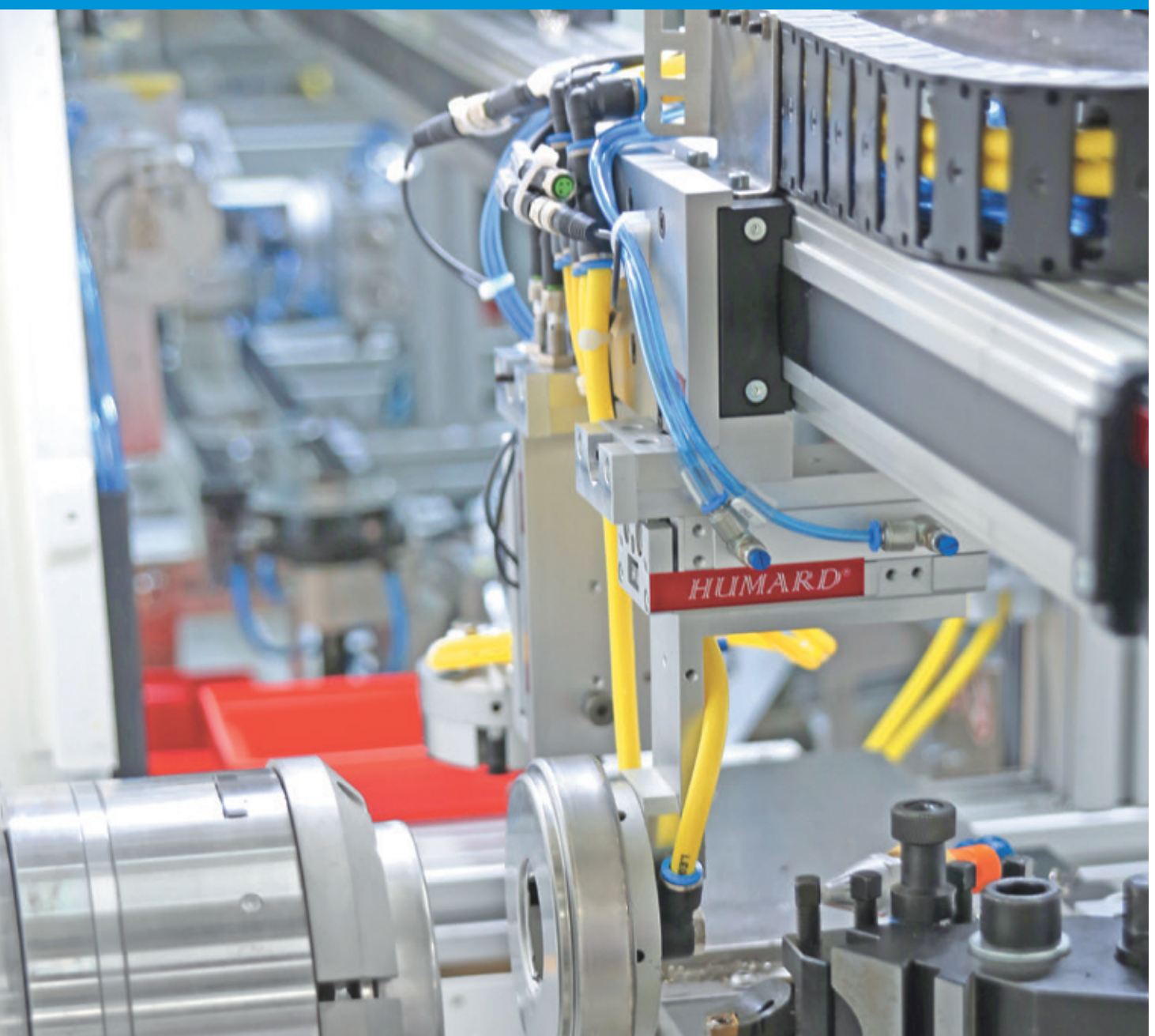


MODULAR MANUFACTURING WITH CNC LATHES MADE BY KNUTH



RETROFITTING ENSURES SHORTEST CYCLE TIMES AT HUMARD AUTOMATION SA

Modular production lines by HUMARD Automation SA are fast, flexible and can be used for a wide variety of products or product variants. KNUTH Machine Tools adapted its Numturn 320 box-way lathe to fulfill the special requirements of the Swiss manufacturer for the manufacture of an automated pump production line.

Photo: Klaus Vollrath

Modular, Flexible, and Automated

HUMARD Automation SA, with its headquarters in Delémont, Switzerland, designs and builds highly flexible turnkey production lines. The small, compact modules come in various dimensions. They can be combined with each other as well as interposed between process units, such as presses, cutters and welding stations. And they can be linked with manual workstations, handling systems or robots. Modules or complete ranges can be quickly and easily adapted or reused for a new production line. During the intensive development process, HUMARD Automation SA adapts the product design to the requirements of the production process. "We work with the customer to design and implement the entire process up to the delivery of a turnkey system," emphasizes Fabio Carabotti, project manager at HUMARD Automation SA. Furthermore, the company assumes responsibility for technical components, which it purchases from thoroughly vetted partners.

Wanted: A Fast and Flexible CNC Lathe

In 2016 the Swiss company was looking for a CNC lathe to be used in the manufacturing of an automated production line that was fully adaptable to the customer's special requirements. The bulk material - six different rotationally symmetric sheet metal parts with diameters up to 5 inches - is separated by a sorting station and forwarded to a special linear handling gantry. It feeds the blank to the lathe chuck, and in exchange takes a finished part using a complex dual gripper. After quality control, the finished component is handed over to the next station. Decisive criterion for the selection of the lathe: a total cycle time of just 7s, as this is critical to the productivity of the entire production line.

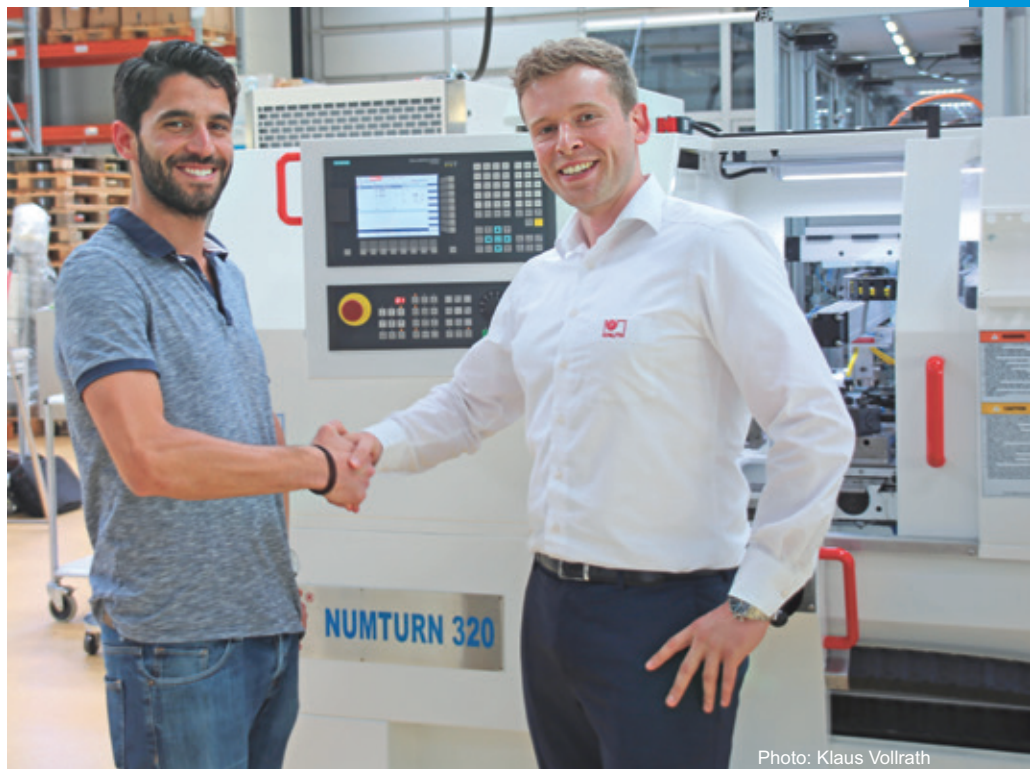


Photo: Klaus Vollrath

Partners in success: Fabio Carabotti (left) and Hannes Andresen

Extensive Customization

The basic performance data of KNUTH'S Numturn 320 box-way lathe were just as much of a factor as the ability and willingness of the German team in Wasbek to make modifications and jointly engineer the mechanics, electronics and controls. To ensure synchronization with the gantry loader, the lathe's hardware was extended and the PLC underwent extensive adaptations. The hydraulic vise was replaced with a pneumatic high precision chuck with a change time of only 2s, for a total cycle of 7s. With this high level of productivity and the reliability of the machine supplied by KNUTH, HUMARD Automation SA was able to fulfill the ambitious demands of its customer. Modifications to the machine were successful due

to the fact that KNUTH employs superbly trained hardware and software specialists. In addition, the company benefits from its OEM partnership with Siemens and has extended access to their information and support. "Despite a very tight time frame, cooperation with KNUTH was efficient and met all of our expectations. We would definitely like to work with KNUTH on future projects," says F. Carabotti. Klaus Vollrath *b2dcomm.ch*