

A simple way of building knowledge toolcraft and Stäubli develop robotics training cell

Georgensgmünd (Germany), 2017: Robots are an ideal solution when production processes need to be fast and flexible. While at first they were predominantly used in the automotive sector, today they can be found in virtually all industries. The production and number of industrial robots grow year on year, with the focus on increasing efficiency and the construction of intelligent systems. toolcraft manufactures universally applicable robotics solutions, developing them from the initial idea all the way up to the completed system. But how can people learn how to handle automation systems?

Build knowledge without losing productivity

The opportunities presented by digital networks are making automated solutions a reality in many industries and areas of application, with particular emphasis being put on human-machine interaction. However, assembly lines generally do not accommodate training or test set-ups because the productivity losses would be too large. This gave rise to the idea of constructing a training cell. The fully operational robot system simulates machining processes and movements such as gripping, picking up and holding objects, and sorting. It also provides an easy way for trainees to learn how to teach robots.

Customisable training cell

The training cell provides a designated workspace equipped with a Stäubli TX2-60 6-axis articulated robot. Its robust design and construction enable rapid movements coupled with high precision. The cell can be adapted to the user's specific needs and the basic system can be extended by three configurations. This enables the addition of a milling spindle, for example. Besides processing free-form surfaces using a CAM system (continuous-path control and offline programming), the cell can be equipped with an optional safety package that enables work to be performed without safety fencing. Depending on requirements, the fourth extended configuration features a camera system. Regardless of the model chosen, the training cell is supplied with CE marking and documentation.

Comprehensive package including training

Stäubli provides basic training on the robotics system. The robot manufacturer also provides the robot software and licences. CAM training is provided in collaboration with the software company Unicam. Its Octopuz software can be used for the offline programming of all automation solutions. This simulation software is suitable for all path-sensitive robotics applications and is extremely versatile, making it ideal for any industry in which robotics assist with production. This means that all robotics applications are covered. Thanks to the 3D simulation software Visual Components, Unicam can also visualise the automation of production processes in advance.

The perfect complement to manual work

The training cell was developed with vocational training and engineering colleges as well as companies using robotics solutions in mind. In addition to being employed as a training tool, it can be

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used to conduct trials and to set up test configurations. Given the continuous growth of the robotics industry, early contact with automated solutions is crucial, especially since their objective is not to replace manual work, but rather to complement it meaningfully.

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About toolcraft

toolcraft is a pioneer of forward-looking technologies, such as 3D metal printing and the construction of customised turnkey robotics solutions. The company tests and develops innovative engineering processes until they are ready to be used on production lines. As a provider of comprehensive solutions, toolcraft covers the entire process chain, from the initial idea to manufacturing, quality assurance and testing in the areas of CNC machining, 3D metal printing, injection moulding, spark erosion (EDM) and mould making. Its clients include market leaders in the semiconductors, aerospace, medical technology, optical, special machinery manufacturing, motor sports and automotive industries. Building close working relationships with collaborative partners as well as universities, other institutions of higher education and research centres is an important part of its corporate philosophy. The medium-sized family-owned company, located in Georgensgmünd and Spalt, was founded by Bernd Krebs in 1989.