Success Story

Offline programming with CLOOS RoboPlan software

Efficient implementation of the production processes at Driescher-Wegberg

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HAIGER/WEGBERG – As a manufacturer of switching systems in the medium voltage range, quality is the highest priority for Driescher-Wegberg. Therefore, the company relies on the CLOOS technologies regarding automated welding. "By using the robot system with the CLOOS RoboPlan software for offline programming we could increase the welding quality even more and at the same time reduce the production time considerably," Horst Heinrichs, Head of Pre-Fabrication at Driescher-Wegberg, states happily.

Since 1909, the Fritz Driescher KG has manufactured products for switching and plant construction in the medium voltage range. More than 2,000 patents in different industries are evidence of a high innovative power and performance. The products meet the highest requirements for safety, functionality and efficiency. At the headquarters in Wegberg, North-Rhine Westphalia, more than 300 employees work in the fields of development, construction, sheet processing, powder coating, assembly and administration. Besides, there are subsidiaries for service, maintenance and repair all over the world.

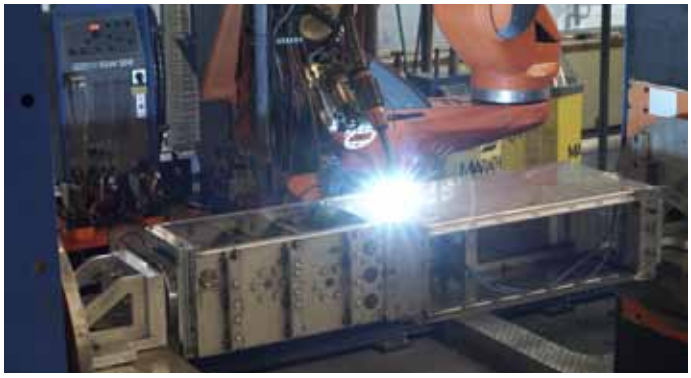

Photo 1: Driescher-Wegberg uses the CLOOS robot system to weld housings of switching systems.

Robot for maximum production flexibility

The company is characterised by a very high vertical integration and pushes automation in all fields. Since 2015, Driescher-Wegberg relies on a CLOOS robot system for welding housings of switching systems at the main premises in Wegberg.

"The demands of our customers on quality, delivery times and flexibility have greatly increased," explains Heinrichs. "Normally, we deliver within 8 weeks, but in the case of an acute power failure at the customer's premises we have to react shortly within one or two days."

The switching system have a modular design and can be assembled individually. But Driescher-Wegberg reacts flexibly to particular customer requests. Due to the wide variety of products, mostly small batch sizes are produced.

Offline programming with RoboPlan

Therefore, the company uses the RoboPlan offline programming software by CLOOS. While the system is in production, a new program can be simultaneously produced in RoboPlan. The welding, search and travel paths and tools can be determined using 3D models, and the welding parameters and other functions required for running the program can then be defined. The program is developed in this way before being transferred to the robot controller for optimisation in the workplace. This process is less time-consuming than producing a whole new programme in the system.

Until today, Driescher-Wegberg created more than 950 welding programs with RoboPlan which are used at the robot system. The program times start at two to three minutes up to 1.5 hours. "RoboPlan works perfectly," says Mario Röring, Offline Programmer at Driescher-Wegberg. "We do no longer use any welding program that was not programmed with RoboPlan. Teaching takes much too long and this would be a lack of production time."

Simple and intuitive operation

Since the Introduction of RoboPlan, Driescher-Wegberg has completely separated the programming and operation of the robot system. The programming does not require detailed welding knowledge.

Photo 2: The operation and programming of the robot system is made separately from each other.

"The operation of the offline programming software is simple and intuitive," Röring emphasises. "CLOOS perfectly supported us during the introduction of RoboPlan in the company." In order to benefit fully from the innovative technology, the staff was intensively trained. Seminars, both at the CLOOS training centre in Haiger and at Driescher-Wegberg — ensure that all employees are familiar with the new equipment. Before the introduction of RoboPlan there were often different welding programs for one component, now a unique program is assigned to every component which results in a considerable time saving on the one hand. On the other hand, repetitions and uniform welding parameters guarantee reproducible welding results.

New RoboPlan version

At regular intervals, CLOOS offers a RoboPlan symposium where the users can exchange all news about the use of the software in welding technology. At the end of the symposium, all participants get the latest version of the RoboPlan software. Driescher-Wegberg will now change over to the new RoboPlan version, too. "The new software version is easier and quicker to be operated," Röring explains.

Photo 3: The offline programming for new components is made via RoboPlan.

Intelligent sensors compensate for tolerances

Beside the offline programming software, the use of intelligent sensors was decisive to reduce the set-up and teach times at the system itself to a minimum. Driescher-Wegberg uses a tactile gas nozzle sensor, an arc sensor and an offline laser sensor to compensate for tolerances between the programmed paths and the real workpieces.

Shorter production times and increased quality

Due to the automated welding technology together with the offline programming and the intelligent sensors Driescher-Wegberg could not only reduce the production time considerably. Also the welding quality could be increased to a maximum level. Possible reworks were reduced to a minimum. The welding results can be exactly reproduced. An important precondition for Driescher-Wegberg because quality is their top priority. The company attaches special importance to the protection of people and equipment. "We are better than the standard," emphasises Pre-Fabrication Manager Heinrichs. "Each weld is extensively checked for quality in a vacuum chamber. Thus we ensure that no pressure can get outside in the case of a short-circuit."

Welding solutions from a single source

"With Cloos we found a partner who covers the whole welding technology and offers all relevant components for automated welding which match perfectly from a single source," Heinrichs states happily. “We value the good advice of the competent employees." On-the-spot support is provided by long-standing CLOOS sales and service partner Lixfeld Schweisstechnik.

Photo 4: Also for welding Driescher-Wegberg relies on automation.

Another automated welding system for the production of housing and single part components has already been planned. Both robot systems shall be connected to each other. A shuttle system is planned for loading in order to reach a higher degree of automation.

Video on CLOOS TV

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