

Case Study ICM SchAz 2020



The demonstrator for "batch size 1" at the SchAz in Chemnitz: A Kawasaki Robotics RS010L in the center

Robots for medium-sized companies: Chemnitz Training and Application Centre (SchAz) focuses on individual automation solutions for agile production

At the Institut Chemnitzer Maschinen- und Anlagenbau e.V. (ICM), research and practical plant engineering come together: Since 1992 the institute has been a central contact point for small and medium-sized companies to implement innovative ideas and concepts. Processes, plants and products for numerous sectors and industries are developed here together with the approximately 50 employees - including in the fields of mechanical and plant engineering, electromobility and medical technology. The ICM has firmly established itself as an innovative research partner in the southwest Saxony region for years - but many partners from the rest of Germany also draw on the expertise in Chemnitz.

From mechanical design to electronics and software development to test rig and prototype development: The ICM provides all the necessary expertise to support complex projects from conception to commissioning.

Robotics and automation for small and medium-sized companies

For years, projects with a strong focus on robotics and automation have played a central role at the ICM - bundled in its own training and application center (SchAz) and as a central information and learning location for all interested companies, also within the framework of a wide range of event formats.



The Kawasaki Robotics RS010L mounts the desired pin configuration on a provided plate and handles it between the conveyor belt and the mobile unit.

The SchAz develops individual automation solutions for the production of numerous industries. Together with experienced experts, potential is identified, concepts are systematically developed, tested for technical feasibility and cost-effectiveness and implemented in a practical manner. Modern safety and operating concepts also play a central role. In addition, interested parties have the opportunity to try out their ideas and possible problem solutions directly on site - under experienced guidance and with direct feedback.

Several demo applications in the SchAz show visitors the range of automation solutions developed and sustainably supported there. These are also regularly available for tests and trials.

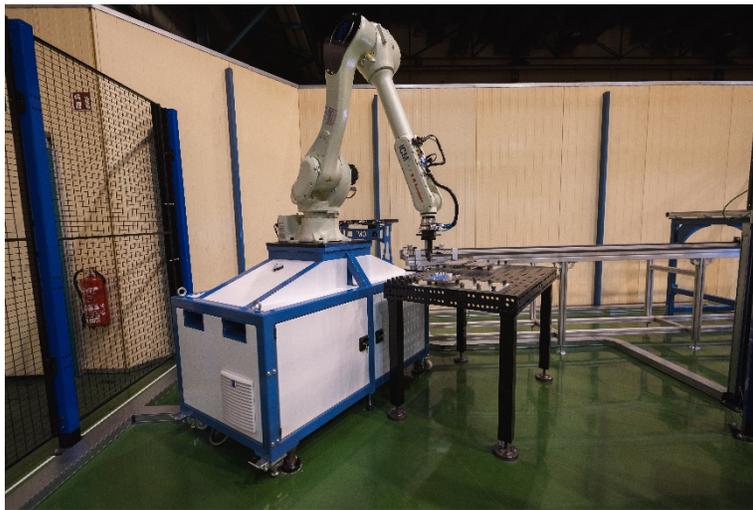
Flexible lot sizes: Challenge for production

One of the biggest challenges in the automated production of small and medium-sized companies has been the batch size factor for many years. Even fluctuating batch sizes down to "batch size 1" must be able to be served quickly and flexibly - especially if the portfolio is diverse or customer requirements are to be met promptly. A special demonstrator at the SchAz shows what an optimally designed, quickly adaptable and intuitively operated system can look like: A Kawasaki Robotics RS010L equipped with several precision grippers from the Zimmer Group and mounted on a manually movable base.

The universal high-speed robot is one of the all-rounders of the R series for small and medium loads. With their compact design, high precision and reach and large working range, R-series robots are suitable for numerous tasks in many industries - including handling and machine tending. The RS010L has a load capacity of 10 kg and a reach of 1,925 mm.

Quick and easy to adapt: Agile production

An individually equipped perforated plate with 146 slots for different coloured plastic pins is processed. After the empty die plates have been fed into the work area, the RS010L attaches the studs in the desired configuration, which are provided by an additional conveyor belt feed. This can be adjusted at any time in the shortest possible time and without programming effort.



+For additional flexibility, another industrial robot is used on a mobile shuttle system. This robot picks up the empty perforated plates, transports them to the Kawasaki Robotics RS010L and transports the loaded plate to the final assembly at the manual workstation.

Adaptable to new configurations in no time and with minimal effort.

Fences in combination with light barriers,

together with the Kawasaki Cubic-S safety module, ensure the safety of the plant and the employees present - a decisive factor given the collaborative character of the plant.

The demonstrator for batch size 1 illustrates how various trends in modern automation, such as mobile robotics and collaboration, as well as extensive know-how are combined in a practical project. Thus, robot systems and special machines are developed, designed and tested from one source.