

Schmidt & Heinzmann receives ThinkKing Award

Cutting & Stacking solution from the Landesagentur für Leichtbau (State Agency for Lightweight Design) Baden-Württemberg awarded

Bruchsal, 01.12.2021: The cutting & stacking center of Schmidt & Heinzmann cuts and stacks cuts from dry fiber fabric and precisely stacks them into a stack. Thanks to an optimal coordination of hardware and software, it is also possible to react flexibly to changes. If necessary, the program sequence is recalculated. This combination of flexibility and precision combined with economic efficiency enables the production of cost-efficient lightweight components for a wide variety of industries. This is why the cutting & stacking center has been awarded with the ThinkKing December 2021.

The Landesagentur für Leichtbau (State Agency for Lightweight Design) Baden-Württemberg honors an innovation with the coveted award every month. In thus it offers a platform for innovative products and services in the field of lightweight design from Baden-Württemberg.

Cost efficiency due to flexible production cell

The cell, which consists of several cutting tables, one robot with a gripper module and a scales and a conveyor belt, cuts textiles from glass, carbon or natural fibers and stacks them into precise stacks. Afterwards the stack is transferred to the next process step for further processing – usually a press for the RTM process. “This process steps are still carried out manually in many companies”, explains Dr. Bücheler, Director Process Engineering “Our systems does this in a cycle-optimized manner and, thanks to its generic approach, can even produce different stacks at the same time.”

Optimal use of material

Intelligent nesting creates the optimum cutting plan for the cuts to be produced. This allows efficient use of the material, which significantly reduces material waste.

When using several materials within a stack, Schmidt & Heinzmann relies on its Multiple Cutter Concept. True to the motto „one cutter one material“, this concept defines exactly which material is cut on which cutter. This shortens cycle time and increases process reliability, which ensures consistently good quality. To attain precise cutting edges, the cutting technology (polygon knife, round knife, ultrasonic knife) that perfectly fits the material is selected.

Until now, the layers of different materials were either cut one after the other on the same cutting table, or they were placed on top of each other in the correct sequence and cut together. Both variants lead to inaccuracies during cutting and high material waste.

Perfect component quality due to high degree of automation

A highlight of the cell is the control system developed by Schmidt & Heinzmann. An algorithm determines the optimal sequences for the production process. This can not only be designed to optimize the cycle time, but also, for example, to optimize material utilization. Cutting, stacking and handling are permanently monitored by the integrated production planner and adjusted according to the defined parameters. The intelligent assistant also keeps an eye on the times for nesting or the remaining supply of fiber fabric.

Competitive lightweight components for all industries

The manufacturing costs for lightweight components can be significantly reduced by using the cutting & stacking system. Compared to semi-automatic production, up to 75% of personnel costs can be saved. In addition, resources are conserved by optimal material utilization and the costs for the use of materials are reduced considerably.

Due to cost efficiency, the flexibility and scalability of the system as well as high-precision manufacturing results, everyone benefits from the use of the system – from large scale manufacturers in the automotive industry to sports goods manufacturers with medium quantities up to suppliers in the aerospace sector with smaller quantities.

Second innovation award for Schmidt & Heinzmann in 2021

"We are delighted that we have already received the second award for innovations with the ThinKing Award this year," says CEO Matthias Feil. In the first half of 2021, the company was among the finalists at the JEC Award with its innovative SMC semi-finished product line "Cube" and received the "Top 100 Innovation" award.



6 Cutting tables and one central robot produce 16 stacks in parallel
Bild: Schmidt & Heinzmann GmbH & Co. KG

About Leichtbau BW

The Leichtbau BW GmbH is a business and science development company from Baden-Württemberg (Federal State in the south-west of Germany) and represents the, probably, world's largest lightweight design network, which includes more than 2,400 companies and 360 research institutions. As a 100-percent state-owned company, we act as a neutral and cross-sector contact and support industry and research on their way to the top of of lightweight design. With its work, Leichtbau BW GmbH strengthens the technology and knowledge transfer in lightweight construction as well as the competitiveness in Baden-Württemberg.

About Schmidt & Heinzmann

Schmidt & Heinzmann has been developing and producing innovative tailor-made production machinery and automation solutions for the fiber-reinforced plastics industry for more than 40 years.

The product portfolio includes:

- Cutting systems for all kind of fibers
- SMC production machinery
- Fiber spraying systems
- Bonding machines for automated processes
- Automated cutting & stacking systems
- Preforming systems for the automated production of textile preforms
- Automation solutions for composite cut and part handling
- Customized special solutions

Headquartered in Bruchsal, Germany, and with offices in the United States and China, Schmidt & Heinzmann generated a turnover of 20 million Euro in 2020 with more than 130 employees.

Your press contact at Schmidt & Heinzmann

Lena Heinrichs
Marketing
Vichystraße 12
76646 Bruchsal
T +49 7251 38 58 -0
F +49 7251 38 58 – 25
l.heinrichs@schmidt-heinzmann.de