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## PRESS RELEASE

WITTMANN BATTENFELD at the K 2022

### **Saving resources and reducing weight with alternative materials and ultra-modern technologies**

***At the K 2022, in hall 15 / booth C06, WITTMANN BATTENFELD presents an application which makes a substantial contribution to climate protection especially due to its light weight, achieved by material savings on the one hand, and on the other hand by using alternative materials.***

With a MacroPower1100/12800 fitted with an energy-saving, speed-controlled servo motor and a constant displacement pump, WITTMANN BATTENFELD will produce an indoor panel which stands out by its light weight, using a single-cavity mold supplied by FRIMO, Germany. Here, WITTMANN BATTENFELD relies on using natural and recycled materials.

The door panel consists of an extremely light natural fiber material onto which a map pocket made of Borcycle™ EE1300SY supplied by Borealis is over-molded, which is a mineral-reinforced PP for car interior applications with 30% PCR (post-consumer recyclate) content. Borcycle™ EE1300SY meets the most stringent requirements in terms of odor neutrality and emissions for vehicle interiors set by various OEM's and is also available in light colors.

In order to achieve an extra high reduction of material input and weight, the Cellmould structured foam technology developed and patented by WITTMANN BATTENFELD is used. In this process, nitrogen is added to the plastic melt during metering. This is carried out via a gas injector mounted on the plasticizing barrel. Thanks to the special Cellmould screw geometry, the gas is then dissolved and finely distributed in the plastic material. During injection into the cavity of the mold, the gas then separates itself again from the plastic and forms a fine-celled foam structure inside the molded part. Further advantages of structured foam technology apart from cost cuts through less material input are a reduction of warpage and sink marks as well as more freedom of design for mold makers. Consequently, using the Cellmould process makes it possible for customers to combine economic with technological benefits. The reduction of material input achieved in this way also benefits the environment in several respects. Firstly, valuable resources are saved, and secondly,

the parts are lighter, which reduces the car's fuel consumption and/or extends the battery range in electric vehicles. In this application, the pre-cut natural fiber mats are picked up from a buffer stack and inserted into an IR heating station by a WX152 robot from WITTMANN. Next, the heated mats are placed into the mold on the fixed mold half by a combination gripper (removal and insert gripper), formed, cut to size and over-molded. For this application, the mold is fitted with a hot runner system specially equipped with needle shut-off nozzles for compatibility with the Cellmould process. Prior to insertion of the next natural fiber mat, the finished part and the trimmings are removed from the fixed mold half and subsequently transported to the storage position.

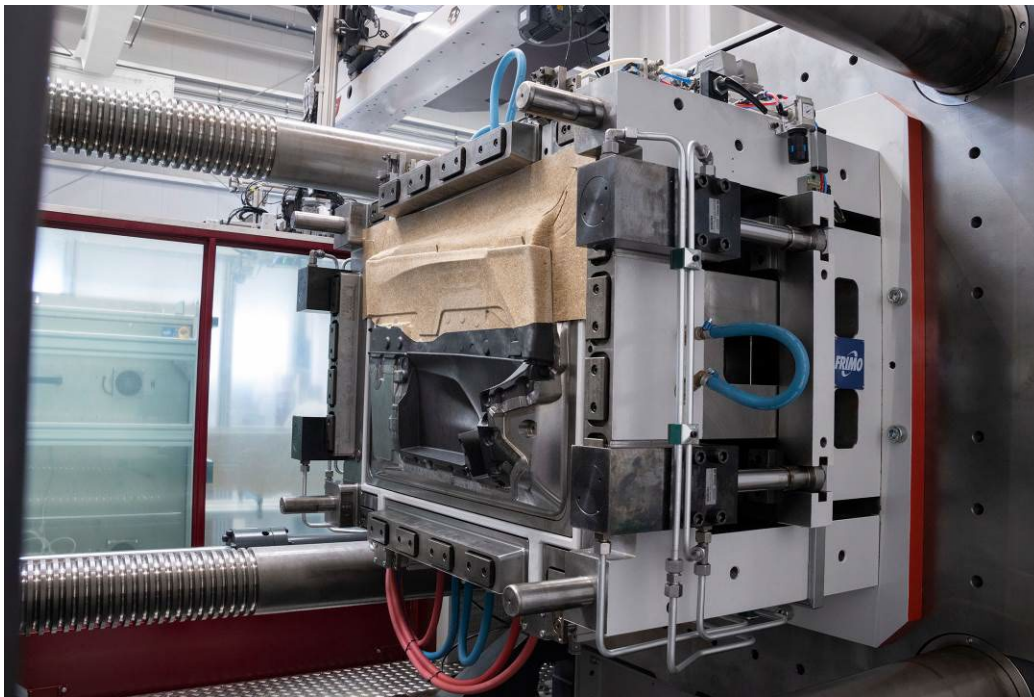
The MacroPower is equipped with the newly developed WITTMANN CMS Lite condition monitoring system. This system continuously checks the state of health of the servo-hydraulic axes, from which the condition of the pump and axis valves can be derived.



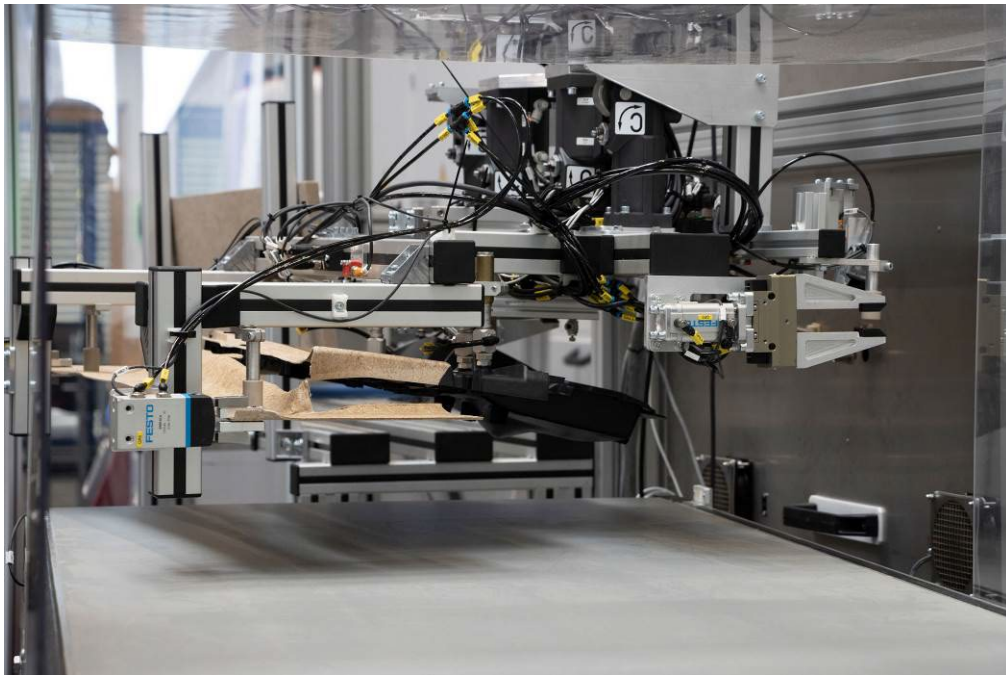
**Fig. 1:** Use of WITTMANN BATTENFELD Cellmould technology to save material and reduce weight



**Fig. 2:** Heating of the pre-cut natural fiber mat in IR heating station



**Fig. 3:** Natural fiber mat with over-molded Cellmould foamed map pocket



**Fig. 4:** Separation of offcut and finished part



**Fig. 5:** Indoor panel made of a natural fiber mat and recyclates, produced on a MacroPower 1100 with a mold supplied by FRIMO (photo: FRIMO)

## The WITTMANN Group

The WITTMANN Group is a globally leading manufacturer of injection molding machines, robots and auxiliary equipment for processing a great variety of plasticizable materials – both plastic and non-plastic. The group of companies has its headquarters in Vienna, Austria and consists of two main divisions: WITTMANN BATTENFELD and WITTMANN. Following the principles of environmental protection, conservation of resources and circular economy, the WITTMANN Group engages in state-of-the-art process technology for maximum energy efficiency in injection molding, and in processing standard materials and materials with a high content of recyclates and renewable raw materials. The products of the WITTMANN Group are designed for horizontal and vertical integration into a Smart Factory and can be interlinked to form an intelligent production cell.

The companies of the group jointly operate eight production plants in five countries, and the additional sales companies at their 34 different locations are present in all major industrial markets around the world.

WITTMANN BATTENFELD pursues the continued strengthening of its market position as a manufacturer of injection molding machines and supplier of comprehensive modern machine technology in modular design. The product range of WITTMANN includes robots and automation systems, material handling systems, dryers, gravimetric and volumetric blenders, granulators, temperature controllers and chillers. The combination of the individual areas under the umbrella of the WITTMANN Group enables perfect integration – to the advantage of injection molding processors with an increasing demand for seamless interlocking of processing machines, automation and auxiliaries.

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