



# NEXT-LEVEL FUTURE MANUFACTURING – ZAHORANSKY'S ONE-STOP SOLUTION FOR MEDICAL TECHNOLOGY

In this article, Berthold Schopferer, Business Development Manager – System Technology at ZAHORANSKY, explains the lengths the production equipment company goes to in its efforts to ensure the customer is always king.

ZAHORANSKY's vision of future manufacturing in medical technology involves reducing the number of separate processes to a minimum, optimising the level of integration – and all without any human touch if possible. The company invests great effort in pursuing this vision, all the while ensuring that customers' products meet the strictest quality standards.

ZAHORANSKY offers an automation line with injection moulding – the Z.BLIZZARD (Figure 1) – which not only ensures customers have an efficient and safe manufacturing process for pharmaceutical products but also gives them the peace of mind that comes with making sustainable

"A real one-stop solution with outstanding autonomy time."

solution investments. If the Z.MISTRAL downstream line and the palletising system Z.LODOS (Figure 2) are connected as well, the entire process chain from the granulate to the completely packaged, ready-to-fill staked needle prefillable syringes (PFS) made from cyclo-olefin copolymers (COCs) or cyclo-olefin polymers (COPs), is covered. A real one-stop solution with outstanding autonomy time.



Figure 1: The Z.BLIZZARD produces ready-to-fill PFS from COC/COP polymer with a very long autonomy time.



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Figure 2: If the Z.MISTRAL downstream line and the palletising system Z.LODOS are connected to the Z.BLIZZARD as well, the entire process chain from the granulate to the completely packaged PFS can be covered.

“Design freedom extends beyond the finished products.”

materials with great temperature resistance such as tungsten – heavy metals are created at temperatures of over 1,000°C. These can enter the glass container and subsequently settle in the product as well – even if the container is washed, dried and sterilised afterwards. The plastic variants also impress with their greater freedom of design and minimised risk of cracking or breaking.

**CONSULTING OR COLLABORATION – THE CUSTOMER IS REALLY ALWAYS KING**

Design freedom extends beyond the finished products. There’s no such thing as the Z.BLIZZARD – it consists of many functional components that can be tailored to the producer’s demands. The final line is assembled based on their wishes. The customer thus has the freedom to decide. Is the angle of the needle straight or angled? Which section is covered by the camera? Do we need integrated X-ray inspections? Do we fit the Z.BLIZZARD with access doors or is this unnecessary? These and further questions are dealt with



Figure 3: A detailed view: The Z.NFS needle separating system can separate 4– 32 needles or cannulas with up to 12 cycles per minute. Currently, diameters from 0.2 mm and lengths up to 45 mm can be processed.

**FIRST IN, FIRST OUT AND NO HUMAN TOUCH**

The Z.NFS needle feeding system (Figure 3) with separated needle feeding additionally ensures the Z.BLIZZARD’s compliance with the “first in, first out” principle: in other words, the system is filled with the required number of cannulas to then process them in order. This way, no needles can remain in the system for a longer period. The Z.NFS can separate 4–32 needles or cannulas with up to 12 cycles per minute – which equals up to 400 pieces per minute. Currently, diameters from 0.2 mm and lengths up to 45 mm can be processed. Integration of the Z.NFS into the Z.BLIZZARD (Figure 4) results in an integrated line that guarantees utmost hygiene during the production process, without any human touches and with clean room compliant processes. The optionally integrable X-ray testing equipment offers a new potential quality benefit, ensuring absolutely safe product control after assembly – a key component of any optimised future manufacturing solution.



Figure 4: Integration of the Z.NFS into the Z.BLIZZARD results in an integrated line that guarantees utmost hygiene during the production process, without any human touches and with clean room compliant processes.

**A RARE SIGHT: PLASTIC BEATS GLASS**

Another element is the use of plastic for the PFS (Figure 5). It offers an advantage over the alternatives made of glass: the needle is moulded over, instead of molten over or glued on. During a melting process – generally performed with

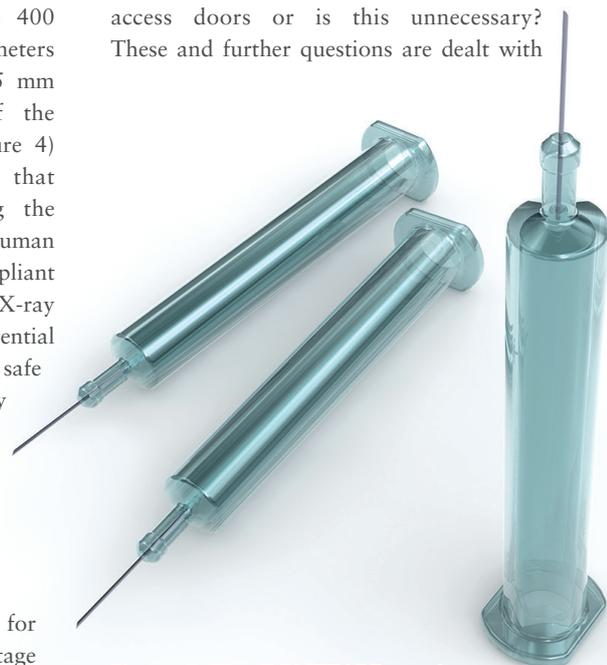


Figure 5: The Z.BLIZZARD produces PFS from plastics. They offer an advantage over the alternatives made of glass – the needle can be moulded over instead of molten or glued in.

in collaboration with the customer and then precisely implemented. Customers are included at an early stage, accompanying the entire construction and production process, which generally takes around 12 months. If desired, the customer can also rely completely on the expertise of ZAHORANSKY. The company will proactively make suggestions and recommendations if customers cannot get intensively involved in designing their machines – but, as a one stop-solution provider, ZAHORANSKY always tries to tie up as little customer resources as possible anyway.

#### A MATTER OF COURSE: RISK EVALUATION FOLLOWING GMP GUIDELINES

ZAHORANSKY's involvement goes beyond merely making suggestions – the causes and effects of the recommendations are analysed in the form of a medical-technological report, which includes a risk evaluation in accordance with GMP guidelines. Proof is provided that the

“ZAHORANSKY makes sure that the line is engineered to the exact design and development specifications.”

suggested solution can be implemented without negatively affecting any customer audits. The company demands of itself that it can show why something works or why it doesn't. ZAHORANSKY takes it very seriously, with a constant look to the future of its customers' operations. In other words, even after delivering and setting up the Z.BLIZZARD, it maintains an interest in ensuring that its customers have an innovative and future-proof machine.

#### THE COMPANY MOTTO: THINK BEFORE YOU ACT

ZAHORANSKY also makes sure that the manufacturing line is engineered to the exact design and development specifications.

If an assembly professional notices that a drill hole is missing, for example, he has to understand or inform himself why this is the case – he can't simply bore a hole himself.

#### ABOUT THE COMPANY

ZAHORANSKY is a full-range supplier of machinery and production lines, injection moulds, and automation equipment. The company operates with more than 700 associates at production sites in Germany, Spain, China, India and the US. System Technology offers across-system solutions for the injection-related automation. These systems are based on injection moulds by ZAHORANSKY Automation & Molds and on established systems from different modules of automation. ZAHORANSKY Automation & Molds serves the industrial automation and medical devices sectors, with preconfigured solutions provided for medical engineering. Z.BLIZZARD, for example, is an integral solution for making ready-to-fill prefillable syringes as primary medical packaging.



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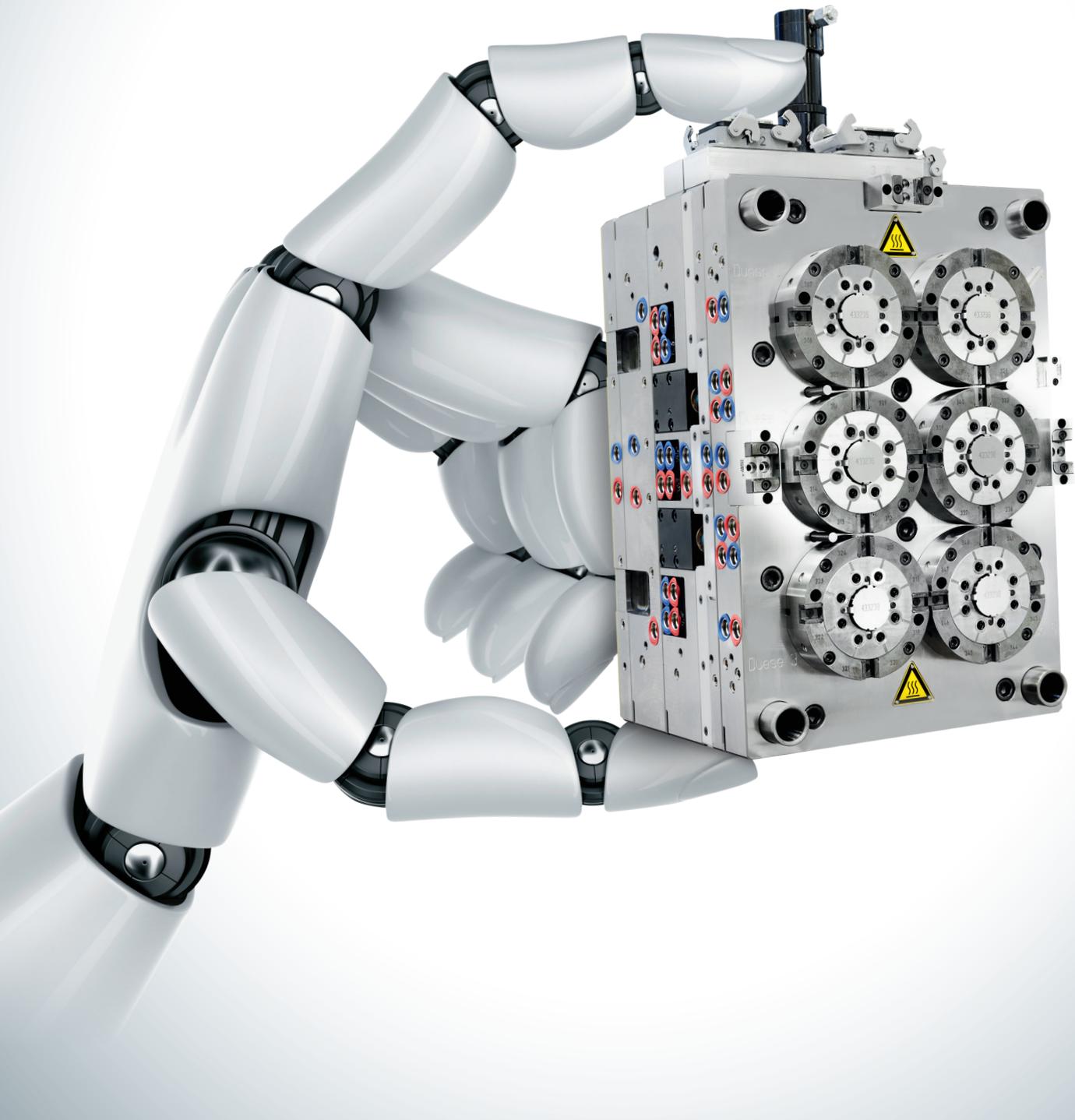
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