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Georg Tinschert

Dear Reader,

After almost 35 years in manufacturing plastics processing machinery, it is now time for me to take stock and pass the baton on to someone from the next generation. Instead of looking back, I would like to look ahead into the future and express a concern which is very close to my heart.

Only about 100 years after they were invented, plastics have established themselves as a perfect alternative to traditional materials. With their great potential for innovation, they contribute substantially to improving our standard of living, for example in medicine, water management, household goods or electric and electronic appliances. Their use as packaging materials also creates a high utility value.

A major problem, however, is the careless use of plastics in many places, above all the way they are treated after they have served their actual purpose. Plastics are far too seldom seen as valuable materials, which could be recycled and used several times as raw materials. If we do not succeed quickly in bringing about a change in public awareness, the increasing amount of plastics bashing in the media will not fail to have an effect. It is therefore up to all of us who are engaged in the plastics industry to use and communicate the numerous advantages of plastics intelligently. Last but not least, we need a smart strategy of restricting ourselves to sustainable applications with a positive overall ecological balance. If we fail to do this, we will cut off the branch on which we are sitting and risk the future of our industry.

Nevertheless, I still see great potential in the plastics sector. How else could it be possible to provide the continuously growing world population with commodities for daily use at affordable prices; how else could energy saving goals be achieved if light-weight construction had not been widely used in automobile and aircraft technology – to mention just the most prominent examples.

To take an active part in shaping this future, we need creative young people to continue the work of the plastics pioneers and in so doing keep the sustainability of the applications in view. These tasks have now become even more complex and have lost none of the fascination of the challenges faced during the pioneer years. It will be up to us all to communicate this in an appropriate way.

I want to take this opportunity to thank all our customers, my companions and colleagues for their excellent cooperation over many years, and especially for their many inspirations which have contributed substantially to our joint further development of injection molding technology.

Best wishes, Georg Tinschert

WITTMANN 4.0

The DMT 4.0 working cell



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Diamond Machining Technology in the USA uses WITTMANN 4.0

Located in Marlboro, Massachusetts, Diamond Machining Technology (DMT), a division of Acme United Corporation, is a leading supplier of diamond sharpeners that it calls "the highest quality in the world". The DMT production highly benefits from a WITTMANN 4.0 workcell. Crystal Gagnon



WITTMANN W833 robot with specially designed EOAT, places metal inserts and removes finished parts in the same in/out cycle.

Anything with an edge benefits from the sharpeners manufactured by Diamond Machining Technology, including knives, scissors, skis, woodworking tools, ice skates, and more. Their metal sharpeners are insert molded onto plastic bases that consist of 40% glass-filled polycarbonate.

"We use this special polycarbonate material for our products because we need the sharpening tools to be ultra-flat, it's an important quality spec", says Stan Watson, Technical Director at Diamond Machining Technology and a 31-year veteran of the company. "Our flatness spec is ± 0.001 inch over the entire surface, which can be up to 40 in² on a large, double-sided stone. Our sharpeners are the flattest in the world."

Researching new machinery

DMT was acquired in 2016 by Acme United, a Fairfield, CT based company with over 400 employees that has several knife-brands in its company portfolio. DMT was a logical addition and is now a member of Acme's "Team Edge" group of companies.

After being purchased by Acme, DMT was encouraged to upgrade its aging molding machines, and the company began the process of researching suppliers. A team from DMT spent six months visiting four molding machine suppliers, "and we looked into everything – machines, robots, auxiliaries, maintenance and parts availability, you name it", says Watson. "We quickly became more interested in

WITTMANN BATTENFELD, because they could supply the entire system – we liked the idea of a single source for all the equipment.”

WITTMANN personnel brought the team in to see its machinery running at a molder in Western Massachusetts, and also invited the team to visit its headquarters in Torrington. “We really liked that WITTMANN technicians can dial-in to access the machine in real-time, see what’s happening, and diagnose and correct any issues in just minutes”, says Mark Bettke, Senior Director of Operations and Manufacturing. “This remote access was key as was local access to WITTMANN BATTENFELD’s Torrington facility, and when the WITTMANN team showed us what

entered the data into the controller, setup requires basically pushing a button. You know on the machine’s B8 control screen/interface what’s going on. The WITTMANN BATTENFELD machine is very well integrated with the rest of the workcell’s equipment, you can run everything off the machine and robot interface.”

DMT has the blender, TCU, chiller, robot, and machine all on one recipe. The B8 screen shows all barrel and hot runner temperatures, cooling time, pack/hold settings, blender settings, and TCU temperatures. All of this data can be viewed and modified, if necessary, remotely on computers by authorized DMT personnel. DMT changes molds in the machine 3–4 times per week, and color changes are also



Mark Bettke, Senior Director of Operations and Manufacturing (left) and Bob Parkhurst, DMT’s Maintenance Manager.

communications were possible, we quickly saw the value of all the new machinery and equipment talking to each other.” The decision was made – and DMT purchased and installed a new *EcoPower* 330-ton all-electric press, with a W833 robot, chiller, TCU, dryer, blender, and hopper loader in August 2017. Without realizing it, DMT was about to become a pioneer among US plastics processors as its new workcell was the first in the US with the new WITTMANN BATTENFELD B8 control as the hub for integrating all of the workcell components. DMT would be implementing several key elements of *Industry 4.0* to increase its efficiency and productivity.

Implementing WITTMANN 4.0

Prior to its purchase, the DMT team made multiple visits to WITTMANN BATTENFELD in Torrington, and after the purchase they sat in on three days of training, for both the robot and machine. They were impressed. “WITTMANN 4.0 is intuitive”, says Stan Watson. “Once you’ve

frequent (the company runs 1-, 4-, and 8-cavity hot runner tools). They have seen significant mold-change time savings. “When you already have the key parameters for each specific mold loaded into the system, it saves an enormous amount of time”, says Bob Parkhurst, DMT’s Maintenance Manager.

Overall, Watson says: “The WITTMANN 4.0 system makes me feel more secure. If something goes wrong, I’ll know it right away. For instance, if the TCU is running at 180 F instead of 220 F, the machine controller will flag that right away.

In the past, we might have made a few hundred reject parts before we noticed that. Or if the TCU springs a leak and loses pressure, that flashes on the screen of the injection machine. Before, we wouldn’t have known it was happening until we saw the water on the floor.”

Watson and Parkhurst also appreciate the ability to have the TCU automatically suck the water out of the mold as part of a shutdown for a mold change. “That way, we don’t forget to empty the water from the mold and have a mess on the floor when we unplug the cooling hoses”, Watson explains. >>



Bob Parkhurst at the B8 control of DMT's EcoPower 300 electric injection molding machine.



Stan Watson, DMT Technical Director (left) and Mark Bettke with samples of sharpening products.

Photos: Matt Naitove, "Plastics Technology" magazine

Another element of WITTMANN 4.0 is remote service capability. "We can let WITTMANN dial into our machine and find what is causing a problem, instead of waiting for a technician to come visit us", says Watson. "They can diagnose the issue in minutes rather than us losing a day."

Robot provides enormous benefits

Another key benefit that DMT has seen with the WITTMANN BATTENFELD system is with WITTMANN's expertise in robot and end-of-arm-tool (EOAT) design. "We get better support there than from other vendors. When we came to WITTMANN, they were very keen to shave off

time with more efficient robot programming and more capable EOAT designs", says Watson. After examining DMT's former robot operation for loading two inserts for a double-sided sharpener into each side of the mold, and then removing a finished part, WITTMANN's engineers went to work and designed a three-headed EOAT that performed in one in/out cycle what previously took multiple cycles. In doing so, according to Watson, mold-open times were dramatically reduced – in one case, from 85 seconds to only 10 seconds. Other mold-open times were reduced as well:

- ◆ from 83 sec to 14 sec
- ◆ from 39 sec to 8 sec
- ◆ from 58 sec to 12 sec
- ◆ from 51 sec to 10 sec

In addition, the faster mold-open times have helped DMT solve some hot runner issues including material freeze-off and drool at the nozzle gates.

Conclusion

The new WITTMANN 4.0 workcell has helped DMT increase its productivity, and the company is now looking at replacing an older vertical molding machine with a new WITTMANN BATTENFELD vertical, also with 4.0 connectivity. "We're a small company (DMT has 30 employees working out of a 25,000 ft² facility in Marlboro), but our workforce here is excellent and our people truly care about their quality and production", says Mark Bettke. "They share management's enthusiasm about the benefits the WITTMANN BATTENFELD machinery and equipment has helped us achieve." ◆

Optimal response to customers' needs – the driver of WITTMANN BATTENFELD's success

Cooper Standard employs more than 30,000 associates worldwide and is active in 20 countries. In Poland, the company operates ten production facilities at four locations – and it is a loyal customer of WITTMANN BATTENFELD.

Jacek Kuliś

Cooper Standard with its headquarters in Novi/Michigan, USA, is a globally leading supplier of systems and components for the automotive industry. The company's product range includes plastic and rubber seals and gaskets, fuel and brake lines, fluid hoses and anti-vibration systems.

Its main Polish production facility is located in southern Poland in the city of Częstochowa.

The facility employs 850 associates and produces low pressure lines for cooling systems and body sealing.

The company's machinery, which originally consisted

of older vertical PLUS V injection molding machine models from BATTENFELD, has been modernized step by step. In the years 2015 through 2017, the company purchased eight injection molding machines from the CM 40/130 H series and is planning to place more orders in the near future. All machines delivered to this customer are equipped with sliding tables.

In 2012, the design of the CM was specially modified for the needs of Cooper Standard, to install an automatic injection molding machine with a horizontal injection unit. The optimal adaptation of the machine configuration to meet this customer's requirements was a major consideration which led to repeat orders for WITTMANN BATTENFELD.

Special models for Cooper Standard

The customized injection molding machines produced for Cooper Standard not only come with a special equipment package, but have also been modified to allow for the



installation of special safety devices. For instance, the machines are equipped with an enlarged protective basket with two light curtains. This gives the operator a choice of two working positions, one at a greater distance from the machine when processing longer parts, and one closer to the machine to process shorter parts, with the additional effect of optimizing the cycle times.

Jacek Kuliś, (left), WITTMANN BATTENFELD Polska Sales Manager, and Lukasz Adamski from Cooper Standard in front of a BATTENFELD CM 40/130 injection molding machine.



Another change compared to standard injection molding machines is that these machines are laid out for compatibility with a special system installed at Cooper Standard to

Mold change system with ball guide rollers.

enable high-speed mold change. In its production, Cooper Standard uses a large number of different molds, and the facility for exchanging these quickly is vital for the company. Automotive production requires an extremely high quality standard for the parts, which is why appropriate solutions to ensure compliance with high production standards were already conceived during the development stage of the injection molding machines.

Another important aspect for Cooper Standard is the fact that WITTMANN BATTENFELD machines can already be delivered with the required auxiliary appliances in each case. Together with the injection molding machines, the company was supplied with dryers and temperature controllers. The temperature controllers are integrated in the machines' control systems, which facilitates monitoring of the process parameters. Cooper Standard has expressed full satisfaction with the equipment from WITTMANN BATTENFELD installed in Poland and is relying on this company also as an equipment supplier for production plants in other countries. ♦

Jacek Kuliś is Sales Manager at WITTMANN BATTENFELD Polska in Grodzisk Mazowiecki, Poland.

PWF Kunststofftechnik: competent partner for automotive suppliers

The German company PWF Kunststofftechnik, domiciled in Glinde near Hamburg, specializes in the production of complex connector housings primarily used in the automotive industry. PWF uses latest injection molding technology from WITTMANN BATTENFELD to fulfill the stringent quality standards required for its products.

Gabriele Hopf

Frank Siegers, WITTMANN BATTENFELD Sales (far left), Mathias Wernicke, PWF Managing Director (2nd from the left) and Martin Hirschenauer, WITTMANN BATTENFELD (3rd from the right) and PWF staff members during training on the newly installed MicroPower 15 injection molding machine.

PWF has been a by-word for top-quality high-precision tools since 1969. In 1990, PWF Kunststofftechnik was established. The privately owned company can look back on a continuous annual growth rate between 5 and 10% since its foundation.

The company's main business is the production of sophisticated plug connectors for the automotive industry. PWF's customer base includes globally leading automotive suppliers, which purchase tools as well as finished parts and complete assemblies from PWF. In addition to the automotive suppliers sector, with which PWF realizes about 90% of its sales, the company is also active in the household industry and in the of laboratory and medical equipment, HIFI technology and sensor segments. Its production program includes items such as electricity meter caps, sensors for respirators, housings for pneumatic valves, test tubes which change their color at different temperatures, and much more.

Precision and flexibility

In the tool-making segment, about 50 high-precision tools are manufactured every year. A proven, long-standing international sub-supplier network with partners in South Korea, Portugal and China ensures that PWF has no problems with supplying its customers with the tools they need and simultaneously filling the large-volume orders for parts from its international customers.

The special strength of PWF is the company's extreme flexibility. For example, series of one and the same product are manufactured in batches ranging from 200 units to 60 million units. PWF processes some 200 different materials annually in 150 different colors. Virtually all standard engineering plastics are used, including high-temperature materials and thermoplastic elastomers. For example, in 2016, 976 different products were manufactured with 393 different



A selection from the wide range of small parts produced by PWF.

molds. The total plastic parts output was 313 million units with a delivery performance of 95%. In order to produce such numbers of units, the machines at PWF operate round the clock on 362 days a year.

Advanced injection molding equipment

Accordingly, the injection molding machines used at PWF, including automation and peripherals, must meet extremely stringent requirements. In 2017, PWF had a total

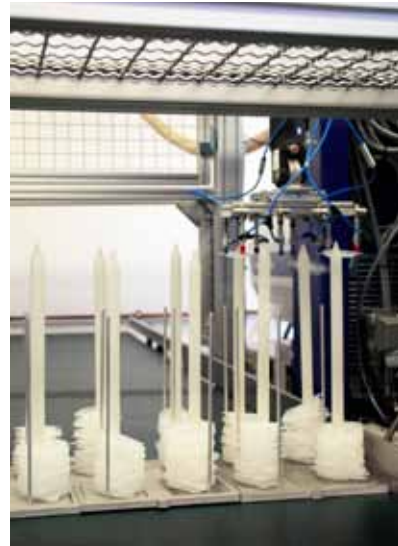
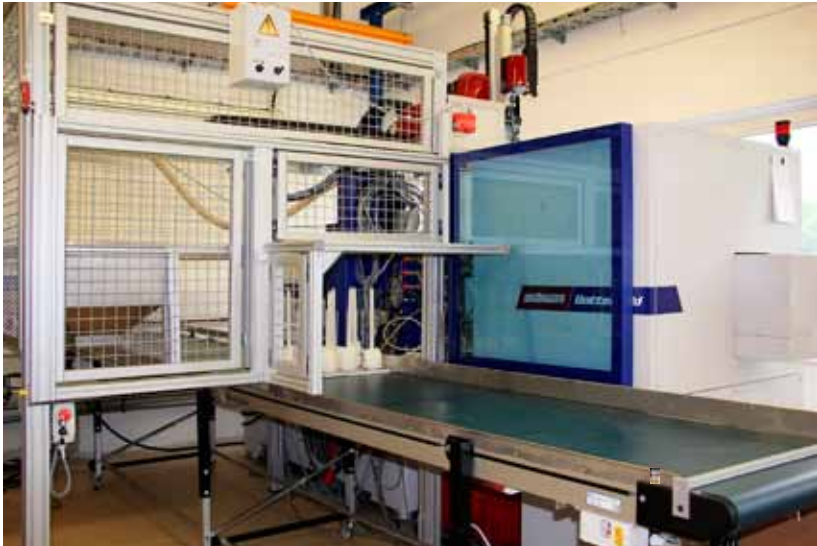
of 49 injection molding machines installed, ranging from 150 to 4,000 kN in clamping force. In 2017, WITTMANN BATTENFELD delivered four all-electric machines to PWF, three of which were from the *EcoPower* series with clamping forces of 550 kN and 1,100 kN, each equipped with a latest-generation linear robot from WITTMANN. The machine delivered most recently is a model with 150 kN clamping force from the *MicroPower* series specially designed for injection molding of micro parts.

This machine is equipped with an integrated rotary disc, a WITTMANN parts removal system specially designed for this machine, a DRYMAX Micro material dryer from WITTMANN, as well as a quality inspection system based

the PWF Kunststofftechnik production floor. The company's entire material transport needs are taken care of by a central materials handling system from WITTMANN.

High-quality hardware and service

In addition to a good price-performance ratio, PWF requires from its machines above all a high standard of process reliability, an attribute of paramount importance for an automotive supplier. Moreover, the Managing Directors of PWF Kunststofftechnik, Mathias Wernicke and Volker Hansen, lay great store by low energy consumption and, above all, a low noise level of their machines. And of course these machines



Picture left: All-electric WITTMANN BATTENFELD EcoPower 110 with W823 robot from WITTMANN and conveyor belt. Picture right: Parts depositing with W823 robot from WITTMANN.



must be easy to operate, with modest maintenance requirements. Due to the great variety of different products, the requirements placed on the machinery are also subject to constant change. "What we need are cost-efficient and quietly running injection molding machines, which are easy to operate and can be extended and retrofitted without any problems to meet new

Picture left: Central materials handling system from WITTMANN. Picture right: Temperature controllers from WITTMANN's TEMPRO series.

on imaging and a clean room module, which provides a class 6 clean air production environment according to the ISO 14644-1 standard. This enables PWF to comply with the highest standards for cost-efficient production of top-quality micro parts.

Use of WITTMANN automation and auxiliaries

PWF relies on the WITTMANN Group not only for state-of-the-art all-electric machines, but in particular also for automation and peripherals. So the majority of the injection molding machines installed at PWF are equipped with linear robots from WITTMANN. WITTMANN temperature controllers, blenders and granulators are also used on

requirements", says Mathias Wernicke. "The machines from WITTMANN BATTENFELD fully meet our requirements in these areas, with their uncomplicated, Windows™-based control system and extensive range of options."

According to Mathias Wernicke, top-quality service is just as important as machinery of excellent quality. In this context, Wernicke emphasizes above all the human side in addition to the quality and availability of the service. "I prefer service engineers who are able to communicate well with my staff members, so that they can solve problems together fast and efficiently", Wernicke explains. Mathias Wernicke is very satisfied with the sales and service staff at WITTMANN BATTENFELD and with the training of his employees on WITTMANN BATTENFELD equipment. ♦

Gabriele Hopf is the Marketing Manager of WITTMANN BATTENFELD in Kottlingbrunn, Lower Austria.

Vertical competence – proven for many years

The German WITTE Automotive Group manufactures in its Czech production plants in Nejdek and Ostrov large quantities of mechatronic lock modules for passenger car doors and trunk lids. The housings of the electromechanical drive units are metal/plastic hybrid parts. They consist of a conductor track structure formed as a stamped and bent part, which is covered with plastic on both sides of the housing in the injection molding process. To make these components, WITTE has been relying on WITTMANN BATTENFELD injection molding machines with vertical rotary table clamping units for more than 15 years.

Reinhard Bauer

In the WITTE Nejdek injection molding shop, 400 workers produce in four shifts on currently 51 injection molding machines small to medium-sized components for passenger car locking systems, many of these on vertical machines.

A tour of the WITTE Automotive production plant in Nejdek near Karlovy Vary in North-Western Czechia is an impressive experience even for insiders of the industry. Especially during shift changes, when the paths of hundreds of workers arriving and leaving cross each other. Their total number is more than 2,000. A large proportion of the workforce is employed in the assembly of many different mechatronic components for closing and locking of cars. But the product range of the WITTE Automotive Group goes far beyond door handles, since it also includes restraining bars, internal door operating units, keys and locks, closing aids, door-stays, door brakes and motorized door drives.

The range for engine hoods and trunk lids is similarly diversified. In addition to the electromechanical locking units, it includes electrical drives and grip rails with integrated lighting and sensor switches. To improve pedestrian safety, components for the “active” engine hood concept are manufactured as well. Here, pyrotechnical components ensure that in the event of a collision the engine hood is raised to provide a softer crumple zone at the front. WITTE Nejdek, however, not only assembles an impressive, diversified range of safety-relevant motor vehicle components, but also makes a large proportion of the parts in-house, especially in the injection molding department,

where some 400 workers manufacture them in 4 shifts with currently 51 machines ranging from 50 to 650 tons in clamping force. The production plant receives vigorous support from the 70 staff members of the company’s own mold-making shop.

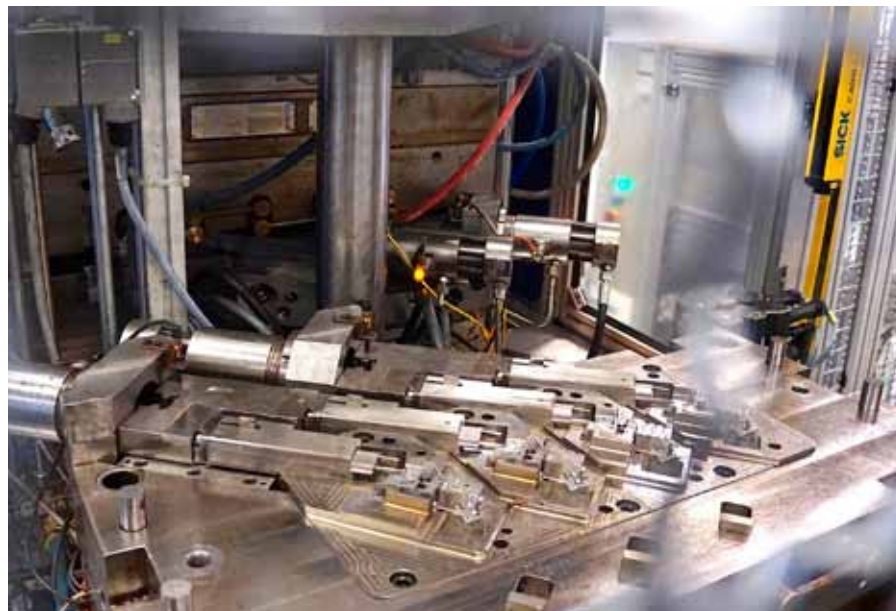


WITTMANN BATTENFELD rotary table machines are used in various versions and sizes. The machine shown in this picture is a VM-R 80.

Vertical machines for assembly injection molding

Since electrical drives and an electronic control are the state of the art in closing and locking systems, virtually every one of the door closing and locking devices produced has a housing component with embedded electrical conductors. These are inserted into the mold of the overmolding machine either manually (for simple, mostly flat and therefore solid structures), or passed on by robots fully automatically and directly from a progressive cutting and stamping machine (in the case of three-dimensional multiple-track structures formed in several steps, which are difficult to handle manually).

To provide ergonomically favorable conditions for this type of work, primarily injection molding machines with vertical injection units are used for this purpose. They make up about a quarter of the total machinery stock, ranging



from simple 1-station clamping units for manual operation to 2-station rotary table machines in various sizes and automation levels. The majority comes from WITTMANN and is partly combined with WITTMANN robots and material handling technology.

Appreciated by machine operators

Since WITTE Automotive is the sole supplier for a number of lock modules, reliability is right at the top of its list of priorities for production equipment. Kamil Hušek, the company's project leader for injection molding systems, comments: "Eight of our twelve WITTMANN BATTENFELD machines in operation have a vertical clamping unit. The oldest one is a BATTENFELD VM-50 R and was built in 2002. It has been producing parts for more than 15 years in combination with a robot for insert feeding and parts removal without showing any decline in reliability or increase in maintenance expenses. In our newer machines, which we operate mainly as fully automatic production cells with two- to four-cavity molds, our workers on the production floor appreciate above all the excellent control system integration of robots and machines. For example

in the event of a production interruption, resetting all robots to their defined starting positions is not necessary to resume automatic operation. In most cases, it is sufficient to simply press the cycle key. This is an advantage not to be underestimated, above all in shift work, when expert staff cannot always be called in for trouble-shooting immediately."

Fast-response core pull ensures smooth embedding of conductors

Embedding and overmolding of conductor tracks involves more than just insertion and fixing of metal parts with subsequent injection of plastic material.

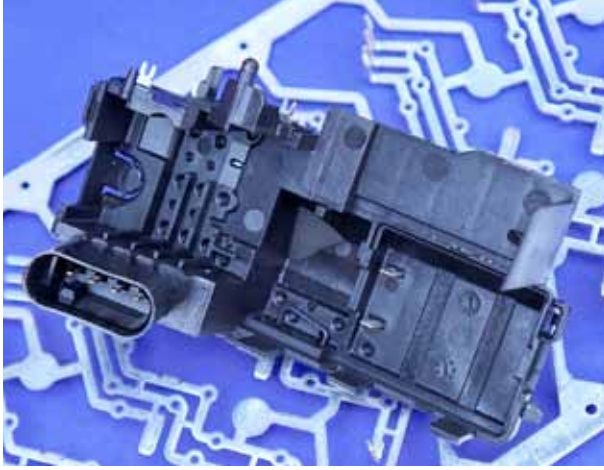
To insulate the conductor tracks right up to the plug contact and protect them against moisture, they must be completely sheathed. Kamil Hušek explains: "For centering the metal conductors inside the mold we use groups of mobile fixing pins which can be moved forward and backward similar to ejector pins. The pins wedge in the metal parts from both sides when the mold closes. Towards the end of the injection process, the pins are

retracted during changeover from injection to holding pressure via the core pull function, and then the holes left behind by the pins are filled. This must be carried out very fast and reliably every time. The BATTENFELD machine control system ensures this." >>

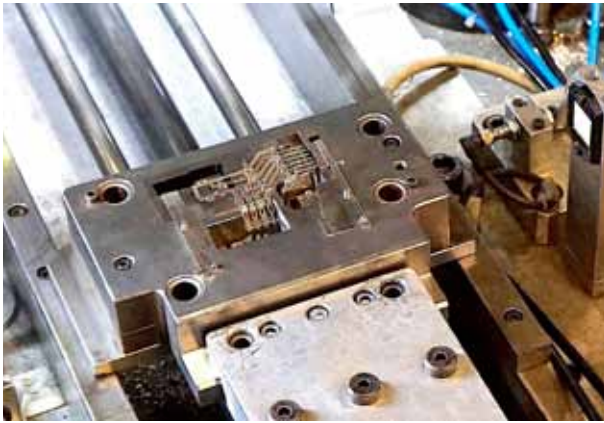
The higher the number of cavities and the more complex the insertion task, the more effective is automation of the insertion and parts removal with robots. Here, a VM-R 80 combined with two linear robots from WITTMANN is shown as an example.

A manufacturing example from the equipment is the production of plug-in adapters with a 4-cavity mold.

Metal/plastic hybrid components as manufactured by WITTE Automotive in Nejdek near Karlovy Vary are key components of the door lock modules in many automobiles.



Complex, 3-dimensional conductor track structures are passed on by a robot directly from the cutting and stamping machine to the rotary table machine.



Inside the mold, the metal inserts are held in position from both sides by groups of cylindrical mold inserts. The location of the positioning pins, which are retracted during injection so that the conductor tracks are completely embedded, can be recognized by the marks on both sides of the finished part.



Czech WITTMANN Group Director Michal Slaba, Kamil Hušek, WITTE Project Leader Molding Machines, and Miroslav Tureček (from left to right).

Photos:

Reinhard Bauer

Reinhard Bauer is a freelance journalist and communications consultant specializing in plastics technology.



Efficiency goals achieved

In conversation with the WITTMANN BATTENFELD Czech Republic Managing Director Ing. Michal Slaba and Ing. Miroslav Tureček, the Czech Sales Manager for injection molding machines, Kamil Hušek sums up: “The excellent reliability of BATTENFELD injection molding machines combined with WITTMANN automation expertise delivers consistent good parts quality at low unit costs. The high repeatability from one shot to the next allows continuous production within narrow tolerances and minimizes the possible scrap rate.”

The positive experience with the vertical machines convinced those responsible at WITTE Automotive that the acquisition of standard machines from the WITTMANN Group would be a good investment, too.

So it is not surprising that at both the Nejdek facility and its sister plant in Ostrov some 25 km away hybrid Macro-Power machines with 2-platen clamping units have been installed as well. ♦

WITTE Automotive – effective concepts for the automotive world



WITTE products can be found in all well-known brands of cars today. With innovative solutions and technological expertise, WITTE has inspired its automotive industry customers around the world for many decades. In addition to locking and actuating systems, WITTE also develops and manufactures drives for lids and doors for these customers, as well as seat locks and camera modules. Specialized competence centers for plastics, stamping and pressure casting technology ensure top performance in terms of functionality, quality standards, ecology and pricing. The WITTE Automotive Group based in Velbert/North Rhine-Westphalia currently employs more than 5,000 workers at four locations in Germany and Europe, in the Czech Republic, Bulgaria and Sweden. Its subsidiary WITTE Nejdek, established in 1992, is the largest facility of WITTE Automotive today. Its competence includes a plastics injection molding department with more than 50 injection molding machines. An in-house mold-making and fixture construction shop and R&D department round off the portfolio. In addition to component manufacturing, the approximately 2,000 workers in Nejdek assemble a major part of the passenger car locking systems using components from their own production as well as parts supplied by other WITTE production plants. WITTE Automotive shows a global presence in the USA, Mexico, Brazil, India, China, Japan and Korea as a member of VAST, the Vehicle Access Systems Technology Alliance. (Photo: Reinhard Bauer)

Robots boost the performance of a large Point Of Sale supplier

In 2017, the Moscow based Europos Group (EPG) – founded in 1995 – merged with the Indexeventus business. This merger created the market leader and largest manufacturer of Point Of Sale (POS) material in Eastern Europe. And now WITTMANN robots have been helping the Europos Group go from strength to strength.

Roman Makarov

The Europos Group has an extensive network of branches and representative offices in the Russian regions and other countries. The company's POS solutions – for sales, merchandising and visual communications – are used

in public institutions, chain retail, stores, exhibition halls, sales offices and everywhere else, it is necessary for the client. Europos Group has several production technologies at its disposal, including: extrusion of plastic profiles, injection molding of plastic parts, vacuum forming and the manufacturing of products from sheet

plastics using cutting and bending methods. The company also produces aluminum and steel parts. EPG independently carries out a diversity of operations: development, series production and supply of POS material (material for Points Of Sale).

The EPG product portfolio consists of more than 1,500 different items within 12 product categories; from the most common bookshelf price list holders to unique plastic displays. Thanks to the continuing efforts of EPG specialists over the past 10 years,

Russia has experienced qualitative changes in retail culture, product presentation and the communication of product information. EPG's slogan "Improving Sales Points" reflects the company's mission to improve the efficiency and quality of product presentation in Russian stores. The message is working and EPG's business is growing annually, by more than a third on average.

More than 50,000 retail outlets in Russia and in 20 countries all over the world are equipped with EPG products. The company is the main supplier of POS material of many major companies, for example, METRO C & C, PAO Magnit, Dixie, SPAR, Comus, Detsky Mir, Castorama, Sport-

master, Svyaznoy, X5 Retail Group, Globus, IKEA, and many others. EPG also works closely with international FMCG manufacturers (fast moving consumer goods) such as Unilever, P & G, Nestlé and Coca-Cola.



WITTMANN robots boost production

Last year, in order to modernize the injection molding production of plastic parts, Europos Group decided to modernize its facilities. As part of the program, a decision was taken to purchase robots for the removal of shelves and baskets from

A view of the Europos Group production: WITTMANN PRIMUS 16 robot, handling a plastic basket.

the injection molds. Several companies were considered as suppliers and system integrators of the modernization project. WITTMANN BATTENFELD offered clearest value for money proposition; supplying the robot with the most outstanding technical parameters in combination with the best price-performance ratio – better than any other in the world. As a consequence, Europos Group chose the WITTMANN Group as the main supplier of robots.

WITTMANN PRIMUS robots were then successfully installed on a number of injection molding machines with clamping forces of 450 and 650 tons.

The robots are equipped with specially designed part grippers that enable the lifting of heavy parts from the mold tools. One of the robot grippers, for example, removes plastic baskets from the mold that are dimensioned 520 × 340 × 350 mm and that weighs 1,073 g (at a gripper weight of 1,825 g). The other gripper type takes out plastic parts in the shape of a shelf that weighs 1,570 g (this gripper itself weighing 1,910 g).

The Europos Group automation has been custom made by the WITTMANN Group and is set to help further increase the company's rate of growth. ♦

Roman Makarov is the Sales Officer for WITTMANN equipment of OOO WITTMANN BATTENFELD, the WITTMANN Group's Russian subsidiary, based in Moscow.

Alfmeier in China uses WITTMANN robots for high-end automation

One robot – that serves two injection molding machines: WITTMANN rose to the challenge of installing a solution for the production of oil tank valve covers that are sealed with a flexible ring.

WITTMANN BATTENFELD China

Alfmeier was founded in Germany in the 1960s. The company is dedicated to the development of solutions in valve and fuel system technology. Since foundation, Alfmeier has achieved a steady increase in sales and profits and gained a good reputation in the European automotive industry.

Since the establishment of the company, Alfmeier Präzision SE has been headquartered in Weißenburg, Bavaria, Germany.

The company's ambition has always been to be among the top-ranking auto-parts manufacturers in the world. The Alfmeier Treuchtlingen factory nearby has adopted modern testing and engineering facilities in order to develop the most advanced products and processes.

The Alfmeier production in China

Alfmeier Automotive Systems (Shanghai) Co., Ltd. in China is a wholly owned subsidiary of the German parent company. The plant in China possesses technologies concerning the production of fuel management systems and develops solutions for engine systems, brake mechanisms and comfortable seating solutions. When it comes to the production of challenging parts – in this case of oil tank valve covers – two molding machines are required.

After a seal ring is molded in one molding machine, it has to be put into another injection molding machine. Then, the plastic body of a valve cover is molded. The transfer process cannot be executed completely manually. In order to realize a timely barrier-free transfer of such semi-finished products, Alfmeier chose WITTMANN robots and automation equipment to facilitate the production – having compared different solutions from many other suppliers.



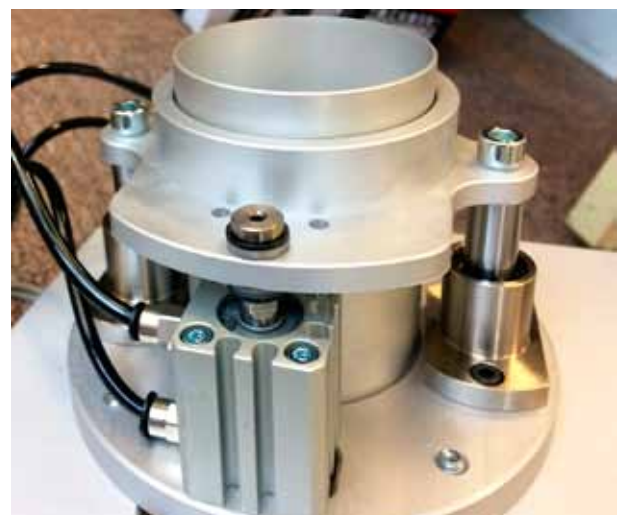
From left to right: Tang Jun Wei, Alfmeier Equipment Manager; Zhang Jian, WITTMANN BATTENFELD China Sales Manager; Marcel Hirschmann, Alfmeier Injection Supervisor; Fan Fu Qiang, WITTMANN BATTENFELD China Automation Engineer.

Picture left: Oil tank valve cover.

Picture right: White flexible seal ring.



Detail of gripper for taking up a seal ring.



WITTMANN automation solution

The automation experts of the Chinese WITTMANN Group subsidiary comprehensively evaluated the Alfmeier project before starting their development work. The final solution for the automatic production process of a sealed oil tank valve cover incorporates two injection mold-



ing machines, an automatic device for the changing of collecting boxes from WITTMANN and a WITTMANN CW838T robot.

The robot moves over two injection molding machines. It adopts combining a fixed mounting on the one machine, and a "float" mounting on the other, so that the production line can save floor space, and the stability of the robot is improved. The production process needs no human intervention.

The robot takes out the flexible seal ring molded by injection molding machine A. For this, a specially designed gripper is applied. Then, the robot directly inserts the seal ring into the respective cavity of machine B's mold. Meanwhile, the by now finished valve cover is taken out and put into a product collecting box. When the collecting box is entirely filled with parts, it is automatically replaced by an

empty box and discharged from the production unit.

This automation solution from WITTMANN BATTENFELD China helped Alfmeier to realize a stable and efficient production process and achieve an impressive output of finished parts.

Furthermore, the intelligent EcoMode functionality of the WITTMANN robot reduces the energy consumption in the factory and assures a consistent production cycle for every product. Finally, the impeccable and repeatable product quality helps Alfmeier to improve customer satisfaction.

Alfmeier in China has now successfully expanded its production line. The company has ordered four more sets of WITTMANN automation

Automatic production line with one robot crossing two injection molding machines. The section between the two machines houses the box changing device.

Picture left: Seal ring mold half. Picture right: Product mold half.

equipment, including robots, special grippers and automatic box changing devices. In addition to that, Alfmeier's plans for the future once more mean expansion of the company's production lines. ♦

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This article was prepared by the Marketing Department of WITTMANN BATTENFELD (Shanghai) Co., Ltd. in China.

The WITTMANN Group merges facilities in Germany

On 1 October 2018, the two German facilities of the WITTMANN Group, WITTMANN Robot Systeme GmbH in Nuremberg and WITTMANN BATTENFELD GmbH & Co. KG in Meinerzhagen became a single company. The united company with its headquarters located in Nuremberg trades as WITTMANN BATTENFELD Deutschland GmbH. Klaus Ehlig, previously Managing Director of the facility for injection molding machines in Meinerzhagen, was appointed CEO of the new company.

As a result of their merger, the two German facilities have come even closer together. This will have a positive effect primarily on customer support and sales activities – in view of the entire product portfolio. Closeness to the customer base will continue to be a top priority. Fast availability and expert support on site are vital in this context and will be pushed relentlessly also in future.

The Nuremberg headquarters of the newly established corporation WITTMANN BATTENFELD Deutschland GmbH.



All contact partners in Sales and Customer Support for injection molding machines, robots and auxiliary appliances will continue to be available via the familiar contact data. Of course, this also applies to the Purchasing, Finance and Accounts departments and all other functions located at the Nuremberg and Meinerzhagen facilities.

The competence center for injection molding technology is based in Meinerzhagen, including all special processes such as CELLMOULD® physical foaming and AIRMOULD® gas injection technology. In the state-of-the-art technical lab, test runs and sampling can be carried out for customers, with WITTMANN BATTENFELD injection molding machines in different sizes and with various equipment packages being used for this purpose.

View of the technical lab of WITTMANN BATTENFELD Deutschland GmbH in Meinerzhagen.



In Nuremberg, experienced specialists for automation and auxiliary technologies stand ready to assist all companies engaged in plastics processing with expert counseling and training programs. They will be delighted to pass on their comprehensive knowledge about WITTMANN robots, temperature control technology, recycling and material handling technology to all users.

WITTMANN robots and auxiliary appliances are compatible with all injection molding machines available on the market. The Nuremberg facility has a high vertical range of in-house manufacture at its disposal, and the expertise available here also includes the design, development and production of customized automation systems and specialized solutions, which are offered both with and without WITTMANN BATTENFELD injection molding machines. Nuremberg also has a technical lab which enables customers to test the auxiliaries in cooperation with their own tooling.

Customer events 2019

The dates of two customer events have already been fixed for the middle of this year. The event for customers and interested persons domiciled in Northern Germany will take place on 27 June in Meinerzhagen; the event for participants coming from the southern part of the country is scheduled for 11 July in Nuremberg. The same program will be offered at both events. For example, an all-electric *EcoPower Xpress* high-speed injection molding machine for high-speed applications will be showcased, as well as a WITTMANN 4.0 production cell to provide answers to those questions arising from the increasing use of digital networking in production. Both teams in Meinerzhagen and Nuremberg are already looking forward to receiving large numbers of visitors. ♦

Hayco celebrates 35th anniversary

On 11 October 2018, Hayco celebrated its 35th anniversary at the Hong Kong Harbour Grand Hotel. Invited guests were the company's main suppliers and top executives.

Hayco was established 35 years ago in Hong Kong as a producer of plastic solutions. Its in-house expertise in design, engineering and manufacturing of plastic components and device assembly creates a one-stop solution to meet the requirements of customers such as CamelBak, Church & Dwight, OXO, Philips, Procter & Gamble, Walmart and 3M. Hayco creates products for the beauty and personal care, oral health care, precision medical molding, water filtration, personal hydration, household cleaning industries. Hayco's corporate headquarters are located in Hong Kong, its three sites in Southern China ship over 180 million products to more than 60 countries worldwide every year. It has a new facility in the Dominican Republic, which will be officially opened on 28 February this year.

The company employs approximately 6,000 staff members worldwide. Since 2016, Hayco has been a customer of WITTMANN BATTENFELD and has installed a total of 53 injection molding machines from the *MacroPower* and *SmartPower* series at its facilities in China and the Dominican Republic, among them *SmartPower* COMBIMOULD and *SmartPower* Medical machines, as well as vertical machines from WITTMANN BATTENFELD. Six more machines from the *MacroPower* series will be delivered to the plant in the Dominican Republic in the 1st quarter of 2019.

All the machines are equipped with WITTMANN robots. temperature controllers, material blenders and materials handling equipment are also supplied by WITTMANN. As one of the company's main injection molding machine sup-



From left to right: Georg Tinschert, Managing Director of WITTMANN BATTENFELD, Donald Hay, founder of Hayco, Amii Tam, Managing Director of Hayco, Christopher Hay, CEO of Hayco, Werner Wittmann, Managing Partner of the WITTMANN Group.



*Hayco's new facility in the Dominican Republic.
Photos: Hayco*

pliers, the top management of WITTMANN BATTENFELD was also invited to the anniversary celebration. At this event, presentations were held about new product developments and projects, as well as Hayco's efforts towards sustainable production.

Dr. Werner Wittmann, Managing Partner of the WITTMANN Group and Mag. Georg Tinschert, Managing Director of WITTMANN BATTENFELD, had accepted the invitation and were glad of this opportunity to express their congratulations on this anniversary in person. ♦

Golden VÖK Badge of Honor awarded to Georg Tinschert

From left to right: KommR Ing. Dr. Michael Pöcksteiner, President of the Association of Austrian Plastics Processors, Senator h.c. Prof. KommR Dkfm. Dr. Ernst Pöcksteiner, Honorary President of the Association of Austrian Plastics Processors, Ing. Mag. Georg Tinschert, Managing Director of WITTMANN BATTENFELD, Ing. Harald Bleier, Cluster Manager of ecoplus Lower Austria and Management Board member of the Association of Austrian Plastics Processors.

Photo: WITTMANN BATTENFELD

On 10 December, the Association of Austrian Plastics Processors (VÖK) and the Association for the Advancement of Plastics Technology (GFKT) jointly organized an evening gala at the festival hall of the Austrian Business Association in Vienna.

In an official ceremony, Georg Tinschert, Managing Director of WITTMANN BATTENFELD GmbH in Kottlingbrunn, was presented with the Golden VÖK Badge of Honor in recognition of his merits for the plastics industry.

The eulogy for Georg Tinschert was held by Harald Bleier, Cluster Manager of the Plastics and Mechatronics Cluster of ecoplus (Lower Austria Business Agency). Harald Bleier gave the audience an overview of Georg Tinschert's professional career and honored his merits for the company WITTMANN BATTENFELD, which has developed in an impressive way over the last ten years under the leadership of Georg Tinschert – both technologically and economically.

Harald Bleier specially emphasized Tinschert's interpersonal skills, which he described as a vital factor in the company's success.

In his subsequent speech, Georg Tinschert expressed his delight about the honor he had just received. He also emphasized his conviction, primarily addressed to the younger

people in the audience, that it was sometimes actually necessary to row against the tide to achieve a major goal.

Michael Wittmann, co-owner of the WITTMANN Group, had also accepted the invitation to the presentation ceremony with great pleasure, to congratulate the laureate in person. ♦



Matt McCabe killed in accident in Ohio

Matt McCabe, most recently a principal of plastics rep firm Great Lakes Machinery & Automation LLC (GLMA) and a former WITTMANN BATTENFELD Inc. executive, died Sunday January 20 in an all-terrain vehicle accident in Fremont, Ohio.

"The news of this tragic accident was very difficult to process, and we are all grieving the loss of our good friend and colleague", said David Preusse, President of WITTMANN BATTENFELD Inc. in Torrington, CT.

Matt was an 18-year veteran of the plastics industry. After earning a B.Sc. in Industrial Technology from

Ohio University – Russ College of Engineering & Technology – , he started his career as a sales agent for The Turner Group. In 2003 he joined WITTMANN as their Regional Sales Manager in California, and he moved to Connecticut in 2004

and was promoted to National Sales Manager. Matt later served under Michael Wittmann as the company's first International Key Account Manager, traveling the world on behalf of the company. In 2015 he moved back to



Ohio and started GLMA with his business partner Mike Paeth.

On Sunday January 20 McCabe was riding as a passenger in an ATV when the driver lost control of the vehicle. The ATV crashed through the ice on a

frozen pond. The driver was able to get out and seek help, but rescue crews were unable to get to McCabe in time.

Matt McCabe passed away at the age of 43, leaves his wife, Abby, and two children, Isla and Michael. ♦

Matt McCabe (†)

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