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innovations

Technics – Markets – Trends

Volume 6 – 3/2012



***EcoPower
to the people!***

Battenfeld

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Editorial



Michael Wittmann

Dear Reader,

“Quo vadis Euro?” – In my position as a top executive of a European machine manufacturer customers from non-Euro countries have often been asking me recently about the future of the single European currency and the effects of the “Euro crisis”. I can say that these issues have had no immediate effect on our daily business so far. The fact that the enthusiasm for investment has cooled down slightly during the last months cannot be attributed exclusively to this situation – it is a global phenomenon that is a result of a variety of different causes. As an export-oriented company, we’ve even benefited from a slightly weaker Euro. An actual disintegration of the monetary union and the subsequent uncertainty would, however, be highly inconvenient. Of course we are keeping a very close watch on further developments.

Throughout all of this debate, we have continued our work on more innovations. At the Plast 2012, which was held in Milan in May, we introduced the *MacroPower* 500, another new model from this series. Also, the *MacroPower* 400, which is to follow shortly, is now nearing completion. We have rolled out our new robots at a similarly fast pace. At the Plast Milano, the new model W808 was launched. This launch was then followed up by the recent revisions of the models W821, W831 and W832 – all in quick succession.

Meanwhile, the relatively short summer, which is characteristic of our Central European latitudes, has set in. The change of the seasons is not normally a sufficient reason for a typical injection molding plant to use different equipment, but the requirements for a granulate dryer may be totally different in summer operation. There is hardly any other equipment used in molding on which the moisture content of the ambient atmosphere has as much effect as it does on a dryer’s performance. Adaptability of the process to the prevailing conditions is therefore important. Here, the new DRYMAX Aton segmented wheel dryer has numerous “tricks” in store. In winter and on days with moderately moist ambient air, it functions in the energy-efficient *EcoMode* operating mode. At the same time, it can be continuously operated in the *Wheel-Mode* on sultry days or in tropical or sub-tropical climate zones. Should there be an additional temporary change in drying requirements due to material with an extremely high moisture content, the appliance will automatically change into the even more powerful *BurstMode*. This technology guarantees top-quality drying air at any time with a dew point below -40 °C. Last, but not least, I wish you a pleasant summer, and please enjoy reading this issue of *innovations*.

Very cordially yours, Michael Wittmann

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High quality cosmetics



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Becoming number one with IML



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ESMIN relies on WITTMANN BATTENFELD for the production of cases for cosmetics

In 2011, the widely known Taiwanese cosmetics packaging manufacturer ESMIN placed an order for 43 injection molding machines with WITTMANN BATTENFELD. These included all-electric machines from the EcoPower and MicroPower series as well as servo-driven hydraulic machines from the HM series. All machines came with robots and other WITTMANN equipment.
Gabriele Hopf

ESMIN is one of the leading manufacturers of cosmetics packaging in Asia, based in Chong-Hua City, Taiwan. The company, currently employing more than 1,500 people, manufactures its products in Taiwan and at 3 facilities in China. The Taiwan plant and the plant in Dong-Guan City, China, which employs 800 people, both focus on the production of injection-molded and extruded products.

ESMIN's product range includes receptacles made of aluminum and plastic for mascara, eyeliners, powder, eye shadow, lip gloss, lipsticks, lip pencils, cosmetic brushes and much more. The company exports its products worldwide, with the USA being its primary market with a share of about 40%.

Some 30% of the ESMIN products are shipped to Europe. When manufacturing the products, high precision, process reliability and short cycle times are the most important factors.

ESMIN relies on WITTMANN BATTENFELD

In its facilities, ESMIN has a total of about 100 injection molding machines installed. To expand its capacity in Taiwan, ESMIN ordered 43 injection molding machines, including automation and peripheral equipment, from WITTMANN BATTENFELD for its new plant in Chong Hua City. Due to the importance of balancing low production costs with simultaneous high precision and reliability,



ESMIN needs fast, energy-efficient machines that ensure a high degree of accuracy and process reliability. With these attributes in mind, WITTMANN BATTENFELD was able to provide a solution with its electric machines from the

*Cases for liquid
cosmetics and
lipsticks.*

(Photos: ESMIN)

PowerSeries. Each machine in the series was an effective solution: the *EcoPower*, the *HM ServoPower* in single- and multi-component versions, and also the *MicroPower* for cost-efficient injection molding of micro and high-precision parts.

The *EcoPower* and the *HM ServoPower* are equipped with WITTMANN W813S robots, while the machines from the *MicroPower* series come with WITTMANN W8VS2 robots specially developed for this machine series.

ESMIN has confidence in WITTMANN BATTENFELD. After all, the machine manufacturer has repeatedly separated itself from its competitors by offering technologically sophisticated machinery and equipment. Aryuan Huang,



Technical Manager at ESMIN, also believes that the technical support – which is of paramount importance for ESMIN – is in good hands with WITTMANN BATTENFELD. Aryuan Huang comments: “We are planning to increase our efficiency and further enhance our image in the industry using machinery from WITTMANN BATTENFELD”.

**The energy-saving fleet
from WITTMANN BATTENFELD**

Rising energy costs and the plea for responsible management of resources have created a strong incentive for intensive research and development activities at WITTMANN BATTENFELD to create more energy-efficient machinery and equipment.

The result of their efforts is the company’s “energy-saving fleet”, including the highly energy-efficient, all-electric *EcoPower*, the *MicroPower*, which is also all-electric, and the *HM ServoPower*, the hydraulic machine series with servo drive.

EcoPower

The *EcoPower* features precision, process reliability, high speed and energy efficiency – characteristics which are of utmost importance to ESMIN. The *EcoPower*’s precision, process reliability and high speed are due to the direct drive of the injection unit via a circulating ball spindle, which minimizes transmission loss and enables exact control and repeatability. The precise, efficient toggle drive of the clamping unit features high dynamism, positioning accuracy and energy-efficiency. The extraordinary degree of energy efficiency is reached by utilizing the braking energy of the drives completely within the machine to provide the

necessary voltage for the control system and for barrel heating. Depending on the application, the energy savings potential lies between 50 and 70% when compared to hydraulic machines.

MicroPower

The new *MicroPower* is an all-electric molding machine designed for high precision and micro injection molding. In this new machine generation, the innovative two-step injection unit is of special interest.

From the left: Roland Pechtl and David Chen, WITTMANN BATTENFELD Sales Department, Aryuan Huang, ESMIN, Dr. Werner Wittmann and Jack Ho, ESMIN, in front of an EcoPower 110 with robot.

This injection unit injects thermally homogeneous melt with a shot volume ranging from 0.05 to 3 cm³, with the result being premium-quality parts from absolutely stable production with short cycle times.

HM ServoPower

The *HM ServoPower* features a servo motor with a much higher degree of efficiency than a 3-phase motor with constant speed and an adjustable axial piston pump. As a hydraulic pump, an internal gear pump with a constant displacement volume is used. The delivery is regulated exclusively via the motor speed. In this way, the optimal speed required for every operating point can be maintained. The system can be completely shut down during breaks, or switched off altogether for longer breaks. This hydraulic machine with servo drive yields more than 30% in energy savings when compared to modern standard hydraulic machines, and it comes at an extremely favorable purchase price with an average payback period of about 2 years. ♦

Gabriele Hopf is Head of the Marketing Department at WITTMANN BATTENFELD in Kottlingbrunn, Austria.

Tea Plast on the way to becoming the Number One

Tea Plast (Albania) started the IML production of paint buckets with the goal of achieving market leadership. Machinery from WITTMANN and from WITTMANN BATTENFELD is supporting the ambitious venture. Richard Schnabel



3.8 l IML paint bucket with two 360° banderol labels.

Not just the project described below, but also the establishment of Tea Plast itself, was spurred by the desire to place the paints manufactured by the group into containers from its own production, especially since the demand on the Albanian market for this type of containers far exceeds the company's own requirements.

Tea Plast was faced with the need to acquire three complete IML (In-Mold Labeling) production cells: one for manufacturing paint buckets holding 12 l, another for smaller buckets with a volume of 3.8 l, and finally a system for producing the necessary lids and carrying handles for the smaller containers.

Machines and peripheral equipment

At Tea Plast, the entire bucket production is handled by three TM injection molding machines from WITTMANN BATTENFELD with clamping forces ranging from 180 to 500 t, on which a total of five molds are used (two for the buckets, two for the lids and one for the handles). All the machines come with the UNILOG B6^s control system, which operates under Windows XP™ and offers a consistent control and operating concept for easy handling of the injection molding machines and all integrated peripheral appliances.

As for the technical detail solutions that are integrated in the machines, they are equipped with Rapidmelt barrier screws, flow-optimized pneumatic needle shut-off nozzles, three hot runner control circuits and 10-fold water flow controllers. The two injection molding machines used for

the production of the different sized buckets have been combined with WITTMANN W832 IML robots, which insert 360° banderol labels on the injection side.

Material feeding (PP with MFI 27) to each individual production cell is affected by a WITTMANN FEEDMAX S3 material loader, which conveys the material from an octabin, or big bag, placed beside the machine. With the volumetric DOSIMAX metering devices mounted directly underneath, masterbatch can be continuously added to the virgin material.

For the entire production facility the longest individual cycle time is 20 seconds (including IML) for the large buckets with a part weight of 374.5 g, and the shortest is 9 seconds for the smaller lids weighing 40.5 g.

Turnkey solution from a single source

The entire project of setting up complete production cells for Tea Plast was planned by WITTMANN BATTENFELD. Since plastics injection molding constituted a new field of activity for Tea Plast, WITTMANN BATTENFELD was also commissioned with all of the basic planning recommendations and the layout of the new production hall. Points to consider in this context were optimal positioning of the production cells, the necessary infrastructure for compressed air, cooling water preparation and power supply.

WITTMANN BATTENFELD very successfully met all of these requirements, thanks to its varied equipment and comprehensive expertise as a supplier of complete systems. ♦



The material loading unit mounted on each injection molding machine, consisting of a FEEDMAX S3 and a DOSIMAX MC Basic from WITTMANN.



This view of one of the complete production cells at Tea Plast shows the TM injection molding machine from WITTMANN BATTENFELD and the WITTMANN W832 IML robot.

Richard Schnabel is Head of the Project Planning Department at WITTMANN BATTENFELD in Kottlingbrunn, Lower Austria.

Stay connected to your molding process (with the help of WITTMANN BATTENFELD)

Remote connectivity is nothing new for WITTMANN BATTENFELD. This was first developed and released in 2006 for the M7 material handling system control. Since then, WITTMANN BATTENFELD has developed an assortment of remote connectivity tools for its molding machines, robots, and material handling systems. Injection molder SL Tennessee in Clinton, Tennessee, is using the most advanced technologies in this field.

Michael Stark

WITTMANN BATTENFELD has brought connectivity to the next level by offering remote service sessions via a Cisco WebEx conferencing tool. Using this technology a customer can access a live skilled technician to help troubleshoot any issue immediately over the web. Remote service allows for inexpensive and flexible online training as well as programming assistance.

Remote access via VNC

One method of connecting to WITTMANN BATTENFELD equipment is via VNC (Virtual Network Computing). This feature allows the user of the equipment to connect, view all parameters, and edit parameters that are safe for operators of the equipment all remotely. This feature is activated through a VNC license code on the equipment and can be used with a number of free VNC software available for most PCs and mobile devices.

SL Tennessee in Clinton, Tennessee, is an automotive injection molder that regularly uses this modern technology to manage the operation and performance of robots and materials handling systems that have been supplied by WITTMANN BATTENFELD.

“I use my PC and my iPad to manage the plant operations in numerous ways,” says Nick Milsap, Process Engineer at SL Tennessee. “I know when equipment goes down and when it’s up and running. I get email alerts pushed to my data phone and tablets for fatal errors in the system. I can troubleshoot alarms and errors and assist staff at the plant from home – plus, I can avoid over an hour’s trip from home to the plant. I can review the error log and the command log. I can help improve programs, cycle times, speeds, and safety. I can set up and manage passwords from

my device, much quicker than running to every piece of machinery. I do not have to climb up on the hot mezzanine, as equipment controls are all local to my PC and iPad. I can change settings and timers from anywhere and monitor performance. I can change configurations remotely, from my desk or from anywhere.”



*Remote control:
Adjusting the parameters of a running WITTMANN BATTENFELD injection molding machine using an iPad.*

For SL Tennessee, WITTMANN BATTENFELD's VNC application is "a strong foundation to improve uptime and visibility, for faster troubleshooting, keeping an eye on critical jobs, and assisting colleagues," states Process Engineer Nick Milsap.



Remote service via Web-Service

Web-Service using Cisco WebEx Conferencing is a fast, safe and secure way for a skilled technician from WITTMANN BATTENFELD to troubleshoot equipment remotely, provide mold set-up assistance, offer training, and assist

with creating special programs. This feature is available 24/7 on B6 controlled injection molding machines, R8 robot controls, and M7.2 material handling controls and it requires no external PC, additional equipment or software. The session is initiated by the customer requesting a remote session.

The technician then creates an online session and provides a web session number for the customer to log on to Cisco WebEx. Once the customer and technician are connected, there is a live feed from the customer's equipment to the WITTMANN BATTENFELD technician that includes a voice-over IP function via a USB headset eliminating the need for phone connection at the machine. From this feed the technician can immediately assist with resolving any problems or questions the user is having by reviewing set up parameters, alarms, interpreting schematics, etc. If remote interaction between the controller and the technician is required, the customer has complete control over system access by the technician. Putting the customer in control allows for a safe, secure and comfortable remote service session.

This technology has allowed almost instant access to the equipment for failure diagnosis or set-up assistance, thus cutting machine downtime to a minimum and eliminating the need for a service visit in most cases.

"If we want service from WITTMANN BATTENFELD, we can invite them into an IP address to provide support in minutes, much faster than technicians can travel here and without the cost. This is real-time technology in action, and at SL we find it to be a real advantage," said Nick Milsap, SL Tennessee.

A concrete example

Parmatech Proform's web experience once saved an important demonstration for key customers and top management. With a key account visit and a walk through by top management only moments away, Randy Blouin of Parmatech Proform couldn't wait the hour or two it would take for the local service engineer to arrive and diagnose the reason for the stoppage. It turned out that the issue was with the mold's spring-loaded ejectors. One of their WITTMANN BATTENFELD cells consisting of a HM 110/210 injection molding machine and a W811 robot was down.

Thank goodness for the WITTMANN BATTENFELD Web-Service. Within minutes Terry Roddick, WITTMANN BATTENFELD's Service Manager was able to connect to the machine's UNILOG B6 control via the internet, perform online diagnostics and adjust the settings to accommodate the mold's spring-loaded ejectors. As Randy Blouin says, "It turns out it was simple set point that required change. Still, hours were saved and, more importantly, the demonstration went off without a hitch." ♦

Michael Stark
is Divisional Manager Material Handling & Auxiliaries at WITTMANN BATTENFELD Inc. in Torrington, Connecticut.

High quality through automation

To optimize injection molding processes, both plastics processors and machine manufacturers are showing a strong tendency towards integrating their upstream and downstream production steps, which increases the significance of machine control systems and automation of production processes. A Swiss manufacturer of silicone parts has fully automated its manufacturing processes with robots and parts removal grippers, and thus achieved a material increase in productivity.

Werner Bürli – Walter Klaus



We can find LSR (Liquid Silicone Rubber) products in many areas of our daily lives. This man-made material is, in general, used particularly in medical technology production. The expertise of Trelleborg Sealing Solutions Silcotech Switzerland AG, based in Stein am Rhein, Switzerland, ranges from manufacturing sensitive products that come into contact with foodstuffs, such as baby comforters and coffee-maker siphons, to the production of high-precision technical parts like ignition plug connectors.

The tooling for these types of components is laid out for shot weights between 0.009 and 330 grams and developed by the company's own engineering design department. More than 50 injection molding machines at the Stein am Rhein facility are almost exclusively equipped with servo-driven linear robots from WITTMANN and fully automated. By making consistent use of automation equipment, Silcotech has successfully optimized the quality of both parts and processes – and dispensed with downstream finishing altogether. Following parts removal, which is carried out by pick-and-place grippers developed in-house, most of the production lines are connected with extensive equipment for inspection, testing and assembly. The company has also implemented this production concept at its facilities operating in Bulgaria, Spain and China.

Clean room production

As early as in the 1980s, Silcotech had already implemented the first automation for a demolding process with the help of linear robots, which contributed to a substantial reduction in reject rates. While, initially, relatively simple products, like sealing rings, were manufactured from silicone, the percentage of parts whose production

became increasingly complex rose continuously over the course of the subsequent decades.

Such highly complex parts are now in demand through an array of markets, such as medical technology and pharmaceutical industries. In order to guarantee fulfilment of the particularly stringent product quality standards and absolute product safety requirements in this sector, the production cells at Silcotech's clean room facilities have also been fully automated, a venture requiring implementation with ultimate precision and the maximum standards of hygiene, as well as the minimization of abrasive wear in production.

The Silcotech injection molding facility based in Stein am Rhein has been placed inside a class 100,000 (ISO class 8) clean room. Tempering and final packaging of the products take place in a class 10,000 (ISO class 7) clean room. Where necessary, a wet cleaning system with an integrated high-purity water processing unit is used as well. All injection molding machines are equipped with clean-room-compatible WITTMANN robots. Nine robot systems, supplied by



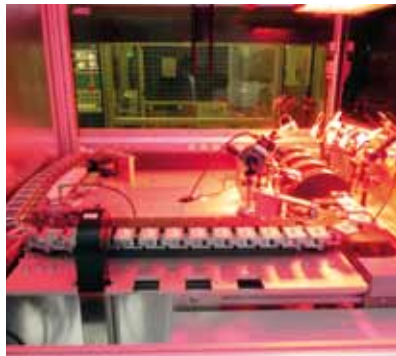
Picture above: Inside view of the main production hall of Silcotech in Stein am Rhein – WITTMANN linear robots in action. Picture right: Company staff inspecting the molded parts in the clean room.

Photos: Silcotech

the Swiss WITTMANN Kunststofftechnik AG based in Kaltbrunn, are the heart of the clean room automation system. All systems are state of the art and operate failure-free around the clock. Production is interrupted only for regular maintenance work on the production cells and the clean room equipment.

Safe demolding and nest depositing

The sometimes highly complex demolding processes challenge the handling robots' W-drives to push their limits. Septa constitutes one of many examples. The production cells enable the production of minute part weights (down



to 0.009 grams) without gating or overflow, but exclusively through direct injection with an injection unit developed by Silcotech and the company's own needle shut-off system. In the case of such small parts, the injection molding machine's mold protection system is unable to respond reliably, and any damage caused by a part remaining inside the mold may cause considerable downtime.

Safe, careful demolding with partly overlapping motions through simultaneous movements of all four servo axes may take a few seconds, "but on the whole, this definitely saves a lot of money through failure-free, continuous operation and end products conforming to specifications", says Matthias Jakob, designated General Manager of TSS Silcotech Switzerland AG. The robot gripper passes the

demolded parts to separating devices, from which they are deposited separately via a distribution system. The request for quality assurance test samples is triggered either at pre-set regular intervals by the software inside the robot, or by a manual switch placed outside the protective encasement which is operated at random. The respective parts are subsequently also deposited separately on special trays.

Optimized control software

The WITTMANN W832 CSS3 robots used in this instance are four-axis servo robots equipped with absolute value encoders for all axes. They are controlled via the R8 control panel, whose software contains a considerable number of newly developed modules, which enable highly complex programme sequences despite having extremely simple operating steps, especially inside the mold space.

This results in significant reductions in cycle time, which, over approximately 48 operating weeks per year, very quickly realize a positive impact on the bottom line at Silcotech.

Quality assurance at Silcotech is not limited to just examining the molded parts. Electrical components, and/or sensor signals, also undergo appropriate evaluation. Here, it has proven especially beneficial that the extensive command list of the R8 control system can be extended further through special functions that are able to meet even highly specialized requirements. One of these special functions displays errors which have occurred in the form of plain text on the screen of the R8 TeachBox.

The software enables the monitoring, in real time, of all sensors and control inputs that check and communicate the positions of certain mechanical elements. If an expected signal fails to appear within a pre-set time window, an alarm is triggered. Thanks to the plain text display, the place

in the system where the error has occurred immediately becomes visible to the operator. "The fact that the text for the display can be entered by our own staff greatly facilitates localization of the problem area, which in turn contributes to further enhancing the user-friendliness of the equipment", Matthias Jakob explains.

Thanks to the *EcoMode* module, high acceleration rates and maximum speed are only used if they are necessary to keeping the overall cycle as short as possible. All other phases of the process are designed to have every movement carried out as fast as possible and as slowly as tenable. This minimizes the abrasion on pneumatic tubes and cable carriers and, ultimately, helps prevent the contamination of the clean room. ♦

Picture left: Quality assurance inspection equipment.

Picture right: The inspection results from four cameras are processed by a special software in real time and displayed on a monitor.

Photos: Silcotech

Injection-molded LSR parts for use in medical technology.

Photo: Silcotech

Werner Bürl is the Managing Director of WITTMANN Kunststofftechnik AG in Kaltbrunn, Switzerland. **Walter Klaus** was the Chief Technical Officer of WITTMANN Robot Systeme GmbH in Schwaig, Germany until his retirement in 2008.

A fruitful collaboration with WITTMANN

NICOMATIC, a world leader in electronic connectors, is a French family-run company, headed by Olivier and Julien Nicollin, and based in Bons-en-Chablais. The headquarters employs 200 people. Subsidiaries are located in the U.S., China, Brazil, and India. NICOMATIC is successfully applying the full range of WITTMANN auxiliary equipment.

Denis Metral

Olivier Nicollin, General Manager, points out: "The advanced technology of our electronic connectors requires a strict control of the production process. One of the main strategies with regard to the integration of the injection molding machines is to internally drive the effort on the knowledge that is connected to plastics while, of course, firmly committing to our policy of quality and responsibility. About 80% of our turnover comes from export trade. We are supplying 35 countries in the fields of defense, aerospace, medical, and other challenging branches. NICOMATIC is EN 9100/2009 certified, and we spend 10% of our turnover for research and development, employing 20 highly skilled engineers all over the world."

WITTMANN auxiliary equipment at NICOMATIC in Bons-en-Chablais, France. In the above picture, drying and conveying equipment with system control and piping is shown. The picture below shows temperature controllers, sprue pickers and a granulator at the injection molding machines.

NICOMATIC and WITTMANN

All components of the NICOMATIC electronic connectors are manufactured in France using both the techniques of cutting metal sheets and plastics injection molding. There are three injection molding machines installed at the NICOMATIC Bons-en-Chablais facility to manage the in-house development and production of plastic parts.

Patrick Fibigr, Plastics Department Manager at NICOMATIC: "We chose WITTMANN to supply the entire installation of the material handling and drying system, we are using WITTMANN water flow regulators with our molds, and last but not least WITTMANN granulators have also been integrated into our system. We were completely sold on their striking philosophy of getting everything from only one single supplier. Our regional contact at WITTMANN BATTENFELD France was able to provide an all-encompassing offer that included all the installation work, thus making our system a real turnkey solution."

Denis Metral is International Product Manager for granulators at WITTMANN BATTENFELD France SAS in Seyssinet-Pariset.



The NICOMATIC installations

To allow simple and rapid changes, the material is stored in mobile containers. The material conveying process is carried out by WITTMANN FEEDMAX BS/6 material loaders. WITTMANN DRYMAX units dry the material at the perfect dew point before it is conveyed to the injection molding machines. The molding machines themselves are equipped with FEEDMAX B feeders with PDC functionality. The removal of the molded sprues is carried out by W702 sprue pickers.



TEMPRO plus D140 temperature controllers provide both flow control and the appropriate water temperature. The TEMPRO units were included because of their reliability and the fact that the new and clearly laid out touch-screen on the TEMPRO units allow for easy operation.

NICOMATIC also uses a WITTMANN beside-the-

press granulator. The Minor series model, with its low rotor speed, was chosen because of its quiet operation, its low energy consumption and the comparatively longer life cycle of its maintenance-free cutting tools. This unit is equipped with a material level detector that is integrated into the regrind bin. When the material level there reaches a certain height, the FEEDMAX that is mounted on the mobile material container is activated, thus conveying the regrind into the container.

The installation and the start-up of the system required a strict timetable, so as not to collide with scheduled production sessions. Dominique Lerges, a local WITTMANN technician, was involved in the project from the beginning to request and troubleshoot all the aspects of the installation. Patrick Fibigr concludes: "The collaboration between WITTMANN and our own technical teams couldn't have worked any better." ♦

Bradford University uses the *MicroPower*

In 2010, Bradford University's Polymer Centre for Micro and Nano Technology bought the very first WITTMANN BATTENFELD MicroPower injection molding machine.

- **Your business?**
Provider of cutting edge research and development in micro and nano polymer molding technology. Researchers into the behavior of micro mold tool temperatures and mold surfaces. Contract molder of micro moldings to various clients – primarily in the healthcare, optical and electronic industries.

- **Specialties?**
Experts in micro molding in all polymer materials (less than 1 gm) and in nano polymer technology.

- **Date of MicroPower purchase?**
We had several discussions with WITTMANN BATTENFELD as the *MicroPower* series was being developed – and we travelled to the K 2010 exhibition to sign the deal.

- **MicroPower model?**
The first new WITTMANN BATTENFELD *MicroPower* machine 2010 with 15 tons clamping force – serial number 0001 – with manual.

- **Reason for purchase?**
Our Polymer Micro and Nano Technology Centre continues to expand some five years after launch. No accident I guess, since micro and nano polymer technology are key to our global materials future. We are well aware of the BATTENFELD traditions and expertise in micro molding, and we have been a satisfied customer of the BATTENFELD machines over the years. On this occasion we really wanted the latest and best molding technology in order to give our new research work the best possible head start. The *MicroPower* fits the bill! We have

a number of commercial and EU grant funded projects which are now progressing with it. The new *MicroPower* molding machine is now the principal research

- **Nickname yet?**
Not that I know of!
- **Customization?**
Plenty – and most of them have

My MicroPower
Part 1

Respondent:
Dr. Ben Whiteside

Position:
Centre Manager

Company:
**Polymer Centre for
Micro and Nano Technology**

Location:
Bradford, United Kingdom



MicroPower injection molding machine at the Polymer Centre of the Bradford University, serial number 0001.

machine and mold investigation tool at the Polymer Centre, Bradford. Its purchase has allowed us to release our other BATTENFELD micro molding machines for the bulk of our contract molding production work.

- **First impressions?**
Funny thing to say perhaps – but it looks great! We're in a very modern Polymer Centre building here, and the clean lines of the new machine complement the shape of our building and the outlook extremely well. The *MicroPower* is also the first machine our clients will see as they come through the door into the Centre.

- **Second impressions?**
The modular design is very intelligent – which it needs to be for us, since we will be using this molding machine to its limit, with a great deal of peripherals, high speed cameras, infrared technology, heat sensors and all manner of computing equipment.

to do with computing power, tool and process analysis and the internet – “cloud computing” even.

- **Payback time?**
For us this issue is a little different to a straight contract molding payback. We're in the business of global excellence in micro injection molding. We needed to give ourselves – and our projects – the best possible machine for the job and we believe that we have that with the *MicroPower*.

- **What next for the Polymer Centre?**
We're hoping that in the coming months you'll hear a lot more about us at the Centre, especially our research and clients in micro molding. We are intending to play our part in publicizing the new advances in the technology. In my view it is only a matter of time and creativity before the micro molding industry expands and really starts contributing to our modern world. ♦

WITTMANN and WITTMANN BATTENFELD expanding their capacities

WITTMANN Robot Systeme GmbH in Schwaig, Germany, is constructing a new building in Feucht near Nuremberg, and WITTMANN BATTENFELD is expanding its production capacity at the Kottlingbrunn plant in Lower Austria.

The excellent order situation throughout last year and also at the beginning of this year has driven these two member companies of the WITTMANN Group to

expedite these moves at both facilities in Austria and Germany.

New building in Schwaig

Due to the strong demand for automation equipment and turnkey systems, WITTMANN in Schwaig has reached the limit of its capacity, primarily because the production of such equipment and systems requires relatively large assembly areas. WITTMANN is responding to the increase in demand by putting up a new building on a more than 12,000 m² site.

1,200 m² office space and 3,000 m² production floor space are being built in the industrial area of Feucht with good transport connections south of Nuremberg, located near the motorway junctions of A6/A9/A73. About 70 associates will be permanently employed at the new facility. The Feucht facility will also be in charge of coordinating 20 service technicians in the field.

A generously dimensioned technical lab will also be established to have tests carried out for customers on injection molding machines and robots.

An ultra-modern training centre equipped with robots will be constructed next to the lab, and a material loading system to serve both various demonstration purposes and the operation of the injection molding machines is also planned for the new facility. The assembly area on the production floor will be equipped with

two cranes with load capacities of up to 10 t, state-of-the-art CNC 3-axis machining centers, including a sawmill, and an electrical department for the production of control cabinets. 400 m² of storage space will be provided to stock the full range of spare parts and expendable parts for robots that will, in conjunction with a separate repair department, enable an even faster response to customers' wishes.

The first spadeful of earth was turned on 15 June 2012, marking the start of construction. Moving into the new building is planned for the turn of the year. The company commissioned with constructing the new production and office facilities is Freyler Industriebau GmbH based in Bergneustadt, Germany, which was previously responsible for building the new home of WITTMANN BATTENFELD GmbH in Meinerzhagen in 2008/09.

Extension in Kottlingbrunn

In 2010, the first model of the *MacroPower* series was presented to the public. This large machine model from WITTMANN BATTENFELD was met with a very positive response from the market and is now available with clamping forces ranging from

500 to 1,100 t. A high, continued interest in this machine series, which features compactness, modularity and high speed, is also expected for the future.

The excellent order situation for WITTMANN BATTENFELD led to full utilisation of its production capacity in 2011. The beginning of 2012 was also very promising, which prompted the decision to extend the production and storage areas at the Kottlingbrunn facility by 3,000 m².

Remodelling the existing facilities has made it possible to extend pre-assembly and storage capacities by about 1,400 m², and a further 1,600 m² will be added to the assembly area by building a new bay onto the existing assembly hall.

The new addition to the building and its equipment will be wholly dedicated to the production of large machines.

The planning stage is now completed and construction has begun. Completion of the extension is expected by the end of September 2012. ♦



Picture above: Planning sketch of WITTMANN Robot Systeme GmbH's new building in Schwaig.

Picture right: View (rendering) of the extension of the WITTMANN BATTENFELD facility in Kottlingbrunn.

The new South African WITTMANN agency

Since March 2012, MOULDPLAS MARKETING, based in Randburg, has been representing the WITTMANN Group's entire product range in South Africa: injection molding machines, automation and peripheral equipment.

MOULDPLAS MARKETING was established by Bryan Webb in 2009 with the objective of supplying the South African plastics packaging industry with modern machinery, such as injection molding equipment.

Today, the company is highly successful, offering its customers not only individual peripheral appliances and processing machines, but also all-inclusive, turnkey solutions for both individual production cells and complete production facilities.

With its highly qualified staff from the plastics industry, the MOULDPLAS company is also able to provide the necessary services for operating such equipment.

The company is the preferred supplier of a great variety of machinery and equipment to the Astrapak group. For example, MOULDPLAS will deliver technical appliances from international manufacturers to Astrapak under an exclusive contract for the next 3 years. By selling the WITTMANN product range, MOULDPLAS plans to expand its business in the injection molding sector in the future. Its declared goal is market leadership in processing

machinery and service within the next three years. MOULDPLAS currently employs 18 associates and plans to recruit additional staff, primarily in the engineering sector. WITTMANN Group associates are confident they have found the best possible partner in South Africa. ♦



The General Manager of the South African MOULDPLAS MARKETING Company, Bryan Webb (left), and Michael Wittmann.

Great success at the 2012 NPE trade fair in Orlando

At this year's NPE in Orlando, WITTMANN BATTENFELD showcased six complete production cells fully equipped with automation and all peripheral appliances.

The American subsidiary of the WITTMANN Group once again presented itself successfully as a machine manufacturer that is able to supply any and all equipment that can be used in the injection molding processes. Moreover, the visitors' attention was very deliberately directed towards all of the possibilities of remote access to machinery that WITTMANN's state-of-the-art control systems have to offer.

David Preusse, CEO of WITTMANN BATTENFELD Inc., comments: "The trade fair was a complete success. We sold some equipment directly from our booth. For example, we sold the new large MacroPower injection molding machine with 1,000 t clamping force, as well as our W843 robot. In the week following the exhibition, we were able to sell eight more machines, some of them to new customers. This clearly shows that we

have followed the right course since BATTENFELD joined us three and a half years ago. I am very proud of all of our associates here in the States and our colleagues in Europe as well."

In addition to the product presentations, the "side shows" offered by WITTMANN BATTENFELD at the booth probably also contributed to attracting visitors. A linear robot from WITTMANN practiced shooting basketballs and, to the excitement of the trade show visitors, achieved a hit rate that would have done credit to any professional basketball player.

"Last but not least, the efforts of the NPE trade fair team were supported greatly by our Robot Man", David Preusse says with a grin. "He was really fantastic!" ♦



WITTMANN BATTENFELD booth at the NPE 2012 in Orlando.



The WITTMANN BATTENFELD "Robot Man", supporting the NPE sales team.

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