

Wittmann

www.wittmann-group.com

innovations

Techniques – Markets – Trends

Volume 9 – 2/2015



*Always
perfectly staged:*

WITTMANN
auxiliary equipment

Battenfeld

Articles that appeared in *WITTMANN innovations* so far

Conveying/Drying/Entire Systems

- Central system at BOSCH 1/2007
- Quality control of dryers 1/2007
- Kromberg & Schubert's system 2/2007
- Cost efficient material drying 2/2007
- FEEDMAX for the clean room 3/2007
- The new DRYMAX ED80 3/2007
- Focus on material feeding 1/2008
- Network control at Arge2000 2/2008
- Changing parameters when conveying different materials 2/2008
- Optimizing a conveying system 3/2008
- Dryers with energy rating 3/2008
- The Metchem central system 4/2008
- Auxiliaries at Delphi in China 1/2009
- LISI COSMETICS' central system 2/2009
- Perfect planning of central systems avoids downtime 3/2009
- Testing energy claims at FKT 4/2009
- The new FEEDMAX B 100 1/2010
- Greiner is saving energy by using WITTMANN dryers 2/2010
- The A.C.S. conveying system 3/2010
- FEEDMAX Primus conveyor 4/2010
- The new DRYMAX Aton 2/2011
- The BKF conveying system 2/2011
- WD Kunststofftechnik and its central system 4/2011
- PET processor uses a WITTMANN conveying system 1/2012
- The PLASTICOM system 2/2012
- The NICOMATIC system 3/2012
- Saving energy in material drying 4/2012
- The Bspack material handling 2/2013
- Vision Technical Molding: Prescription for efficiency 3/2013
- WPC injection molding 1/2014
- New Pollmann central system 2/2014
- The HELLA Mexico system 3/2014
- The Procopi system, France 4/2014
- The SLM material management 4/2014
- Slovenian producer relies on the WITTMANN Group 1/2015

Automation

- Production and quality control in medical engineering 1/2007
- The handling of large structural foam parts 2/2007
- The new R8 robot control 3/2007
- High-end: The production of seat adjustment rods 1/2008
- Drive engineering for robots 1/2008
- Automating the production of transponder pins 2/2008
- Automated remote control keys 3/2008
- Automation at Carclo, UK 4/2008
- The flexible automation cell 1/2009
- The cultivation of growth with WITTMANN robots 2/2009
- Bruder toy wheel production 4/2009
- Pallet production at Utz, Poland 1/2010
- EcoMode for efficient robots 2/2010
- Automated oil level sensors 2/2010
- Automating rotation welding 3/2010
- The new R8.2 robot control 4/2010
- Linear robots in the clean room 1/2011
- Super-fast part removal 2/2011
- Automation of cups and lids 3/2011
- Superior multi-component parts 4/2011
- Automating insert molding 1/2012
- The expert automation of lids 2/2012
- LSR parts at Silcotech, Switzerland: Quality through automation 3/2012
- Zero-reject production 4/2012
- Smallest parts at JENOPTIK 2/2013
- The Schramberg automation 3/2013
- The Busch-Jaeger automation 1/2014
- Automating In-Mold Decoration 2/2014
- Automation at Port Erie Plastics 3/2014
- Automating STAR PLASTIK 4/2014
- Jones Plastic and WITTMANN 1/2015

In-Mold Labeling

- IML stack mold systems 3/2007
- The WITTMANN 2 + 2 stack mold 1/2008
- ATM d.o.o. in Serbia grows with WITTMANN systems 3/2009
- Quadrangular IML design at PLASTIPAK in Canada 4/2010
- Tea Plast in Albania wants to become the Number One in IML 3/2012
- EcoPower: fourfold IML 1/2013
- IML as a multifaceted process 4/2013

Temperature Control

- Advantages of pulsed cooling 1/2007
- Comparing water to oil 2/2007
- The new temperature controllers of the TEMPRO plus C series 3/2007
- COOLMAX cooling units 2/2008
- Temperature controller "guarding" injection molding machines 3/2008
- Temperature controllers with DUO cooling 4/2008
- Variothermal tempering 1/2009
- TEMPRO plus C180 2/2009
- TEMPRO direct C120 [C250] 3/2009
- WFC: Water Flow Control 4/2009
- TEMPRO plus C180 1/2010
- TEMPRO: Universal benchmark 2/2010
- BFMOLD® mold cooling 3/2010
- TEMPRO plus D 4/2010
- Online-thermography 1/2011
- Tempering and injection molding at Fuchs & Sohn 2/2011
- TEMPRO plus D in the automotive sector 1/2012
- Oscilloscope function 2/2012
- Compact temperature controller 4/2012
- Quality assurance through the optimal tempering process 1/2013
- The Starlinger special solution 2/2013
- New WITTMANN tempering and flow control equipment 4/2013
- TEMPRO uses heat waste 1/2014
- Clean solution at DELPHI 4/2014
- Blum using a special solution 1/2015

News From The Subsidiaries

- Australia 2/2008, 2/2013
- Austria 2+3/2008, 1/2010, 3/2011, 4/2012, 3/2013
- Benelux 3/2008, 2/2009
- Brazil 3/2007, 1/2009
- Bulgaria 2/2009
- Canada 1/2007, 1+2/2008, 3/2009
- China 2/2010
- Colombia 2/2012
- Czech Republic/Slovakia 4/2009, 3/2014
- Denmark 1/2009, 1/2013
- Finland 4/2008+1/2012
- France 2/2007, 3/2008
- Germany 1/2007, 3/2012, 4/2013, 3/2014
- Great Britain 2/2009, 2/2010
- Greece 2/2014
- Guatemala 1/2013
- Hungary 1/2008
- India 2/2008, 3/2010, 2/2012
- Israel 1/2012
- Italy 4/2008, 1/2010, 4/2011
- Mexico 3/2007, 3/2009, 1+2/2011
- Poland 2/2013, 3/2013
- Russia 4/2012
- Slovenia/Croatia 1/2010
- Southeast Asia 2/2007
- South Korea 3/2010
- Spain 3/2007
- Sweden 2/2009
- Switzerland 1/2008, 2/2012
- Taiwan 4/2009
- Turkey 3/2008, 2+4/2011
- USA 2/2008, 3/2009, 1/2011, 4/2013, 4/2014

Injection Molding

- Injection molding one stop shop 4/2008
- Metal injection molding at Indo-US MIM 4/2008
- Cost optimization: EcoPower 1/2009
- IT assisted services 1/2009
- Water injection for all-plastic parts 2/2009
- The Krona Indústria equipment 2/2009
- Micro-parts: Microsystem 50 3/2009
- Multi-component process at wolcraft 4/2009
- Process data acquisition: partnership with Wille System 4/2009
- The new all-electric EcoPower 4/2009
- Thomas Dudley and WITTMANN BATTENFELD 1/2010
- IML with TM Xpress 1/2010
- AIRMOULD® and AQUAMOULD® Mobile 1/2010
- Design Molded Plastics and their molding machines 2/2010
- Stadelmann relies on Wille and WITTMANN BATTENFELD 2/2010
- The new MicroPower 3/2010
- AQUAMOULD® and projectile injection technology 3/2010
- New benchmark: MacroPower 4/2010
- STELLA relies on WITTMANN BATTENFELD machines 4/2010
- The ServoDrive technology 1/2011
- The 75th machine for Krona 1/2011
- Packaging specialist TM Xpress 2/2011
- WAVIN (Czech Rep.) and WITTMANN BATTENFELD 3/2011
- SANIT molding a success 3/2011
- WEPPLER's molding machines 4/2011
- MacroPower producing cable ties 1/2012
- The CELLMOULD® process 2/2012
- The 43 ESMIN machines 3/2012
- Remote connectivity 3/2012
- Foamed high-quality parts 4/2012
- LECHNER MacroPower 4/2012
- MacroPower at GT LINE 1/2013
- Praise for the standard machine! 1/2013
- Vertical machines at Electricfil 2/2013
- BECK's molding technology 2/2013
- ESCHA using HM machines 3/2013
- Hoffer Plastics' HM machines 3/2013
- Guppy using the EcoPower 3/2013
- The Backhaus success 4/2013
- Incapsulation: clean and safe 4/2013
- Multi-component parts 1/2014
- Success through versatility 1/2014
- The tried and tested at Philips 2/2014
- Light-weight foamed parts 2/2014
- The KRESZ & FIEDLER Systems 3/2014
- SME molder Autenrieth 3/2014
- Top micro parts from Kung AG 3/2014
- Opening up efficiency reserves 4/2014
- HiQ Shaping 4/2014
- ServoPower saves energy 1/2015
- Best quality at hünersdorff 1/2015
- The Grip It Fixings success story 1/2015

Blending

- The new GRAVIMAX series 2/2007
- Blender economics 3/2007
- GRAVIMAX 14V blender 3/2009
- The art of blending regrind 3/2011
- Dosing on the highest level 1/2013
- Precision for safe rail traffic 4/2013

Granulation

- Inline recycling of sprues 1/2007
- Giant granulator MCP 100 2/2007
- The new MAS granulator 3/2007
- Challenging recycling process 1/2008
- The MC 70-80 at Centrex 2/2008
- Gibo Plast enforces recycling 2/2009
- MC granulators with AF auger 4/2009
- Grinding of ferrite 1/2010
- Grinding critical material 3/2010
- The TMP CONVERT solution 1/2011
- Inline recycling with Minor 2.3/2011
- Granulators under the press 2/2012
- Large solutions for large parts 1/2013

WITTMANN innovations (Volume 9 - 2/2015)

Quarterly magazine of WITTMANN Kunststoffgeräte GmbH and WITTMANN BATTENFELD GmbH. Appears to meet the informational demands of staff and customers. Editorial office: WITTMANN Kunststoffgeräte GmbH, Lichtblaustrasse 10, 1220 Vienna; tel. +43-1 250 39-204, fax +43-1 250 39-439; bernhard.grabner@wittmann-group.com; <http://www.wittmann-group.com>
Issue 3/2015 of "WITTMANN innovations" will appear at the beginning of the third quarter 2015.

Editorial



Michael Wittmann

Dear Reader,

We are looking forward to April 22 and 23 with great pleasure. On these days, we would invite you to again visit our machine manufacturing plant in Kottlingbrunn, where the *MacroPower Days 2015* will take place. As the name already implies, the speeches and presentations of this event will focus primarily on our *MacroPower* series of large machines. We are offering our guests an opportunity to take a look at seven injection molding lines with clamping forces ranging from 400 to 1,600 t, and to gather information about advanced process technologies. The other models from our PowerSeries will also be available for viewing.

Well-known experts from industry, scientific research and teaching will hold presentations on highly topical subjects such as *Industry 4.0*, manufacturing of “organo sheets”, injection-molded integral foam, and numerous other applications from various branches of industry. In short, a program awaits you which covers the entire bandwidth of application options for our *MacroPower* models.

Univ.-Prof. Friedrich Bleicher, Head of the Institute for Production Technology at TU Vienna, will hold the opening speech about “*Industry 4.0* for the plastics industry“, dealing with a development which is vital for the Central European industry and for economic policies. *Industry 4.0* stands for pooling all trends which aim to implement comprehensive networking of all information and communication technologies in an Internet of objects, services and data. The facilities for quick, flexible response to customers’ demands (including cost-efficient production of small batches) will be further improved, thus preserving the competitiveness of countries with high wage levels.

The companies of the WITTMANN Group have the unique expertise at their disposal to integrate all injection molding components, i.e. the complete automation system and full range of peripheral equipment. This gives us a decisive competitive advantage over other companies of the injection molding equipment industry. With our integration solution called *WITTMANN 4.0* we are already offering now what as, for example, been described by the Fraunhofer Institute as the greatest challenge in connection with *Industry 4.0*: the definition of communication standards, including guaranteed safety of data and access. With *WITTMANN 4.0* we have already reached a goal which many others are only just starting slowly to pursue. We would invite you to gather information about the potential of *WITTMANN 4.0* at the *MacroPower Days* of the WITTMANN Group!

Yours cordially, Michael Wittmann

Content

Automation Thus productivity occurs



Jimmy Teo writes about automation systems at Greenland Plastics in Singapore. **Page 4**

Conveying Effectiveness and cleanness



Terry Liu describes the Gerresheimer central system in China. **Page 6**

Entire Systems Highly integrated workcells



Sonny Morneault visits Alliance Precision Plastics in Spindale, North Carolina. **Page 8**

Injection Molding Best molding quality



Gabriele Hopf on Fushima, a Spanish molder working for the world market ... **Page 10**

Resource saving production



... and on Tielke in Germany, the all-round injection molder and toolmaker. **Page 12**

News



We present: the WITTMANN BATTENFELD QuickLook app. **Page 14**

Portrait



We provide insight into WITTMANN Kunststoffgeräte GmbH in Vienna, Austria. **Page 15**

The highest degree of accuracy ... over and over again

A well-established Singapore plastics processor uses automation systems provided by the local WITTMANN branch – and achieves a remarkable increase in productivity.

Jimmy Teo

Hexagon screw nuts that are inserted into the mold, and finished molded parts, manufactured at Greenland Plastics (S) Pte. Ltd. in Singapore.



Jimmy Teo, Managing Director of WITTMANN BATTENFELD Singapore and Chia Mui King, Managing Director of Greenland Plastics Singapore. The handshake marked the sealing of a further automation project, allocated to WITTMANN BATTENFELD Singapore.

Greenland Plastics, located in Singapore, is a specialty producer of PVC (Polyvinyl Chloride), PE (Polyethylene) and ABS parts (Acrylonitrile Butadiene Styrene), and also processes halogen free (HF) material.

Greenland operates two production plants in Southeast Asia, one production plant in Singapore, and the other one in Malaysia. The highly competitive company is well positioned to meet any needs and expectations of its customers.

In the first instance, Greenland Plastics is highly specialized in the extrusion industry, especially in the extrusion of pipes, industrial hoses, cable trunking and profiles, rendering OEM services for custom requirements. With almost 40 years of extrusion and injection process experience, Greenland is widely known and highly respected for excellent quality and absolute reliability.



Automation for a smooth process run

One of the secrets behind Greenland's success is that their automation components have been consistently state-of-art. This philosophy led to the acquisition of a WITTMANN W818 servo robot with fully automatic downstream equipment delivered from WITTMANN BATTENFELD Singapore.

After the hexagon screw nuts, produced at Greenland, have been oriented by means of a customized bowl feeder, the W818 robot reliably picks and places the inserts into the mold, working with absolute precision and repeated accuracy. Thanks to its process consistency, the WITTMANN automation solution increases productivity through a significant reduction of cycle times, and it contributes to improving the high quality standards. The automation process can be operated without any interruption for very long periods, perhaps even for years.

cutting costs, but simply about ‘doing things right’ and ‘doing the right things’ to achieve maximum efficiency and value.”

Service and responsiveness

“We recognize and appreciate the service department of WITTMANN BATTENFELD Singapore as extremely cooperative and knowledgeable. They always respond immediately, and this is the reason why we have chosen WITTMANN BATTENFELD Singapore as our preferred



Greenland customized end-of-arm tooling (EOAT), designed by WITTMANN BATTENFELD Singapore.

Chia Mui King, Greenland Managing Director comments on this: “Thanks to the WITTMANN robot, we have achieved a significant reduction of the mold opening times that approximately mount up to 70 to 80%. We have increased our productivity; we produced more goods and worked off more services using the same amount of labor and capital. For us, it is not really about

automation partner. Additionally, our technical department has benefitted so much from their customized training program,” says Chia Mui King. Moving forward and achieving higher productivity through automation, Greenland Plastics has made an agreement with WITTMANN BATTENFELD Singapore to undertake their future automation projects with them. ♦

Jimmy Teo
is Managing
Director of WITTMANN BATTENFELD (Singapore) Pte. Ltd.

The central drying and conveying system at Gerresheimer in China

Gerresheimer Medical Plastic Systems Dongguan Co. Ltd. near Hong Kong, is a subsidiary of the German Gerresheimer Group, using a central drying and conveying system from WITTMANN.
Terry Liu



WITTMANN FEED-MAX material loader, mounted on an injection molding machine.

The company in Dongguan was founded in 2006, and the plastic products, plastic containers and molds it is manufacturing are exported to Europe, the Americas and other countries. Their technical expertise ranks among those of the world's leading plastics processors.

The production site is certified to EN ISO 13485:2012 + AC:2012 and ISO 9001:2008. The site has a total area of 10,700 m² and 1,800 m² of production area, 600 m² of which are designated for clean room production to ISO class 8, and 1,100 m² are controlled areas in accordance with ISO class 9.

All the products are designed, molded and assembled according to the GMP standard (Good Manufacturing Practice). At present, the Gerresheimer Dongguan site is the only plastics processing facility of the Gerresheimer Group in Asia.

The Dongguan injection workshop

The company's injection molding workshop is installed on the ground floor, while the central control room and the raw material bins are located on the 2nd floor. The central system was delivered by WITTMANN BATTEN-

FELD China. At Gerresheimer Dongguan, the following types of material are conveyed: PC + ABS, POM, ABS + PTE, POM + PTFE + Silicon. Due to the particularity of the products, the requirements for the central conveying system are very high.

The main targets were to get dust-free operation as far as possible, to allow only the lowest amount of moisture after having dried the raw material, and to prevent re-moisturization.

Above that, the system had to operate without interruption. WITTMANN's central system completely met the standards required for the production of medical parts.

Features of the central system

The WITTMANN drying and conveying system comes with many advantages. The dryers allow for a dew point of up to -60 °C.

The WITTMANN SILMAX drying hoppers and FEEDMAX material loaders are made of advanced insulated stainless steel. The system comes with a dust filter, ensuring a largely dust-free conveying of the raw material. WITTMANN's unique temperature controlled counter-

flow regeneration avoids humid ambient air within the drying hopper, thus preventing the re-moisturization of the material.

The dryer is equipped with molecular sieve desiccant beds to ensure a constant and stable flow of dry air. One of the special requirements for the Gerresheimer system was the installation of an alternate pump to maintain a steady material throughput.

This pump matches perfectly with the central conveying system and it is laid out for fast setup if necessary. The special WITTMANN *SmartFlow* function regulates the drying hopper air quantity, using the material throughput as a reference value.



Therefore, only the air quantity that is actually needed for the drying process in the specific drying hopper has to be heated. As a result, it is possible to save up to 80% of the energy cost associated with the drying process.

The entire solution is equipped with the WITTMANN M7.2 network control system, allowing for visualization of all the conditions on a 15" touch screen, including a schematic presentation of the material flow.

The M7.2 control system makes sure that the different materials are conveyed to the right processing machines. It offers an intuitive and user-friendly interface, and it is easy to operate, showing any and all data of the complete drying and conveying process – the functioning of the FEEDMAX and DRYMAX devices respectively.

Using the M7.2, the operator is getting access to commands and error messages of the previous 100 days and is able to diagnose the system and to execute a rapid

troubleshoot. In short, the totality of the drying and conveying equipment from the WITTMANN “one-stop shop” led to impressive energy savings at, to a considerable increase in productivity, and helped reduce the scrap rate.

In addition to all this, the WITTMANN Group provides a highly qualified hot-line help service 24 hours a day.

The high quality of all WITTMANN and WITTMANN BATTENFELD products (auxiliary equipment on the one hand, and injection molding machines on the other) and the

comprehensive and thoughtful after-sales service are the reasons why so many plastics processors rely on advanced auxiliary equipment of the WITTMANN Group – everywhere in the world. ♦

The picture is showing a WITTMANN central material drying and conveying system including a DRYMAX battery dryer, 6 SILMAX material hoppers with FEEDMAX loaders, 2 filter stations, and a coupling station.

Xiaoqiang Zhang, Technical Service Engineer of WITTMANN BATTENFELD China.

Terry Liu is Deputy General Manager of WITTMANN BATTENFELD (Shanghai) Co., Ltd. in China.

Alliance Precision Plastics: Workcell integration, automation and service

After winning a bid for a complex new molding project, Alliance Precision Plastics needed additional new equipment that was customizable, easy to integrate, and quickly delivered. By providing one-stop shopping, WITTMANN BATTENFELD was able to meet all of their needs and meet them faster than the competition.

Sonny Morneault

Alliance Precision Plastics, headquartered in Rochester, NY, is a custom injection molding, mold design, mold building, and contract assembly company.

What began as a local tool making shop in 1953 has grown into a powerful production molding company, with over 90 injection molding machines spread over four main locations in the US and Mexico. The most recent location came to Alliance in early 2012 via the acquisition of certain assets of Molding Dynamics, Inc., located in Spindale, NC. With this acquisition came the award of a major new project by a leading appliance manufacturer, and a resulting need for a new line of molding machines and auxiliaries to support it.

“We had a strong customer base in the Southeastern US, and saw the Spindale facility as a great fit for us to better service that region for both new and existing customers,” says Joe Williams, Vice President of Operations at Alliance. “It was an incredibly smooth acquisition and combination of corporate cultures. The transaction brought to Alliance the chance to hire a number of talented and hard-working people in North Carolina to join our team. That combination has allowed Alliance to expand both their business opportunities and their physical plant.”

One of those opportunities was to bid on a large new project being offered by an existing Spindale customer. To accommodate the new work cells, Alliance also needed to expand their Spindale facility.

As a result, Alliance Precision Plastics began construction on a 17,500 sq. ft. addition to the existing plant. The new space is primarily for warehouse use, leaving more room on the existing floor for the new work cells.

This addition was started in July 2014 and includes 5 dock doors for more efficient shipping and loading, as well as increased capacity. It was completed and moved into by the end of 2014.



A new work cell

Upon winning the project and planning the expansion, Alliance went out looking for the equipment necessary to build the new work cells necessary to support it. The new project was a complex one that required machines that of-

ferred flexibility, customization, and a fast turnaround, and working with WITTMANN BATTENFELD made sense. “We had worked with WITTMANN BATTENFELD before on a custom spool automation project back a few years ago and we had some great feedback from our employees on the ease of use and quality of the WITTMANN robots,”

Alliance Precision Plastics

Alliance Precision Plastics (<http://www.allianceppc.com>) performs custom injection molding of plastics, mold design, mold building and value-added contract assembly for different companies that are operating across the United States and around the world.

Alliance Precision Plastics has operations at two facilities in Rochester, NY, as well as the facility in Spindale, NC. Additionally, Alliance is a fifty percent partner with McAlpin Industries in AMMEX, a plastics, metals, and assembly operation in Ramos Arizpe, Mexico, near Monterrey.

delivery time were all big selling points for us that WITTMANN BATTENFELD could achieve, so we pulled the trigger.” As a result, Alliance purchased seven injection molding machines (a TM 500, 2 HM 150s, 2 HM 90s, an HM 65, and an HM MC 300 two-shot machine), 4 robots (2 W833s and 2 W831s), 5 granulators (4 SJ Minor 2s and an ML 33), 3 dryers (2 DRYMAX Aton F70-200-Ms and 1 DRYMAX E30-70-M), 3 loaders (3 FEEDMAX S3 Primuses), 2 pickers (W702s), 5 TCUs (TEMPRO basic C200s) and a silo.

With all of this equipment coming from a single source, Alliance had all of it delivered to them in three months time, something that was important to them with their need to get the new project underway as soon as possible. The machines and robots were intuitive to program and set up, as well as backed by WITTMANN BATTENFELD’s stellar customer service and support team. The ease of integration was key for the project, with all of the robots, material handling systems and injection molding machines communicating and working together seamlessly. The plant personnel at Alliance praise the simplicity of the controllers and the control systems, and appreciate the consistency of them across the entire work cell.

“As good as the equipment has been, the service has been an even bigger added value for us,” says Kearns. “They have knowledgeable, helpful sales representatives and independent service providers that are based right in our backyard, which makes our lives easier and helps our equipment run even better.”

A custom solution

One of the new machines needed to mold a challenging part for the appliance industry that required a custom build. The application was at the crux of the work cell, and was necessary to mold the base component of the finished complex appliance part. Alliance worked closely with the engineers at WITTMANN BATTENFELD and they built a custom two-shot machine providing the solution that was needed at the work cell’s front end.

“We really leaned on WITTMANN BATTENFELD for help with the two shot machine,” says Kearns. “The mold size required a big machine and the shot sizes demanded something different. What we ended up with was a nearly completely custom machine that fit our application perfectly and provided us with the solution we needed.”

“We have thoroughly enjoyed working with Alliance here in Spindale,” says Joe Varone, Regional Sales Manager – Robots at WITTMANN BATTENFELD. “Joe Minor (Regional Sales Manager – Molding Machines), Dave Wyscarver (Regional Sales Representative) and myself have been here many times and know the caliber of company they are. We’re proud to have a full WITTMANN BATTENFELD work cell up and running in their facility and excited for them to reap the benefits our equipment has to offer.” ♦

says Alan Kearns, General Manager at Alliance’s Spindale facility. “We have a great relationship with WITTMANN BATTENFELD’s sales reps in the area and they pitched us a turnkey line with everything we needed. We had a customer and other molders highly recommend them to us. The integration of the work cell, the single sourcing, and the fast

delivery time were all big selling points for us that WITTMANN BATTENFELD could achieve, so we pulled the trigger.” As a result, Alliance purchased seven injection molding machines (a TM 500, 2 HM 150s, 2 HM 90s, an HM 65, and an HM MC 300 two-shot machine), 4 robots (2 W833s and 2 W831s), 5 granulators (4 SJ Minor 2s and an ML 33), 3 dryers (2 DRYMAX Aton F70-200-Ms and 1 DRYMAX E30-70-M), 3 loaders (3 FEEDMAX S3 Primuses), 2 pickers (W702s), 5 TCUs (TEMPRO basic C200s) and a silo.

Small picture above: View of injection molding machines from WITTMANN BATTENFELD at the Alliance Precision Plastics plant in Spindale, NC, USA.

Picture left (from left to right): Joe Minor (WITTMANN BATTENFELD IMM Regional Sales Manager), Joseph Williams (Vice President of Operations for Alliance Precision Plastics), Joe Varone (Regional Sales Manager of WITTMANN BATTENFELD Robots and Automation), Dave Wyscarver (WITTMANN BATTENFELD Regional Sales Rep).

Sonny Morneault is National Sales Manager of WITTMANN BATTENFELD, Inc. in Torrington, CT, USA.

Top-quality toothbrushes with WITTMANN BATTENFELD injection molding machines

Fushima, a well-known maker of toothbrushes and many other personal hygiene products located on the north coast of Spain, has been relying for many years on injection molding machines from WITTMANN BATTENFELD.

Gabriele Hopf



Installation of the EcoPower machines at Fushima. – Fushima has 14 BATTENFELD machines installed on its production floor located in Guarnizo in the North of Spain.

Photos: Fushima

Fushima, based in Guarnizo, Cantabria, has made a name for itself as a manufacturer of toothbrushes and hairbrushes far beyond its national borders. The company, founded by Laureano Salcines Gómez in 1945, has more than 100 employees and, today, it realizes 11 million Euros in annual sales. On a 13,000 m² production floor, 72 million pieces are manufactured. Apart from toothbrushes and hairbrushes, they also mold dental care products such as floss and interdental brushes, as well as cosmetic brushes, make-up mirrors, manicure utensils, barrettes and more. Fushima's main product line is toothbrushes, particularly

manual toothbrushes. About 40% of the company's sales are realized outside of Spain. Fushima toothbrushes can be found in 55 countries worldwide.

Fushima's success is based on high quality standards and innovation. The DIN ISO 9001 certified company regards outstanding achievements in research and development as one of its main strengths. "A lot has changed in the toothbrush sector over the last decades," says Raúl Cimiano, Managing Director of Fushima. "While toothbrushes were made of just one material in the past, today's high-quality toothbrushes consist of several different materials. This equally applies to other types of brushes." A great variety of materials are used in toothbrush production, including, for instance, polypropylene, TPE, polyethylene, polystyrene, and ABS. According to Cimiano, it is also a special challenge to create a product which distinguishes itself from others on the market and is profitable at the same time. To this end, Fushima has several departments engaged in testing new materials, creating new processes, etc.



From left to right: Daniel Lopez Virto, Fushima; Ignacio Puyuelo and Damian Hernandez, WITTMANN BATTENFELD Spain; Raúl Cimiano, Managing Director of Fushima; Loic Rolin, WITTMANN BATTENFELD Spain; Georg Tinschert, Managing Director of WITTMANN BATTENFELD. In the background the EcoPower 110 that Fushima has bought most recently. The picture was taken in Barcelona at the Equiplast 2014.



Fushima relies on WITTMANN BATTENFELD

To live up to its philosophy of offering its customers world-class service and the best possible products to end customers, Fushima also needs the best possible production equipment that is existing on the market. In the area of injection molding machinery and process technologies, Fushima has relied on BATTENFELD machines for many years.

"BATTENFELD machines are reliable. We have hardly any downtimes or production faults," says Raúl Cimiano. What is more, WITTMANN BATTENFELD's excellent customer service and after-sales support is also appreciated here. A total of 14 BATTENFELD machines are currently installed at Fushima, with clamping forces ranging from 50 to 180 t. Until most recently, the company used mainly hydraulic machines.

In 2014, Fushima invested in two machines from the all-electric EcoPower series, each with 180 t clamping force, and an EcoPower 110. Raúl Cimiano is impressed by the cleanness, the low sound level, and especially by the energy efficiency of these machines: "We have measured energy savings of up to 40% compared to conventional machines." ♦

Pictures left: High-quality dental products and brushes made by Fushima.

Photos: Fushima

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

Resource-saving production at Tielke using WITTMANN BATTENFELD equipment

Anton Tielke GmbH & Co. KG in Attendorn, North Rhine-Westphalia, Germany, is firmly committed to protecting the environment and saving resources in manufacturing its products. This is why the first all-electric machine from WITTMANN BATTENFELD's EcoPower series, which was delivered at the beginning of June, is greatly appreciated, in particular for its energy efficiency and cleanness.
Gabriele Hopf



In June 2014, Anton Tielke GmbH celebrated its 75th anniversary. The company was established by Anton Tielke in 1939, beginning with the production of hardware components made of iron and other metals, primarily for customers from the automotive and aircraft industries. The family-owned enterprise with a workforce of 25 employees has now been successfully engaged in plastics processing for more than 50 years, making plastic parts from all commonly available thermoplastic resins and thermoplastic elastomers, with part weights ranging from 0.1 to 1,400 g. Tielke's main customer base includes heating and sanitary installation, electrical goods and building construction industries, but also a few select automotive customers. Its main market is Germany and neighboring foreign countries.



Picture above: The innovative directgreen™ plant system, consisting of a plant container and a breathable, water-permeable pot cover. Picture right: Prototypes of parts that are used in forest enterprises at young trees to prevent damage caused by game animals.

Photos: Tielke

From left to right: Dipl.-Ing. Ingo Rüggeberg, Managing Partner and Ralf Dingerkus, Authorized Representative of Anton Tielke GmbH & Co. KG, and Frank Höher, Sales Representative of WITTMANN BATTENFELD, in front of the EcoPower 55/130 delivered in 2014.

In addition to customized products made to customers' specifications, the company manufactures quite a sizeable product range of its own. For example, it produces caps and stoppers to cover sensitive drillings and tubes and to protect threading against moisture, dust, soiling and damage. These parts are extremely resistant to acids, alkali, alcohol, grease, solvents and heat. Tielke also makes the directgreen™ brand plant system, a combination of plant containers with breathable, water-permeable pot covers, which are primarily used for nursery and hedge plants or high-stem trees, and – equipped with an integrated water tank – as transport containers and stands for Christmas trees.

A conscientious all-rounder

Tielke offers everything from a single source, from prototyping to series production. It also operates its own mold-making shop. High quality standards and, above all, closeness to customers are vital, long-term success factors



for the company, which has been certified according to DIN ISO 9001. Tielke also takes pride in its certification as an “energy-conscious” company, implemented by ICG Zertifizierung GmbH at the beginning of 2014, since the long-term protection of the environment and saving of natural

resources are major concerns for the company’s majority stakeholder and Managing Partner, Dipl.-Ing. Ingo Rüggeberg, and are consequently a central guiding principle of its corporate philosophy. Therefore, investments in modern, energy-efficient production equipment are made on a regular basis, too.



An energy consultant was called in 2013 for joint preparation of a concept to further improve the company’s balance of energy. “Last year we realized a 10% increase in sales compared to the preceding year, with power consumption remaining on the same level,” Ingo Rüggeberg explains proudly. And this is why the outstanding attributes of the newly acquired all-electric *EcoPower 55* from WITTMANN BATTENFELD are greatly appreciated at Tielke.

At first, Ingo Rüggeberg could hardly believe that such a machine as the all-electric *EcoPower* could operate without cooling and almost without lubricant, since it requires oil only for its toggle system. The *EcoPower 55/130*, equipped with a TEMPRO plus D temperature controller from WITTMANN, came after a hydraulic machine with a *ServoPower* drive and WITTMANN sprue picker, which had just been delivered in the fall of the previous year, and whose compactness and high energy efficiency were welcomed with great enthusiasm at Tielke.

A further example of Tielke’s own products: closure elements, made of plastics.

Photo: Tielke



A long lasting partnership

The cooperation between the two companies dates back to the very beginning of plastics processing at Tielke. Tielke’s production of thermoplastics started off with a BSKM 10 VP from 1957, built at the former BATTENFELD plant in Meinerzhagen, Germany.

Today, BATTENFELD machines from the Plus series, toggle machines from the TM series and machines from the hydraulic HM series are operating at the Attendorn facility in addition to the *EcoPower 55* and HM

Molds produced at the in-house mold-making shop.

Photo: Tielke



110 *ServoPower*, with clamping forces ranging from 25 to 500 t. Apart from the machines’ technical capabilities, their quality and energy efficiency, the costs also play a vital part for Tielke, with the main emphasis being not so much on the acquisition costs, but primarily on the machines’ total life cycle costs. The availability of technical support is thus a major consideration.

Ingo Rüggeberg and his long-standing authorized representative Ralf Dingerkus are particularly appreciative of the personal contact to the company and the excellent support provided by the sales team. “Mutual trust and continuity in our partnerships are the top priorities for us,” says Ingo Rüggeberg. “And these factors are an absolute given at WITTMANN BATTENFELD in addition to the high quality and technological maturity of their machines.” ♦

Tielke currently has 10 BATTENFELD machines (WITTMANN BATTENFELD respectively) on its production floor.

Molding machine and robot status requests

The WiBa QuickLook app from WITTMANN BATTENFELD provides a very simple way to check the status of injection molding machines and robots via Smartphone.

A status request on injection molding machines from WITTMANN BATTENFELD and on WITTMANN robots is now possible via Smartphone easily and at any time.

The *WiBa QuickLook* app developed for this purpose is currently available free of charge via the Apple iOS app store and via Google Play as an Android app.

WiBa QuickLook app, now available free of charge from the Apple app store or from Google Play.



- List view; status colors are identical with LED colors of WITTMANN W8 pro appliances; green stands for automatic operation, blue for non-automatic operation, red for safety criteria not complied with.
- Overview page on calling up an appliance in the automatic operation mode.
- Addition of a new appliance; entry of IP address. (from left to right)

In each case, the new app links up with the latest software versions of WITTMANN R8.3 robots and WITTMANN BATTENFELD UNILOG B6 control systems. In this way, the production data and condition of the most important equipment that is operating in a given production cell can be checked quickly and easily with the help of *WiBa QuickLook*.

Prerequisites for the use of the *WiBa QuickLook* app are the software versions 8.21.00 for R8 robot control systems and V07.2 for UNILOG B6 machine control systems. Furthermore, the connection of the control systems to the WIFI system of the injection molding plant must be ensured, so that the robots and processing machines can be reached by the app. Depending on the model, the minimum requirement for the Smartphone itself is the installation of either iOS 7 or Android 4.

Functions of *WiBa QuickLook*

The volume of information which *QuickLook* app users can access has been deliberately kept manageable. Users carrying out a check will be

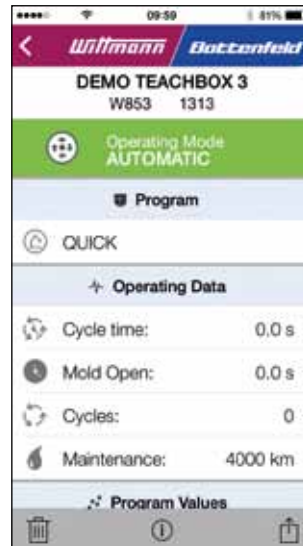
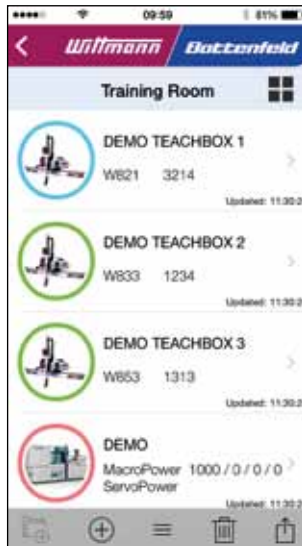
given a quick, well-founded overview of the most important current parameter settings in a given production cell – those which concern the injection molding machine and any one or several robots involved. To retrieve special detail information or to adjust the parameter settings in the production equipment, users are still required to go directly to the relevant processing machines and handling devices.

As always, special care has also been taken to make handling of the app extremely user-friendly. Color-coded operating states in the lists of equipment give a quick overview. The close-up views for the individual components provide access to the

production data and alarms (if any), as well as user-defined program values. Several components of a production cell can be grouped for a screen view, and the lists of production equipment can be sorted manually. A grid view is available as an alternative, which provides the option to sort the components automatically according to status.

The elaborated functions of the *WiBa QuickLook* app make it easy to add components by simply entering their IP addresses.

And, last but not least, the settings of equipment shown by the app can be very easily passed on to third parties simply by using the email function of the Smartphone. ♦



WITTMANN Kunststoffgeräte GmbH, Vienna

In 1976, WITTMANN Kunststoffgeräte GmbH was established in Vienna. Its corporate history, which now consists of almost 40 years, is characterized by continuous growth based on the constant pursuit of innovation.



This picture shows most of the employees of WITTMANN Kunststoffgeräte GmbH. About 320 staff members are currently employed in Vienna.

In Vienna, WITTMANN Kunststoffgeräte GmbH has dedicated itself to all aspects of automation and all types of peripheral equipment used in plastics processing. The company constitutes the WITTMANN Group's primary development and competence center for basic robot models, including all options and specialized variants, and also for temperature controllers, dry air dryers, material loaders and gravimetric metering devices.

The plant in Vienna is also an important production plant. Here the robot series W832 to W873 are manufactured, as well as IML equipment, the temperature controllers of the TEMPRO plus D series, cooling water flow controllers and various injection molding technology products.

The global presence of the WITTMANN Group, and especially its production facilities in the USA and in China, allows the Viennese plant to concentrate on the European market. From here, this market is primarily supplied with robots, temperature controllers and relevant injection molding technology products, with the largest proportion of sales traditionally being realized in Germany.



The main building of WITTMANN Kunststoffgeräte GmbH. The Viennese facility simultaneously functions as corporate headquarters of the WITTMANN Group. Here, all information is brought together from the subsidiaries and representative offices around the world.

A location with development potential

A major indicator of the Viennese production facility's potential for development is the fact that in 2014 it realized an absolutely remarkable 13% increase in sales compared to the previous year.

About 320 employees are working for WITTMANN at present in the three Viennese plants. In Wolkersdorf, not far from Vienna, yet another new

building is currently under construction destined for the Material Handling Department and is expected to be ready for occupation in the fall of this year.

In 2015, WITTMANN Kunststoffgeräte GmbH will celebrate the 40th anniversary of its foundation. It is certainly an occasion for reflecting on the past success story of this company, which has ultimately led to it becoming the only supplier of complete injection molding solutions worldwide. ♦

**WITTMANN
KUNSTSTOFFGERÄTE GMBH**
Lichtblaustrasse 10
1220 Vienna
AUSTRIA
tel.: +43 1 250 39-0
fax: +43 1 259 71-70
info.at@wittmann-group.com
www.wittmann-group.com

**WITTMANN
BATTENFELD INC.**
1 Technology Park Drive
Torrington, CT 06790
USA
tel.: +1 860 496 9603
fax: +1 860 482 2069
info.us@wittmann-group.com
www.wittmann-group.com

**WITTMANN ROBOT
(KUNSHAN) CO. LTD.**
No. 1 Wittmann Rd., DianShanHu Town
Kunshan City, Jiangsu Province
215245 CHINA
tel.: +86 512 5748 3388
fax: +86 512 5749 3199
info@wittmann-group.cn
www.wittmann-group.com

**WITTMANN
BATTENFELD GMBH**
Wiener Neustädter Strasse 81
2542 Kottlingbrunn
AUSTRIA
Tel.: +43 2252 404-0
Fax: +43 2252 404-1062
info@wittmann-group.com
www.wittmann-group.com

