innovations

Techniques – Markets – Trends

Volume 10 – 1/2016

On the move to an all around integrated process
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Dear Reader,

40 years of WITTMANN Group! – Some people may not be so keen to celebrate their 40th birthday with an exuberant party, because they get the feeling that they no longer belong to the world of the young. By contrast, our advancing age is no problem for us as a company. In fact, we intend to celebrate our anniversary in a big way. After all, we can look back on impressive growth, which spurs us on to strive for more growth in 2016 too. As we say these days – “Save the date!” Wednesday 8 and Thursday 9 June 2016, when we celebrate our 40th anniversary – in the Orangery of Schönbrunn Palace in Vienna, and in an exhibition hall of Messe Wien (the Vienna fairgrounds).

We will take this celebration as an opportunity to give our guests an overview of the WITTMANN Group’s history, to show them the path we have followed in the past four decades. Of course we will also present our current product range and provide some insights into future developments. Our guests will be invited to visit our Austrian production facilities in Vienna, Kottingbrunn and Wolkersdorf, and the Hungarian plant close by in Mosonmagyaróvár. Let me also here today extend to you this invitation which will soon reach our customers through other channels. All further details will be announced in the near future.

But before we review the last 40 years, let us take a brief look back on the year 2015 which has just come to a close, and which developed much more positively than seemed possible at first. Compared to the previous year, we will be able to close the year 2015 with yet another increase in sales by 11%. In view of the general economic data in many countries, which do not suggest particular dynamism, our consistently stable growth rates since 2010 could almost appear somewhat unreal. But as long as favorable conditions for financing investments prevail and the competition for maximum efficiency in the plastics industry continues, more investments in the modernization of production plants and in their expansion will certainly take place – and so our growth will also continue unabated.

In 2015, we have extended our production floor space by 12,000 m². We now look into the year ahead of us with great optimism and expect another increase in our sales figures for 2016.

Let me take this opportunity to thank all associates of the WITTMANN Group for their dedication – and to thank all our business partners for their loyalty and excellent cooperation in 2015.

Yours cordially, Michael Wittmann
Molding complex plastic parts for the automotive industry

Absolute top quality and reliability in the production of technologically sophisticated parts tailored to customers’ demands – this is the challenge Denk Kunststoff Technik, based in Gevelsberg in Germany, has set out to meet, since last year with the help of an EcoPower molding machine from WITTMANN BATTENFELD.

Gabriele Hopf

Denk Kunststoff Technik was established 20 years ago. In 2009, the company, managed by the two brothers Falk and Lars Denk, moved to its present location in Gevelsberg. It now has a workforce of 80 and realized 15.5 million Euros in sales in 2014. Since the beginning of 2015, Denk Kunststoff Technik has also been operating a facility in Nanjing, China, where five associates produce parts on three injection molding machines.

On the road to international success

The company’s customer base consists almost exclusively of well-known automotive suppliers in Germany, North America, China, Spain, the Czech Republic and Romania. In recent years, Denk was able to achieve an annual growth in sales of about 15%. The company owes this success primarily to its strong focus on meeting its customers’ desires and requirements with simultaneous minimization of administrative procedures. In this way, it is able to offer sophisticated solutions geared to the special needs of its customers at competitive prices. An in-house mold making shop – capable of producing any required mold – and an in-house mechanical engineering department to make specialized machinery, ensure complete internal system integration within the company. Lars Denk sees his company as an “early follower” able to adapt to complex processes quickly and effectively. For both Falk and Lars Denk, it is important to find the best process for every application.

In addition to in-house mold making and mechanical engineering of special machinery, automation is also designed in-house. Jointed-arm robots are used almost exclusively. Interim process steps such as welding are also implemented in-house at Denk. Product development is project-related. Application technology with the objective of continuous process development and improvement plays a vital role at this company.
Quality and sustainable production

As an automotive supplier, the company must give top priority to the quality of its products and processes. Denk is certified according to DIN ISO 9001 and VDA 6.1. ISO/TS 16949 certification is planned for 2016.

The company’s technically complex products include 2-component parts such as door check housings, plastic parts with metal inserts, plastic hinges, parts for the engine compartment and much more.

Sustainable management is another special concern for Falk and Lars Denk. In this respect, the two brothers are really enthusiastic about the EcoPower 300/1330 delivered by WITTMANN BATTENFELD at the beginning of March 2014. Lars Denk comments: “This machine consumes next to no electricity and operates with an extremely low noise level and high precision as well. That was something we could not have imagined before.” Falk Denk finds the KERS system (Kinetic Energy Recovery System) of the EcoPower particularly impressive, since it enables recovery of the released braking energy for re-use within the machine.

WITTMANN BATTENFELD
as a supplier

Important features from Falk and Lars Denk’s point of view, in addition to the energy efficiency and precision of their machinery, are above all reliability and a long service life.

On this account, WITTMANN BATTENFELD has already proven its competence with a hydraulic HM injection molding machine with 150 tons clamping force delivered to Denk 10 years ago and equipped with a BATTENFELD automation system. This automation system is still in operation today, and a rotary table machine from the VM series with 110 tons clamping force.

Apart from the quality of the machinery, service and after-sales support by the machine manufacturer’s sales team are also high up on Denk’s list of priorities. Falk Denk comments: “The best machine is of no use to us if the service is not up to standard. Here too, we are fully satisfied with WITTMANN BATTENFELD.”
Successful liquid silicone technology partnership

WITTOMANN BATTENFELD and ELASMO Systems GmbH have now been cooperating successfully in the field of liquid silicone technology for more than five years. Two projects involving injection molding machines from WITTOMANN BATTENFELD are currently in progress at ELASMO Systems.

Gabriele Hopf

ELASMO Systems was established in Fischlham, Upper Austria, in 2007. In 2011, the company relocated its headquarters to Schörfling/Attersee, where a 400 m² technical lab for customers was installed. ELASMO Systems operates internationally, with its main markets located in Germany, the Netherlands and France. The Middle East and Sweden are also significant markets contributing to the company's sales, and the US market is in the process of being developed.

The company, which realizes about 3.5 million Euros per year in sales, constructed a new building with a large technical lab in 2015. Construction started in January 2015, and the official opening took place in October.

Specialist for molds

ELASMO's team of 20 associates specializes in the development, design and production of injection molding tools. Their mold technology incorporates a needle shut-off system and a gating system specially developed for fully automatic manufacturing of molded parts including elastomers, rubber, silicone and 2-component materials, which are burr-free, without sprue, and without need for any further downstream finishing. The molds are primarily used in the automotive, aviation and medical technology industries as well as in electrical and agricultural engineering.

Turnkey equipment, consisting of injection molding machines, tooling with 2, 4, 8, 16, 32 or 64 cavities, including needle shut-off systems and automation, are also provided by ELASMO.

For innovative 2-component blending and metering equipment and grippers for demolding and parts removal, ELASMO has found an expert partner in NEXUS Automation GmbH. The equipment of the ServoMix series from NEXUS used by ELASMO excels by its outstanding blending quality and repeatability, and promotes more stable manufacturing processes. The demolding systems from NEXUS are perfect companions for the molds from ELASMO Systems, which combine to make a highly productive unit.
Special requirements

The demands ELASMO places on its machinery are numerous. Managing Director Benjamin Fellinger requires accurate metering, precise closing, reproducibility of process parameters, user-friendliness, freely programmable input/output ports for peripherals, reliability of the machines and energy-optimized technology.

“First and foremost, we need user-friendly machines of excellent quality”, says Benjamin Fellinger. “The injection molding machines from WITTMANN BATTENFELD satisfy our requirements in every respect.” What Benjamin Fellinger appreciates the most about the cooperation with WITTMANN BATTENFELD, apart from the quality and user-friendliness of the machines, is the good service and excellent technical support provided, as well as smooth order processing, which is vitally important in project business.

Projects with WITTMANN BATTENFELD

ELASMO Systems has already successfully completed several demanding projects with injection molding machines from the hydraulic HM series, and with machines from the all-electric EcoPower series and the MacroPower series of large machines as well.

There are currently two projects with injection molding machines from WITTMANN BATTENFELD underway at ELASMO Systems.

Firstly, there is a 16-cavity LSR mold with a needle shut-off system for the fully automatic production of O-rings made from liquid silicone that has been installed on a WITTMANN BATTENFELD HM 110 injection molding machine. Demolding of the burr-free parts is affected by a vertically inserted brushing device with laminated metal brushes operating at a maximum distance of 0.2 mm from the hardened mold inserts.

Secondly, an LSR component for the automotive industry is being manufactured on another HM injection molding machine, an HM 180, equipped with a W832 robot from WITTMANN, using a 16-cavity mold with slide technology and a specially designed handling gripper mounted on the W832 robot.

As a system supplier of fully automatic injection molding lines, ELASMO precisely matches the individual components with each other. They are tested and optimized in the company’s own technical lab before being shipped. The complete layout of every component is individually adjusted to each customer.
Fischer Elektronik GmbH & Co. KG, founded as Norwe-Fischer in 1969, specializes in manufacturing various components for the electronics industry such as heat sinks, pin-and-socket connectors, card holders and optoelectronic parts. The company employs some 380 people today and realizes more than 40 million Euros in annual sales. Fischer exports its products to about 90 countries – with an export share of approx. 35% in total sales.

The products made by Fischer require constant monitoring of the manufacturing processes. The last time when the acquisition of new temperature controllers was planned, suitable models from several competitors were subjected to comprehensive testing.

**Appliances thoroughly tested**

In this direct comparison of different makes, special attention was paid to certain parameters. One of these was the accuracy of temperature control in high-temperature applications up to 160 °C and monitoring of extremely narrow tolerance margins in flow measurement; other criteria were user-friendliness in setting the monitoring functions and maximum maintenance-friendliness of the appliances. Following extensive testing and thorough examination of all appliances, Fischer Elektronik decided in favor of the latest WITTMANN temperature controllers from the TEMPRO plus D series.

**Practical experience**

According to Michael Reichel, Head of Injection Molding at Fischer Elektronik, two special features of the TEMPRO temperature controllers ultimately tipped the balance, namely the high precision of temperature control and the facilities for monitoring individual process parameters which TEMPRO offered.

“The temperature controllers are addressed via the interface of the injection molding machine. After setting the correct parameters on the temperature controller, we must be able to rely on an extremely high standard of precision. We also need immediate alarms for the smallest deviation from the set values; this means, for example, for any variation in diameter inside the cooling channel or flow changes due to other causes, and for temperature deviations. We process high-performance engineering plastics and even minute deviations from the norm constitute reject criteria.” For example, the molded pin strips must possess a high dimensional stability and flexural strength. To achieve really 100% good parts here, special attention must be paid to mold temperature control. The latest generation of WITTMANN TEMPRO plus D temperature controllers enables absolute precision in all parameter settings.

Michael Reichel goes on to explain: “We fully exploit the various monitoring functions of the appliances. The simple operation via a fast-responding touch display and the self-explanatory navigation through the functions are further enormous advantages of these temperature controllers. And of course we have also tested them for easy maintenance. After removing the cover, the excellent technical workmanship and assembly of the components become obvious straight away, as well as the easy access to all components. This was a very important aspect for us with regard to performing our maintenance work. In servicing our entire machinery and equipment, we follow the intervals specified by the manufacturers. Whenever WITTMANN temperature controllers are due for servicing, this is shown on the display.”

The standard features contribute to a stable process and ensure its comprehensive documentation. These include functions such as programmable automatic exchange of the cooling water in the tank, automatic heat output control, the USB connection for saving the data and graphic visualization of the entire process. “These devices are often situated in areas where it is not always possible to keep an eye on parameters and displays. Here we can rely on the TEMPRO temperature controllers. As soon as there is trouble anywhere, we are notified immediately by an alarm signal from the temperature controller and via the interface on the injection molding machine”, says Reichel.

“The more processes we are able to monitor and have documented, the more accuracy we can get in our production. In fact, we are able to supply 100% production-monitored and quality-inspected parts to our customers. And here, the WITTMANN TEMPRO temperature controllers are making a vital contribution.”
The brand new quality in packaging: 3D design by IML

The production of packaging by IML ranks among one of the most challenging tasks for plastics processors. The Polish company VERTEX based in Ozorków (north of Łódź) is one of the most innovative companies in this area. VERTEX started in 2012 with the production of IML packages featuring a 3D effect, achievable by a special process.

Bogdan Zabrzewski

Until recently, a 3D effect on printed material invariably required special (relatively expensive), thicker 3D labels, plus a special printing technique. VERTEX has now succeeded in developing a process which makes it possible to achieve a 3D effect with one-dimensional standard labels.

On conventional IML containers, the labels are attached to the outside of the packages. With the IML technology used by VERTEX, the label is affixed to the inside of the package. The 3D effect is then generated on the outside, which faces the viewer, and in this way the effect can be achieved with conventional standard labels.

The production costs of these very special IML packages are directly comparable with those for packages produced by traditional methods. The advantage of this approach is that the additional costs for this type of 3D effect are hardly noticeable.

How the 3D effect is created

If a conventional IML label is used, as is done at VERTEX, the 3D effect is generated by the special structure of the injection-molded part itself. This special structure is created directly on the surface of the plastic part by the injection molding process. This requires a special mold with the necessary structure incorporated in its cavity walls. From there, it is transferred onto the plastic part during injection molding.

VERTEX has already been using this technology successfully for some time in actual production and is continuously improving the process. Now applications for flat plates have become available, but achieving a 3D effect on curved surfaces is still a major challenge.

The use of this advanced technology, however, is not limited to food packaging only. VERTEX is constantly on the lookout for new applications. Meanwhile, a great variety of plastic products are being manufactured with a 3D effect generated by this method, such as DVD and CD packages, toys (e.g. 3D puzzles) and costume jewelry.

The VERTEX injection molding equipment

To make these special 3D packaging products, twelve injection molding machines from WITTMANN BATTENFELD are operating at the VERTEX production plant. The clamping forces of these injection molding machines are ranging from 180 to 240 t. All these machines are equipped with laterally operating single-axis W737 servo robots from WITTMANN; moreover with auxiliary equipment – machine and mold cooling equipment as well as FEEDMAX material loaders – also designed, built and delivered by the WITTMANN Group.

The processing machines are toggle machines from the WITTMANN BATTENFELD TM series. To produce the package lids, a TM 180/750 UNILOG B6 with 180 t clamping force is used; the tubs are injection molded on a TM 240/750 UNILOG B6 with 240 t clamping force. The IML systems are fitted with label magazines which can be exchanged between the individual production lines, and the manual mold height adjustment facility allows for extremely fast and flexible product changeovers.

For WITTMANN BATTENFELD, the cooperation with VERTEX is an outstanding example of realizing a comprehensive system solution, entirely true to the motto of “everything from a single source”.

Constructed in 2012, the VERTEX production plant in Konstantynów Łódzki was completely equipped by WITTMANN BATTENFELD with injection molding machines, automation systems, peripheral equipment and machine cooling systems.

Bogdan Zabrzewski is the Managing Director of WITTMANN BATTENFELD Polska, based in Grodzisk Mazowiecki, Poland.
IMI Bulgaria has chosen WITTMANN BATTENFELD Bulgaria as their main supplier for injection molding machines and peripheral equipment. It was not only high-quality machinery that was important to IMI, but also WITTMANN BATTENFELD’s ability to provide modern, innovative solutions for getting to a cost-effective automated production process.

Jassen Sterev

IMI (Integrated Micro-Electronics, Inc.) was established in 1980 as a joint venture between Ayala Corporation and Resins Inc. Today, IMI is a widely recognized expert in providing electronics manufacturing services (EMS), as well as power semiconductor assembly and test services (SATS), for diversified markets including those in the automotive, medical, solar energy, telecommunications infrastructure, storage device, and consumer electronics industries.

IMI’s global presence encompasses operations at 15 manufacturing sites and sales offices across Asia, North America, and Eastern Europe. The IMI Bulgaria plant in Botevgrad has a footprint of about 24,000 square meters and about 1,280 employees. The Bulgarian IMI branch is active in the automotive, industrial and consumer electronics markets.

The collaboration between IMI and WITTMANN BATTENFELD Bulgaria started in 2011 with the development of a new project for the automotive industry. The material being processed was an engineering plastic, and the parts were very different in size and shape. IMI built the respective 4-cavity mold in-house according to their own design. In 2012, WITTMANN BATTENFELD Bulgaria delivered the first production cell consisting of an HM 300/1330 ServoPower injection molding machine with integrated Insider package, a WITT-MANN W821 robot, and a material dryer with 2 drying hoppers.

Afterwards, the production cell had to be equipped with very special peripheral solutions that were needed for this specific application, including custom EOAT (end-of-arm tooling/gripper). Expert technical support was also needed for the programming of the cell. Several audits had to be held, and every one of these helped to improve the installation work that was done by WITTMANN BATTENFELD.

The additional technical solutions that WITTMANN BATTENFELD provided for the completion of this production cell included the following:

- W821 programming for part removal from the mold and for dropping the parts onto the integrated conveyor belt. The difficulty was to match that every time the machine had started up, the parts from the first five shots had to fall down and must not be taken by the robot.
- Designing the gripper was very difficult, because of the different height, the shape and weight of the molded parts. Also, the sprues had to stay off of the conveyor belt, so additional blowers had to be mounted on the gripper plate.
• The sprues and the bad parts that fell from the machine had to be collected, but only the sprues had to be granulated, not the bad parts. Thus, conveying equipment with sprue separation was delivered, as well as a WITTMANN Minor 2 granulator.

• The mold had to be tempered to 60 °C, thus a large WITTMANN TEMPRO plus XL 90 temperature controller with a power of 36 kW was delivered. The WITTMANN BATTENFELD injection molding machine and the temperature controller had to communicate and had to give an alarm or shut down in case a problem occurred with the injection molding machine or the TEMPRO unit. The respective connection and programming were implemented.

After this installation had worked well for some time, IMI decided in 2013 to order the same equipment again: a second HM 300/1330 ServoPower injection molding machine for the production of similar parts. The only “little” difference was that the second production cell had to be mirrored in comparison to the first one, because the integrated conveyors of both production cells had to run into the same direction. The following additional solutions had to be executed for this second production cell:

• Instead of the W821, a W818 robot from WITTMANN was installed. This robot had to remove the parts and the sprues, put the parts on the conveyor belt, and take the sprues to the already existing Minor 2 granulator.

• A completely newly designed gripper with more vacuum cups was needed, and this new device had to apply the SoftTorque function of the WITTMANN R8 robot control. This became necessary because in this case, the mold had been made by another manufacturer, and this mold’s ejectors were using springs.

In between these two big projects, the WITTMANN BATTENFELD experts provided IMI with two more injection molding machines for their plastic part production with 110 and 150 tons of clamping force. These machines were also equipped with proven WITTMANN auxiliaries: dryers, loaders, and temperature controllers. At this juncture, IMI runs six WITTMANN BATTENFELD injection molding machines in total.

The WITTMANN BATTENFELD service technicians are always available, and they solve any problem that may occur with the production of plastic parts to ensure the customers’ full satisfaction.

Of course, the Bulgarian WITTMANN Group branch will continue its close and successful partnership with IMI Bulgaria, providing the company with highly developed technical solutions. Currently, IMI is building a new production hall where more injection molding machines will be operated.
Automotive components producer in China uses WITTMANN equipment

Johnson Controls is a global diversified technology and industrial leader serving customers in more than 150 countries. The Caiyu Factory of Beijing Johnson Controls Automotive Components Co., Ltd. was founded in early 2013. This plant is mainly engaged in producing automotive interior parts for Beijing Benz Automotive Co., Ltd. Also in 2013, the company established a cooperative relationship with the WITTMANN Group and signed an initial procurement contract. – The following is a conversation with Yaqing Cao, Manufacturing Engineer of Beijing Johnson.

Hongwei Zhu

What products does your company purchase from the WITTMANN Group?

Yaqing Cao

Our company initially purchased the central material conveying system equipment from WITTMANN BATTENFELD in July 2013, and then ordered three WITTMANN W832 servo robots in total – the first one in November 2013, and the second and third ones in March and December 2014. The WITTMANN Group provides equipment for drying, material conveying, metering and mixing, as well as servo robots and some other products for our company. All of these devices represent the world’s most advanced technology level in plastics machinery and automation manufacturing.

Hongwei Zhu

Why does your company choose WITTMANN’s and WITTMANN BATTENFELD’s products?

Yaqing Cao

We choose the WITTMANN Group’s equipment mainly for the following three reasons. Firstly, the German Johnson plant in Luneburg adopted the central material conveying system equipment, which has demonstrated good performance for several years. Secondly, the WITTMANN Group’s customer service attaches great importance. After making many visits to clients along with experts in charge of material conveying systems from Vienna, they provided us with a custom program. Furthermore, the one-stop products and services offered by WITTMANN are very important for us. WITTMANN not only has central material conveying system equipment, but also has servo robots, which are one of their main products and which offer high accuracy and stability. After we purchased these robots and have begun using them in our production, we are very impressed by their design and functionality. Practice has proven that our choice of WITTMANN Group products is absolutely right.

Hongwei Zhu

Which part do you think is the most critical one of the WITTMANN central material handling system that you have purchased?

Yaqing Cao

In regard to the central material drying and conveying system, the most critical part is the control system. It seems somehow similar to the very part of peoples’ brains that controls the execution of any action they undertake – you could say, the core of the nervous system.
Hongwei Zhu:
What advantages does the system’s control offer since your company has chosen to purchase a WITTMANN central system?

Yaqing Cao:
The M7.3 IPC network control system with color touch-screen from WITTMANN was developed for the administration of medium to complex network configurations with up to 320 network participants. Every participant is connected via a bus module to the network and can be configured for a specific task. This guarantees the maximum flexibility for the setup of customized material handling systems. The bus modules provide individual control of vacuum loaders, blower stations, central filters, dry air valves, purging valves, etc.

Hongwei Zhu:
In your company’s central material drying and conveying system – what units do you control using the WITTMANN M7.3 IPC network control system?

Yaqing Cao:
We have two sets of drying equipment, each consisting of several drying hoppers. We also have central material dryers, five 5.5 kW vacuum pumps, filter stations, and nine blenders equipped with feeders that are used on our injection molding machines.

Hongwei Zhu:
Would you tell us a bit more about the WITTMANN equipment that you are using with the central material drying and conveying system?

Yaqing Cao:
We have two double-sets of DRYMAX battery dryers. The two DRYMAX E 900 battery dryers are providing six SILMAX drying hoppers (with a total volume of 4,400 liters) with dry air, and the two DRYMAX E 600 battery dryers are connected to seven drying hoppers (with a total volume of 3,600 liters). WITTMANN BATTENFELD has arranged the functionality of the drying system according to our very special requirements. When only a few of the drying hoppers are needed, and turned on, we can select and operate one of the dryers as the standard dryer. But when we operate most of the drying hoppers because we need more material throughput, the other dryer that features an optionally available frequency control can automatically turn on and thus contribute to the dehumidification process. This functionality is a very important advantage, and of course means yet another contribution to an overall sustainable energy management system.

Hongwei Zhu:
Are there any other specific advantages that are provided by the WITTMANN Group equipment in the actual operation of your company?

Yaqing Cao:
You may say that the real “power source” for the conveying of the plastics material lies in the five 5.5 kW vacuum pumps that were supplied to us by WITTMANN BATTENFELD. These pumps are also meeting our special requirements with regard to air volume and pressure. Amongst other materials, we are also processing a very special material that is glass-fiber reinforced and that has to be conveyed at a relatively low speed (< 20 m/s). The vacuum pumps are perfectly coping with this requirement, as well as with our desire for a lower noise level (< 70 dB). We are also using the WITTMANN Group’s GRAVIMAX blender series of gravimetric material blenders. Our GRAVIMAX B14 and GRAVIMAX B34 units can achieve an absolute precise material blend according to our recipes. And these material blenders also are perfectly handling the blending of plastic resin with color masterbatch and CBA foaming agents. The WITTMANN Group’s unique RTLS technology (Real Time Live Scale) ensures batch-to-batch accuracy, and this means no overuse of high cost resins, optimizing the material consumption for the product requirement. Every batch is consistent and to the desired formula. Hundreds of recipes can be stored on each GRAVIMAX’s local memory, and from there, can also be stored on a USB flash drive. The unique flow-values are extremely fast, efficient and consistently reliable – with a best possible accuracy level of 0.1%. The hemispherical spiral mixer provides a homogenous blend and allows for easy cleaning. The mixer’s special geometry guarantees no dead spots or material hang-up.

Hongwei Zhu:
The WITTMANN central material drying and conveying system at the Caiyu Factory of Beijing Johnson Controls Automotive Components Co., Ltd., China.

GRAVIMAX material blender with FEEDMAX loaders mounted on a processing machine.

Hongwei Zhu, WITTMANN BATTENFELD Regional Sales Manager in China for Beijing’s Northern Districts, Tianjin and Hebei.

From left to right: Hovey Han, WITTMANN BATTENFELD Sales Manager for the Chinese Northern Districts; Yaqing Cao, Manufacturing Engineer of Beijing Johnson Controls Automotive Components Co., Ltd., and Domenik Nikolla, WITTMANN International Key Account Manager.

Hongwei Zhu is the WITTMANN BATTENFELD Regional Sales Manager in China for Beijing’s Northern Districts, Tianjin and Hebei.

We have two sets of drying equipment, each consisting of several drying hoppers. We also have central material dryers, five 5.5 kW vacuum pumps, filter stations, and nine blenders equipped with feeders that are used on our injection molding machines.

Hongwei Zhu:
Would you tell us a bit more about the WITTMANN equipment that you are using with the central material drying and conveying system?

Yaqing Cao:
We have two double-sets of DRYMAX battery dryers. The two DRYMAX E 900 battery dryers are providing six SILMAX drying hoppers (with a total volume of 4,400 liters) with dry air, and the two DRYMAX E 600 battery dryers are connected to seven drying hoppers (with a total volume of 3,600 liters). WITTMANN BATTENFELD has arranged the functionality of the drying system according to our very special requirements. When only a few of the drying hoppers are needed, and turned on, we can select and operate one of the dryers as the standard dryer. But when we operate most of the drying hoppers because we need more material throughput, the other dryer that features an optionally available frequency control can automatically turn on and thus contribute to the dehumidification process. This functionality is a very important advantage, and of course means yet another contribution to an overall sustainable energy management system.

Hongwei Zhu:
Are there any other specific advantages that are provided by the WITTMANN Group equipment in the actual operation of your company?

Yaqing Cao:
You may say that the real "power source" for the conveying of the plastics material lies in the five 5.5 kW vacuum pumps that were supplied to us by WITTMANN BATTENFELD. These pumps are also meeting our special requirements with regard to air volume and pressure. Amongst other materials, we are also processing a very special material that is glass-fiber reinforced and that has to be conveyed at a relatively low speed (< 20 m/s). The vacuum pumps are perfectly coping with this requirement, as well as with our desire for a lower noise level (< 70 dB). We are also using the WITTMANN Group’s GRAVIMAX blender series of gravimetric material blenders. Our GRAVIMAX B14 and GRAVIMAX B34 units can achieve an absolute precise material blend according to our recipes. And these material blenders also are perfectly handling the blending of plastic resin with color masterbatch and CBA foaming agents. The WITTMANN Group’s unique RTLS technology (Real Time Live Scale) ensures batch-to-batch accuracy, and this means no overuse of high cost resins, optimizing the material consumption for the product requirement. Every batch is consistent and to the desired formula. Hundreds of recipes can be stored on each GRAVIMAX’s local memory, and from there, can also be stored on a USB flash drive. The unique flow-values are extremely fast, efficient and consistently reliable – with a best possible accuracy level of 0.1%. The hemispherical spiral mixer provides a homogenous blend and allows for easy cleaning. The mixer’s special geometry guarantees no dead spots or material hang-up. •
Lek Sun Manufacturing Sdn Bhd, with Headquarters in Sungai Petani in Malaysia, was founded in 1990 by Mr. Ho Chu, and offers their customers “one-stop shop” for the production of plastic components. For years now, WITTMANN has been one of Lek Sun’s most important business partners.

David Tan

Lek Sun Manufacturing takes special care with every step from mold design to executing the production run, and they possess a full range of state-of-the-art tooling machinery for in-house mold design. The company provides not only injection molding, but also metal stamping, including secondary processes.

Lek Sun Manufacturing has two major plastic molding manufacturing facilities located at Sungai Petani/Kedah in Malaysia and in the Ho Chi Minh Province in Vietnam. The latter is registered under D&Y Technology Co. Ltd, and is one of the leading manufacturers of high precision automotive head lamps and lenses, electronic components, office equipment, stationery, and many other products.

Lek Sun is certified according to the ISO 9001 and ISO 14001 standards, and in addition, has recently obtained certification according to TS 16949:2009. One of the company’s central missions is to strive continuously for the most excellent quality management system, and to build up long-term business relationships with their partners.

The founder of the Lek Sun company, Mr. Ho, strongly believes that the WITTMANN Group is the right partner to achieve these goals, being one of the leading manufacturers of peripheral equipment for the plastics industry.

The Lek Sun drying equipment

Lek Sun benefits from the superior quality and excellent performance of WITTMANN Aton segmented wheel dryers. These make a strong contribution to optimizing productivity and increasing the product quality, as well lowering the rejection rate. The drying equipment from the WITTMANN Group applies the most innovative drying technology in the industry, providing the advantages of consistent dew point and maximum energy efficiency. Their 3-Save Process combines three separate intelligent methods that use the existing heating energy of the dryer to significantly reduce energy consumption. The combination of counter airflow regeneration, radiant heat recovery, and efficient heater design make up the special WITTMANN 3-Save Process. In addition, Aton dryers automatically optimize the drying process with regard to any climatic environment, applying the energy-saving EcoMode function, also originally developed by WITTMANN.

Lek Sun as a WITTMANN customer

Since 2010, Lek Sun Manufacturing has purchased about 35 WITTMANN dry air dryers, including the recently completed purchase of 11 Aton, F70 segmented wheel dryers – and also 8 W818S/W808S servo robots from the same supplier. WITTMANN BATTENFELD Malaysia, being the Malaysian branch of the WITTMANN Group, has a permanent service engineer based in Northern Malaysia, providing the quickest possible service response to the needs of the Malaysian market. This is one of the reasons why the WITTMANN Group has become the preferred business partner of Lek Sun Manufacturing.
The new agency of the WITTMANN Group in South Africa

As of October 2015, the WITTMANN Group is represented in the South African region by IPEX Holdings (Pty) Ltd. The company, based in Johannesburg, operates three sales offices in South Africa.

In view of the positive market development in the plastics industry in the South African region, the WITTMANN Group has decided to intensify its respective activities in this market. With IPEX, an agency has been found which is characterized by in-depth market experience and many years' practice in selling high-quality machinery.

IPEX was established in 1963 and traditionally sells machinery for the printing and graphic design sector. With its sales and service offices in Johannesburg, Durban and Cape Town, IPEX is able to supply the South African market as well as the neighboring countries of Namibia, Botswana, Zimbabwe, Lesotho and Swaziland efficiently, with short delivery times and excellent after-sales service. With its workforce of 50 people, the company has made high quality standards in customer management and technical service its primary concern. With this type of orientation, IPEX is an ideal partner for the WITTMANN Group, which has also given top priority among its corporate goals to high quality standards in all areas.

A welcome challenge

For IPEX, the product range of the WITTMANN Group – injection molding machines, as well as automation equipment and peripherals – constitutes an interesting and challenging addition to the previously existing product portfolio. Bruce Allen, General Manager of IPEX Holding, comments: “IPEX is proud to be allowed to sell the WITTMANN Group's products. We look forward to a long-term partnership and will do our best to make the WITTMANN BATTENFELD brand the first choice for customers in our region.”

Michael Wittmann, Managing Director of WITTMANN Kunststoffgeräte GmbH, also looks forward to the cooperation with IPEX: “We are confident that we have found in IPEX a partner who will optimally represent our interests in South Africa and adjacent markets.”