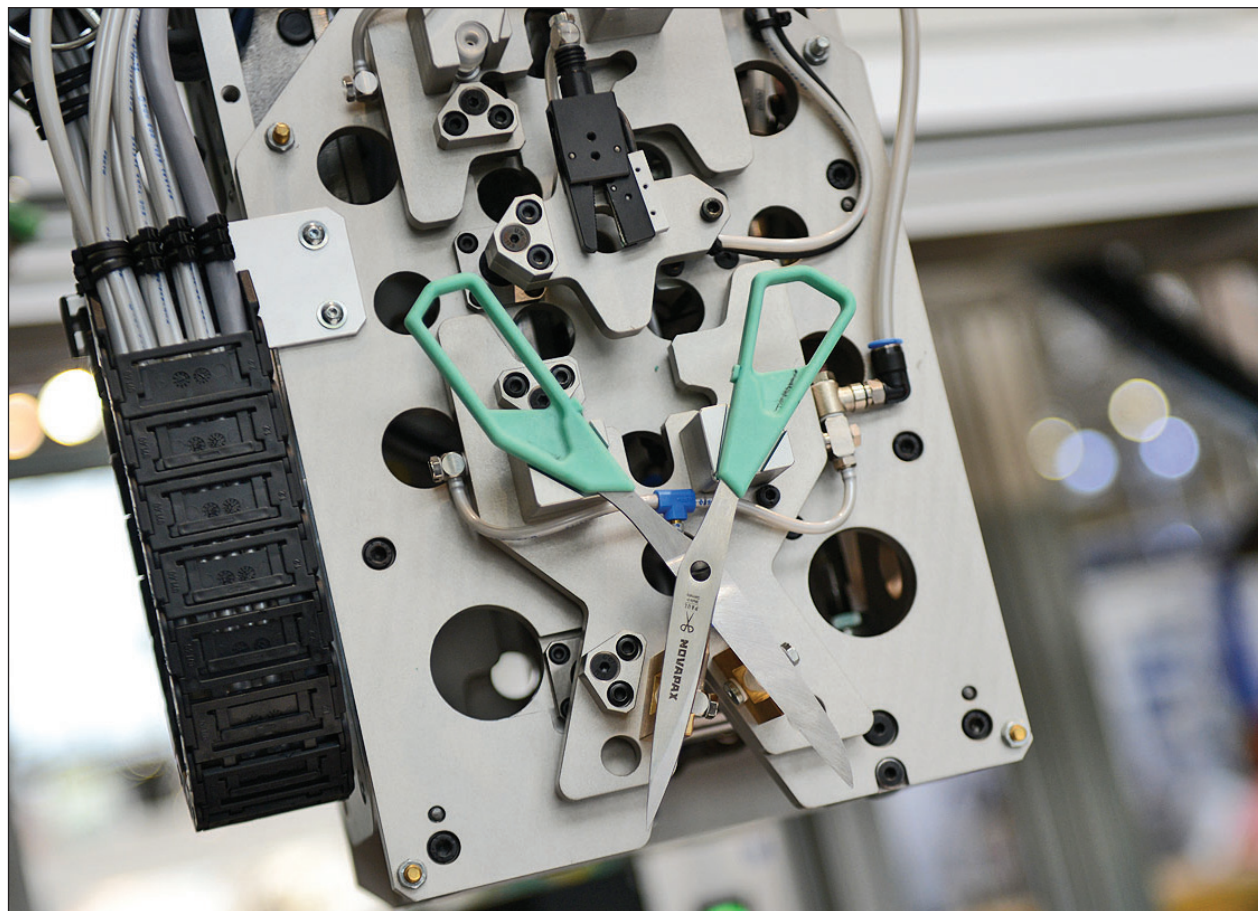




Arburg GmbH + Co. KG shows off a pair of customized scissors it is manufacturing at Fakuma.

# Arburg starts taking orders for Freeformer

By Bill Bregar

PLASTICS NEWS STAFF

For fans of 3-D printing, Fakuma 2014 marks an important date: Arburg is taking German orders for the Freeformer.

Arburg GmbH + Co. KG is showing two Freeformers at Fakuma.

After a decade of development, Arburg introduced the Freeformer one year ago, at K 2013 in Düsseldorf. Arburg became the first plastics machinery company to also make a 3-D printing machine. At K, the company announced the Freeformer with much fanfare — dramatically lifting a huge curtain, with a body-suit wearing acrobat atop the machine.

This week, on the shores of Lake Constance, Arburg is ready to begin selling them in Germany. Arburg officials said the first serial machines will be delivered in Germany by next March or April.

Here is the rollout plan for the rest of the world: Sales will follow for the rest of Europe in April, after NPE 2015 in March to the United States, and to Asia after Chinaplas 2015 in May.

The Freeformer has a discharge unit with a patented nozzle that opens and closes up to 100 times a second, depositing drops of liquid plastic to build up parts, layer by layer.

By the end of this year, Arburg will have sold about 20 Freeformers

on a pilot basis, Heinz Gaub, Arburg's managing director of technology and engineering, said at a Tuesday news conference. Gaub stressed these are production machines that were purchased by the customer, not placed for free.

At Fakuma, Arburg is showing mass customization by making personalized scissors, in a combination of a Freeformer 3-D printer with an injection molding machine, an electric Allrounder 370 E.

Visitors to Arburg's stand can get scissors — in either left-handed or right-handed versions — with pointed or rounded ends. The operator places the desired scissor blank directly into the robotic gripper. The robot then transfers the insert into the mold. After the handle has been molded, a laser applies an identity

See **Arburg**, Page 14

**ARBURG**  
Hall: A3  
Stand: 3101

## Wittmann Battenfeld sales up 7 percent

The company says Europe remains a strong market

By Steve Toloken

PLASTICS NEWS STAFF

Equipment maker Wittmann Battenfeld GmbH expects sales this year to increase 7 percent, to 295 million euros, as it said some key markets, including in Europe, were performing better than general economic news might suggest.

At an Oct. 15 news conference at Fakuma, company executives said orders this year are up 15 percent, and it projected 2015 sales would reach 320 million euros.

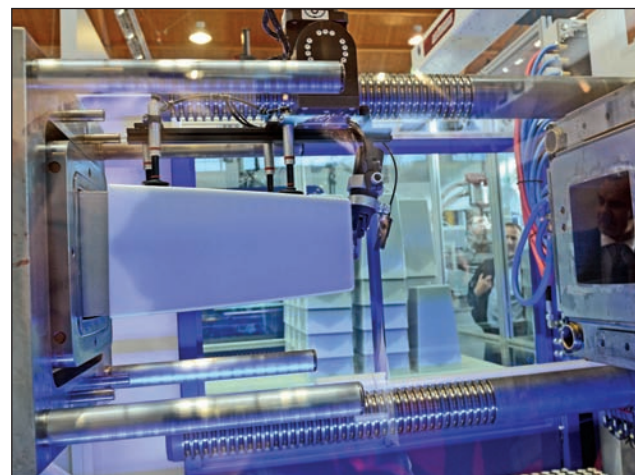
As well, Wittmann Battenfeld unveiled a new line of servo-hydraulic machines, dubbed Smartpower, which it says save energy by completely recapturing the energy released in the machine's deceleration back into its operations, along with a series of new auxiliary equipment and robots.

On the financial figures, General Manager Michael Wittmann said many European markets, where Wittmann gets 57 percent of sales, are doing reasonably well, making up for a slowdown in China and tougher business in Southeast Asia. In particular he mentioned stronger competition from Japanese machinery makers there.

"Markets that have been weak in the past, like the U.K., like France, like Spain, have been very healthy this year," Wittmann said. "We are still operating in a healthy market ... If you ask us why, we don't know."

He acknowledged "conflicting information" about larger end markets influencing its business, like the automotive

See **Sales**, Page 14



The Macro Power 450 produces a flower pot at the Wittmann Battenfeld booth on Oct. 14.

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**INSIDE  
WEDNESDAY** »

**Q&A with Korbinian Kiesel**  
Billion likes to remain flexible  
**PAGE 6**

**New colors**  
Americhem shows off lineup  
of color palettes **PAGE 9**



SHOW  
DAILY

Plastics News

EUROPEAN  
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PRW

# Europe brings strong growth to Haitian

By Nina Ying Sun

PLASTICS NEWS STAFF

The European market is becoming increasingly important for injection press giant Haitian International Holdings Ltd.

The share of Europe, including Turkey, in the Ningbo, China-based company's total export sales climbed up almost a full percentage

point from 24.5 percent in the first half of 2013 to 25.4 percent in the first half of 2014. "In Europe we've made good progress," said executive director and chief strategy officer Helmar Franz.

He added that the particularly strong markets include Russia, Poland, the Czech Republic and Italy. "Although absolute numbers in such markets are comparable

low, but the growth rate is in high double digit numbers."

In addition, he told *Plastics News* the company sees positive development in France and Scandinavia and expects "much more intense" order activities in Germany after a "very successful" open house at

HAITIAN

Hall: A6  
Stand: 6222

Zhafir Germany in June.

Haitian is investing in the Amberg, Germany, facility to involve some essential manufacturing and also more than double the assembly capacity, Franz said. It will also integrate the sales, service and application activities of Haitian International in Europe with

its two brands Haitian and Zhafir.

The expansion and integration will be implemented in several steps in 2015 and 2016 and is expected to be fully operational by the 2016 K show, he said.

At this year's Fakuma, where Haitian is exhibiting for the fourth time since it started in 2008, a two-platen small Jupiter machine with 650-ton clamping force and a 120 ton Zeres machine will be showcased. The Zeres series, introduced in May and June in Europe, features an integrated hydraulic device for operating hydraulic core pull units at molds.

Franz said Zeres has received very good response from the market with road show appearances in Italy, Sweden, the Czech Republic, Poland, Germany, France and Portugal. He said first orders were booked, but didn't give further details.

Fakuma, with a strong focus on injection molding, is a more "accessible" event than K show, Franz said. It's the most important trade show for customers in Central Europe in the years with no K show. He noted the transport still needs improvement, despite major efforts.

Haitian currently exports 40 percent of its presses. Gross margins for export are slightly higher than domestic sales, Franz said. But he was quick to add that the definition of export and domestic sales are used in a more and more loose sense in "a global world with worldwide acting customers."

## Allod Werkstoff reaches agreement with US firm

RUBBER & PLASTICS NEWS

APS Elastomers LLC has entered into a service agreement with Allod Werkstoff GmbH & Co. to provide commercial and technical support to its North American customers.

Allod is based in Burgbernheim, Germany, and develops and manufactures customized thermoplastic elastomers for injection molding, extrusion and blow molding.

"Our highest priority is the collaboration between customer and supplier of materials," Dagmar Koppler, co-owner of Allod, said in a statement. Allod is exhibiting at Fakuma.

APS Elastomers, headquartered in Romulus, Mich., produces thermoplastic vulcanizates and thermoplastic urethanes. The firm's TPEs can be manufactured to customer specifications, compounding standards and custom grades for individual applications.

ALLOD

Hall: A5  
Stand: A007

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# Company showing off liquid silicone rubber watchbands

By Frank Esposito  
PLASTICS NEWS STAFF

Momentive Performance Materials Inc. has plenty of time for customers at Fakuma — thanks to colorful new watchbands made with the firm’s fiber-reinforced liquid silicone rubber.

“Silicon wearables are much more popular now,” transportation elastomers global marketing director Oliver Franssen said Oct. 14. “But normal silicones hadn’t been good enough. By using fiber loadings, we now have many degrees of freedom.”

Tina Wei, silicones and quartz global marketing director, added that bands made with the new LSR now can pass a “twist test” required of the product. Wide varieties of color and clarity also help to differentiate the product, she added.

The material used in the watchbands is Silopren Matrix fiber-reinforced LSR, which combines the flexibility of a silicone elastomer with the high strength of polymeric, carbon or aramid fibers. This composite elastomer was commercialized earlier this year and can be used to create products that are comfortable against skin, exhibit excellent UV resistance and can be easily colored to meet aesthetic needs.

Officials with Waterford, N.Y.-

based Momentive declined to identify the customer using the material in watch bands. The bands and watches are not yet in commercial production.

The auto market also continues to be an area of strength for Momentive’s LSR products, with demand up by double-digits so far in 2014, Franssen said. The materials can offer weight, cost and process savings in pressure hoses, connector assemblies and other auto applications.

Increased digitization in vehicles also is creating demand for more sensors that use LSR, he added.

“Our automotive customers are investing in molds and machinery,” Franssen said. “Our top 10 customers are all positive.”

High LSR demand also is leading Momentive to increase capacity for the material at production sites in Leverkusen, Germany, and Rayong, Thailand. The capacity increase in Thailand should be completed by the end of the year, according to Franssen, while additional capacity should be online in Rayong by mid-2015.

Other products highlighted by Momentive at Fakuma include:

- Silplus 30 AS anti-static silicone rubber, which can help remove static charge without the



Global marketing director Oliver Franssen shows off Momentive Performance Materials Inc.’s new watch with a liquid silicone rubber band at the Momentive booth on Oct. 14.

use of carbon black fillers. Officials said this enables manufacturers to create products in a variety of colors, as well as translucent products. Applications include keyboard covers, elastomeric keypads and buttons, soft-touch features on devices, as well as other consumer electronic applications.

- Silopren LSR 3376/50, which is the first member of Momentive’s new low-volatile, self-lubricating

LSR family that aims to meet increasingly stringent safety specifications for automotive electrical systems. This material can address the critical need of manufacturers in Asia for connector seals that have very low levels of volatiles, according to officials, and do not require post-curing to achieve this.

Machinery firms Engel, Wittmann Battenfeld and Dr. Boy also are running Momentive materials on their equipment at the show.

Momentive was formed in 2006 when private equity firm Apollo Management LP bought the GE Ad-

vanced Materials unit, including silicone and quartz production, from General Electric Co. In 2010, Apollo merged Momentive with Hexion Specialty Chemicals Inc. — a thermoset plastics leader also majority-owned by Apollo — to create a specialty chemicals company with annual sales of \$7.5 billion.

Momentive operated under Chapter 11 bankruptcy for several months this year before exiting in August. The firm was able to restructure and eliminate \$3 billion of debt, while launching a \$600 million rights offering.

**MOMENTIVE**  
Hall: A6  
Stand: 6312

# Solvay expands its material and application portfolios

By Keren Sall  
PRW

Chemicals giant Solvay SA wouldn’t be drawn into commenting on a report that it had won a contract to provide plastic for Apple’s latest iPhone 6.

Bloomberg reported Oct. 13 that Solvay will supply polyetheretherketone polymer (PEEK), a colorless thermoplastic polymer, for internal parts of the iPhone 6.

Tom Wood, Solvay senior vice president of crystalline polymers, said: “Unless we relay this in a press release we never comment on any customer-related activity.”

Wood was more forthcoming about a new AvaSpire grade of polyaryletherketone (PAEK), and the company unveiled a pneumatic valve application that it collaborated on with Aventics GmbH, a German manufacturer of pneumatic components and systems.

ed new level.”

Wood added that AvaSpire AV-652 offered 10 to 15 percent greater strength and stiffness (modulus) compared to 30 percent glass-filled PEEK grades available today. It also achieves a greater level of mechanical toughness than previously possible. Impact resistance values are 20 to 30 percent higher than those of glass-filled PEEK similar loading and melt flow.

The thermal performance of AvaSpire AV-653, in terms of modulus, is higher between room temperature and 200°C. Between 160°C and 200°C, the modulus is on average 70 percent higher than that of glass-filled PEEK.

The new AvaSpire grade, designed for injection molding, is available in pellet form in light beige and black. It is semi-commercial and offered in pilot scale quantities for evaluation and test production runs.

Meanwhile, Solvay used its Kalix 9000 high-performance nylon in the Aventics project. The material facilitates the miniaturization of a highly modular pneumatic valve construction with a reduction of part volume of up to 45 percent and a compact

design with optimally positioned push-in fittings.

The Belgian chemicals giant said the thermoplastic part for the pneumatic valve system weighs less than 20 grams and is about 100 millimeters long. “The absence of flash allows the part to be more intricate while increasing its production consistency.”

Aventics worked closely with Solvay Specialty Polymers throughout the product development cycle. The two companies collaborated on material selection, rheological simulation and mechanical simulation. The cooperation also included extensive work on mold design, injection molding and mechanical validation.

Solvay was also forthcoming about its agreement to buy the Ryton polyphenylene sulphide business from Chevron Phillips Chemical Co. Wood said: “It is progressing well. We are looking forward to integration and anticipation of the all-competitive regulatory clearances from various governments which are necessary. We hope to have those completed by late November and December. We are still targeting an end of December closing of the deal.”

## New products

Wood said: “The new AvaSpire grade complements AV-651 and is a major step change which takes overall performance capabilities to an unprecedented



Wood

**SOLVAY**  
Hall: B4  
Stand: 4213



Colored Latches out of Radel PPSU displayed at the Solvay SA booth on Oct. 14.

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Plastics News

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PRW

# Wittmann Battenfeld aims for higher sales, revenue

By Bill Bregar

PLASTICS NEWS STAFF

Wittmann Kunststoffgeräte GmbH bought the Battenfeld injection molding press business in 2008 — just as the big economic downturn hit economies around the world.

During the recession, the Austria-based company embarked on a complete redesign of the Battenfeld line — developing the larger-tonnage MacroPower presses and all-electric EcoPower machines.

The company, now called Wittmann Battenfeld GmbH, has rejuvenated Battenfeld's large-tonnage machine line. In 2013, the company opened a 1,600-square-meter addition at its headquarters in Kottingbrunn, Austria, to make MacroPowers with clamping forces up to 1,600 tons.

Plastics News senior reporter Bill Bregar recently sat down with Michael Wittmann, the company's general manager and son of founder Werner Wittmann, to discuss a wide range of topics.

Wittmann is displaying its injection press, robot and auxiliary equipment at Fakuma.

"We're very satisfied with the purchase of Battenfeld," Michael Wittmann said. "You know that we purchased Battenfeld during a rather difficult time. It was the year 2008. And unfortunately we were a little bit required at that time to consolidate some of the business, because the industry really broke away shortly after the purchase. The economy was really going down in a straight line until May of 2009."

Then the plastics machinery market rebounded quickly and remains strong in most markets around the world — setting the backdrop for the Fakuma show.

"But from that time on, actually it's recovered very nicely. Extremely well, and we were very satisfied. And during the recession, we never stopped the design, the engineering. The EcoPower is completely new. The MacroPower is a completely new line," he said.

Wittmann Battenfeld has since expanded around the world, hiring engineers, service technicians and sales people to grow sales of the injection press line. The company continues to innovate in auxiliary equipment.

Here are some highlights: Expanding the headquarters in Kottingbrunn to make big presses; a recent addition in Torrington, Conn.; expanding operations in Hungary and China to add EcoPower production there; opening an automation plant in Nuremberg, Germany, and beefing up in Mexico.

Wittmann Battenfeld generated sales of \$365 million in 2013. Michael Wittmann said the 2014



Michael Wittmann

goal is \$400 million. He said company officials especially want to increase injection press sales to improve manufacturing economics of that business.

Wittmann declined to say how many presses the company makes each a year, but he said: "The number is too low. This is below our goal. That's why we're investing in people, to increase this number of presses."

The following is an edited version of the interview.

**Q: The capital equipment business bounced back so fast after the major recession that it surprised many machinery executives. What is the current situation around the world?**

**Wittmann:** In Europe, you have to differentiate between different markets. The South European markets are a little bit slow. France, Italy, Spain, are not doing too well, because of their own issues. But then some other markets, like East Europe — Poland for example, also Germany, are doing quite well. So we are very satisfied with the performance of it.

**Q: In the United States, automotive sales are quite high. The strong automotive market has been a big reason for the robust machinery sales. I know car sales are off in Europe. What's the situation in Europe?**

**Wittmann:** That's true. But what we have seen is still a lot of investment. I believe the reason for the investment is, it always depends on new models. If there is a new model coming out — regardless of the overall sales level — there is new investment coming. Right now there's a lot of new models, with new hybrid motors and electric motors. There is a lot going on. The sales are not the highest, not the best. So the investment doesn't come from increased capacity. The investment comes from new models.

**Q: Wittmann Battenfeld plans to build the EcoPower presses Hungary, and then later in China. You have said this will free up space in Kottingbrunn for the big MacroPower press assembly. Talk about your plans.**

**Wittmann:** The MacroPower actually needs much more space to make. In Kottingbrunn, we will only make the EcoPower in sizes of 240 and 300 tons, starting next year. And the smaller range of



Fakuma attendees look at Wittmann Battenfeld's Macro Power 450 at the company's booth on Oct. 14.

'If you're just selling in a particular market, and somebody else is coming in with a new technology and you can't afford to keep pace because your volume is too small, and then it takes away from your market.'

Michael Wittmann  
Wittmann Battenfeld GmbH

EcoPower will be done in Hungary then. There are two reasons [for the Hungary expansion]: It's only an hour-and-a-half away from Kottingbrunn. And we need more space in Kottingbrunn to expand.

**Q: Your Hungary plant has mainly done metal fabrication, making frames and control cabinets for the EcoPower line. So this is a big change, and will involve a plant expansion there, right?**

**Wittmann:** Yes. Our plan is for the moment, to make the 55-ton, 110-ton and 180-ton EcoPower in Hungary. This should be completed by the end of the year. Why is it taking us long? Because we're making some modifications to the bill of materials to make it ready for serial production. As soon this is done — again, at

the end of the year — only then we can transfer the machine to China.

**Q: What sizes will you make in China?**

**Wittmann:** 110 and 180 tons. We will not make the 55-ton EcoPower in China. The idea in China is to introduce EcoPower manufacturing in the year 2015, and to really start the actual serial production for the Chinese market actually by Jan. 1, 2016. And we can only participate fully in the market if we manufacture in China. You cannot import. This is impossible. When you go to a customer, that's one of the first questions they are asking. They want Chinese-made.

**Q: Also in Asia, tell us about your plans to do more work in**

**Taichung, Taiwan?**

**Wittmann:** We are modifying a building that we had purchased. This is a long project. In Taiwan, what we're seeing is customers are asking if you rent the space or if you own a space. If you rent, then you have only half of the credibility than if you own it.

**Q: Turning to Mexico, you have continually expanded there. Now you are adding a showroom at the Mexican headquarters in Querétaro. And you are adding a second story onto the building now.**

**Wittmann:** We now employ 50 people in Mexico. We are bigger than Engel. We are bigger than KraussMaffei. Why? Because we have different products than them, more products such as auxiliaries.

**Q: Major machinery manufacturers must be global now. This has been clear for at least 15 years.**

**Wittmann:** Absolutely. You have to cover the globe. There's no question. You have no choice. Every market is too small by itself. Because you are too vulnerable. If you're just selling in a particular market, and somebody else is coming in with a new technology and you can't afford to keep pace because your volume is too small, and then it takes away your market. This is too dangerous.

No, we have to be exposed on every market as much as possible. It's competition, you can never be sure that you will keep your own market, forever.

**Q: One key strategy for Wittmann Battenfeld is the ability to put together complete turnkey systems — everything**

**from the injection press on down through the automation and auxiliaries. Is there demand from customers, globally, for this?**

**Wittmann:** Yes. But honestly if there are many [machinery] manufacturers pushing for it — 'Look, I can offer you a machine. I can offer you an integrated robot.' So isn't it also that you create the demand because the customer would say 'OK I'll take it because I have less issues.' Was it [the customer's] idea from the beginning? Maybe not. But maybe because it's offered as a complete package it makes my life easier.

**Q: But we continue to hear about cutbacks of engineering and technical talent at molders. That brings up the issue of skilled workers. Let's talk about that issue in different parts of the world. What about China?**

**Wittmann:** Well in China you have a total lack of educated workers. Yes there is a shortage of skilled labor. And if you train somebody, this person will leave right away. So that's a problem for our customers. They have to work with equipment where they cannot train somebody on. It's quite a challenge. That's the reason why you need this, what we call the power of simplicity: To make it as simple as possible for somebody. The best thing is one button to push.

**Q: What's the skilled-worker situation in Mexico?**

**Wittmann:** In Mexico you have good people and good engineers. The problem in Mexico is that too many companies are coming in right now, they're stealing employees from one another. So we

See Wittmann, Page 12

WITTMANN  
BATTENFELD  
Hall: B1  
Stand: 1204

# Victrex debuts hybrid molding process and material

By Keren Sall

PRW

Specialty polymer group Victrex plc will present a polyaryletherketone-based polymer and an innovative hybrid molding technology that enables engineers to overmold a PAEK-based composite with fiber-reinforced Victrex injection molding materials.

It says the “polymeric advance” allows engineers to design stronger, lower cost components that are up to 60 percent lighter than typical metal and thermoset systems.

Victrex has collaborated with Tri-Mack Plastics Manufacturing Corp. — a Bristol, R.I.-based molder of high temperature thermoplastic resins and composites for the aerospace sector — and engineered an aerospace bracket using the new polymer and technique with the demanding performance requirements of loaded applications in mind.

Thornton, England-based Victrex will be exhibiting this latest aerospace technology at the Fakuma show this week, as well as delivering a paper on hybrid molding at the International

Conference and Exhibition on Thermoplastic Composites (ITHEC), set for Oct. 27-28 in Bremen, Germany.

**VICTREX**

Hall: A4  
Stand: 4106

The specialty polymer producer said its hybrid-molded Victrex PAEK-based composite bracket breakthrough enables aerospace brackets to be produced in minutes compared to hours and can deliver up to 60 percent weight savings compared to stainless steel and titanium while offering equivalent or better mechanical properties such as strength, stiffness, and fatigue.

“These technologies are enabling engineers to design lighter, stronger and more cost-effective solutions like the new bracket,” said Tim Herr, Aerospace Strategic Business Unit director for Victrex. “This game-changing advantage over metals and thermoset composites is a result of our dedication to the future of flight.”

Tri-Mack, which has a long-standing relationship with Victrex in the development of high-performance aerospace components using PAEK polymer, said it was “excited to use a new polymer and process to develop an innovative product.”

Tom Kneath, director of sales and marketing for Tri-Mack, said: “The design flexibility of the materials, along with the technical support from Victrex, enabled us to engineer and manufacture a PAEK bracket that can be produced in min-

utes compared to the hours it would take for a metal or thermoset equivalent. This improvement in manufacturing efficiency translates into less processing time, lower energy requirements, and reduced waste for Tri-Mack. Those benefits, paired with eliminating steps such as edge sealing and X-ray inspections, help to re-

duce overall part costs.”

Victrex reported a “strong finish” to its 2014 financial year, buoyed by a 22 percent increase in sales.

It said a strong performance in the first half had continued into the second six months of the year in its strategic markets of automotive, aerospace, energy, electronics and medical.



Specialty polymer group Victrex plc is debuting a polyaryletherketone-based polymer and an innovative hybrid molding technology. Victrex says this development will allow for more design flexibility.

Victrex plc photo



**Mold-Masters**

Hall A5  
Stand 5205

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# French molder betting on automotive industry

By Bill Bregar

PLASTICS NEWS STAFF

Precision French molder AdduXi Group is opening its first factory outside of its home country — in a Detroit suburb — and the top local executive said the time is right, as the U.S. automotive industry is on a roll.

“All the ingredients for success are really together in Detroit right now, and we strongly believe that AdduXi’s going to make the best of it,” said Xavier Ovize, CEO of the plant in Rochester Hills, Mich. “This is the right time with the right product and the right place.”

AdduXi officials set up the 27,000-square-foot factory, with four Billion all-electric, Select injection molding machines, in July and August. Ovize said the goal is to begin molding parts by the end of this year. In the first quarter of 2015, AdduXi will add automated production and assembly equipment — a hallmark of the main factory in France.

AdduXi Group and Billion SA are neighbors in the town of Billignat, in the French Plastic Valley, the Oyonnax region.

AdduXi in France molds tight-tolerance auto parts, many with electronics molded-in using insert molding — which the company calls hybrid parts. The firm also does reel-to-reel molding.

During a Sept. 11 visit to AdduXi’s new Michigan plant, Ovize showed parts that go in every part of a car: sensor housings, window lifters, fan shrouds, part-assist sensors, connectors and sensors for electronic motors, powertrain, transmission, brakes, thermal



Xavier Ovize, CEO of the Rochester Hills, Mich., AdduXi Group location, shows off one of the four Billion all-electric Select injection molding machines at the 27,000-square-foot factory.

sensors and more.

Many of the parts are two-shot overmolded on plated copper, gold or platinum, and have molded-in soft gaskets. The company runs engineering resins, including nylon, PPS, PPO and PEI.

One especially complex part is a solenoid valve bobbin. The coil is wound by AdduXi on automated equipment, then the company adds more electronic components such as a connector and overmolds the final part to enclose the bobbin in a plastic housing.

“It’s very broad, across the car,” Ovize said. “The common denominator here is technical materials that we transform, and the requested features and quality of the final product. It’s high end, high quality plastic parts.”

Parts are quality checked us-

ing vision systems, electronic tests, or both.

The Rochester Hills factory already has a Hexagon Metrology coordinate measuring machine — the first piece of equipment at its quality lab.

Customers of the Tier 2 supplier asked AdduXi to set up a factory in North America.

“That’s something that’s very valuable to this industry. If you want to be credible, if you want to be serious, you need to be everywhere,” Ovize said. “If you want to be successful in automotive in the U.S., you want to be represented not just with sales people. You want to be industrial. And that’s what we’re doing now.”

It marks a major investment of about \$5 million to \$6 million for

See AdduXi, Page 13

ADDUXI

Hall: B2  
Stand: 2308

# Billion likes to remain flexible

By Bill Bregar

PLASTICS NEWS STAFF

Korbinian Kiesel likes to describe Billion SA as small but mighty.

The French manufacturer of injection molding machines targets middle-sized molders.

“We are not the big shots, but we try to make little ones big,” he said.

Kiesel, a German machinery executive, bought the French injection molding machinery manufacturer in 2005. He purchased Billion from the conglomerate Mannesmann Plastics Machinery GmbH, which is owned by private equity.

Billion had always seemed the odd man out under the MPM umbrella, which included far bigger nameplates of KraussMaffei, Netstal and, back then, Demag Plastics Machinery. In purchasing Billion, Kiesel picked up a company with a rich heritage that began when Leon Billion founded the machinery maker.

Billion was a pioneer of multi-component injection molding technology, getting a patent back in 1961. In 1980, the company built a giant press with 10,000 metric tons of clamping force.

More recently, Billion developed an all-electric injection press, called the Select line. Both technologies — as well as in-mold assembly — will be demonstrated at Fakuma, on the same Billion machine: Molding a container filled with water.

Billion is run by a young team, and the small company can move quickly to fill market needs. The company employs about 250 people and generated 2013 sales of 32 million euros.

The clamping force range of Billion presses covers 100 to 2,650 tonnes.

Kiesel, at 49, jokes that he is the “old man” of the management team.

A few weeks before Fakuma 2014, Kiesel spoke with *Plastics News* senior reporter Bill Bregar, in a phone interview from Billion’s hometown of Billignat, located in the Oyonnax region — known as France’s Plastics Valley.

**Q: Why did you buy Billion? What attracted you about a fairly small French maker of injection molding machines?**

**Kiesel:** Billion is a very technical-driven company. It was for sale and I was looking for getting a business on my own. Perfect match.

**Q: In-mold assembly is an interesting process. Can you explain?**

**Kiesel:** The IMA process allows finished hollow products to be molded on conventional or twin-



Korbinian Kiesel

shot injection molding machines, using a double turning table. Overmolding, clipping or riveting within the mold assures the joint between the two halves. The hollow molded product may also integrate an insert. The process enables you to have one or several finished parts for each mold opening.

The main advantages are repeatability without defect, very good welding thanks to overmolding providing a perfect joint seal, and a high internal pressure resistance.

**Q: Tell us about the specific part being molded this week at Fakuma. It is a completely enclosed pod filled with water and a small single dice floating inside.**

**Kiesel:** The demonstrator is made of two transparent parts, a body and a lid, injected simultaneously with injection unit No. 1 in two different parts of the mold. During

the mold-opening phase, the body and lid molded during the previous cycle are brought together in the central position of the mold. The dice and the water are being integrated into the part and both parts are brought together.

In the last stage of the cycle, the overmolding takes place with injection unit No. 2 sealing both parts together. The finished part extracted by the robot is always the one produced during the previous cycle.

The outstanding innovation is the ability to encapsulate a liquid inside the injected part during the injection process.

**Q: This is an interesting demonstration — like a Magic Eight Ball! But what are some possible real-world applications?**

**Kiesel:** The market examples are in the automotive industry with parts like a gas tank or a component holding windshield wiper fluid. Applications are also numerous in the household sector. For example, a part to hold water on a household iron with a steam feature. Prior to this it would be two halves welded together in a separate step. Or you would have to blow mold it.

**Q: Korbinian, we know that all-electric technology is good for medical clean room-type molding. But what about some of your other sectors, such as automotive and packaging? What is the attraction for all-electric presses more widely, across broad industry segments?**

**Kiesel:** The main force of our Select all-electric range is definitely

See Billion, Page 13

The Extrusioners

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# Teknor introducing recycled nylon compounds

By Frank Esposito

PLASTICS NEWS STAFF

Materials firm Teknor Apex Co. is making its recycled nylon compounds available in Europe for the first time.

Pawtucket, R.I.-based Teknor also is introducing four new compounds based on recycled nylon, as well as custom thermoplastic elastomer compounds for food-contact and new TPE compounds for auto window encapsulation.

Teknor now is making Recyclon-brand compounds based on recycled nylon 6 and 6/6 at its plant in Oldbury, England. Recyclon nylon 6 compounds are being sold as the 400 series, while the 6/6 versions are under

the 500 series. Both series have filler content of 15 to 30 percent. All four grades have shown property retention

of 80 percent after 1,000 hours of heat aging at 140° Celsius, officials said in a news release.

These recycled nylon compounds are being aimed at automotive applications, as well as at consumer and industrial items where customers are looking for cost reduction. They're aimed to complement Teknor's Chemlon-brand nylon compounds, which have been available in Europe for some time.

"Not every [nylon] application calls for the full portfolio of elevated properties provided by Chemlon compounds," European engineering plastics sales and marketing director Steven Dunn said in the release. "The Recyclon product range provides a new option for balancing cost and performance."

Senior automotive market manager Peter Verhooren added that the cost advantages of the Recyclon products is a result of Teknor's backward integration into a carpet recycling process that provides a guaranteed supply of feedstocks.

The new compounds are available in black, and new grades already are in development, officials said. The percentage loadings of recycled content can be varied to meet customer needs.

The new TPE food-contact compounds are being sold under the RG series of Teknor's Monprene-brand TPEs. The materials can be used in injection molding and extrusion and comply with U.S. and European food-contact regulations. They offer vivid colors, smooth surfaces and end-use durability, officials said.

Potential applications of the new Monprene include kitchen appliance components (grips, gaskets, knobs), food contain-

ers and utensils (storage products, ice cube trays) and children's and infant products (soft toys, teething rings). All of the new grades are free of phthalates, latex and BPA.

New TPE compounds for auto window encapsulation and interior parts belong to Teknor's Sarlink-brand thermoplastic vulcanizate product line. The three new series of Sarlink being

launched at Fakuma offer excellent processability and UV stability, officials said, while providing weight savings vs. PVC and EPDM.

Teknor Apex was founded in 1924 and ranks as one of North America's 30 largest compounders and concentrate makers. The firm operates 13 plants worldwide and has annual sales of more than \$600 million.



The automotive parts highlighted in blue show the parts that Teknor Apex Co. manufactures with compounds it is introducing at Fakuma.

Teknor Apex Co. photo

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## VIEWPOINT

BILL BREGAR

# Germany is set to lead on energy

**W**hen it comes to energy these days, Germany is all about Energiewende — the aggressive plan to wean the country off fossil fuels, to a future of wind and solar. The United States? Frack on, baby!

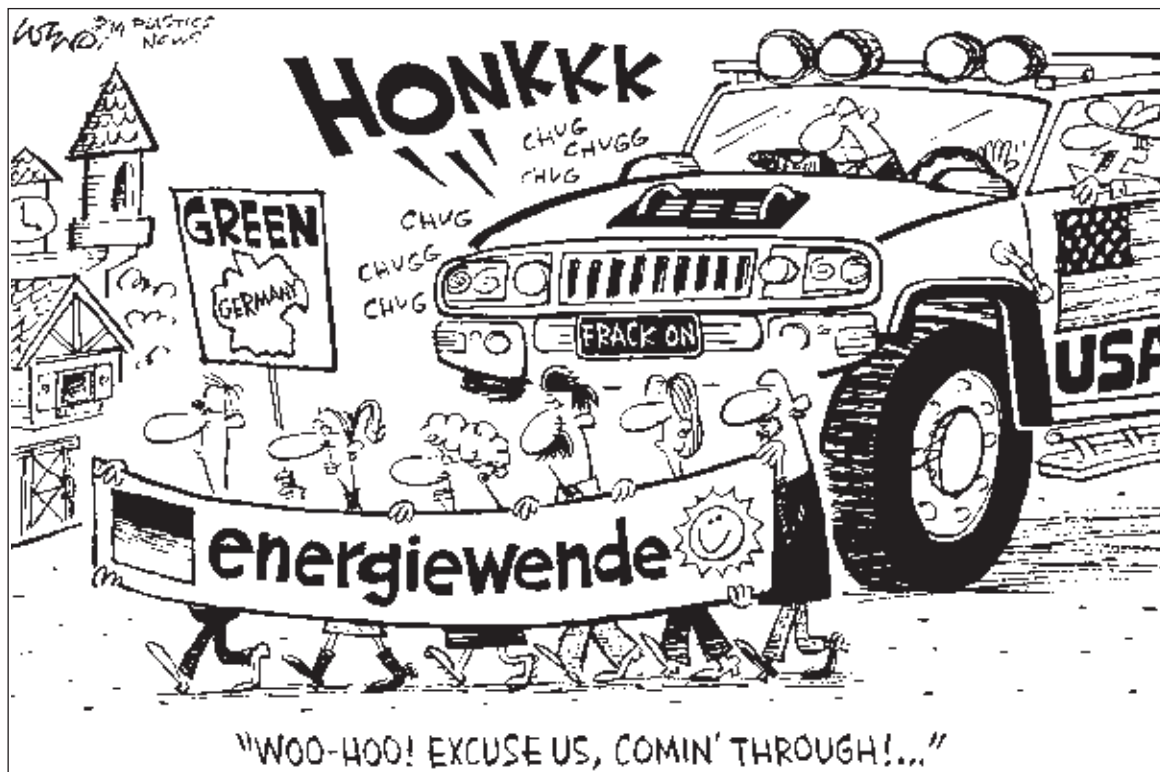
There's a stark difference between Germany, the central economic driver of Europe, and the United States, the world's biggest economy.

Yes, it's common knowledge that Americans like to drive big, gas-guzzling cars through congested highways an hour to work, from their air-conditioned mini-mansions in the suburbs. (Check out the massive house of Al Gore, the climate-change advocate — now that's an Inconvenient Truth).

And Germans? You live in smaller modest houses, walk to the bakery every morning and ride your bikes or take the train to work. You are a "green" people (except when too much beer causes bloating and gas — that contributes to global warming, you know).

The U.S. boom in hydraulic fracturing to release oil and gas from tight pockets of shale has turned the United States into a global force in energy — seemingly overnight. The United States is poised to pass Saudi Arabia, in the next year or two, to become the world's largest oil producer. (This is amazing, especially to any American old enough to remember the Arab Oil Embargo and long gas lines in the 1970s. Now we actually are exporting oil!)

U.S. oil output has helped bring down crude oil prices around the world. Natural gas prices are low. And it's led to U.S. jobs, in drilling, petrochemicals and plastics. The American Chemistry Council says shale gas could create more than 500,000 jobs at nearly 10 announced plastics and chemicals



expansions. A top Dow Chemical Co. executive put a \$10 billion-plus price tag on all the energy-related chemical expansions in the United States.

"Frack" is not a dirty word ...

The low energy prices — and prospects of stable polyethylene and polypropylene pricing for years — have helped drive reshoring, as work returns to the United States. European companies, including German firms, are buying U.S. companies and investing in production in the United States and Mexico.



Bregar

According to a report in the *Wall Street Journal*, German economists and some business executives are concerned that the huge cost to convert the current energy system — which was working fine — with "green" energy could hurt Germany's industrial base. And Germany's official

goals are much more far-reaching than those of the European Union: Germany wants to produce 40 to 45 percent of its electricity from renewable resources by 2015, and a whopping 80 percent by 2050.

Germans strongly support a green economy. The Energiewende movement is tied to the environmental movement. An anti-nuclear passion was fueled by the disasters of Chernobyl and Fukushima. So there will be no reliance on nuclear power in Germany, as opposed to France.

That leaves coal and natural gas generation for electricity — but these are not renewable. Germany is looking long-term, and for that, the country is to be admired. But if it moves too fast, and costs spike up — as they already have — then Germany's vaunted manufacturing base could get hurt.

And a weak German economy is bad news for all of Europe.

The plastics industry is still growing. Plastics are winning new

applications in lightweight cars, in wind turbine blades, in solar panels. German plastics machinery companies are still export-driven powerhouses.

And of course, the eurozone has its ups and downs. Currently, the European economy is facing weakening inflation, as the recovery loses momentum. In September, German manufacturing shrank for the first time in more than a year. The sanctions against Russia over the Ukraine crisis certainly are having some negative impact.

And even though the U.S. economy is rebounding in solid fashion, we live in an interconnected world, a global economy. Stock markets can fall on bad news out of Europe.

So as an American, I say this: Pay attention to Germany, even as we frack away.

*Bregar is a Plastics News senior reporter.*

## Under wraps

Model fish under plastic film from SBC Styroflex 26GG at the Styrolution booth.

Plastics News photo by Caroline Seidel

**STYROLUTION**  
Hall: B4  
Stand: 4107



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# Americhem shows off new lineup of color palettes

By Frank Esposito

PLASTICS NEWS STAFF

Americhem Inc. is heading to Fakuma with a new lineup of colors for its plastic materials.

The Cuyahoga Falls, Ohio-based firm also is bringing a new softening additive and a line of flame retardant polymers that it distributes to the show.

Americhem unveiled the six new color palettes for 2015-16 in September. They include:

- Art Therapy, described as “an enlivened palette of crimson, jewel-toned blues, fuchsia and gold.”
- Electric Dawn, “powerful, energetic” colors of the pre-dawn sky.
- Precious Ore, enveloped by “peaceful, soothing colors” representing the natural beauty of surrounding landscapes.
- Transcend, “an inspiring palette” of serene blues, tranquil beiges and soothing grays.
- Venetian Style, a “lush palette” with gold, apricot, warm grays and subtle mauves.
- Alchemy, “transforming colors that demonstrate the pleasure of nature’s constantly changing appearances.”

## AMERICHEM

Hall: A5  
Stand: 5121

The color families were developed by a committee of color trend specialists

and are forecasted to be popular in the coming year based on global cultural influences, demographic trends and fashion-forward color predictions. They’ll be used in Americhem’s color and additive concentrates, as well as in single-pigment dispersions.

“By being involved on the front end of color design for the variety of industries that [Americhem] serves, we have a unique perspective, allowing us to forecast color palettes that can benefit designers,” President John Deignan said in a news release.

The firm’s new softening additive is mBrace, which can be used in nonwovens to set desired softness levels. Potential applications includes apparel, medical products, packaging and upholstery.

The flame retardants are the Nofia line made by FRX Polymers of Chelmsford, Mass. Americhem is the exclusive European distributor of the Nofia materials. Americhem Europe general manager Craig MacDougall said in a release that Nofia is “the ideal flame-retardant additive” for melt-spin synthetic fibers such as polyester.

Americhem also will focus on the results of recent outdoor weathering studies for its eCap-brand high-performance compounds for building products. A range of brown and gray eCap materials showed less color fade and good durability in the studies. The products represent “the next evolution” of enhanced precolor capstock compounds for decking, fencing and other building prod-

uct profiles, officials said.

Also at Fakuma, Americhem is emphasizing the consistent results of its color and additive concentrates for the global automotive market. The firm’s materials are used in injection-molded instrument and door panels, headliners, floor coverings and similar auto applications.

On the production front — and also related to automotive —

Americhem’s plant in Manchester, England, recently received the same ISO certification that the firm’s headquarters plant has. The certification defines quality management system requirements for the design, development, production, installation and service of automotive-related products. The specification can be applied throughout the automotive supply chain.



Americhem Inc. will be showing off its six new color palettes for 2015-16. The palettes include names like Art Therapy, Electric Dawn and Precious Ore.

Americhem Inc. photo

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Plastics News EUROPEAN PLASTICS NEWS PRW

# KIMW shows off close-contour mold heating process

By David Vink

EUROPEAN PLASTICS NEWS

The highlight on the booth of Kunststoff Institut Lüdenscheld (KIMW) is its new Greenmold close-contour mold heating process, which it has described as the “temperature control system of the future,” as a cost-efficient alternative to conventional dynamic rapid heat-and-cool (RHC) temperature control techniques.

Greenmold only heats the mold surface via a thin electrically heated conductive mold coating. Together with an insulating layer and a protective titanium-chrome wear-resistant coating that may be surface-structured.

KIMW says Greenmold enables the same fast heating rate as with induction and other electrical heating methods, but consumes 430W at 30V, as opposed to 2,000W at 400V with induction.

At Fakuma 2014, KIMW is demonstrating molding on an Engel press with a Greenmold insert in a mold of small structural foam panels with plain and lenticu-

lar-effect surfaces. The former shows less swirl effects and a glossy surface, as well of better knitline hiding than with a conventional mold temperature control.

The institute is presenting three variants of the Greenmold technology. In one, thin film heating layers are applied on the mold surface. In another they are close to the mold surface, while the third variant is a modular system with thin film heating applied within recesses in the mold.

KIMW also showed ceramic mold inserts. These have been developed together with WZR Ceramic Solutions GmbH as part of the KeraOpt research project supported by the European Union. A key feature of using the ceramic inserts is that the heat is conducted away more slowly than with steel inserts, thereby avoiding rapid freezing of the plastic melt and associated appearance of flow and knit lines on the surface, and “other negative optical effects.”

The polished versions of the ceramic mold inserts have an exceptionally low Ra surface roughness

**KIMW**  
Hall: A5  
Stand: 5316



KIMW's display of a cut-away view of its close-contour BFormold ball-filled mold that shows the balls under the mold insert surface. This piece is displayed with a black high glass navigation equipment frame.

value of 0.002 microns, compared with a typical value of 0.011 microns for a high gloss polished steel mold insert. KIMW say that WZR has developed the ceramic inserts so that they will soon be launched commercially with the name Cer-

Mold — standing for Ceramic mold insert.

According to KIMW, the ceramic inserts are produced by computer numerically controlled milling of proven metal-ceramic composite material, and they have been

shown to withstand 2 million injection cycles without damage. As WZR's ceramic composite has the same coefficient of thermal expansion as tool steel, KIMW says they can be easily integrated into injection molds. The part put on display by KIMW at Fakuma was produced on Oct. 10.

KIMW also is exhibiting its Ku-Glas process as a means of high producing high-gloss scratch-resistant decorative moldings by back-molding against a thin glass layer, instead of against a plastic foil. Lüdenscheld, Germany-based automotive supplier Leonhard Kostal GmbH & Co. KG molded the example on display and the development was supported by specialist glass company Flabeg Deutschland GmbH in Nuremberg, Germany.

KIMW also is displaying a cut-away view of its close-contour BFormold ball-filled mold showing the balls under the mold insert surface. This was along with a black high glass navigation equipment frame as a demonstration molding, produced with the BFormold rapid cooling insert in combination with Roctool's 3iTech induction based rapid heating technology.

Plastics News photo by David Vink



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# Fakuma launched as time was 'ripe' for plastics fair

By David Vink

EUROPEAN PLASTICS NEWS

David Vink spoke with Paul and Bettina Schall about the history of the Fakuma trade fair, including its origins and development since before its launch in 1981.

**Q: After you were involved in the sale of machines for the graphical arts in 1962, your first trade fair followed in this area with the Mograma fair, and in 1972 the first Fameta trade fair for metal processing machinery. How is it that you came to the idea to get into the trade fair business?**

**Paul Schall:** That is a question that I have sometimes asked myself. From today's perspective, and after so many years, I have established that the time for a new form of product presentation was simply ripe at that time. The product offering grew larger and larger, I should rather more say it became more unclear and confusing for potential customers. So it was natural to organize the required overview. It is just that and nothing else that we have done in the early years, in order to later pick out promising themes and then to use them to characterize the meaning of a trade fair.

**Q: After establishment of today's P.E. Schall trade fair company in 1975, it took a few years before the first Fakuma as a trade fair for plastics processing started up, in 1981. How is it that the decision was made to take this direction in the trade fair business?**

**Paul Schall:** As already indicated, the time was simply ripe. This applied and still applies today in particular to new topics. Plastics technology at that time was without doubt one of them, almost still in its infancy when compared with today's standards. As new machines were appearing almost monthly, along with further developments in tooling, ancillary equipment, new materials and so on, an entire industry slowly but surely developed — for which however an information and sales platform was lacking. That was the hour of Fakuma's birth, which has developed from a small trade event concentrating on just the needs of the "DACH" 3-country triangle of Germany [D], Austria [A] and Switzerland [CH] from the Friedrichshafen location, into a recognized industry trade fair of worldwide standing.

**Bettina Schall:** It was initially necessary to overcome a certain blockade against the idea of a new plastics industry fair. So we approached injection molding machinery producer Arburg and asked what they thought about the idea. They reacted positively and Arburg's founder Eugen Hehl asked us if we wanted to run it in Friedrichshafen or Lossburg, where Arburg is headquartered and was already running its annual technology days open house. We went for Friedrichshafen and haven't looked back since then.

**Q: Maybe not all Fakuma visitors, especially those abroad, are aware what stands behind the**

**Fakuma name, namely the original trade fair for plastics machinery (Fachmesse für Kunststoffmaschinen). Was the fair right at the beginning in 1981 just one for injection molding machines, or was associated ancillary equipment already represented among the exhibitors at that time?**

**Paul Schall:** In fact, we searched for a common term to comprehensively describe the main theme of the trade fair. Because, no matter whether injection molding, thermoforming or extrusion machines, they are all just machines of one type or another. We therefore later added the subtitle "International trade fair for plastics processing," which also includes all plastics processing technologies and methods, including then also 3-D printing, for example. Since we were from the beginning aware that a plastic machine alone can't be used for anything, ancillary equipment in the form, for example, tooling and granulate dosing equipment was brought in too. And right from the beginning, entirely in the spirit of today's process chain orientation.

**Q: Were you already able then to foresee that a pure machinery fair would develop further into related areas with producers of plastics materials, compounds, molded plastic parts or even extrusion and thermoforming machinery? Or did you think already then that it would develop this way? Maybe you even planned that it should?**

**Paul Schall:** Frankly speaking, a technically based trade fair topic can't be planned at all in the long term, as it aligns itself according to the research and innovation capabilities of institutions, institutes and others involved in the industry. It is true however that a fair organizer must have a sense to identify which themes can lead to development of a market.

Plastics were and are still today an evolving theme in all its nuances and it is our task to bring the supply and market needs together. Seen in this way, it is logical to deal with all variants of the mentioned plastic processing subject, especially as it is the customer who decides what fits best for him and his needs. But he can only come to a decision conscientiously if he knows about all processing possibilities. We achieve that for him with our trade fairs such as Fakuma providing more than just an overview, but also literally deep insights, both specifically targeted, as well as more general system insights or those stretching across different sectors.

**Q: Can you recall how Fakuma introduced an area in 2005 dedicated to extrusion machinery? Was it a difficult decision at the time, in view of the traditional strong focus on the injection molding area? Also in view of two new dedicated extrusion fairs in Germany that were both announced in 2005, one of which only took place once in 2005?**

**Paul Schall:** We have always strived, and still do, to keep the



Bettina Schall, head of marketing and public relations for P.E. Schall GmbH, and her husband Paul Schall, owner and founder of P.E. Schall, and the Fakuma trade show.



Paul and Bettina Schall

nomenclature of Fakuma and our other trade fairs strictly on course. There is no question of adapting the nomenclature to short-term trends, as a trade fair then quickly ceases to be one any more, becoming

just a replaceable sales event. However, should there be compelling technical innovations or market-related constraints, we feel then almost obliged to intensively and carefully consider new themes or supplementary and complementary product areas, with a view to adjusting the nomenclature. This happened with extrusion, which we took on in 2005 as an additional product area. This was because, on one hand, it fit and still fits well to the general plastics processing theme, one the other hand, because this small but fine sector didn't have any significant presenta-

tion platform, despite being characterized by growing demand. That was not a very difficult decision, but a rational one for all parties, which ultimately proved not only to be ideal but more than sustainable right up to today.

**Q: Some Fakuma fair visitors will remember the original fair halls. Can you remind us when the Fakuma fair moved into today's new halls and tell us whether and how the move has helped in ensuring continuation of the Fakuma fairs and their further development?**

**Paul Schall:** As soon as it was ready in 2002, Fakuma experienced a strong push forward, which we had not anticipated in our wildest of dreams. It immediately resulted in a 18 percent increase in the exhibition area from 55,000 to 65,000 square meters, so it is understandable that there was less of a rush forward in the following years up to the point when we leveled off with today's level of 1,772 exhibitors — compared with 1,105 in 2002 — and a gross exhibition area of 100,000 square meters. Even in the crisis years 2009-2010, there was no great decline, and soon afterwards we were able to report a full house again.

Obviously, there could be even more of each [exhibitors and exhibition area], but as mentioned, quantitative growth is not everything for serious trade fair organizer.

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# Automation firms form technical cooperation

## Exhibiting jointly, companies reveal new partnership

By Steve Toloken

PLASTICS NEWS STAFF

Hoping to ease the way for automation in some specialized areas of automotive plastics like laser cutting of door panels, a German robot maker and an Austrian lamination and joining specialist announced a partnership at Fakuma.

One of the companies, 3Con Anlagenbau GmbH of Ebbs, Austria, also said it plans to start a service and assembly facility in Novi, Mich., near Detroit, as it said it sees strong sales growth in North America.

Fakuma is the first show that 3Con and Robot-Technology GmbH exhibited at jointly, and the first time they have disclosed the partnership, after starting the technical cooperation six months ago, said Stefan Maier, managing director of the Kleinostheim, Germany-based RT.

In an interview at their booth, executives said they see the partnership supporting two trends in the auto sector: car makers find new technology easier to adopt with stronger technical support, and the increasing number of global platforms of car models, with the same vehicle manufactured and sold in Europe, North America or Asia, is fueling demand for standardization.

"Our customers want global partners," said Georg Schemmerer, head of sales in the United States and China, for 3Con. "More and more cars are being made on global platforms."

The two companies are not investing in each other, and both said they prefer to keep the cooperation looser, Schemmerer said: "We are convinced the looser cooperation is the best,

to be more flexible."

Maier said that 60 to 70 percent of RT's technology, which includes laser-cutting and clip assembly for plastic components, can be integrated with 3Con's offerings, which focus on lamination, automation, welding, thermoforming and edge folding.

The venture is also designed to help control the price of such integration, he said: "We both have experience in the technology and we don't push the price so high."

RT has 55 employees, while 3Con has grown from about 50 people two years ago to 175 today, with annual sales of about 50 million euros, Schemmerer said. About 75 percent of its sales are in Europe, he said.

Both firms said they do more than 90 percent of their business in the automotive market. Maier said they do not see much application for the technology outside the auto sector, given the high costs and need for significant volumes to make the automation cost effective.

In the car industry, however, 3Con sees significant potential in North America, and expects to have 30 employees at its Detroit center by mid-2015, he said.

"We have a lot of business in the U.S.," he said. "This year we have 10 million euros in sales in the U.S. with no office."

The company also is seeing increased demand because several years ago it began manufacturing more products under its own name and shifted from making its equipment for other companies, Schemmerer said.

3Con also expects growth from global car makers in China, he said.

"The same technology is being requested by Europe in China, particularly the German companies," Schemmerer said. As one example, he said car makers in China are interested in automating processes such as vinyl edge wrapping of door panels, as labor costs rise.

apprenticeship. And it's a good program because you're attracting very young people. They have certain protections. You train them and partly they go to school. And afterwards once they are ready, they have a lot of practical knowledge and they can say I want to stay or I want to leave.

For example, at Wittmann Battenfeld we have a big staff of apprentices. I would say 30 at any given time. We have also one person who is only responsible for the training of apprentices.

But only in Germany and Austria. This doesn't exist in other [European] countries, actually.

But why is also right now, so attractive? It's because now we have low unemployment, in those



Above: Stefan Maier (left) from Robot Technology and Thomas Herian from 3Con stand next to a robot at their booth at Fakuma. Exhibiting together, the two announced a partnership.



Left: The inner face of a car side door is on display at the 3Con and Robot Technology booth.

## Wittmann

Continued from Page 4

can foresee quite some issues at companies looking for technical talent. Because the technical talent is just completely, actually, raided. Everybody has a job who has some kind of technical knowledge, and there is a huge, huge demand for those people in Mexico.

**Q: And of course, the European model of worker training is very good. It has been institutionalized over decades.**

**Wittmann:** Yes, but you have to say where in Europe. This is not everywhere. Austria and Germany, it's a very similar situation for both countries. We have this

two countries only. Otherwise you read the news about the very high unemployment in France, in Italy, in Spain, it's a different situation. But in Austria, we have hardly any unemployment — it's 4-something percent.

**Q: So this makes it even more important to attract young people to manufacturing careers, right?**

**Wittmann:** The point is, we have to get the youngest people. A good example is my 16-year-old son. He's going to a technical school. He's already going to events at his school, where companies are presenting, to hire them, when they get to be 18. Now unemployment is very low, and so there is this fight for skilled people.

**Q: So the skilled labor shortage is real in Austria, in Germany and in the United States. Is it a global problem, then?**

**Wittmann:** No, that would be too easy to say. Because there are countries like Spain and France, and Italy for example, where there is a very high unemployment, especially among young people. Also skilled labor doesn't matter because they don't even have the chance to be employed. Why not? Because of the stupid labor laws in those countries. Because it's not possible to adjust your organization, to fire somebody, to lay somebody off. Italy and France are the toughest ones. So every company says, Oh my god, I don't want to hire somebody because it's so

difficult. And you take away a chance of a young person, and the future. It's absolutely a shame.

**Q: In Torrington, one of the reasons for the expansion was to build more office space to keep pace with the hiring. And Wittmann Battenfeld is hiring around the world.**

**Wittmann:** It's an investment in the future. And definitely it also shows our willingness to grow the company. We're hiring in different departments, not only in sales, but also in product engineering, also in the service department. All around. And what's our goal? To definitely grow the business. That's also the reason why we're expanding the facility here.

# AdduXi

Continued from Page 6

the mid-sized French company, which has sales of about \$65 million.

In a telephone interview, Alain Palisse, the CEO and owner said AdduXi in France runs more than 60 injection molding machines, with clamping forces from 25-320 tons. More than two-thirds of them are Billions. Palisse said the company also has 14 automation lines.

AdduXi employs 235, he said.

Palisse founded AdduXi in 1996. He said the company has grown about 15 percent a year.

Ovize said the company has impressive technology, especially for a company of its size.

"And the growth is really in the more value-added parts, such as what we call the hybrid parts. The multi-component parts," he said.

Palisse added: "The alliance between plastics and metal is a very important thing for the next 10 years."

Right now, automakers want innovative parts that integrate features, through a high number of components and capabilities, Ovize said. That opens the door to hybrid plastic parts.

Palisse filed papers of incorporation in the United States in 2009. Obviously, the timing was not right to set up U.S. production during the recession. But this is a great time right now, Ovize said.

"Most companies that could pass through those tough years, are stronger than ever," Ovize said. "The volumes are back up, in terms of production of cars. And manufacturers are developing new products again, which was not the case a few years ago, when everything stopped and production and development was low. Now everything's back up. So this is a great time for all the parts suppliers and innovators because there is business. There is a need for innovation."

"Customers are demanding more. Their minds are more open than ever to new ideas. Quality levels have increased a lot. And people realize that innovation really is an important fact," he said.

So far, the company has hired Ovize as CEO in Michigan, an operations manager, a quality manager, a process engineer and an office manager. When production begins, they will hire operators and more technicians.

During the mid-September visit, all four Billion presses sat ready for action, each equipped with a Sepro robot and a takeoff conveyor. The all-electric presses have clamping forces of 50, 100, 150 and 200 tons. They will be

linked electronically to AdduXi's headquarters in France and to Billion.

The plant is highly connected in other ways, as well. Two large conference rooms have video screens for teleconferencing around the world.

Officials of Billion SA also are excited about AdduXi's new U.S. factory. The French molder already has many Billion-brand presses at the headquarters plant. Although well-known in Europe, Billion has not sold many machines in North America, other than to a French cosmetics maker.

"I think it's a good reference for us to show what we can do," said Billion CEO Korbinian Kiesel. "AdduXi is a very good company, very well-known in Europe."

The plant in Rochester Hills looks brand new, after extensive remodeling. The overall building was a former Dana Corp. factory that closed in 2012. The developer divided up the building into smaller spaces. AdduXi leases the factory.

AdduXi plans to hold a grand opening in Michigan on Oct. 23 — the week after Fakuma.

Ovize is French, but he's a veteran of Detroit, who has worked in the United States for 20 years, much of it in the rubber parts industry. The mechanical engineer helped set up three divisions for Hutchinson Corp.

True to Detroit, he loves cars. And over the years, he's seen good foreign companies fail to crack Detroit because they don't become "industrial" — don't set up U.S. manufacturing. AdduXi, for example, currently ships parts molded in France to customers in the United States and Mexico.

"In automotive today, every customer will ask their strategic vendors to be global just like they are. AdduXi has been a good, solid growing European group. Now we're taking the next steps coming to North America following and supporting our customers over here," Ovize said. "And down the road we don't exclude as well, in Central America and Asia. And with that, we would complete the loop and become truly global."

AdduXi's customers include major multinationals, such as Bosch, Brose, Delphi and Continental. Some customers said they need suppliers in Mexico, but Palisse said the molder wants to establish a good manufacturing base in the United States first.

And being in North America will help bring new customers, Palisse said. "The second row of potential customers will be probably the Japanese. We expect to work rapidly with the Japanese and the Koreans. And of course, the Americans too," he said.

# Billion

Continued from Page 6

the energy efficiency. Compared to fully hydraulic machines, and depending on the type of parts produced, the energy savings amount to 50 percent to 70 percent. This is true for all application sectors.

The Select range also offers an increased productivity as precision and reproducibility of the process start right from the first cycle, which means a reduction of scrap. The equipment is also environmentally friendly, clean and very silent.

Machine start-up in an injection workshop is very easy and the maintenance is reduced.

Our Select machine has been designed for injection molders. It has the same human-machine interface as our hydraulic machines and the setting approach for the user is based on an injection molding process philosophy. The main point is: Electrical drive is used to serve the injection process, it is not a numeric machine adapted to injection technology.

**Q: Talk about multi-component molding. I know this is another specialty of Billion. Discuss this market and Billion's place in it.**

**Kiesel:** Billion offers the benefit of a unique know-how in multi-shot technologies, and is historically a renowned specialist of the sector. The complete range from 100 to 2,650 tonnes is designed to be adaptable to all multi-injection technologies.

The versatile V configuration is chosen by Billion for the implementation of the second injection unit, which gives you minimum floor space requirement, quick mold change, ergonomics, high speed production. All multi-material technologies may be implemented: overmolding, multi-

layer injection, simultaneous injection, sandwich molding, color effects, in-mold assembly. Billion is a great expert in the field, and multi-component know-how is one of the major added values we bring to our customers, as a differentiation.

Billion offers seven types of multi-material technologies: overmolding with a retractable sleeve core, overmolding with a turning table, overmolding with a rotating plate, overmolding with a robotic transfer, overmolding with a translation mold, the sandwich molding process and two-color injection.

**Q: Talk about Billion's focus. How hard is it to compete against huge multinational companies? Where, outside of France, has Billion had the most success?**

**Kiesel:** Big is beautiful, but not necessarily flexible. Some machine manufacturers give priority to standard products and address more particularly large groups. Billion does not work this way. We develop a particular relationship with plastics molding companies. Very often, in France or on exports, Billion gains a business thanks to a collaboration starting right at the beginning of a project. Besides, we do not target big volumes, so we are not concerned by the competition from Asia.

We are not looking for business from a geographical point of view. We prefer the collaboration with middle-sized companies, looking for expert partners helping them in their growth. We bring them the added value of a highly technical product, the expertise and the service they need.

The examples are numerous and of different types all around the world. For example, we've been working close together for many years now with a U.K. molder to develop a business in household and packaging sectors. The company runs now more than 50 injection molding machines.

We supported also with complete technical assistance the in-

stallation of a new factory in Romania for a French customer.

And we are a special partner for another French plastic processor wishing to enter the U.S. automotive market — AdduXi.

We have also a special historical relationship with African countries. As an example, we collaborated there recently with a well-established company in the construction of a factory dedicated to cosmetic applications.

**Q: Mexico is really booming right now. What is your position there?**

**Kiesel:** As far as Mexico is concerned, we have had a reliable and profitable business running in the country for many years now. Our representative, the company Eurotecplas, is a long-time partner. Billion machines are producing in this country in the cosmetic, automotive and medical sectors. Besides, a Select 100-tonne press has been installed within the UAEM, the Technical University of the Mexico State, for training purposes.

**Q: For the benefit of the Fakuma audience: How hard is it to compete in Germany? You're going up against big German press makers, some of the best in the world. This has got to be tough for a small French company, right?**

**Kiesel:** Most of the visitors on Billion stand at Fakuma are German. The exhibition shows highly technical products and targets a very specialized audience. We consider that the "me-to" attitude is not the right one, and we implement our differentiation by offering our technical and service added-values. We concentrate on our niche markets, and not on any mass markets.

When you go back to my idea — if you just go to Germany and say I can do the same thing that a German supplier can do, it will never work out. But if you go to Germany and say that you're delivering some special technology, for us, say the all-electric machines and multi-shot, then you can stand out.

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AdduXi Group, France

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# Kebo says gate quality has become hot issue

By David Eldridge

EUROPEAN PLASTICS NEWS

Business is going well for mold making company Kebo AG despite ever tougher demands from customers. The company specializes in injection molds for medical device and pharmaceutical customers, and also for the packaging market.

Andrew Sargisson, head of sales at Kebo, based in Neuhausen am Rheinfall, Switzerland, said at Fakuma that alliances which the company signed last year are providing new opportunities. In 2013, it formed a strategic alliance with Dollins Tool, based in Independence, Mo., targeting the North American medical and pharmaceutical sectors. In this Kebo leads the sales drive and Dollins provides technical support. Dollins and Kebo have also merged technical solutions for the packaging market, and in this, Kebo provides the supporting role.

Sargisson said the two companies have identified plastic cutlery for the food service sector as a potential opportunity. Previously a product that was offshored to Asia, it is now a target for reshoring to North America as Chinese manufacturing costs increase.

"We think we've got a lot to offer in that sector," he said. "It's a very price sensitive product."

Kebo has made initial contacts with customers, and he is hopeful for orders some time in the summer.

Kebo also reached a sales agreement last year with Swiss Precision Industries (SPI), which has operations in China, Singapore and Thailand. Kebo has continued to manufacture molds in Switzerland but under the alliance with SPI, it now offers local servicing in Asia.

This alliance focuses on molds for medical device and pharmaceutical customers who, according to Sargisson, are becoming increasingly demanding.

"It's becoming more and more difficult to do business because of their requirements," he said.

Specifically, gate quality is the focus of ever tougher demands from medical customers. Even with hot runner tools, there is usually a small mark at

the gate, but customers are requiring the tolerances to be extremely tight.

"Basically, they just don't want a gate," said Sargisson.

In the past two years, customers have been seeking tolerances "down to microns," even on parts that are not on the outside surface. Kebo is responding to these demands, but customers are unwilling to recognize the cost implications in manufacturing the mold, hot runner technology and associated areas.

"To get the tolerances they want, even the measuring device is four to five times more expensive than usual. But they don't want to pay the price," he said.

What makes the issue even more problematic is that customers are

not specifying exactly what they want.

"The issue is how you define gate quality," said Sargisson. "We need to know 'what is your target?' It's not even on their 2-D drawing."

The 2-D technical drawing will contain Cpk values (which define production within specification limits), but there is no equivalent for the gate quality.

The issue has become more prevalent, and has emerged from more companies, over the past two years. Yet the reasons for these demands remain unexplained.

Sargisson said it is not clear why very tight tolerances on non-visible parts are required. No one in the chain that includes end customer and injection molder seems to question why they are needed.

Recently he asked one customer contact why tight gate tolerances were needed in a project when there were such large associated costs. The contact asked along the chain and came back with the reply that the very tight tolerances were not necessary after all.

Kebo continues to innovate and launch new technology. Its EcoTip nozzle for side gate hot runner systems was developed for injection molding engineering thermoplastics (ETP) with lower energy usage.

EcoTip was specifically designed for thermosensitive ETPs such as ABS, POM, PMMA and PBT, but can also be used for standard PP, PE, PC and PS granulates.

Sargisson said Kebo spent two years developing EcoTip. It built a 12-cavity pilot mold to undertake long-run testing.

# Braunform highlights quick, precise, multi-cavity molding

By James Snodgrass

EUROPEAN PLASTICS NEWS

Braunform GmbH, the German toolmaker, is exhibiting a 96-cavity mold for insulin pen needle hubs. The mold can also be seen in a production cell on the stand of Hekuma GmbH, the Bavaria-based systems manufacturer.

The polypropylene needle hubs are being produced in a clean-room environment using an injection molding machine from Austrian manufacturer Engel. A short cycle time is managed using extremely precise positioning and braking control, with acceleration reaching 16g.

Mathias Ernst, Braunform's manager of project management, said: "We have a mold here at Fakuma that is running in a cycle time of 3.9 seconds. This is our focus, to do multi-component molds at high accuracy."

Ernst says that the 96-cavity mold is notable not just for the sheer number of cavities but also the cooling system, the interchangeable inserts and the accuracy. Consistency across

the mold is achieved using a side gate hot runner system to secure perfect balance.

There are an estimated 6 million diabetics in Germany alone, so the global annual consumption for needle hubs is counted in the billions. As an all-plastic product, material costs are negligible. Therefore cost savings can only be achieved through production efficiency measures.

The partners in the project — Braunform, Engel and Hekuma — claim the system will accelerate the production of needle hubs by up to 20 percent, while also improving quality and process flow.

Hekuma's process automation includes a take-out-robot with a side entry linear robot (HEKU DS) and gripper, a camera used for quality control, a transfer system and a storage system. The camera is used to immediately recognize whether pins have been damaged during the manufacturing process. In this event, a selection mechanism automatically rejects faulty parts.

BRAUNFORM

Hall: A5  
Stand: 5207

HEKUMA

Hall: A7  
Stand: 7305

'We have a mold here at Fakuma that is running in a cycle time of 3.9 seconds.'

Mathias Ernst  
Braunform GmbH

# Arburg

Continued from Page 1

code on the part, so each individual pair of scissors can be tracked. At the Freeformer station, individually configurable lettering is then additively applied onto the scissors, a process that takes about two minutes.

Freeform your name on it and nobody will steal your scissors again!

The Arburg host computer system (ALS) networks the various work stations and records all production data and test results before transmitting these to a central web server. Each visitor can use a mobile device to call up the parameters for "his" or "her" scissors online from a personal web page via the code.

The second Freeformer demonstration is not as much fun as the scissors, but just as important, according to Arburg officials: Showing the latest development of supporting structures that can be removed in a water bath or mechanically, after the part is

printed. The part is a sliding lock, a spare part for Arburg machines.

In other technology news at Fakuma, Arburg is the particle-foam composite injection molding (PCIM) process on a production cell built around a hydraulic All-rounder 470 S. For the first time, a foaming system is integrated directly into the production cell. The part is a screw socket of injection molded polypropylene, surrounded by a round, expanded polypropylene foam housing.

The surface of the PP or PS melts in a defined manner, so a strong, permanent bond is created between the two components.

At the news conference, Arburg executives said business is solid in most markets around the world. Michael Hehl, managing partner and spokesman for the managing board, said 2014 sales should top 500 million euros, up from 470 million euros in 2013.

"It's going to be quite a bit above 500 million," Hehl said.

Arburg also has expanded its workforce by 4.5 percent this year, to a total of 2,350 worldwide. Of those, 1,950 work in Germany, including Arburg's headquarters in Lossburg, Germany.

# Sales

Continued from Page 1

industry.

In materials given to journalists, the company said it was seeing "especially strong" interest in its Ecopower all-electric molding machines and Macropower larger tonnage machines, along with its vertical machines, automation systems and temperature controllers.

On the technology side, the company unveiled a series of new products, with a particular focus on an updated, more energy saving hydraulic machine dubbed the "Smartpower."

The Smartpower uses the company's kinetic energy recovery system, or KERS, to change the energy released by

the machine's deceleration into electrical energy for the drive system, heating the barrel or powering the control system.

"This means that the entire deceleration energy is used within the machine," according to the company.

At its booth, it's running two Smartpower machines: a 60-ton press making polyamide connecting rod for a compressor and a 120-ton press manufacturing penholders from liquid silicone rubber.

The new line will start delivery in January, in models from 25 to 120 tons.

As well, the firm expanded its "sandwich" manufacturing concept, using two injection units in one machine, to its large-sized Macropower line.

It has one injection unit centered in the standard position, and a second injection unit placed at a

"Y" angle to the main unit, allowing for better molding of applications where thick-walled parts are needed and where a less expensive or lighter, often foamed or recycled material, can be used as filler.

On the show floor, the firm is molding "Lechuza" brand flower pots with a PP shell and a foamed PP core, on a 450-ton Macropower machine, using a single-cavity mold.

As well, he said, the company was doing trials on a single control system that links the molding machine, robots and all auxiliary equipment, which it can do because it manufactures many of those units itself.

"It is just a concept at this point — it is not yet in the market," he said. "Everything is concentrated in one piece of control."

'This means that the entire deceleration energy is used within the machine.'

Wittmann Battenfeld GmbH

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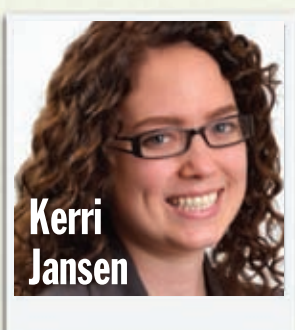
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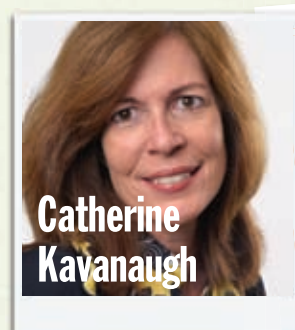
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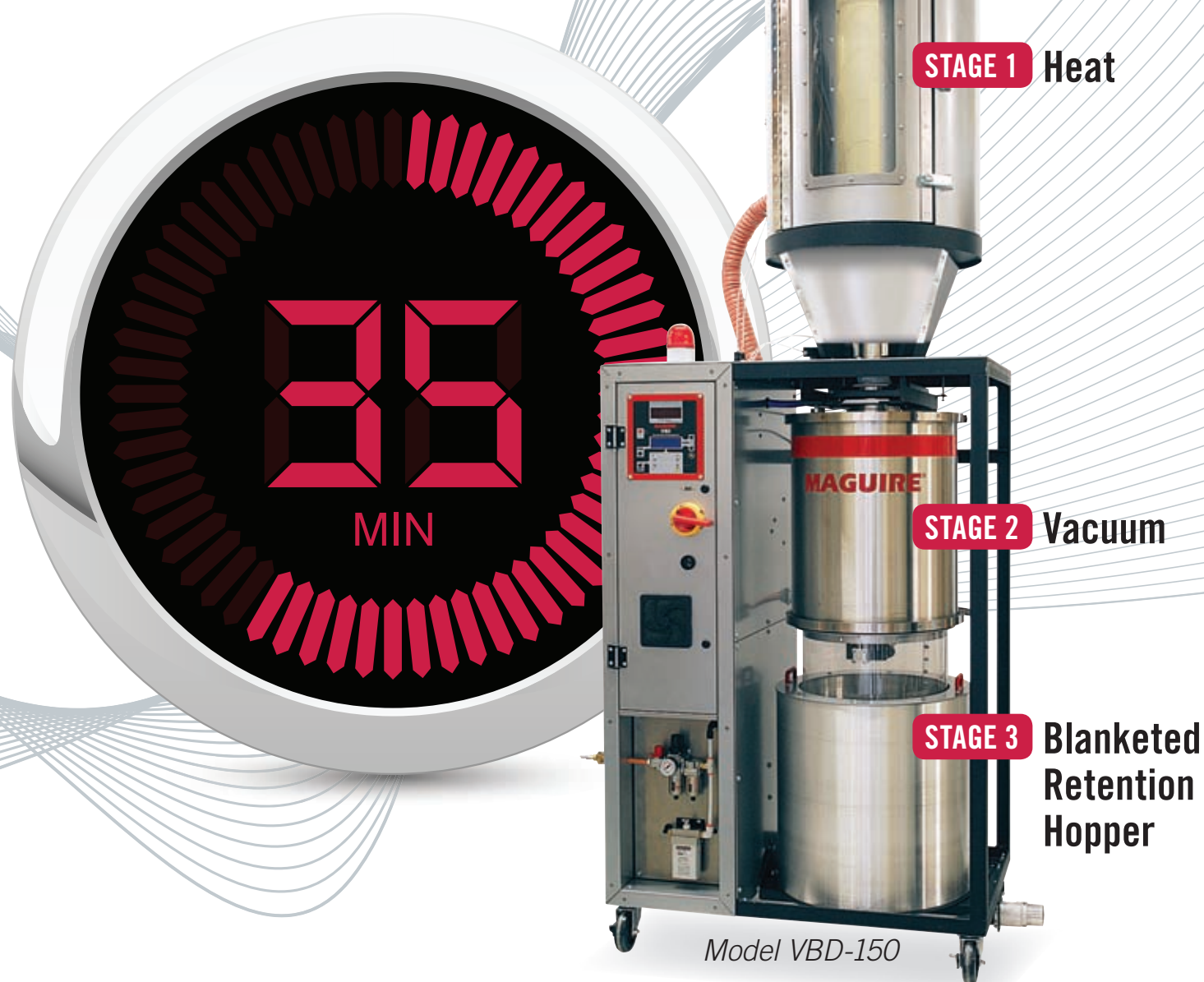
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