

# Around the World in Four Days



## The Most Talked-About Topics, in Every Language, at glasstec 2010

by Megan Headley and Charles Cumpston

Professionals from all sectors of the glass industry and from all over the world came in search of innovation, and in hope of optimistic news, to glasstec 2010, which took place September 28 through October 1 in Düsseldorf, Germany.

Although a number of attendees commented that the show seemed lighter in traffic than in comparable years, others seemed pleased that as many people came as did, given that at the last exhibition, in 2008, poor economic conditions formed the central theme of the show. According to show organizers, more than 1,270 exhibitors and approximately 45,000 trade visitors took part in both glasstec and the concurrent solarpeq fair. Some were surprised that this year's show reportedly saw an increase in visitor participation from North America over last year. Less surprisingly, attendance from South America also was up; many have cited Brazil and other re-

gions of South America as a developing hot spot for value-added glass demand.

"Foreign visitors are extremely important to us. Seventy percent of the visitors at our stand on the first two days came from outside of Germany," commented Dominik Hinzen, director of marketing and corporate communications for Bohle AG. "For us, as an international company, it is obviously important to approach those countries where we do not have branch offices. This means we are very satisfied with the internationality of the trade fair."

Show organizers said that optimism was the prevailing theme on the show floor this year.

"The trade fair went really well," commented Martin Gutmann, president of glasstec 2010 and Federal Guild Master. "This bodes very well for the coming months. We seem to have definitely come out of the trough."

"After the difficult year in 2009 we have finally moved out of the 'valley of tears'



Approximately 45,000 visitors from around the world came to glasstec to see the latest glass innovations.

and you can feel optimism everywhere,” said Richard Jakob, chief executive officer (CEO) of Bystronic. “There is a marked interest in and demand for all products.”

“We have noticed a great difference compared to 2008,” said Dr. Bernd-Holger Zippe, president and CEO of ZIPPE Industrieanlagen GmbH. “In 2008 you could really feel the economic crisis starting, which made people hold back while now thankfully you can sense an upturn . . .”

Egbert Wenninger, an executive board member of Grenzebach Maschinenbau GmbH, added, “I think it is safe to assume, as far as glass is concerned, the market will pick up over the next year.”

## Solar Market

The first edition of solarpeq was designed to give glasstec exhibitors an opportunity to tap into new target groups and promote dialogue between the sectors. Alongside the exhibition was a “Solar meets Glass” conference, which featured nearly 200 participants in the glass and solar sectors.

“This shows how vital exchange between the glass and solar sectors really is,” commented Dr. Harald Binder, consultant and chair of the SEMI PV Group and Conference Chair of the event, jointly organized by Solarpraxis AG and Messe Düsseldorf. “The objective here





[was] to define a joint roadmap for production and applications that benefit both sectors equally. A start has now been made and it will certainly not be the last exchange of this kind.”

Scott Thomsen, group vice president of Guardian Glass, was among the conference speakers. He addressed how the glass industry views the total solar industry—solar thermal, concentrating solar and photovoltaics—and why he believes the primary glass manufacturers are not fully embracing solar. According to Thomsen, it comes down to the simple fact that the solar industry today consumes less than 1 percent of the total glass produced.

“So even though it’s a large industry, and it’s growing at a compounded rate of 30 to 35 percent, it’s still a relatively small industry,” Thomsen said. “A lot of [the discussion] was focused on the fact that we’re already in the price compression mode of commodity status, and yet the demand is still at a relatively low level. And when demand is low for specialty glass products that are needed for solar, you have higher costs.”

Many exhibitors, anxious to show they were embracing the solar sector, took out additional booths in the designated solar hall, booths that, in many cases, seemed to be unmanned. Solar products were, in fact, spread throughout the trade show floor, while the portions of the hall dedicated to solar technology focused on items more of interest to solar module producers than glass fabricators.

For example, Jenoptik displayed its venture into the PV market, JENOPTIK-VOTAN™ Solas 1810/3610 Jenoptik. The laser processing machine was developed for drilling through holes in wafers for silicon solar cells. The company reports that the electrical efficiency of the silicon solar cells can be increased through the use of metal wrap through or emitter wrap through technology. In order to increase the active surface area of the cells, the contacts are laid through via holes from the front to the rear side of the cell.

Bekaert Advanced Coatings showcased

its latest range of rotatable sputtering solutions at the event, including its compact end block (CEB) for medium-powered applications and adjustable magnet bar (AMB), which enables optimization of layer thickness uniformity and improves target utilization efficiency. The standard end block, trimline end block and Bekaert axial magnetron (BAM), designed for webcoating lines as it occupies no space inside the coater, also were on display.

“In the early days of solar cell fabrication, the focus was on achieving acceptable energy conversion efficiencies,” commented Koen Staelens, product market manager at Bekaert Sputter Products. “The traditional approach of using a planar magnetron cathode for depositing a thin film on the substrate offered good performance, but targets became exhausted very quickly in large production runs. With the current trend toward high volumes, rotatable sputtering solutions will achieve the same or better cell performance while reducing the cost of ownership considerably.”

There were other types of coatings on display as well, including a unique solar solution from Ritec. As numerous experts have pointed out in the past, the transparency of the glass impacts the efficiency of a solar module. Typically the more transparent the solar window, the less effective it is—unless you’re talking about dirt. Ritec set out to solve this particular efficiency challenge with a ClearShield System that upgrades glass to ClearShield High-Light Glass™. This high-performance glass has durable surface protection with “non-stick,” easy-clean performance. For solar energy panels, the benefits include reductions of 50 percent on average in the frequency of cleaning and easy maintenance of the original appearance, performance and light transmission.

Module manufacturers did have products on display at glasstec for installers and other attendees looking for the latest in building integrated photovoltaics. Schüco promoted its window and façade ProSol TF module in a variety of formats. In non-ventilated façades the module

provides extensive transparency and can integrate thermal insulation, weather resistance, solar shading, sound reduction and screening by using opaque and semi-transparent surfaces. The ventilated option integrates thin-film technology into large opaque façade surfaces. This option offers the highest possible specific system outputs per installed kWp, due to the use of light and low level of dependency on the outside temperature needed by amorphous thin-film technology.

In addition, façades can be retrofitted with a ready-to-install “lean-to” façade, which the company says can improve the energy balance of industrial buildings and warehouses in a short timeframe. The system requires only four attachment points to the existing façade.

In addition to the glass-related products, attendees interested in solar glazing had a number of new options on-hand for fabricating and handling these coated products.

For many attendees, the show provided the first opportunity since the announcement of Glaston’s strategic cooperation agreement with Beneq, a provider of industrial coating equipment and technology based on aerosol technologies, to see the TFC 2000™ system for continuous flat glass TCO coating. Company representatives say this product provides easy entry to TCO, and offers high capacity with a small footprint.

Beneq’s CEO, Sampo Ahenen noted that the coating line can be added to an anodizing or tempered line. “When we started this process we thought need would be for tempered glass,” he commented. Per their customers, that’s not the case at this time, but Ahenen believes this will be the demand in the future.

Among Grenzebach’s introductions for the solar industry was a backrail mounting system based on ultrasonic welding.

“We are trying to find a possibility to bond glass and metal together 100-percent,” explained Alfred Schlosser of Grenzebach during a demo of the unique new technology.

The technology creates a chemical link, without any adhesives or curing time, between the glass and metal for a watertight weld. Schlosser pointed to the numerous possibilities for this product in the solar industry, such as connecting the mounting systems for rooftop modules directly to the glass cover or linking the junction boxes to the solar panel itself. Attendees were being asked to provide their own suggestions for applications of the technology.

Other introductions from Grenzebach included a “grip-less handler” that moved lites using an ultrasound air bearing. Schlosser pointed out that the non-contact handling technology is particularly useful in the solar industry where a high level of quality is critical. The company also introduced a surface inspection system for thin film solar panels that Schlosser said with a grin, the competition best watch out for. The IQLine S camera inspection system was designed to detect all typical glass defects for float glass panels, with or without TCO coatings, especially at the panel edges and the perimeter of the holes.

In the solar industry, ISRA Vision has been focused on inspection of thin film and parabolic mirrors, but representatives said they are now expanding their focus to other technologies.

“The theme of the show here is glass meets solar and we also have done that merge here a few months ago,” commented Ludger Wahlers, business unit manager of ISRA Vision, referring to the company’s July acquisition of Graphikon in Berlin, which led to the creation of the company’s new “solar vision” unit.

The company has since released and updated new products for this industry segment. Among the new solar offerings at the show was an updated version of its PATTERNSCAN system for optical, in-line inspection of solar glass. The system has been updated to recognize previously ignored defects in the glass and on its surface as it’s further processed for solar applications. An unlimited number of different views can be simultaneously generated with just one camera or a



**Benteler was among the many machinery suppliers offering solutions for architectural and solar glazing fabrication.**

camera bank. The inspection software uses the collected defect data from the individual views for complete defect classification in real time. Based on this classification, cut optimization can take place in a way that should increase yields across the whole production line, and save material.

“Solar module suppliers coming to glasstec are starting to ask questions on what can you do with the glass,” Wahlers said. He noted that there’s still a “fence” between the solar and glass industries, adding, “We’re helping to cross that fence.” Much the same could be said of the solarpeg show in general, which succeeded in bringing together module producers and the glass industry.

### **Decorative Appeal**

For many exhibitors, digital printing and unique glass imagery proved a lure to passersby.

For decorative glass products, Dip Tech Ltd., the pioneering Israeli firm in this field, was showing its latest innovations. Tommi Salenius, vice president of business development and EME sales, explained that the company has made the color matching process more automated so that it is easier to operate with the color separations. He added that the equipment can now

work with larger sizes of glass and that the “reds are redder.”

Bridgestone’s booth highlighted the decorative applications of its EVA interlayer, although Geys Gomez pointed out that was only one application for the product. According to Gomez, EVA provides more flexibility for design than PVB interlayers. It allows for open edges in applications such as balusters and, according to Gomez, its strong adhesion to PET film provides countless decorative applications.

Gomez pointed out that this interlayer has been offered by Bridgestone for nearly 20 years, but it’s only since about 2007 that the United States market has begun to show increased interest in this product. He points to the current difficult marketplace as one reason U.S. fabricators are looking to this product, which is helping some fabricators add new value to their product line.

Vitrealspecchi likewise caught attention with its decorative and functional booth. The decorative glass fabricator offered, among other things, a new no-scratch glass tabletop. According to Igor Tagliabue, the color is added in the fabrication process for an even appearance without painting. Vitrealspecchi also combined aesthetics and function in the sample staircase on



display; strings of lights edged each slip-resistant glass stair.

Schott caught eyes with displays of its Narima® product. This shimmering dichroic glass produces variable color effects with depth effects depending on the position, reflection and transmittance. The coated glass consists of multiple optical interference layers that account for the various intentional color effects. A combination of highly refractive and low-refractive layers results in a rainbow effect. Different colors result depending on incident solar radiation, the viewing angle and the background. The product, introduced earlier this year, is available in six colors.

## Putting Together the Façade

Among the displays at the Glass Technology Live demonstration was a record-breaking insulating glass (IG) unit, measuring 59 feet long by nearly 11 feet tall, fabricated by Henze Glas in Germany. Attendees who inspected the large lite have left a fingerprint here and there, but there were a number of solutions on the floor for protecting and cleaning glass products such as this.

RenoVio, a company that works with GlassRenu Europe, provided information on its new Liquifoil peelable coating for temporary surface protection. The product is rolled or sprayed onto windows or other smooth surfaces to protect them from dirt, paint, scratches, etc. When finished, the product can be peeled or jet spray off, revealing a clean surface behind.

Representatives of the Cleanfix Group were informing attendees about their services in the industrial cleaning sector. The company's specialty is its onsite cleaning process for lehr rollers during flat glass production.

Cleanliness may not be the first goal for Swedish company Brunkeberg, but it's one of the solutions its new track system offers. Representatives of the company walked the floor looking for representation for their new system for installing unitized curtainwall. The system is made up of vertical tracks per-



**Machinery manufacturers focused on finding new ways to help fabricators save time and money with their latest product introductions.**

manently installed on a building to allow first for installation of curtainwall. Then throughout the life of the building can accommodate the installation of stable access platforms for maintenance work or facade cleaning systems, as well as features such as sun shading, facade lighting and display systems.

The wind-secured track system is intended to help glazing contractors avoid unnecessary handling and interim storage and lead to considerably shorter installation times. Following final tests on the system for structural safety, water and air tightness, the company hopes to introduce the system on projects next year.

These glass cleaning solutions were perhaps not so unusual when one stepped back and took a look at this year's focus on quality control at large. As Glassopolis' Jordan Richards and Rob Botmann walked the floor looking for innovative new products, they were among the attendees who pointed out that glasstec's focus this year was on quality and value-added, as opposed to low costs.

## Handle with Care

In addition to quality control machinery, handling systems also were prevalent on the trade show floor. Germany-based Hegla took up a lot of floor space with a number of new and updated systems. Attendees could check out the latest version of the ReMaster storage system, a space-saving buffer system that can be installed above the cutting system, and which now can feature multiple lites per slot. It went from a 25 to 75 lite capacity, a "huge capacity

gain," according to Tom Bechill, who kept busy on the show floor.

A number of visitors to Hegla's booth watched the SortJet demonstrate its swivel conveyor for online production, transferring materials from cutting to the IG line. Its performance features include simultaneous glass transportation to the buffer and outfeed transportation, dynamic single-direction material flow and multi-loading for all buffer compartments.

Among other things, Intermac displayed a Comby R-A37 line for alternate cutting of monolithic and laminated glass for fabricators that want two automatic lines but are short on floor space. With Comby it is possible to maintain the same productivity levels on the single machines composing the line, while obtaining a significant reduction in overall dimensions and a strong increase in productivity and process automation against a limited increase in the investment required. It features "X" static breaking of float glass, a vertical buffer, a breaking bar for float glass on laminated and glass sheet handling through belts or suction cups on cutting bridge.

Two laminated glass cutting solutions also were presented: the semi-automatic Genius 37 LM and automatic Genius 37 LM-AC37. The machines offer customers a very fast machining cycle—the LA, in fact, stands for accelerated cutting—and have the operator's comfort in mind. Genius 37 CT RS is a cutting table for monolithic glass intended for fabricators with limited floor space. The machines are able to cut strips as narrow as 20-mm; "no one



**Material handling solutions, such as the updated ReMaster from Hegla, were prevalent on this year's glasstec floor.**

can cut as narrow as this," according to Carey Brayer, vice president of sales.

Brayer was eager to point out a series of symbols that will in the future mark machines as offering one or more specific green characteristics: separated waste collection, automatic standby, monitoring consumption, energy recovery, vacuum pumps switching off and compressed air interruption.

"With every machine we're evaluating energy efficiency," he said. In the future, the company will be selling energy efficiency product packages. In addition to the solutions noted above, Brayer said Intermac is even working with some customers on solutions for returning energy to their grid.

For.El. presented a wide range of machinery solutions. Among them were vertical machines for working glass edges: the EM grinding machine and the GM cutting/grinding machine. The third generation of these systems offers variable degrees of glass finishing. The company reports that with these machines, dimensional data is self-learning, and they are predisposed for low-E working.

Multiple tool posts with a broad range of adjustments provide extreme versatility.

In response to a growing interest in the use of warm-edge spacers, For.El developed machinery to automatically apply flexible spacers from reels directly to the glass sheet, and optimized bending for rigid box spacer systems produced from metal or plastic. According to representatives with For.El, there has been a great deal of interest of late in the manufacture of triple-glazed units, for which the company designed high-speed systems that allow for their production on comparable times to that associated with double-glazing composition. The company continues to focus on the performance and solutions for gas filling. At the show, three levels of automation were presented: from the manual 4-station 8-probe fill and detect system to the universal gas filling conveyor which performs automatically in-line just after the coupling press process. The machine can be retrofitted to existing For.El IGU lines, as well as others. The third gas filling solution exhibited during the show was the multi-

level gas filling press, which combines the two operations of lite coupling with gas filling at seriously high levels of production and efficiency.

In visiting Bystronic's booth, many attendees went first to see what new developments the "Top Secret" area held. As it turns out, the area revealed a system for manufacturing high-quality laminated glass: the eco'convect is a unique heating and press system that works with significantly reduced cycle times and is also suitable for shaped formats and multifunctional glasses. With the eco'convect, highly reflective, coated glasses can be processed together with float glass as well as with heat strengthened and tempered glass.

"Even with coated glass, it's much faster than other machines," shared Iris Minten, PR manager.

The company also introduced there a high-speed sealing machine for IG units. Minten said the speed'sealer is able to produce up to 200 IG units per hour. She also noted that next year the industry can look for the next product in the line, the forthcoming speed'assembler, which



will be able to produce an IGU in 30 seconds. The machine makes it possible, even with different production conditions, to actively and consistently mix the two sealant material components, thanks to a dynamic mixer.

The company had a number of other products out on the floor, including a new IG applicator. The new flexspacer<sup>®</sup> twinapplicator is geared toward a U.S. market focused on Super Spacer<sup>®</sup> type flexible spacers, Minten said. The machine has two alternately functioning application heads for non-interruptive production of double and triple IG units using Super Spacer<sup>®</sup> type spacers—even while equipping with material. The flexspacer<sup>®</sup> twinapplicator is particularly suitable for order related manufacturing of IG units with varying spacer widths, including the production of triple IG units that require two different spacer widths.

At the booth of Austrian IG machinery supplier Lisec, always one of the largest in the show and arguably the

most attractive this year, was another new product, a warm-edge IG spacer from new company Infinite Edge Technologies, which is headed by Eric Rapp, formerly with Cardinal IG.

According to David Rapp, Eric's son and the chief financial officer for the White Bear Lake, Minn.-based company, the system works in a conventional manner of having the spacer on a spool and feeding it through the machinery to add butyl and desiccant. The spacer, however, is made of stainless steel, allowing for a thinner design with the performance of steel. The product, being shown for the first time, is "more flexible for making shapes," according to Rapp.

"It's not news that energy is one of the key themes people are talking about today," commented Arto Metsänen, president and CEO of Glaston during a press conference on Glaston's recent developments. "I think it's a general understanding that solar energy will grow

something like 30 percent annually for many years to come." The company promoted its new FC500<sup>™</sup> flat tempering machine as a solution for helping fabricators cope with rapidly increasing demand for low-E glass. The line was developed to increase low-E production, decrease energy consumption and offer overall high quality glass. Among the features meant to achieve this last goal is a convection system (Tamglass Chinook<sup>™</sup>) that transfers heat accurately and uniformly via extreme air volume blown onto the glass at low pressure, as well as an automatic roller heat control system.

The tempering system also makes use of iControl<sup>™</sup>, the company's new ergonomically designed touchscreen system for interfacing with its machines.

Launches under the Tamglass brand, such as iControl, were just one way in which the company was celebrating its 40-year anniversary, commented Topi Saarenhovi, senior vice president of the machines segment. Under the Baveloni brand, he noted the company is launching a stock concept, selling service, not just tools. This will allow customers to, for example, purchase extra time in their warranty, or arrange to have spare parts included in the cost. Saarenhovi promised that next year the company will be "renewing" the Baveloni line of products.

Also among this year's launches was iLook<sup>™</sup>. Juha Liettä, senior vice president of services at Glaston, emphasized the importance of quality, commenting, "We feel quality is playing a bigger role in the future." Liettä explained that this online measuring system is able to measure all glass distortions for full loads and each lite individually.

For pulling all that machinery together, a number of software solutions were present on the trade show floor.

Fred Montgomery, former managing director of Albat + Wirsam, provided information about new software from SynerGlass-Soft at the show as he is now heading up the Belgium-based company's North American office in



**Glass displays took a variety of forms at glasstec, with glass and metal railings showcasing new styles and new hardware.**

Bellevue, Wash. Montgomery says what makes the software so intriguing is that it was developed by a fabricator that “is a glass company first.” For years, he shared, he’s been asking when they’d be bringing the software to North America and now he’s doing just that. He says the software handles all major sorting equipment, among other things, and its concepts are easy and fairly intuitive.

## Ciao from glasstec

While the largest number of exhibitors at glasstec came from host country Germany, the second largest contingent was from neighboring Italy. The GIMAV-organized pavilion, which filled at least one of the gigantic halls at the Düsseldorf Messe, showcased the latest in Italian glass processing machinery and equipment.

Renata Gaffo, GIMAV manager, pointed out that while 2009 was a difficult year for everybody, “most of our member companies are family-owned and can be flexible to the market, so no companies closed despite the market conditions.” They continued to go to shows around the world and visit customers, she added. “There is a confidence that the worst period is over and now they can grow. The question is how fast. Now the market is up one month and down the next. We are hoping that next year the market will be more stable.”

Gaffo said GIMAV members see China as an opportunity. “Not the low-end equipment, of course, because of costs and travel expenses of importing, but perhaps through joint ventures and other avenues. It is a good market for the future because of the projected growth of the Chinese economy,” she explained. “We also see opportunity in India, although its economy is not as good as China’s. We are open to opportunities in all parts of the world.”

And glasstec offered the opportunity to come in contact with people from all parts of the globe.

Dan De Gorter, the Monroe, N.C., agent representing Italian supplier Schiatti Angelo in the United States, re-

ported that he saw a number of people from the United States at glasstec and, “they have come for the purpose of buying,” he said. “The question is when. Some are big projects and might require more research,” he explained. He also pointed out that Schiatti was showing a new CNC vertical drilling milling unit at the show.

Also new at the show and in the GIMAV pavilion was Neptun, a new venture by Stefano Bavelloni headquartered in Turate.

Annemieke Van Orshoven, sales and marketing for the company, explained that after Bavelloni left Glaston, he did not want to leave the glass industry and an Italian company that had good products, glass washing machines, was hurting from bad management. In 2008 he bought the company.

“At first, we concentrated on that product line, but then Stefano wanted to expand [it],” she explained. “So here we are promoting our IG production line, the first of which will be delivered to a customer in December, and two vertical CNC machines. This is the first time we have shown anything other than the washing machines and it is a big step for the company.”

Neptun was also promoting a digital printer in its booth, which utilizes UV inks. “We are working on developing our own ceramic inks,” Orshoven said, “and should be ready within a year.”

## Chinese Presence

Chinese exhibitors have been a presence at glasstec for the past decade, and this year there seems to be even more than in the past.

Part of the reason for this is the question of domestic consumption and exports, according to a number of Chinese exhibitors.

“Business is better in China than any place else in the world,” stated Rita Jiang, general manager assistant for international sales at South Glass Technology Co. Ltd., Foshan, Guangdong. Globally, added the company’s general manager Can-

ming Zhou, more people are looking to China for equipment.

Michael Spellman with IGE Solutions Inc. in Jupiter, Fla., said that the Chinese domestic market is stronger than ever.

“It is so strong that companies do not need to go outside China, but those companies that have a broader view set aside a certain percentage of their production for the United States and Europe,” he explained. However, he added that looking at Chinese equipment is akin to finding a ‘diamond in the rough.’ “So much equipment is being built in China that it is hard to find the companies that are making equipment that performs to European standards,” he stated.

Indeed, in talking about this global demand, the subject of quality comes up very quickly. Juha Karisola, director sales and marketing for Glassrobots, the Finnish glass processing equipment supplier, points out that the Chinese are not competitive in the high-convection furnace market.

Mark Xing, sales manager of America for North Glass, Shanghai, points out that his company’s low-E coating machinery is manufactured primarily for the Chinese market. “There is a need for the low-E products in China, but the market is not as large as it should be because of the economic situation,” he explained.

However, in general economic terms, since last September the Chinese economy has continued increasing while the rest of the world has not, points out Jiang of South Tech. This has shown up in the increased number of Chinese companies attending glasstec, as well as exhibiting at the every-other-year-show in Düsseldorf, added Karisola.

The next glasstec and solarpeq will take place in October 2012 in Düsseldorf, Germany. ■

## the authors



**Megan Headley** is the editor of and **Charles Cumpston** is a contributing editor for USGlass.

