Focus on sustainability

About UAS Messtechnik GmbH

UAS Messtechnik GmbH specializes in industrial measurement and control technology. This year, the company is celebrating its 30th anniversary in the industry. Headquartered in Viechtach, Germany, UAS employs 35 staff members and produces turnkey complete solutions for all areas of the process industry. UAS is a certified Siemens Industry Solution Partner. As a Siemens partner with extensive experience in the glass industry, UAS has completed over 80 projects in the areas of float glass, container glass, TFT/LCD and glass fiber. The company specializes in programing projects conforming with Simatic PCS 7.

Keeping the fires burning

UAS and Zippe proved to be the perfect team for upgrading the glass packaging specialist Vetropack’s works in Saint-Prex, Switzerland. The existing PCS 7 concept was brought up to date during ongoing operations, and plant-wide automation was installed that can even be used across facilities.

With a comprehensive range of glass packaging products for the food and drink industry, Vetropack Group is one of the largest and most innovative container glass manufacturers in Europe. The group’s seven glassworks, with a total of 17 melting furnaces, have a production capacity of over 3,000 tons of packaging glass per day.

To supply its customers with innovative products, the group continually modernizes its production facilities. Vetropack believes that optimizing how resources and facilities are used is the only way to guarantee sustainable success. A perfectly coordinated complete solution...

No sooner said than done: Vetropack commissioned UAS Messtechnik GmbH and Zippe Industrieanlagen GmbH to work together on the project. The two companies were tasked with designing and implementing an end-to-end, perfectly coordinated automation solution based on Simatic PCS 7. Working in tandem allowed them to play to their strengths: As general contractor, UAS was responsible for updating the existing PCS 7 concept for the melting furnace and ancillary components, and converting the firing system from heavy oil to natural gas in compliance with the latest standards – including a new feeder controller. Zippe contributed its expertise in batch house control and integrated its automation solution throughout the entire system. Drawing on the two partners’ breadth of experience and know-how, a comprehensive concept for converting and adapting all plant segments was developed and implemented in just a few months.

...for the batch house, the melting furnace and ancillary components

All these measures were designed to respond to Vetropack’s demand for a future-proof plant

Sustainability up close

Optimizing the daily cycle time of the plant has enabled a reduction in energy costs for the batch house at Vetropack in Saint-Prex, Switzerland.

Keeping the fires burning

With a comprehensive range of glass packaging products for the food and drink industry, Vetropack Group is one of the largest and most innovative container glass manufacturers in Europe. The group’s seven glassworks, with a total of 17 melting furnaces, have a production capacity of over 3,000 tons of packaging glass per day.

To supply its customers with innovative products, the group continually modernizes its production facilities. Vetropack believes that optimizing how resources and facilities are used is the only way to guarantee sustainable success. A perfectly coordinated complete solution...

No sooner said than done: Vetropack commissioned UAS Messtechnik GmbH and Zippe Industrieanlagen GmbH to work together on the project. The two companies were tasked with designing and implementing an end-to-end, perfectly coordinated automation solution based on Simatic PCS 7. Working in tandem allowed them to play to their strengths: As general contractor, UAS was responsible for updating the existing PCS 7 concept for the melting furnace and ancillary components, and converting the firing system from heavy oil to natural gas in compliance with the latest standards – including a new feeder controller. Zippe contributed its expertise in batch house control and integrated its automation solution throughout the entire system. Drawing on the two partners’ breadth of experience and know-how, a comprehensive concept for converting and adapting all plant segments was developed and implemented in just a few months.

...for the batch house, the melting furnace and ancillary components

All these measures were designed to respond to Vetropack’s demand for a future-proof plant
That is upgradeable in line with APL standards, and equipped with the latest version of the process control system, Simatic PCS 7. “This provided the basis for combining all segments in plant-wide automation. Furthermore, Vetropack is now equipped for the future with a cross-plant concept,” explains Peter Höfig, Head of the Project Department at UAS, who was responsible for planning and coordinating the project.

Another priority for Vetropack was to increase the performance, availability and user-friendliness of the plant in Saint-Prex, Switzerland. The contract also covered a conversion of the firing system from heavy oil to natural gas. This was achieved through a complete solution, which included an integrated gas chromatograph from Siemens. The existing oil-firing system now serves as a back-up system.

Greater performance, capacity and user-friendliness
In order to increase performance at the plant, the batch house and melting furnace, including all ancillary components, were fitted with redundant servers, and the network structures were adjusted. This improvement met the operator’s demand for greater availability. Finally, Vetropack’s monitoring and operating systems were adapted to the plant structure, and optimized for user-friendliness according to the plant operator’s specifications.

“Thanks to plant-wide automation and the central engineering, Vetropack can now make processes transparent, access central data, and thus react quickly to changes in the plant. The result is a more efficient plant with greater availability. This is the all-important cornerstone when it comes to sustainability – particularly as the concept can be used across plants,” adds Höfig.

One of the main challenges in the project was to implement the changes during full operation, without any production downtime – the engineering equivalent of open-heart surgery. Production ran at 100 percent capacity during the project: “This was another important piece in the puzzle, and thanks to constructive cooperation and communication from all parties, we were able to fit everything together perfectly,” Höfig is pleased to report. Even the gas system was integrated during ongoing operation.

Everything in place for cross-plant operation
After only a few months, all work to update the plant was completed in April 2014 to Vetropack’s full satisfaction. Even so, the operator and their project partners are already considering future moves: the automation concept was installed in the Saint-Prex plant with the aim not only of plant-wide operation, but also across Vetropack’s plants.

The process control system Simatic PCS 7 forms the basis of an end-to-end automation solution incorporating all plant sections at Vetropack.

One thing’s clear

“With a focus on sustainability, we developed solutions for Vetropack that will make their operations flexible, highly energy efficient and future-proof. This gives the company a major competitive edge.”

Thomas Donaubauer, Managing Partner at UAS Messtechnik GmbH
“A question of trust”

Werner Mennig, responsible for batch preparation and furnaces at Vetropack in Saint-Prex, explains why an optimized concept was essential – particularly for the batch house.

Werner Mennig: The batch house provides a good example of why we needed an update. Before we commissioned Zippe and UAS, the software for visualization and process control was far from able to meet our needs. In our view, the batch house and furnace should not run on the one server pair. In the end, the existing programming complicated matters. Plus recipe handling – a central function in batch house control – was simply not workable. Scripts and tools also did not meet PCS 7 standards, so it was practically impossible to upgrade the system.

How was this difficulty resolved?

Mennig: Zippe developed an optimized concept for batch house control with its own process control, weighing computers, and a supporting hardware manual level as a redundant emergency control.

Were there any other glitches before this upgrade?

Mennig: Under the old server concept our problems were unfortunately not limited to the batch house, but in fact concerned the entire production process.

What made you choose Zippe for upgrading the batch area?

Mennig: It was a question of trust. Zippe had already upgraded the batch house control in our Gostomel, Nemsova and Kremsmünster plants to Simatic PCS 7 – and we were thoroughly satisfied with the results. As a Siemens Solution Partner, Zippe has what it takes to provide an automation solution that fits perfectly into a plant-wide automation concept. Moreover, only Zippe had the ability to upgrade the installed weighing computers to the latest version of a multi-component dosing computer.

How do you feel the overhaul went in the end?

Mennig: Just a single hour of downtime costs the plant several thousand euros from loss of production. So I am pleased that everything went so smoothly, and with no interruptions.

What do the operators think about the new solution?

Mennig: The new system is self-explanatory and can be operated intuitively. The operators are delighted with the user-friendliness. Communication between Zippe and the staff was perfect; all texts were in French and easy to understand, and there was always a contact person available.

How has the upgrade affected the batch plant in terms of cycle time and energy costs?

Mennig: Previously, the cycle time was 19 hours per day; now it is down to 14 hours at most. That is a very positive outcome. The shorter cycle time in the batch house has resulted in lower energy costs. In addition, maintenance intervals for individual aggregates have been extended, which provides further cost savings. With its integrated software modules, the new system helps us to detect any preventative maintenance required and to plan ahead. This enables us to reduce the risk of unexpected downtime in individual aggregates. Production is therefore more robust, and we expect to see an improvement in the quality of our products.

Do you have any last comments for GlassFocus readers?

Mennig: I have outlined how the upgrade helped improve operations in the batch house. However, I must also express our gratitude to Zippe and UAS as general contractor for overhauling the existing PCS 7 concept not only in the batch house, but also for the melting furnace and the ancillary components. The team also provided impressive service in converting the firing system from heavy oil to natural gas in line with the latest standards, including new feeder control.

Mr. Mennig, thank you for the interview.
“Pioneers in plant-wide automation”

How does Zippe position itself to remain a preferred supplier for its customers? Answers from Dr. Bernd-Holger Zippe, Managing Partner of Zippe.

Dr. Zippe, what are the greatest challenges you face as a supplier to glass manufacturers?

Dr. Bernd-Holger Zippe: We have to reduce costs while maintaining the same high quality. Our customers expect the highest quality when it comes to plant equipment, installation, commissioning and service – and that is how it should be.

What changes do you anticipate in the future?

Dr. Zippe: One of the main strategic issues in the glass industry over the past 25 years has been the global growth in the flat glass and, in particular, the float glass industry. These have been important areas for Zippe’s range of solutions and services. However, we are currently noticing a decline in the number of new and planned float glass plants worldwide. In the short term at least, there will be a greater focus on renovating, modernizing and increasing the efficiency of existing float glass lines.

What does that mean for your strategic positioning?

Dr. Zippe: We will have to concentrate on other areas of the glass industry in the near future: on hollow glass, glass fiber and the special glass industry, and perhaps glass recycling.

How can Siemens help you achieve your goals?

Dr. Zippe: Siemens has been one of our preferred suppliers for decades. We have been strategic partners for many years, particularly as suppliers for the glass industry. Siemens offers precisely the technology components and innovative approaches we need to develop control and weighing solutions for our customers. The reliable customer support and quick reaction times for servicing are further invaluable advantages.

What are the top concerns for your customers in the glass industry?

Dr. Zippe: All customers wish to increase their plant efficiency and availability. We are ideally positioned to respond to this, particularly given our collaboration with partners worldwide.

Does this include plant-wide automation?

Dr. Zippe: Zippe began working with Simatic PCS 7 for batch house control as early as 1997. Plant-wide automation was still unheard of then. Zippe was a pioneer in the glass industry and as such has supported the concept right from the start. For us as a Siemens Solution Partner, the concept is a major area of our business, and our specialists enable us to meet the industry’s demands.

Which selling points help you win contracts?

Dr. Zippe: Our many years of experience is a decisive advantage. When it comes to large investments in the glass industry, no customer can afford risky decisions or anything less than the perfect solution and service. We also offer creative approaches, reliable solutions, competitive pricing and considerable technical expertise in implementation.

Does being in a position to provide plant-wide automation play a role?

Dr. Zippe: Plant-wide automation is a premium solution, and one that has been in greater demand among our customers in recent years. Customers are increasingly aware of the added value such solutions can bring, and interest is growing.

Dr. Zippe, thank you very much for the interview.