Succes story Sachem Europe

Minimal downtime thanks to fast migration

Under the smoky skies of Zaltbommel, Sachem produces products used in the starch and paper industries day after day. After 20 years, it was time to replace the control system used for that production. But how do you convince the head office that the upgrade is truly necessary when the system has worked perfectly for 20 years? The only way is to present an affordable solution that combines speed with minimal downtime and maximum safety, reliability and quality. That solution was found in an upgrade to CENTUM VP Batch.

Sachem in Zaltbommel is part of the international Sachem group, with headquarters in Austin, Texas (USA) and locations in Europe, the U.S. and Asia. At its production site in Gelderland (NL) the company produces fine chemicals, including the flagship product Reagens. What once began in a barn in Zaltbommel grew to become an extensive production environment with the old barn as a pilot plant, along with three production halls and numerous chemical installations. Unlike in the bulk chemicals industry, where products are made hundreds of thousands of tons at a time, Reagens is produced on a much smaller scale. This product is produced in batches. The control system is tuned to this and has been specially developed for batch processing. The operating system was recently upgraded to Yokogawa's CENTUM VP Batch R6.

Why replace a DCS after 20 years of trouble-free operation?

At the production location we spoke to Erik Smalbil, who oversaw the change process from Sachem in Zaltbommel. Erik knows the production environment like no other. He was closely involved in the production process as an operator for many years, and since becoming a software engineer, he has been able to use his knowledge to set up and optimise use of the process automation environment and the DCS system.

For the past twenty years that was the CENTUM CS Batch system. 'The Yokogawa system ran

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Erik Smalbil in the controlroom

smoothly for two decades, but after 20 years we had to replace it for safety and continuity reasons. This was due to the Unix platform on which the CENTUM CS system's HMI runs on, for which suitable computer hardware is no longer available. It therefore seemed a logical moment to also investigate whether we could implement improvements to the DCS system.'

Seamless transition the convincing factor

But taking this step proved to be no easy task. Erik: 'The final investment decision for such operating systems is made at the headquarters in the U.S. And when they see that everything is running smoothly, it takes some effort to convince them it is really necessary. Moreover, the head office had a preference for a different system, one we already use, in production hall 2 for instance. But because I work with both systems, I am in a good position to assess the advantages of the different systems. Yokogawa stands out for its quality and stability as well as the simple programming method. But the most important factor is the seamless transition from the old DCS system to the new one. With the upgrade from CENTUM CS Batch to CENTUM VP Batch, the controllers and all the I/O cards could be retained. That made the migration considerably faster and cheaper. Keeping what's good, replacing what's outdated – that is essentially the starting point.'

CENTUM VP Batch with redundant, reliable server

The beating heart of CENTUM VP Batch is the familiar production and operating system CENTUM VP. In addition to the process control function of CENTUM VP, it also offers a batch function with recipe and process management. A redundant and highly reliable recipe server is used for the recipes, which is beneficial in terms of stability and availability. 'This server is part of CENTUM VP Batch. Recipes are sent to the controller, where they are then processed. The recipe also specifies which equipment is required for the production.'

Erik with Paul Snel at site

Co-innovation with a focus on minimal downtime

Erik explains about the transition from the old CENTUM system to the new one: 'At chemical plants, whether we are talking about bulk or batch processes, minimal downtime is an

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essential requirement. When systems are upgraded, a lot of time is always spent on thorough preparation. The fact that there was no need to interrupt the process, was important to me and the Plant Manager. We worked closely with the technical team and Yokogawa account manager Paul Snel to ensure the project proceeded smoothly. First, we started with the upgrade process. Because we could reuse the controller and I/O cards, the focus was on replacing the DCS system and conversion of the existing application. Yokogawa has tools to do this, so the conversion from old to new was actually effortless. Everything was prepared at Yokogawa in Amersfoort, and we were able to complete the FAT (Final Acceptance Test) within six months. The actual transfer took no more than a week in total. And we were able to schedule the major maintenance stop in the same week.'

Clear visualisation provides instant insight

When you enter the control room, everything looks new, yet still familiar. 'The screens are now larger. The visualisations were also improved. In the old situation, the operator had one small screen, whereas he now has two large 24-inch screens to work on.' CENTUM VP's HMI is very easy to use, and the graphical visualisation better reflects the actual situation. By providing insight into the parameter settings, the operators also have an at-a-glance overview of all the important information for timely and safe decision-making. 'The new system therefore offers considerably more possibilities for the operators. With this upgrade we are once again up to date and will be for many years to come', concludes Erik.

More information

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