Success Story

Integrated Control Safety System (ICCS) SUCCESS STORY Yokogawa Provides CENTUM VP with Batch Recipe Management Package for New Fine Chemical Plant

YOKOGAWA
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Evonik

Location: Dossenheim, Germany
Order date: July 2008
Completion: July 2009
Industry: Fine Chemical

EVONIK INDUSTRIES

Executive Summary

Evonik Technochemie is a custom synthesis specialist in Dossenheim, Germany, where it operates a plant that produces pharmaceutical intermediates and active ingredients. In line with Evonik's focus on the pharmaceutical business, and due also to the reason that this plant was operating at capacity limits, the company decided in 2008 to build a second active ingredient plant in Dossenheim. Key technical requirements for the new facility included the need to comply with good automated manufacturing practices (GAMP V) and to have greater flexibility in active ingredient production, which is mainly sequentially controlled.

At the Dossenheim plant, active pharmaceutical ingredients (API) are produced in a three storybuilding. The filling level step of this production process is done on the top floor, the reactor level step on the second floor, and the solid-liquid separation layer step on the first floor. The final product filling step is done in the basement. Both the filling and the final product filling steps are done under Class D clean room conditions.

To control production operations at this new facility, Evonik selected Yokogawa's CENTUM VP production control system and the CENTUM VP Batch recipe management package.

In the central control room

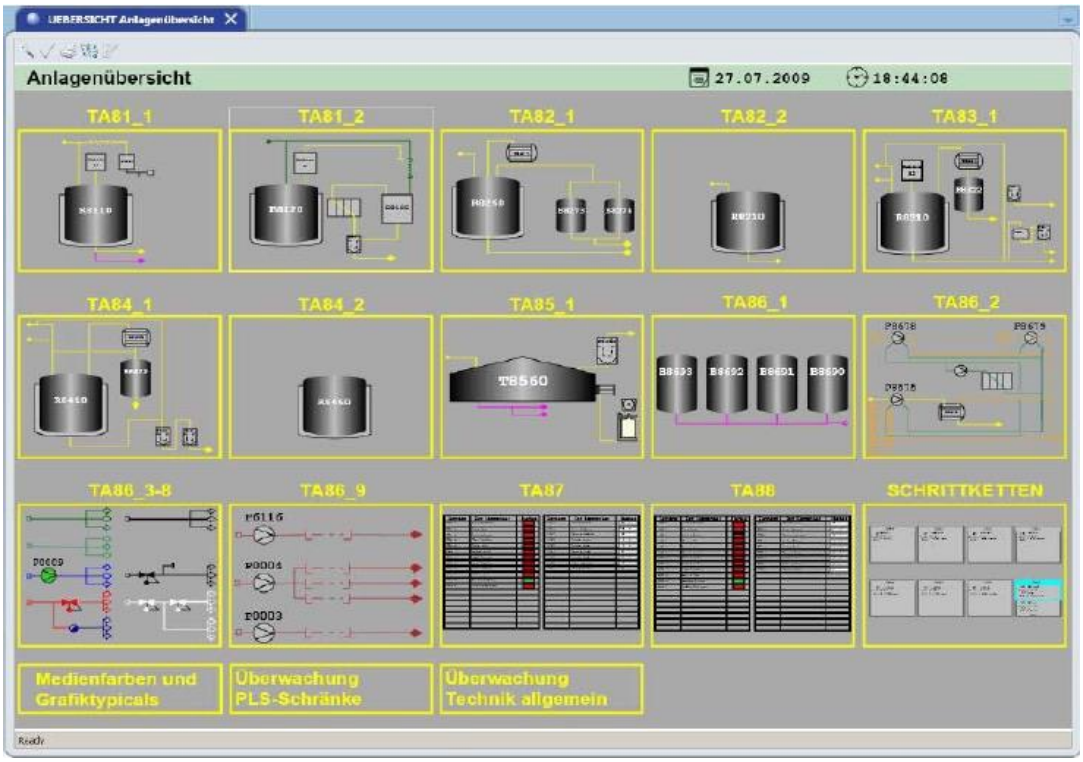
The Challenges and the Solutions

1. Good automation manufacturing practices (GAMP)

GAMP V compliance is mandatory in the pharmaceutical industry. For any systems project, this requires the electronic record and electronic signature capabilities specified in the EU GxPGuide Annex 11. The system software that has been developed to automate all process functions is typically validated and qualified by engineers and operators using predefined test procedures. Yokogawa's CENTUM VP complies with these requirements.

2. Flexible and safe operations

Although it has been used as a single-purpose facility, the Dossenheimplant was originally intended to be a multi-purpose facility and has space available for future expansion. The CENTUM VP production control system has all the capabilities for handling multi-purpose operations. To accommodate the very tight production schedules of these processes, the CENTUM VP Batch recipe management package gives operators the flexibility to control the recipes for all basic module functions such as filling, heating, and cooling. CENTUM VP's human machine interface (HMI) is also very easy to operate. The graphic display shown below gives an overview of each unit and sequence, and alsoshows the parameter settings, giving operators all the informationthey need at a glanceto make timely and safe decisions. In addition, the system's batch report function is very useful for product tracking and quality control.



Plant overview graphic display

3. Field instrumentation

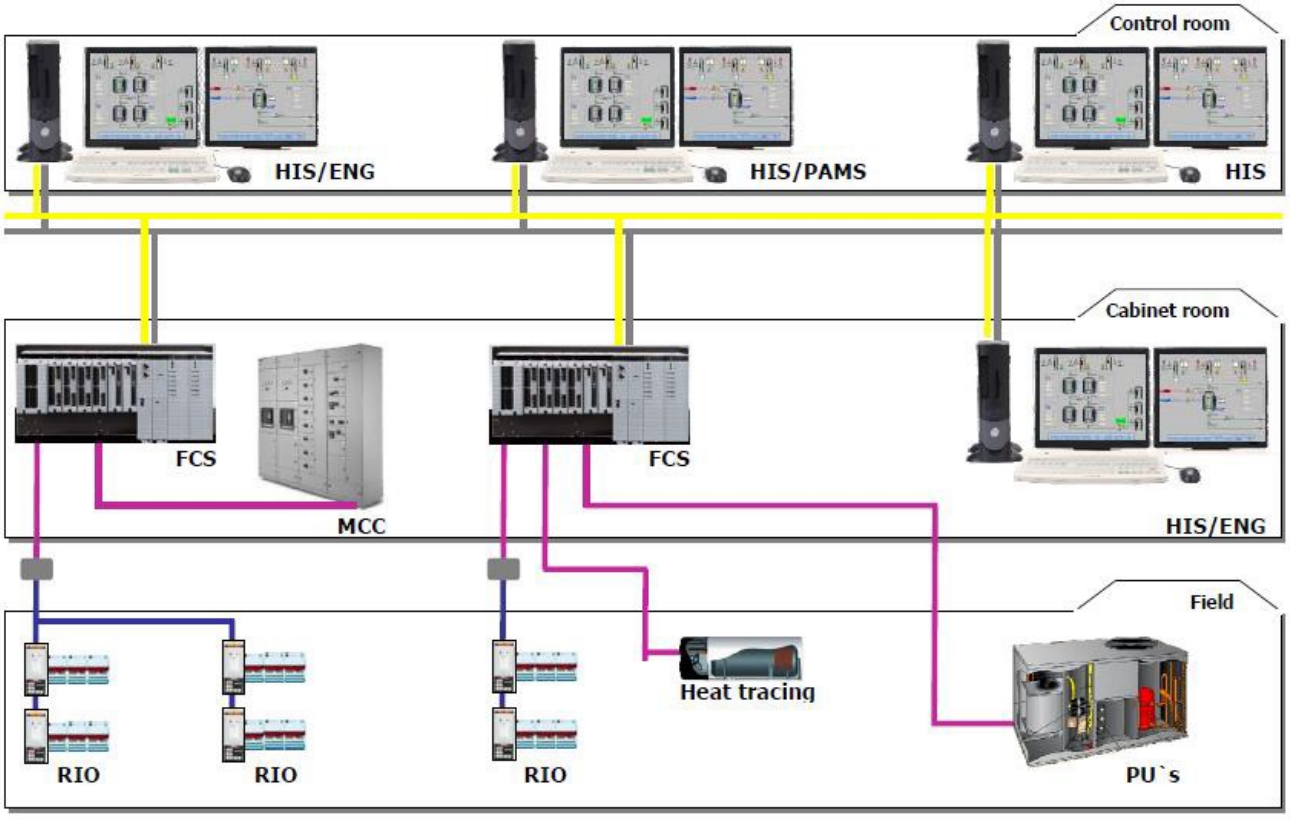
All field devices for the plant's filter dryers, vacuum pumps, vacuum bagging, plant pumps, and evaporators are connected to field control stations (FCS) and monitored using Yokogawa's Plant Resource Manager (PRM). Although the bus system initially had numerous problems with wiring errors and data incompatibility, they were all successfully resolved using PRM. PRM monitors all ofthe field devices during normal operation and has functions that track how long the devices have been in use and identify in advance when preventive maintenance should be carried out. This allows a more proactive maintenance approach that helps to minimize plant operation costs.

Customer Satisfaction

Dr. Simone Reinhard, Evonik's Operations Director, commented that "The project was a success: not only the budget was kept, but also a very tight schedule was met. Surely there's little difference between planning and execution. Thanks to the dedicated effort and intense cooperation of everyone on the project team, the new plant was able to start production operations in July 2009."

Dr. Reinhard went on to say " We made a precise landing for this pharmaceutical and active ingredient plant, in spite ofthis very ambitious schedule, and were on time in starting delivery to our customers in late 2009. We also very much appreciate Yokogawa's commitment to supporting the system throughout the plant lifecycle.

System Configuration by CENTUM VP



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