

Reference project

Process control system for
blood plasma fractionation



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Customer: Pharmaceutical manufacturer
Sector: Pharmaceuticals

Simplified handling despite strict regulations

Implementation of a process control system in blood plasma processing

Compliance with all production regulations and verification requirements

High degree of automation/user guidance of non-automated processes

The market for blood plasma has never been as successful as it is today. This is mainly due to the increasing need for medication for patients with blood coagulation disorders or congenital immunodeficiency. Because of their ability to induce blood coagulation, plasma-based products are also used in intensive care medicine – for example, during operations.

The pharmaceutical company that onoff worked with specializes in the production of vital medicines derived from blood plasma. Through a process called fractionation, the plasma is split into its individual components and purified using various physical methods, for example centrifugation or filtration.

As is usual in the pharmaceutical industry, production is subject to particularly strict requirements and regulations, which also differ from country to country.

For this reason, the entire process must be precisely monitored and documented to ensure the temperature does not exceed or fall below certain thresholds. Otherwise, it could result in destruction of the product or even contamination that could endanger patients.

onoff AG was the right partner for this project due to its precise knowledge of the relevant national and international regulations and of the complex production processes in the field of blood plasma fractionation. The project required designing, programming and implementing the new automated process control system. For example, onoff AG implemented an intelligent new solution for point-of-use management, which demonstrably ensures continuous circulation and cyclical sanitization at all times.

Automatic instead of manual

Overall, the system now performs a majority of the control and documentation tasks for which valuable employee capacity previously had to be made available. The pressure of responsibility has also been permanently reduced for technical staff, because many sources of error that occurred with the manual completion of tasks no longer exist in the new system. Even in non-automated processes, the significantly simplified user commands ensure fewer operating errors.

The automated solution also makes service, maintenance and repair tasks more reliable, easier and faster. The consequence: The company's few highly specialized and comprehensively trained employees are able to supervise more facilities. The extremely tight time buffers in the production process can be used optimally so that the high quality of the product is guaranteed and the risk of batch loss is reduced.

Increased effectiveness

Existing concepts and customer requirements were factored in, and onoff optimized, planned and implemented them in compliance with extensive regulations. onoff was also able to make recommendations for more effective procedures at all times. Thanks to onoff's deep expertise with the strict regulations that apply to pharmaceuticals, production requirements are met at all times. This ultimately guarantees the safety of the affected patients.

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PCS 7 multi-project, consisting of several ESs, redundant OS servers and batch servers, 37 clients and 7 ASs

Batch control with SIMATIC Batch, data storage, evaluation with Process Historian and Information Server

Virtualization from distributed ESXi servers with redundant storage systems (SAN)

Switch cabinets and ThinClients (partly for clean room environment)

Effective in the face of the shortage of skilled workers

The reduced personnel requirements gave the pharmaceutical company a further advantage: Because the company had expanded its location, it would have had to hire a number of new employees. Experience has shown that recruiting them would have been difficult. However, automation reduced the number of new vacancies to a manageable size.

“Project terms are getting shorter and shorter. We need people who know what they're doing and don't need a lot of training.”

Project manager on the customer side



Would you also like to take advantage of all opportunities? We look forward to meeting you.

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