JAG PdiCS controls multi-batch processes fully automated

Multi-batch process plants for ultimate efficiency and economy.

CSL Behring produces immunoglobulins in high-efficiency multi-batch production plants which are among the largest and most modern of their kind in the world.

Minimum throughput times, maximum utilisation of production plants

The automation solution makes it possible to process multiple production batches on the one production line (multi-batch operation). This means CSL Behring achieves maximum utilisation of the plants at its Bern (CH) and Melbourne (AUS) sites. Process-related down times have largely been eliminated and the cleaning processes (CIP, SIP) are started and executed fully automated multiple shift operation, unmanned production takes place in a third shift.

Consistently high product quality, maximum process safety

Simultaneous controlling and monitoring of multiple production batches in the one plant are only possible through a high degree of automation.
Continuous monitoring, fully automatic process control and systematic guidance for operators by the control system eliminate operator error almost entirely.

Paperless production, efficient recording and management of process data

The EBR solution electronically captures and records all parameters of importance to process control (PCPs) and automatically integrates these into the manufacturing documentation.

All other production data are saved centrally and used for further analyses such as trend and performance analyses. All releases are entirely paperless (electronic releases).

«The high degree of automation allows us to efficiently produce life-saving therapies without compromizing the highest, constant quality of products.»

Arnold Nigsch, Director Ig Plant at CSL Behring AG, Bern

The solution

Simultaneous control of consecutive batches in one process cell.

Parameterisable operations are combined into recipes via a graphic editor.

Each production batch has a recipe assigned to it.

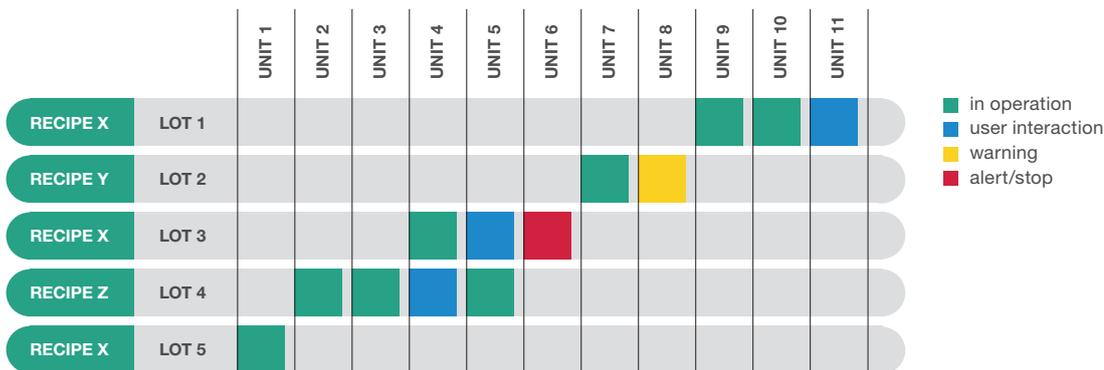The recipes are executed at the control system level (JAG PdiCS). The control system also guides the operators.

The cleaning processes (CIP/SIP) and auxiliary processes (e.g. preparation and supply of auxiliary media) are controlled by the recipes.

Synchronisation of the individual production batches takes place at the control system level (Master Recipe Organiser - MRO).

The JAG PFS process control system serves as a user interface for process monitoring and operator guidance.

Operator identification, user rights administration and operator interaction recording take place by way of the JAG User Manager software module.

Recipe-based control of production and auxiliary processes with JAG PdiCS

		UNIT 1	UNIT 2	UNIT 3	UNIT 4	UNIT 5	UNIT 6	UNIT 7	UNIT 8	UNIT 9	UNIT 10	UNIT 11
RECIPE X	LOT 1									in operation	in operation	user interaction
RECIPE Y	LOT 2							in operation	warning			
RECIPE X	LOT 3				in operation	user interaction	alert/stop					
RECIPE Z	LOT 4		in operation	in operation	user interaction	in operation						
RECIPE X	LOT 5	in operation										

Legend:
- ■ in operation
- ■ user interaction
- ■ warning
- ■ alert/stop

Diagrammatic illustration of simultaneous production of 5 batches in one process plant. Almost all process units are fully utilised.

The recipe-based control system requires operator interactions (blue fields) and alerts the operator in the event of errors and faults (yellow and red fields).

«The implementation of JAG PdiCS process automation solution was very successful and achieved our required functionality within a very tight project schedule.»

Geoff Armstrong, Manager Automation System, CSL Behring Broadmeadows

About JAG

JAG Jakob AG is a process engineering leader, planning and implementing the most challenging of process plants and automation solutions for the pharmaceuticals and biotech industries as well as for the foodstuffs industry.
With our own JAG PdiCS automation and system solution, we are able to achieve total automation even of extremely complex and large-scale production processes in the pharmaceuticals and biotech industries.