Kastor

Workflow Management

controls

monitors

and documents

chained

processes

Objectives and scope of application

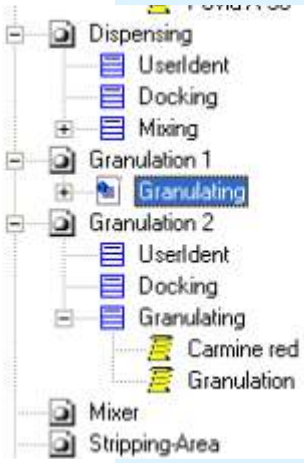
To manufacture an end product, modern production control requires the combination of several processing steps. Particularly in the pharmaceutical industry, „packaged units“ need to work together to produce the final product. The Kastor process control system offers a solution which allows mapping of complex, multistage production processes. The workflow management software within the process control system makes it possible for this requirement to be met.

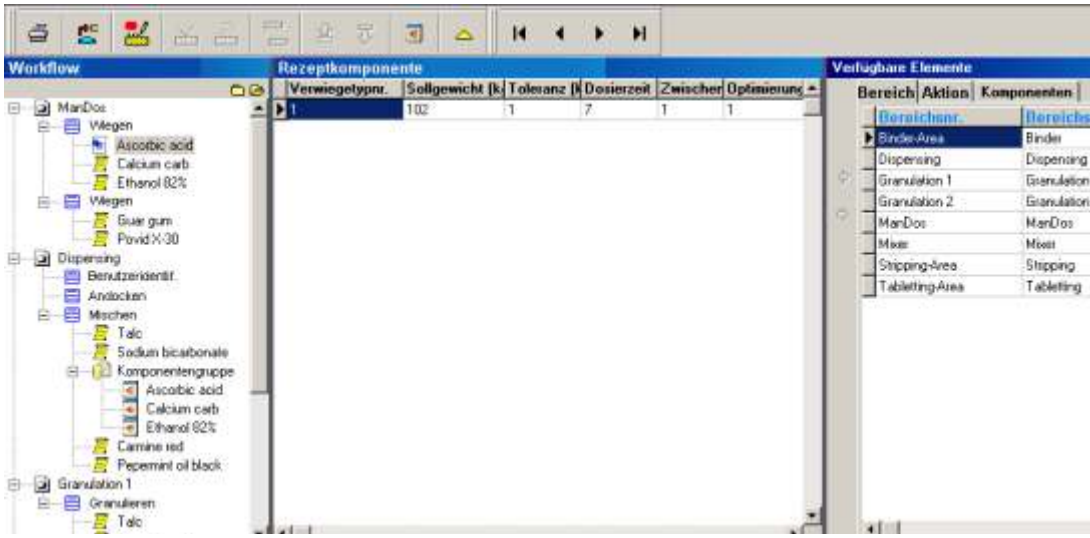
The workflow management system distributes the recipe ingredients to the areas making up the production system, coordinates the processing sequence and collects and stores the output data.

Benefits and advantages for the customer

Using a workflow management system allows customers to use the process control level to connect the systems in the individual production areas although these are often supplied by different manufacturers with non-homogenous control systems. This simplifies considerably the internal logistics and manufacturing procedures as Kastor takes over much of the process control.

THE INNOVATION





Definition of the workflow

The workflow can be defined within the Kastor master data management system, using a tree structure for the basic sequence of the production process. The individual production areas are defined down to the last parameter using the depth of the tree branch. Recipe ingredients from the parts list for weighing processes and parameters for controlling assemblies such as mixers, granulators or packing machines can be represented.

The complete workflow consisting of production sub-processes is divided up into job sections for processing. These can be produced completely separately from each other at the predefined production location. The sequence in which the sections are processed can be defined in preproduction. The workflow management system ensures that interdependent production sections are only carried out in the order specified. This allows both parallel and sequential processes to combined in the workflow.

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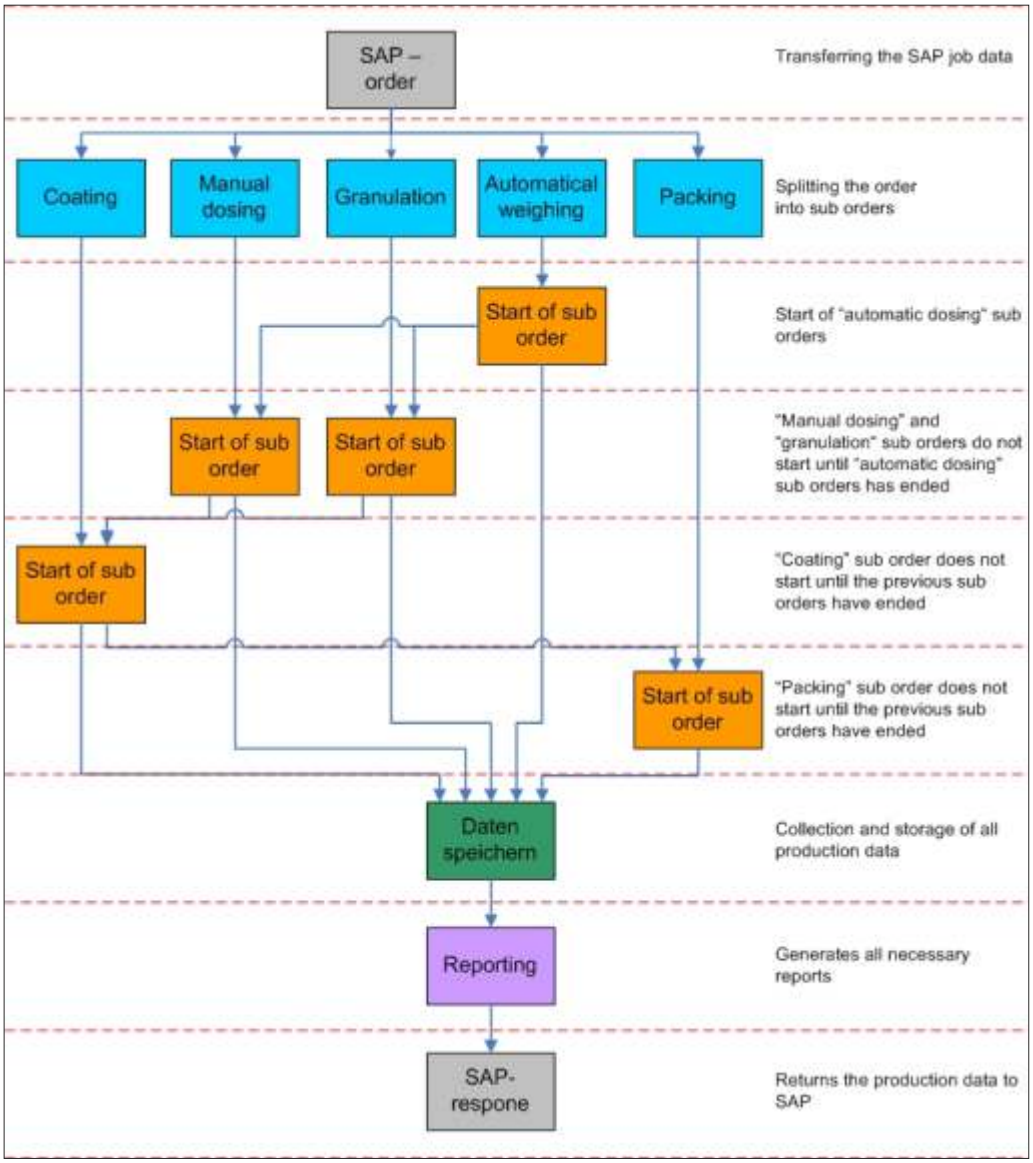
Coordinating and monitoring the workflow

The process control system monitors the workflow. The operators are guided through the process in the separate system areas. Production jobs are only allowed to start when all the processing conditions defined in the workflow are met. The sequence of the production sections and the packaged output from previous production areas such as containers, barrels, bags or pallets are monitored. All the containers carries clear identification and can be guided through the workflow. The identification can take the form of dispatch documents, barcode labels, transponders or RFID. Identification of the target and source containers. is integrated at each processing point. The containers is entered in the Kastor database with the full description of the contents (raw materials, quantities, batch numbers etc), ensuring maximum transparency of the raw materials, semi-finished and final products involved in the process.



Documentation and tracing

The Kastor database ensures that all the workflow is documented. It stores all the information created during production. This includes events and messages from the production process and the data that is generated directly by the feedback from the workflow steps and allows reports about the whole workflow to be generated.

For example, the following information can be shown:

- Job or batch data
- Results from weighing procedures
- Feedback from process parameters
- Audit Trail information
- Events (e.g. start/stop)
- Malfunctions
- Error messages
- User information

It is possible to produce manufacturing protocols, batch protocols, usage reports, event reports and customized analyses. The protocols and reports are archived as pdf files. It is also possible to implement functions such as container usage history, cleaning cycles or contamination monitoring.

Items can be traced throughout the workflow with maximum transparency.

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