

Routing & Dispatching



Defines the process and rework flows as well as it provides step and resource level dispatch rules

Overview

In any manufacturing environment, it's necessary to define in a controlled manner the different process flows that can be assigned to products and materials. These process flows can also include rework flows to recover material from certain problems.

Dispatching provides a mechanism to define flexible material sorting rules for a step or for a resource so that the operator

knows what is the next material to be processed, or the next resource for a material. Dispatching works based on services. Resources provide services and materials require services at certain processing contexts (Step, Flow, Product, etc.). When there is a match between the service required by the material and the service provided by the resource, the material can be dispatched and processed in that resource.

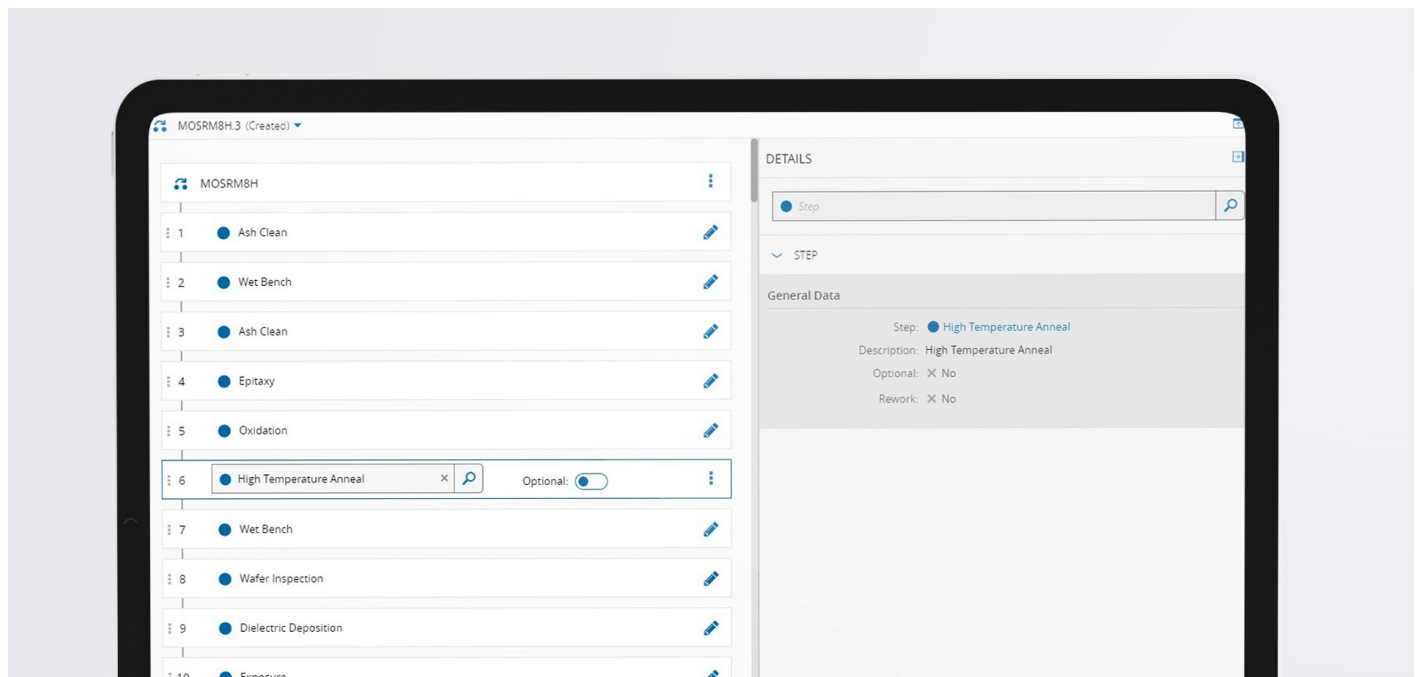


Figure 1 Flow definition

Key Features

- Support for flow version management with access and change control.
- Support for hierarchical flows that contain other flows in order to promote flow re-usability.
- Support for alternate flows, alternate steps, and optional steps.
- Support for non-sequential flows which means that the steps of the flow can be performed in any sequence.
- Support for multiple rework paths at every flow-step combination. A rework path defines a go-to and return point.
- Support for flexible dispatch sorting rules, using predefined or user created rules.
- Support for push (what's next for material?) and pull (what's next for resource?) dispatch rules.
- Support for conditional steps and flows. A condition can be defined as an expression, a rule or as sampling functions and it's evaluated automatically during execution.

Benefits

- Increased process control
- Increased process automation
- Reduction in the opportunity for errors

The screenshot displays the 'Main Production Flow' configuration interface. On the left, a tree view shows the flow structure with 7 steps: 1. Mixing, 2. Moulding, 3. Baking, 4. Cooling (selected), 5. Baking-2, 6. Cooling-2, and 7. Packing. The central panel, titled 'Flow Details', shows the selected flow 'Main Production Flow' with a description of 'Cooling Step' and settings for 'Alternate Flow' (No) and 'Non-Sequential Block' (No). The 'Step Details' panel shows the selected step 'Cooling' with a description of 'Cooling Step' and settings for 'Optional' (No), 'Line Step' (No), and 'Rework' (No). The right panel, 'Context View', shows configuration options for the selected step, including fields for Product, Product Group, Material, Material Type, Resource, and Resource Type, along with a 'Clear All' button.

Figure 2 Flow Structure View