Critical manufacturing
an ASM PT company

Tutorial: Time Constraints for Materials in Line Flows

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Tutorial: Time Constraints for Materials in Line Flows

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Estimated time to read: 3 minutes

Objective

Learn how to configure and validate time constraints between process steps to ensure materials are processed within defined time limits.

Step 1: Enable Time Constraints in Steps

- Open each step involved (source and target)
- Edit the step and **Enable Time Constraints**



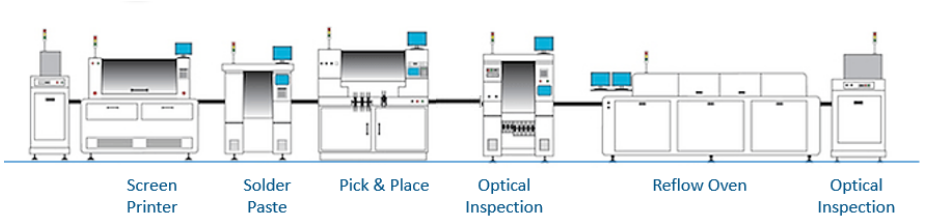
> This must be enabled in both source and target steps.

Step 2: Define the Scenario

Example:

- Source Step: **SMT_Printing**

- Target Step: **SMT_Oven**
- Requirement:
  - Maximum time = 30 minutes
  - Warning at 25 minutes



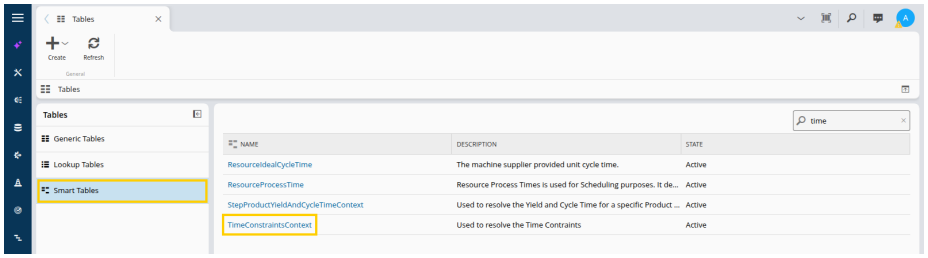
Step 3: Configure Warning Rule (Optional)

- Create a new rule with Scope **TimeConstraint**
- Define the desired action (e.g., notification to operators)

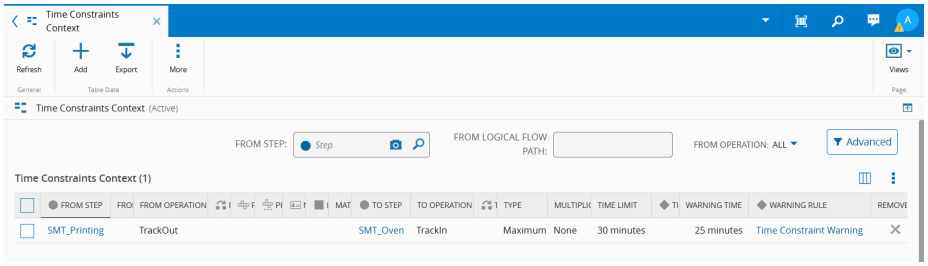


Step 4: Configure Time Constraint

- Navigate to **Administration > Tables** and open **TimeConstraintsContext**

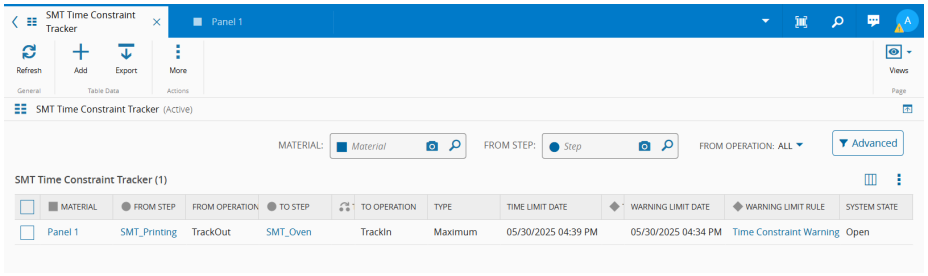


- Configure:
  - Source Step and Operation (e.g., TrackOut at SMT_Printing)
  - Target Step and Operation (e.g., TrackIn at SMT_Oven)
  - Maximum Time (30 minutes)
  - Warning Time (25 minutes)
  - Associated rules (optional)



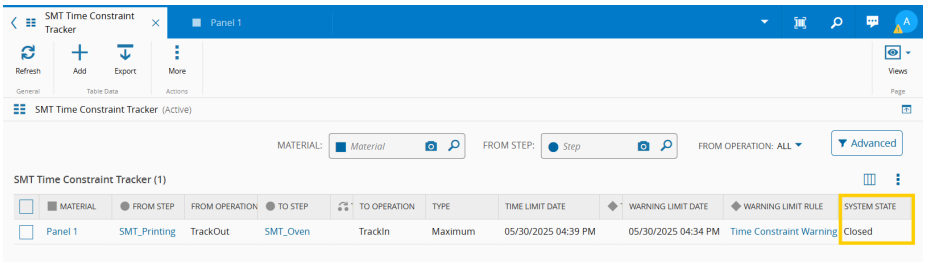
Step 5: Execute Process

- Process a material through the source step (in this case, **SMT_Printing**)
- Perform the configured **From Operation** (TrackOut)
- A time constraint is created and tracked



Step 6: Validate Successful Scenario

- Move the material to the target step within the allowed time (in this case, **SMT_Oven**)
- Perform the **To Operation** (TrackIn)



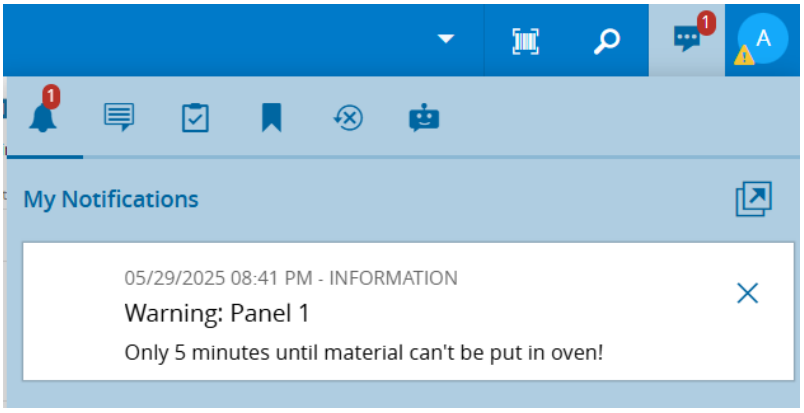
Expected Result

- The constraint is satisfied
- Material proceeds normally
- Constraint is marked as **Closed**

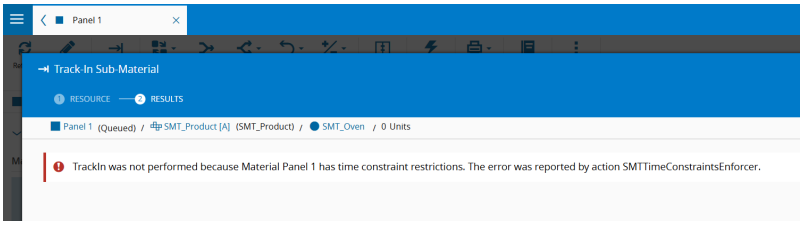
Step 7: Validate Delayed Scenario

- Delay the material before reaching the target step
- Observe:
  - At warning threshold:

- Notification is triggered



- At maximum time exceeded:
  - Operation is blocked



Expected Result

- Material cannot proceed
- Operator must take action:
  - Remove material from production
  - Or resolve constraint (if applicable)

Frequent Configuration Questions

Why is the constraint not being triggered?

Verify the following:

- The Smart Table configuration is correctly defined.
- The operation settings are configured for the intended event:

- Track-In
- Track-Out

Why am I not receiving a warning?

Ensure that:

- A warning rule is configured for the scenario.
- The user has an associated Employee record.

Why is the material not being blocked?

Check that the maximum allowed time is configured correctly and that the applicable rule is active.

Why am I experiencing performance issues?

Review the timer configuration and its execution frequency to ensure it is appropriate for the expected system load.

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