

Da Vinci Smart Manufacturing

BRD S06.06 Reports Production

Version	Created/Modified by	Description	Date
1.0	Leopoldo Rivera Sahana Badal	S06.06 First draft	6/06/2025

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This document outlines the detailed specifications for the **Production** Report module. The module enables users to configure, generate, manage, and share reports that analyze

Production results across furnaces. This supports decision-making, efficiency tracking, and auditing through dynamic filters, KPI selection, and export capabilities.

1. Overview

The Report module consists of:

- Report Configuration Interface (Setup View)
- Report Output View (Generated Report)
- Variant Management System (for saved configurations)
- Export and Print functionalities

2. Report Configuration Interface (Setup View)

2.1 Variant Name Selection

- A dropdown labeled “**Variant Name**” is provided at the top.
 - User selects the Variant ID from a single select dropdown
 - Mandatory - No
 - Default value - No
 - Field Type - Single Select Dropdown Values: All Variants saved (Public and Private). **Dropdown Structure:**
 - **My Variants**
 - Private
 - Public (shared icon)
 - **Public Variants** (created by others)
 - Validation - No
 - **Permissions:**
 - Only the creator can edit, delete, or update their variant.
 - Other users can view or clone public variants.
- Upon selecting a variant, previously saved filters and KPI selections are auto-populated.

2.2 Report Filters (Mandatory fields marked with *)

Filter	Type	Description
Furnace ID*	Multi-select dropdown	Lists all active furnaces assigned to user or organization.

Date Range*	Calendar picker	From and To date selectors.
Material ID*	Multi-select dropdown	Material IDs for which Tap IDs have been “Tap Finalised”

Filter Behaviour:

- Default values are empty; required fields must be selected to proceed.
- All Filter drop downs should be sorted alphabetically / numerically

2.3 KPI Selection

- KPI checkboxes/toggles are listed for selection.
- Backend provides the available KPIs per report.
- KPIs are not mandatory and report can be generated without selecting any.
- KPI Permissions Logic
 - **Selectable KPIs:** A user can only **select** KPIs for which their role has explicit permission.
 - **Visible but Disabled:** KPIs outside the user’s permission scope will still be **visible** in the interface but will appear **disabled** (e.g., grayed out) and **cannot be selected**.
- **Max 3 KPIs can be selected.**
 - If a user selects more than 3, an inline validation appears: “*You can select up to 3 KPIs only.*”
- Each KPI has a **default chart type** (bar, line, pie, etc.) configured by backend.
- In the **generated report screen**, users can change the chart type per KPI using a dropdown.

2.4 Action Buttons

Button	Function
Generate Report	Validates inputs and transitions to Report Output View.
Reset	Clears all filters and KPI selections to default state.

Production Summary

Variant Name
Select Variant Name

Filters

Furnace ID* Date Range* Material ID*

Select Furnace ID Select Date Range Select Material ID

KPIs

Operating Costs (\$) Quantity Produced Downtime (Hours) or Availability Overall Equipment Efficiency OEE (%) Yield(%) - Raw Material Input Vs Finished Prod Output

Energy Used(kWh) Energy Efficiency (kWh per Unit) Water Usage per Unit

3. Report Output View

Upon clicking **Generate Report**, the system transitions to a new screen with the following sections:

3.1 Filters Summary Section

- Displays all selected filters and metadata.

Fields include:

1. Variant Name (default: *Untitled* until saved)
 - a. Min - 1 and Max - 30 characters, alphanumeric, Only '-' and '_' is allowed,
Single space is allowed in between the words, No leading spaces allowed
 - b. **Edit Icon** (): Appears for saved variants created by the user.
 - c. Enables inline editing of Variant Name and Access Modifier (Private/Public).
 - d. A **Save** button confirms updates.

2. Furnace ID
3. Date Range (From - To)
4. Material ID
5. **Executed On** – *Displayed only in print view; not saved in variant.*
6. **Executed By** – *Displayed only in print view; not saved in variant.*

3.2 KPI Visualization Section

- KPIs selected are shown in graphical format.

Features:

- KPIs can be **removed** via a close (x) button on hover.
- KPIs can be **reordered** via drag-and-drop.
- KPI metadata and units are displayed.
- Users can **change the chart type per KPI** via dropdown (Gauge, Bar Chart, Line Chart and Pie Chart).

3.3 Report Data (Tabular Format)

- Data displayed based on filters and granularity.
- It will have the following columns
 - Date
 - Furnace ID
 - Element ID
 - Total Produced (Ton)

Table Features:

- Configurable columns via “Add Columns” menu
- Sorting and rearranging columns via drag-and-drop
- Pagination for large datasets
- Export to Excel (XLSX) File Name “MMDDYY_ProductionReport”

Production Summary

Filters

Variant Name Untitled	Furnace ID 11	Date Range 15/10/2024 – 16/9/2024	Material ID MBO1_Serrabal, MBO2_Serrabal	Executed by sbadal Sahana Badal	Executed on 15/10/2024 3:15 pm
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KPIs

Operating Costs (\$o)

89 %

Quantity Produced

89 %

Downtime (Hours) or Availability

89 %

Report

Date	Material ID	Furnace ID	Total Produced (Ton)
1/1/2025	MBO1_Serrabal	1	10
1/1/2025	MBO1_Serrabal	1	10
1/1/2025	MBO1_Serrabal	2	3
1/2/2025	MBO1_Serrabal	1	10
1/2/2025	MBO1_Serrabal	5	100

3.4 Notes Section

- Free-text input area for user insights. All (Including special characters), 100 characters
- Not saved with variant — intended for print inclusion only.

Report

Date	Material ID	Furnace ID	Total Produced (Ton)
1/1/2025	MBO1_Serrabal	1	10
1/1/2025	MBO1_Serrabal	1	10
1/1/2025	MBO1_Serrabal	2	3
1/2/2025	MBO1_Serrabal	1	10
1/2/2025	MBO1_Serrabal	5	100
1/2/2025	MBO1_Serrabal	1	1000
1/4/2025	MBO1_Serrabal	1	5
1/4/2025	MBO1_Serrabal	1	100
1/4/2025	MBO1_Serrabal	1	10
1/4/2025	MBO1_Serrabal	1	10

Showing 10 of 80

User Notes

Enter your notes

Rows Per Page: 10

3.5 Navigation – Back to Configuration

- A **Back** button appears in the report view.
- Clicking it returns the user to the **Setup View**, retaining all previous filter and KPI selections.
- Ensures seamless editing without re-entering data.

4. Report Actions

4.1 Print

- Exports the entire report as PDF.
- User selects sections to include:
 - Filter section
 - Notes section
 - Specific pages of data

4.2 Save Variant

- Saves current report configuration.
- Required fields:
 - Report Name
 - Access Modifier (Private/Public)
- Only the creator can edit or delete saved variants.

The screenshot shows the 'Production Summary' report page. At the top right, there is a 'Save Variant' button. A modal dialog box titled 'Save Report Variant' is open in the center. It contains fields for 'Variant Name' (with 'Untitled' as the placeholder), a 'Public' checkbox (unchecked), and two large blue progress bars both showing '89 %'. Below the dialog, the main report area displays a table of production data:

Date	Material ID	Furnace ID	Total Produced (Ton)
1/1/2025	MBO1_Serrabal	1	10
1/1/2025	MBO1_Serrabal	1	10
1/1/2025	MBO1_Serrabal	2	3
1/2/2025	MBO1_Serrabal	1	10
1/2/2025	MBO1_Serrabal	5	100

4.3 Clone Variant

- Clones any saved variant (private or public).
- **Confirmation message appears:**

“Are you sure you want to clone this variant? The cloned version will open in edit mode and must be saved separately.”

- Opens the cloned configuration in edit mode with name defaulted to *Untitled*.

The screenshot shows a production summary report interface. At the top right, there is a 'Clone Report' button. A modal dialog box titled 'Clone Report' is displayed, containing the text: 'The cloned version will open in edit mode and must be saved separately.' Below the dialog are two buttons: a red 'X' and a green checkmark.

Production Summary

Filters

Variant Name	Furnace ID	Date Range	Material ID	Executed by	Executed on
Variant 1	11	15/10/2024 – 16/9/2024	MBO1_Serrabal, MBO2_Serrabal	sbadal Sahana Badal	15/10/2024 3:15 pm

KPIs

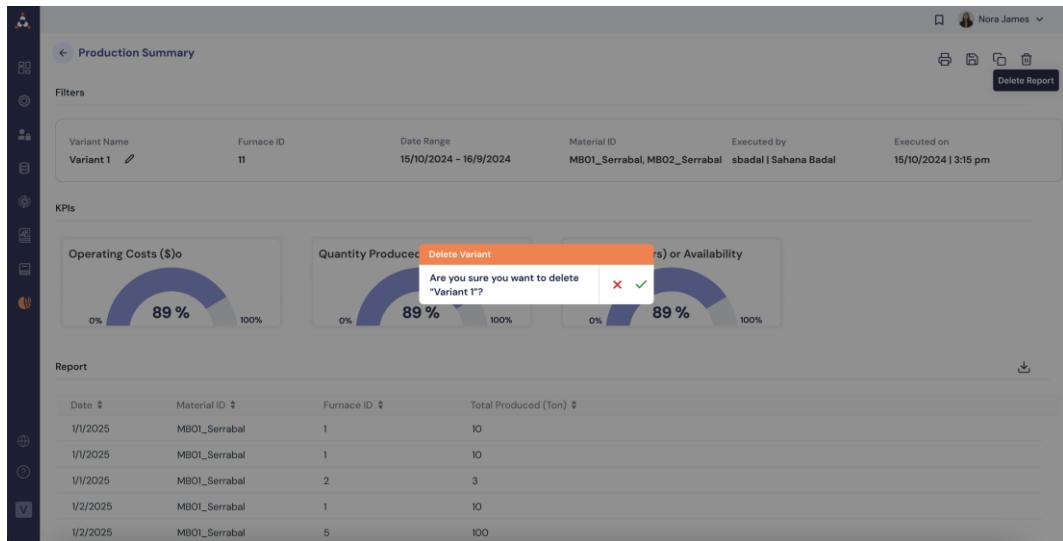
Operating Costs (\$)	Quantity Produced	Overall Availability
89 %	89 %	89 %

Report

Date	Material ID	Furnace ID	Total Produced (Ton)
1/1/2025	MBO1_Serrabal	1	10
1/1/2025	MBO1_Serrabal	1	10
1/1/2025	MBO1_Serrabal	2	3
1/2/2025	MBO1_Serrabal	1	10
1/2/2025	MBO1_Serrabal	5	100

4.4 Delete Variant

- Available for user-created variants.
- Delete via dropdown or trash icon with confirmation prompt.
 - “Are you sure you want to delete this variant “Variant Name”?



5. Edge Cases & Validations

Scenario	Expected Behaviour
Required filter missing	Prompt user to complete all mandatory fields
Deleting a variant in use	Show confirmation and warn about unsaved changes when traversing to another module
Selecting public variant	Load values in read-only mode unless cloned
No KPIs selected	Section remains empty; no validation error
Selecting > 3 KPIs	Show inline warning and prevent further selections