

# 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

1. Overview.....	3
2. Report Configuration Interface (Setup View) .....	3
2.1 Variant Name Selection .....	3
2.2 Report Filters (Mandatory fields marked with *).....	3
2.3 KPI Selection.....	4
2.4 Action Buttons .....	4
3. Report Output View .....	5
3.1 Filters Summary Section .....	5
3.2 KPI Visualization Section.....	6
3.3 Report Data (Tabular Format) .....	6
3.4 Notes Section .....	7
3.5 Navigation – Back to Configuration .....	8
4. Report Actions .....	8
4.1 Print .....	8
4.2 Save Variant.....	8
4.3 Clone Variant .....	9
4.4 Delete Variant .....	9
5. Edge Cases & Validations.....	10

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.

The screenshot shows a web application interface for a 'Production Summary'. At the top right, there is a user profile for 'Nora James'. The main section is titled 'Production Summary' with a refresh icon. Below this, there is a 'Variant Name' section with a dropdown menu labeled 'Select Variant Name'. The 'Filters' section contains three dropdown menus: 'Furnace ID\*' (labeled 'Select Furnace ID'), 'Date Range\*' (labeled 'Select Date Range' with a calendar icon), and 'Material ID\*' (labeled 'Select Material ID'). The 'KPIs' section features a row of toggle switches for various metrics: 'Operating Costs (\$)' (off), 'Quantity Produced' (on), 'Downtime (Hours) or Availability' (off), 'Overall Equipment Efficiency OEE (%)' (off), and 'Yield(%) - Raw Material Input Vs Finished Prod Output' (off). Below this row, there are three more toggle switches: 'Energy Used(kWh)' (off), 'Energy Efficiency (kWh per Unit)' (off), and 'Water Usage per Unit' (off). A 'Generate' button is located at the bottom right of the interface.

### 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:

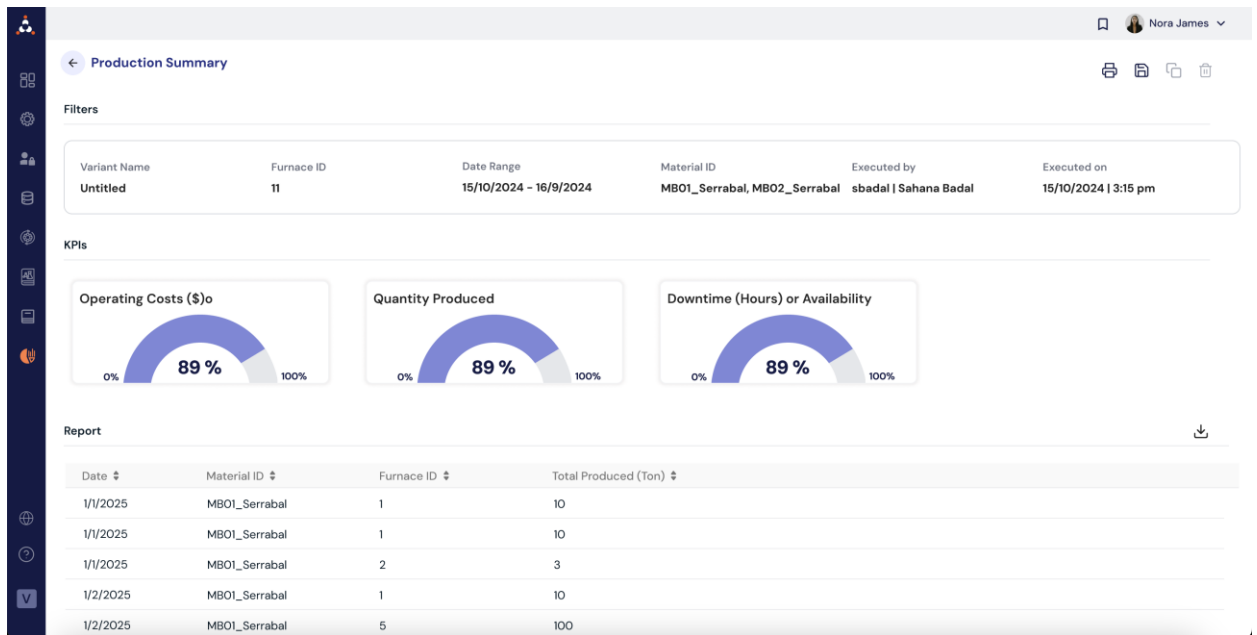
- KPIs can be **removed** via a close (×) button on hover.
- KPIs can be **reordered** via drag-and-drop.
- KPI metadata and units are displayed.
- Users can **change the chart type per KPI** via dropdown (Gauge, Bar Chart, Line Chart and Pie Chart).

### 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”



### 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	MB01_Serrabal	1	10
1/1/2025	MB01_Serrabal	1	10
1/1/2025	MB01_Serrabal	2	3
1/2/2025	MB01_Serrabal	1	10
1/2/2025	MB01_Serrabal	5	100
1/2/2025	MB01_Serrabal	1	1000
1/4/2025	MB01_Serrabal	1	5
1/4/2025	MB01_Serrabal	1	100
1/4/2025	MB01_Serrabal	1	10
1/4/2025	MB01_Serrabal	1	10

Showing 10 of 80

< 1 2 3 ... 8 > Rows Per Page: 10

User Notes

Enter your notes

### 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.

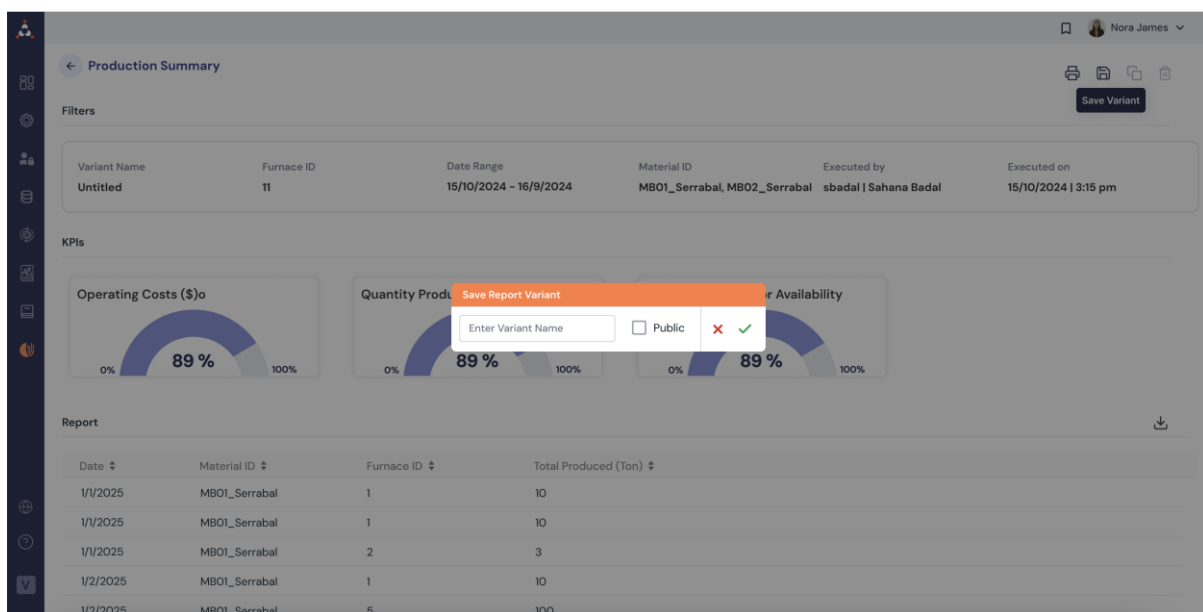
## 4. Report Actions

### 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.



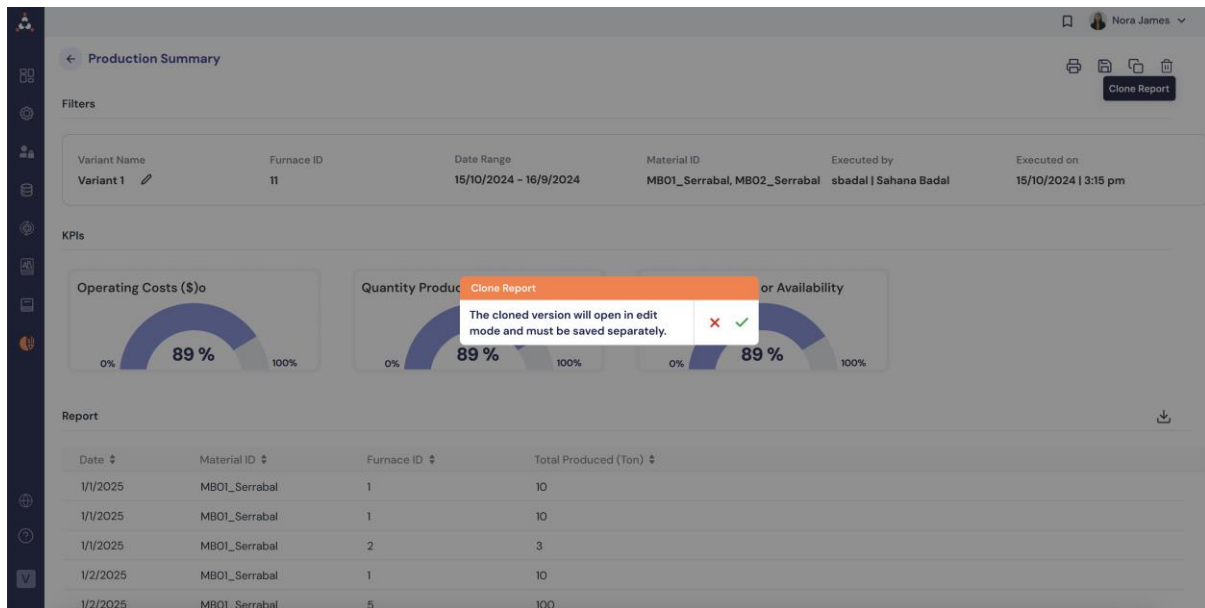


### 4.3 Clone Variant

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

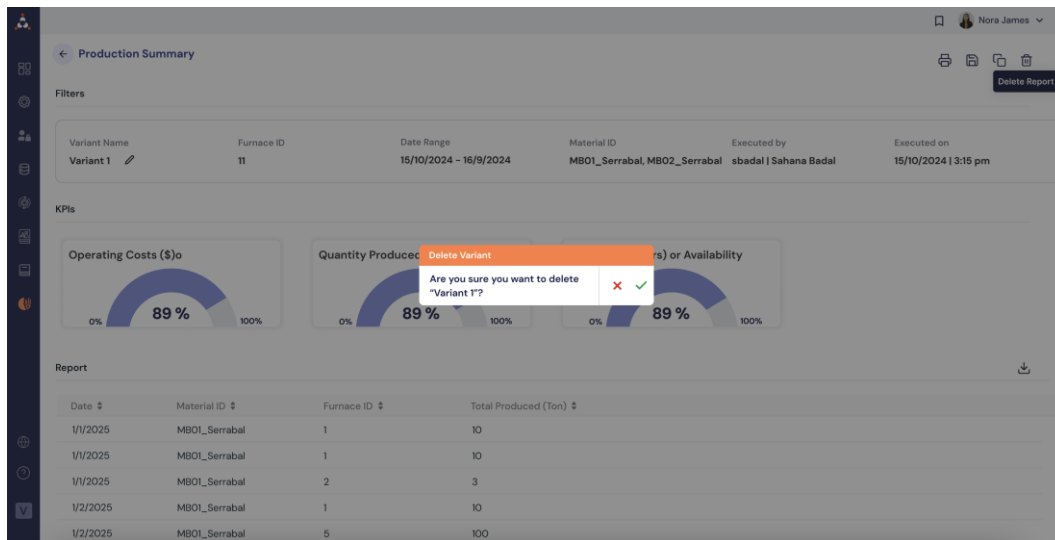
“Are you sure you want to clone this variant? The cloned version will open in edit mode and must be saved separately.”

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



### 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