

# Functional Template - Plant Maintenance Report

## 1.0 Overview

Business Context and Application Overview

Provide an overview of the app (e.g Domain, key processes, purpose of the app, etc)

The application loads data of the Plant Maintenance domain from RCS (system WP1 400) into BW (system WBP 400).

Data is extracted from PM module for Work Orders and Notifications, from CO-OPA module for Costs, and from CATS module (Cross-Application Time Sheet) for Times.

Data for Costs is also loaded from the systems RHO and PF1. The costs data from the three systems are used by FI application, but reporting on costs in WBP is done only for WP1 data.

Application User Profile

Roles and access

- Authorization role : ZR\_RCS\_PM\_A02: Maintenance Orders Applications - End User role
- Role menu : ZR\_RCS\_CA\_M08: PM - Plant Maintenance

Reference : [BW Catalog of Role](#)

Target Users:

Around 180 users on BW. The reports are used worldwide.

| InfoProviders Used | Calendar Year | Distinct Users | Query Access Counter |
|--------------------|---------------|----------------|----------------------|
| Overall Result     |               | 179            | 49 165               |
| MPRO/A/MPR_PM001   | 2015          | 137            | 24 877               |
|                    | 2016          | 85             | 13 487               |
| MPRO/A/MPR_PM004   | 2015          | 23             | 3 861                |
|                    | 2016          | 7              | 1 523                |
| MPRO/A/MPR_PM05    | 2015          | 13             | 2 802                |
|                    | 2016          | 5              | 518                  |
| MPRO/A/MPR_PM06    | 2015          | 7              | 740                  |
|                    | 2016          | 6              | 394                  |
| MPRO/A/MPR_PM07    | 2015          | 5              | 441                  |
|                    | 2016          | 3              | 96                   |
| MPRO/A/MPR_PMECO   | 2015          | 17             | 404                  |
|                    | 2016          | 5              | 22                   |

| VERSION | DATE        | MODIFIED BY  | DESCRIPTION   |
|---------|-------------|--------------|---------------|
| 0.01    | 05 Dec 2023 | Abidemi Raji | Initial draft |
|         |             |              |               |
|         |             |              |               |

## 2.0 Business Process

Capture the business process that the application supports . This can be describe through a process diagram or a business capability model

Key Reports:

Application Type

Data Product Type

- ☐ Dashboard
- ☒ Report
- ☐ Advanced analytics
- ☐ AI
- ☐ Others <specify which one>

Technologies

- ☒ BW
- ☐ Tableau
- ☐ QlikSense
- ☐ Talend
- ☐ Dataiku
- ☐ Others <specify which one>

Data Sources

Note: list of all applications and various environment

- ☒ SAP PF1 (Production environment)
- ☒ SAP WP1
- ☐ SAP PI1
- ☐ BW (versions)
- ☐ iCare CRM
- ☐ CORE CRM
- ☐ Others <specify the name of the source>

The BW PM Plant Maintenance application regroups all the reports useful to follow Plant Maintenance activities in weekly and monthly basis, mainly on :

- Cost
- Notifications
- Work orders

## 3.0 Application Feature Overview

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*Information about the existent Workbooks and the respective BW queries.*

| Query                       | Descriptions                                           |
|-----------------------------|--------------------------------------------------------|
| BW_QRY_MPR_PM001_0001_BCAST | BW - PM Monthly Synthetic Expenses (BROADCAST)         |
| BW_QRY_MPR_PM001_0030       | BW - PM Cumulated (year) detailed costs (Core query)   |
| BW_QRY_MPR_PM001_0030_2     | BW - PM Cumulated (year) detailed costs (Core query)   |
| BW_QRY_MPR_PM001_0031       | BW - PM Monthly costs synthetic report (Core query)    |
| BW_QRY_MPR_PM001_0031_MPI1  | MPI 1 - Maintenance Costs per ton of production        |
| BW_QRY_MPR_PM001_0031_MPI4  | MPI 4 - Structure of Maintenance Costs                 |
| BW_QRY_MPR_PM001_0033       | BW - PM Material consumptions per order (Core query)   |
| BW_QRY_MPR_PM001_0034       | BW - PM Orders list by vendor (Core query)             |
| BW_QRY_MPR_PM001_BCAST_0001 | BW_QRY_MPR_PM001_BCAST_0001                            |
| BW_QRY_MPR_PM001_BCAST_0001 | Extraction Oracle 2019                                 |
| BW_QRY_MPR_PMECO_0001       | BW - Emergency WOs                                     |
| BW_QRY_MPR_PMECO_0002       | BW - Past Due PM                                       |
| BW_QRY_MPR_PMECO_0003       | BW - MTBF Rotating Equipment                           |
| BW_QRY_MPR_PMECO_0004       | BW - MTBF                                              |
| BW_QRY_MPR_PMECO_0005       | BW - Backlog Maintenance Metrics                       |
| MPR_PM003_QRY005            | General Control of Preventive Maintenance (Quantities) |
| QV_BW_QRY_MPR_PM001_0030    | QV-BW-PM Cumulated (year) detailed costs (QV)          |
| QV_BW_QRY_MPR_PM001_0031    | QV-BW-PM Monthly costs synthetic report (QV)           |

| Search Folders                                              |                         |
|-------------------------------------------------------------|-------------------------|
| View                                                        | Role                    |
| Description                                                 | Technical Name          |
| PM - Plant Maintenance                                      | ZR_RCS_CA_M08           |
| Brazil                                                      | 0000001709              |
| GTBU                                                        | 0000001769              |
| MECANO                                                      | 0000001888              |
| BW - PM-MECANO - PM Costs (Core Query)                      | BW_QRY_MVPMCO01_0001    |
| BW-MECANO - PM - KPI Operation - BW SnapShot (Core Query)   | BW_QRY_MVPMOP02_0002    |
| BW-MECANO - PM - KPI Operation - Capacity SnapShot (CQ)     | BW_QRY_MVPMOP04_0004    |
| BW-MECANO - PM - KPI Operation - GWOS Daily SnapShot (CQ)   | BW_QRY_MVPMOP02_0003    |
| BW-MECANO - PM - KPI Operation - GWOS Weekly SnapShot (CQ)  | BW_QRY_MVPMOP02_0001    |
| BW-MECANO - PM - Maintenance Plan Calls - SnapShot (CQ)     | BW_QRY_MVPMCL01_0001    |
| BW-MECANO - PM - Notification by Priority - SnapShot (CQ)   | BW_QRY_MVPMNO02_0001    |
| BW-MECANO - PM - Notification by Priority - Up to Date (CQ) | BW_QRY_MVPMNO01_0001    |
| BW-MECANO - PM - Operation - Up to Date (Core Query)        | BW_QRY_MVPMOP01_0001    |
| BW-MECANO - PM - Order by Status - SnapShot (Core Query)    | BW_QRY_MVPMOR02_0001    |
| BW-MECANO - PM - Order by Status - Up to Date (Core Query)  | BW_QRY_MVPMOR01_0001    |
| BW - Detail notifications items (Core Query)                | BW_QRY_CUB_PM08_0001    |
| BW - Maintenance Orders Indicators (Core Query)             | BW_QRY_CUB_PM004_0001   |
| BW - MTBF (Core query)                                      | BW_QRY_MPR_PMECO_0004   |
| BW - Notification cause details (Core Query)                | BW_QRY_CUB_PM08_0005    |
| BW - Notification item details (Core Query)                 | BW_QRY_CUB_PM08_0004    |
| BW - Notifications by status (Core Query)                   | BW_QRY_CUB_PM08_0002    |
| BW - Notifications details (Core Query)                     | BW_QRY_CUB_PM08_0003    |
| BW - PM Cumulated (year) detailed costs (Core query)        | BW_QRY_MPR_PM001_0030   |
| BW - PM Cumulated (year) detailed costs (Core query)        | BW_QRY_MPR_PM001_0030_2 |
| BW - PM Functional Location and Equipment Attributes (Core) | BW_QRY_JS_FUNLOC_0001   |
| BW - PM Hours (Core Query)                                  | BW_QRY_CUB_PM004_0002   |
| BW - PM Material consumptions per order (Core query)        | BW_QRY_MPR_PM001_0033   |
| BW - PM Monthly costs synthetic report (Core query)         | BW_QRY_MPR_PM001_0031   |
| BW - PM Order and Operations User status list (Core Query)  | BW_QRY_CUB_PM012_0001   |
| BW - PM Orders by status (Core query)                       | BW_QRY_CUB_PM003_0002   |
| BW - PM Orders list by vendor (Core query)                  | BW_QRY_MPR_PM001_0034   |
| BW - PM Orders numbers (Core query)                         | BW_QRY_CUB_PM001_0003   |
| BW - Priority analysis (Core query)                         | BW_QRY_MPR_PM001_0032   |

| Search                                                        |  | Folders            |
|---------------------------------------------------------------|--|--------------------|
| View                                                          |  | Role               |
| Description                                                   |  | Technical Name     |
| PM - Plant Maintenance                                        |  | ZR_RCS_CA_M08      |
| GTBU                                                          |  | ZR_RCS_CA_M08      |
| MECANO                                                        |  | ZR_RCS_CA_M08      |
| BW - PM - MECANO - KPI Costs (Core Workbook)                  |  | BW_WBK_MECANO_0025 |
| BW - PM - MECANO - KPI Effectiveness (Core Workbook)          |  | BW_WBK_MECANO_0026 |
| BW - PM - MECANO - KPI Execution (Core Workbook)              |  | BW_WBK_MECANO_0024 |
| BW - PM - MECANO - KPI Gatekeeping (Core Workbook)            |  | BW_WBK_MECANO_0021 |
| BW - PM - MECANO - KPI Planning (Core Workbook)               |  | BW_WBK_MECANO_0022 |
| BW - PM - MECANO - KPI Scheduling (Core Workbook)             |  | BW_WBK_MECANO_0023 |
| BW - PM - MECANO - Up to Date - Maintenance Costs (Core Workb |  | BW_WBK_MECANO_0014 |
| BW - PM - MECANO - Up to Date - Notifications (Core Workbook) |  | BW_WBK_MECANO_0011 |
| BW - PM - MECANO - Up to Date - Operations (Core Workbook)    |  | BW_WBK_MECANO_0013 |
| BW - PM - MECANO - Up to Date - Work Orders (Core Workbook)   |  | BW_WBK_MECANO_0012 |
| North America                                                 |  | ZR_RCS_CA_M08      |
| BW - PM Cumulated (year) detailed costs (Core Workbook)       |  | BW_WBK_PM_0001     |
| BW - PM Hours (Core Query)                                    |  | BW_WBK_PM_0004     |
| BW - PM Material consumptions per order (Core Workbook)       |  | BW_WBK_PM_0005     |
| BW - PM Orders list by vendor (Core Workbook)                 |  | BW_WBK_PM_0002     |
| BW - Priority analysis (Core Workbook)                        |  | BW_WBK_PM_0003     |

## 4.0 Functional Specification

### 4.1 General Data/Calculations

This section will approach the concepts/definitions that will be used in all the reports and required to understand the data from the reports.

Could be specific fields, closing activities, additional information to work and understand the reports.

### 4.2 Process Detail

#### 4.2.1. Report/Process Definition

This section represents the process with detail information for the application. Can include specific or special cases, complex logics , calculations, flows, among others.

Main fonctionnalités

Several topics are covered by BEx reports :

- Work Orders with Maintenance Plan
- Work Orders with Equipment
- Notifications by Status and Causes
- Planned and Actual duration on Operations
- Work Orders and Operations by Status and Priority
- Monthly Costs
- Functional Location and Equipment Attributes
- Consumption of Materials on Work Orders
- Work Orders Costs by Vendor
- MTBF (Mean Time Between Failure)
- Backlog on Operations

## 5.0 Non-functional Descriptions

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Please populate the relevant section and delete those that are not applicable.

### 5.1 Usability

Usability is about the ease with which a User can learn to start using the solution and the ease with which they can use the system. In addition to ease of learning and ease of use, usability also includes areas such as ease of recall, error avoidance and handling, accessibility among others e.g., 99% of metadata entry Users who have use the Maintenance Dashboard should be able to change filters, extract etc., when required. Maintenance data will be centrally stored in the Google Cloud platform, which will be available to other applications e.g., and Dashboards if needed.

### 5.2 Regulatory Compliance

Software systems must comply with legal and regulatory e.g., GDPR requirements, this can change depending on country, organisation industry and / or region. The software systems must be secure from unauthorized access. The Maintenance Dashboard will comply with Solvay's regulations and compliance e.g., access only granted to authorized Users.

### 5.3 Security

Security refers to essential aspects that assure a solution and its components will be protected against unauthorized access or malware attacks. Important considerations related to security aspects of a system are User authentication, User authorization or User access privileges, data theft, malware attacks, data encryption, and maintaining audit trails, e.g., only Users with administrator access shall be able to create new accounts and assign data access privileges to the new accounts e.g.,

- All data will be encrypted in the dashboard
- Only authorised Users / Administrative Users will be able to access data.
- Maintenance data will be split between either SCO or ECO, and Users will only have authority to one Entity data.

### 5.4 Performance

Performance defines how fast a software system or a particular section of it responds to certain User actions under a certain workload. In most cases, this metric explains how long a User must wait before the target operation happens e.g., the page renders, a transaction is processed, etc., given the overall number of Users now. Performance requirements may describe background processes invisible to Users, e.g., backup and speed of data transfers.

### 5.5 Reliability

Reliability is the ability of a solution or its component to perform its required functions without failure under predefined conditions for a specified time / period. Reliability can possibly be specified in terms of average time system runs before failure occurs, percentage of operations completed successfully within a time / period, maximum acceptable failure probability, or number of failures within a period. Reliability aspects are in reference to (but not limited to) evaluation of the system to be considered as reliable, classification of reliability defining failures vs. regular failures, and the impact of failure on business operations. The Maintenance Dashboard will display data from the previous refresh of data.

### 5.6 Scalability

Scalability refers to the degree to which a solution can evolve to handle increased amounts of work. The increased amount of work could be in terms of the user base, transactions, data, network traffic, or other factors e.g., the system should be able to handle an additional load of a maximum of 5,000 Users every month for the next 6 months without any noticeable performance impacts.

### 5.7 Compatibility

Interoperability is the degree to which the solution is compatible with other components. It is a measure of how effectively the system interoperates with other software systems and how easily it integrates with external hardware devices.

Interoperability aspects to be discussed during elicitation are in reference to (but not limited to) software systems to be interfaced with along with data / messages to be exchanged and any standard data formats, hardware components to be integrated with, and any standard communication protocols to be followed e.g., Order Management system will push the order file into a secured file transfer protocol server from where it will be loaded into the system through a daily job. To guarantee between Google Cloud platform and SAP BW Queries e.g., BW\_QRY\_MVPMOR01\_0002, Solvay has introduced a new tool called Xtract ([Xtract](#)).

### 5.8 Availability

*Availability is the degree to which the solution is operable and accessible when required. It is a measure of time during which the system is fully operational e.g., available for use and sometimes included as a Service Level Agreement (SLA) considering its criticality to the business, e.g., the system shall be at least 99% available on weekdays between 09:00 to 18:30 Central European Time (CET).*

## **5.9 Refresh of the Data**

*Frequency, data, and time of the data refresh in the data product.*