# WHITE PAPER

## BEST KPIS AND REPORTS FOR THE SAP QM MODULE

OCTOBER 2023





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## **1. Transforming your analytics**

## 1.1. Facing decision-making challenges

"Business Intelligence" which includes decision analytics activities, presents for organizations major challenges which need to address a set of multiple and complex solutions. SAP publisher offers innovative tools which boost the potential of decision making analytics solutions. This is the case with its In-memory HANA solution which answers the problematics of delays and data loading.

Beyond the challenges which BI needs to address, the implementation of an effective and qualitative decision analytics system faces many difficulties. It can be difficult to implement because of the number of stakeholders (publisher, implementation partner, user organization, service providers. Thus the coordination between key users must demonstrate great expectations, and clearly defined requirements gathering. This strategy would avoid the pyramidal construction which would consist in overlapping data as new requirements appear, transforming the data base in a nebula. This phenomenon would worsen the complexity of the environment, making it more difficult to maintain. The course of each data point, firstly within the ERP, then in the data processing phase, and finally in its restitution showcases the complexity of the environment.

To be competitive, organizations must now be able to react in a very limited timeframe, while facing market trends and other variations on the supply channel. For this they must possess reliable, relevant and accessible real time analytical tools. The reliability is based on high quality, centralized, and appropriately consolidated data. As for the relevancy, it is based on the reading of coherent and significant indicators.

#### 1.2. Implementing a high-performing BI

In order to have successful decision analytics, the organization must ensure it follows a number of principles:

- Organizational and documentation rigor: the data sources an data processing layers must be identified and centralized.
- Data quality: the processes within the ERP must be respected to return uniform and reliable databases. The BI post-project acceptance test must also be scripted and prepared.
- Relevancy of analysis: the data aggregation and visuals must supply precise and explicit numbers. A BI report should gather data according to perimeters and axis of analysis to meet the expectations of the target users



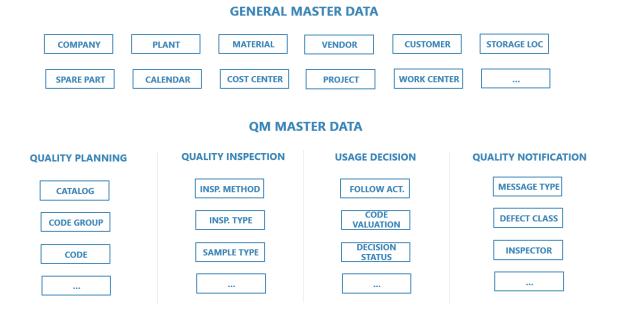
## 1.3. SAP QM Context

The QM (Quality Management) module is a transverse module in SAP, it is very often linked to the other modules (SD, MM, etc.) and concerns quality control. There are 4 main components related to quality:

- Quality planning
- Quality control
- Usage decision
- Quality Reviews

QUALITY PLANNING	QUALITY INSPECTION	USAGE DECISION	QUALITY NOTIFICATION	
INSPECTION PLAN	INSPECTION LOT	USAGE DECISION	INSPECTION MESSAGE	
<ul> <li>✓ Task List</li> <li>✓ Inspection Characteristic</li> <li>✓ Material Plan Assignment</li> <li>✓ Operations</li> <li>✓</li> </ul>	<ul> <li>✓ Inspection Lot</li> <li>✓ Inspection Sample</li> <li>✓ Inspection Sample Unit</li> <li>✓ Characteristic Specification</li> <li>✓ Characteristic Result</li> <li>✓</li> </ul>	<ul> <li>✓ Accept or Reject Decision</li> <li>✓ Stock Posting</li> <li>✓ Activate Notification</li> <li>✓ Follow-Up Action</li> <li>✓</li> </ul>	<ul> <li>✓ Message QM</li> <li>✓ Defect</li> <li>✓ Task</li> <li>✓ Activity</li> <li>✓</li> </ul>	
<ul> <li>✓ Operation Quantity</li> <li>✓ Target / Max / Min Value</li> <li>✓ Nb of calls</li> <li>✓</li> </ul>	<ul> <li>Inspection Lot Quantity</li> <li>Sample Quantity</li> <li>Nb of Valid Samples</li> <li>Nb of Defect Samples</li> <li>Nb Above / Below Limit Value</li> <li>% of NC</li> <li></li> </ul>	<ul> <li>✓ ABC <u>Analysis</u></li> <li>✓ Nb of Decision</li> <li>✓</li> </ul>	<ul> <li>✓ Nb of Defects</li> <li>✓ Return Quantity</li> <li>✓</li> </ul>	

In this module, we have integrated the main SAP dimensions below to analyze the different KPIs of the QM module:





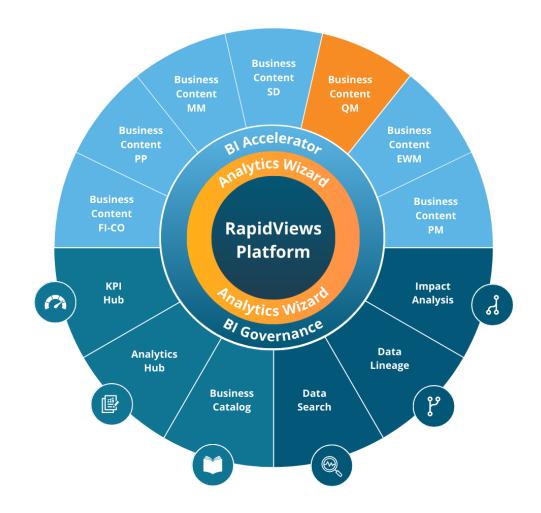
	Quality planning	Quality inspection	Usage decision	Quality notification
Document flow	Inspection Plan	→ Inpection Lot	→ Usage Decision	→ Inspection Message



## 2. Explore the decision analytics with RapidViews

## 2.1. A platform for IT and business users

The RapidViews platform allows you to accelerate, centralize and control your SAP Analytics projects. It offers "BI Accelerator" functionalities, with notably predefined business content on the SAP QM scope, and "BI Governance" features.



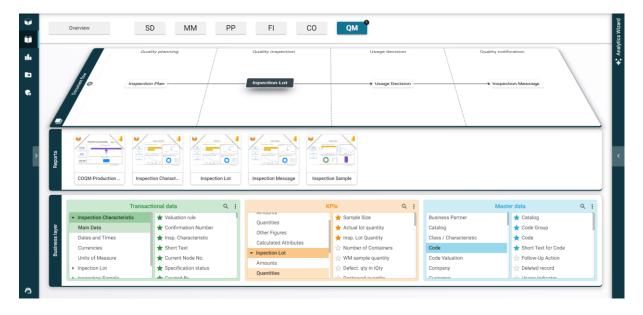
It offers many benefits:

- Accelerate your Analytics project: save time in the deployment and day-to-day of your business intelligence project
- Centralize your Analytics referential: your Analytics knowledge in one single location
- **Reconcile the IT and functional teams:** a tool which allows BI managers, BI developers and business users to work better together
- Efficiently manage your SAP BI: data is growing exponentially, it is ubiquitous, the governance of its analytics contents is fundamental



## 2.1. Functional content

RapidViews provides dashboards and KPIs to track quality activities. All of this functional content is available in a platform and represented by SAP process.





## 2.1.1. QM RapidViews in figures

QM RapidViews includes **40 HANA Views, 40 KPI, 7 pre-defined reports and 10 datamarts.** It covers the following sub-modules:

- Quality Planning
- Quality Inspection
- Quality Notification





#### 2.1.2. QM RapidViews Semantic Layer

- 🖌 🗱 QM
  - > 🦰 Catalog Hierarchy
  - > 📄 Catalog
  - Inspection catalog code groups
  - Code Valuation
  - Defect Class
  - Follow-up action for inspection lot usage decision
  - Inspection lot origin
  - Types of inspection
  - > 🦲 Material
  - Types of notifications
  - Type of movements
  - Location
  - Inspection catalog of selected batchs
  - Storage location
  - > 📄 Supplier Details
  - > 📄 Work center
  - Inspection Features
  - Inspection Lot
  - Inspection Message
  - Inspection Plan
  - Inspection Sample
  - Inspection sample unit

#### 👻 📄 🛛 Catalog

- Catalog
- Catalog Description
- Catalog Keyword

#### 👻 📄 Catalog Hierarchy

- Catalog
- Catalog Description
- Catalog Keyword
- Code Group
- Code Group Description
- Code Group Status
- Code
- Code Description

#### 👻 📄 Defect Class

- Defect Class
- Defect Class Description
- Defect Class Quality Score

#### 🐃 📄 Inspection lot origin

- Inspection Lot Origin
- Inspection Lot Origin Description

#### 👻 📄 Inspection catalog code groups

- Catalog
- Code Group
- Code Group Description
- Code Group Status
- 👻 📄 Code Valuation
  - Code Valuation
  - Code Valuation Description
  - Code Valuation Abbreviation
- 💌 📄 Follow-up action for inspection lot usage decision
  - Follow-Up Action
  - Follow-Up Action Description
- Types of inspection
  - Inspection Type
  - Inspection Type Description
  - Inspection Type Status Profile
  - Inspection Type Control Key
  - Inspection Type Message Type
  - Inspection Type Physical-Sample Type

9



#### 🛛 📄 Material

- Material
- Material Description
- Material Group
- Material Group Description
- Material Type
- Material Type Description
- Material Level 1
- Material Level 2
- Material Level 3
- Material X-plant matl status
- Material X-distr.chain status
- Material Transportation Group
- Material Volume
- Material Net Weight
- Material DF at client level
- Material Delete Date
- Material Industry Description
- Material Product hierarchy
- Material Created on
- Material Batch management
- Material Base Unit of Measure
- Material Weight Unit
- Material Volume Unit

#### 🕶 📄 Location

- Plant
- Plant Name 1
- Plant City
- Plant Region
- Plant Country
- Plant Company Code
- Inspection catalog of selected batchs
  - 🖉 Plant
  - 🕫 Catalog
  - Selected Set
  - Selected Set Desciption

- 👻 📄 Types of notifications
  - Message Type
  - Message Type Description
  - Message Category
  - Message Category Description
  - Message Type Origin Indicator
  - Message Type Report Layout
  - Message Type Number Range
  - Message Type Subscreen Type Header
  - Message Type Subscreen Category Object
  - Message Type Subscreen Type Partner
  - Message Type Partner Determination Procedure
  - Message Type Priority Type
- Type of movements
  - Movement Type Key
  - Movement Type
  - Movement Type Description (Inventory Management)
  - Movement Type Special Stock Indicator
  - Movement Type Special Stock Indicator description
  - Movement Type Movement Indicator
  - Movement Type Movement Indicator description
  - Movement Type Receipt Indicator
  - Movement Type Receipt Indicator description
  - Movement Type Consumption Posting
  - Movement Type Consumption Posting description
  - Movement Type Debit/Credit Indicator
  - Movement Type Debit/Credit Indicator description
  - Movement Type Reversal movement type
  - Movement Type Reversal movement type description

#### 👻 📄 Storage location

- Storage Location
- Storage Location Plant
- Storage Location Description
- Storage Location Negative Stock Indicator
- Storage Location MRP Indicator
- Storage Location MRP Indicator Description



- Supplier Details
  - Vendor
  - Vendor Company Code
  - Vendor Name
  - Vendor Account Group Description
  - Vendor Account Group
  - Vendor Street
  - Vendor District
  - Vendor City
  - Vendor Region
  - Vendor Country
  - Vendor Deleted Flag
  - Vendor Postal Code
  - Vendor Payment methods
     Vendor Payment Terms
  - Vendor Clrk's internet add.
- Inspection Features
  - Batch Number
  - ✓ Catalog
  - ✓ Code
  - Code Group
  - Defect Class
  - Delivery Schedule Line
  - Inspection Actual End Date
  - Inspection Actual End Time
  - Inspection Actual Star tDate
  - Inspection Actual Start Time
  - Inspection Characteristic Description
  - Inspection Characteristic Number
  - Inspection Confirmation Number
  - Inspection End Date
  - Inspection Lot Number
  - Inspection Lot Origin
  - Inspection Result Valuation
  - Inspection Type
  - Inspector Name
  - Lot Creation Date
  - Lot Creator Name
  - Material Document Item
  - Material Document Number
  - Material Document Posting Date
  - Material Document Year
  - Material Number
  - Max Value Limit
  - Max Value Measured
  - Median Value Measured
  - Min Value Limit
  - Min Value Measured
  - Movement Type
  - Object CIM Ressource
  - Object Category
  - Object Number
  - Ørder Number
  - Ørder Operation Description
  - Order Operation Number
  - Order Routing Number

#### 🕙 📄 🛛 Work center

- Work Center Object Type
- Work Center Object ID
- Work Center
- Work Center Description
- Work Center Category Description
- Work Center Standard value key
- Work Center Control Key
- Work Center Usage
- Work Center Machine Type
- Work Center Plant
- Work Center Pers. Responsible. Desc.
- Percentage of NC Sample Units
- Plant
- Profit Center
- Purchasing Document Item
- Purchasing Document Number
- Purchasing Organization
- Sample Unit of Measure
- Result Record Creation Date
- Result Record Creator Name
- Result Record Status
- Result Record Time
- Special Stock Ind.
- Specification Record Creation Date
- Specification Record Creator Name
- Specification Record Status
- Standard Deviation
- Storage Bin
- Storage Location
- Storage Type
- Supplier
- Target Value
- Task List Group
- Task List Group Counter
- Task List Internal Counter
- Task List Type
- Task List Usage
- Valuation Rule
- Value Unit of Measure
- Vendor Batch Number
- WBS Element
- Warehouse Number

Nb of Partial Samples

Qty Per Sample Unit

Nb of Recorded Samples

Nb of Inspected Samples

Nb of Defected Samples

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Nb of Valid Partial Samples

Nb of Above Max Limit Measures

Nb of Below Min Limit Measures

11

Sample Size To Be Inspected



- 👻 📄 Inspection Lot
  - Batch Number
  - Catalog
  - Code
  - Code Group
  - Code Valuation
  - Delivery Schedule Line
  - Follow-up Action
  - Inspection End Date
  - Inspection Lot Number
  - Inspection Lot Origin
  - Inspection Start Date
  - Inspection Type
  - Lot Creation Date
  - Lot Creator Name
  - Material Document Item
  - Material Document Number
  - Material Document Posting Date
  - Material Document Year
  - Material Number
  - Movement Type
  - Object Category
  - Object Number
  - Ørder Number
  - Ørder Routing Number
  - Plant
  - Profit Center
  - Purchasing Document Item
  - Purchasing Document Number
  - Purchasing Organization
  - Quantity Unit of Measure
  - Sample Unit of Measure
  - Selected Set
  - Special Stock Ind.
  - Storage Bin
  - Storage Location
  - Storage Type
  - Supplier
  - Task List Group
  - Task List Group Counter
  - Task List Internal Counter
  - Task List Type
  - Task List Usage
  - Usage Decision Creator Name
  - Usage Decision Date
  - Usage Decision Time
  - Vendor Batch Number
  - WBS Element
  - Warehouse Number
  - Inspection Lot Quantity
  - Actual Lot Quantity
  - Sample Quantity

#### 👻 📄 Inspection Message

- Batch Number
- Catalog Type
- Code
- Code Group
- Declarant Name
- Default Exist Flag
- Defect Class
- Inspection Characteristic Number
- Inspection End Date
- Inspection Lot Number
- Inspection Lot Origin
- Inspection Start Date
- Inspection Type
- Lot Creation Date
- Lot Creator Name
- Material Number
- Message Completion Date
- Message Completion Time
- Message Creation Date
- Message Creator Name
- Message Date
- Message Item Creation Date
- Message Item Creation Time
- Message Item Creator Name
- Message Item Number
- Message Item Short Text
- Message Number
- Message Reference Date
- Message Reference Time
- Message Short Text
- Message Time
- Message Type
- Object CIM Ressource
- Object Number
- Ørder Number
- Order Operation Number
- Ø Order Routing Number
- / Plant
- Qty Unit of Measure
- Requested End Date
- Requested End Time
- Requested Start Date
- Requested Start Time

Supplier Batch Number

Task List Group Counter

Task List Internal Counter

Return Delivery Quantity

12

Routing Number

Task List Group

Task List Type

Task List Usage

Version Number
 General Reference Quantity

Number of Defects

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Sample Number

SupplierTask Exist Flag



Inspection Plan

- Catalog
- Characteristic Type
- Code Group
- Control Key
- Dynamic Modif Rule
- Inspection Characteristic Descriptic
- Inspection Characteristic Number
- Inspection Characteristic
- Inspection Point
- Last Call Date
- Material Number
- Max Limit Value
- Min Limit Value
- Number of Call
- Operation Base Quantity
- Ø Operation Description
- Ø Operation Number
- Plant
- Quantity Unit of Measure
- Ø Object ID
- Sampling Procedure
- Target Value
- Task List Creation Date
- Task List Creator Name
- Task List Description
- Task List Group
- Task List Internal Counter
- Task List Node
- Task List Number
- Task List Start Validity Date
- Task List Status
- Task List Type
- 🖊 Task List Usage
- Text Information 1
- Text Information 2
- Text Information 3
- Value Unit of Measure

#### Inspection Sample

- Batch Number
- ✓ Calalog
- ✓ Code
- Code Group
- Defect Class
- Delivery Schedule Line
- Inspection Actual End Date
- Inspection Actual End Time
- Inspection Actual Start Date
- Inspection Actual Start Time
- Inspection Characteristic Description
- Inspection Characteristic Number
- Inspection End Date
- Inspection Lot Number
- Inspection Lot Origin
- Inspection Result Valuation
- Inspection Start Date
- Inspection Type
- Inspector Name
- Lot Creation Date
- Lot Creator Name
- Material Document Item
- Material Document Number
- Material Document Posting Date
- Material Document Year
- Material Number
- Max Limit Value
- Max Value Measured
- Median Value Measured
- Min Limit Value
- Min Value Measured
- Movement Type
- Object CIM Ressource
- Object Category
- Ø Object Number
- Ørder Number
- Order Operation Description
- Ørder Operation Number
- Ørder Routing Number
- Percentage of NC Sample Units
- Profit Center
- Purchasing Document Item
- Purchasing Document Number

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- Purchasing Organization
- Quantity Unit of MeasureQuantity to be Inspected
- Result Record Creation Date
- Result Record Creator Name
- Result Record Status
- Result Record Time
- Results Record Attribute
- Sample Number
- Sample Unit of Measure
- Special Stock Ind.
- Specification Record Creation Date
   Specification Record Creator Name
- Specification Record Status
- Standard Deviation
- Standard Devia
   Storage Bin
- Storage Location
   Storage Type

Task List Group

Task List Type

Task List Usage

Valuation Rule

WBS Element

Task List Group Counter

Task List Internal Counter

Value Unit of Measure

Vendor Batch Number

Warehouse Number

Sample Size to be Inspected

- Nb of Recorded Samples

Nb of Inspected Samples

Nb of Defected Samples
 Nb of Above Max Limit Measures

Nb of Below Min Limit Measures

13

SupplierTarget Value



- 📄 Inspection sample unit
  - Batch Number
  - Calalog
  - Code
  - Code Group
  - Defect Class
  - Delivery Schedule Line
  - Inspection Actual End Date
  - Inspection Actual End Time
  - Inspection Actual Start Date
  - Inspection Actual Start Time
  - Inspection Characteristic Description
  - Inspection Characteristic Number
  - Inspection End Date
  - Inspection Lot Number
  - Inspection Lot Origin
  - Inspection Result Valuation
  - Inspection Start Date
  - Inspection Type
  - Inspector Name
  - Lot Creation Date
  - Lot Creator Name
  - Material Document Item
  - Material Document Number
  - Material Document Posting Date
  - Material Document Year
  - Material Number
  - Max Limit Value
  - Min Limit Value
  - Movement Type
  - Object CIM Ressource
  - Object Category
  - Ø Object Number
  - Ørder Number
  - Order Operation Description
  - Order Operation Number
  - Order Routing Number
  - Plant
  - Profit Center
  - Purchasing Document Item
  - Purchasing Document Number
  - Purchasing Organization
  - Result Record Creation Date
  - Result Record Creator Name
  - Result Record Time

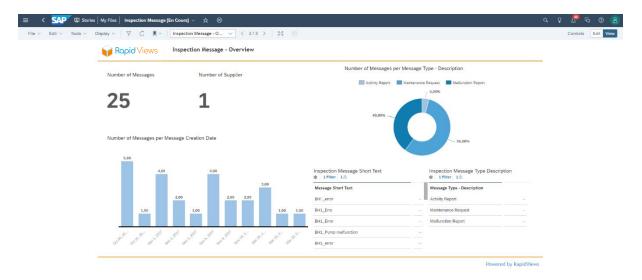
- Results Record Attribute
- Sample Number
- Sample Unit
- Sample Unit of Measure
- Special Stock Ind.
- Specification Record Creation Date
- Specification Record Creator Name
- Specification Record Status
- Storage Bin
- Storage Location
- Storage Type
- Supplier
- Target Value
- Task List Group
- Task List Group Counter
- Task List Internal Counter
- Task List Type
- Task List Usage
- Valuation Rule
- Value Unit of Measure
- Vendor Batch Number
- WBS Element
- Warehouse Number
- Sample Size to be Inspected
- Measured Value



## 3. QM RapidViews : report example



#### **Inspection Message Overview**





## 4. Technical content

In practice, the Business Content RapidViews QM takes the form of pre-modeled data cubes that are installed in client environments (development, testing, production). A reporting layer is then added for KPI visualization.

Several technologies support the Business Content RapidViews QM data cubes, including SAP Datasphere, SAP HANA, S/4HANA, ECC on HANA, and SAP HANA Cloud.

Furthermore, the primary reporting tools in the market are compatible with RapidViews QM, including SAP Analytics Cloud, Power BI, SAP BO, Tableau, Qlik Sense, DigDash, and more.

RapidViews products thus complement the entire chain of decision data processing within an organization:

Data Reading, Targeting, and Organization	RapidViews Cubes	
Data Processing: Scope, Calculations, Aggregations	• RapidViews Cubes	
Real-time Data Presentation	<ul> <li>Visualization Interfaces (Power BI, Tableau, Qlik) Catalog of Pre-designed RapidViews Reports</li> </ul>	
Maintenance and Control	<ul> <li>BI Governance features</li> </ul>	



