Functional Template - Quality Management 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 BW QM - Quality Management application regroups all the reports that are based on QM module from SAP and more particularly :

- Quality Results
- Statistical extraction for Minitab

Application User Profile

Describe the key User profiles that exist for the application.

General role/Viewer role:

Approver role:

Target Users:

As examples: Controllers / Accountants

VERSION	DATE	MODIFIED BY	DESCRIPTION
0.01	12/05/2023	Abidemi Raji	Initial draft

Application Type

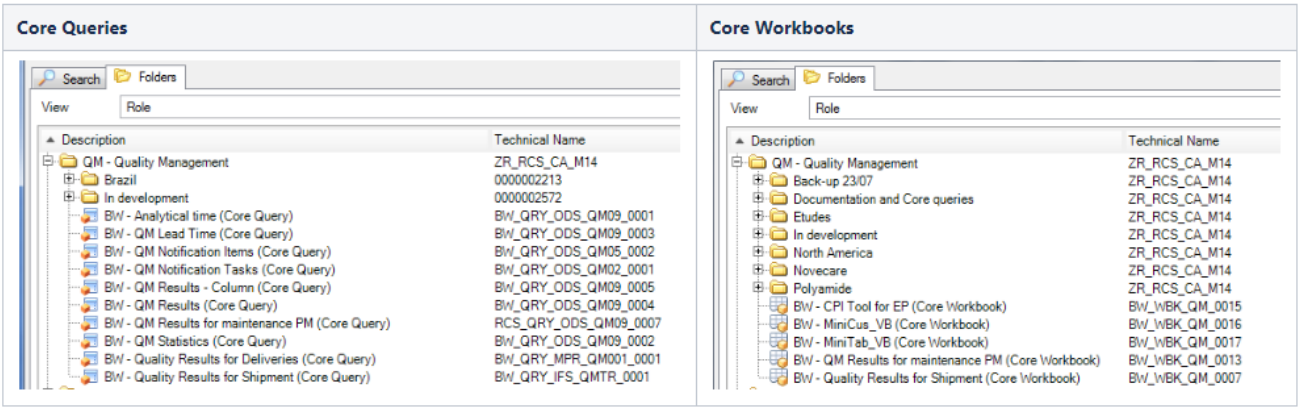
Data Product Type	☐ Dashboard ☐ Report ☐ Advanced analytics ☐ AI ☐ Others <specify which one>
Technologies	☐ BW ☐ Tableau ☐ Qliksense ☐ Talend ☐ Dataiku ☐ Others <specify which one>
Data Sources *Note: list of all applications and various environment*	☑ SAP PF1 (Production environment) ☑ SAP WP1 ☐ SAP PI1 ☐ BW (versions) ☐ iCare CRM ☐ CORE CRM ☐ Others <specify the name of the source>

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

3.0 Application Feature Overview

Information about the existent Workbooks and the respective BW queries.



1. BW - MiniCus_VB (Core workbook)

BW Server	WBP
Application	QM - Quality Management
Query Name	BW - MiniCus_VB (Core workbook)
Query Technical Name	BW_WBK_QM_00
Core/Specific Scope	Core
Specific Reason	
Provider Name	MVQM01
Usage type	Direct execution from Analysis as interface for MiniTab
Expected users	Quality Manager, Quality Lab. Manager, Process Manager

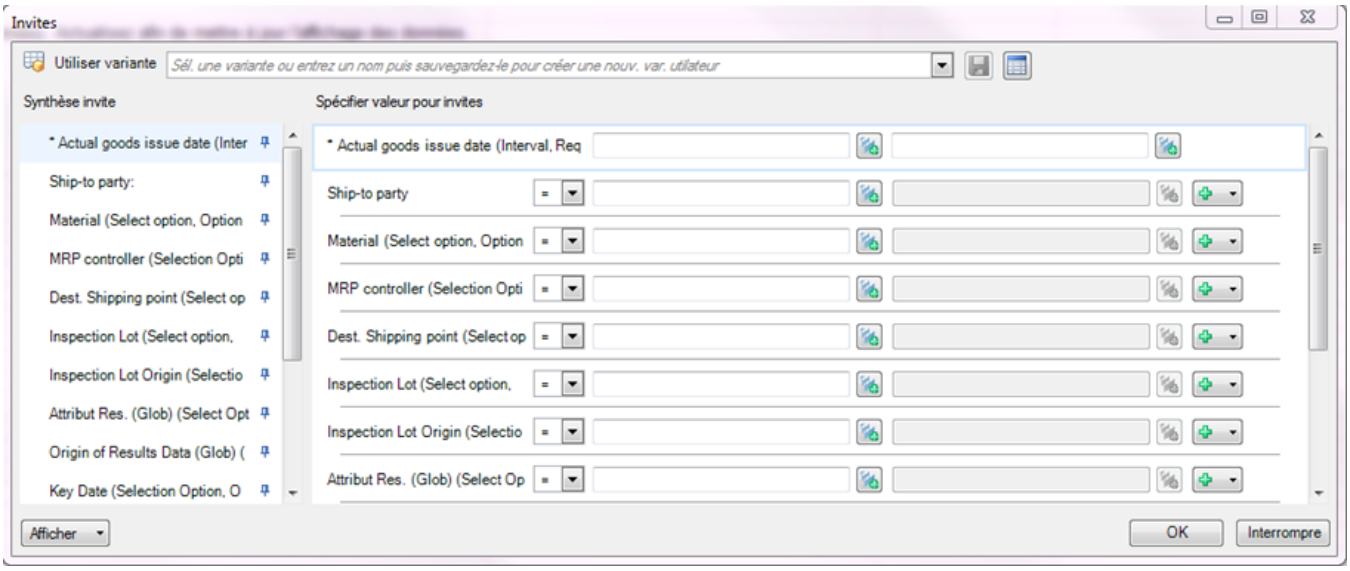
Purpose of this query

This report display detailed results by material, with usage decision or by shipments. Detailed analysis by characteristic / material is possible
Result can be transfer to **Minitab** tool for statistical purpose

Variables screen

On BW :

Variable Name	Authorization Object	Description
Plant	Yes	
Actual goods issue date	No	Select a period range



2. BW - MiniTab_VB (Core workbook)

Basic Information

BW Server	WBP
Application	QM - Quality Management
Query Name	BW - MiniTab_VB (Core workbook)
Query Technical Name	BW_WBK_QM_0017
Core/Specific Scope	Core
Specific Reason	
Provider Name	MVQM01
Usage type	Direct execution from Analysis as interface for MiniTab
Expected users	Quality Manager, Quality Lab. Manager, Process Manager

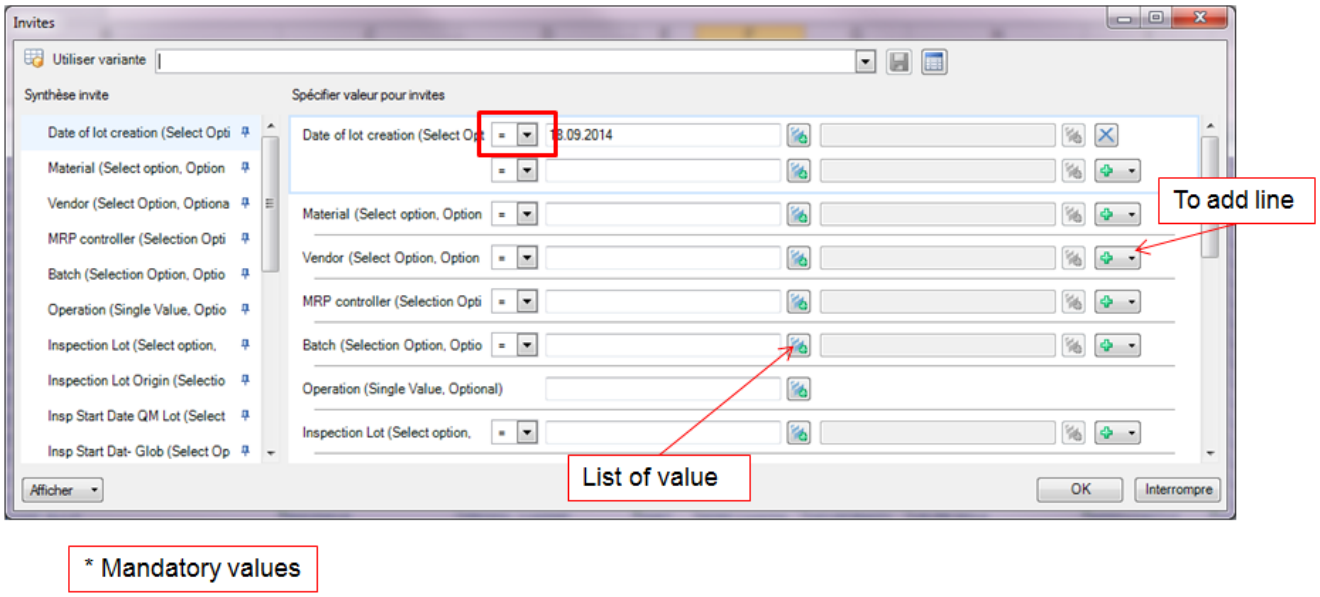
Purpose of this query

This report display detailed results by material, with usage decision or by shipments. Detailed analysis by characteristic / material is possible
Result can be transfer to **Minitab** tool for statistical purpose

Variables screen

On BW :

Variable Name	Authorization Object	Description
Plant	Yes	
Date of lot creation	No	For select a period, change “=” to “[ ]”



* Mandatory values

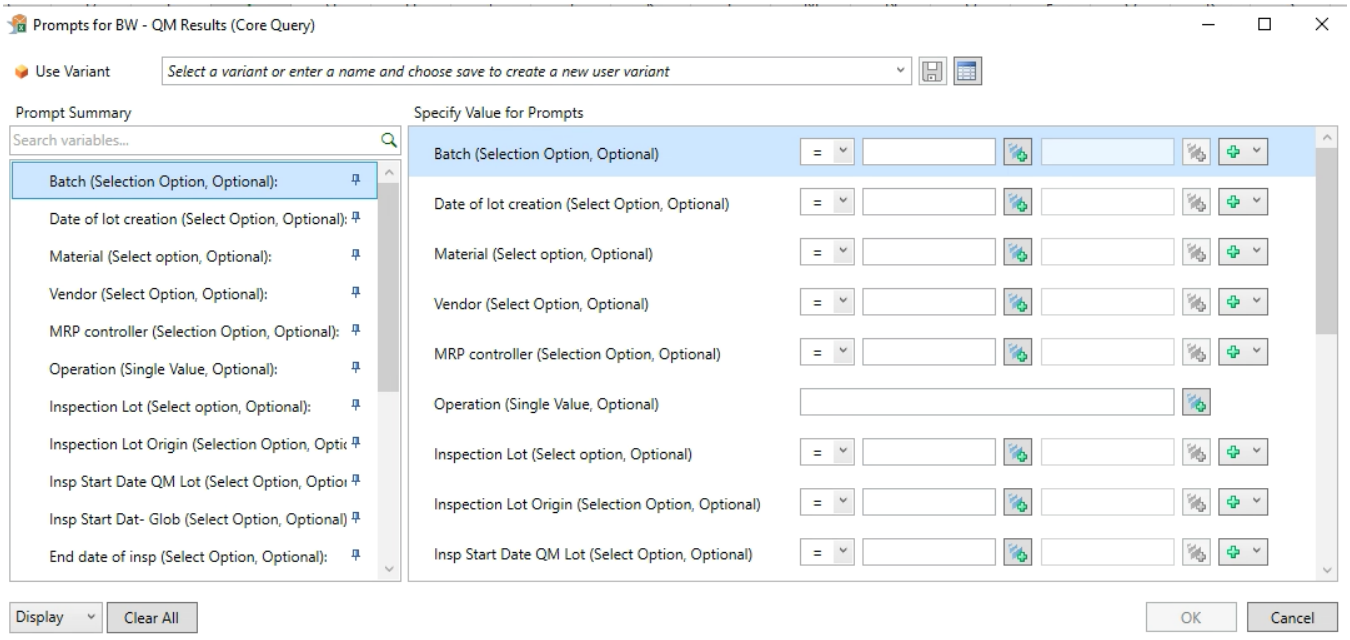
3. BW - QM Results

Basic Information

BW Server	WBP
Application	QM - Quality Management
Query Name	BW - QM Results (Core Workbook)
Query Technical Name	BW_WBK_QM_0003
Core/Specific Scope	Core
Specific Reason	
Provider Name	
Usage type	Direct Execution in Analysis
Expected users	Process Manager, Quality Lab. Manager, Production Manager

	Document type : Indicator file	
	Reference : QM Results	Page : 1 on 1
BW - QM Results (Core Query)		**BW_QRY_ODS_QM09_0004**

Definition	Qurey's prompt
Limites, Quantitative and qualitative results of the Quality inspections.	**Plant** (Select Opt, Required) Date of lot creation (Select Option, Optional) Material (Select option, Optional) MRP controller (Select option, Optional) Operation (Single value, Optional) Inspection Lot (Select option, Optional) Insp Start Date QM Lot (Select Option, Optional) Insp Start Dat- Glob (Select Option, Optional) End date of insp (Select Option, Optional) Date Usage Decision (Select Option, Optional) Task list group (Select. option, Optional) Insp. chart text (Select Option, Optional) Date of Manufacture (Select Option, Optional) Key Date (Interval / Optional)



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

Domain	<insert name>
Application	>insert name>
Provider	<insert name>
Existing Documentation	<insert link>

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

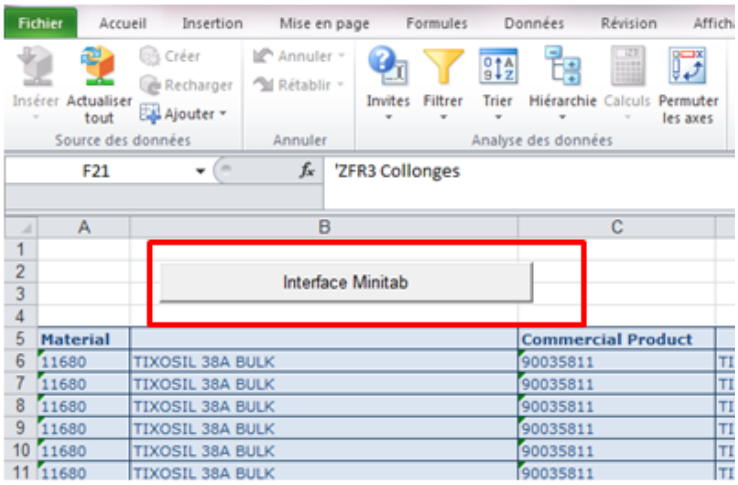
Basic Information

BW Server	WBP
Application	QM - Quality Management
Query Name	BW - QM Results (Core Workbook)
Query Technical Name	BW_WBK_QM_0003
Core/Specific Scope	Core
Specific Reason	
Provider Name	
Usage type	Direct Execution in Analysis
Expected users	Process Manager, Quality Lab. Manager, Production Manager

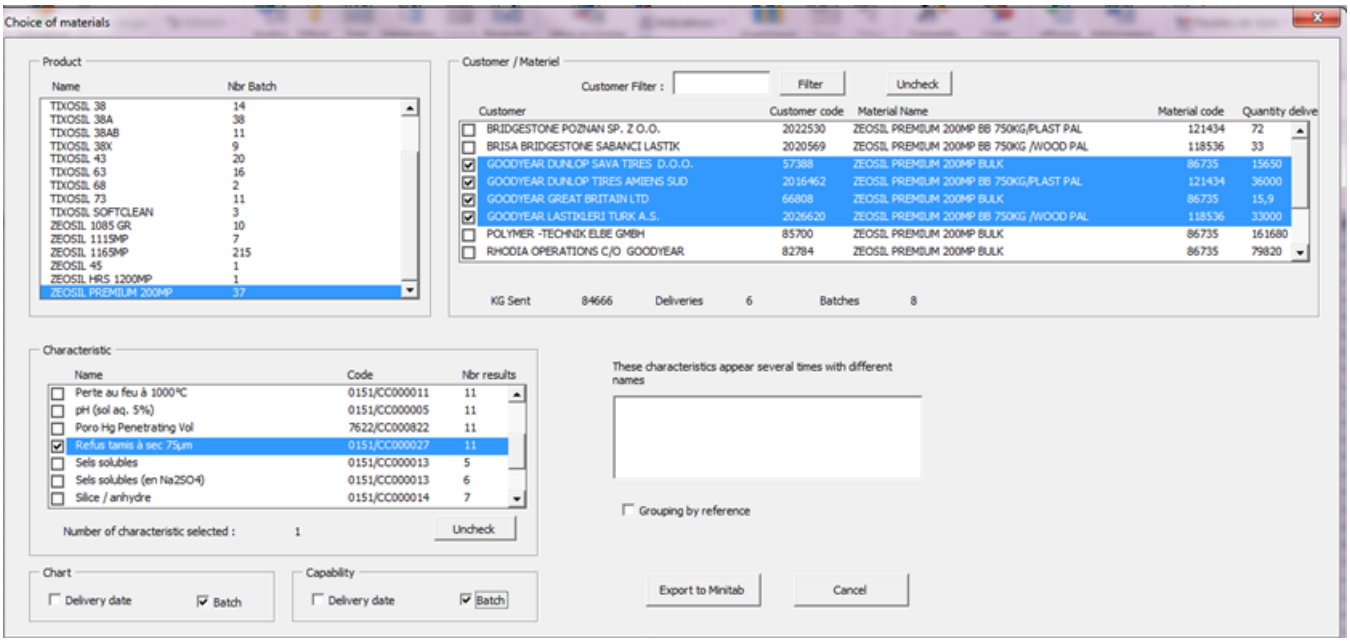
1. BW - MiniCus_VB (Core workbook)

MINITAB INTERACTION

1/ Click on “Interface Minitab”Interface with MiniTab



2/ Complete the selection screen:



3/ Select :

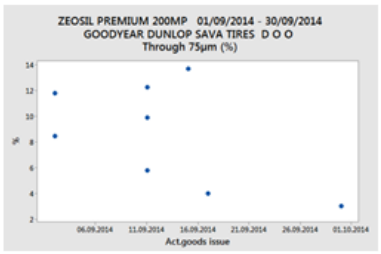
- Product
- Materials
- Characteristic
- **Choose a Chart and a Capability type** (Delivery date or Batch)

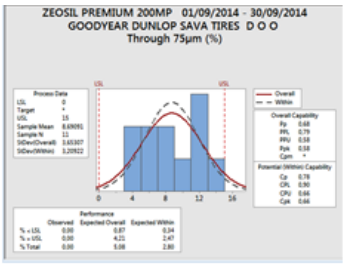
4/ Click on “Minitab export”

5/ You can follow the progress of the extraction at the bottom of the screen

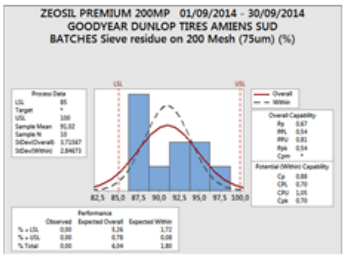
6/ MiniTab will open automatically . You'll get 5 graphs

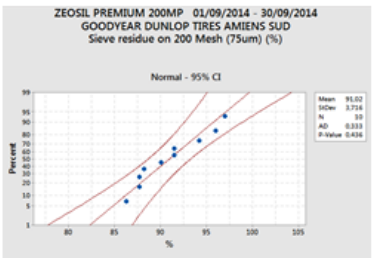
Delivery date

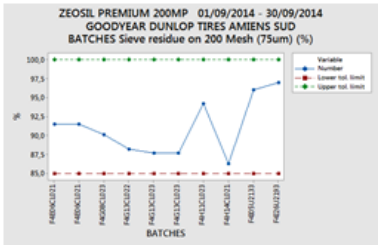




Batch





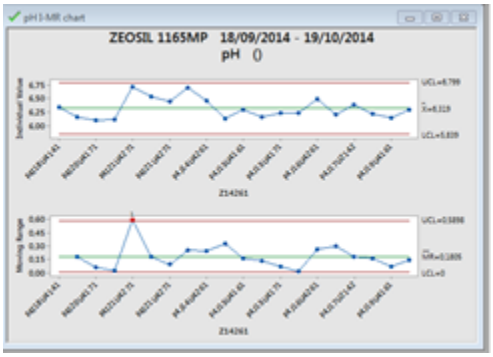


Glossary of statistical data

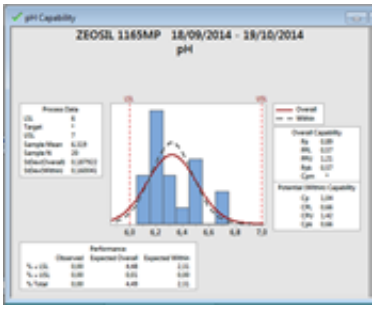
I-MR Chart

- Individual Value = Control Chart

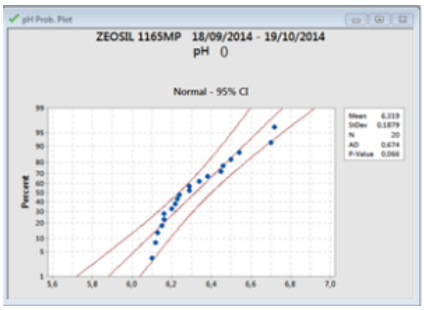
- Moving range = interval between 2 values



Capability indices

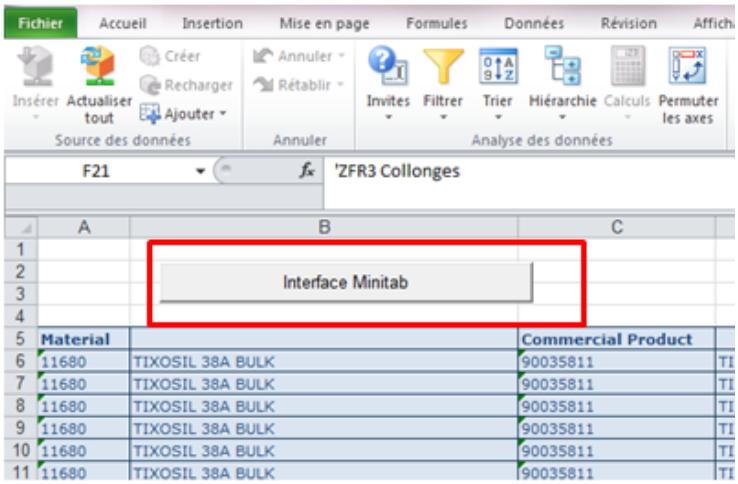
	Cp	Potential level of performance that your process obtain, if all special causes were eliminated. (> 1,33)
	Pp	Actual capability of your process, or how your process is actually performing relative to the specification limits. (> 1,33)
	CPL	Measures how close the process mean is running to the lower specification limit.
	CPU	Measures how close the process mean is running to the upper specification limit.
	Cpk	Equals the lesser of CPU and CPL.

Probability Plot

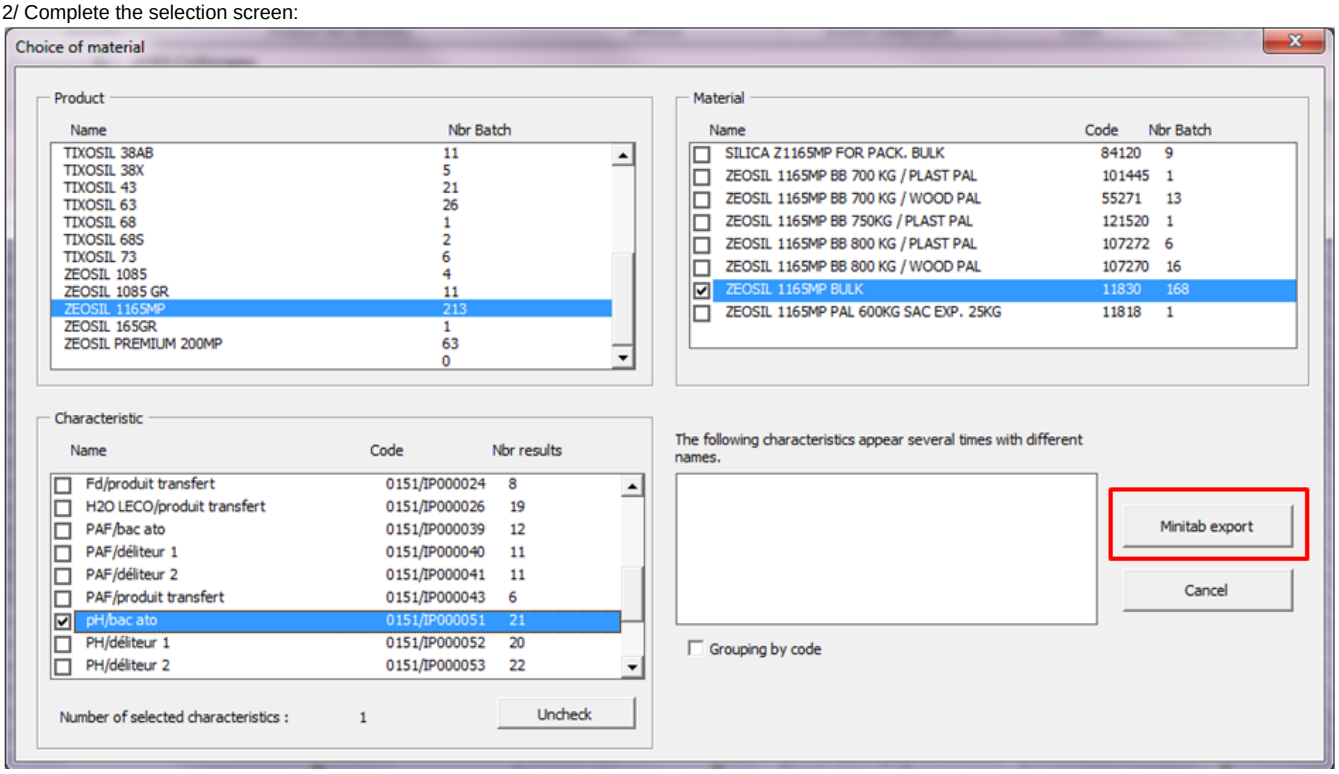
	Points	Estimated percentiles for corresponding probabilities of an ordered data set.
	Middle lines	The expected percentile from the distribution based on maximum likelihood parameter estimates. If the distribution is a good fit for the data, the points are close to the middle line.
	Left lines and right lines	Formed by connecting the lower bounds of the confidence intervals for the percentiles. Similarly, the right line is formed by connecting the upper bounds of the confidence intervals for the percentiles. If a distribution is a good fit, the points fall within these bounds.
	Anderson-Darling test statistics with corresponding p-values	Use to assess whether your data follow the specified distribution.

2. BW - MiniTab_VB (Core workbook) Interaction with Minitab

1/ Click on “Interface Minitab”Interface with MiniTab



2/ Complete the selection screen:



3/ Select :

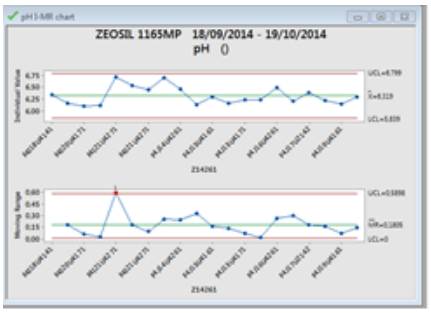
- Product
- Materials
- Characteristic

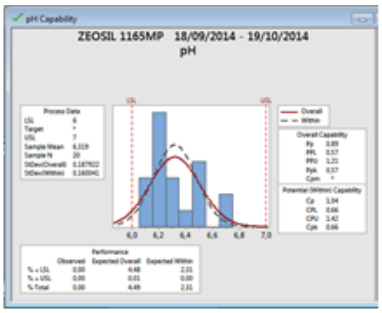
4/ Click on “Minitab export”

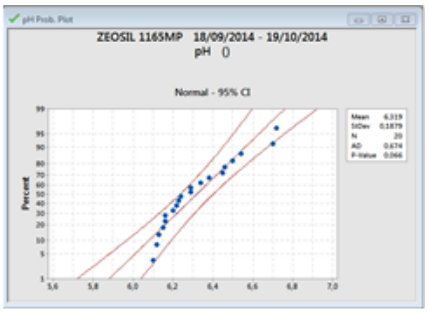
Remark : you are limited to 39 characteristics.

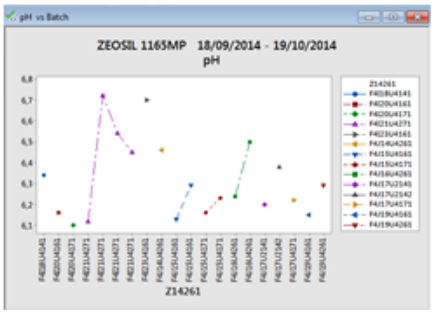
5/ You can follow the progress of the extraction at the bottom of the screen

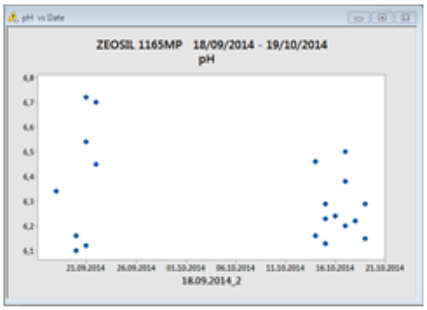
6/ MiniTab will open automatically  . You'll get 5 graphs











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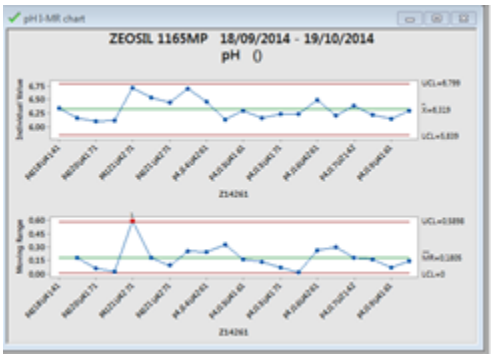
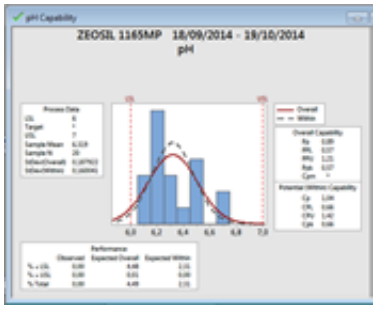


Capability indices

	Cp	Potential level of performance that your process obtain, if all special causes were eliminated. (> 1,33)
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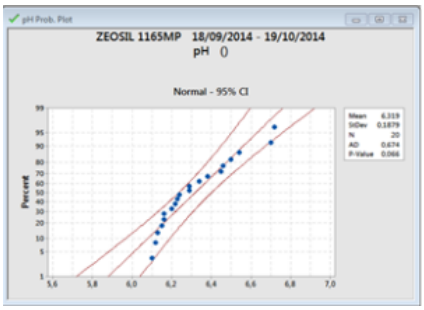
Probability Plot

	Points	Estimated percentiles for corresponding probabilities of an ordered data set.
	Middle lines	The expected percentile from the distribution based on maximum likelihood parameter estimates. If the distribution is a good fit for the data, the points are close to the middle line.
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	Anderson-Darling test statistics with corresponding p-values	Use to assess whether your data follow the specified distribution.

5.0 Non-functional Descriptions

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.