5. **Functional Specification**

1. **Functional Description**

Business requirement:

By standard, Inspection lot is generated when an order is released, and inspection points are generated for header technical object in the maintenance item, as well as for each technical object in the object list.

The requirement is to have the possibility to generate inspection points:

- only for the item header technical object, excluding the technical objects in the object list
- only for technical objects in the item Object list, excluding the header technical object.

The trigger for the enhancement is the inspection point type in the header of the task list.

- Inspection points 300 and 310 are standard ones, and trigger inspection points generation for the header technical object in the maintenance item, as well as for each technical object in the object list.
- Inspection points 930 and 931 are Lonza-specific, and trigger inspection points generation for maintenance item header technical object only.
- Inspection points 932 and 933 are Lonza-specific, and trigger inspection points generation for the maintenance item object list only.

For each inspection point, the inspection characteristics are assigned from the tasklist (inspection characteristics generation remains standard and not affected by the enhancement).

The following Lonza-specific inspections points will be added via the standard configuration process:

FieldComb.	Short text
930	Insp. points for Equip - Header tech obj
931	Insp. points for Func - Header tech obj
932	Insp. points for Equip - without hdr obj
933	Insp. points for Func - without hdr obj

Proposed Logic:

When order is released the Inspection lot generation is triggered. BadI BADI_QAPG_CHECK_TECH_OBJ is called to define the technical object list. The inspection points are created based on the technical object list generated from BADI. The technical object list needs to be modified in BADI based on the inspection point configured in task list.

Case 1: If PLKO-SLWBEZ = “930’ and “931”, only the header level technical object must be returned using the standard function module IWOL_GET_OBJECT_LIST_ALL where AUFNR = order number. Using this FM, all the Technical object list is considered and then the technical objects from the object list are deleted by comparing with the header level technical object which is fetched from the select query by passing the work order number and only the Header level technical objects are considered and returned

Case 2: If PLKO-SLWBEZ = “932” and “933”, only the object list technical object must be returned using the standard function module IWOL_GET_OBJECT_LIST_ALL where AUFNR = order number. Using this FM, all the Technical object list is considered and then the

technical objects from the header level are deleted by comparing with the header level technical object which is fetched from the select query by passing the work order number and only the object list technical objects are considered and returned.

Case 3: If PLKO-SLWBEZ != “930” or “931” or “932” or “933”, then all the Technical object list are returned using the standard function module IWOL_GET_OBJECT_LIST_ALL where AUFNR = order number.

This enhancement is only applicable to orders that are connected to inspection types.

IF QALS-ART = ‘14’ (Plant Maintenance) where QALS-AUFNR = AFKO-AUFNR, then this enhancement is applied.

Otherwise, IF QALS-ART = ‘blank’ where QALS-AUFNR = AFKO-AUFNR, then this enhancement is skipped.

In the current ECC system, the following enhancements are implemented to satisfy this requirement:

Enhancement Class: ZCL_ENH_I_QAPG_CHECK_TECH_OBJ
Method: IF_EX_QAPG_CHECK_TECH_OBJ~GET_TECH_OBJECT

2. Flow Diagram

N/A

3. Unit Testing

Test step	**Expected Result**

1. Release an order where the inspection point assigned is 930 or 931	Inspection point is generated for the header technical object only
2. Release an order where the inspection point assigned is 932 or 933	Inspection points are generated for the technical objects in the object list only
3. Release an order where the inspection point is 300 or 310	Inspection points are generated for all the technical objects in the header and in the object list
4. Release an order without inspection lot assignment in customizing	No action, enhancement is ignored.

6. Design Specification

1. Configuration

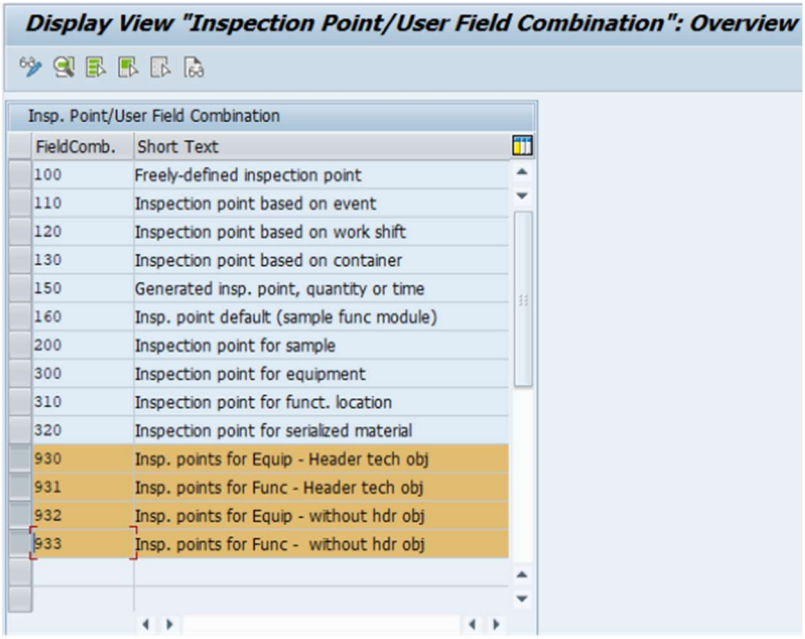
1. Configuration reference

Configuration path (IMG, table, ...)	SIMG -> Logistics General -> Product Lifecycle Management (PLM) -> Quality Management -> Quality Planning -> Inspection Planning -> General -> define Inspection Points

Values to be configured:

FieldComb.	**Short text**
930	Insp. points for Equip - Header tech obj
931	Insp. points for Func - Header tech obj
932	Insp. points for Equip - without hdr obj

933	Insp. points for Func - without hdr obj



1. **Purpose of configuration**

2. **Workflow**

1. **Technical Reference**

<<< Technical Object References (class, program, t-code, ...) >>>

Object Name	Object Type	Object Description

2. **Flow Diagram**

<<< Please provide the technical process flow diagram >>>

3. Steps Description

<<< Process steps should be descriptive in nature. The aim of the process step is to describe the overall technical process >>>

4. Technical Details

Trigger Mechanism	Mention the start condition for the workflow, e.g. on creation of a purchase document, batch program etc.
Start Condition	Example – The workflow should start only for certain document type, workflow should start only if credit amount is greater than 250000 etc.
Business Object	Mention the business object, if possible. Otherwise indicate the object in general terms (e.g., Purchase Requisition)
Standard Workflow Task / Template	In case of enhancement required for delivery workflow is required.
Level of Approval Required	
Agent Determination Technique	Role - Security Role Org Unit - HR Org Structure Custom Table - Agents in custom table Distribution Lists

	Unspecified - To be decided in Functional Specification Other <use to elaborate on a selection of "Other"> If the agent determination technique is different for each foreground step then please repeat this section.
Mention Logic for Agent Determination (if any)	
Notification Destination	Internal User (Mail Inbox) External User (email address)
Workflow Notifications Text	If any specific work item text/work item subject to be used.
Escalation Handling (if any)	If any deadline monitoring is to be done. Example: If approver does not approve for 3 business days notify his supervisor.
Integration with Portal	
Configuration Dependencies	Example setting up a new organization structure.
Error Handling (if any)	An exception situation could occur if workflow routes to a one position is vacant/not available (i.e. no user is assigned to that position.) If a specific report or additional information is required. Add attachment if necessary.
Substitution	

5. **Authorization**

<<< Explain which roles should be added or used to approve/reject and execute workflow items. Enter any custom authorization required >>>

No	Business Catalog	Authorization Parameter	Parameter Value

3. **Report**

1. **Technical Reference**

<<< Technical Object References (class, program, t-code, ...) >>>

Object Name	Object Type	Object Description

2. **Selection Screen Details**

<<< The functional designer should be able to detail exactly what he/she wants at the selection screen merely by using this table. The programmer will be able to construct the screen directly from the details in this table. Some technical knowledge will be needed for the complete production of this table>>>

Name	Type	Parameter or Select Option	Comments (Range, Single/Multiples selections, Patterns Mandatory etc.)	Default Value
	Table-Field Check Box Radio Button with Group	Parameter Select Option		
	Table-Field Check Box Radio Button with Group	Parameter Select Option		

3. **Desired Screen Design**

<<< Enter attachment if necessary >>>

4. **Technical Details**

<<< Information like relevant database tables, data retrieval logic, type of report like (simple list report or ALV), sorting order, detail functionality, other display attributes, special interaction on clicking one or more columns etc. can mentioned here >>>

5. **Starting Conditions**

<<< When should the report be run? Does an interface need to be run before the report is valid, and (more commonly), should it be a batch only program (with added security) or is it needed on-line as well?

E.g. 'This program will be run after month-end billing.

E.g. 'This program will be run each time a sales order is saved >>>

6. Data Mapping Tables

<<< List of all the fields along with their details are to be mentioned here. Look and feel wise, a desired report design can also be specified here >>>

Field Name	Field Description	Output Length	Output Type	Format	Position	Screen No / Field Name

7. Report Example

<<< Use Attachment if necessary >>>

8. Authorization

<<< Explain which roles should be added or used for these reports. Enter any custom authorization if required >>>

No	Business Catalog	Authorization Parameter	Parameter Value

4. Interface

1. Technical Reference

<<< Technical Object References (class, program, t-code, ...) >>>

Object Name	Object Type	Object Description

2. Technical Details

Interface Name	
Direction (with respect to this system)	Inbound Outbound other If other, please specify exactly
Interface Type	Batch near real-time real-time other If other, please specify exactly
Interface Frequency	Hourly Details: Daily Details: Weekly Details: Monthly Details: Quarterly Details: Yearly Details: On-Demand Details: Other Details:
Type of Records Sent	Delta Fields Delta full-record other If other, please specify exactly

Volume (per single execution)	Average Volume: <Volume> records per interface execution Peak Volume: <Lower Volume – Upper Volume>

3. Flow logic

<<< Please explain any flow logic, calculations, rules, etc.. that should be implemented in this interface >>>

4. Interface Data Layout

<<< Please list the source and destination data elements, plus any mapping that will be required for this interface. If IDOC, include segment name in structure column. Excel matching this format can be attached in place of this table. >>>

Source Structure	Source Field	Description	Data Type	Length	Transformation	Target Structure	Target Field	Description	Data Type	Length	Mand / Opt.	Comments/Remarks

5. Mapping Rules & Conversion Criteria

<<< This section should contain any additional mapping rules and conversion criteria not covered in the previous section. >>>

6. Special Case: Bi-Directional Real-Time Interface

<<< If you know this interface will be a bi-directional real-time interface (i.e. the "Source" system sends and receives data in the same execution), then a second data mapping is required. If applicable, duplicate the table from Section 4.4.4 and capture the "return data" mapping rules for the "Source" system >>>

7. Sample Data

<<< Please provide two attachments of sample source data with the expected target data after this interface is executed. Please supply the sample data in the native format or .csv, and preferably zipped >>>

8. Data Retention

<<< In file based interfaces a "backup" copy of interface data can be retained in the middleware for each execution. This can be useful for reconciliation purposes. Please indicate the retention period for this interface. If not file based, then the source or target system must fill any data retention requirements >>>

Selection		Comments
	None	
	7 Days	
	15 Days	
	30 Days	
	Other	

9. Middleware Solution

<<< This section should contain an outline of the chosen middleware solution and the processes involved. Middleware specific configuration should be specified >>>

10. Interface Scheduling

<<< Please describe any requirements around the timing of this interface >>>

11. Authorization

<<< Explain which roles should be created / added or users / IT for reprocessing errors or ad hoc requests. Enter any custom authorization if required. Enter the file path or folder structure to which users/IT will need access to >>>

No	Business Catalog	Authorization Parameter	Parameter Value

12. Other system documentation

<<< Reference the other system's documentation, when relevant >>>

5. Conversion

1. Technical Reference

<<< Technical Object References (class, program, t-code, ...) >>>

Object Name	Object Type	Object Description

2. Technical Details

Conversion Name	

3. Conversion Data Layout

<<< Please list the source and destination data elements, plus any mapping that will be required for this conversion. If uploading from file, source structure can be omitted. Excel matching this format can be attached in place of this table. >>>

Source Structure	Source Field	Description	Data Type	Length	Transformation	Target Structure	Target Field	Description	Data Type	Length	Mand/ Opt.	Comments/Remarks

4. Mapping Rules & Conversion Criteria

<<< This section should contain any additional mapping rules and conversion criteria not covered in the previous section. >>>

5. **Sample Data**

<<< Please provide two attachments of sample source data with the expected target data after this conversion is executed. Please supply the sample data in the native format or .csv, and preferably zipped >>>

6. **Authorization**

<<< Explain which roles should be created/added or used for loading data. Enter any custom authorization if required >>>

No	Business Catalog	Authorization Parameter	Parameter Value

6. **Enhancement**

1. **Business Add-Ins (BADIs)**

BADI Property	Value/Object
System	*<<< BTP, S/4 HANA, ...>>>*
Transaction	
Enhancement Spot	
BADI Name	
Enhancement Implementation	
BADI Implementation	

Class	
Method	
Filter	
OData Service	

2. **Implicit Enhancement**

Property	Value/Object
Transaction	
Enhanced Object	
Implementation	

3. **User-Exits**

Property	Value/Object
Transaction	
Main Program	
Includes	
Form Routines	

4. **CDS Views Extension**

1. **Technical Reference**

Property	Value/Object
Original CDS View Name	
Extended CDS View Name	
Purpose of Extension	
Extension Type	☐CDS View Extension ☐Custom CDS consuming Standard CDS ☐View with Additional Associations or Joins ☐Metadata Extension
Odata Exposure	☐Yes ☐No
Input Field Parameters	
Service Definition	
Service Binding	

2. **Fields Added**

Field Name	Data Element	Source Table	Description	Annotations

5. **Function Exits**

Property	Value/Object
Transaction	
Enhancement	
Function Module Name	
Includes	

6. **Field Exits**

Property	Value/Object
Enhancement	
Main Program Name	
Function Module Name	
Field Exit Id	
Screen Number	
Screen Field Name	
Conditions for execution	

7. **Menu Exits**

Property	Value/Object
Enhancement	
Menu/Path	
Function/Transaction Code	

8. Screen Exits

Property	Value/Object
Enhancement	
Main Program Name	
Screen Number	
Program Name & Sub-Screen Number	

9. Search Help Exits

Field Name	Field Description	Import / Export (I/E)	Key Field (Y/N)	Data Element	Type (CHAR, NUMC)	Length	Default Value

10. Search Help assignment

Property	Value/Object
Standard Search Help	
Collective Search Help	
Elementary Search Help	

11. Business Transaction Events (BTE)

Property	Value/Object
Transaction	
BTE Number	
Product Name	
Function Module	

12. Custom Transaction

<<< Functional details of custom transaction can be incorporated here. Number of screens required and flow diagram can be included and provide the selection screen shot along with the table name and field name and screen shot for the required output >>>

13. Requirement routine

Menu/Submenu	

Routine number	
Business logic required	

14. Substitution

Validation Description	Fields required for validation	Point of Validation	Table used in validation	Business Rules

Substituted Field	Derived from Field	Table used in Substitution	Business Rules

15. Flow logic

<<< Please explain any flow logic, calculations, rules, etc that should be implemented in this enhancement >>>

16. Authorization

<<< Which authorization object should be used for controlled execution? Enter any custom authorization if required >>>

No	Business Catalog	Authorization Parameter	Parameter Value

7. **Form**

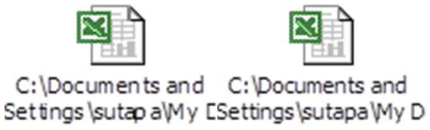
1. **Technical Reference**

<<< Technical Object References (class, program, t-code, ...) >>>

Object Name	Object Type	Object Description

2. **Form Layout**

<<< Refer to the following for an output samples for Window mapping, Label Description and Field mapping >>>



3. **Layout Windows**

Reference	Print on page	Label Position

		X : Y :
		X : Y :
		X : Y :
		X : Y :
		X : Y :
		X : Y :
		X : Y :

4. **Field Mapping**

Field	Field Description	Functionality	Logic	Print on page	Font	Font Format	Window

5. **Standard Texts / Text Modules**

Reference	Text	Print on page	Label Position	Font	Output Format	Font Format

6. **Translation**

Reference	Description of use (in Language1)	Description of use (in Language2)	Description of use (in Language3)	Text Module Name	Notes

7. **Layout Details**

Position of Left Margin (specify unit)	
Position of Right Margin (specify unit)	
Position of Logo (specify unit)	
Logo (specify logo)	
Position of Main Window (specify unit)	

8. **Flow logic**

<<< Please explain any flow logic, calculations, rules, etc that should be implemented in this form >>>

9. **Authorization**

<<< Explain which roles should be created/added or used for printing and testing forms. Enter any custom authorization if required >>>

No	Business Catalog	Authorization Parameter	Parameter Value

8. **Fiori Application**

1. **Header Information**

Application Title	
Application ID	
Type of Enhancement	☐Custom Application ☐ Standard Application
Development Type	*<<<Fiori Elements App ….Free Style UI5 App>>>*
Application Type	*<<<List Report, Object Page , Over view Page ,etc >>>*
UI Enhancements	☐Custom Fields Added ☐UI Layout Modified

	☐Extensibility Hook Used ☐Fragments or Views Introduced

2. **Technical Reference**

Object Name	Object Type	Object Description
<<< *Odata Object* >>>		
<<< *CDS View* >>>		
<<< *Custom Fields* >>>		
<<< *Catalogs* >>>		
<<< *Rules* >>>		

3. **Desired Screen Design**

<<< *Enter attachment if necessary* >>>

4. **Technical Details**

<<< *Information like relevant database tables,CDS Views,ODATA services , data retrieval logic, detail functionality, other display attributes, special interaction on clicking one or more columns etc. can mentioned here* >>>

5. **Authorization**

<<< *Enter Authorization Objects/fields, to be used and specific user Groups* >>>

No	Business Catalog	Name of Space (L2)	Name of Page (L3)	Name of Section (L4)	Name of App/Tile(L5)	Authorization Parameter	Parameter Value

7. Custom Tables/Structure

<<< This section should detail the attributes of any new custom table created for one of the above sections, and the properties of its fields.

NB: Existing Data Elements and/or Domains should be used whenever possible when creating custom table fields, in order to avoid unnecessary typos. In this instance, the data table row for that field should not be completed beyond 'Domain', as the remaining attributes will be default values for the selected Domain. >>>

Table Name	
Short text	
Size category	
Table maintenance allowed	
Maintenance Type	Manual / Automatic Maintenance (application table) Transportable Maintenance (customizing table)
Data class	
Buffering	

Table maintenance generation								
Authorization Group								
Change Log Enabled (Y/N) *(mandatory for GxP related table)*								
SPRO Path *(mandatory for customizing tables)*								
Field Name	**Data Element**	**Domain**	**Type**	**Length**	**Check Table-Field**	**Key Field**	**Foreign Key**	**Description**
Comments								

8. **Error Handling**

<<< Provide Error Handling details here. Job run notifications, error notifications, E-Mail messaging, custom programming, etc. may be required >>>

1. **Error Messages**

<<< Describe the expected error messages for different error conditions >>>

Error Message Number	Error Message Text (70 characters)	Error Conditions

9. Validation

1. Test Case References

<<< List the Test Case(s) used to validate the functionality / configuration covered in this document (IQ / OQ). >>>

Test Case ID	Test Case	Comment