

SAP Quality Management in SAP S/4HANA Cloud and SAP S/4HANA

Product Management SAP QM, SAP SE November 2018



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Agenda

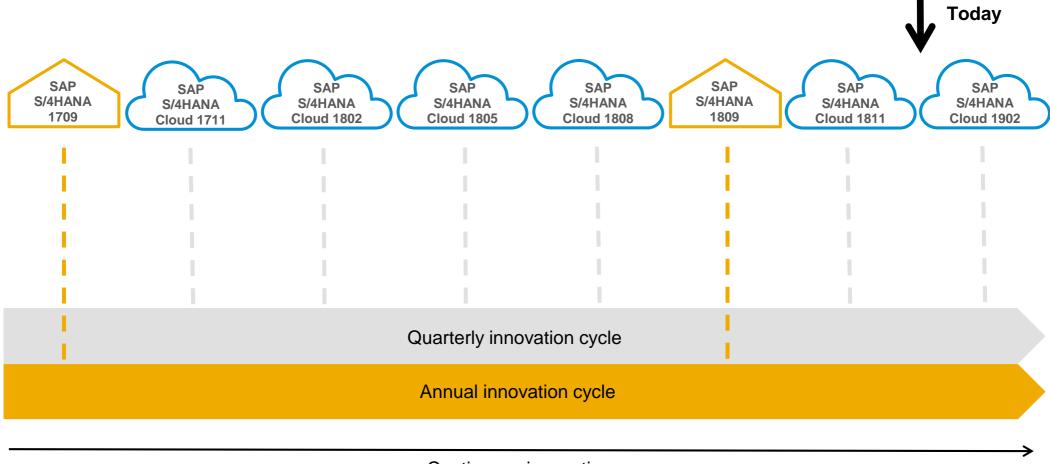
SAP Quality Management in SAP S/4HANA Cloud and SAP S/4HANA

- Overview
- Current Status
- Miscellaneous

Overview

SAP S/4HANA

Cloud and On-Premise Delivery Schedule*)



Continuous innovation

^{*)} This is the current state of planning and may be changed by SAP at any time

Quality Management in SAP S/4HANA

Brief Overview

- Closed loop inspection planning incl. FMEA (Failure Mode and Effects Analysis) and control plan
- Stability study
- Master data and change management
- Supplier management

- Inspection plans e.g. for goods receipt
- Inspection planning within routings and master recipes for production
- Planning of procurement control
- Planning of delivery control

Quality

Planning 🔀

- Dynamic modification of inspection scope
- Automatic creation of inspection lots
- Results and defect recording
- Usage decision and release of stock
- Statistical process control (SPC)
- Sample management
- APIs for integration of complex measuring systems

Manage supplier, customer, and internal

Plan and perform calibration inspections for test equipment

such as supplier, system,

Test Equipment Management

Quality Management in SAP S/4HANA

Complaint Management

Quality

Inspection

Capture quality costs Record defects

complaints



Product

Development

· Plan, perform, and monitor audits product, and process audits

Document Management

Evaluate data from quality inspections, quality notifications, and audits

Analytics

 Manage quality relevant documents by using SAP S/4HANA Document Management (DMS)

Quality Management in SAP S/4HANA Cloud

7

Brief Overview

- Inspection plans e.g. for goods receipt
- Inspection planning within routings and master recipes for production
- Planning of procurement control
- Planning of delivery control
- Dynamic modification of inspection scope

Master data management

Product Development

 Automatic creation of inspection lots Quality Planning 🔀

Quality

Inspection

Document

Management

Results and defect recording

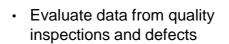
Usage decision and releases of stock

Statistical process control (SPC)

Preconfigured core processes within Quality Management

- Quality Management in Procurement
- Quality Management in Discrete Manufacturing
- Quality Management in Stock Handling
- **Quality Management in Sales**
- Quality Management for Complaints from Customers
- Quality Management for Complaints Against Suppliers
- Quality Management of Internal Problems
- Nonconformance Management
- SAP Fiori Analytical Apps for Quality Management

- Manage supplier, customer, and internal Complaint complaints Management
 - Record defects
 - APIs for recording defects



Quality Management

in SAP S/4HANA

Cloud

Analytics

Manage quality relevant documents by using SAP S/4HANA Document Management (DMS) for different objects in QM

Scope differs from SAP S/4HANA to SAP S/4HANA Cloud. See Feature Scope Description for details.

Fiori Apps in QM at a Glance*)

Fiori App	Туре	SAP S/4HANA 1709	SAP S/4HANA 1809	SAP S/4HANA Cloud 1811
Record Inspection Results	Fiori App	Х	Х	X
Inspection Lot	Object Page	Х	Х	X
Inspection Operation	Object Page	Х	Х	X
Inspection Method	Object Page	Х	Х	X
Master Inspection Characteristic	Object Page	Х	Х	X
Sample	Object Page	Х	Х	-
Quality Info Record for Procurement	Object Page	Х	Х	X
Sampling Procedure	Object Page	Х	Х	X
Inspection Point	Object Page	Х	Х	X
Manage Inspection Lots	Fiori App	Х	Х	X
Manage Usage Decision	Fiori App	Х	Х	X
Quality Engineer Overview	Overview Page	Х	Х	X
Quality Technician Overview	Overview Page	Х	Х	X
Results History	Analytics	Х	Х	X
Manage Defects	Analytics	-	-	X
Manage Quality Level	Fiori App	-	Х	Х
Analyze Quality Levels	Analytics	-	Х	X
Record Defect	Fiori App	-	Х	X
Process Defects	Fiori App		Х	Х
Quick Create Defect (Co-Pilot)	Fiori App	-	-	Х

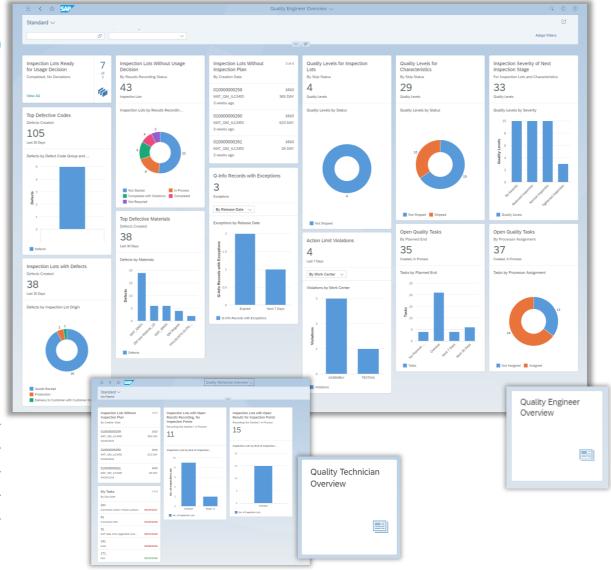
		SAP S/4HANA	SAP S/4HANA	SAP S/4HANA
Fiori App	Type	1709	1809	Cloud 1811
Record Results for Inspection Points	Fiori App	-	Х	Х
Manage Control Charts	Analytics	-	Х	Х
Process Quality Tasks	Fiori App	-	Х	X
Manage Quality Info Records in Procurement	Fiori App	-	-	Х
Inspection Lot Analytics	Analytics	-	Х	Х
Inspection Lot Detailed Analytics	Analytics	-	Х	X
Characteristic Analytics	Analytics	-	Х	X
Characteristic Detailed Analytics	Analytics	-	Х	Х
Manage Incoming Certificates	Fiori App	-	-	X
Manage Quality Tasks	Analytics	-	Х	X
Record Inspection Results in Table Form	Fiori App	-	-	Х
Nonconformance Analytics	Analytics	-	-	X
Nonconformance Detailed Analytics	Analytics	-	-	X

Cards for Overview Pages in QM at a Glance*)

Cards for the Quality Engineer	SAP S/4HANA 1709	SAP S/4HANA 1809	SAP S/4HANA Cloud 1811
Inspection Lots without Inspection Plan	Х	Х	X
Inspection Lots without Usage Decision	Х	Χ	Х
Inspection Lots ready for Usage Decision	Χ	Χ	Χ
Top Defective Codes	-	-	Х
Top Defective Materials	-	-	Х
Inspection Lots with Defects	-	-	Х
Inspection Severity for next Inspection Stage	-	Χ	Χ
Quality Levels for Inspection Lots	-	Х	Х
Quality Levels for Characteristics	-	Х	Х
Violated Inspection Limits	-	Х	Х
Q-Info Records with Exceptions	-	Х	X
Open Quality Tasks By Planned End	-	Х	X
Open Quality Tasks By Processor Assignment	-	Χ	X

Cards for the Quality Technician

Inspection Lots without Inspection Plan	Х	Х	Х
Inspection Lots with Open Results Recording	Х	Χ	Х
Inspection Lots with Open Results for Insp. Points	-	Х	Χ
My Tasks	-	Х	Х

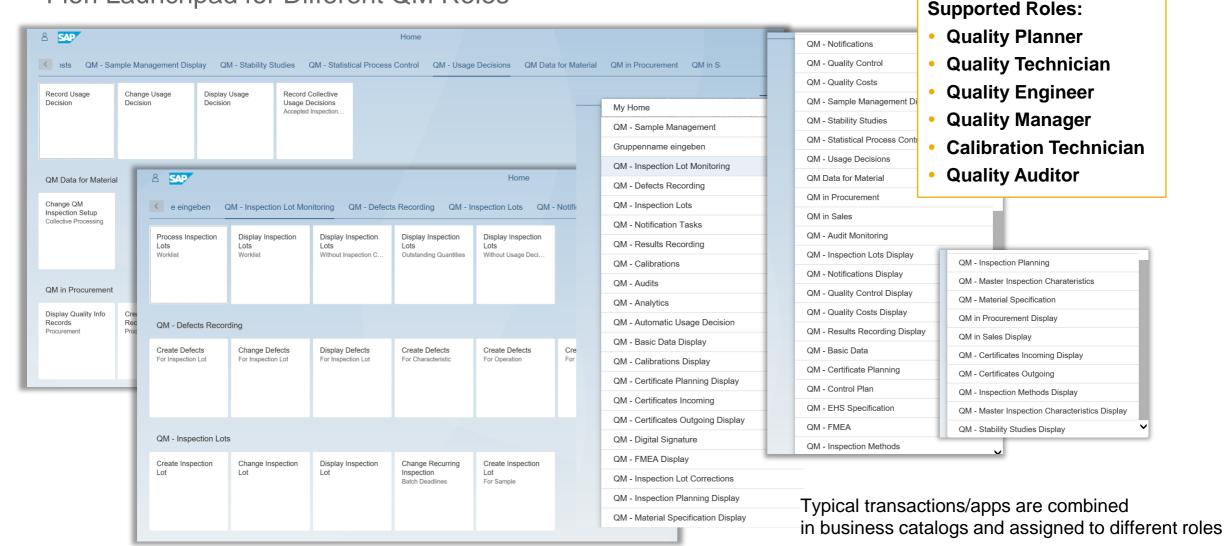


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SAP S/4HANA



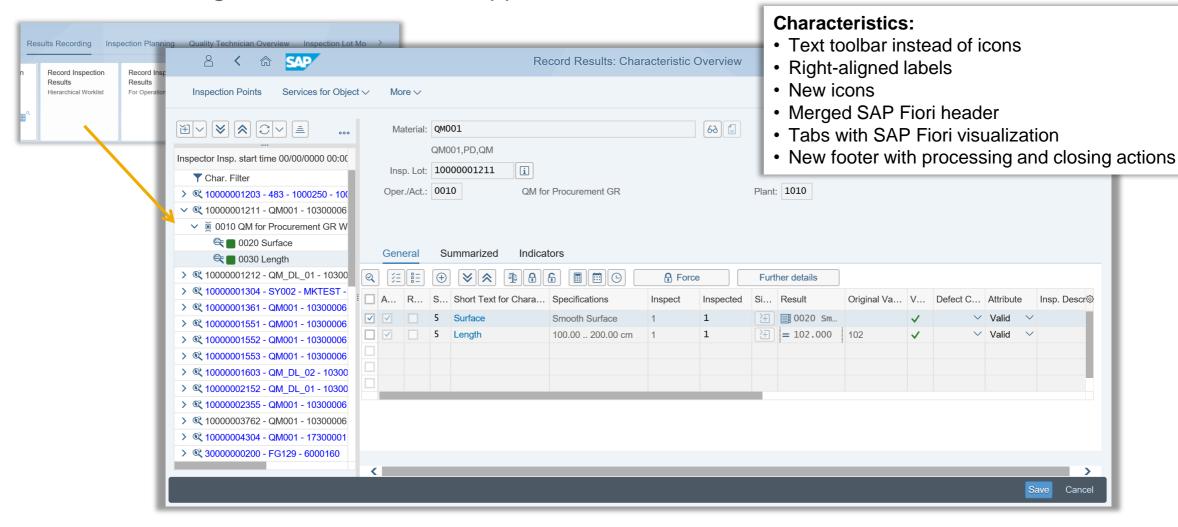
Fiori Launchpad for Different QM Roles



SAP Fiori Theme for Classic Applications



One Visual Design Theme for All SAP Applications



Existing QM transactions with new Fiori theme (for example, QE51N) that are called from the Fiori launchpad

Current Status

Quality Management in SAP S/4HANA Cloud and SAP S/4HANA

Current Status





Monitor Quality Level



Q (=

(6)>

/iew History [ご

Reset

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Tighten

Skip History

Reset

Tighten

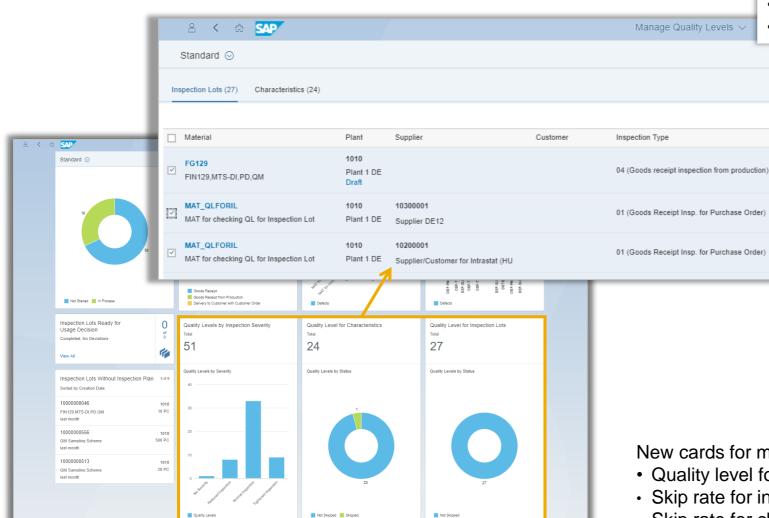
Dynamic Modification Rule

QM3 (Modifucation rule 3)

QM3 (Modifucation rule 3)

QM4 (FXU_Testing)

Cards on the Overview Page



New cards for monitoring quality levels:

Worklist with actions:

 Tighten Reset

Next Stage

10 (Stage1)

10 (Stage1)

10 (Initial Inspection)

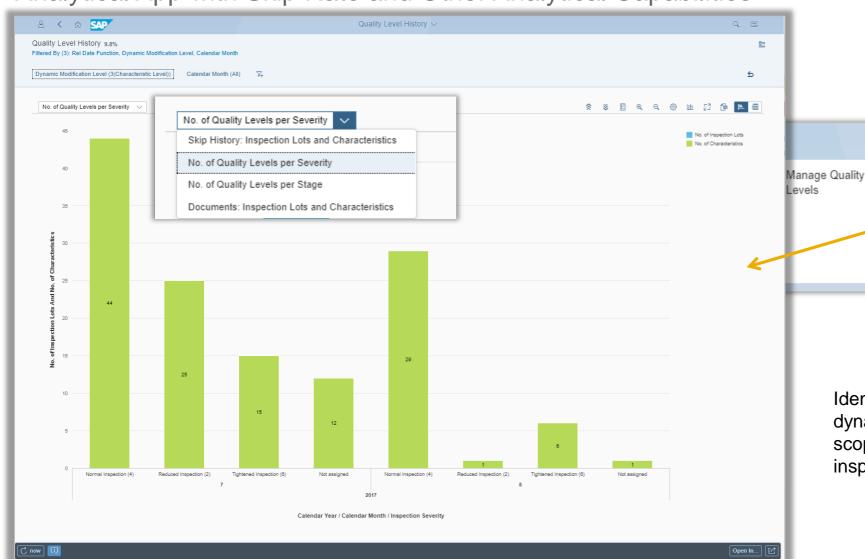
- Quality level for inspection severity
- Skip rate for inspection lots
- · Skip rate for characteristics



Analyze Quality Levels



Analytical App with Skip Rate and Other Analytical Capabilities



Identify all data that relates to the dynamic modification of the inspection scope by using the data from past inspection valuations.

Quality Level History

Cnow

Skip Rate in Last 180 Days

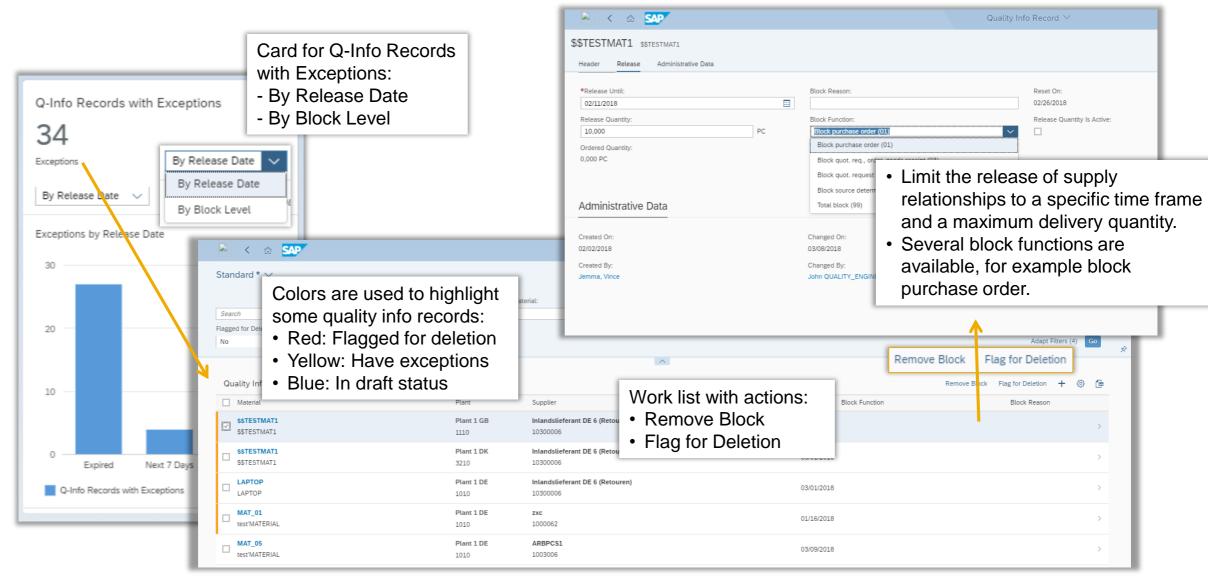
Lots Skipped

Characteristics Skipped 13 Lots and Characteri... 249



Manage Quality Info Record for Procurement



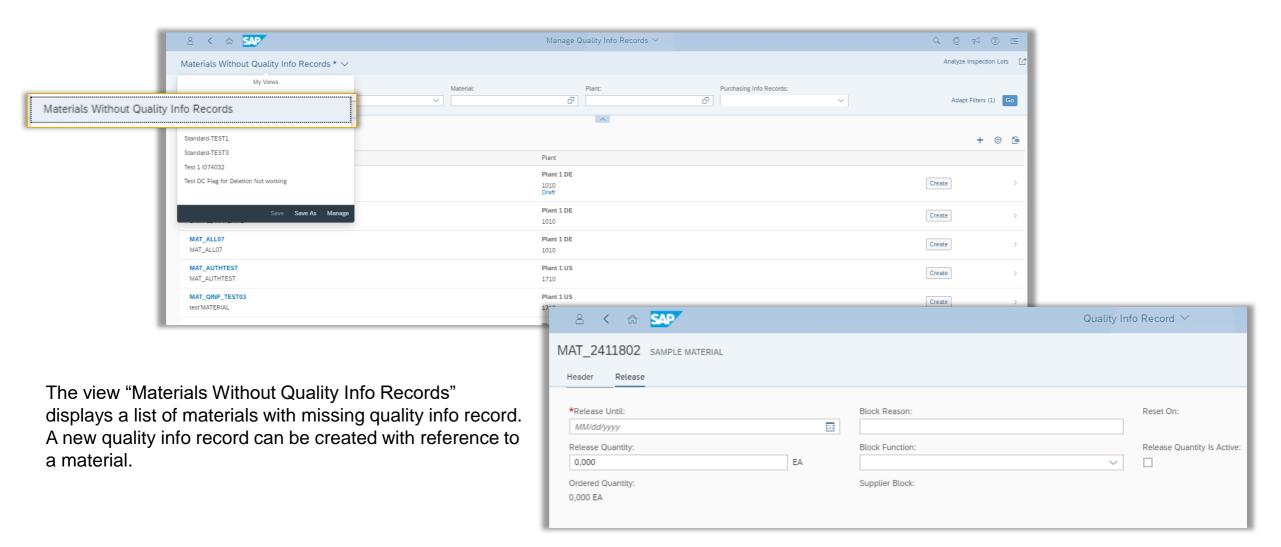




Manage Quality Info Record for Procurement



Materials without Quality Info Records



Quality Management in SAP S/4HANA Cloud and SAP S/4HANA

Current Status





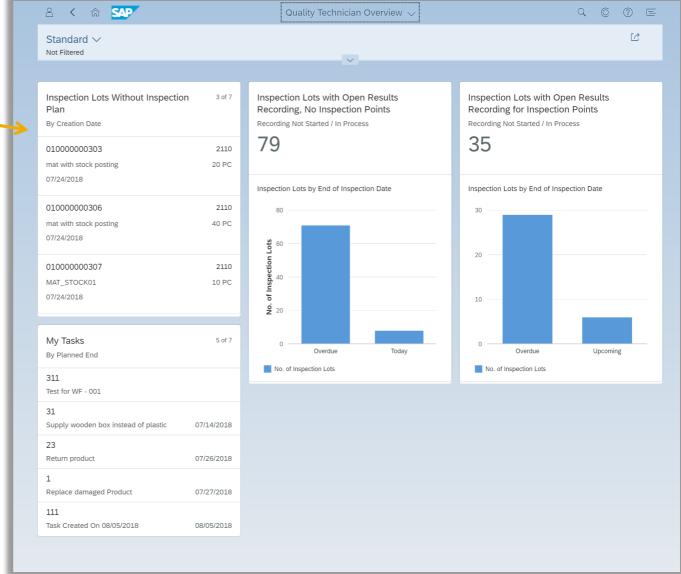
Overview Page for the Quality Technician





Cards on the Overview Page

- Inspection Lots without Inspection Plan
- Inspection Lots with Open Results Recording, no Inspection Points
- Inspection Lots with Open Results Recording for Inspection Points
- My Tasks

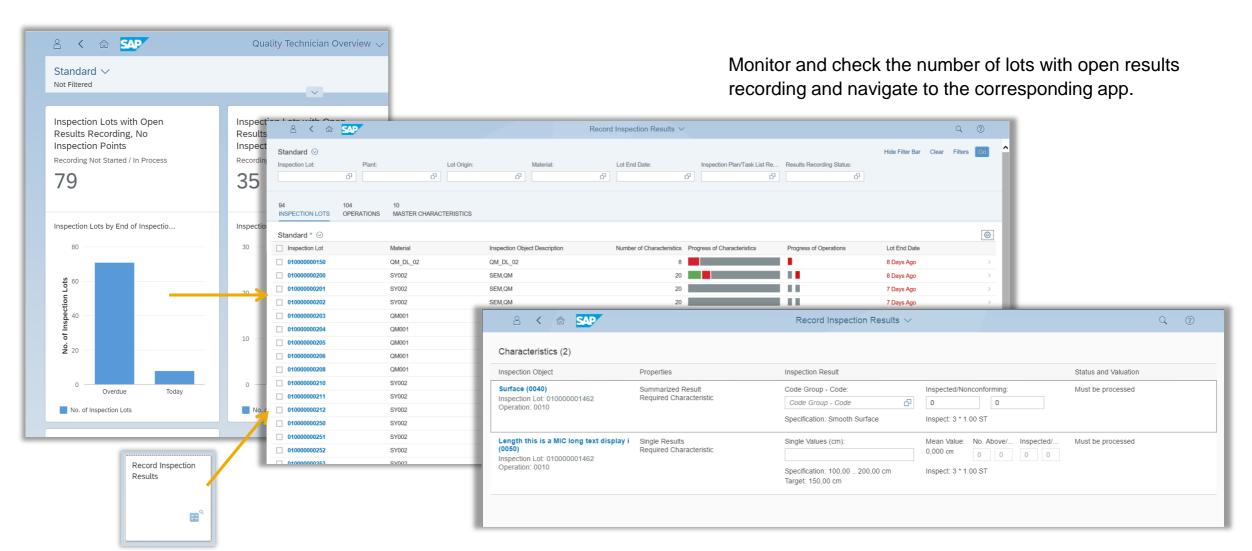




Record Inspection Results



Card on the Overview Page, Worklist and UI for Entering Results

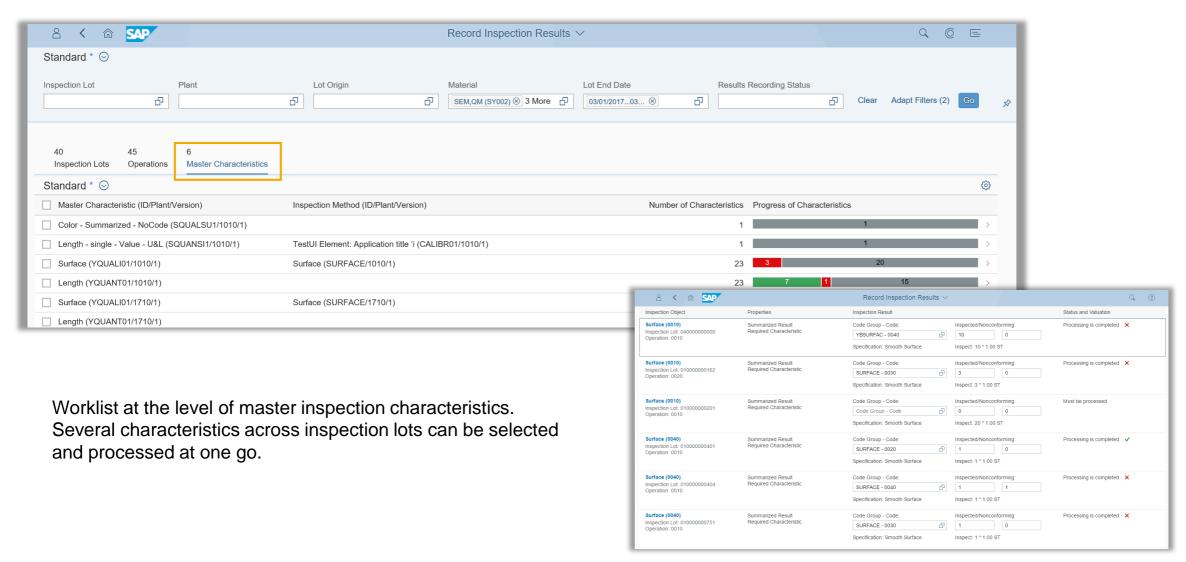




Record Inspection Results



Worklist based on Master Inspection Characteristics

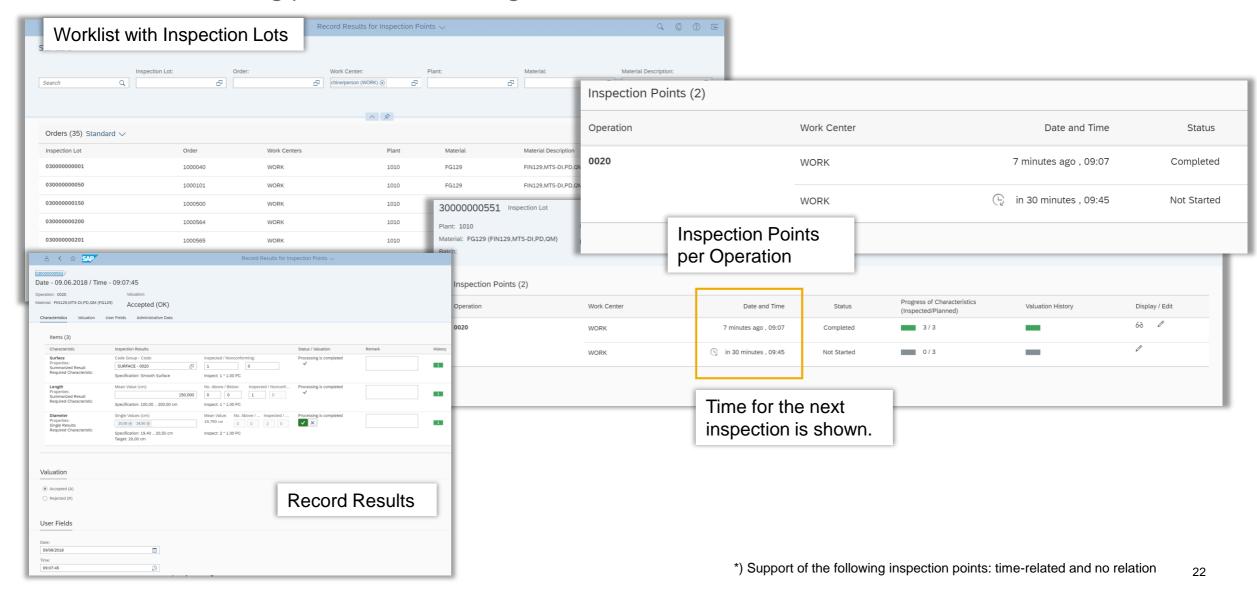




Inspections During a Production Operation with Inspection Points



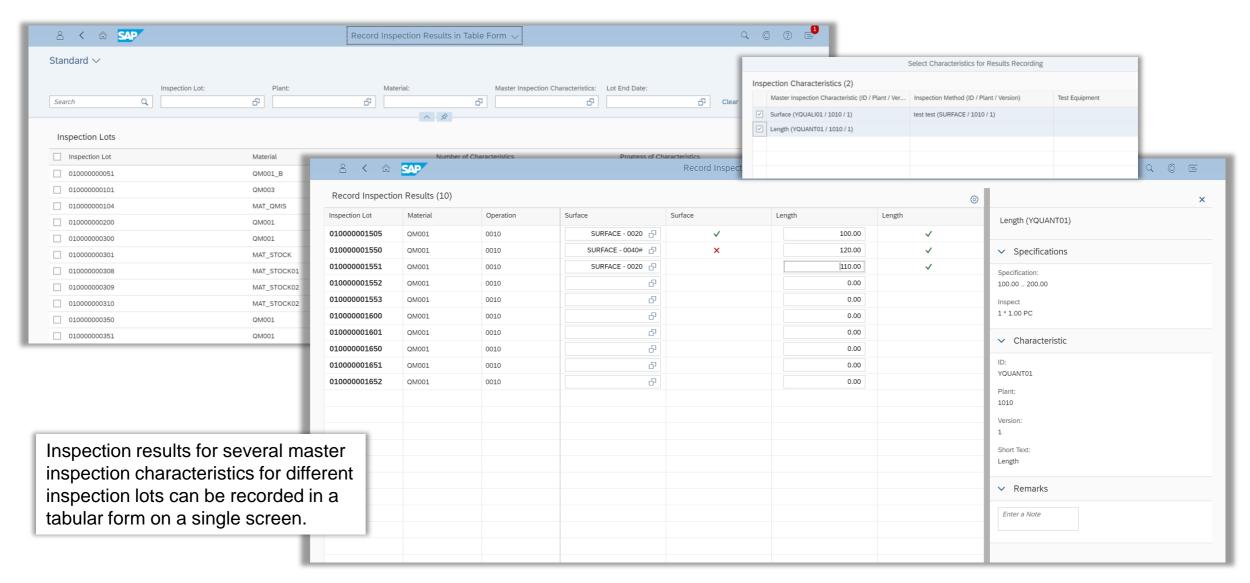
Record results during production on a regular basis*)





Record Inspection Results in Table Form



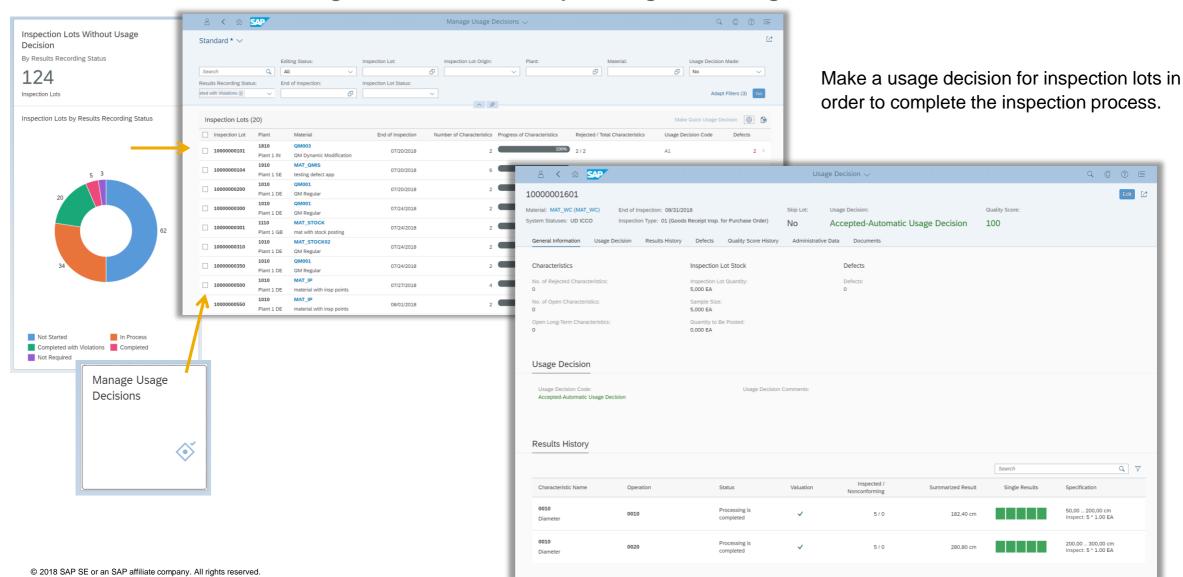




Manage Usage Decisions



Card on the Overview Page, Worklist and Object Page for Usage Decision

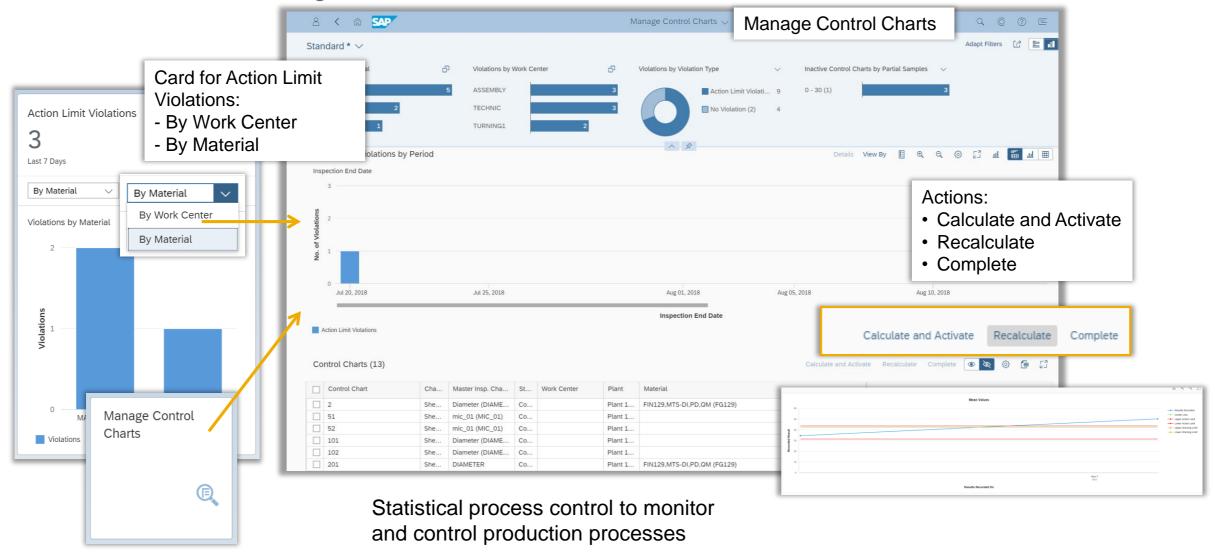




Manage Statistical Control Charts



Card on the Overview Page and Worklist



Quality Management in SAP S/4HANA Cloud and SAP S/4HANACurrent Status







Problem-Solving Process (In Addition to Quality Notification)

Big Picture

Defect creation



S/4HANA

1809

By Hand

Manually recorded defect (e.g. mobile)



Automatically created defect triggered by inspection characteristic rejection



S/4HANA

Cloud 1711

By Sensors

Transferred e.g. from sensors via OData











Problemsolving



Quality Task

Streamlined problem-solving process



8D / CAPA

Standardized problem-solving process according to 8D including

- Root cause analysis
- Corrective and preventive actions
- Collaborative scenarios



Quality Notifications

Create Q notifications and assign defects



Machine Learning Use Cases:

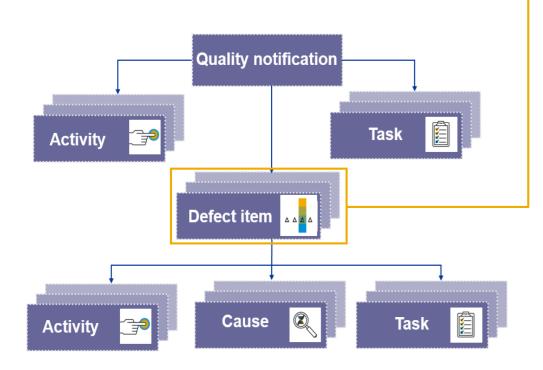
- Propose defect codes based on text or photos
- Search for similar problems and provide proposals for root causes and corrective and preventive actions



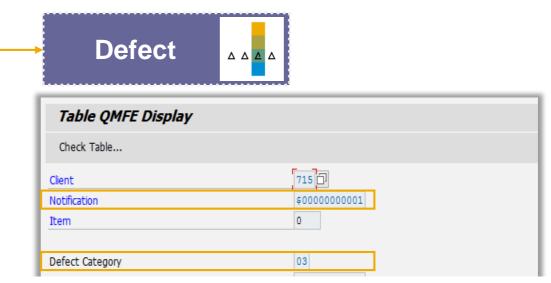
New Defect Handling



Based on Quality Notification Data Model

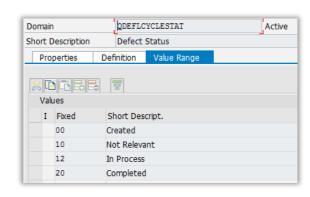


The new defect is no longer assigned to a quality notification. Nevertheless the same database table is used.



New features within the defect:

- Defect category to support different use cases
- Statuses
 - Created
 - Not Relevant
 - In Process
 - Completed

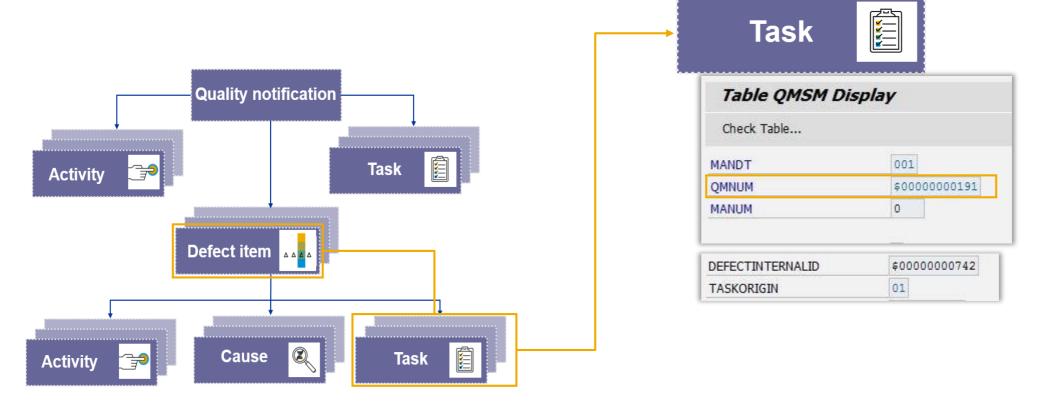




New Task Management



Based on Quality Notification Data Model



The new task is also disconnected from the data model of the quality notification. Nevertheless the same database table is used.

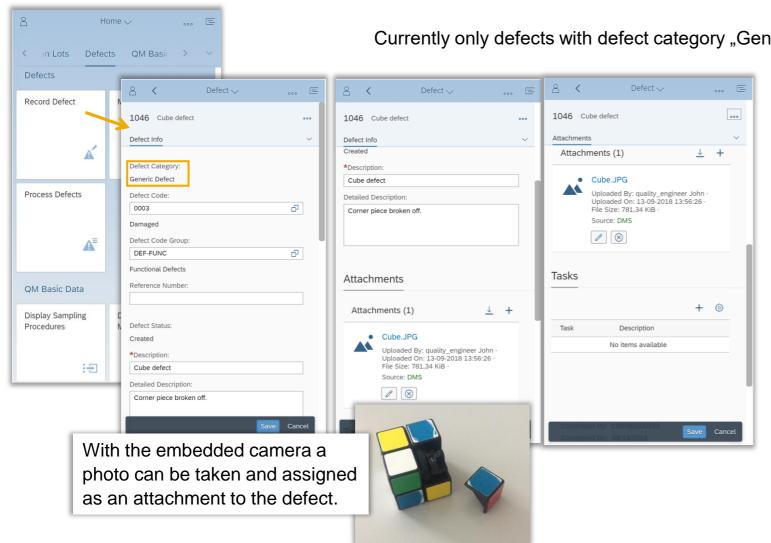
Currently a task is always assigned to a defect. Multiple assignments are possible.



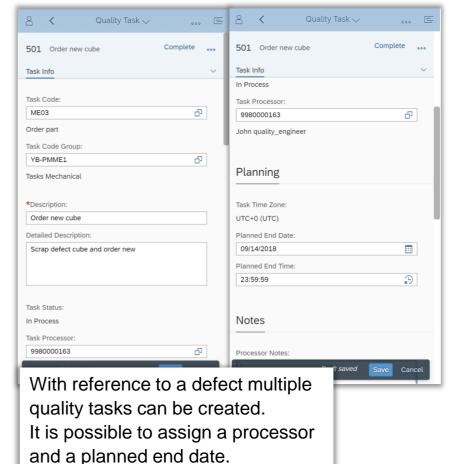
Simplified Defect and Task Management (1/5)



Record Defect and Quality Task (mobile)



Currently only defects with defect category "Generic Defect" can be created manually.

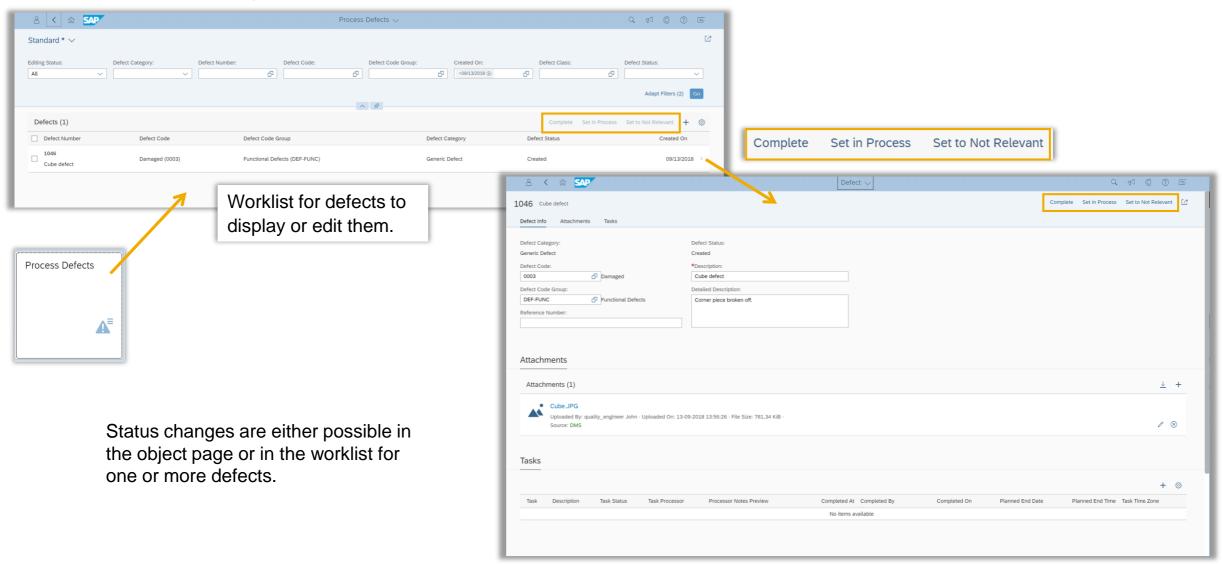




Simplified Defect and Task Management (2/5)



Further Processing of a Defect (Desktop)

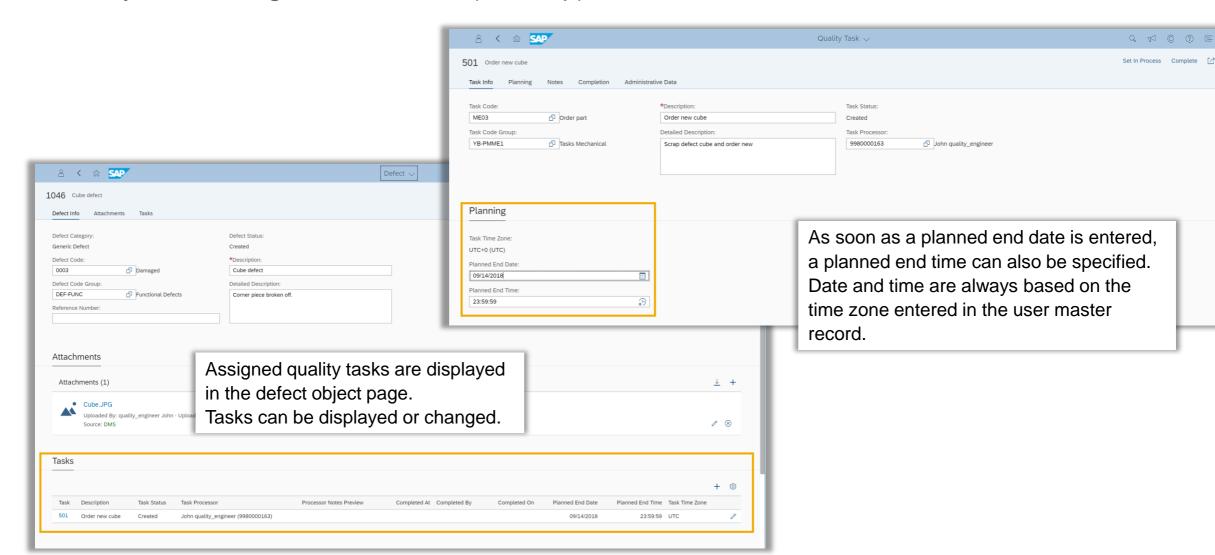




Simplified Defect and Task Management (3/5)



Quality Tasks Assigned to a Defect (Desktop)

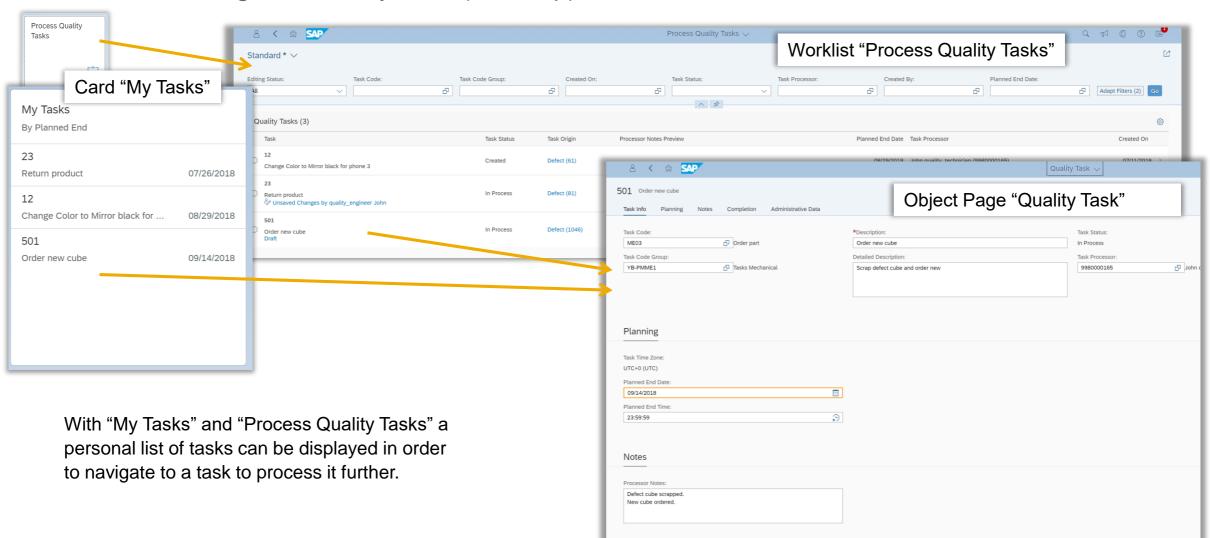




Simplified Defect and Task Management (4/5)



Further Processing of a Quality Task (Desktop)

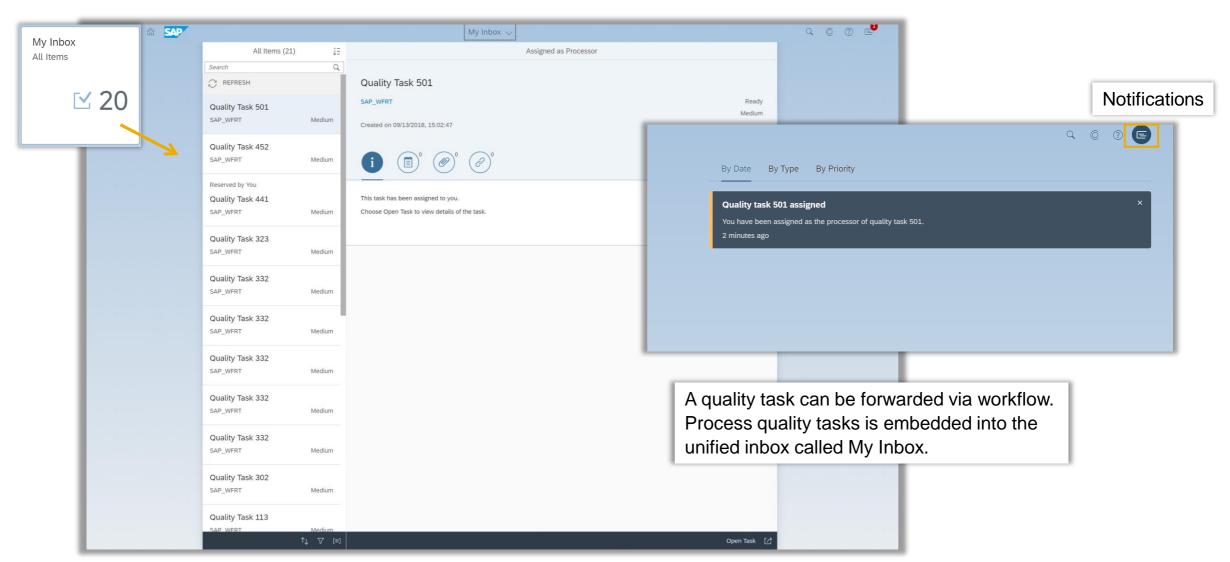




Simplified Defect and Task Management (5/5)



Further Processing of a Quality Task via Workflow

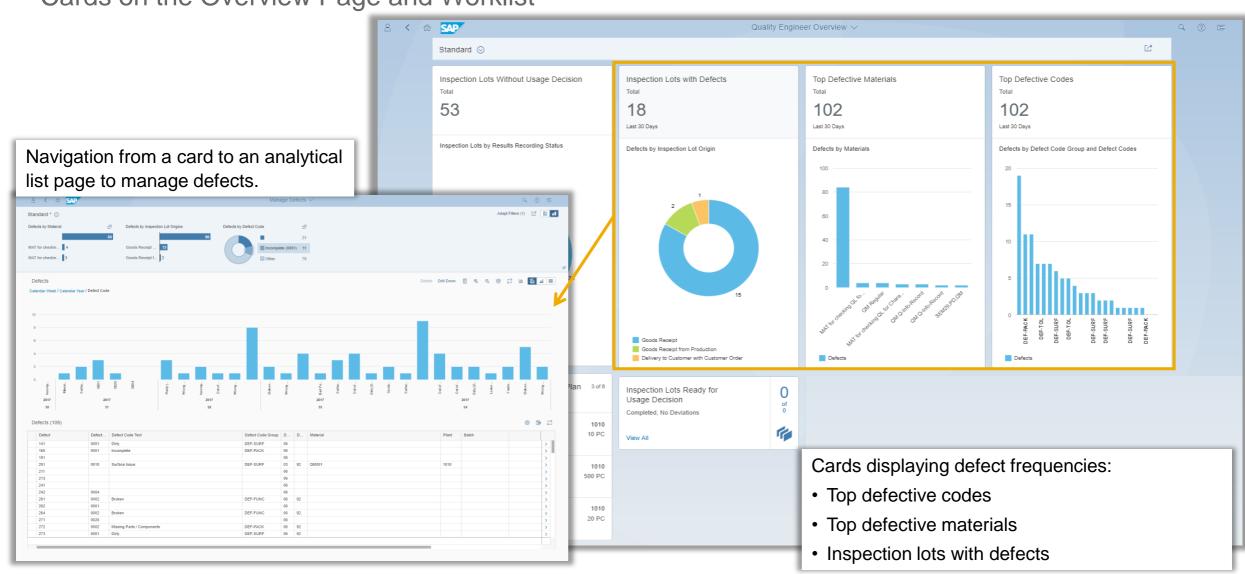




Monitor and Manage Defects



Cards on the Overview Page and Worklist

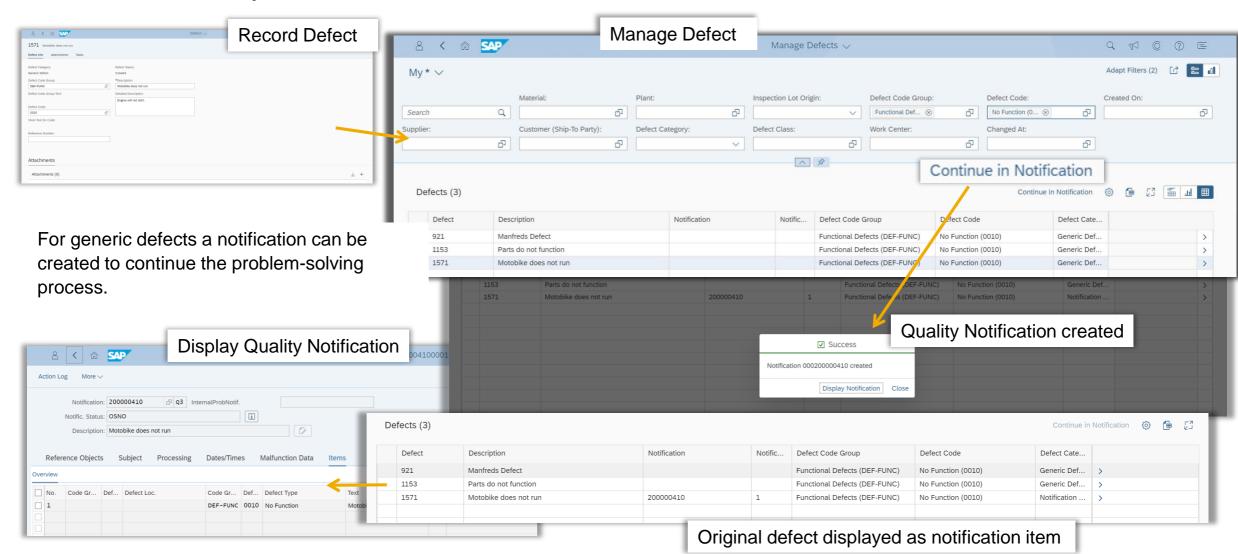




Manage Defects



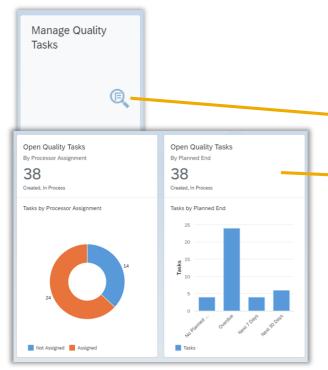
Continue in Quality Notification





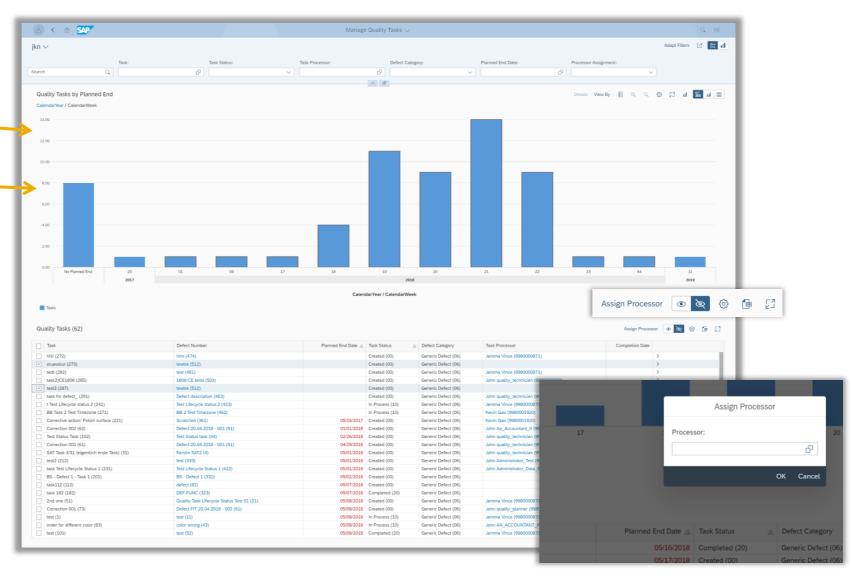
Manage Quality Tasks





"Manage Quality Tasks" is a worklist with analytical capabilities mainly for the quality engineer.

The worklist allows for example to assign a processor to multiple tasks in one step.

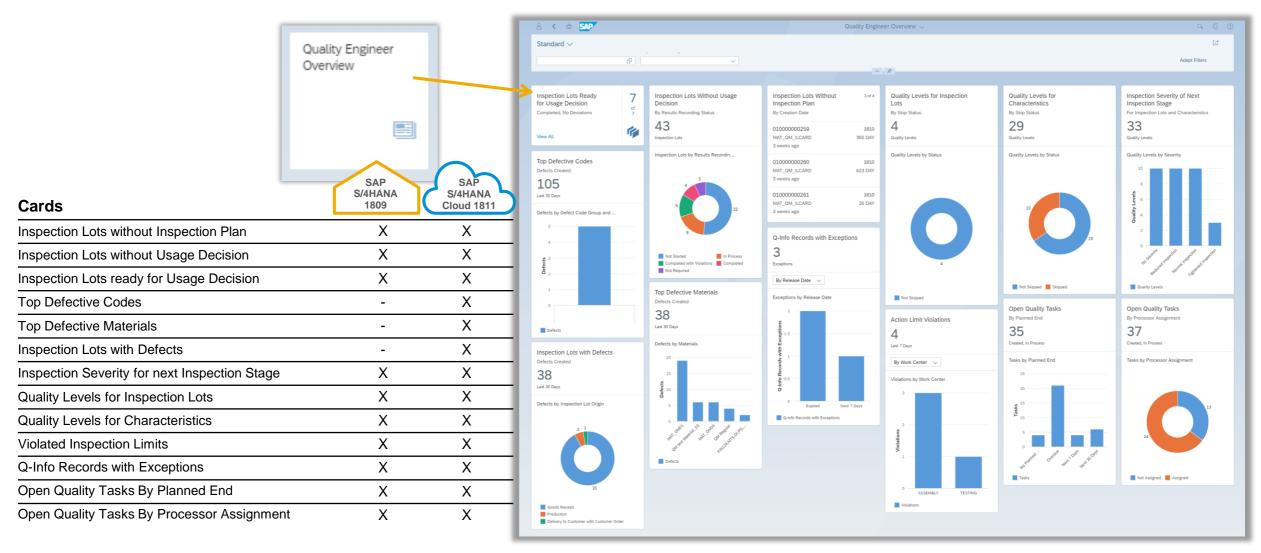


Quality Management in SAP S/4HANA Cloud and SAP S/4HANACurrent Status



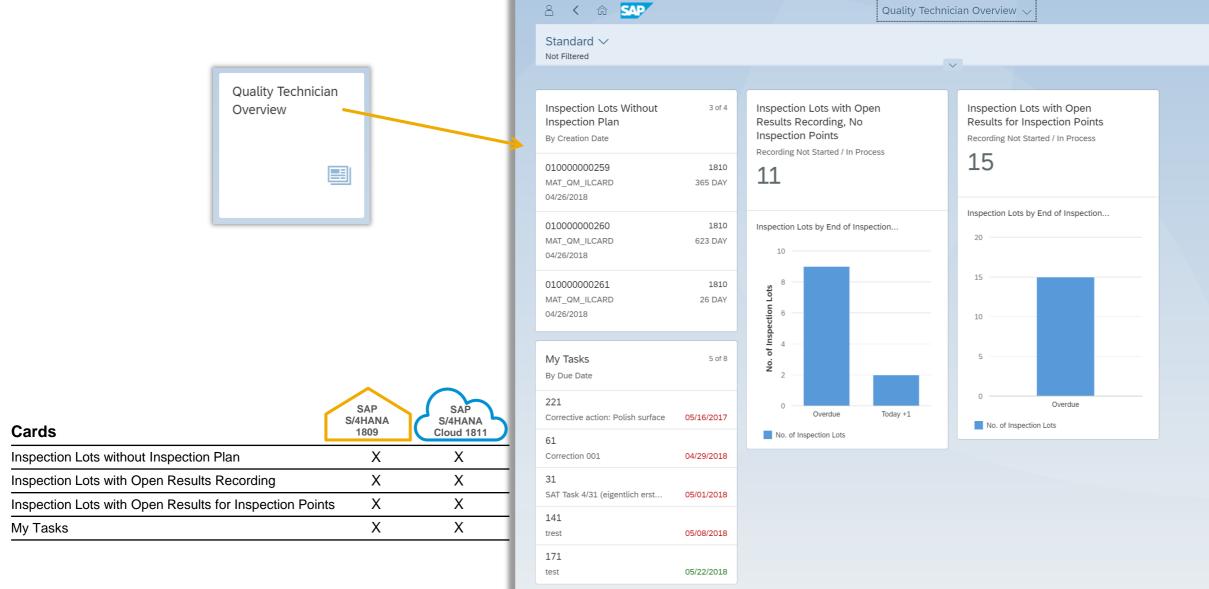


Overview Page for the Quality Engineer





Overview Page for the Quality Technician

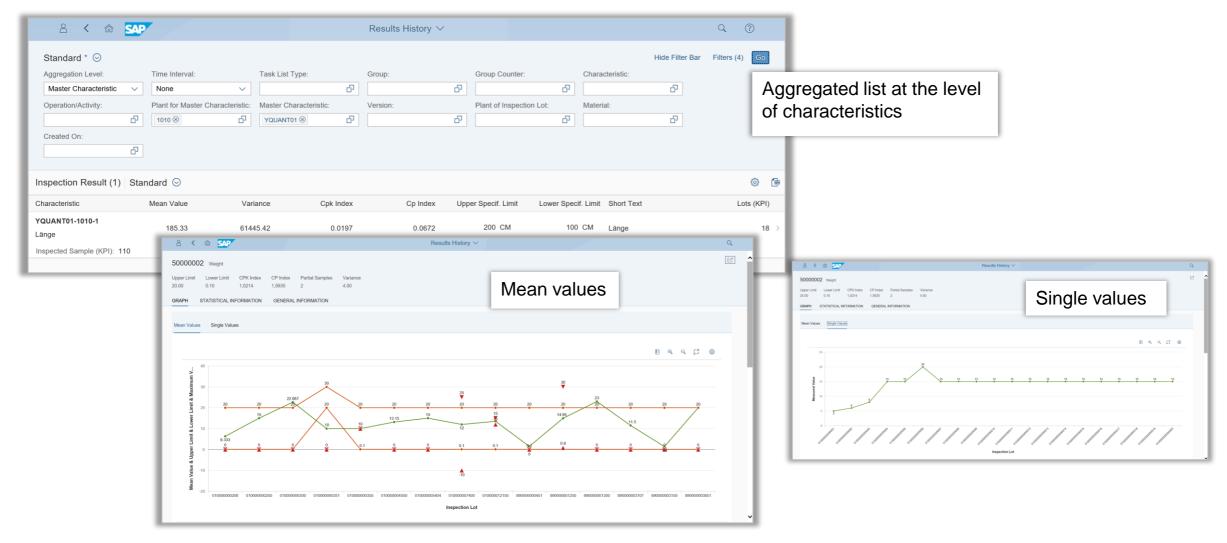




Results History

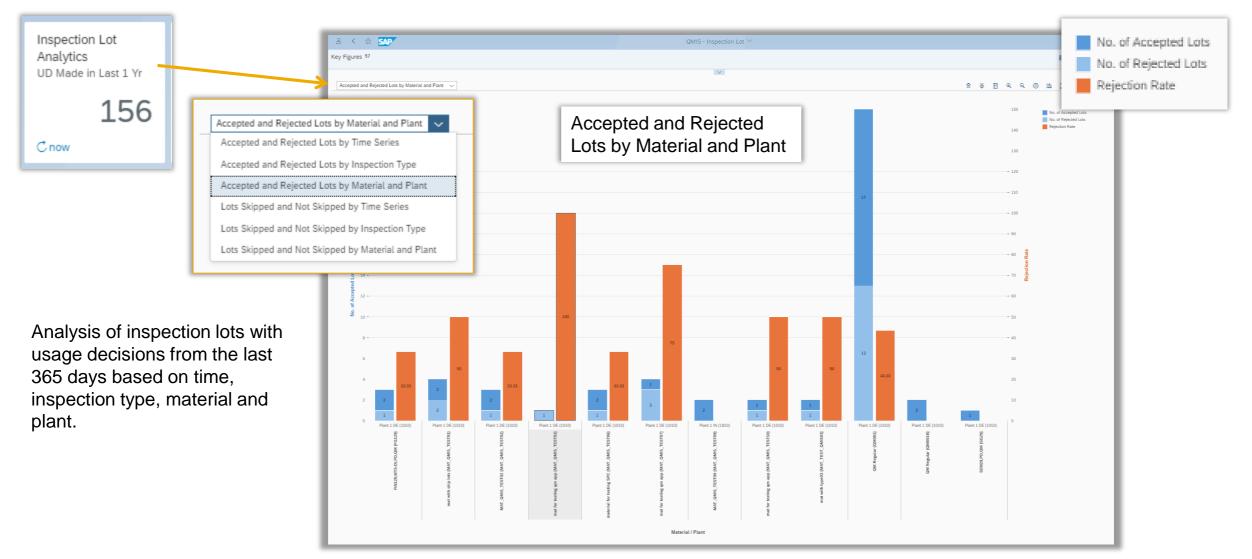


Evaluation of Quantitative Characteristics



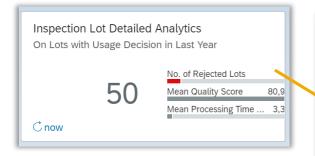


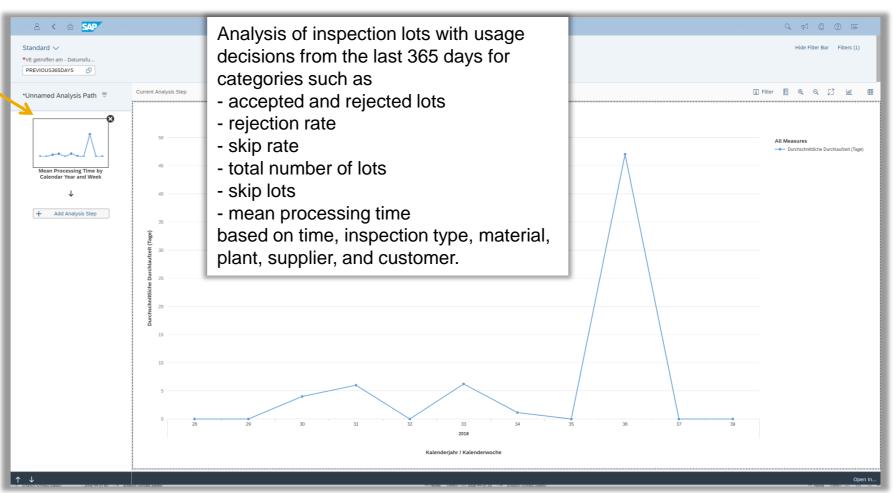
Inspection Lot Analytics





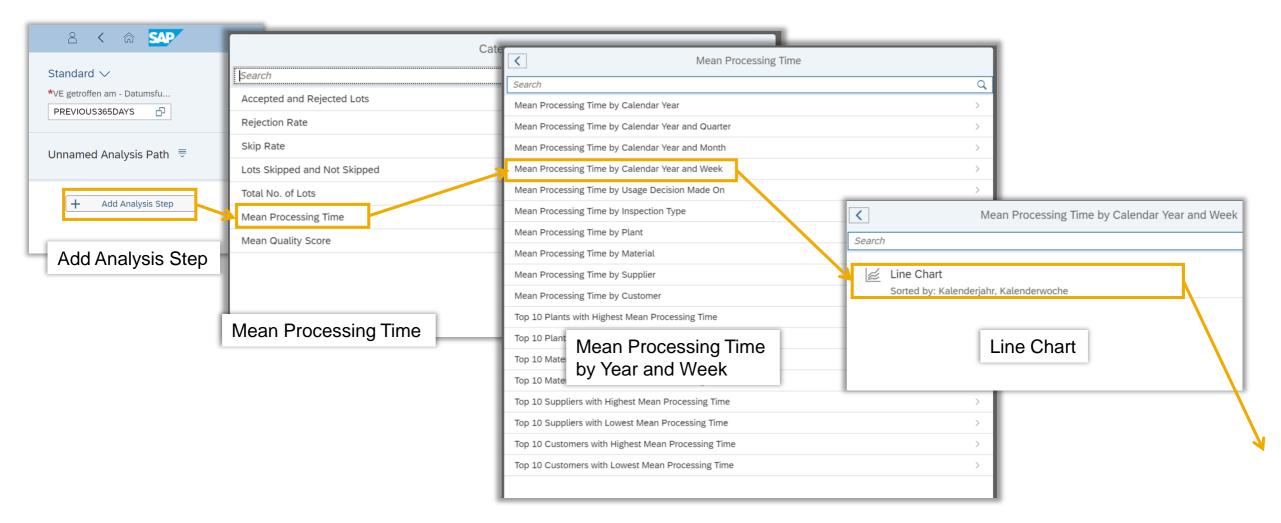
Inspection Lot Detailed Analytics







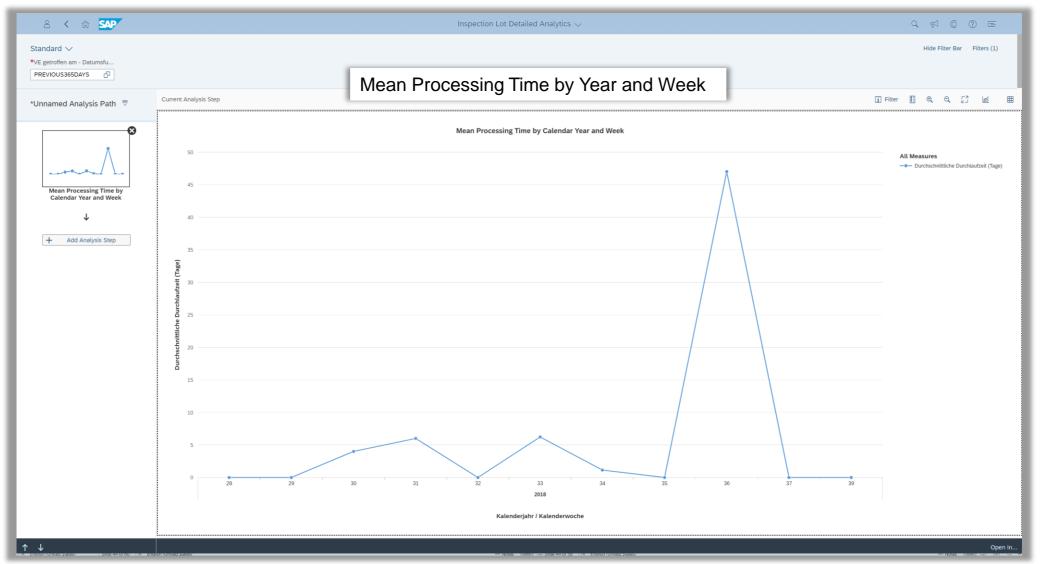
Inspection Lot Detailed Analytics - Example (1/2)







Inspection Lot Detailed Analytics - Example (2/2)





Inspections Skipped and Not Skipped by Time Series

Inspections Skipped and Not Skipped by Master Inspection Characteristics

Inspected and Nonconforming Units by Master Inspection Characteristics

Inspections Skipped and Not Skipped by Inspection Characteristics

Inspections Skipped and Not Skipped by Material and Plant

Inspections Skipped and Not Skipped by Work Center

Inspected and Nonconforming Units by Time Series



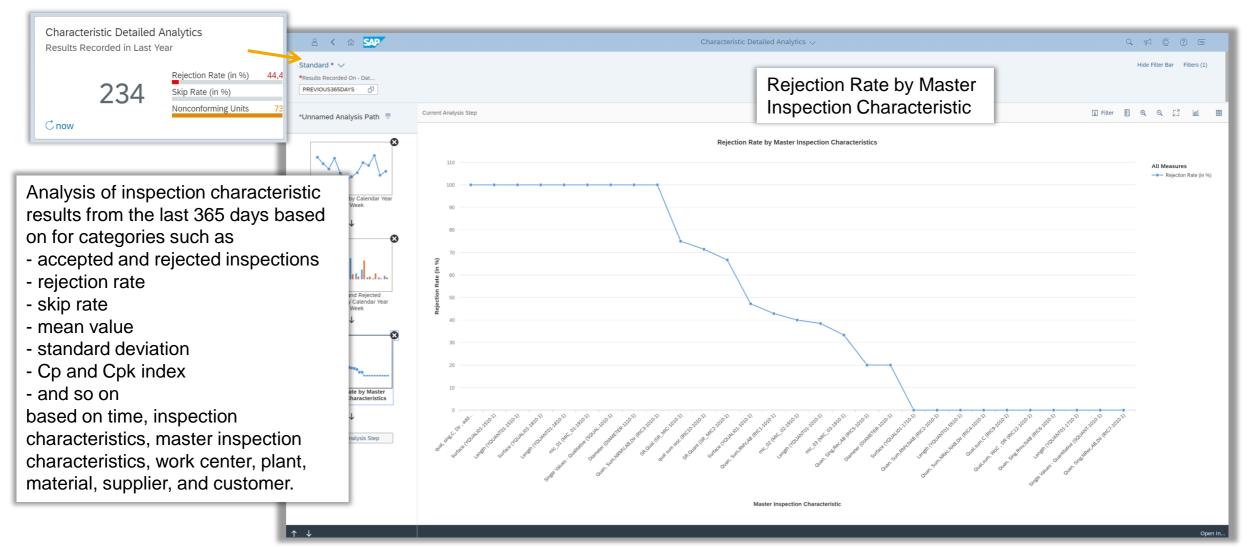
Characteristic Analytics Accepted and Rejected Inspections by Time Series 8 (@ SAP Q 10 0 0 E Key Figures 231 Characteristic Filtered By (1): Results Recorded On - Date Function **Analytics** Accepted and Rejected Inspections by Time Series Results in Last Year Accepted and Rejected Inspections by Time Series C now Accepted and Rejected Inspections by Time Series Accepted and Rejected Inspections by Master Inspection Characteristics Accepted and Rejected Inspections by Inspection Characteristics Accepted and Rejected Inspections by Material and Plant Accepted and Rejected Inspections by Work Center

Analysis of inspection characteristic results from the last 365 days

Inspected and Nonconforming Units by Inspection Characteristics based on time, master inspection characteristics, inspection Inspected and Nonconforming Units by Material and Plant characteristics, material and plant, and work center. Inspected and Nonconforming Units by Work Center



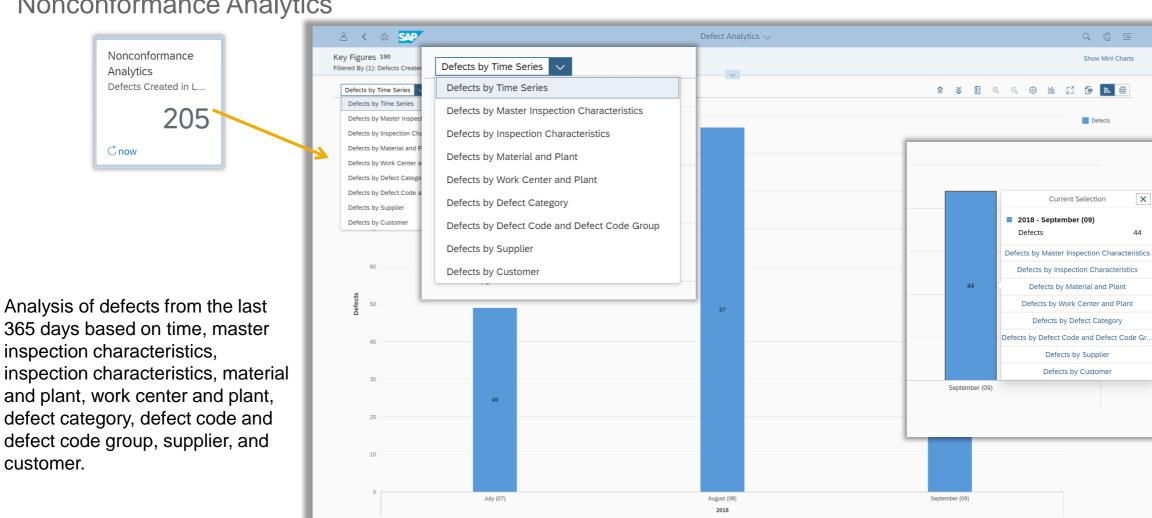
Characteristic Detailed Analytics





Open In...

Nonconformance Analytics



365 days based on time, master inspection characteristics, inspection characteristics, material and plant, work center and plant, defect category, defect code and defect code group, supplier, and customer.

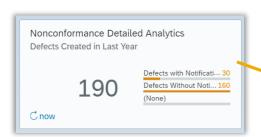
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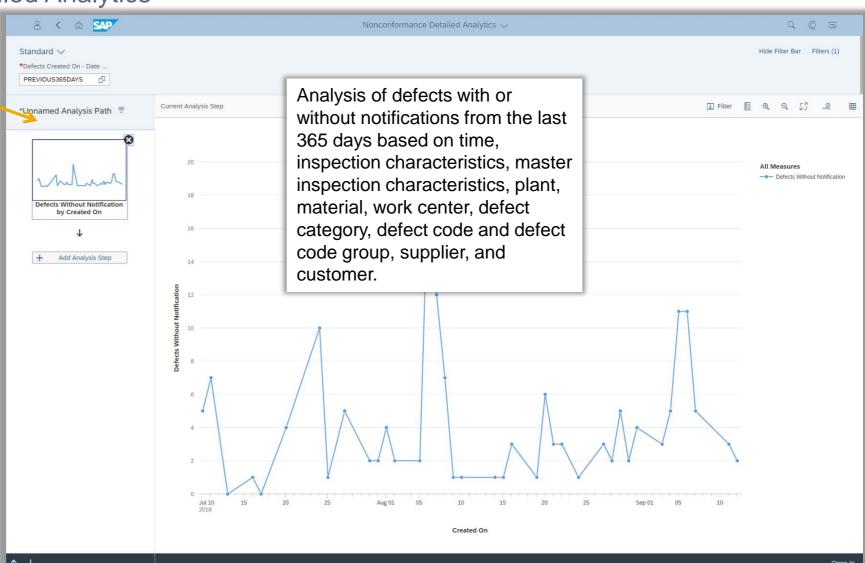
Calendar Year / Calendar Month





Nonconformance Detailed Analytics

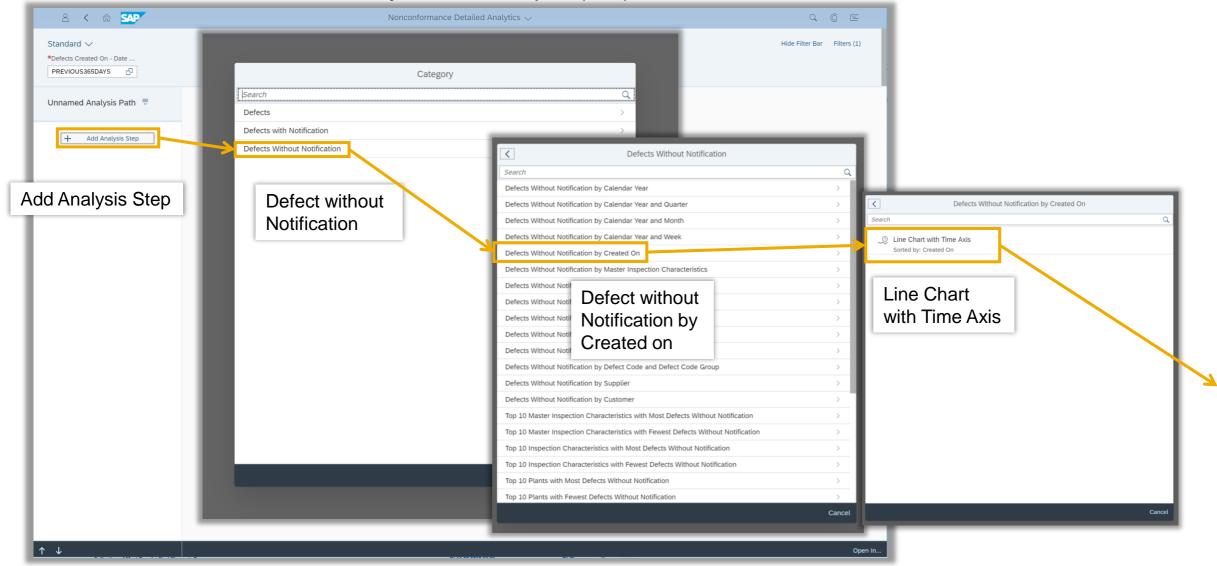








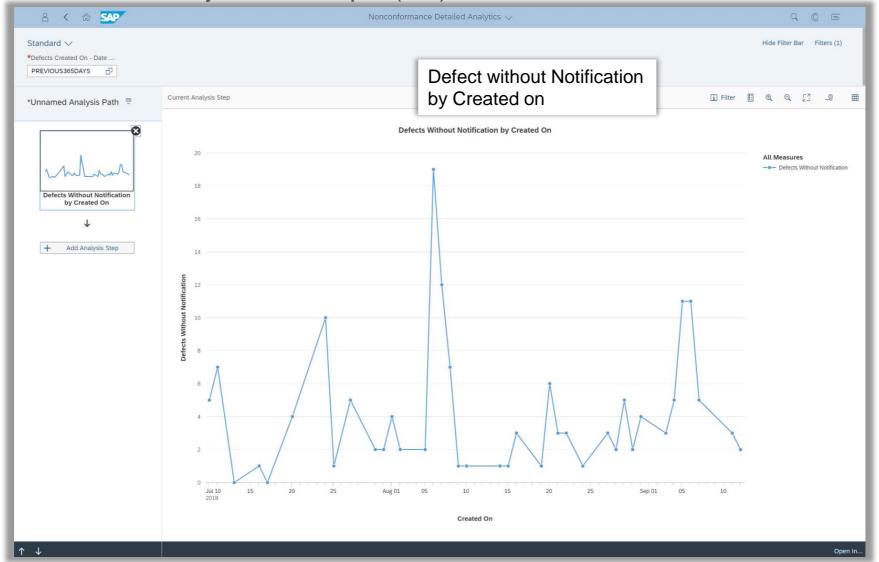
Nonconformance Detailed Analytics - Example (1/3)







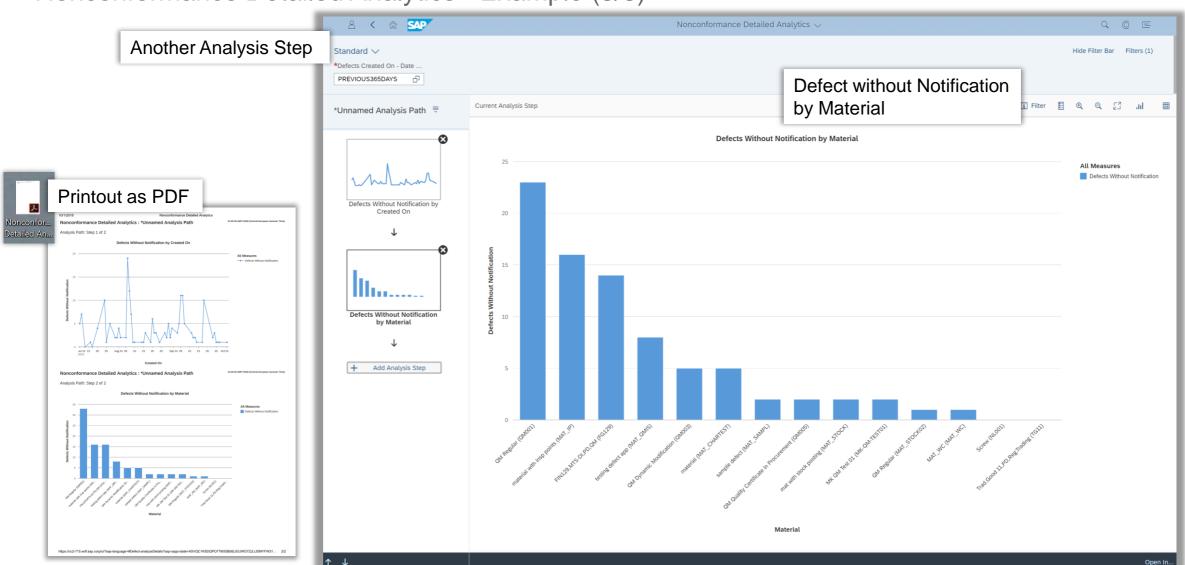
Nonconformance Detailed Analytics - Example (2/3)







Nonconformance Detailed Analytics - Example (3/3)



Quality Management in SAP S/4HANA Cloud / SAP S/4HANA

Current Status and Outlook





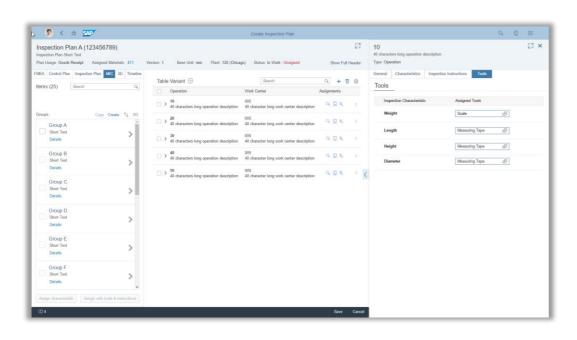
CEI - Inspection Planning in SAP S/4HANA Cloud and SAP S/4HANA

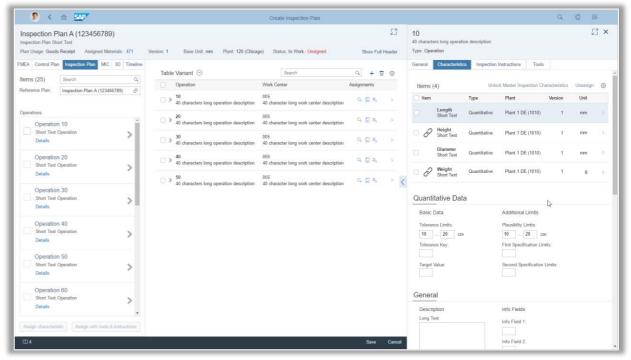


Goal

Validation of the detailed business scenarios related to Inspection Planning to build it in the direction of Intelligent ERP. Evaluate the points where Inspection Plan can be made more intelligent and smart.

https://influence.sap.com/sap/ino/#/campaign/1471



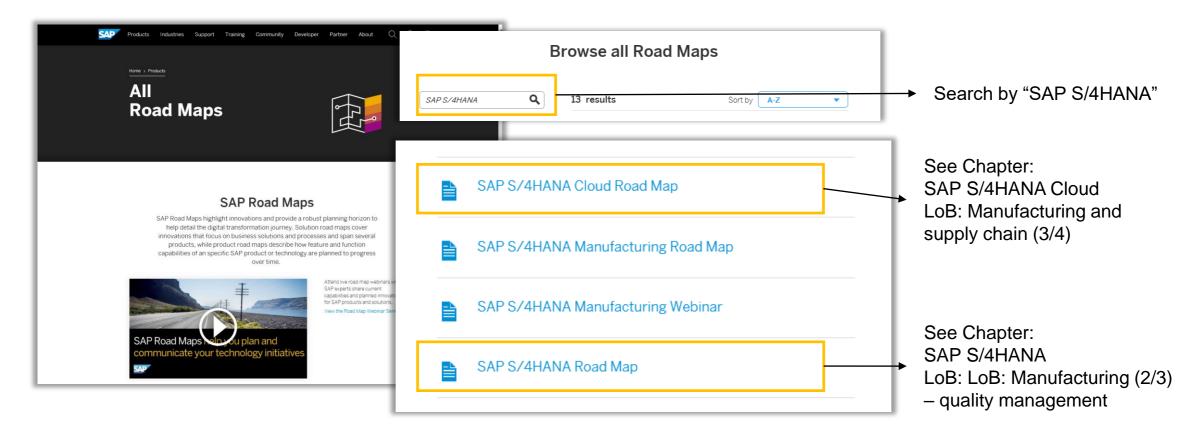


Miscellaneous

QM in SAP S/4HANA Roadmaps



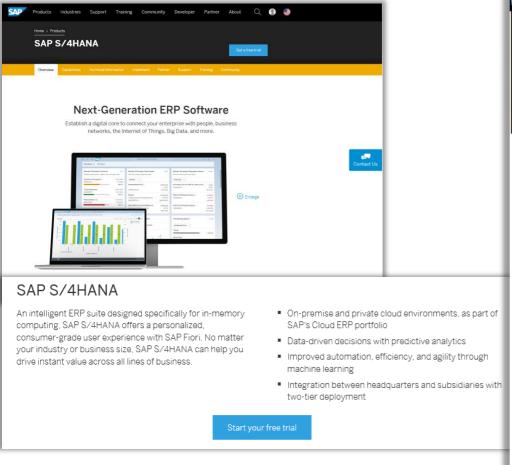
Link www.sap.com/roadmaps



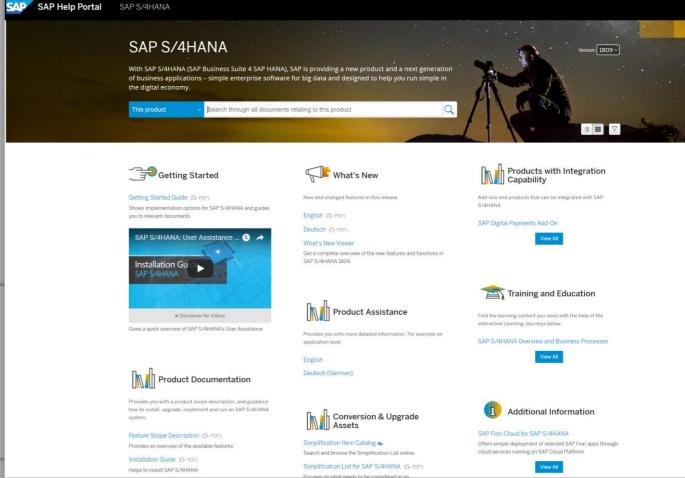
S/4HANA

General Information

Link http://sap.com/s4hana



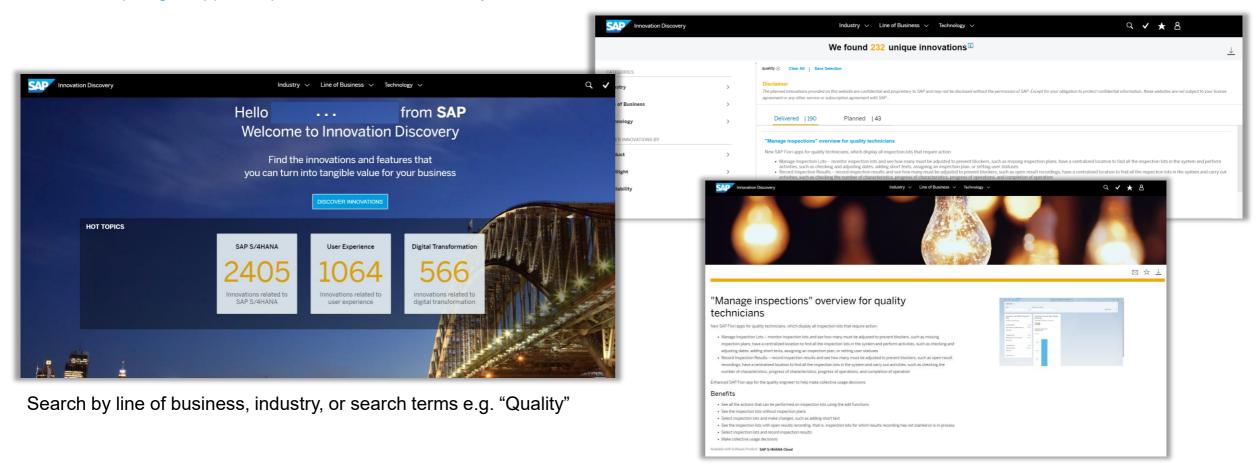
Link https://help.sap.com/s4hana



SAP QM in S/4HANA

Innovation Discovery (Planned and Delivered Innovations)

Link https://go.support.sap.com/innovationdiscovery/



Additional information with details, screenshots, benefits, product features, and availability



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