Quality Management (QM)

Curriculum: Introduction to S/4HANA using Global Bike

Teaching material - Information

Teaching material - Version

- 3.2 (February 2018)

- Software used
  - SAP S/4HANA 1709

- Model
  - Global Bike

- Prerequisites
  - No Prerequisites needed

Module Information

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Target Audience

- Beginner

Module Information

Learning Objectives

You are able to
- name functionalities of the QM module.
- define the central organizational structures of the QM module.
- summarize the master data which is most important for the QM module.
- explain a standard QM process.

Functionality

- Quality Planning

- Quality Inspection

- Quality Control

- Quality Certificates

- Quality Notifications

- Test Equipment Management

- Inspection Using Multiple Specifications

- Stability Study

- Control in Logistics

- Archiving

- Data Transfer

Unit Overview

- QM Organizational Structure

- QM Master Data

- QM Processes
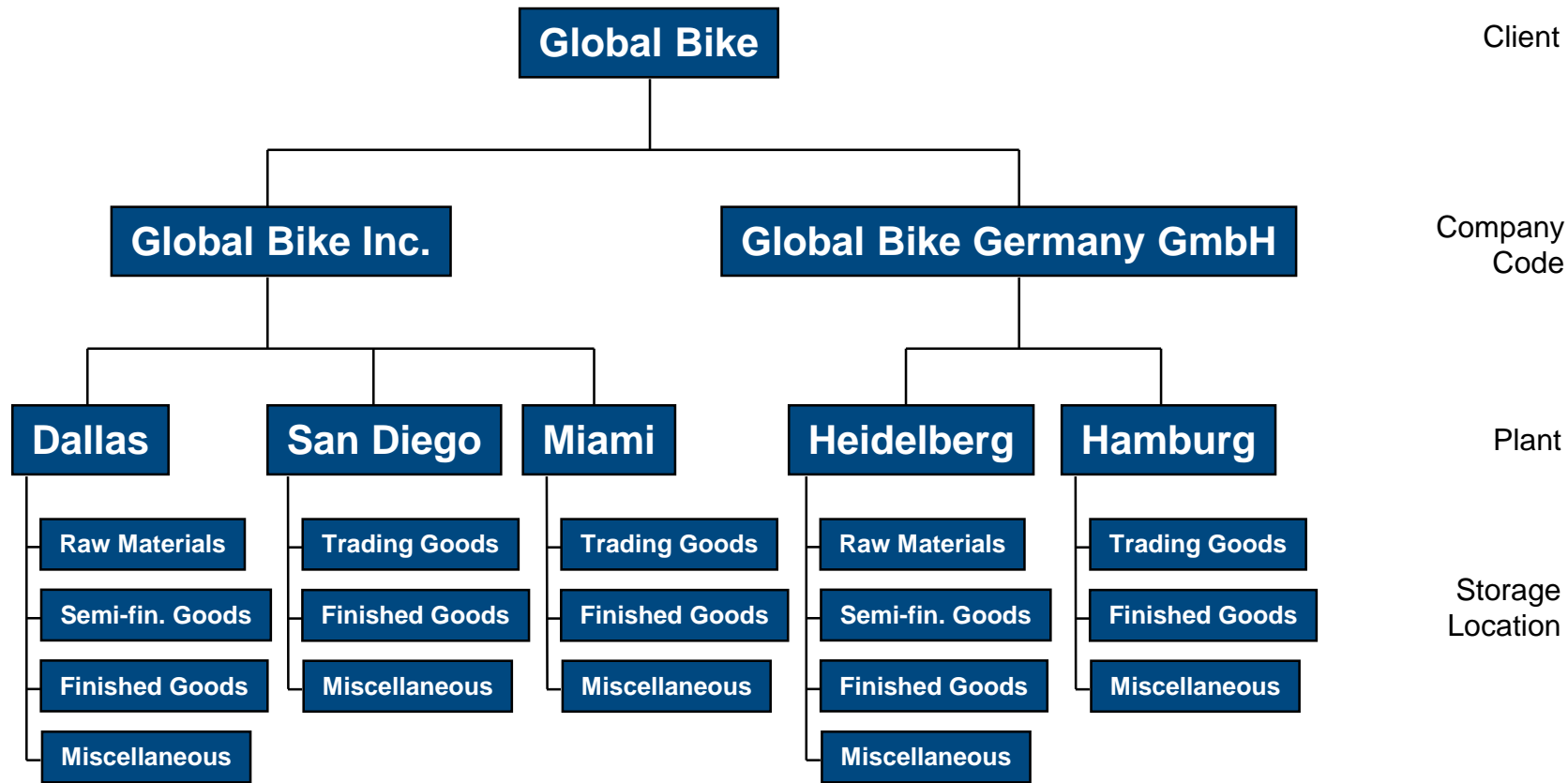
- What is new in S/4HANA

QM Organizational Structure

- Client
  - An independent environment in the system

- Company Code
  - Smallest org unit for which you can maintain a legal set of books

- Plant
  - Operating area or branch within a company
    - Manufacturing, distribution, purchasing or maintenance facility

- Storage Location
  - An organizational unit allowing differentiation between the various stocks of a material in a plant
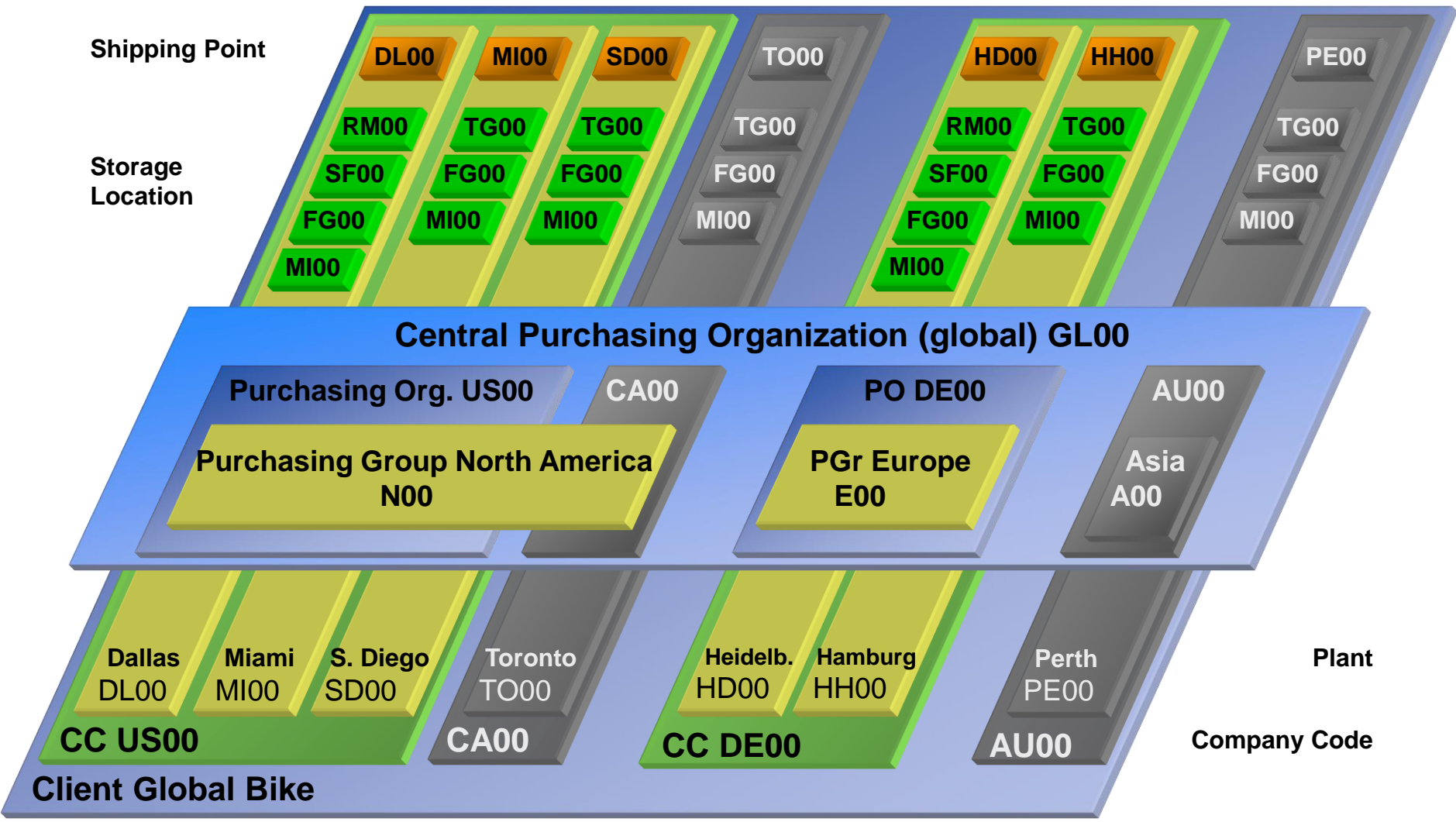
QM Organizational Structure

- Purchasing Organization
  - The buying activity for a plant takes place at the purchasing organization
  - Organization unit responsible for procuring services and materials
  - Negotiates conditions of the purchase with the vendors

- Purchasing Group
  - Key that represents the buyer or group of buyers who are responsible for certain purchasing activities
  - Channel of communication for vendors

Global Bike Structure for Quality Management

Global Bike — Client

Global Bike Inc. · Global Bike Germany GmbH — Company Code

Dallas · San Diego · Miami · Heidelberg · Hamburg — Plant

Storage Location:
- Dallas: Raw Materials, Semi-fin. Goods, Finished Goods, Miscellaneous
- San Diego: Trading Goods, Finished Goods, Miscellaneous
- Miami: Trading Goods, Finished Goods, Miscellaneous
- Heidelberg: Raw Materials, Semi-fin. Goods, Finished Goods, Miscellaneous
- Hamburg: Trading Goods, Finished Goods, Miscellaneous

Global Bike Enterprise Structure in SAP ERP (Logistics)

Shipping Point

| DL00 | MI00 | SD00 | TO00 | | HD00 | HH00 | | PE00 |

Storage Location

RM00 TG00 TG00 TG00 RM00 TG00 TG00

SF00 FG00 FG00 FG00 SF00 FG00 FG00

FG00 MI00 MI00 MI00 FG00 MI00 MI00

MI00 MI00

Central Purchasing Organization (global) GL00

Purchasing Org. US00   CA00   **PO DE00**   AU00

Purchasing Group North America N00   **PGr Europe E00**   **Asia A00**

Plant

| Dallas DL00 | Miami MI00 | S. Diego SD00 | Toronto TO00 | Heidelb. HD00 | Hamburg HH00 | Perth PE00 |

CC US00   **CA00**   **CC DE00**   **AU00**   **Company Code**

Client Global Bike

Agenda

- QM Organizational Structure

- **QM Master Data**

- QM Processes

- What is new in S/4HANA

QM Master Data

Customer Master Data

Material Master Data

Vendor Master Data

Customer Master Data

- ## Customer Master
  - Contains all of the information necessary for processing orders, deliveries, invoices and customer payment
  - Every customer MUST have a master record

- ## Created by Sales Area
  - Sales Organization
  - Distribution Channel
  - Division

Customer Master Data

- The customer master information is divided into 3 areas:
  - General Data
  - Company Code Data
  - Sales Area Data

Material Master Data

- Material Master

  - Contains all the information a company needs to manage about a material

  - It is used by most components within the SAP system
    - Sales and Distribution
    - Materials Management
    - Production
    - Plant Maintenance
    - Accounting/Controlling
    - Quality Management

  - Material master data is stored in functional segments called Views

Material Master Views

Material Master

General Information relevant for the entire organization:

Client XXX
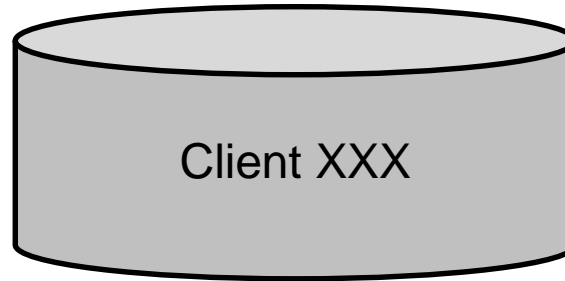
Name
Weight
Unit of Measure

Sales specific information:

Sales Org. UW00

Sales Org. UE00
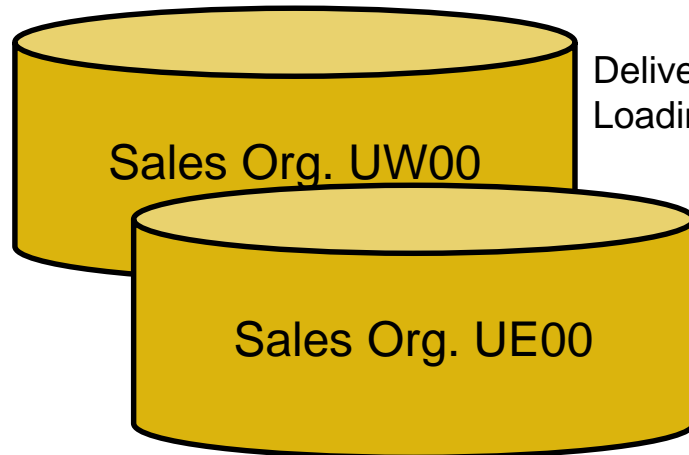
Delivering Plant
Loading Grp
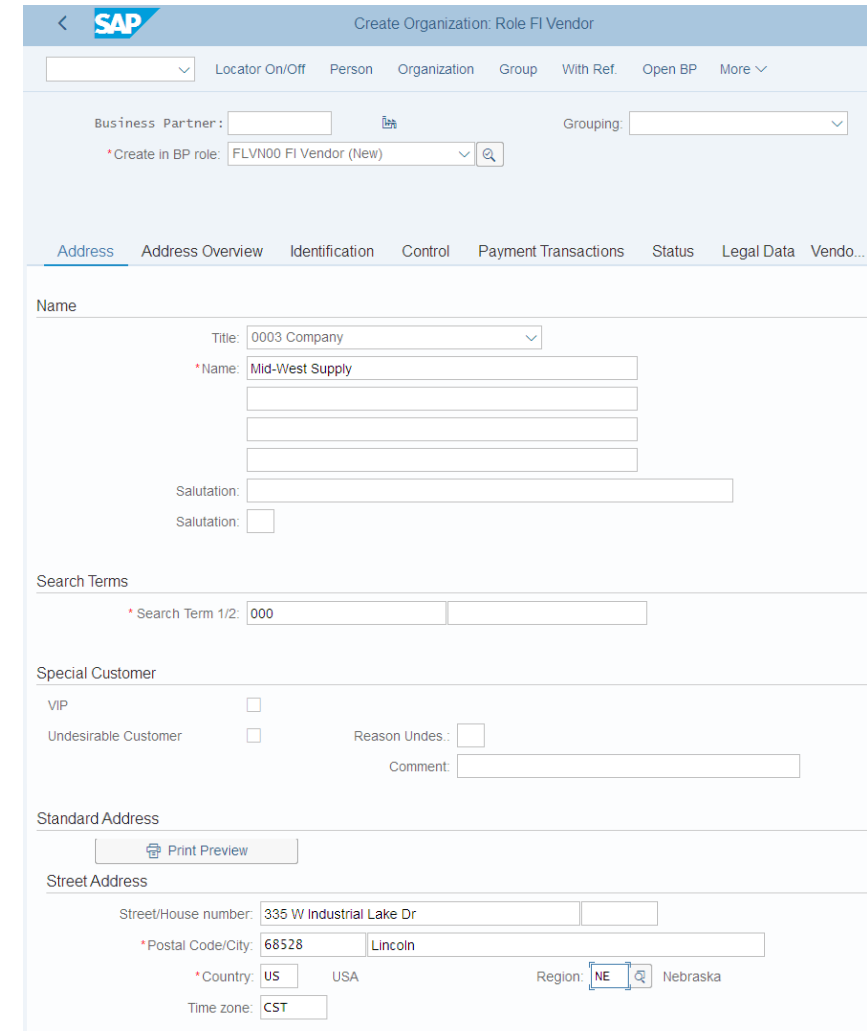
Storage Location specific information:

Storage Loc. FG00

Storage Loc. TG00
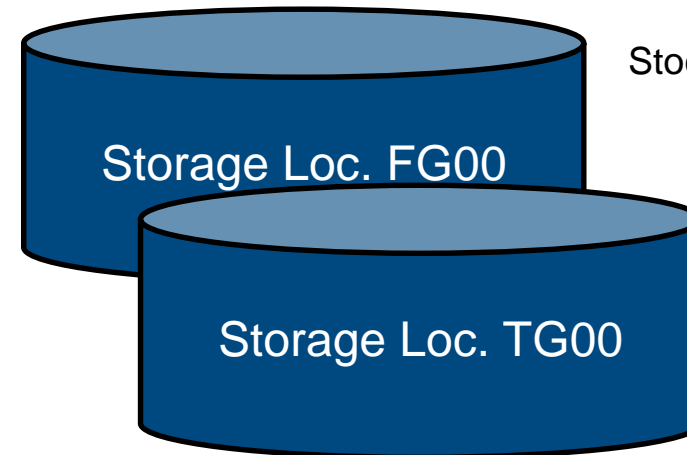
Stock Qty

Vendor Master Data

- Vendor Master
  - Contains all the necessary information needed to business with an external supplier
  - Used and maintained primarily by the Purchasing and Accounting Departments
  - Every vendor MUST have a master record

Vendor Master Views

- Client Level
  - Address
  - Vendor Number
  - Preferred Communication

- Company Code Data
  - Reconciliation Account
  - Terms of Payment
  - Bank Account

- Purchase Org Data
  - Purchasing Currency
  - Salesman's Name
  - Vendor Partners

General Data

Company Code Data
Financial Accounting (FI)

Purchasing Data
Materials Mgmt (MM)

Vendor Master

General Information relevant for the entire organization:

Client XXX

Name
Address
Communication
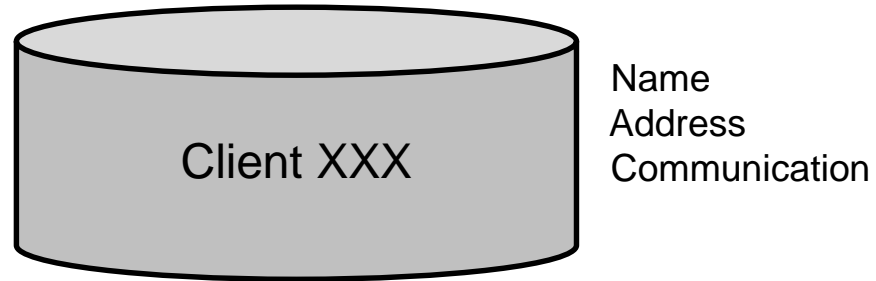
Company Code specific information:

Company Code US00

Company Code DE00

Acc. Mgmt
Payment
Bank
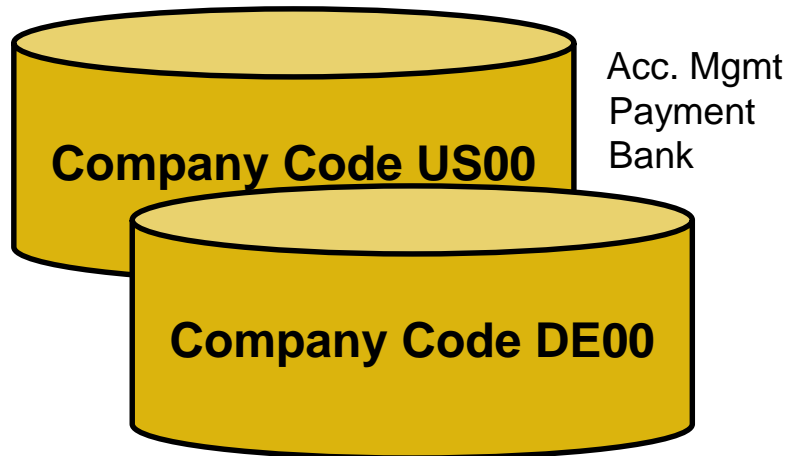
Purch. Organization specific information:
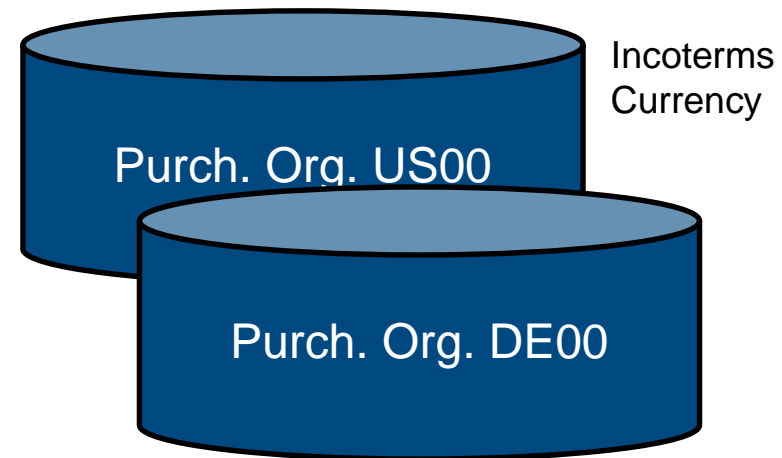
Purch. Org. US00

Purch. Org. DE00

Incoterms
Currency

Agenda

- QM Organizational Structure

- QM Master Data

- QM Processes
  - Quality Management
  - Quality Management in Procurement
  - Quality Management in SD

- What is new in S/4HANA

QM Process

Quality Info. Record → Inspection Plan → Inspection Lot → Perform Inspection → Usage Decision
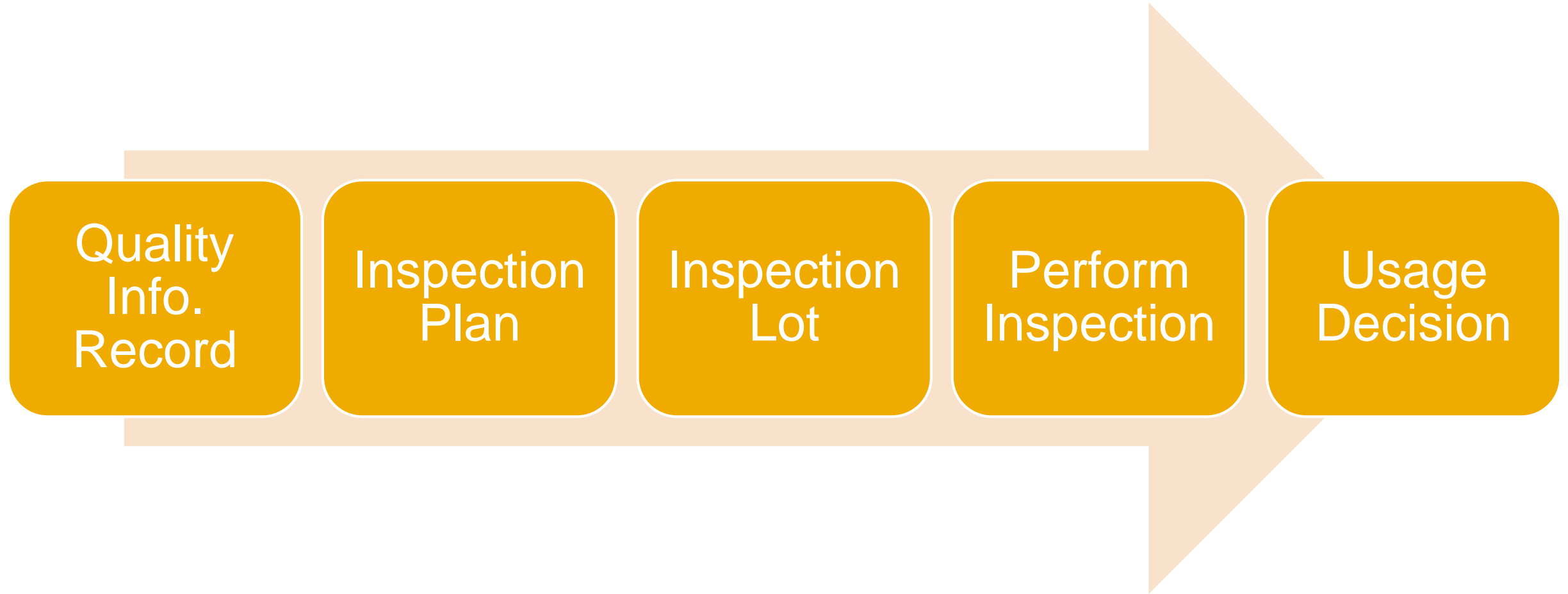
Quality Information Record

- If a quality assurance agreement or vendor release is required for a material, a Quality Info. Record must be created

- Determines how a material can be processed further

- when a quotation or purchase order is created, the system checks whether a quality info record is required and available for the combination of material and vendor

- System also checks, whether the vendor and material-vendor combination is blocked or released for quotations, purchase orders and/or goods receipt

Inspection Plan

- Can be created for different uses as model inspection, carrying out an audit, preliminary series inspection, goods receipt inspection, goods issue inspection, inspection of stock transfers, inspections in repetitive manufacturing

- Defines which characteristics are to be inspected in each inspection operation and which test equipment is to be used in the inspection

- Several materials can be assigned to an inspection plan

- Several inspection plans with different inspection operations or inspection characteristics can be created for a material or combination of material, vendor and manufacturer, or material and customer

Inspection Lot

- Request to a plant to inspect a specific quantity of material or one or more pieces of equipment or functional locations

- Documented by an inspection lot record

- Used to record, process and manage information for a quality inspection

- Whenever materials are moved from on place to another under certain conditions, the QM component can automatically create inspection lots

- The system can also create an inspection lot automatically if a delivery is created in the SD component for a inspection-relevant material

- Can be created automatically or manually

Perform Inspection

- Inspection of sample units of the inspection lot

- Number of non-conforming sample units entered in the SAP System

Usage Decision

- Confirms that all physical samples have been valuated and the inspection has been completed

- Specifies whether the goods in the inspection lot have been accepted or rejected for use

- Inspection lot stock can be posted to different stocks
  - Unrestricted use
  - Scrap
  - Sample usage
  - Blocked stock

QM Process in Procurement

Quality Info. Record → Inspection Plan → Purchase Order → Receiving Material → Inspection Lot → Perform Inspection → Usage Decision

Quality Management in SD

Quality Info Record → Inspection Plan → Goods Issue → Inspection Lot → Perform Inspection → Usage Decision → Goods Receipt → Sales Order → Outbound Delivery → Invoice

SAP QM Module Integration

- High integration in other SAP modules including:

  - SAP MM
    - e.g. maintain quality agreements

  - SAP SD
    - e.g. quality information related to customers

  - SAP PP
    - e.g. perform inspection planning

  - SAP CO
    - e.g. integrate SAP QM with controlling process

Agenda

- QM Organizational Structure

- QM Master Data

- QM Processes
  - Quality Management
  - Quality Management in Procurement
  - Quality Management in SD

- What is new in S/4HANA?

Innovations in S/4HANA in QM
Integrated QM capabilties

- Challenge: mass personalization while ensuring consistent quality in every product

- Manufacturers require flexible and intergrated QM processes from design to final delivery

- With **S/4HANA**, Quality management becomes fully integrated in the entire quality process
  - Improves the Segment of One process

- Streamlined and exceptional end user experience together with new functionalities

Innovations in S/4HANA in QM
Integrated QM capabilties

SAP S/4 HANA Manufacturing Cloud

Preconfigured QM scenarios

IoT connectivity

Standardization of issue resolution procedures

Simplified inspection planning process

Predictive quality management

Machine – Learning capabilities

Advanced closed loop inspection planning

Streamlined test equipment management

Comprehensive analysis of quality management

Third-party collaboration

Digital Core

Integrated QM capabilities

Innovations in S/4HANA in QM
Preconfigured core processes

Procurement

Inventory Management

Production

Sales

Quality Management

- **Quality management in procurement**
  - Regular quality inspection process at goods receipt
  - Quality inspection process with dynamic modification
  - Quality inspection process with material-supplier release

- **Quality management in stock handling**
  - Post unrestricted or blocked stock to quality inspection stock
  - Post quality inspection stock to different storage location

- **Quality management in discrete manufacturing**
  - Goods receipt from production
  - Within production process

- **Quality management in sales**
  - Goods issue only with accepted quality

Innovations in S/4HANA in QM
Role-specific Fiori launchpads

- Core QM processes supported by new roles
- New personalized Fiori launchpads for the following roles:

Quality planner

- Creating QM data
- Manage plans
- Provide basis for inspection

Quality technician

- Execute quality inspections
- Record the results

Quality engineer

- Monitoring quality inspections
- Analysis of test results

Quality manager

- Establishing quality standards/ procedures
- Set up of controls

Quality auditor

- Check products based on specific inspection plans

Calibration technician

- make sure that testing devices are calibrated correctly

➢ Typical transactions/ apps are combined in business catalogs and assigned to the different roles

Innovations in S/4HANA in QM
New Fiori apps

- New Fiori apps with exceptional end user experience together with new functionalities
  - For example: App for recording results of quality inspections
  - Quality technicians can record the results of their quality inspection easily and efficiently
- In order to achieve this the app provides flexible and state-of-the-art worklists