

# Warehouse Management (WM)

Curriculum: Introduction to S/4HANA using Global Bike

# Teaching material - Information

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## Teaching material - Version

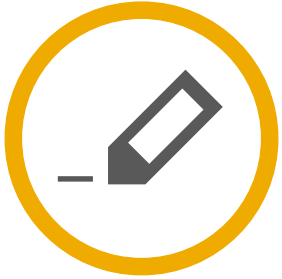
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- 4.2 (August 2023)
- Software used
  - SAP S/4HANA 2022
  - Fiori 3.0
- Model
  - Global Bike
- Prerequisites
  - No Prerequisites needed



# Module Information

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## Authors

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- Babett Ruß



## Target Audience

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- Beginner

# Module Information

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## Learning Objectives

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You are able to

- name some functionalities of the WM module.
- define the central organizational structures of the WM module.
- summarize the master data which is most important for the WM module.
- explain standard Warehouse Management processes.

# Functionality

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- Goods Receipt
- Goods Issue
- Picking
- Packing
- Shipping
- Physical Inventory

# Agenda

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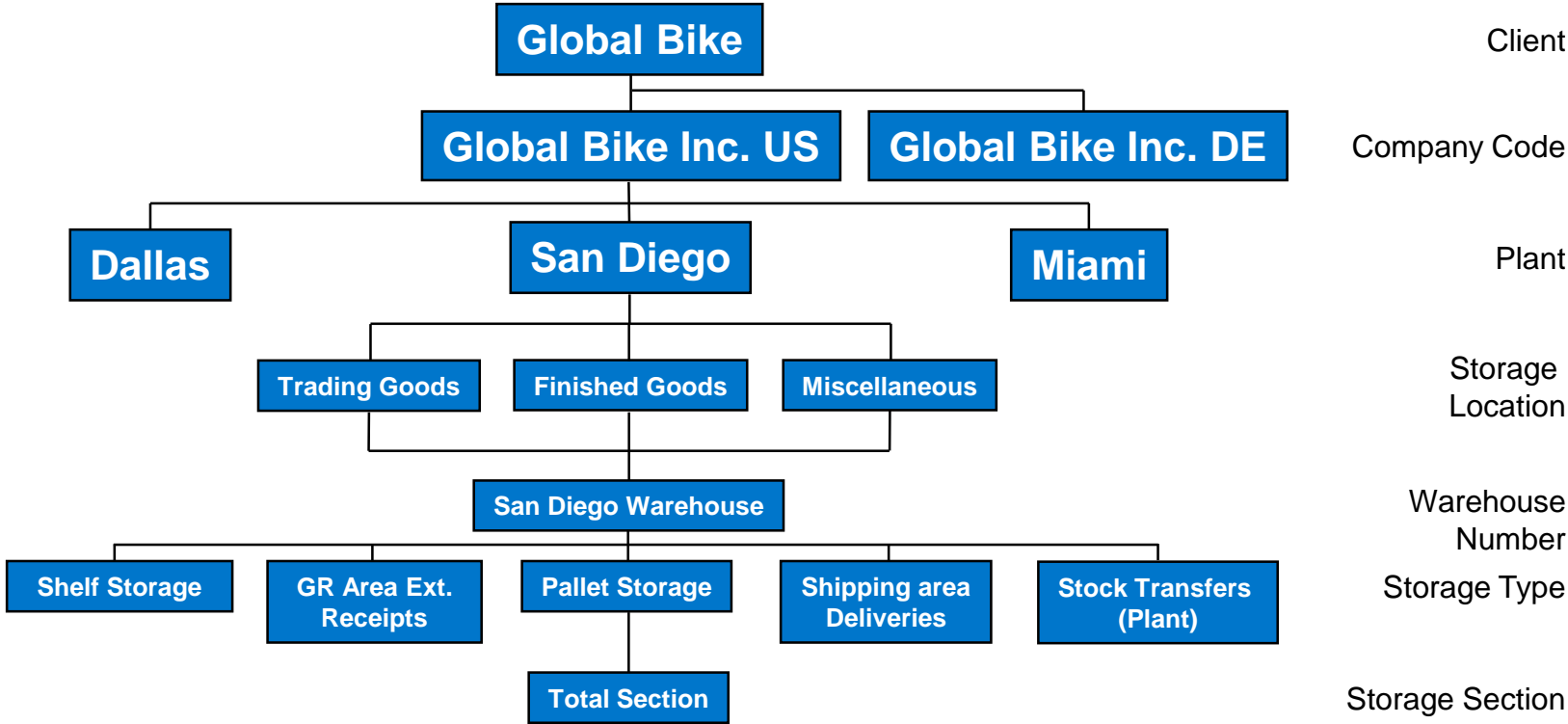
- WM Organizational Structure
- WM Master Data
- WM Process Management and Control

# Agenda

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- WM Organizational Structure
- WM Master Data
- WM Process Management and Control

# WM Organizational Structure





# WM Organizational Structure

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- 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

# WM Organizational Structure

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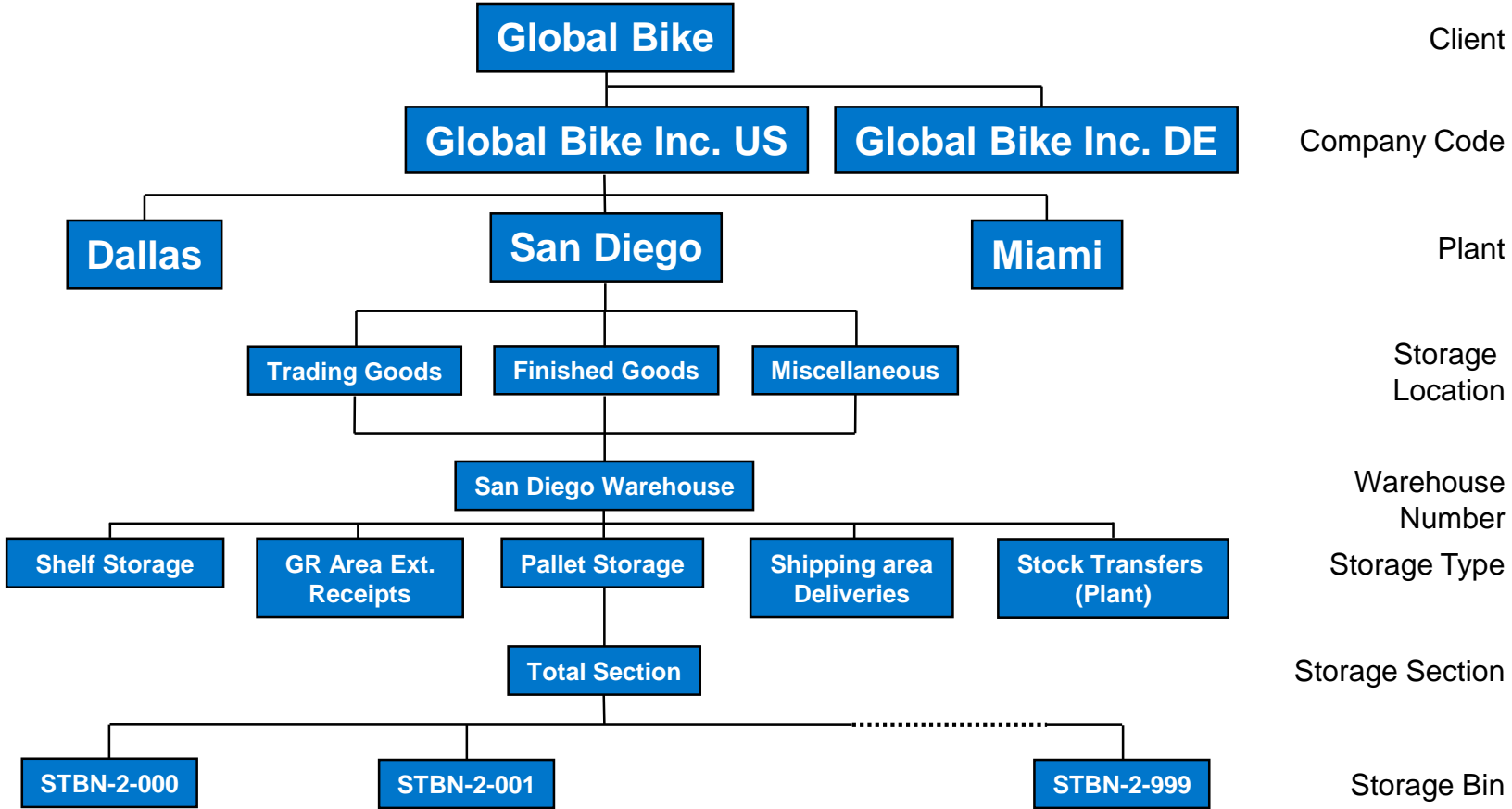
- Warehouse Number
  - Number that identifies a complex, physical warehouse structure within the warehouse management system
- Storage Type
  - Subdivision of a complex, physical warehouse
  - Is identified by its warehousing technique, form of organization, or its function
- Storage Section
  - Logical or physical subdivision of a storage type
  - Groups together a series of similar storage bins
- Picking Area
  - Groups storage bins together from the standpoint of picking strategies

# WM Organizational Structure

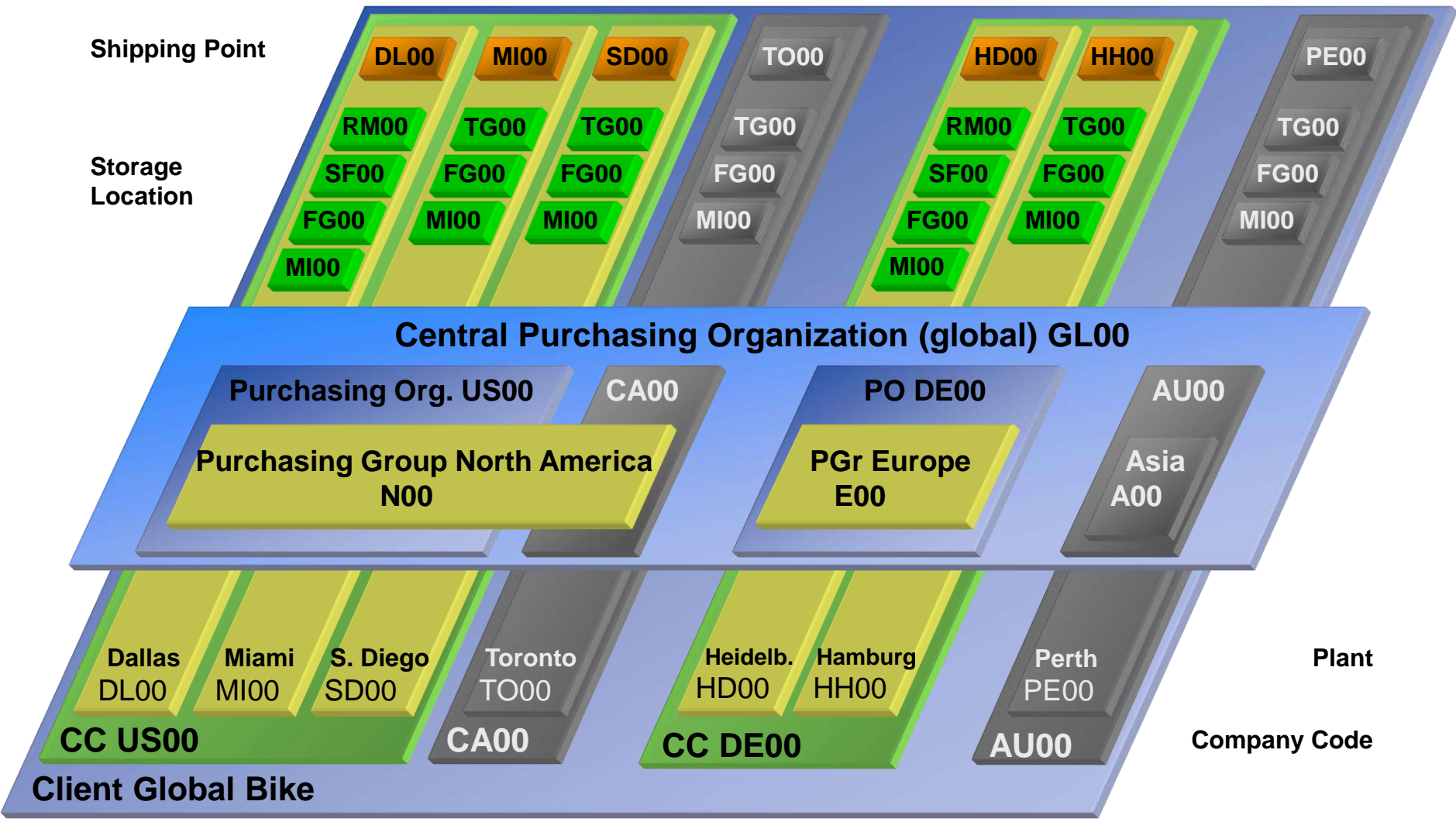
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- Warehouse door
  - Marks the point where the means of transport changes to an internal transportation
- Allocation Zone
  - Temporary storage of goods, which have just arrived or will be shipped soon
- Shipping Point
  - Is the part of the company responsible for the type of shipping, the necessary shipping materials and the means of transport
- Storage Bin
  - Smallest addressable unit in a warehouse, which identifies the exact location in the warehouse where goods can be stored
  - Master Data

# Global Bike Structure for Warehouse Management



# Global Bike Enterprise Structure in SAP ERP (Logistics)



# Agenda

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- WM Organizational Structure
- **WM Master Data**
- WM Process Management and Control

# WM Master Data

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SAP

Display Transfer Requirement: List for Material

More

Exit

Warehouse Number

100

Material

DXTR1000

Plant

SD00

Stor. location

FG00

Batch

Shipment Type

\*

Stock Segment

Stock Cat.

\*

Special Stock

\*

Status of Movement

☐ Processing Complete

General Selection Criteria

Transfer Priority:

☐

Execute From (Date):

Execute to (Date):

Requirement Number:

Additional Number:

Source Storage Type:

Dest. Storage Type:

Layout:

Storage Bin Master Data

Material Master Data

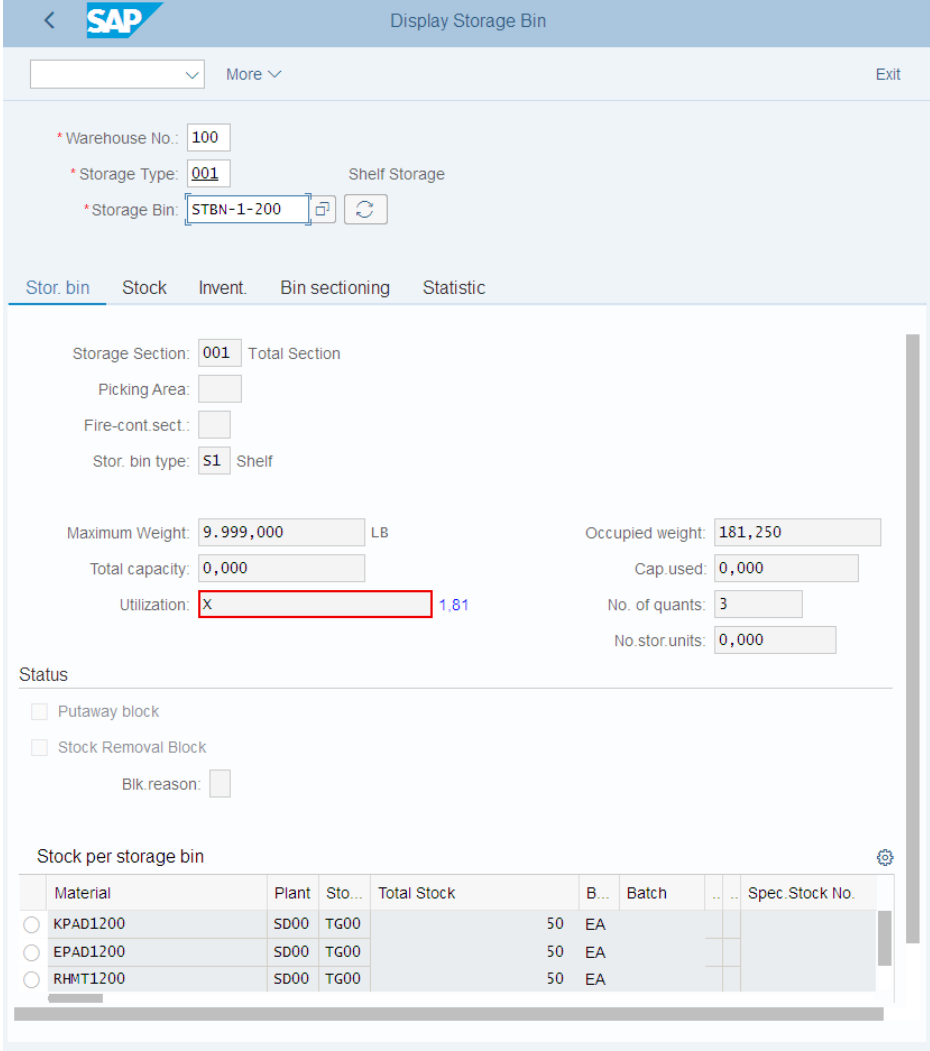
Hazard Master Data

Batch Master Data

# Storage Bin Master Data

## ■ Storage Bin Master Data

- Two different organizational levels
  - Warehouse Level:  
All indicators and fields which are valid for the whole warehouse
  - Storage Type Level:  
All indicators which are only valid for specific storage types
- Also includes Storage Bins and Quants



The screenshot shows the SAP 'Display Storage Bin' interface. At the top, the SAP logo and title 'Display Storage Bin' are visible. Below the title bar, there are input fields for 'Warehouse No.' (100), 'Storage Type' (001), and 'Storage Bin' (STBN-1-200). The 'Storage Type' is labeled 'Shelf Storage'. Below these fields, there are tabs for 'Stor. bin', 'Stock', 'Invent.', 'Bin sectioning', and 'Statistic'. The 'Stor. bin' tab is active. In this tab, there are fields for 'Storage Section' (001), 'Picking Area', 'Fire-cont. sect.', and 'Stor. bin type' (S1 Shelf). Below these, there are weight and capacity fields: 'Maximum Weight' (9.999,000 LB), 'Total capacity' (0,000), 'Occupied weight' (181,250), 'Cap. used' (0,000), and 'Utilization' (X 1,81). There are also fields for 'No. of quants' (3) and 'No. stor. units' (0,000). Below the utilization field, there is a 'Status' section with checkboxes for 'Putaway block' and 'Stock Removal Block', and a 'Blk. reason' field. At the bottom, there is a table titled 'Stock per storage bin' with columns for Material, Plant, Sto..., Total Stock, B..., Batch, and Spec. Stock No. The table contains three rows of data for materials KPAD1200, EPAD1200, and RHMT1200, all with plant SD00 and storage bin TG00.

Material	Plant	Sto...	Total Stock	B...	Batch	Spec. Stock No.
KPAD1200	SD00	TG00	50	EA		
EPAD1200	SD00	TG00	50	EA		
RHMT1200	SD00	TG00	50	EA		



# Storage Bin Master Data

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- Storage Bin

- Smallest addressable unit in a warehouse

- General Data

- Warehouse
- Storage type
- Storage bin number

- Storage Bin Data

- Storage section
- Picking area
- Fire-containment section
- Bin type
- Max. weight

- Status

- Blocked for putaway
- Stock removal block
- Blocking reason

General Data

Storage Bin Data (WM)

Status (MM)

# Storage Bin Master Data

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- Quant
  - Smallest addressable unit of measure for a material in SAP S/4HANA
  
- General Data
  - Material
  - Plant / Storage location
  - Batch
  - Warehouse
  - Storage type
  - Storage bin
  
- Stock Data
  - Total stock
  - Available stock
  
- Block Indicator
  - Block
  - Putaway/removal status

General Data

Stock Data (MM)

Blocking Indicator (MM)

# Material Master Data

- Material Master
  - Contains all the information a company needs to manage 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

The screenshot displays the SAP Material Master Data for material DXTR1000, titled "Display Material DXTR1000 (Finished Product)". The interface includes a navigation bar with tabs for "Basic data 1", "Basic data 2", "Sales: sales org. 1", "Sales: sales org. 2", and "Sales: General Plant". The "Basic data 1" tab is active, showing the material description "Deluxe Touring Bike (black)".

**General Data**

Base Unit of Measure:	EA	each	Material Group:	BIKES	
Old material number				Ext. Matl. Group:	
Division:	BI		Lab/Office:		
Product allocation:				Prod.hierarchy:	
X-plant matl status:				Valid from:	
Assign effect. vals:				GenItemCatGroup:	NORM Standard item

**Material authorization group**

Authorization Group	
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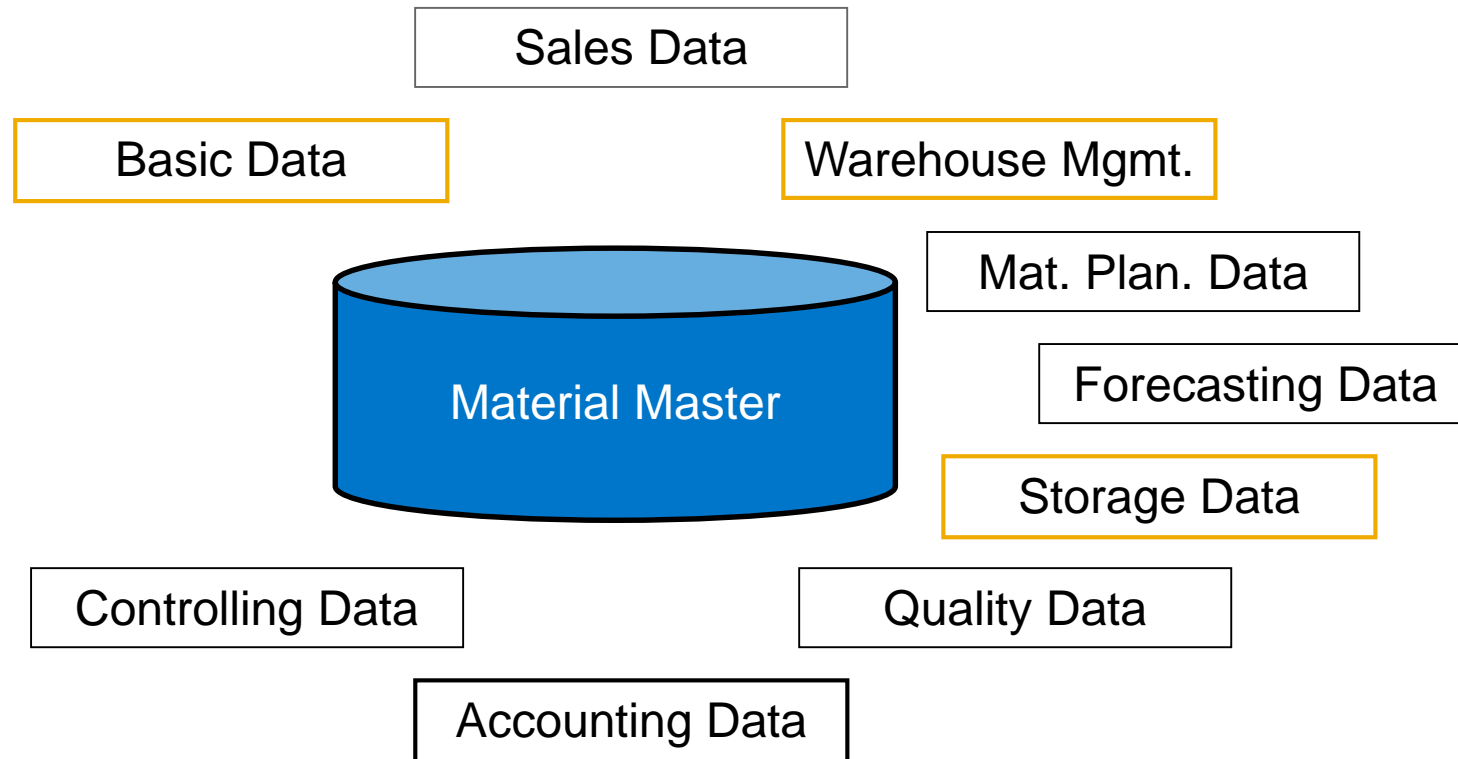
**Dimensions/EANs**

Gross weight:	8.510	Weight unit:	G
Net weight:	8.510		
Volume:	0.000	Volume unit:	
Size/dimensions:			
EAN/UPC:		EAN category:	

**Packaging material data**

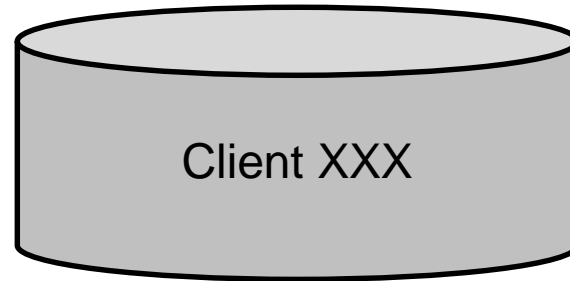
Matl Grp Pack Mats:	
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# Material Master Views



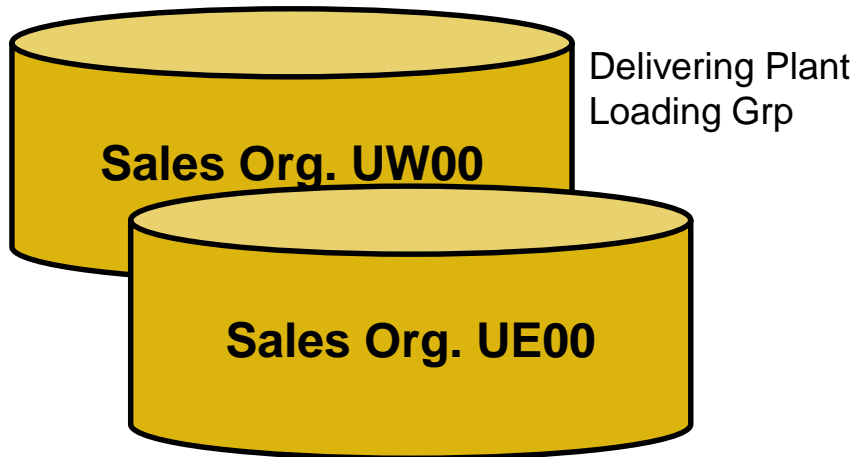
# Material Master

**General Information** relevant for the entire organization:

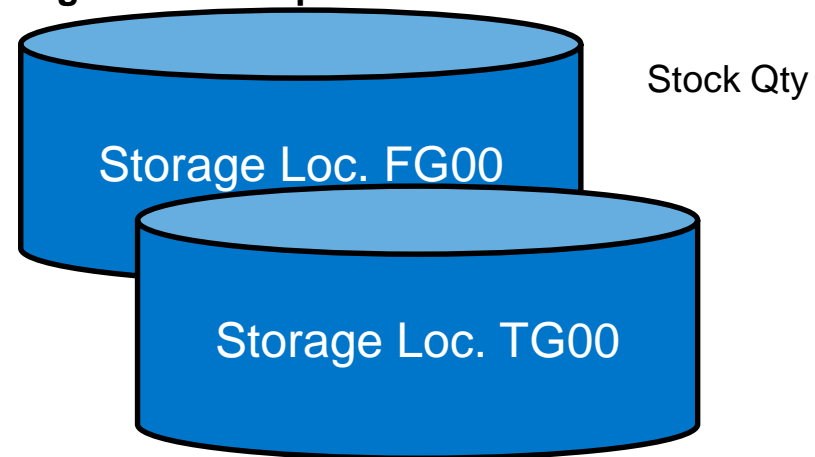


Name  
Weight  
Unit of Measure

**Sales specific information:**



**Storage Location specific information:**



# Hazard Master Data

- Storage area for hazardous materials
  - Flammable liquids
  - Toxic materials
  - Radioactive materials
- General Data
  - Storage class
  - Water pollution class
  - Flash point
  - Aggregate state
  - Hazardous material warning
  - Hazardous substance number

The screenshot displays the SAP Hazardous material warning (1) interface. At the top, it shows 'Hazardous material warning (1)' and '2 Entries found'. Below this, the 'Restrictions' section is visible. The interface includes a toolbar with icons for confirmation, deletion, copy, search, zoom, star, help, print, and a dropdown menu. The main content area lists two entries under the heading 'HW Danger':

HW	Danger
01	Use gloves
02	Careful: corrosive !

# Batch Master Data

- Subset of Material
  - homogeneous series of unreproducible units with a unique specification
- Basic Data 1 & 2
  - Expiration date
  - Inspection date
  - Trading data
  - Administration data
  - Text data
- Classification of Batch
- Material data

The screenshot shows the SAP 'Create Batch' transaction interface. At the top, there is a navigation bar with the SAP logo and the title 'Create Batch'. Below this, there is a dropdown menu and several action buttons: 'Create with Template', 'Change', 'Display', 'More', and 'Exit'. The main area contains two input fields: 'Material:' with the value 'TEST\_CB' and 'Batch:' with the value '1'. Below these fields, there are four tabs: 'Basic Data 1', 'Basic Data 2', 'Classification', and 'Material Data'. The 'Basic Data 1' tab is currently selected. Under this tab, there is a section titled 'Shelf Life Expiration/Best Before Date' which includes a 'Date:' field with a calendar icon, a 'Date of Manufacture:' field, an 'Available From:' field, and a 'Period Indicator:' field with the value 'D'. Below this section is a 'Miscellaneous' section with a 'Next Inspection:' field and a 'Certified on:' field.

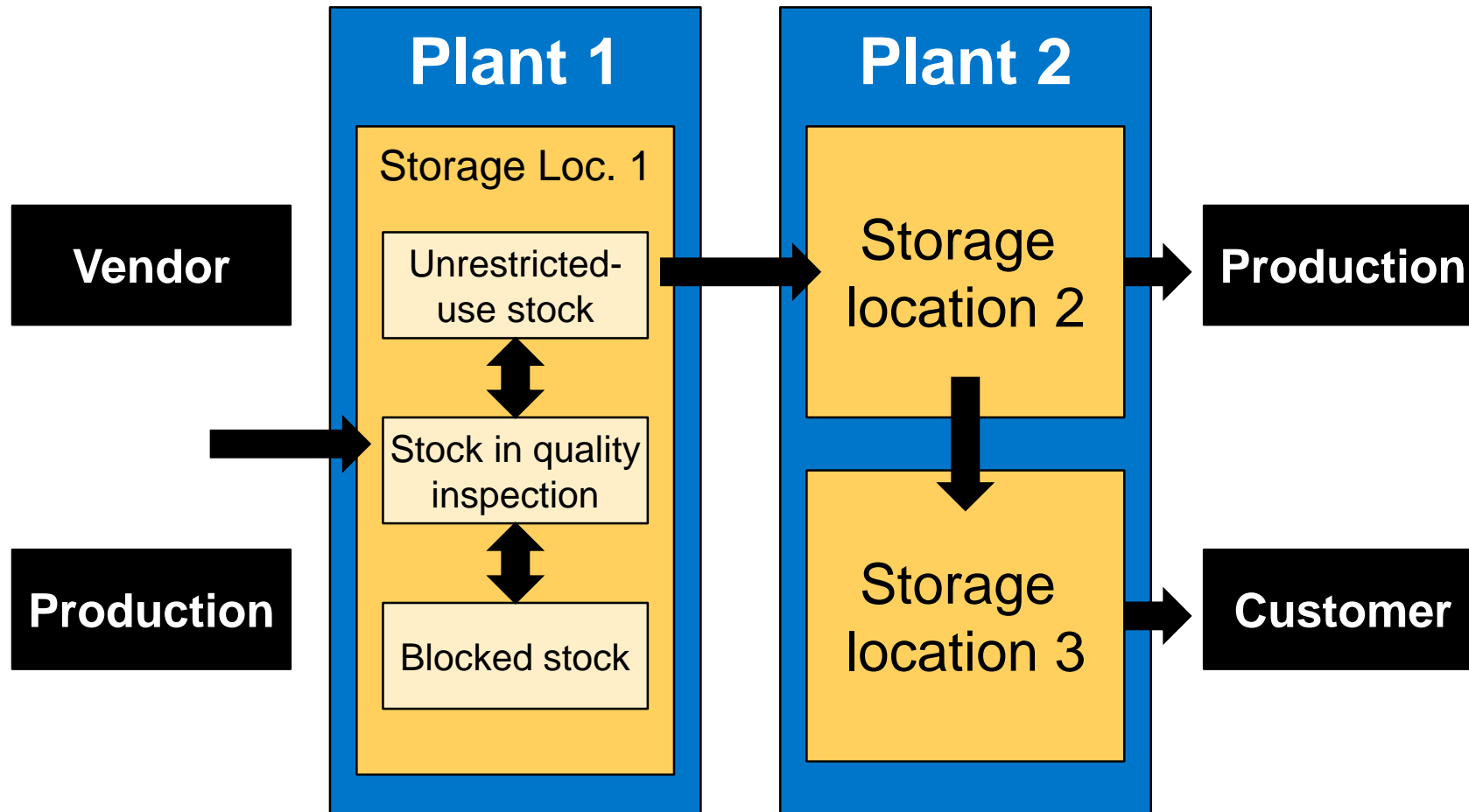
# Agenda

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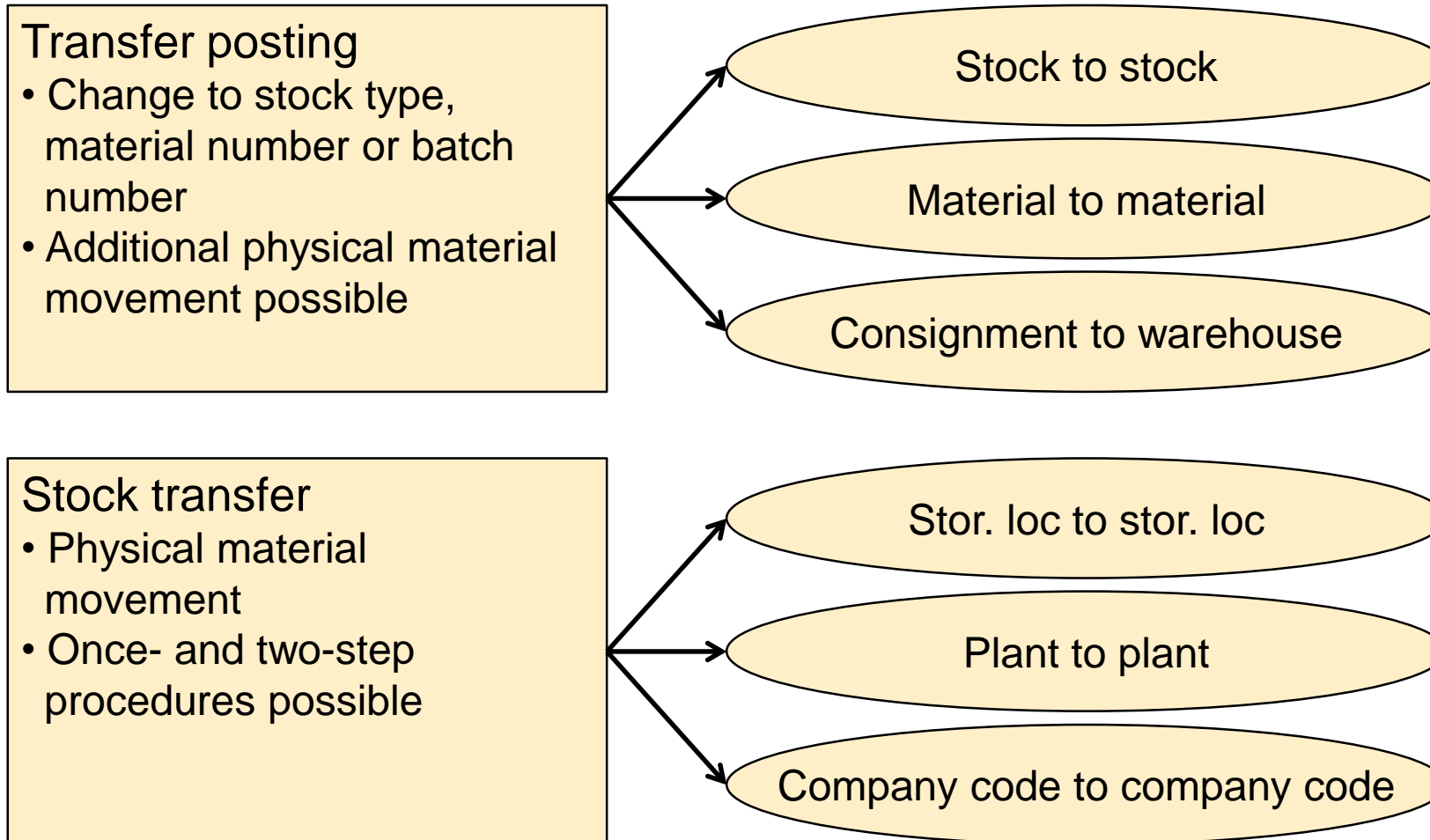
- WM Organizational Structure
- WM Master Data
- WM Process Management and Control



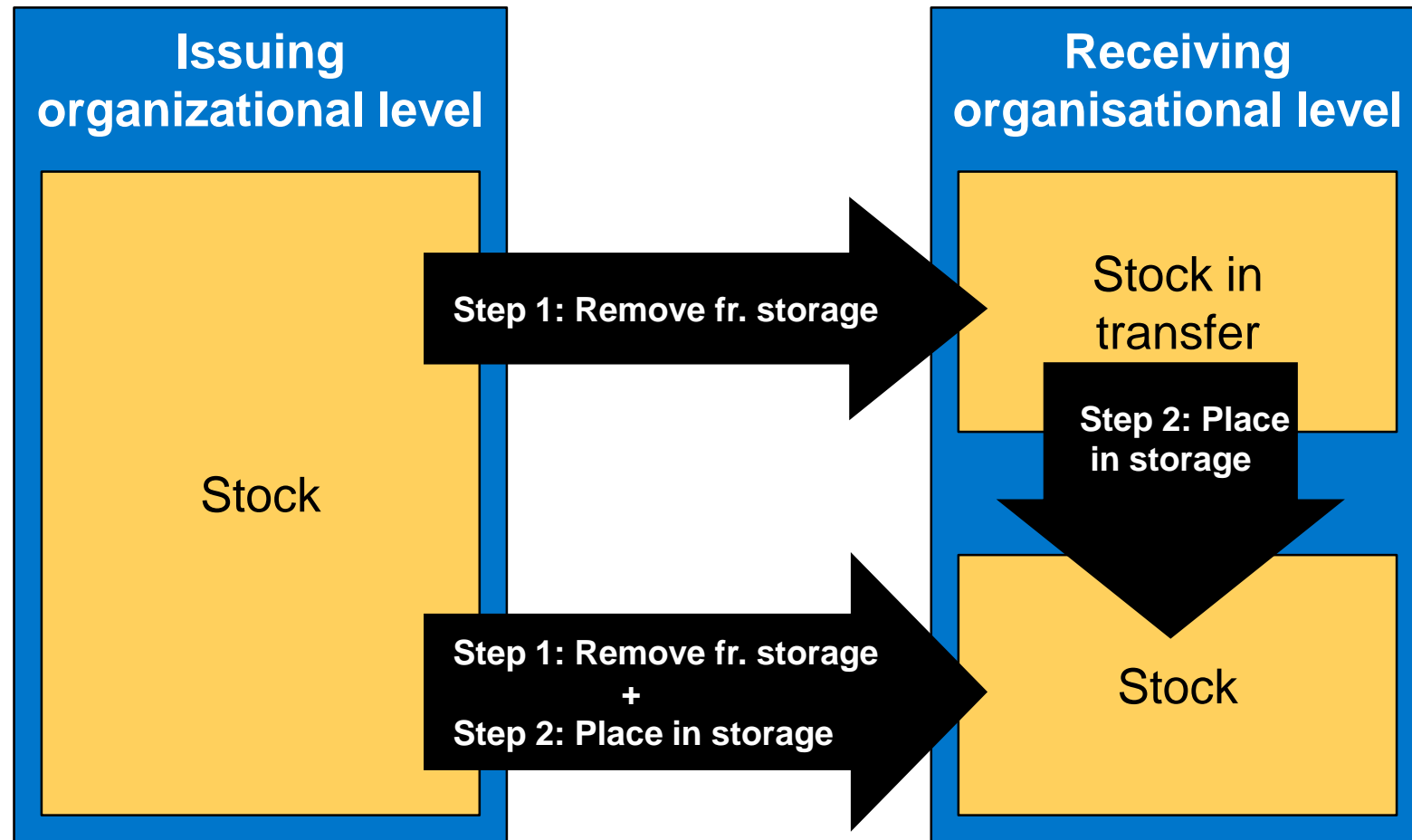
# WM Types of goods movements



# Transfer posting and stock transfer



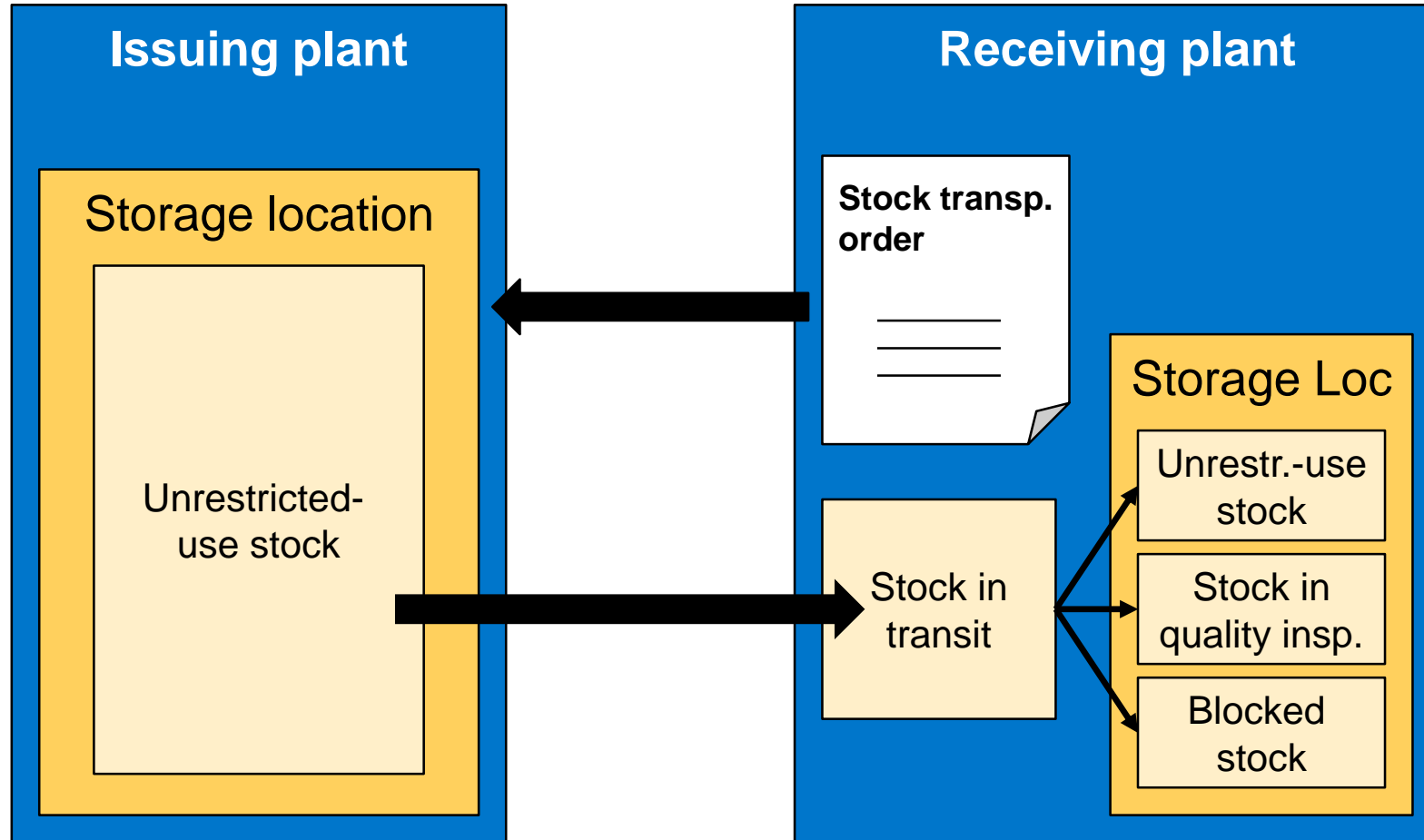
# One-Step/Two-Step Procedures



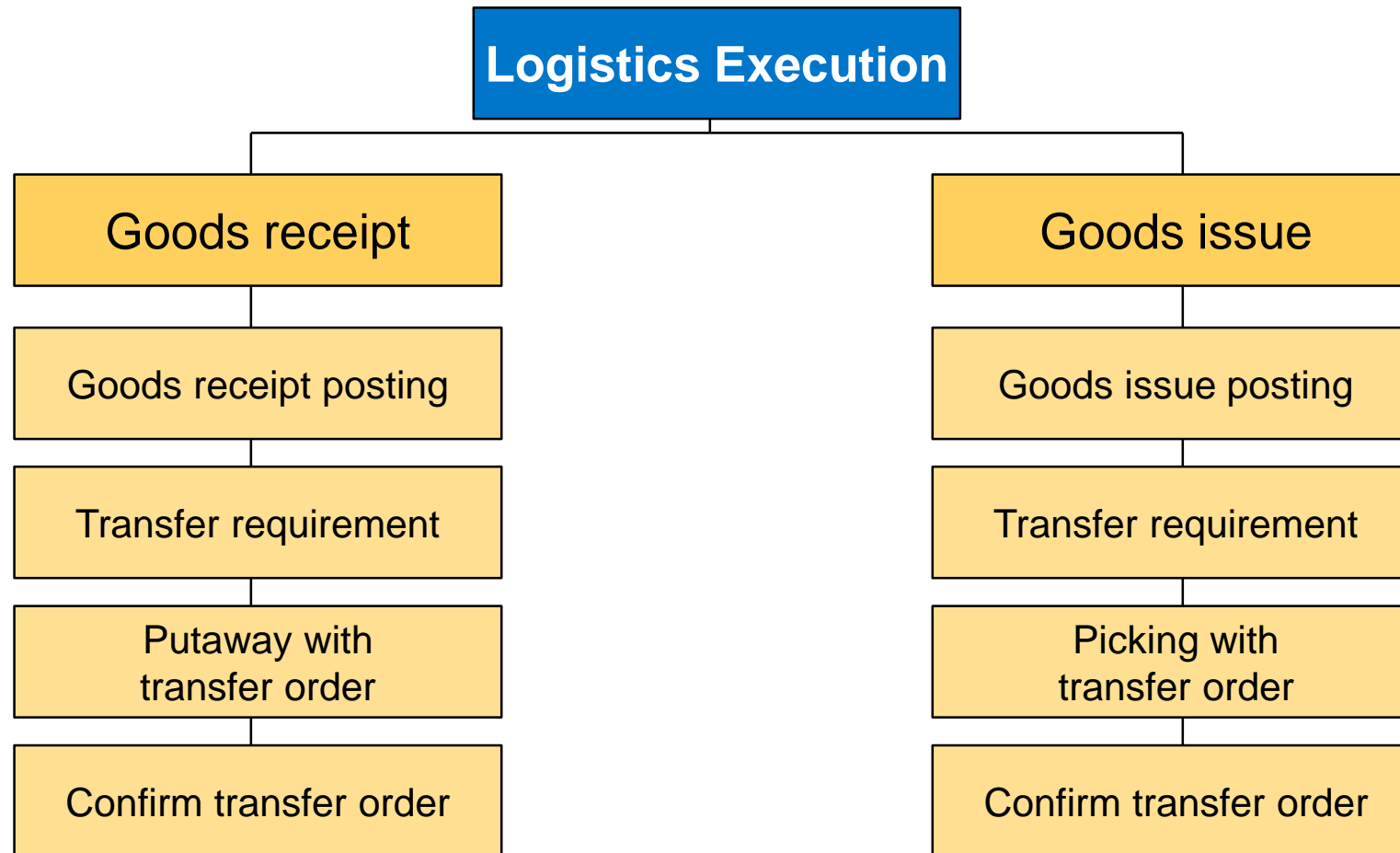
# Stock transport order

A Stock Transport Order (STO) is a purchase order used to request or instruct a plant to transport material from one plant to another (that is, to effect a long distance physical stock transfer) within the same corporate enterprise.

The stock transport order allows delivery costs incurred as a result of the stock transfer to be charged to the material transported.



# WM Processes



# WM Process Management and Control

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- Posting change notice (PCN)
  - Generated by posting change processes in WM-administrated stocks
  - Functionality similar to transfer requests
  - Not necessarily combined with a physical goods movement
- Transfer requirement (TR)
  - A request to transfer materials at a particular time from a source storage bin to a destination storage bin in a warehouse complex
  - Represents the expected and scheduled goods movements in WM
  - Normally generated by postings in the inventory management
  - Consists of transfer request header and line items
- Transfer order (TO)
  - Central documents for WM
  - Every material movement requires a transfer order
  - No difference between real and logical movement

# Transfer Order

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- Creation of transfer order depends on preceding document
  - Transfer request
  - Posting change notice
  - Outbound delivery
  - Inbound delivery
  
- Types of Transfer Order Creation
  - Manual (TR, PCN, material document)
  - Direct TO-Creation
  - Automatic TO-Creation
  - Manual (Delivery Monitor)

# Inventory

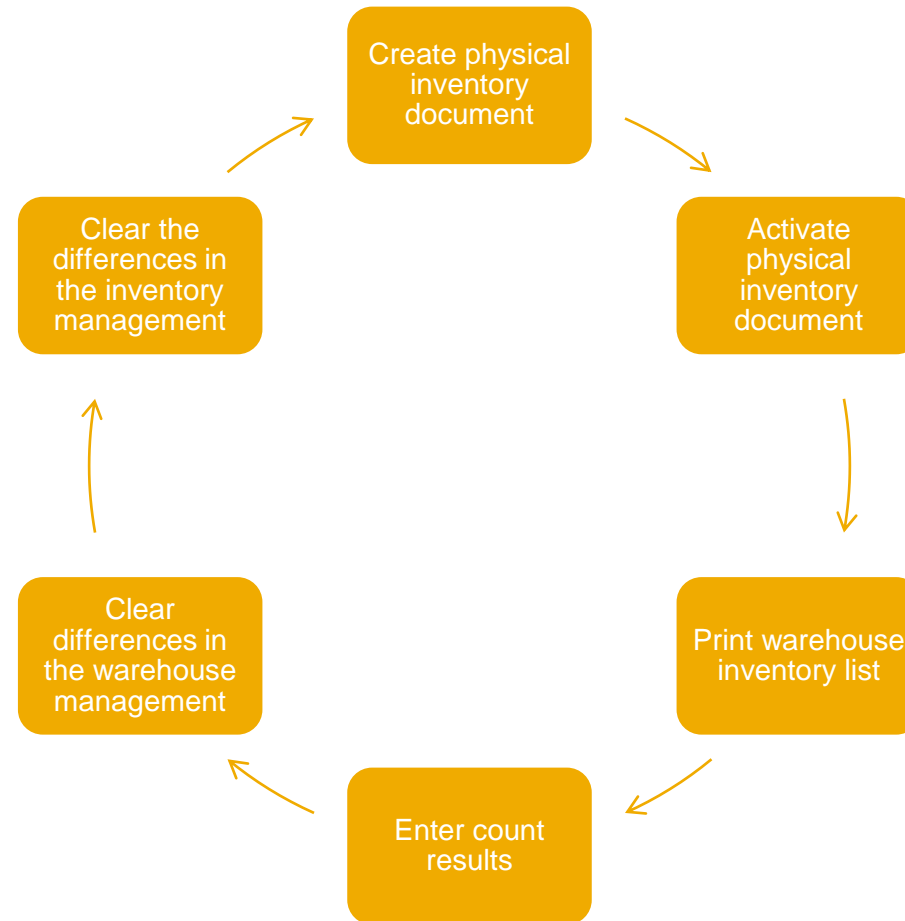
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- Periodic inventory
- Continuous inventory
- Inventory on putaway
- Zero stock check
- Sample-based physical inventory
- Cycle-Counting



# Physical inventory process

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Thank you!

