

# Materials Management (MM)

Curriculum: Introduction to S/4HANA using Global Bike





## Teaching material - Version

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- 4.1 (June 2022)
  
- Software used
  - S/4HANA 2020
  - Fiori 3.0
  
- Model
  - Global Bike
  
- Prerequisites
  - No Prerequisites needed



# Module Information

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## Authors

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## Target Audience

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- Beginner

# Module Information

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## Learning Objectives

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You are able to:

- Describe the purchase-to-pay business process
- Identify the organizational levels that support the purchase-to-pay business process
- Create a material master record
- Create a vendor master record
- Create a purchase requisition for stock and consumable materials
- Create a purchase order by referencing a purchase requisition
- Post a goods receipt for a purchase order
- Explain the warehouse structure in Warehouse Management (WM)
- Enter a vendor's invoice
- Process the automatic payment run
- Explain the integration points of the purchase-to-pay business process

# Functionality

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- Inventory Management
- Purchasing
- MRP
- Physical Inventory
- Valuation
- Service Master
- Invoice Verification
- Product Catalogs

# Unit Overview

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- MM Organizational Structure
- MM Master Data
- MM Processes
  - Procure-to-Pay Process

# MM Organizational Structure (Materials Mgmt.)

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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

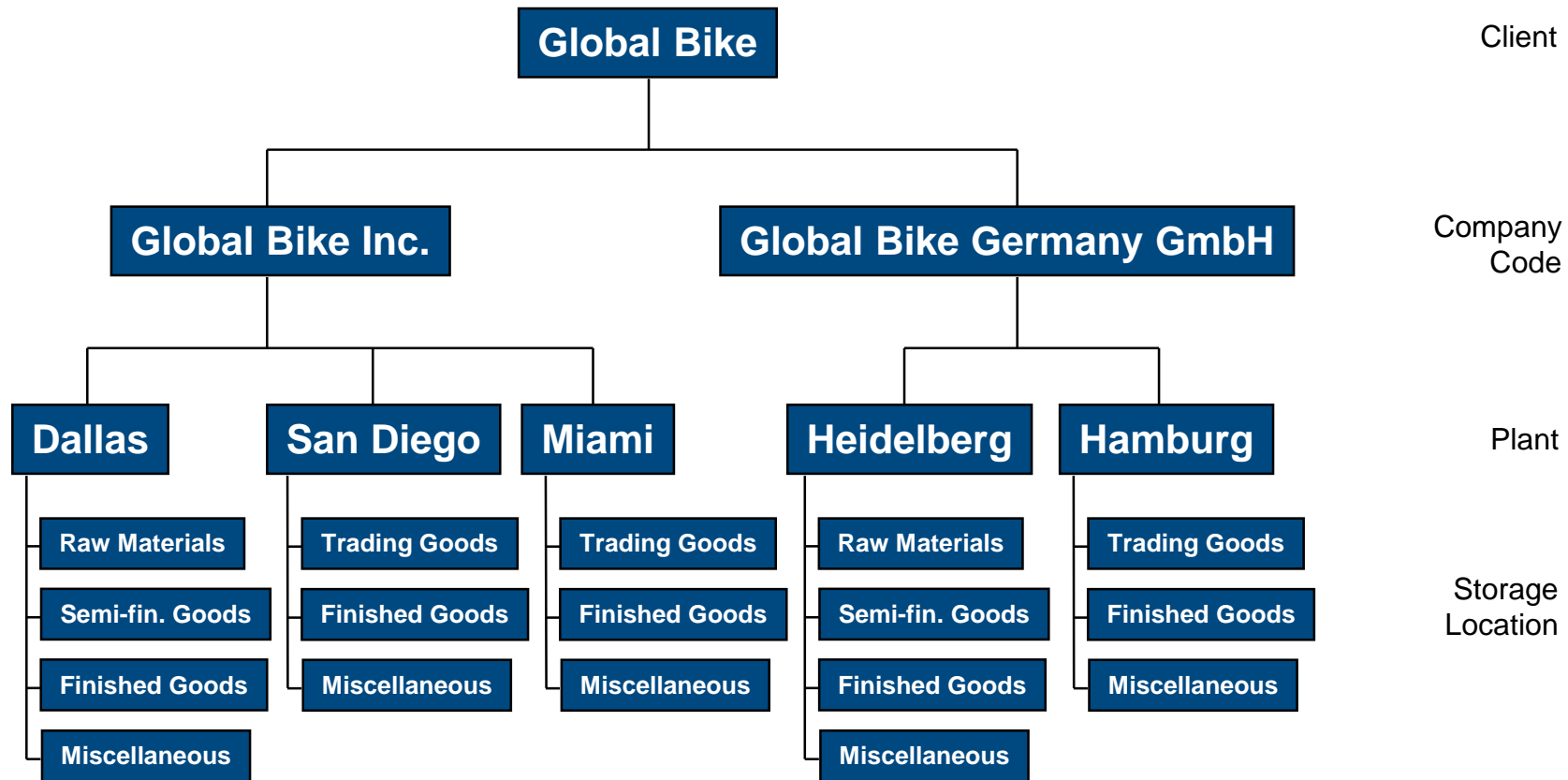
# MM Organizational Structure (Purchasing)

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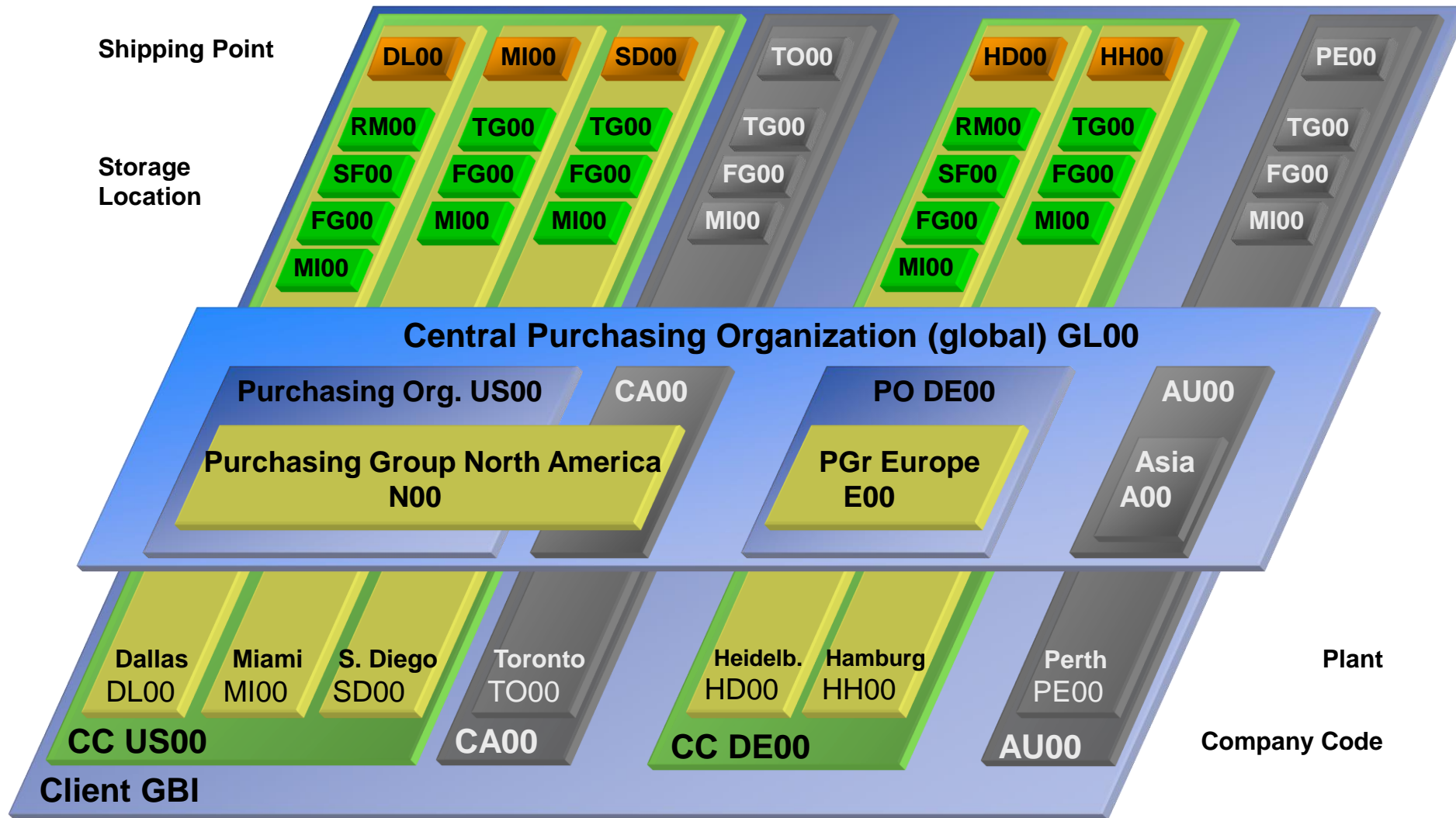
- Purchasing Organization
  - The buying activity for a plant takes place at the purchasing organization
  - Organization unit responsible for procuring services and materials
  - Negotiates conditions of the purchase with the vendors
  
- Purchasing Group
  - Key that represents the buyer or group of buyers who are responsible for certain purchasing activities
  - Channel of communication for vendors



# Global Bike Structure for Materials Management



# Global Bike Enterprise Structure in SAP ERP (Logistics)



# MM Master Data

The screenshot displays the SAP Purchase Order (PO) 4500000000 interface. At the top, the PO number is shown with buttons for 'Edit', 'Copy', and 'Display Commitments'. Below this, a summary table provides key details:

Status	Purchase Order Date	Net Value
Follow-On Documents	02.08.2021	5.250,00 USD

The main data area is divided into three sections:

- Basic Data:** Purchase Order Type: Standard PO (NB); Supplier: Olympic Protective Gear (101999); Currency: United States Dollar (USD); Language Key: English (EN).
- Organization:** Purchasing Group: North America (N00); Purchasing Organization: Global Bike US (US00); Company Code: Global Bike Inc. (US00).
- Further Information:** Created by: -; Purchase Order Date: 02.08.2021; Approval Status: -; Approver: -.

Vendor Master Data

Material Master Data

Purchasing Info Record

Condition Master Data

Output Master Data

# 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
- The supplier master record is created in SAP S/4HANA as a central business partner master record with different roles.
- For suppliers, these are often the business partner roles:
  - FLVN00 (FI Vendor)
  - FLVN01 (Vendor)

SAP Business Partner

Olympic Protective Gear  
101000

Basic Data Roles Address Bank Accounts Payment Cards Identification Contacts Attachments

Search

Business Partner Role	Valid From	Valid To
FI Vendor FLVN00	08/18/2021	12/31/9999
Vendor FLVN01	08/18/2021	12/31/9999

Address

Standard Address

Street: 2100 Summit Boulevard  
House Number: -  
Postal Code: 30319  
City: Atlanta

Country: USA (US)  
Region: Georgia (GA)

Post Office Postal Code: -  
Post Box: -

# Vendor Master Views

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- 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

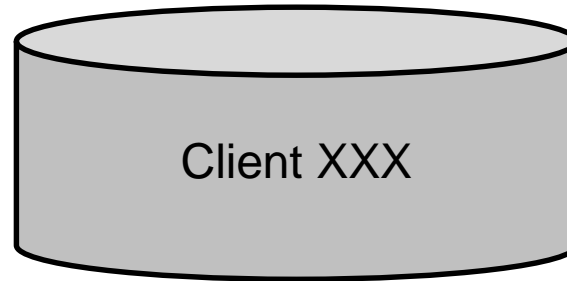
General Data

Company Code Data  
Financial Accounting (FI)

Purchasing Data  
Materials Mgmt (MM)

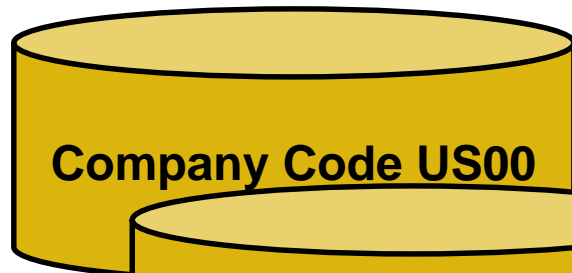
# Vendor Master

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

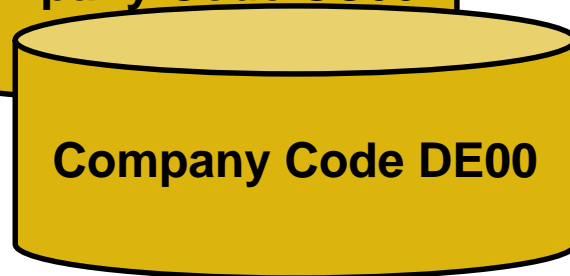


Name  
Address  
Communication

**Company Code specific information:**



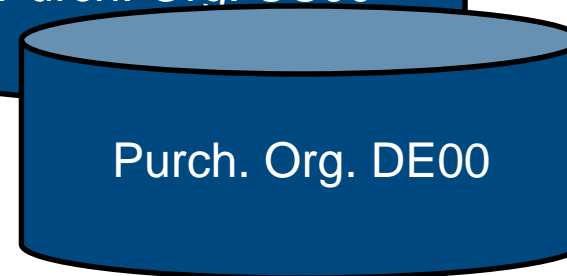
Acc. Mgmt  
Payment  
Bank



**Purch. Organization specific information:**



Incoterms  
Currency



# 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

The screenshot shows the SAP S/4HANA Material Master Data for 'Deluxe Touring Bike (black)' (Material: DXTR1000). The interface includes a navigation bar with 'SAP Product' and search icons. The main content area displays product details and a list of descriptions.

**Product Details:**

- Product Type: Finished Product (FERT)
- Base Unit of Measure: Each (EA)
- Revision Level:
- Product Category: Product
- GTIN:
- Product Group: Finished Bikes (BIKES)
- GTIN Category:

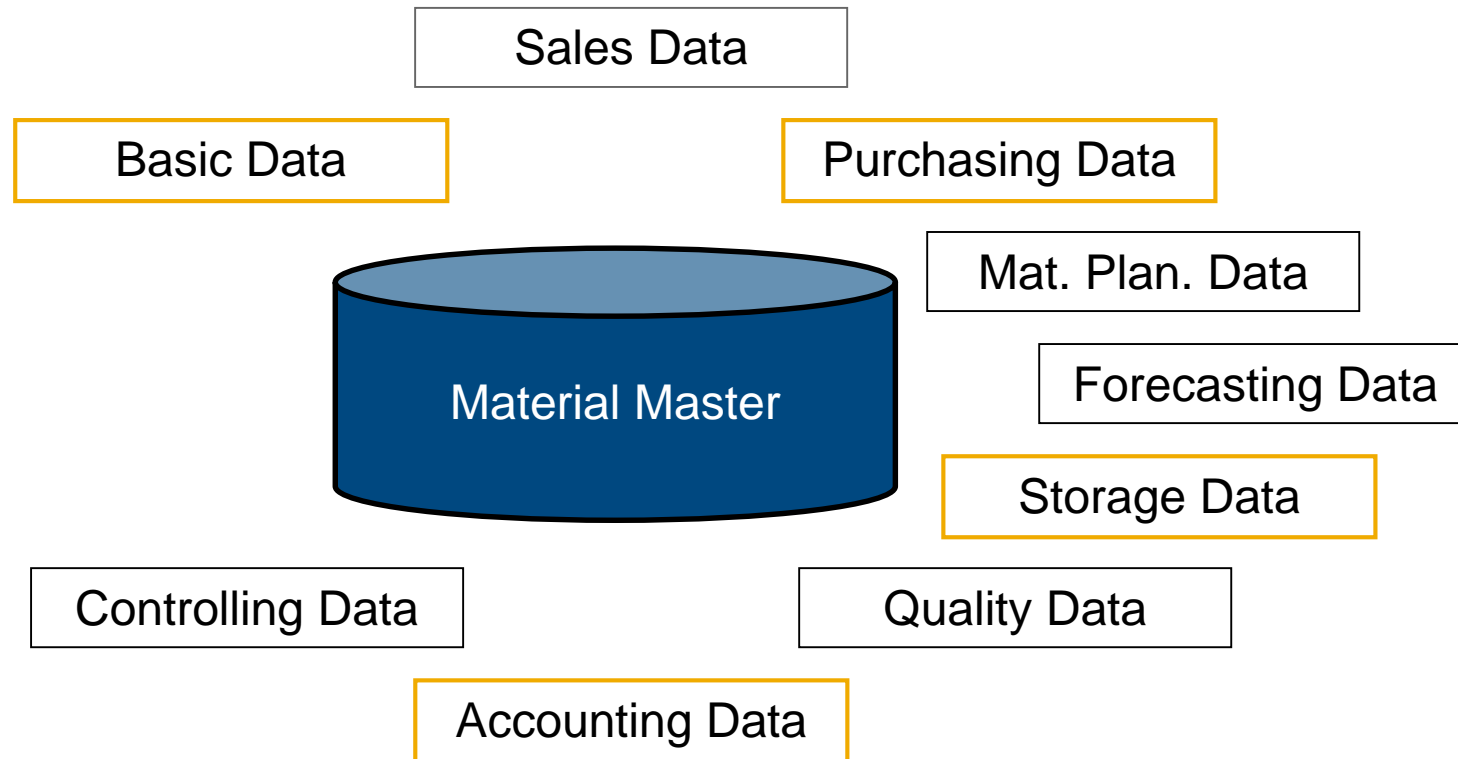
**Basic Data:**

- Division: Bicycles (BI)
- Created By: Chris Reich
- Old Product Number: -
- Created On: 08/19/2021, 11:55:19
- Batch Management Required: No
- Last Changed By: Chris Reich
- Marked for Deletion: No
- Last Changed On: 08/23/2021, 12:36:09

**Descriptions:**

Language	Product
<b>German</b> DE	Deluxe Touring Bike (schwarz)
<b>English</b> EN	Deluxe Touring Bike (black)

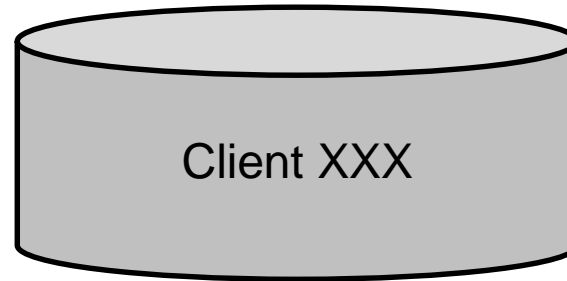
# Material Master Views





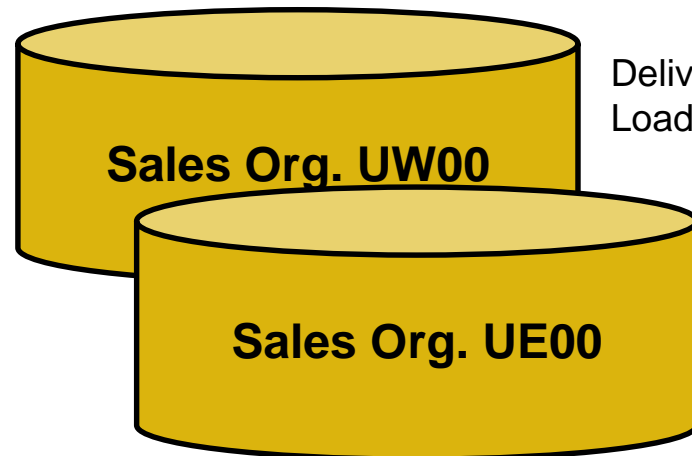
# Material Master

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



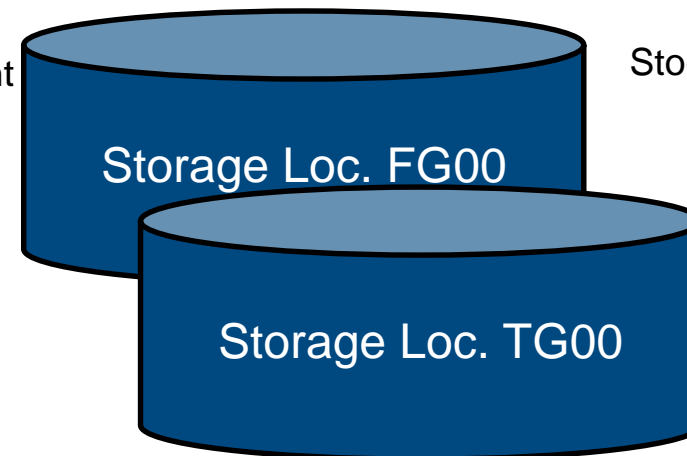
Name  
Weight  
Unit of Measure

**Sales specific information:**



Delivering Plant  
Loading Grp

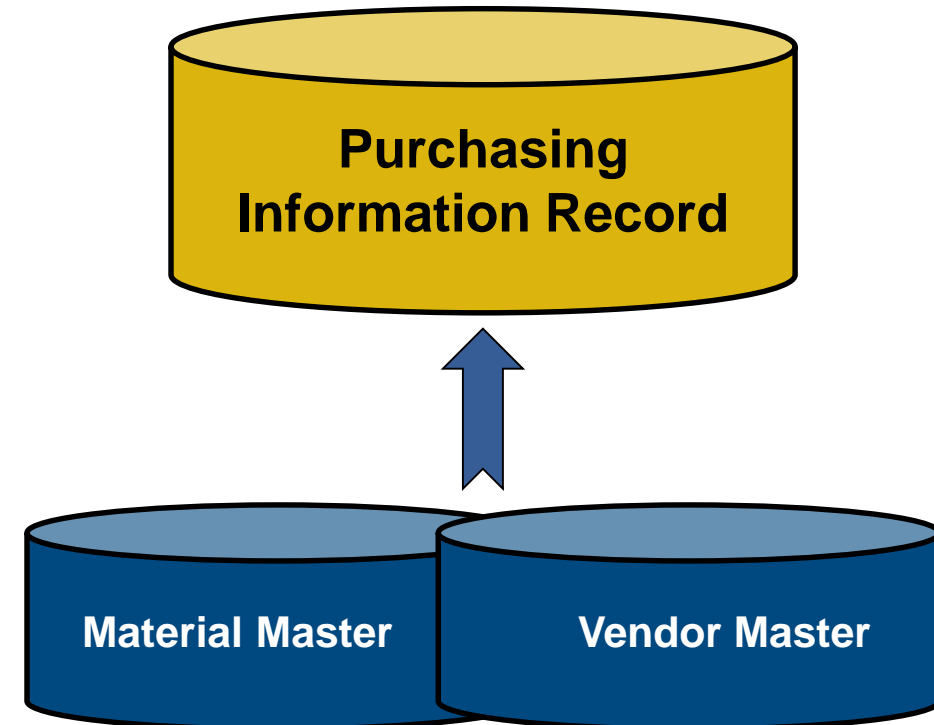
**Storage Location specific information:**



Stock Qty

# Purchasing Information Record

- Framework for Purchase Order
  - Contains the relationship between a vendor and a material
- Can be created:
  - Manually
  - Automatically – Quotations
  - Automatically – Purch. Orders
- Reporting
  - Vendor Evaluation

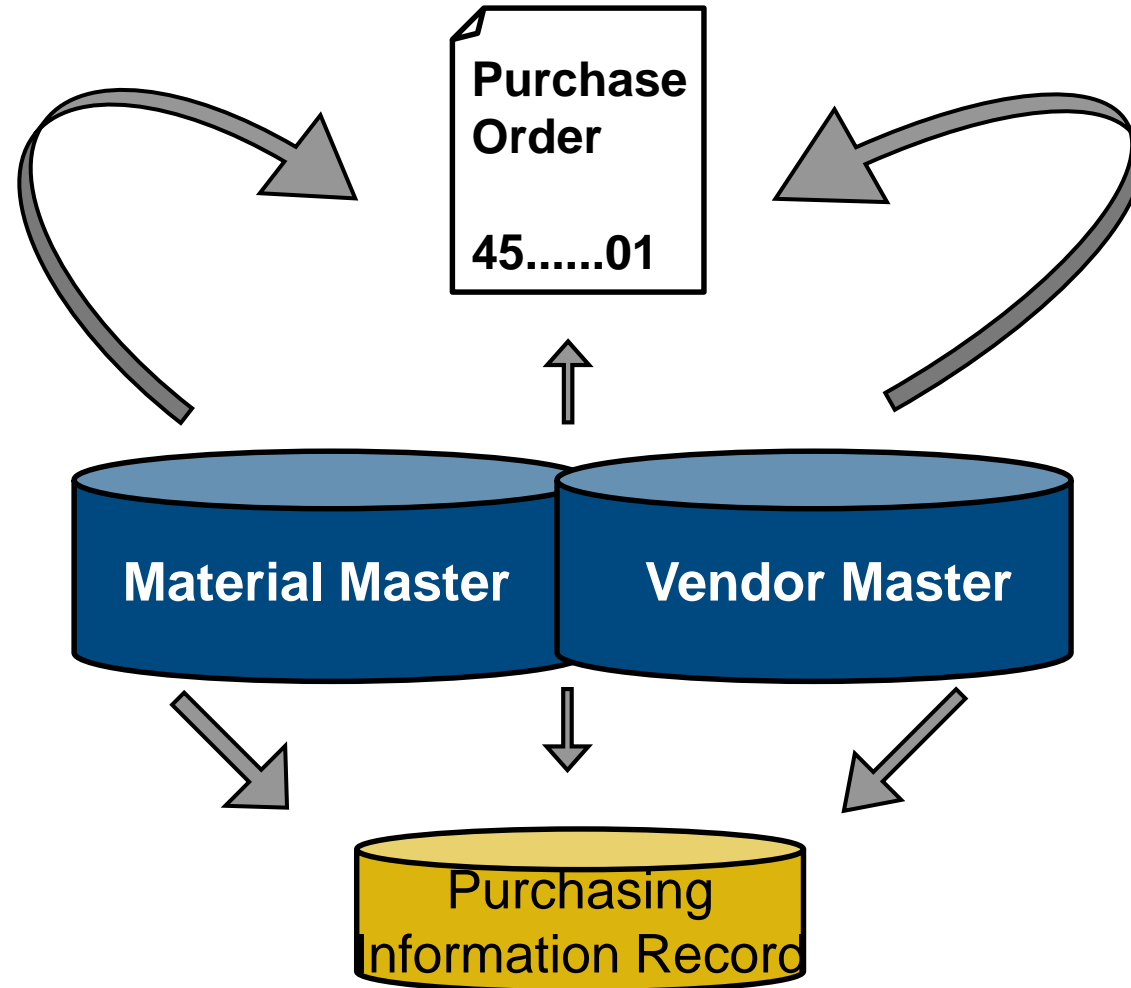


# Purchasing Information Record

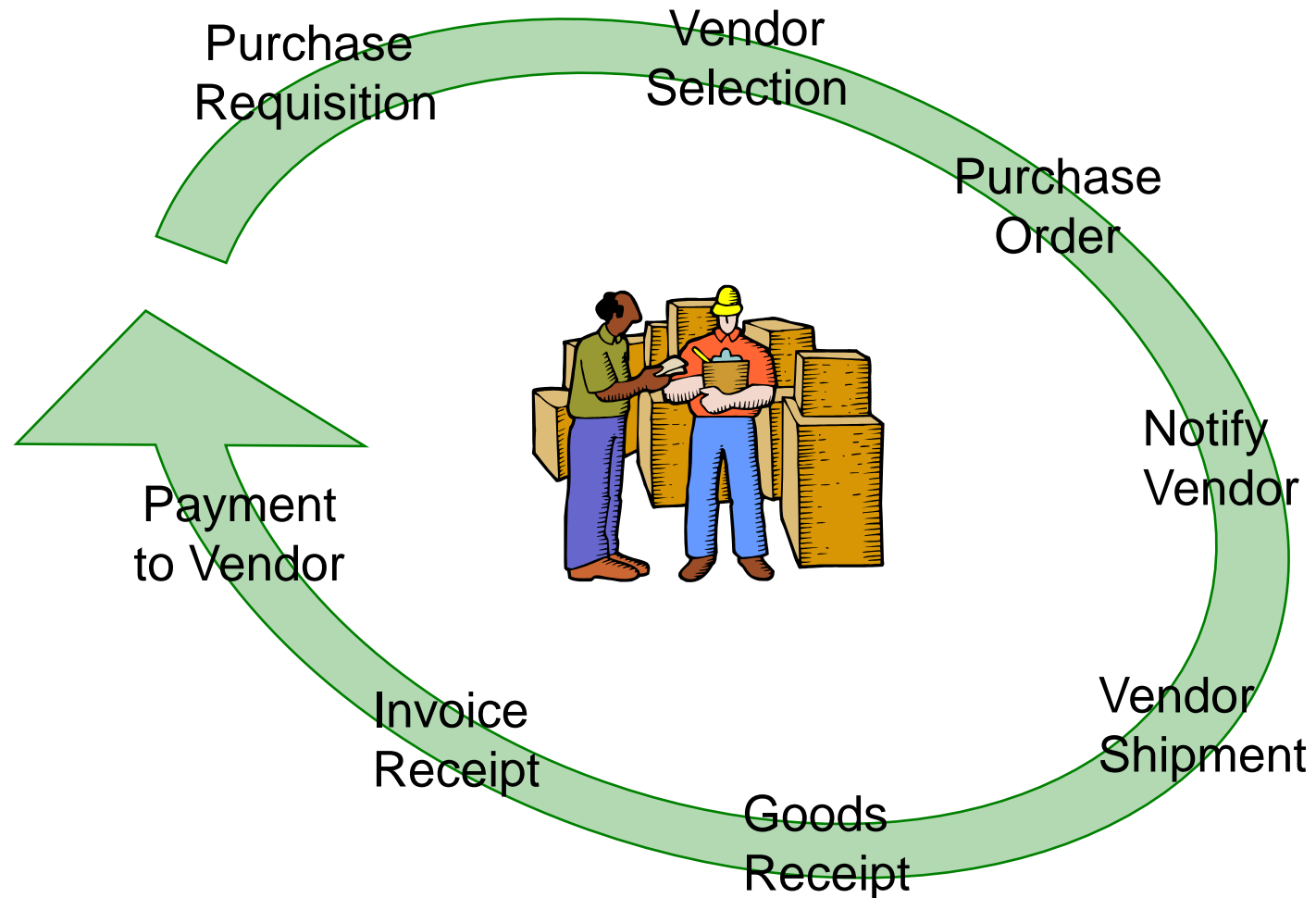
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- Allows buyers to quickly determine:
  - Which vendors have offered or supplied specific materials
- Info Records contain:
  - Data on pricing and conditions
  - Last purchase order
  - Tolerance limits for deliveries
  - Specific lead times
  - Availability periods
  - Vendor Evaluation data
- Serves as default information for Purchase Orders

# Master Data in Use



# Procure-To-Pay Process



# Purchase Requisition

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- Internal Document instructing the purchasing department to request a specific good or service for a specified time
- Requisitions can be created two ways:
  - Directly - Manually
    - person creating determines: what, how much, and when
  - Indirectly - Automatically
    - MRP
    - Production Orders
    - Maintenance Orders
    - Sales Orders

# Requisition Sourcing

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- Once the requisition has been assigned a source of supply it can be released for processing
- There are a variety of ways that a purchasing department can process a requisition to determine the appropriate Source of Supply:
  - Internal Sourcing Requirements
  - Source List
  - Outlined Agreement
  - RFQ

# Internal Sourcing

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- The requisition for materials could be satisfied by sources within our company.
  - It is possible that a plant within your firm could represent a potential source of supply for the material needed (centralized warehouse)
  - If an internal source is identified the requirement is covered by an internal procurement transaction (stock transport order)



# Source List

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- A source list is a record that specifies the allowed means for procuring a material for a certain plant within a given time period.
  - If the list contains a sole source the system will assign the vendor to the requisition.
  - If several options exist the system will display a list of vendors for you to choose from.
  - If no source has been established the system will revert to search information records and outline agreements.

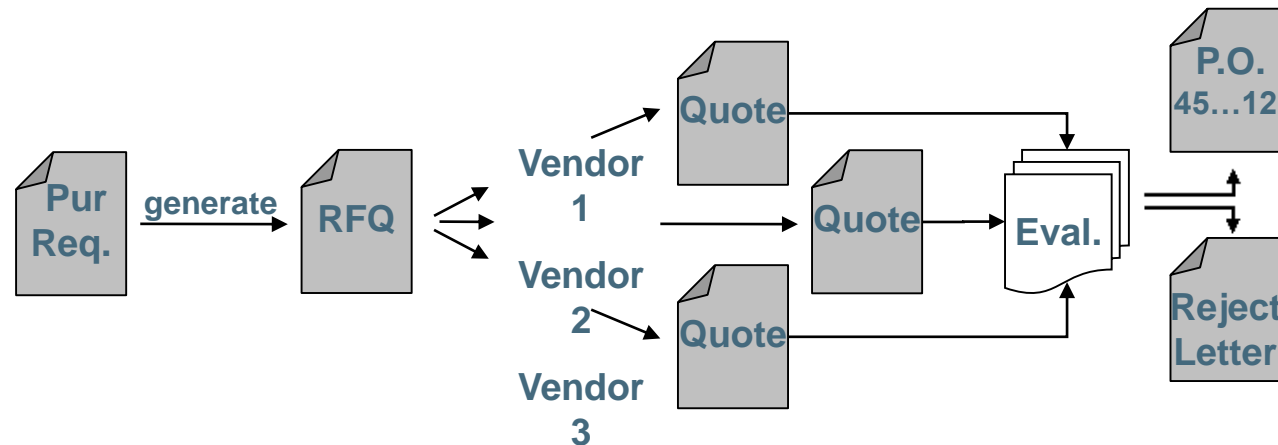
# Outline Agreement

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- Requisitions can be satisfied through existing longer-term purchasing agreement
  
- These agreements are subdivided into:
  - Contracts
    - Consists of items defining the individual materials, material groups, or services with prices and in many cases quantities
      - Quantity
      - Value
  - Scheduling Agreements
    - Total quantity of material is spread over a certain period in a delivery schedule, consisting of line items indicating quantities and their planned delivery date

# Request for Quotation

- If nothing exist in the system we may need to submit a request for quotation to our vendors. An RFQ is an invitation to a vendor by a Purchasing Organization to submit a bid for the supply of materials or services
  - The accepted quotations will generate Purchasing Information Records
  - Perform Quotation Price Comparisons
  - Finally Select a Quotation



# Quotation from Vendor

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- The quotation received by your company is a legally binding offer, should decide to do business with the vendor, containing price's and conditions for the materials specified in the RFQ for a predefined period of time.
  - In SAP the RFQ and the Quotation will be become a single document, you will enter the vendor's response in the RFQ you created.

# Vendor Evaluation once Identified

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- Vendor evaluation helps purchasing evaluate vendors for sourcing while also enabling the company to monitor vendor relationships through performance scores and criteria you put in place.
  - Supports a maximum of 99 main criteria and 20 sub criteria for each main:
    - Price
      - Price Level
      - Price History
    - Quality
      - Goods Receipt
      - Quality Audit
      - Complaints/Rejection level
    - Delivery
      - On-time delivery performance
      - Quantity reliability
      - Compliance with shipping instructions
      - Confirmation Date
  - You then must establish a scoring range (1 -100) and determine the weight factors of scores for each.

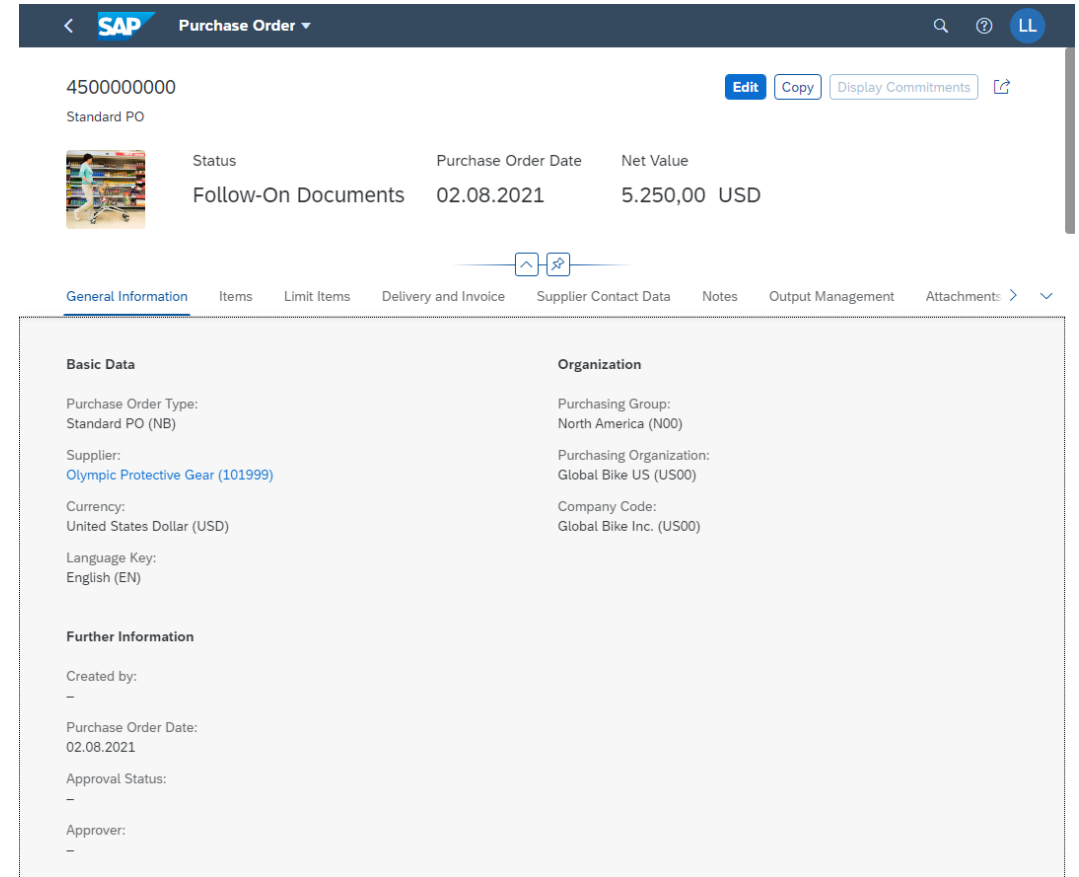
# Purchase Order

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- A purchase order is a formal request to a vendor for a specific material or service under the stated conditions
  
- Purchase Orders can be created manually
  - Reference a Purchase Order
  - Reference a Purchase Requisition
  - Reference a RFQ/Quotation
  - Without Reference
  
- Purchase Orders can be create automatically

# Purchase Order

- A purchase order can be used for a variety of purposes, the item category (procurement type) defined in the PO will dictate the use of the order and the process that the order will follow:
  - Standard
    - Stock or Consumption
  - Services
  - Subcontracting
  - Third-Party
  - Consignment



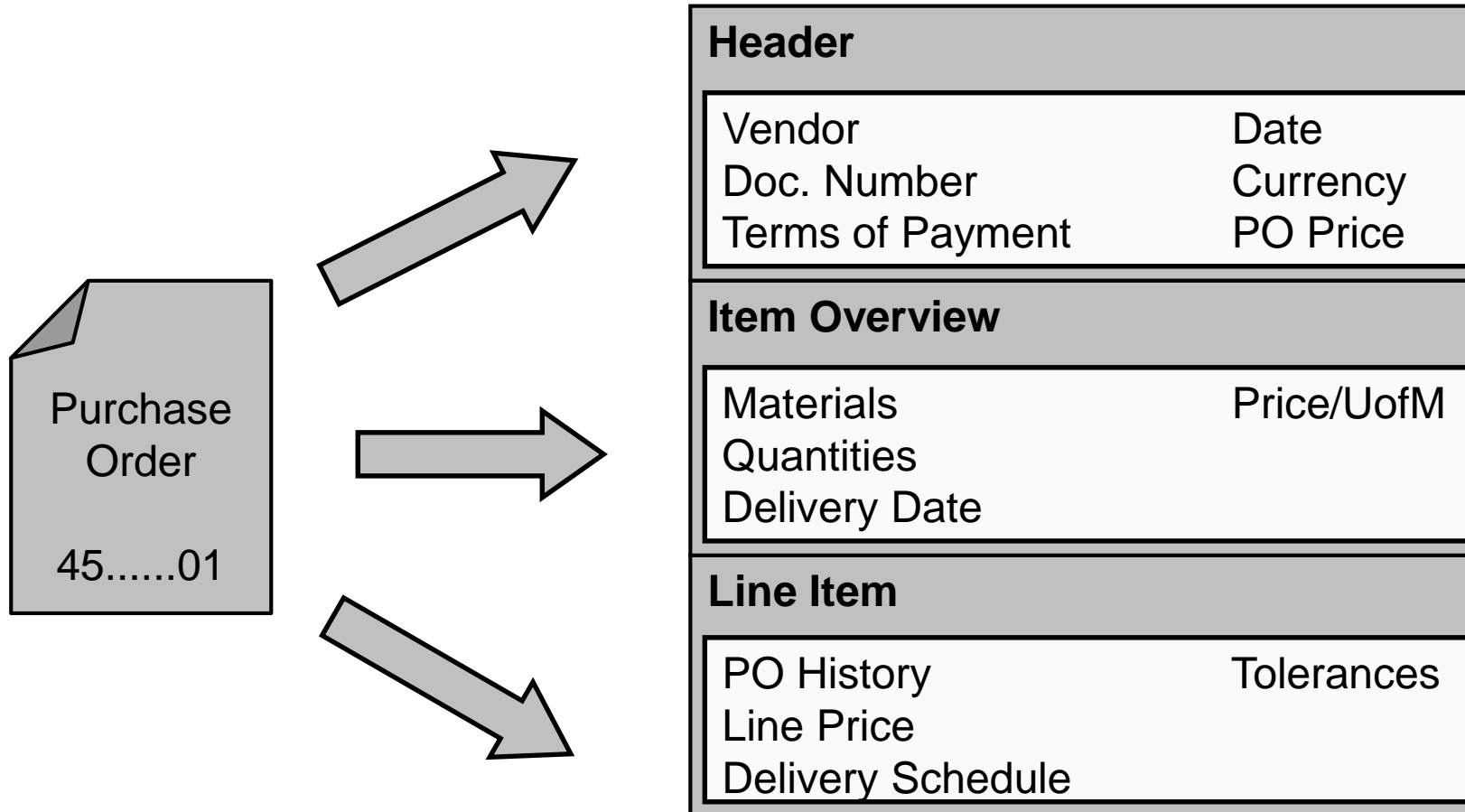
The screenshot displays the SAP Purchase Order interface for document 4500000000. The header shows the document number, type (Standard PO), and status (Follow-On Documents). Key dates and values include the purchase order date of 02.08.2021 and a net value of 5,250.00 USD. The interface includes navigation tabs for General Information, Items, Limit Items, Delivery and Invoice, Supplier Contact Data, Notes, Output Management, and Attachments. The main content area is divided into three sections: Basic Data, Organization, and Further Information.

Basic Data	Organization
Purchase Order Type: Standard PO (NB)	Purchasing Group: North America (N00)
Supplier: <a href="#">Olympic Protective Gear (101999)</a>	Purchasing Organization: Global Bike US (US00)
Currency: United States Dollar (USD)	Company Code: Global Bike Inc. (US00)
Language Key: English (EN)	

Further Information
Created by: -
Purchase Order Date: 02.08.2021
Approval Status: -
Approver: -

# Purchase Order Structure



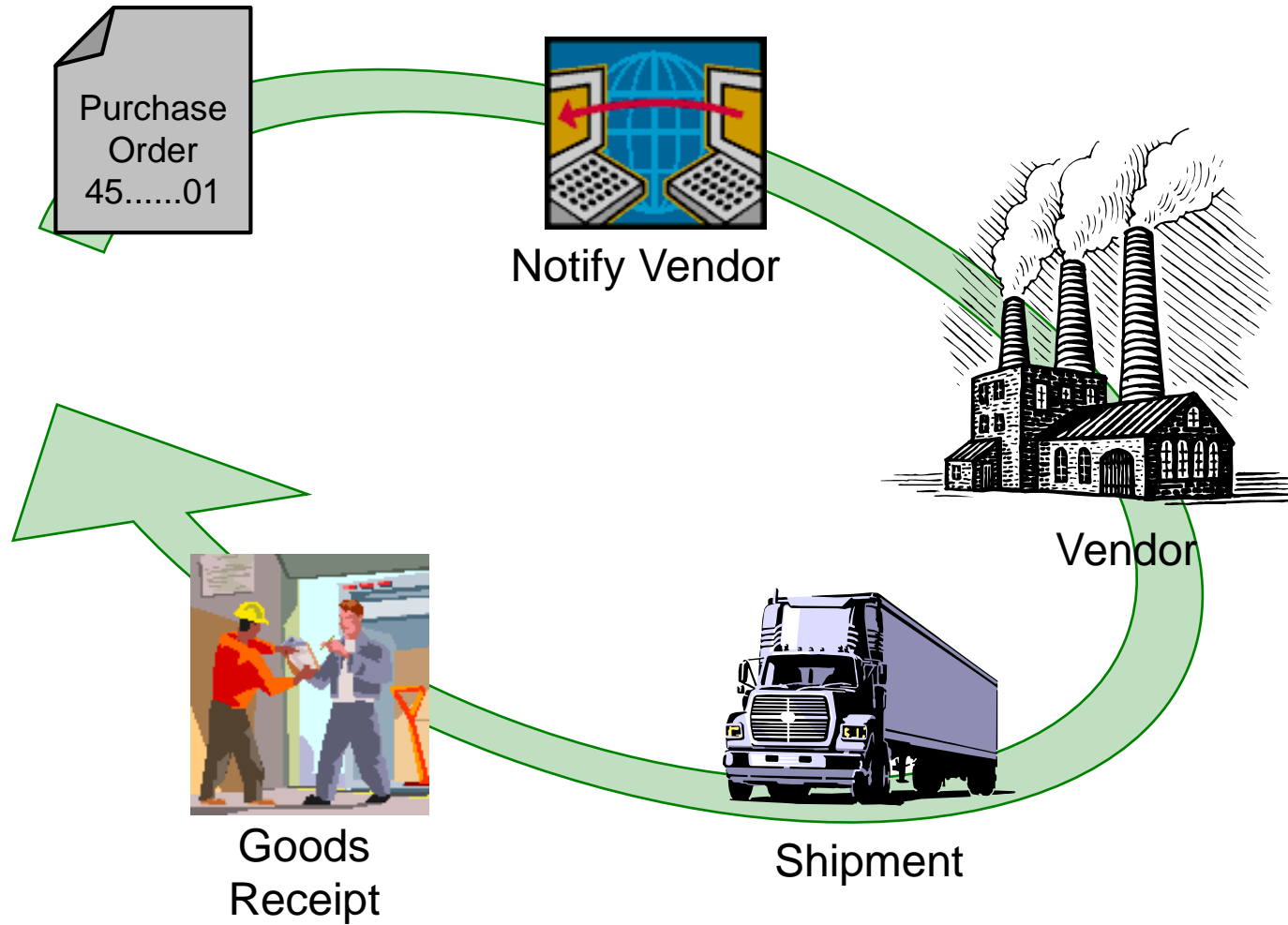


# Purchase Order Output

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- Once a Purchase Order has been created the vendor needs to be notified
  - Printed
  - E-mail
  - EDI
  - Fax
  - XML
  
- There are a variety of forms that aid in the purchasing process and are generated from the Purchase Order
  - Purchase Order Output
  - Order Acknowledgement Forms
  - Reminders
  - Schedule Agreements

# Goods Receipt



# Goods Receipt

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- Goods movement in which we accept goods into our system
- If materials are delivered against a Purchase Order we will reference that Order
  - Determine if we got what we ordered
  - System can purpose data for us from the PO
    - Material, quantity
  - Purchase Order History is update with the receipt
  - Updates Physical Inventory
  - Updates Inventory G/L Account

# Material Movements

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- When a goods movement takes place it is represented by a Movement Type
- Movement types are three-digit keys used to represent a movement of goods
  - 101 – goods receipt into warehouse
  - 103 – goods receipt into GR blocked stock
  - 122 – return delivery to vendor
  - 231 – consumption for a sales order
  - 561 – initial entry of stock
- Destinations for Receipt of Goods
  - Warehouse – Unrestricted, Quality, Blocked
  - Quality
  - Goods Receipt Blocked Stock

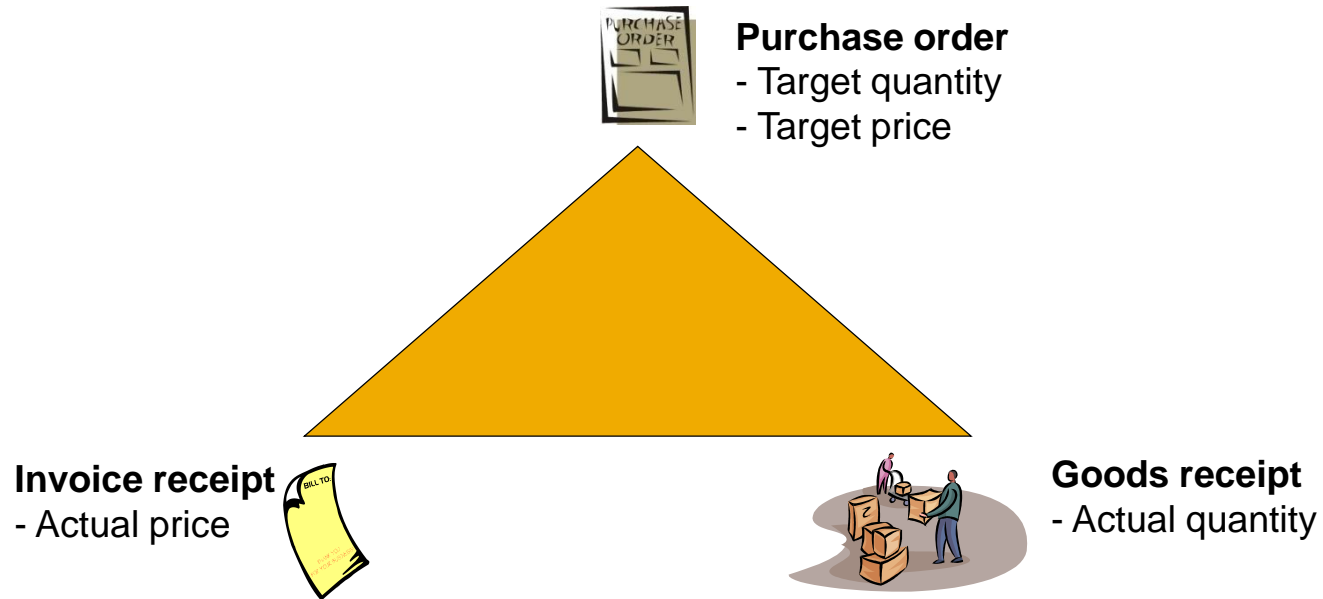
# Effects of a Goods Receipt

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- When a Goods Movement for the receipt of goods takes place a series of events occur
  - Material Document is Created
  - Accounting Document is Created
  - Stock Quantities are Updated
  - Stock Values are Updated
  - Purchase Order is Updated
  - Output can be generated (GR slip / pallet label)

# Invoice Processing

- Incoming Invoices are reference against a Purchase Order to verify their content, prices, and arithmetic.
- If discrepancies arise between the purchase order or goods receipt and the invoice the system will generate a warning or an error
  - Depending on system configuration the difference could cause the system to Block the Invoice



# Invoice Processing

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- When an invoice is saved it applies the liability from the Goods Receipt of our Purchase Order to a Vendor
- Upon verification the:
  - Purchase Order is updated
  - Material Master is Updated (MAP)
  - Accounting Document is created
- Once the Invoice has been posted the verification process is completed and the payment process is initiated within Financial Accounting

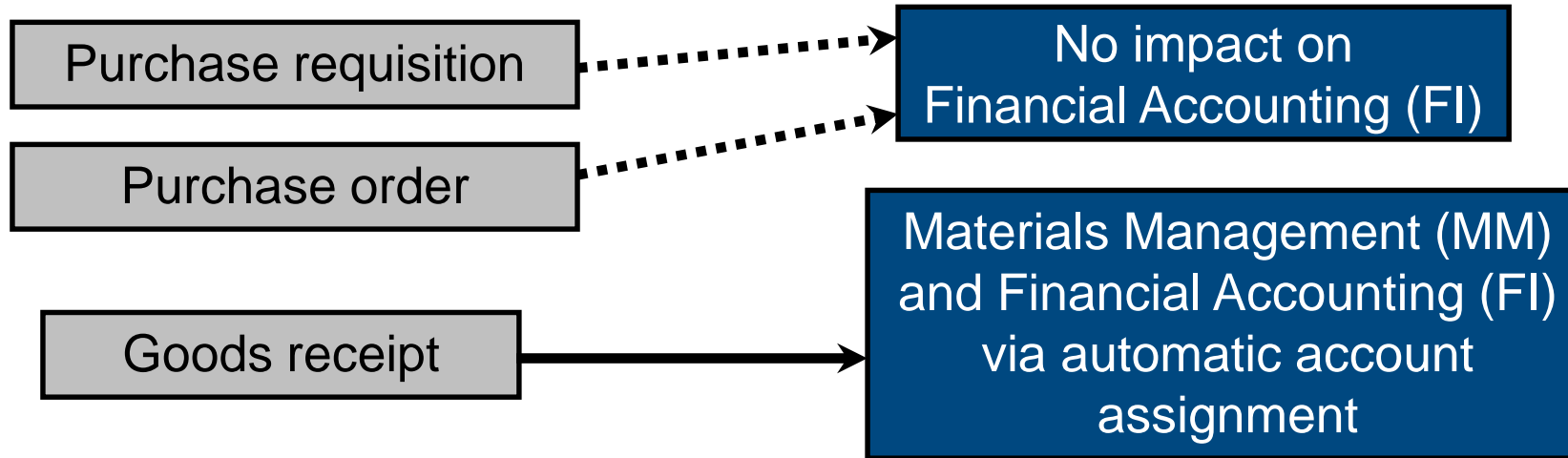
# Payment to Vendor

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- Can be done automatically or manually
  - Post Outgoing Payment vs. Payment Program
- Elements of the Payment Transaction:
  - Payment Method
  - Bank from which they get paid
  - Items to be Paid
  - Calculate Payment Amount
  - Print Payment Medium
- Process will create a financial accounting document to record the transaction



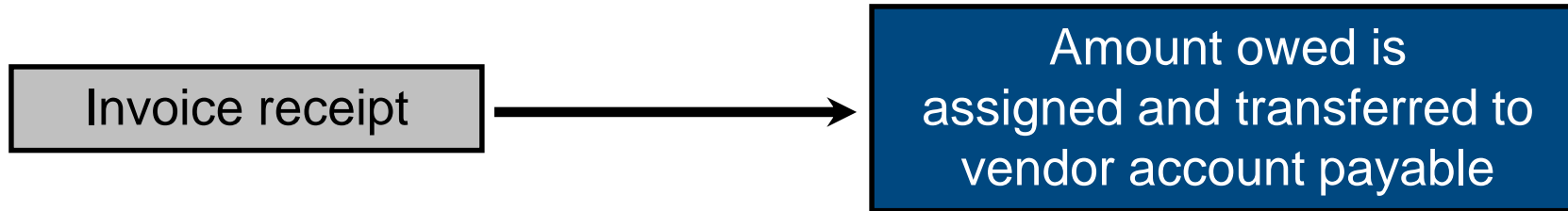
# Goods Receipt / Invoice Receipt Reconciliation Account



Inventory	
Dr	Cr
\$100	

GR / IR	
Dr	Cr
	\$100

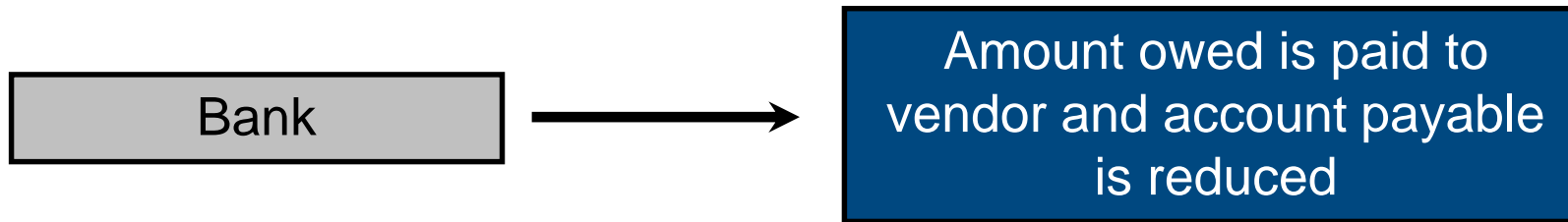
# Goods Receipt / Invoice Receipt Reconciliation Account



GR / IR	
Dr	Cr
\$100	

Vendor A/P	
Dr	Cr
	\$100

# Vendor Payment



Bank	
Dr	Cr
	\$100

Vendor A/P	
Dr	Cr
\$100	

# FI – MM Integration Point

**Goods  
Receipt**

**Invoice  
Receipt**

**Payment  
Program**

**Inventory**

**GR / IR**

**AP  
(Vendor)**

**Bank**

Dr	Cr
\$100	

Dr	Cr
\$100	\$100

Dr	Cr
\$100	\$100

Dr	Cr
	\$100