Prepared by group 3

WORKSHOP

Material Master Data Management

20 September, 2024

Agenda Overview

01

INTRODUCTION

02

ORGANIZATION CHART FLOWCHART

03

METHODOLOGY DETAILS

04

TECHNICAL RESEARCH

Introduction

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Our project focuses on developing a material master data management solution using SAP ABAP. This program will allow for efficient creation, modification, and management of material data, integrating Excel-based uploads and downloads to streamline bulk data handling. By enhancing data accuracy and accessibility, the project will support key business operations across procurement, inventory, and production.

Customers:

FPT Software Advisors

Supervisors:

Nguyễn Thế Hoàng

Nguyễn Ba Lê

•••••

Team Members

Nguyễn Thị Ý Nhi
Business

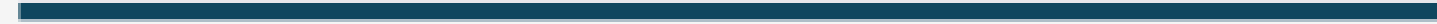**Vương Thanh Hà**
Business

Tạ Thị Bích Diễm
Business

Tạ Thanh Trúc
Developer

Trần Thanh Phong
Developer - Leader

Suggested Research Question

● ● ● ● ●

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1. What is material master data?

2. What information is needed for the material code of the Electronics industry?

3. To create/edit/delete, what information in the master data will be restricted from changing?

4. Learn how to create material codes without going through the standard Tcode MM01.

5. Learn how to upload excel to SAP, download excel, alv oop.

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Workshop Schedule

01   SEPTEMBER 16, 2024 (MONDAY)

- Material Basic Data, Data Template
- Organization Structure: Purchasing Org., Company code, Plant, Storage Location.
- Flowchart: Upload Template, Extend Data, Check Logic, Create, Change.
- Sample Data

02   SEPTEMBER 20, 2024 (FRIDAY)

- Organization Chart
- Flowchart: I/O, Duplicate check, validate fields,..
- Material Variant Management: Classification & Batch
- Mapping Fields

Material Master Data

- Contains all the information necessary for managing materials in the system (name, UOM, etc.)
- Serving functions such as production, purchasing, sales, inventory management, accounting,...
- Each material has a unique identifier: Material Number.

Material Master Data

Material Master

General Data
Data applicable throughout the client e.g.
Material number
Description
Units of measure
Weight
Volume
Product hierarchy

Sales Specific Data
Data dependent on sales organization and distribution channel e.g.
Delivering plant
Sales text
Sales units
Shipping data
Division

Plant Specific Data
Data relevant for planning and production e.g.
MRP profile
Production costs
Planning data
Valuation

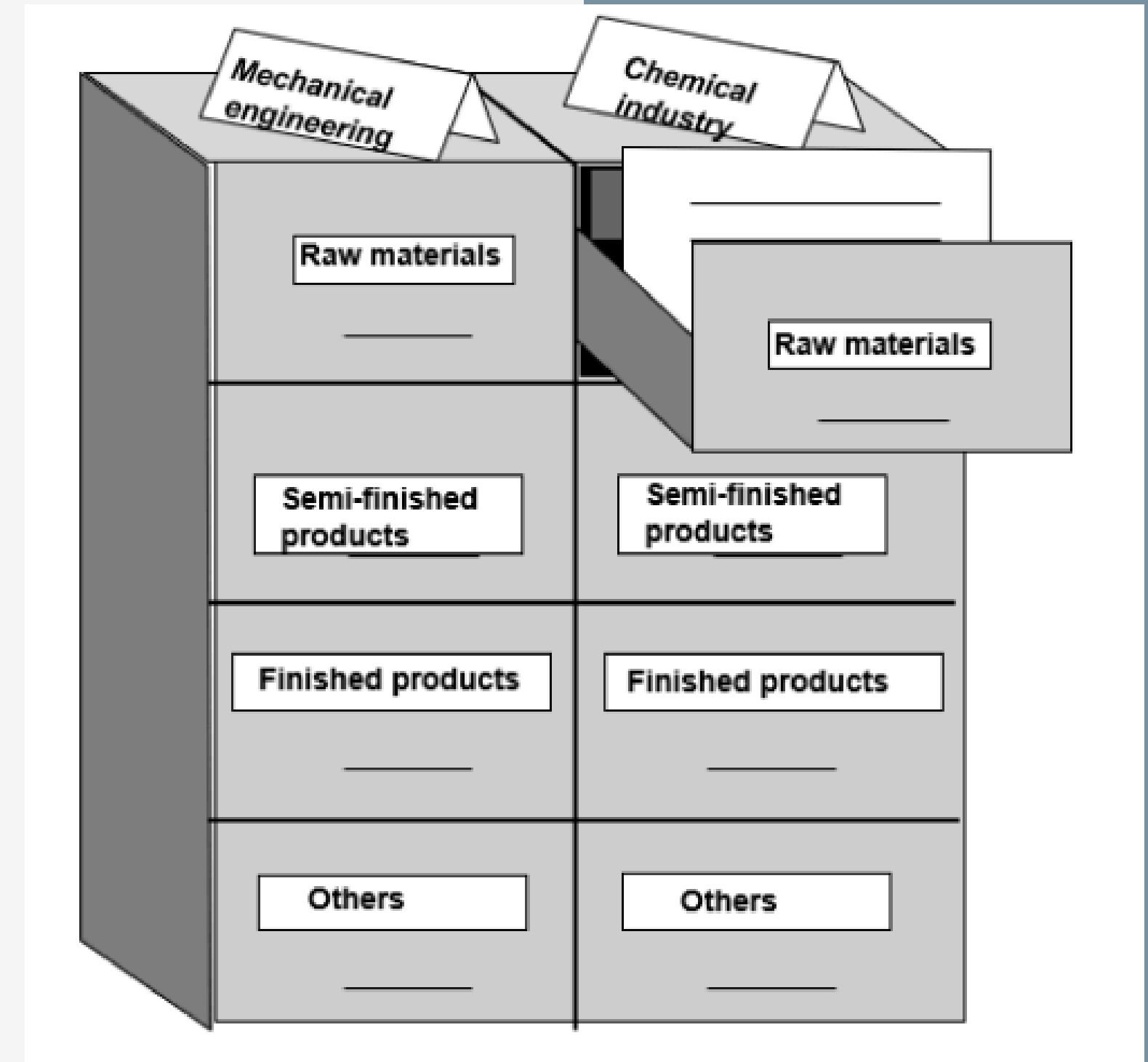| **St. Loc. Specific Data** |
| --- |
| Data referring to storage and inventory management e.g. |
| Quantities |
| Special stock |
| Warehouse attributes |

Material Type

- Materials with some common attributes are grouped together and they are assigned to a material type.
- Allow organization to manage different materials in systematic manner in accordance to company's requirement

Material: DGRR2003

Descr.: Deluxe GPS-Bike Computer Carmine Red

General Data

Base Unit of Measure:	EA	each	
Old material number:		Material Group:	UTIL
Division:	AS	Ext. Matl Group:	
Product allocation:		Lab/Office:	
X-Plant Mat.Status:		Prod. Hierarchy:	
Assign effect. vals:		Valid from:	
		GenItemCatGroup:	NORM Standard item

Material authorization group

Authorization Group:

Dimensions/EANs

Gross Weight:	200	Unit of Weight:	G
Net Weight:	200		
Volume:	0,000	Volume Unit:	
Size/dimensions:			
EAN/UPC:		EAN category:	

MTyp	Material Type Description
ABF	Waste
BUND	Bundle Product
CBAU	Compatible Unit
CH00	CH Contract Handling
CONT	Kanban Container
COUP	Coupons
DIEN	Service
EPA	Equipment Package
EQUI	Equipment
ERSA	Spare Parts
FERT	Finished Product
FFFC	Form-Fit-Function class
FGTR	Beverages
FHMI	Production Resource/Tool
FOOD	Foods (excl. perishables)
FRIP	Perishables
GBRA	ETM usable material

View of the Material Master
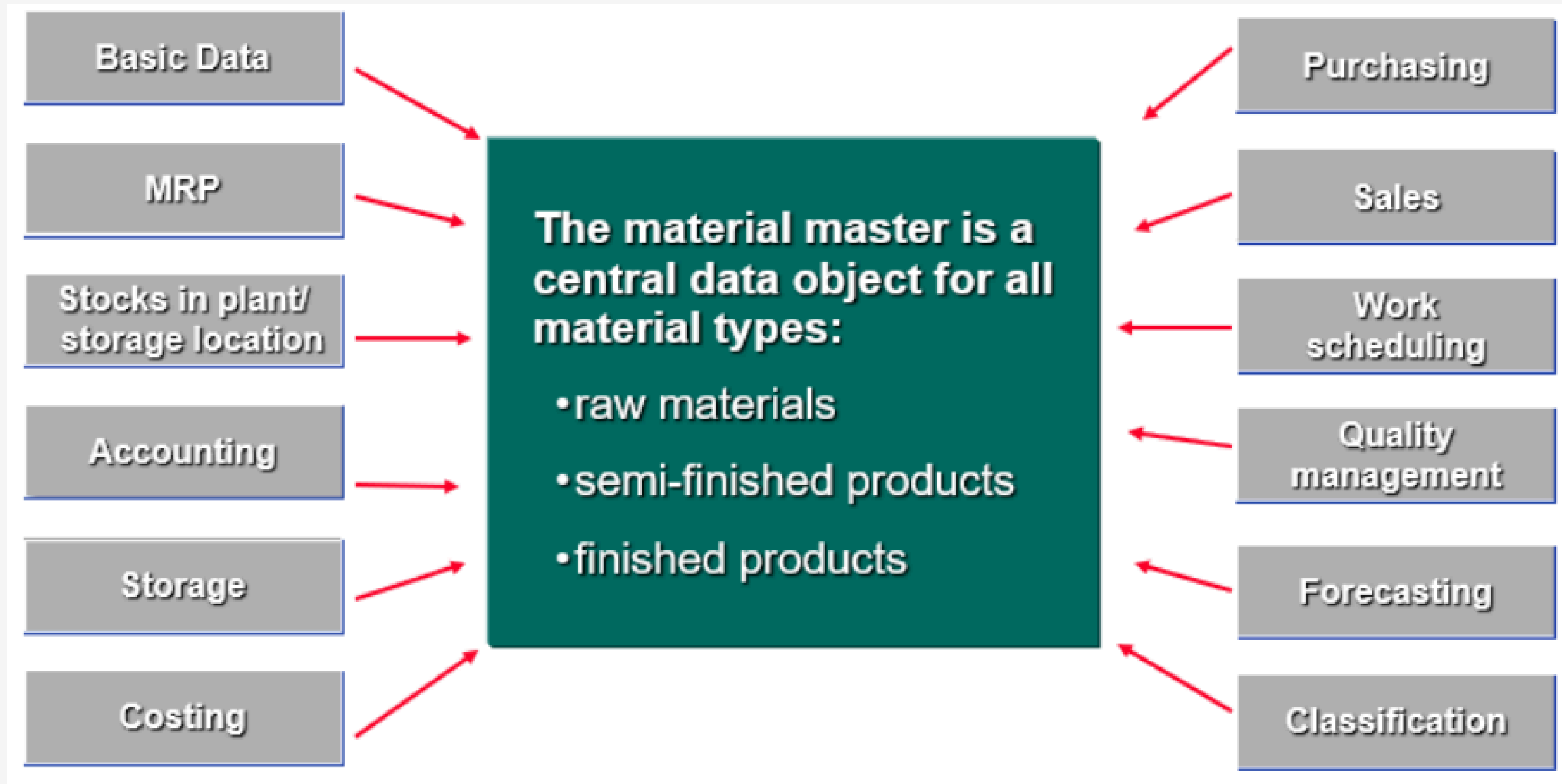
Trading Goods - HAWA

- These materials are **procured** externally and **sold** as-is to customers, without undergoing any internal production processes.

- Companies that deal in trading goods mainly act as **distributors** or **retailers**.

Display Material HT-1010 (Trading goods)

🗇 ➡ Additional Data   🖧 Org. Levels

🗐 Display Material HT-1010 (Basic Data 1, Trading goods)

```
Material          HT-1010              Notebook Pro 15
Industry sector  2                     Aerospace & Defense
Material type    HAWA                  Trading goods
Low-level code   000
```

Create Material & Extend

Material	IP15PRM
Industry Sector	M Mechanical engineering
Material type	HAWA Trading Goods
Change Number	

Copy from...

Material	

Organizational Levels

Organizational levels

Plant	MI00
Stor. Loc.	TG00 🔍

☐ Org. levels/profiles only on request

✔ | Select View(s) | 💾 Default Setting | ✖

Basic data 1

Material	IP15PRM		
Descr.	Iphone 15 Pro Max		

General Data

Base Unit of Measure	G	g	
Old material number			
Division			
Product allocation			
X-Plant Mat.Status			
Assign effect. vals			

Material Group	FERT
Ext. Matl Group	
Lab/Office	
Prod.hierarchy	
Valid from	
GenItemCatGroup	NORM Standard item

Material authorization group

Authorization Group	

Dimensions/EANs

Gross weight	250	Weight unit	G
Net weight	221		
Volume		Volume unit	
Size/dimensions	159.9 X 76.7 X 8.25 MM		
EAN/UPC		EAN category	

Packaging material data

Matl Grp Pack.Matls	

Basic Data Texts

Languages Maintained	0 Basic Data Text Language:

Purchasing

Material	IP15PRM		
Descr.	Iphone 15 Pro Max		
Plant	MI00	DC Miami	

General Data

Base Unit of Measure	G	g	Order Unit	PAL Var. OUn
Purchasing Group	127		Material Group	FERT
Plant-Sp.Matl Status	01		Valid From	19.09.2024
Tax ind. f. material			Qual.f.FreeGoodsDis.	
Material freight grp			Autom. PO	
Batch management	☑			
Batch management(Plant)	☑			

Purchasing values

Purchasing value key			Shipping Instr.	
1st Reminder/Exped.	0	days	Underdel. Tolerance	0,0 percent
2nd Reminder/Exped.	0	days	Overdeliv. Tolerance	0,0 percent
3rd Reminder/Exped.	0	days	Min. Del. Qty in %	0,0 percent
StdValueDelivDateVar	0	days		
Unltd Overdelivery	☐			
Acknowledgment Reqd	☐			

Other data / manufacturer data

GR processing time		days	
Post to Insp. Stock	☐	JIT Sched. Indicator	
Critical Part	☐		
Source list	☐		

Window 1: Plant data / stor. 1

Forecasting	Plant data / stor. 1	Plant data / stor. 2	Warehouse Mgmt 1

Material IP15PRM
Descr. Iphone 15 Pro Max
Plant MI00 DC Miami
Stor. Loc. TG00 Trading Goods

General data

Base Unit of Measure	G g	Unit of issue	
Storage Bin	STG1	Picking area	
Temp. conditions		Storage conditions	
Container reqmts		Haz. material number	
CC Phys. Inv. Ind.		Number of GR slips	
Label type	Lab.form	Appr.Batch Recd Req.	

☑ Batch Management
☑ Batch management(Plant)

Shelf life data

Max. Storage Period		Time unit	
Min. Rem. Shelf Life		Total shelf life	
Period Ind. for SLED	D	Rounding rule SLED	
Storage percentage		Expiration Date	B

Shelf life data - Advanced Planning

Maturation Time		Req.Max.Sh.Life

Segmentation Data

Segmentation Strategy
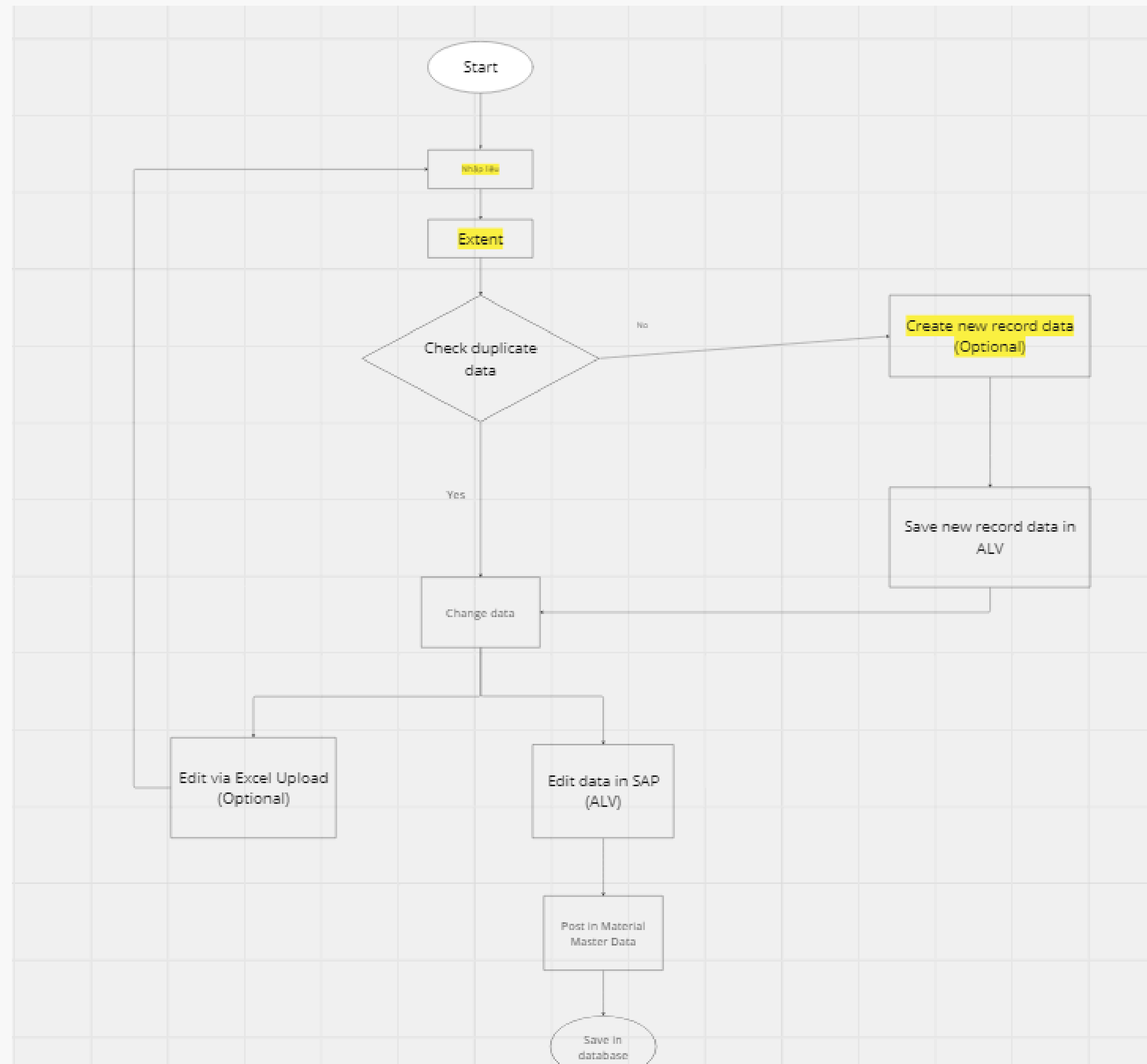Sort Stk based on Seg.

Costing at material level

Default stock segment

Window 2: Material header

Material IP15PRM
Industry Sector M Mechanical engineering
Material type HAWA Trading Goods

Change Number

Copy from...
Material

Organizational Levels

Organizational levels

Plant DL00
Stor. Loc. FG00

☐ Org. levels/profiles only on request

✓ Select View(s) 💾 Default Setting ✗

Window 3: Purchasing

Sales text	Purchasing	Intl Trade: Import	Purchase order text	MRP 1

Material IP15PRM
Descr. Iphone 15 Pro Max
Plant DL00 Plant Dallas

General Data

Base Unit of Measure	G g	Order Unit	PAL	Var. OUn
Purchasing Group		Material Group	FERT	
Plant-Sp.Matl Status		Valid From		
Tax ind. f. material		Qual.f.FreeGoodsDis.		
Material freight grp		Autom. PO	☐	
Batch management	☑			
Batch management(Plant)	☑			

Purchasing values

Purchasing value key		Shipping Instr.		
1st Reminder/Exped.	0 days	Underdel. Tolerance	0,0	percent
2nd Reminder/Exped.	0 days	Overdeliv. Tolerance	0,0	percent
3rd Reminder/Exped.	0 days	Min. Del. Qty in %	0,0	percent
StdValueDelivDateVar	0 days			
Unltd Overdelivery	☐			
Acknowledgment Reqd	☐			

Other data / manufacturer data

GR processing time	days		
Post to Insp. Stock	☐	JIT Sched. Indicator	☐
Critical Part	☐		
Source list	☐		

| | Forecasting | Plant data / stor. 1 | Plant data / stor. 2 | Warehouse Mgmt 1 |

Material IP15PRM

Descr. Iphone 15 Pro Max

Plant DL00 Plant Dallas

Stor. Loc. FG00 Finished Goods

General data

Base Unit of Measure	G	g	
Storage Bin		Unit of issue	
Temp. conditions		Picking area	
Container reqmts		Storage conditions	
CC Phys. Inv. Ind.	☐ CC fixed	Haz. material number	
Label type	Lab.form	Number of GR slips	
		☐ Appr.Batch Recd Req.	

☑ Batch Management

☑ Batch management(Plant)

Shelf life data

Max. Storage Period		Time unit	
Min. Rem. Shelf Life		Total shelf life	
Period Ind. for SLED	D	Rounding rule SLED	
Storage percentage		Expiration Date	B

Shelf life data - Advanced Planning

Maturation Time   Req.Max.Sh.Life

Segmentation Data

Segmentation Strategy

Sort Stk based on Seg. ☐

Costing at material level

Default stock segment

	Material	Plant	SLoc	Unres...	StockIn...
	IP15PRM	DL00	FG00	0,000	0,000
	IP15PRM	MI00	TG00	0,000	0,000

Organization Chart

Flowchart

Start

Nhập liệu

Extent

Check duplicate data

No

Create new record data (Optional)

Save new record data in ALV

Yes

Change data

Edit via Excel Upload (Optional)

Edit data in SAP (ALV)

Post in Material Master Data

Save in database
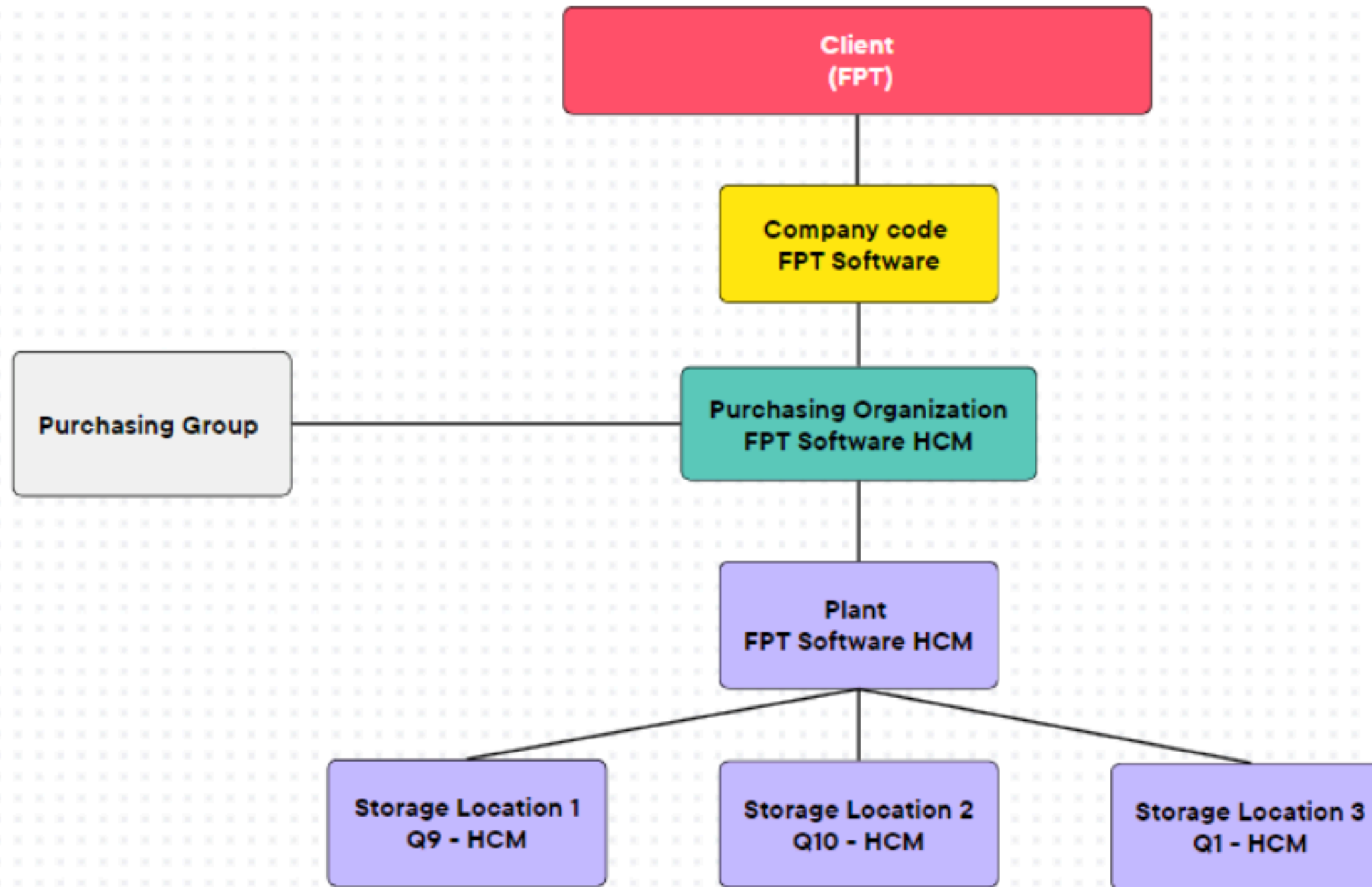
Material Number

Method 1: Electronics industry (phones, tablets)

9 characters (letters and numbers)

Prefix → Brand: I (Iphone), S (Samsung), V (VIVO)

PH (Phone), TB (Tablet)

ROM: 101 (64GB), 102 (128GB), 103 (256GB), 104 (512 GB), 105 (1T)

Example: IPH101001, STB104001

Method 2: Service industry

9 characters (letters and numbers)

Prefix: Prefix → Brand: I (Iphone), S (Samsung), V (VIVO)

PH (Phone), TB (Tablet)

Service service: Serv (Service)

Example: IPH_SERV_001 , STB_SERV_002

View Data

Basic 1 & 2

Field	Nội dung	Template
Material description	Iphone 15 promax 256GB	Module
Base unit of measure	GB	Đơn vị
Material Group	Phone Tablet Service	
Unit of Weight	G (Gram)	
Gross Weight	250G	
Net Weight	221G	
Size/dimensions		
Product Hierarchy		
General item category group	NORM (standard item)	

View Data

Purchasing

Field	Nội dung	Template
Plant	FU25	
Purchasing value key		

MRP 1

Field	Nội dung	Template
MRP type	PD (Lập kế hoạch tự động dựa trên nhu cầu.)	
ABC Indicator	A (Significant material)	
MRP Controller		
Lot size		

View Data

MRP 2

Field	Nội dung	Description
Goods receipt processing time days	1 (days)	
Period indicator	M (Monthly)	monthly/weekly/yearly/daily

MRP 4

General Plant data/ Storage 1

General Plant data/ Storage 2

Method of product management

- Batch management

- Classification

Classification

Classification allows you to associate characteristics with objects: quality, type, industry classification, or any other information related to that object.

Advantages:
- Easy search: based on material properties
- Integration with other processes: linked to many processes: material management, customer management, and supplier management.

Classification in SAP

Customizing Characteristics

T-code: CT04. You can define attributes such as production date, expiry date, weight, batch number, and many other information.

Customizing Classes

After creating attributes, you will group them into classes. T-code CL02 is used to create and manage classes. Each class can contain many attributes.

Associating Classification with objects

You can associate classes and attributes with objects such as materials, customers, or suppliers. For example, you can associate quality information with a specific batch of material.

Material Classification

Similarly, you can classify materials based on attributes such as material type (raw material, finished product), material group, or specification
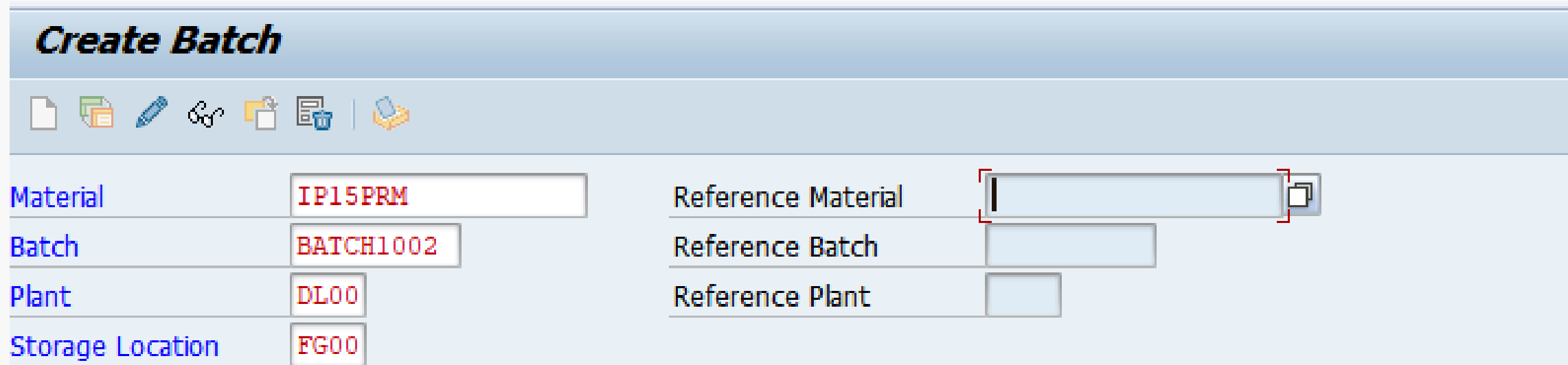
Batch Management

- Each batch has common characteristics, such as production date, origin, or quality parameters.
- Batch helps maintain accurate information about production, expiry dates,...

Key Point about Batch Management:
- Enabling Batch Management: To manage materials in batches, you must enable batch management in the material master record.
- Batch Number Assignment: Each batch is identified by a unique batch number. This batch number can be assigns manually or automatically assigned by the system.
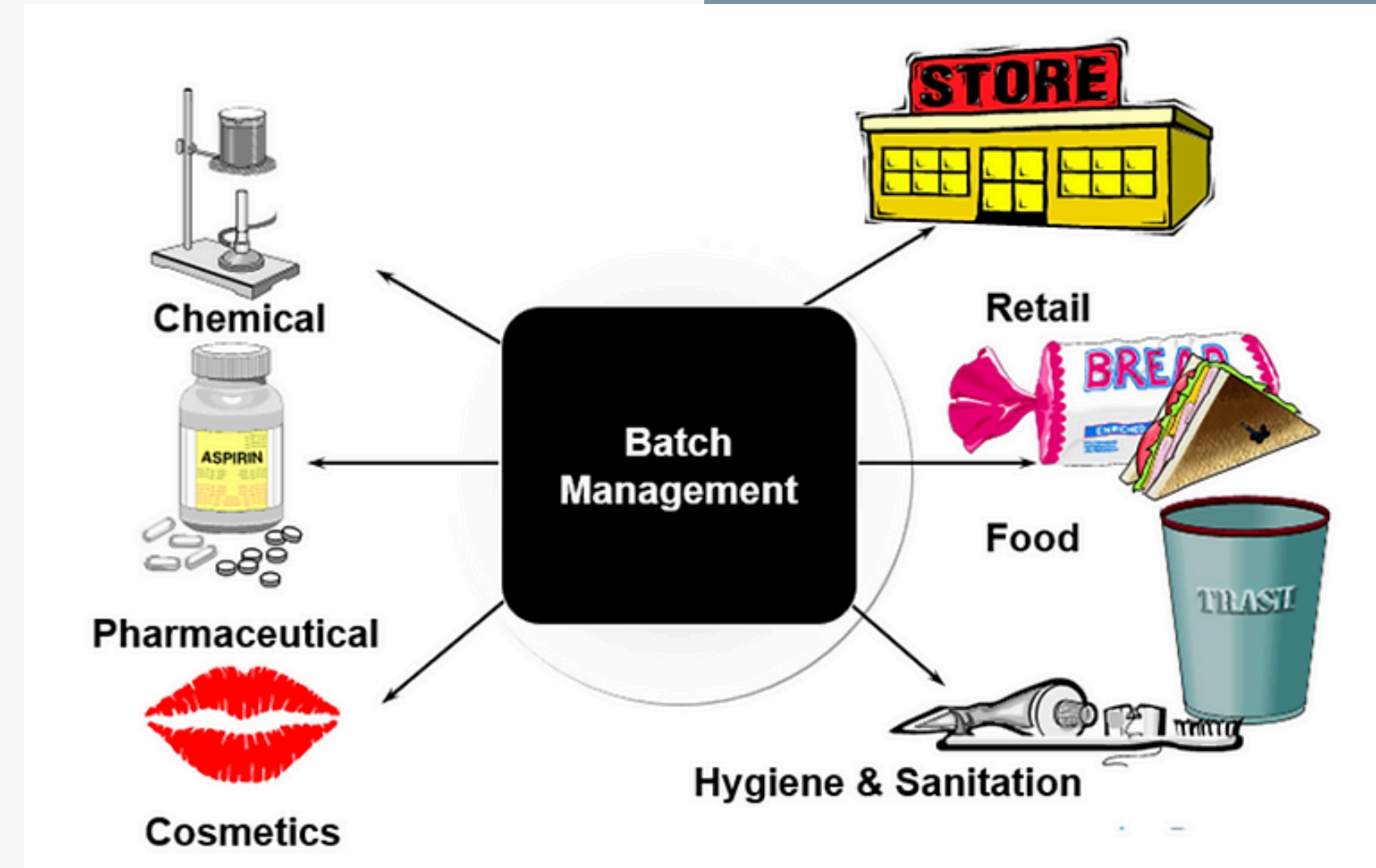
Batch Management in SAP

Create Batch

Material	IP15PRM		Reference Material	
Batch	BATCH1002		Reference Batch	
Plant	DL00		Reference Plant	
Storage Location	FG00			

Tcode MSC1N (create batch) or SPRO (logistic→ materials management → material master → batch → create)

Batch Management in SAP

Batch Data

Change Batch

Technical Research

Thank you