#### ERP Simulation Game



Last Update: July 13, 2021

#### LOGISTICS **PLATINUM**

A Serious Game for Learning **Enterprise Resource Planning Concepts** 

Powered by **ERPsim** Compatible with SAP™ ERP ECC and Business Suite on HANA

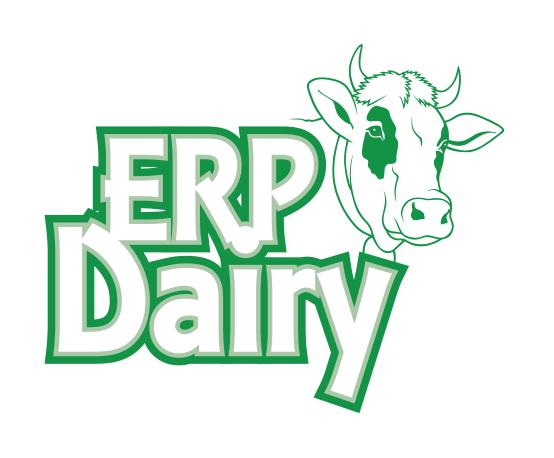
Pierre-Majorique LÉGER Jacques ROBERT Gilbert BABIN

Robert PELLERIN **Bret WAGNER** 





### Welcome to Your New Job!





# Your Company



# Dairy Wholesaler



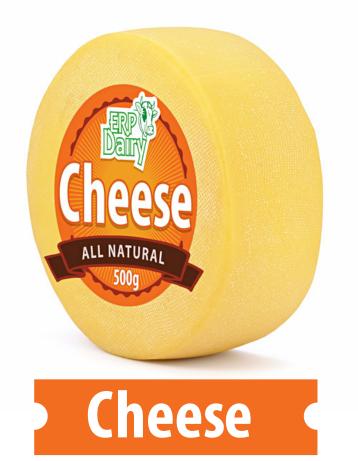
### Your Products













### Product Details



\$\$-T01

Milk

COST

€22.95



\$\$-T04

Cheese

COST

€82.68



\$\$-T02

Cream

€72.07

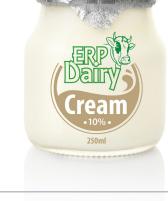
COST

\$\$-T05

Butter

COST

€59.88



\$\$-T03

Yoghurt

\$\$-T06

Ice Cream

COST

€43.15



€25.85

COST



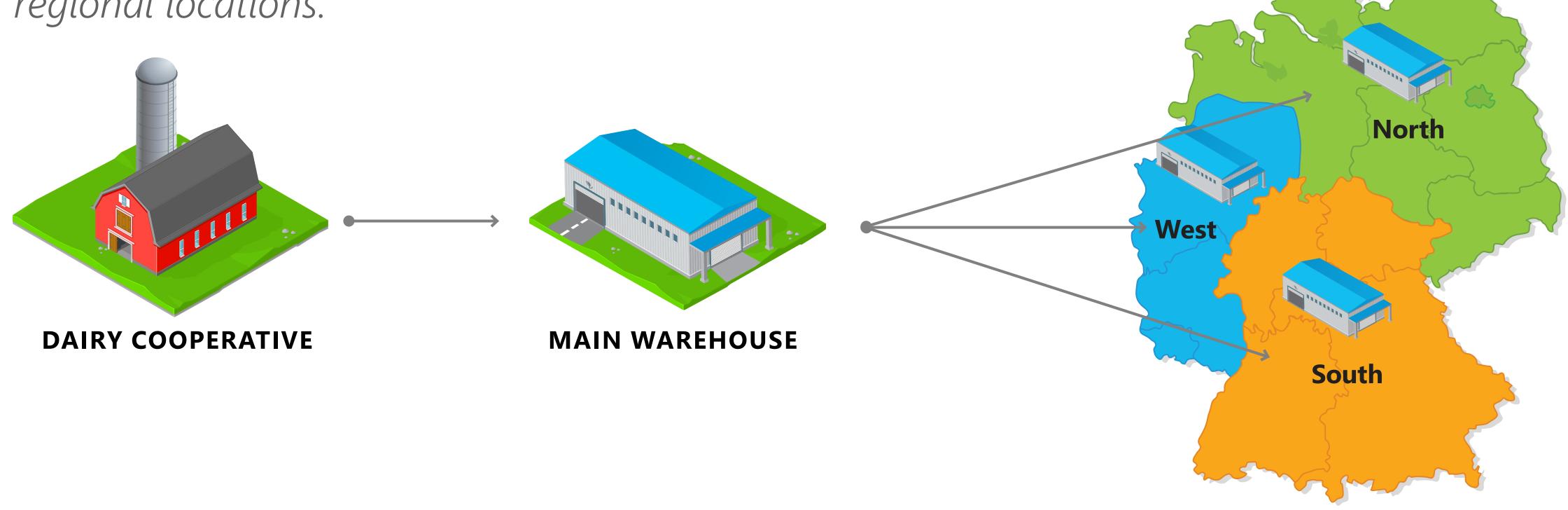
## Logistics Game Design

Your company owns a main warehouse which receives and stores products you have purchased from a dairy cooperative.



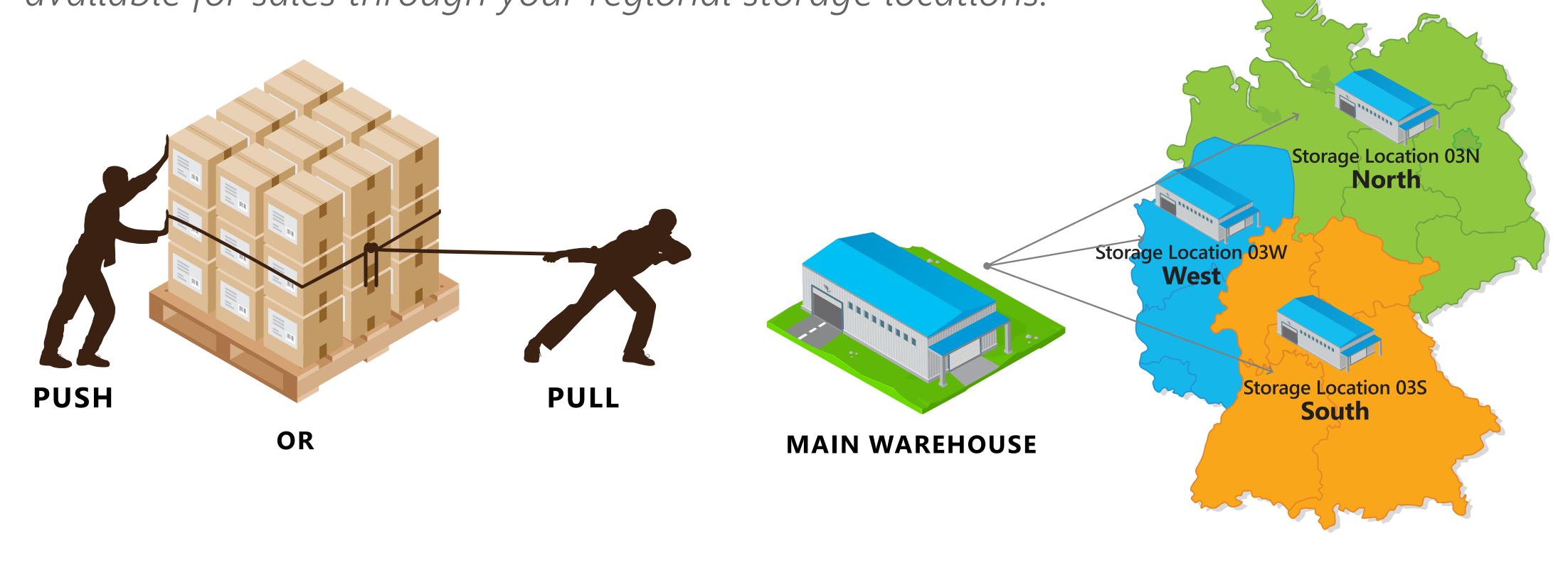
## Three Regional Storage Locations

You need to transfer products from your main warehouse to your three regional locations. You sell products only from these regional locations.



## Logistics Strategy

You must determine a logistics strategy in order to make your products available for sales through your regional storage locations.

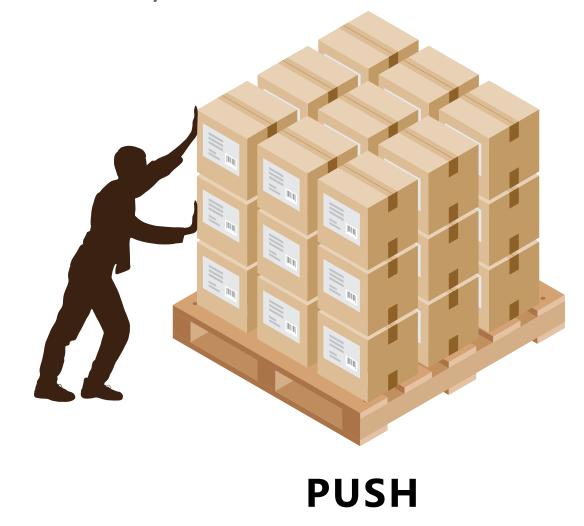


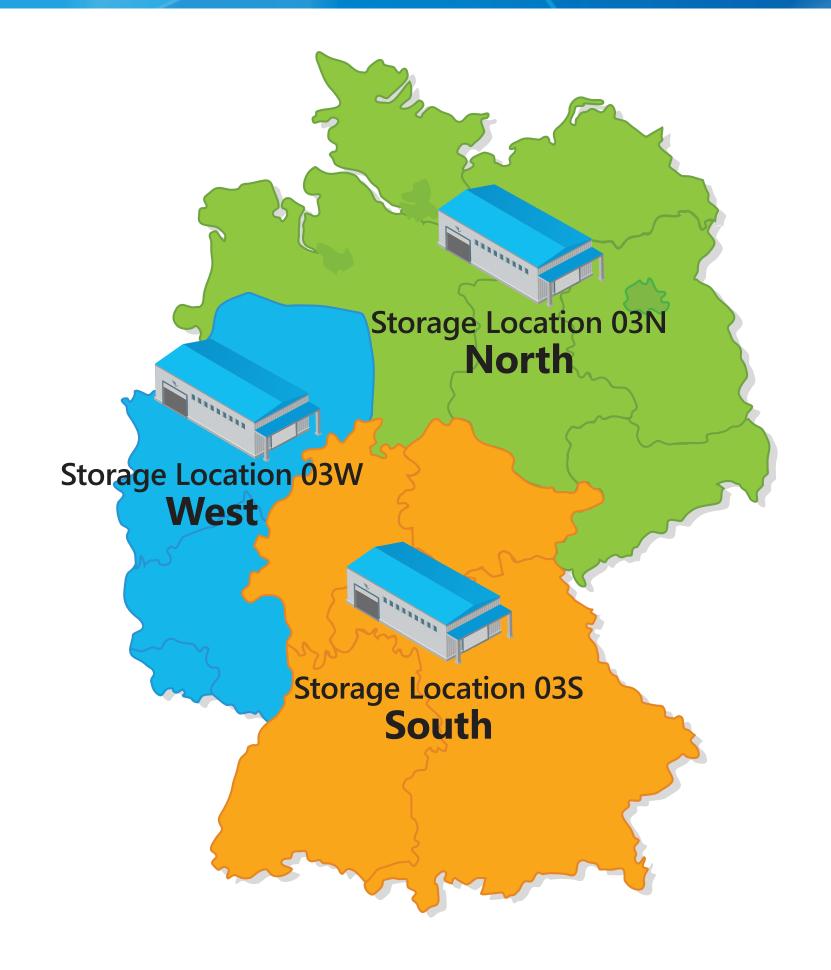
## A Push Logistics Strategy

A "Push" strategy specifies the quantity of each product to be delivered to **each location**.

The defined quantity of each product will be shipped to each location according to the delivery schedule, which defines the delay between each shipment.





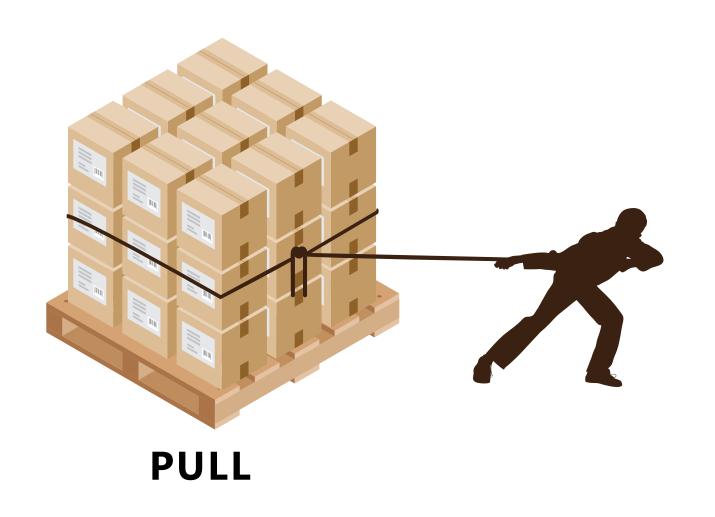


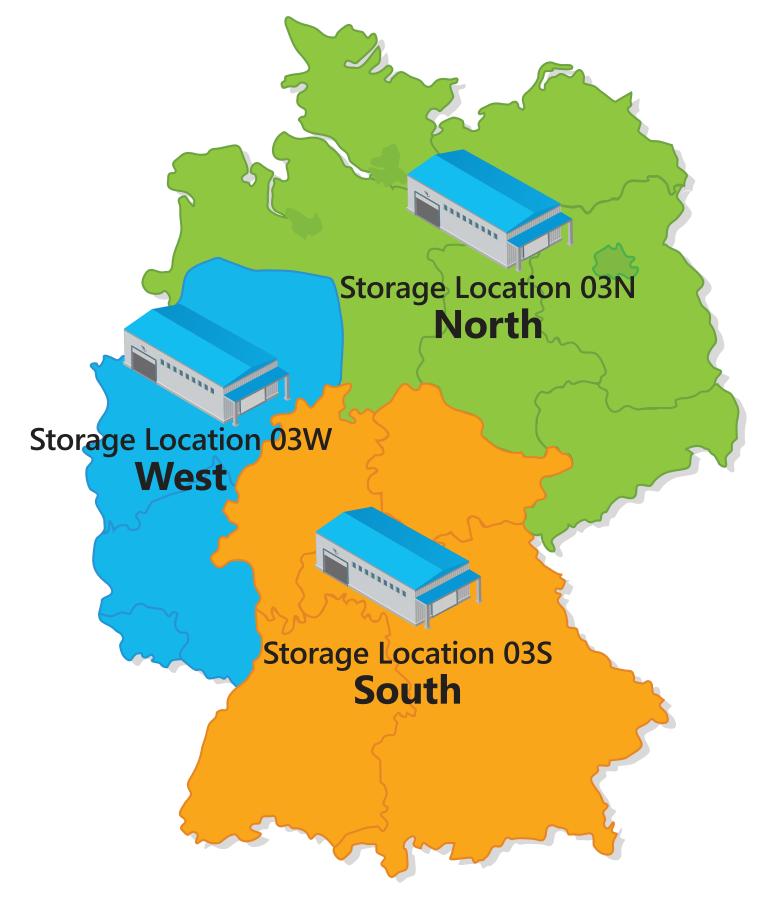
## A Pull Logistics Strategy

A "Pull" strategy specifies the **target quantity** for **each product** in **each location**.

The **difference** between the target quantity and the inventory available in each location is calculated and shipped according to the delivery schedule.

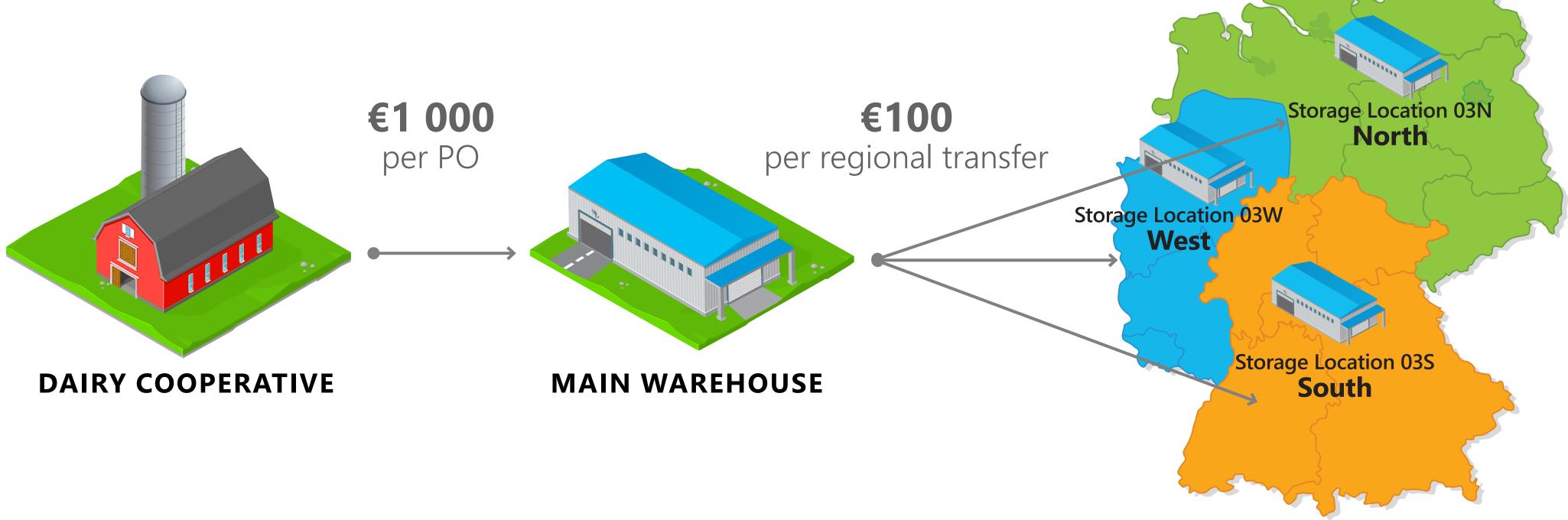




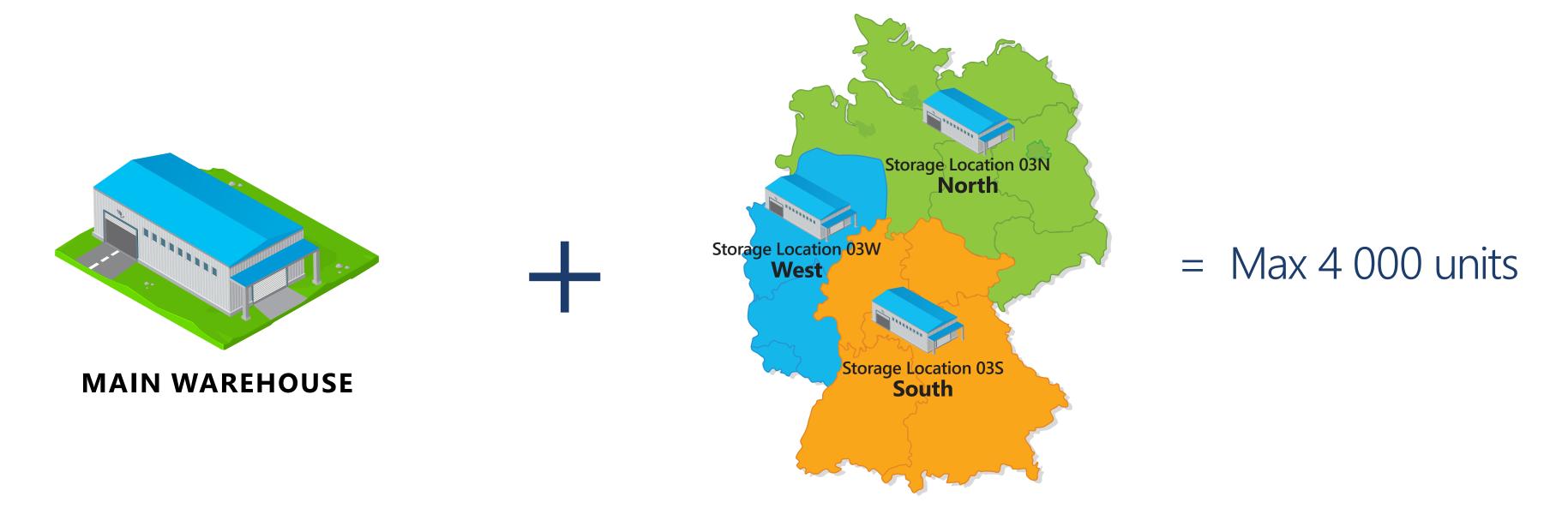


## Transportation Fees

You will have to manage transportation fees carefully in order to maximize your company's profit.



## Total Storage Capacity

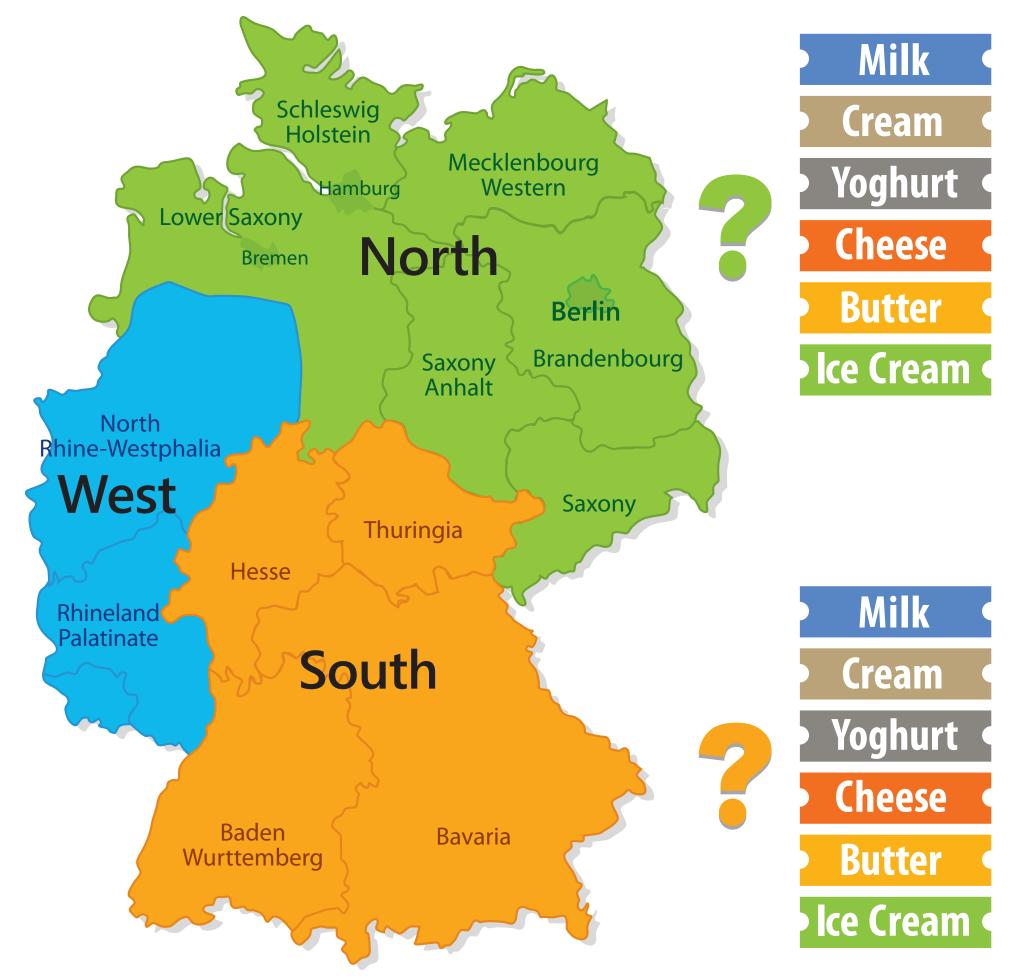


Extra capacity = 50€/day for each 1 000 additional units

#### Market Preferences

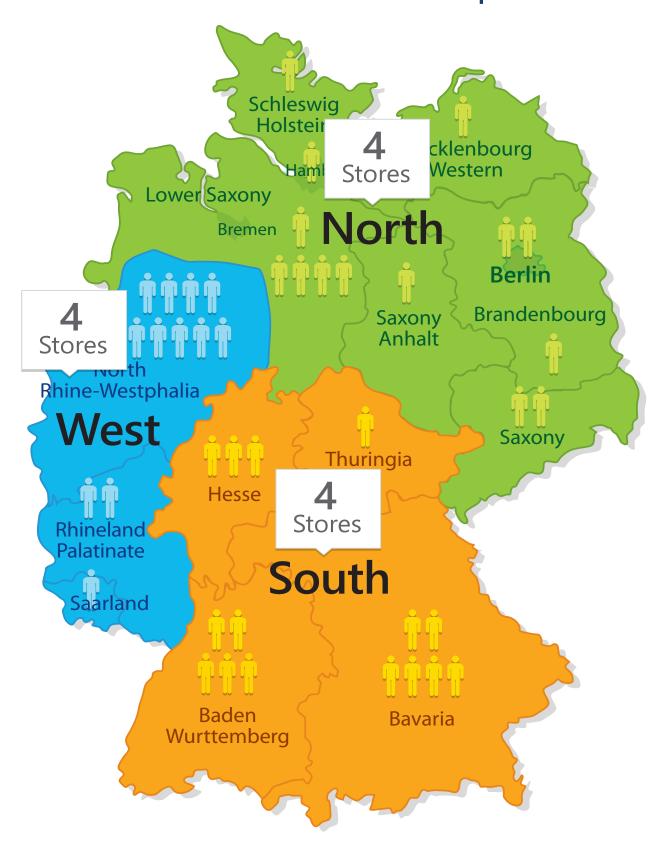
Each region has unique preferences related to the products it wishes to purchase from your company.





### Retail Stores and Market Size

Market size = Number of simulated companies x €12 000 per day



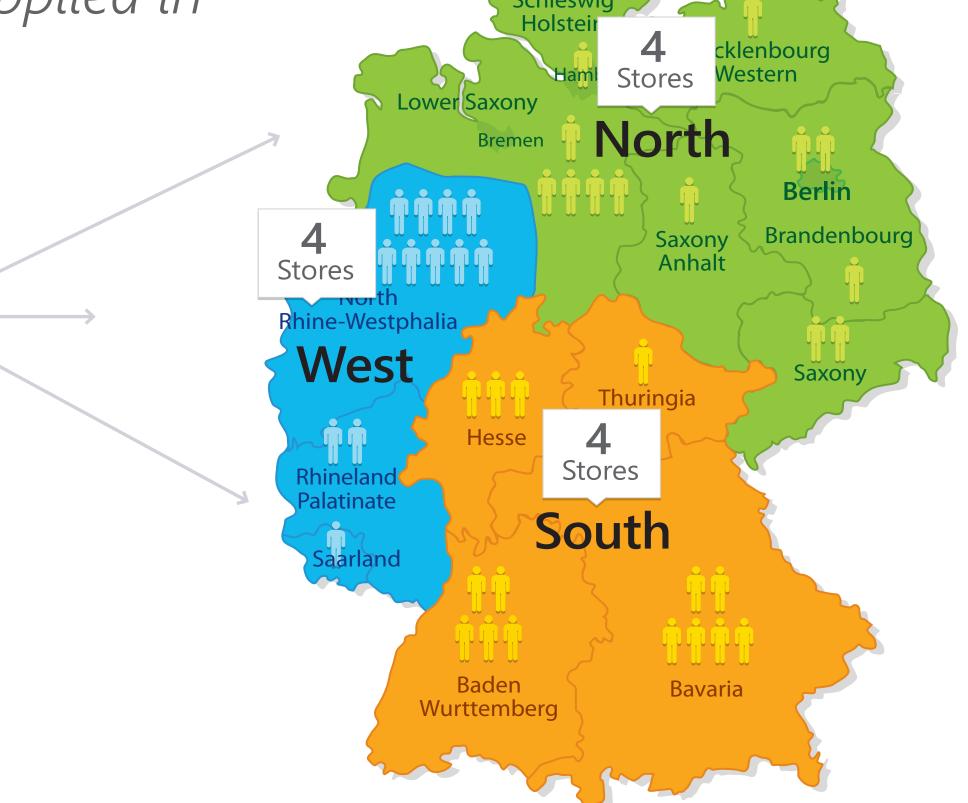
### Price List

You will need to setup prices for your products. The price for each product will be applied in all 3 regions.

PRODUCT	DC 16 RETAILERS
\$\$-T01 Milk	
\$\$-T02 Cream	
\$\$-T03 Yoghurt	
\$\$-T04 Cheese	
\$\$-T05 Butter	
\$\$-T06 Ice Cream	

#### One single price list

Distribution channel 16



# Company Valuation



## Determining Company Value

Company Value Yearly Profit

Company Discount Rate

(Current Profit / Nb. Rounds Played) \* 8

Market Risk Rate + Company Risk Rate

This formula is adapted from the standard Dividend Discount Model (DDM) for stock valuation, assuming no growth and 100% dividend payout.

## Company Valuation Example

#### **Company Situation**

Current profit: €125 000

Number of rounds played: 1

Market Risk Rate: 7%

Company Credit Rating: AAA+ Companies start the game without any debts (bank loan=0)

Company Risk Rate\*: 3%

\*linked to AAA+ credit rating, see next slide

(Current Profit / Nb. Rounds Played) \* 8

Market Risk Rate + Company Risk Rate

### Determining Company Discount Rate

Discount Rate = Market Risk Rate + Company Risk Rate = 7% + f(Company Credit Rating)

Company Credit Rating = f(Debt Loading)

The market risk rate is based on historical stock market average returns of 7%.

Company credit ratings are determined using the lookup table.

#### **LOOKUP TABLE**

Debt Loading	Rating	Risk Differential
€ -	AAA+	+3,00%
€ -1 000 000	AA+	+3,75%
€ -2 000 000	AA	+4,00%
€ -3 000 000	AA-	+4,25%
€ -4 000 000	A+	+4,75%
€ -5 000 000	A	+5,00%
€ -6 000 000	A-	+5,25%
€ -7 000 000	BBB+	+5,75%
€ -8 000 000	BBB	+6,00%
€ -9 000 000	BBB-	+6,25%
€ -10 000 000	BB+	+6,75%
€ -11 000 000	BB	+7,00%
€ -12 000 000	BB-	+7,25%
€ -13 000 000	B+	+7,75%
€ -14 000 000	В	+8,00%
€ -15 000 000	В-	+8,25%
€ -16 000 000	CCC+	+9,00%
€ -17 000 000	CCC	+10,00%
€ -18 000 000	CCC-	+11,00%
€ -19 000 000	CC	+12,00%
€ -20 000 000	C	+15,00%

### Financial Statements and Cash Flow

# Your shareholders have invested €500 000.

This includes €250 000 invested in assets and leaves €250 000 in cash.

If your cash account becomes negative, your bank automatically lends you the required money, but it results in decreasing your credit rating.

## Rules and Additional Information



#### Rules of the Game

- Game duration: 8 rounds of 10 virtual days (a bit more than one minute per day).
- At the start of the game, you have inventory on hand in your main warehouse. On day 6 of the game, you will receive the same amount to replenish your stock.
- No stock, no sale.

End of round inventory is carried over to the next round.

- Customer preferences do not change throughout the same game.
- The company displaying the highest company valuation at the end of the simulation wins the game.
- You must behave ethically at all times.
- The end of game inventory will be valued at cost price in the final balance sheet. Therefore, you shouldn't sell under cost at any time during the game.

# Elements of a Winning Strategy



Use the ERP system efficiently



Delays and costs are important elements of the game



Explore different strategies and learn from mistakes



Team organization is more important than you think

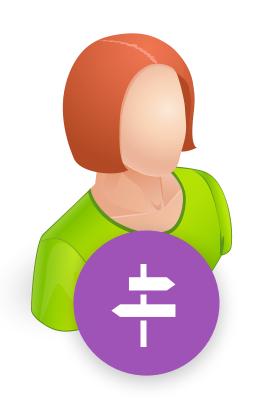


## 5 Players Per Team



#### PLANNING MANAGER

In charge of creating the forecast and the procurement process and tracking the purchases.



#### LOGISTIC MANAGER

In charge of the transfer strategy (planning mode and scheduling) from the main warehouse to regional storage locations.



#### STOCK MANAGER

In charge of monitoring the inventory report in the main warehouse and regional storage locations.



#### PRICING MANAGER

In charge of maintaining/ changing prices for distribution channel 16 for all 6 products.



#### SALES VICE-PRESIDENT

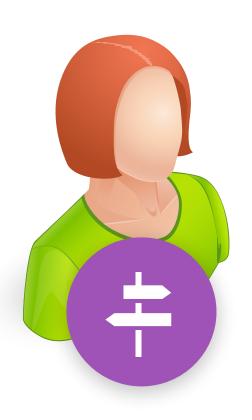
In charge of monitoring the summary and detailed sales reports as well as the financial statements.

### 4 Players Per Team



#### PLANNING MANAGER

In charge of creating the forecast and the procurement process and tracking the purchases.



#### LOGISTIC MANAGER

In charge of the transfer strategy (planning mode and scheduling) from the main warehouse to regional storage locations.



#### PRICING MANAGER

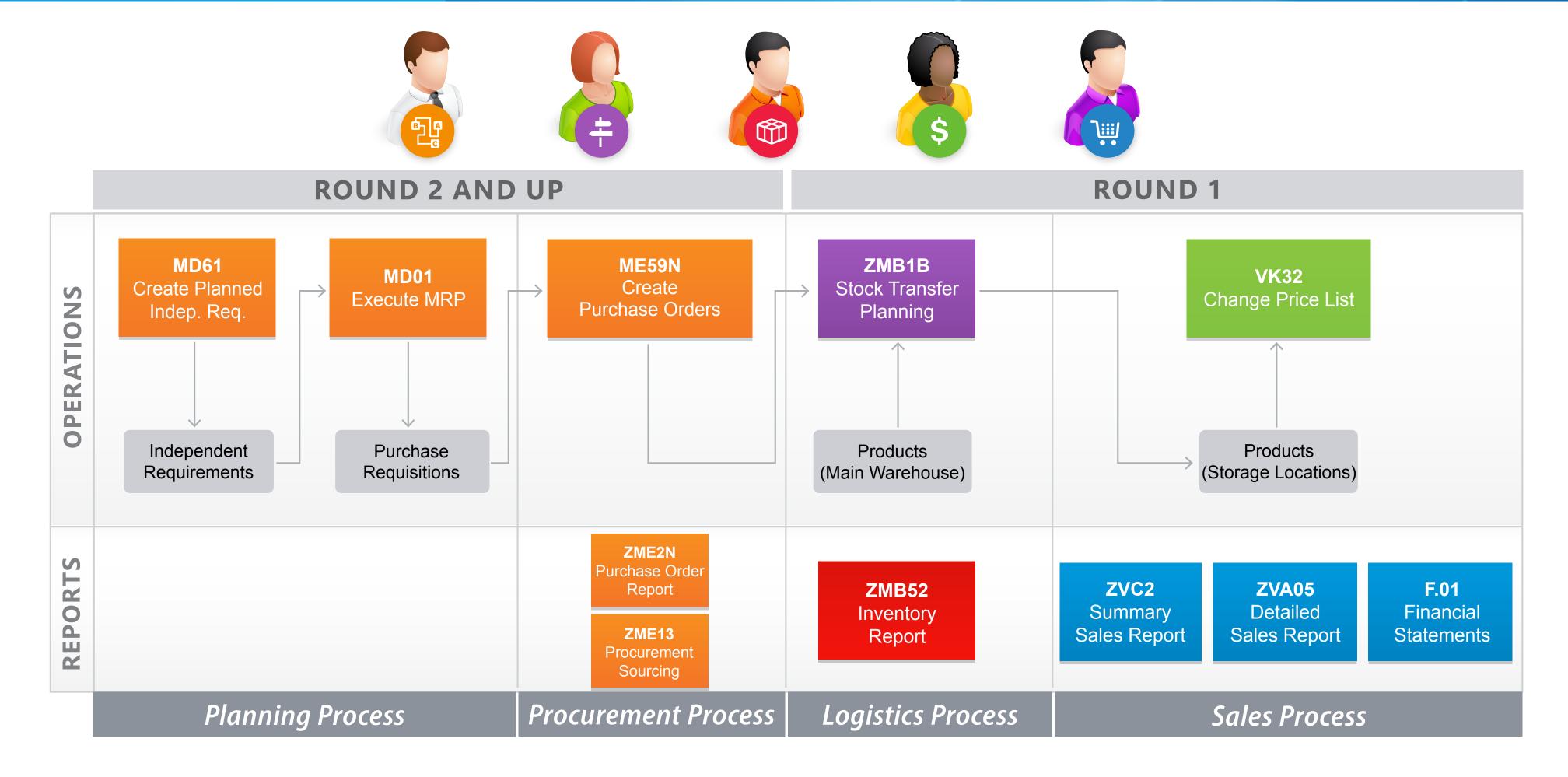
In charge of maintaining/ changing prices for distribution channel 16 for all 6 products.



#### REPORTS MANAGER

In charge of monitoring the summary and detailed sales reports, the financial statements as well as the inventory report.

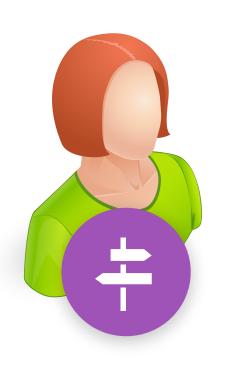
## Game Layout - Business Processes

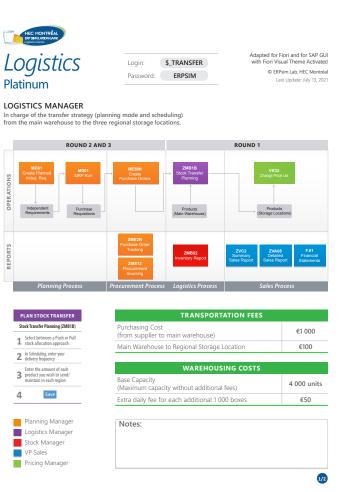


## Participant's Job Aids

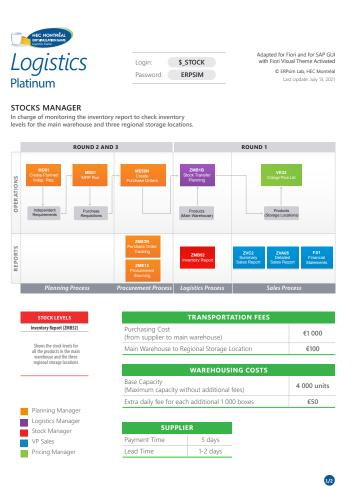








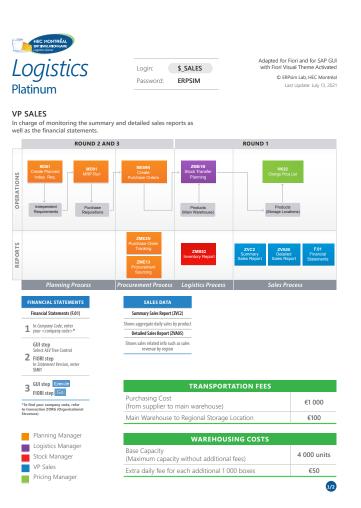












# SAP Navigation



## 5 Players Per Team

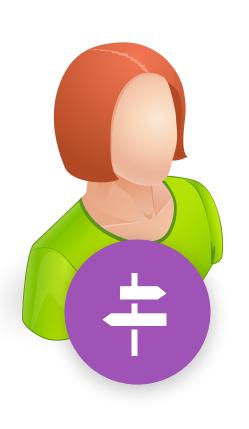


#### PLANNING MANAGER

Login:

\$\_planning

Password: **ERPSIM** 



LOGISTICS MANAGER

Login:

**\$\_transfer** 

Password:

**ERPSIM** 



#### STOCK MANAGER

Login:

\$\_stock

Password:

**ERPSIM** 



#### PRICING MANAGER

Login:

\$\_pricing

Password: **ERPSIM** 



SALES VICE-PRESIDENT

Login:

\$\_sales

Password:

**ERPSIM** 

\$ is your team letter

## 4 Players Per Team



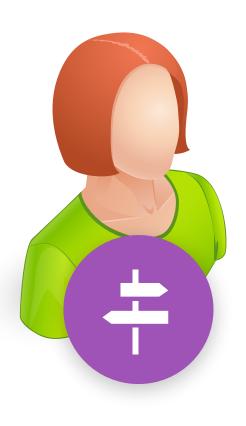
PLANNING MANAGER

Login:

**\$\_planning** 

Password:

**ERPSIM** 



LOGISTICS MANAGER

Login:

**\$\_transfer** 

Password:

**ERPSIM** 



PRICING MANAGER

Login:

\$\_pricing

Password: **ERPSIM** 



REPORTS MANAGER

Login:

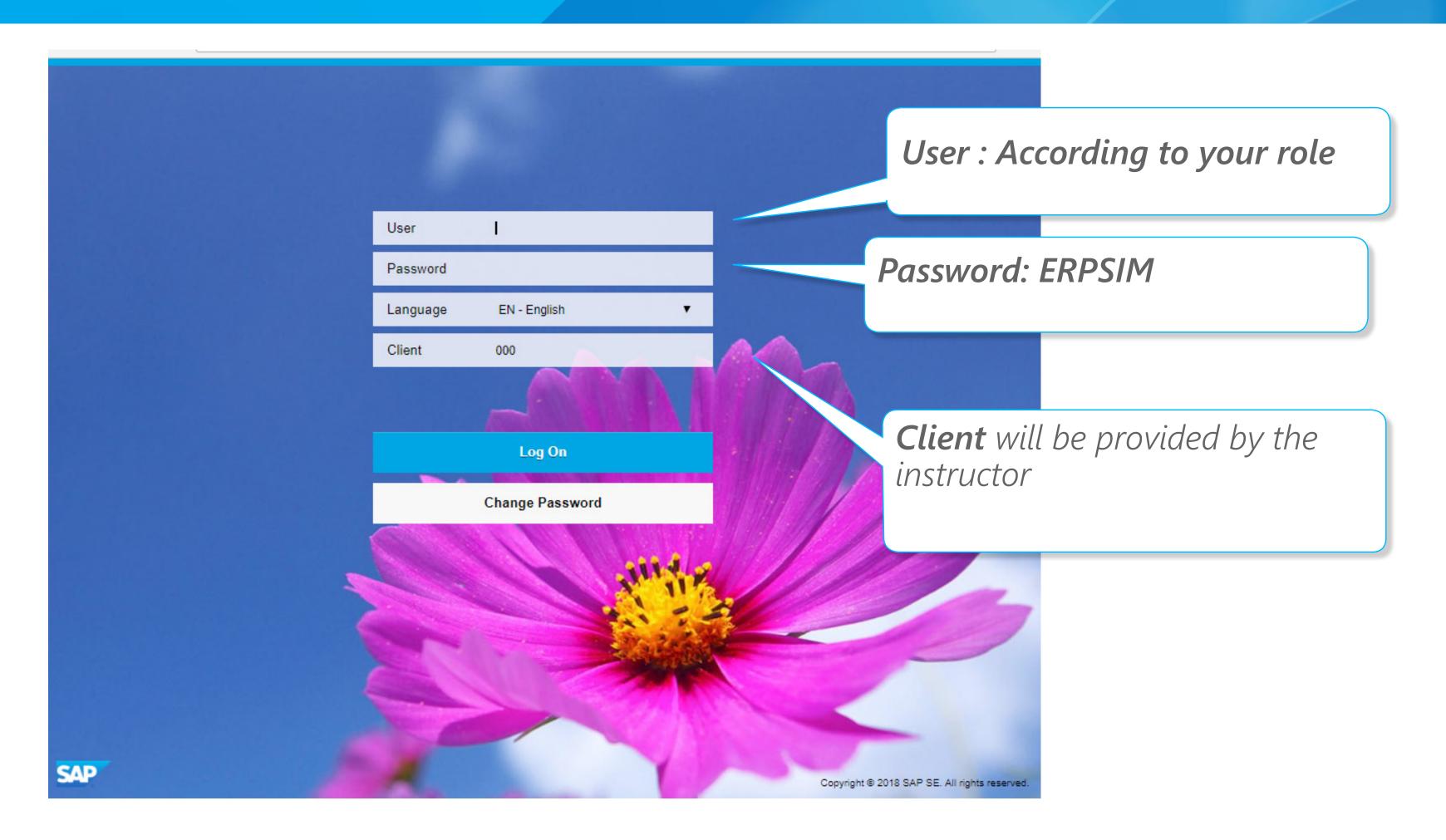
**\$\_reports** 

Password:

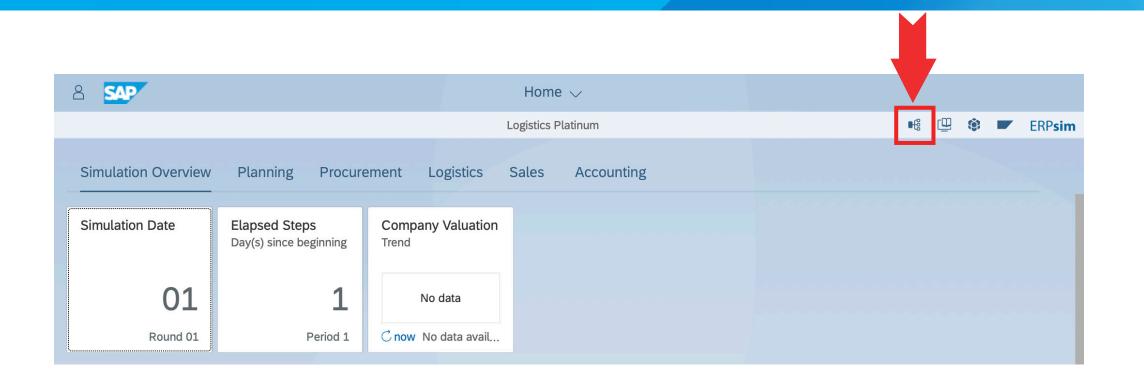
**ERPSIM** 

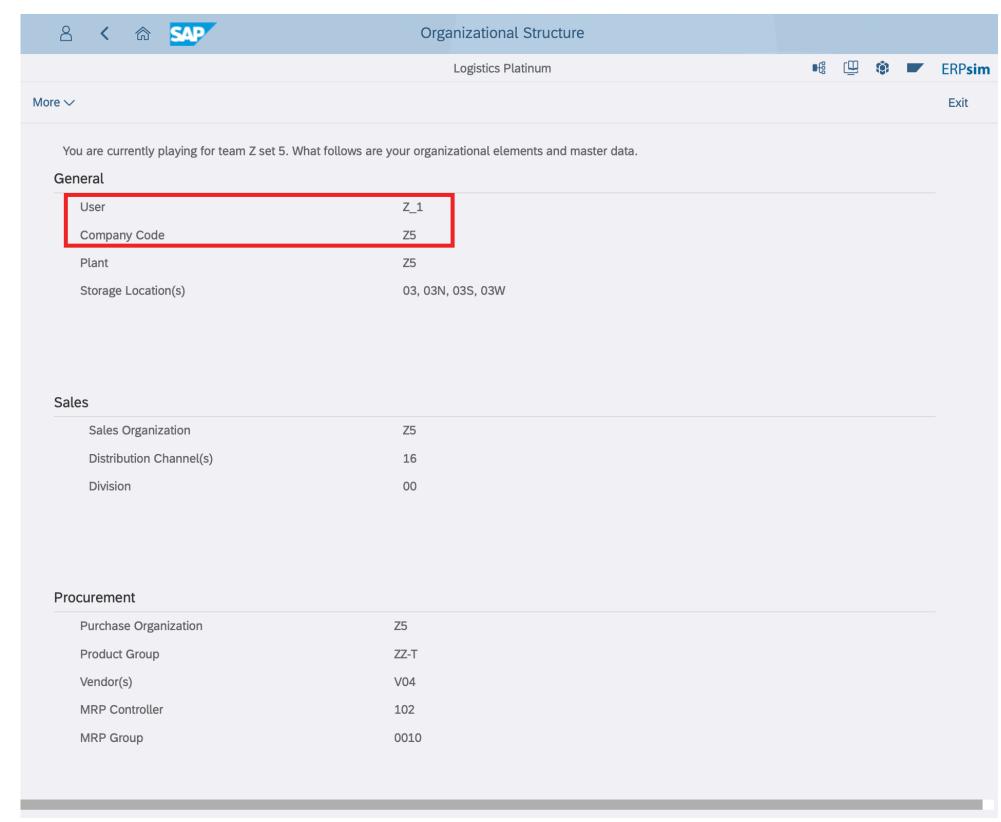
\$ is your team letter

# Login Information



# Transaction ZORG: Organizational Structure

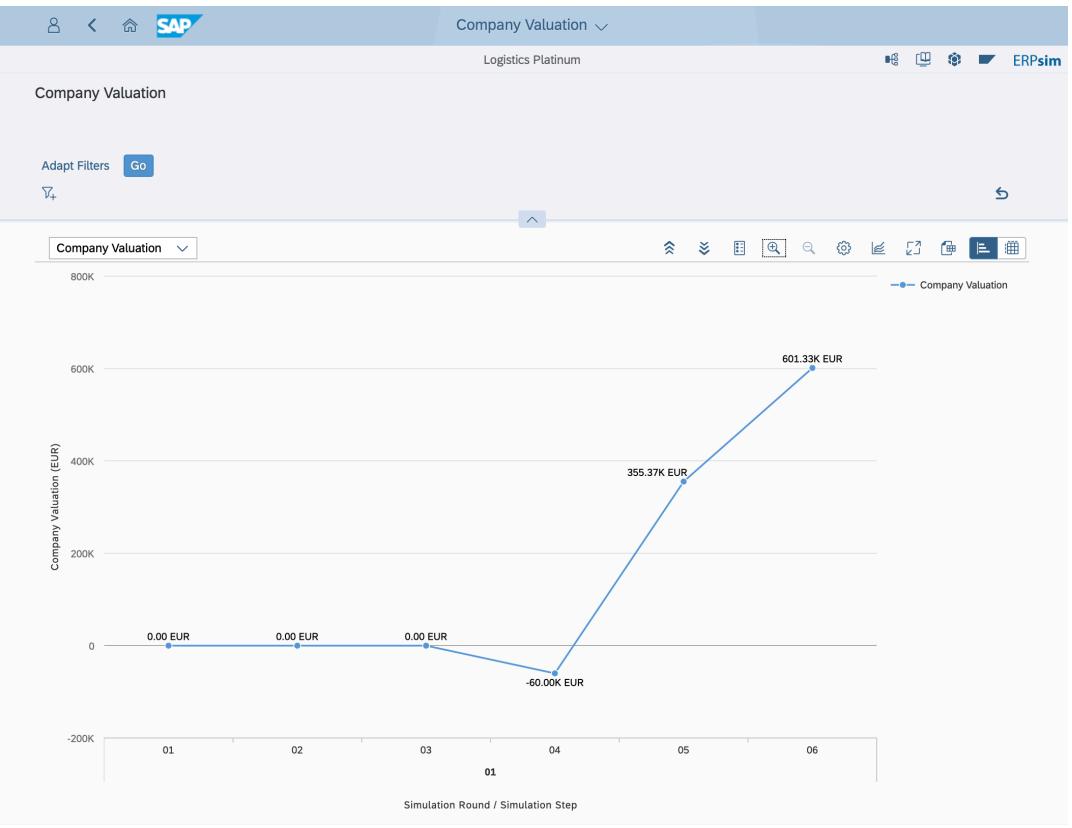






## Check Company Valuation

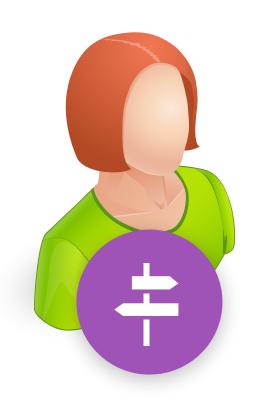




## Training for Your New Job!



## Logistics Manager



#### LOGISTICS MANAGER

Login:

**\$\_transfer** 

Password:

**ERPSIM** 

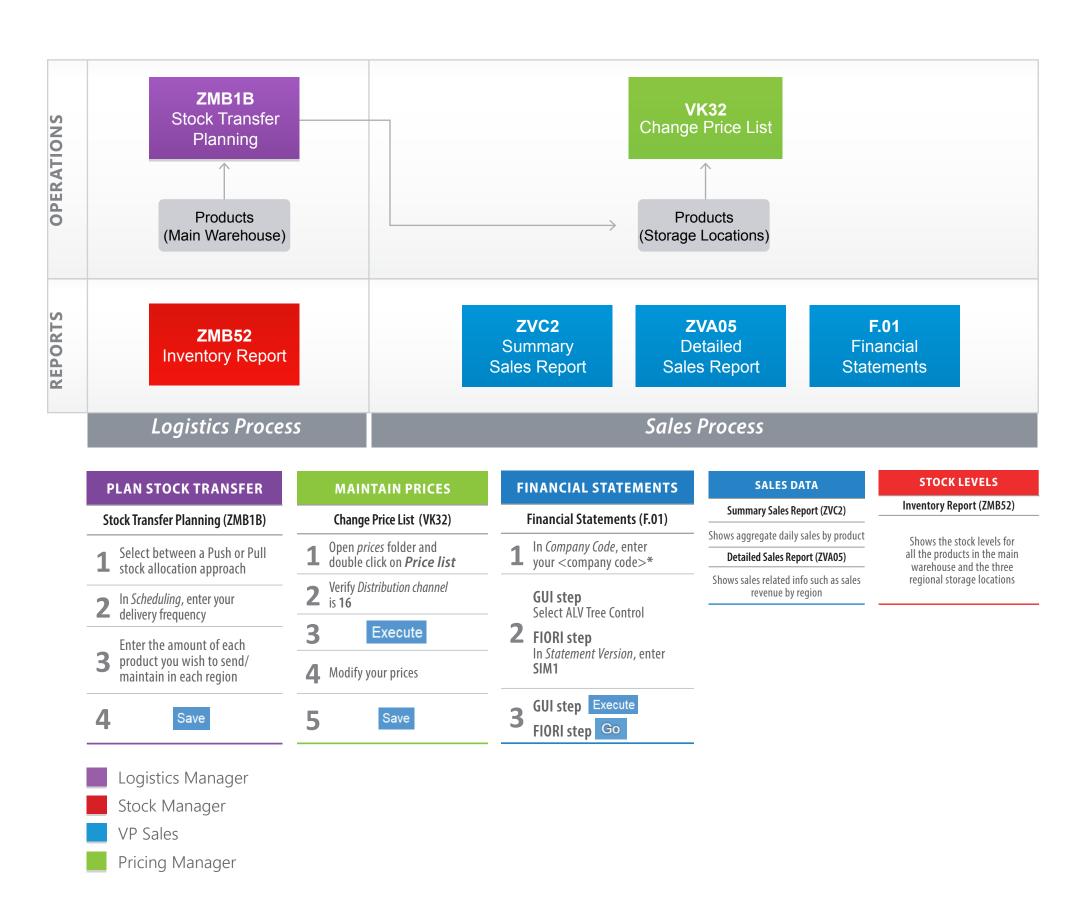
REPLENISHMENT INVENTORY			
PRODUCT CODE	DESCRIPTION	UNITS (every 5 days)	
T01	Milk	950	
T02	Cream	300	
T03	Yoghurt	700	
T04	Cheese	350	
T05	Butter	400	
T06	Ice Cream	300	

TRANSPORTATION FEES			
Purchasing Cost (from supplier to main warehouse)	€1 000		
Main Warehouse to Regional Storage Location	€100		
WAREHOUSING COSTS			
Base Capacity (units)	4 000		

€50

(Maximum capacity without additional fees)

Extra daily fee for each additional 1 000 boxes



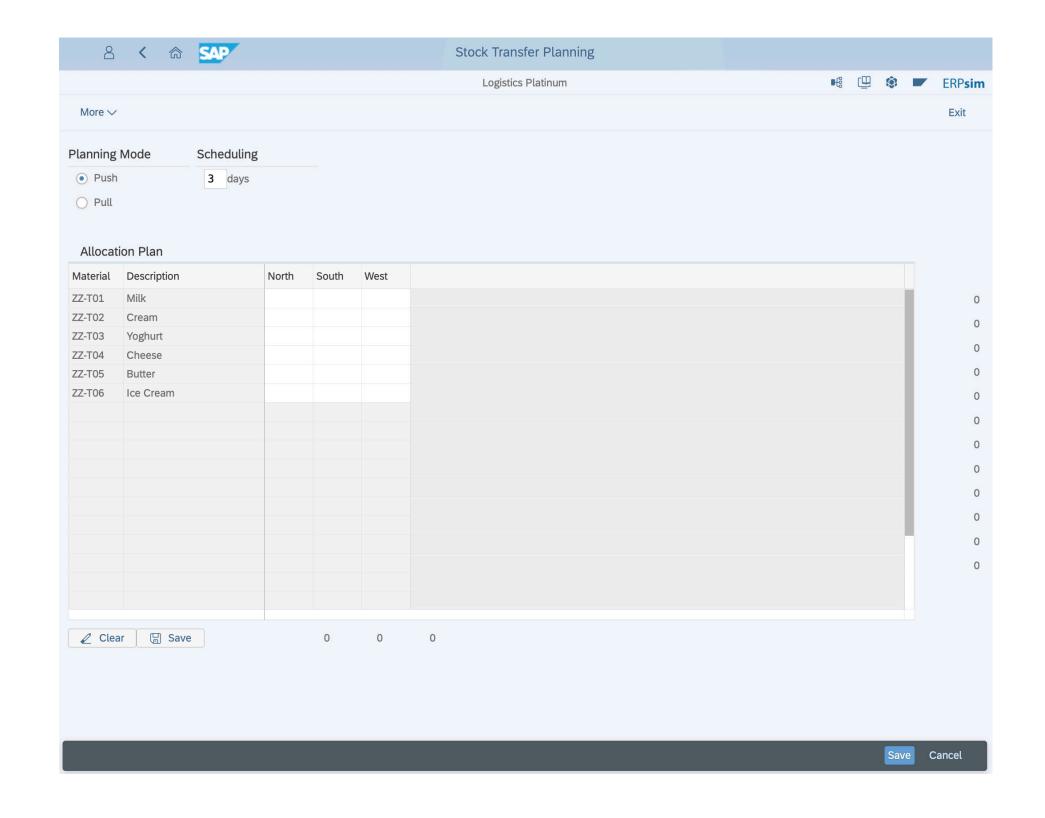
# Plan Transfer Strategy

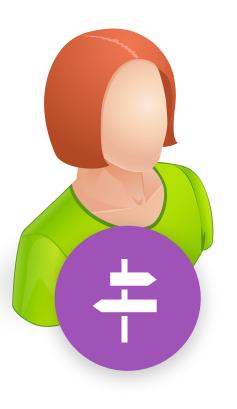
# PLAN STOCK TRANSFER Stock Transfer Planning (ZMB1B)

- Select between a Push or Pull stock allocation approach
- 2 In *Scheduling*, enter your delivery frequency
- Enter the amount of each product you wish to send/maintain in each region

4







## Stock Manager



#### STOCK MANAGER

Login:

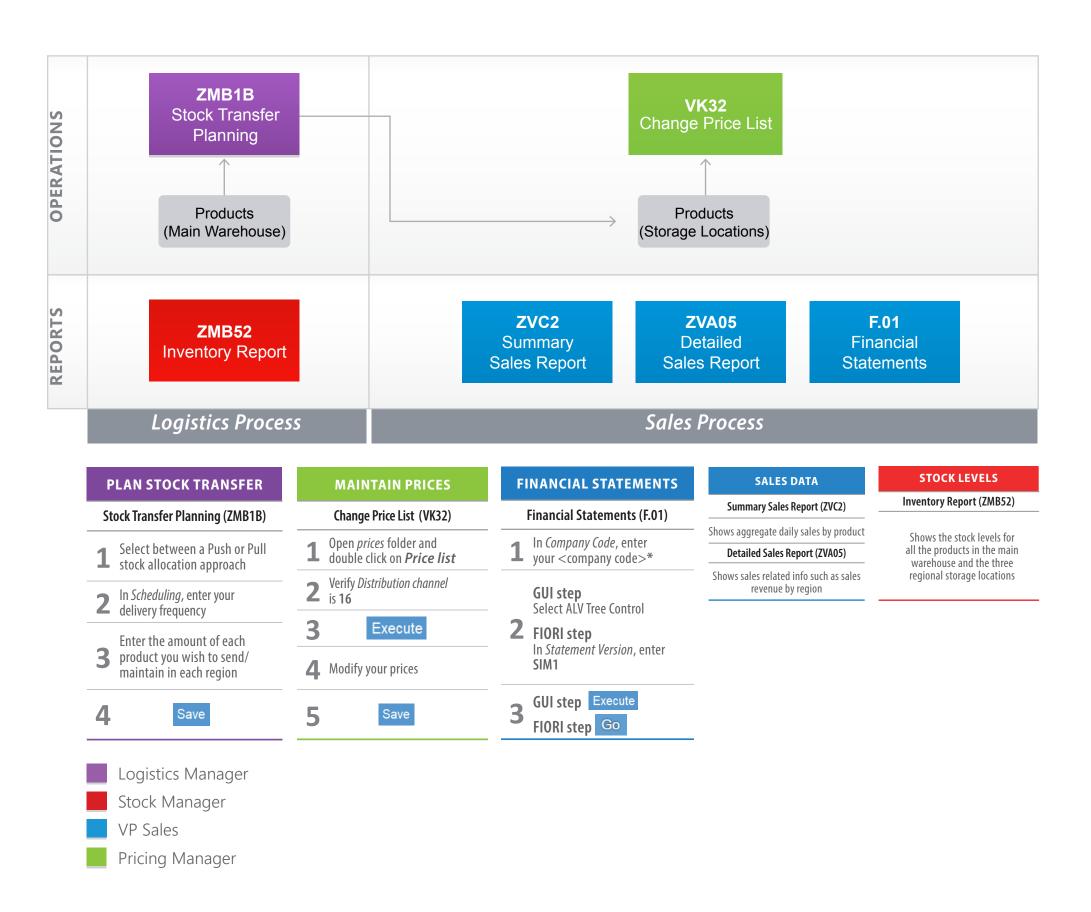
\$\_stock

Password:

REPLENISHMENT INVENTORY						
PRODUCT CODE	DESCRIPTION	UNITS (every 5 days)				
T01	Milk	950				
T02	Cream	300				
T03	Yoghurt	700				
T04	Cheese	350				
T05	Butter	400				
T06	Ice Cream	300				

€1 000
€100

WAREHOUSING COSTS	
Base Capacity (units) (Maximum capacity without additional fees)	4 000
Extra daily fee for each additional 1 000 boxes	€50

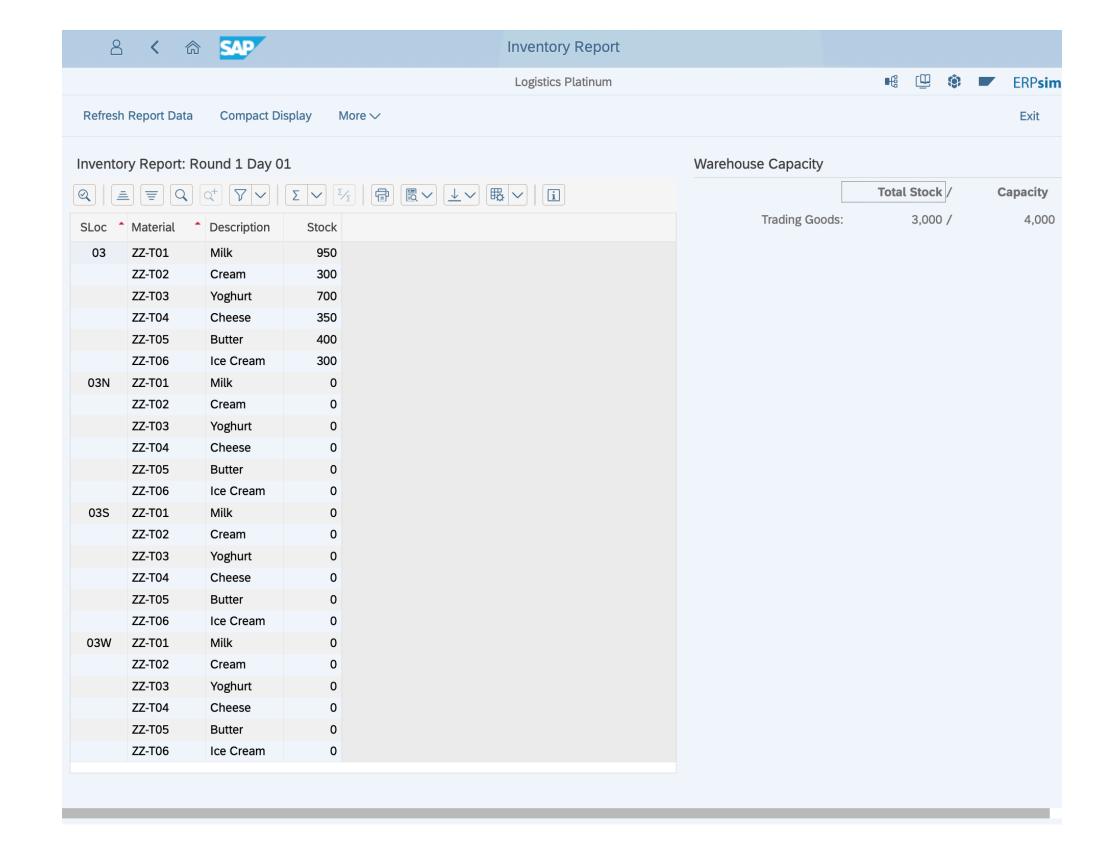


## Check Stock Levels

#### **STOCK LEVELS**

**Inventory Report (ZMB52)** 

Shows the stock levels for all the products in the main warehouse and the three regional storage locations





# Pricing Manager



## PRICING MANAGER

Login:

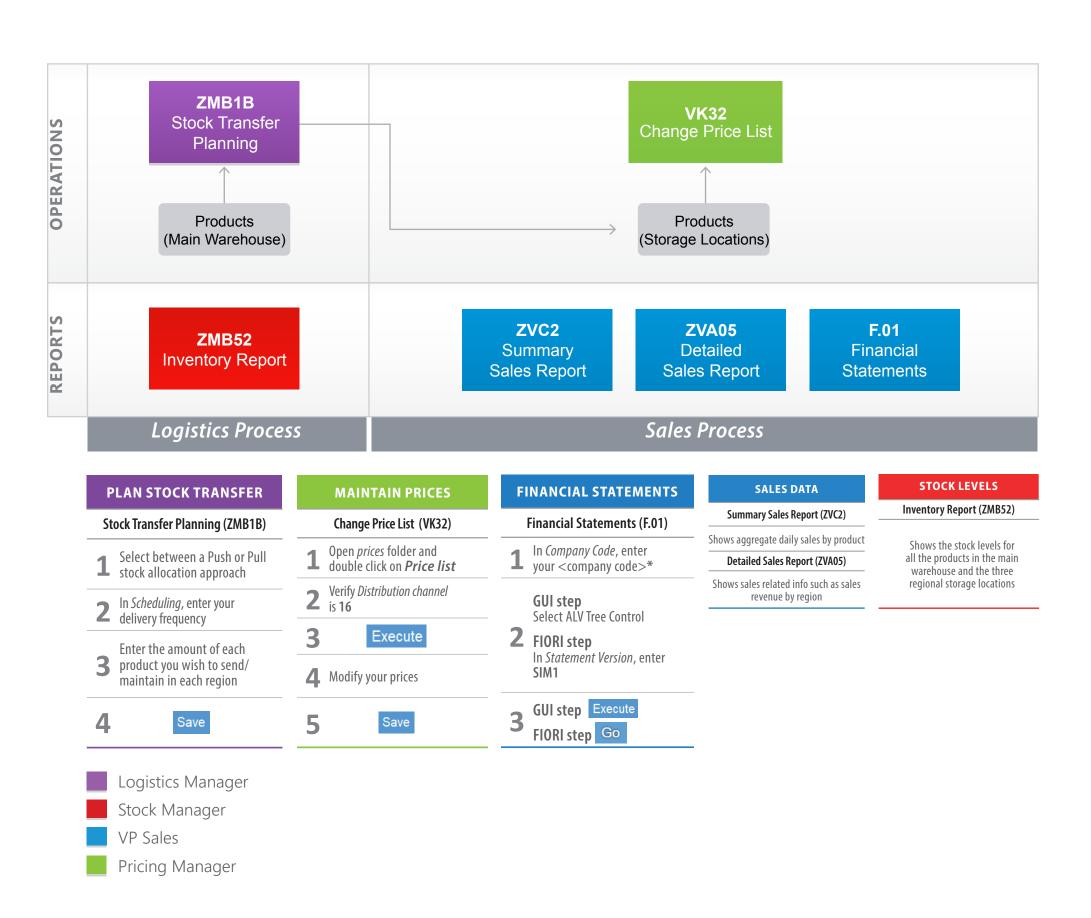
**\$\_pricing** 

Password:

REPLENISHMENT INVENTORY						
PRODUCT CODE	DESCRIPTION	UNITS (every 5 days)				
T01	Milk	950				
T02	Cream	300				
T03	Yoghurt	700				
T04	Cheese	350				
T05	Butter	400				
T06	Ice Cream	300				

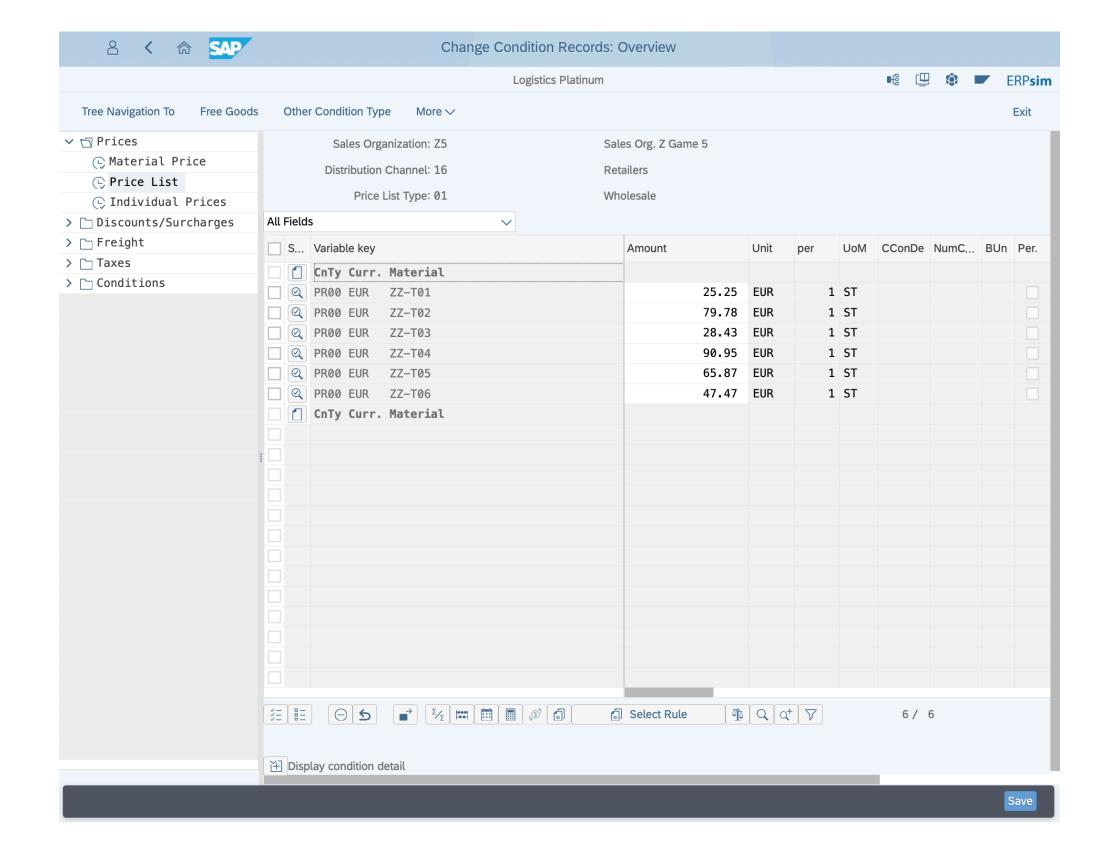
TRANSPORTATION FEES	
Purchasing Cost (from supplier to main warehouse)	€1 000
Main Warehouse to Regional Storage Location	€100

WAREHOUSING COSTS	
Base Capacity (units) (Maximum capacity without additional fees)	4 000
Extra daily fee for each additional 1 000 boxes	€50



## Maintain Prices for DC 16

# Change Price List (VK32) 1 Open prices folder and double click on Price list Verify Distribution channel is 16 Execute Modify your prices Save





## Sales Vice-President



#### SALES VICE-PRESIDENT

Login:

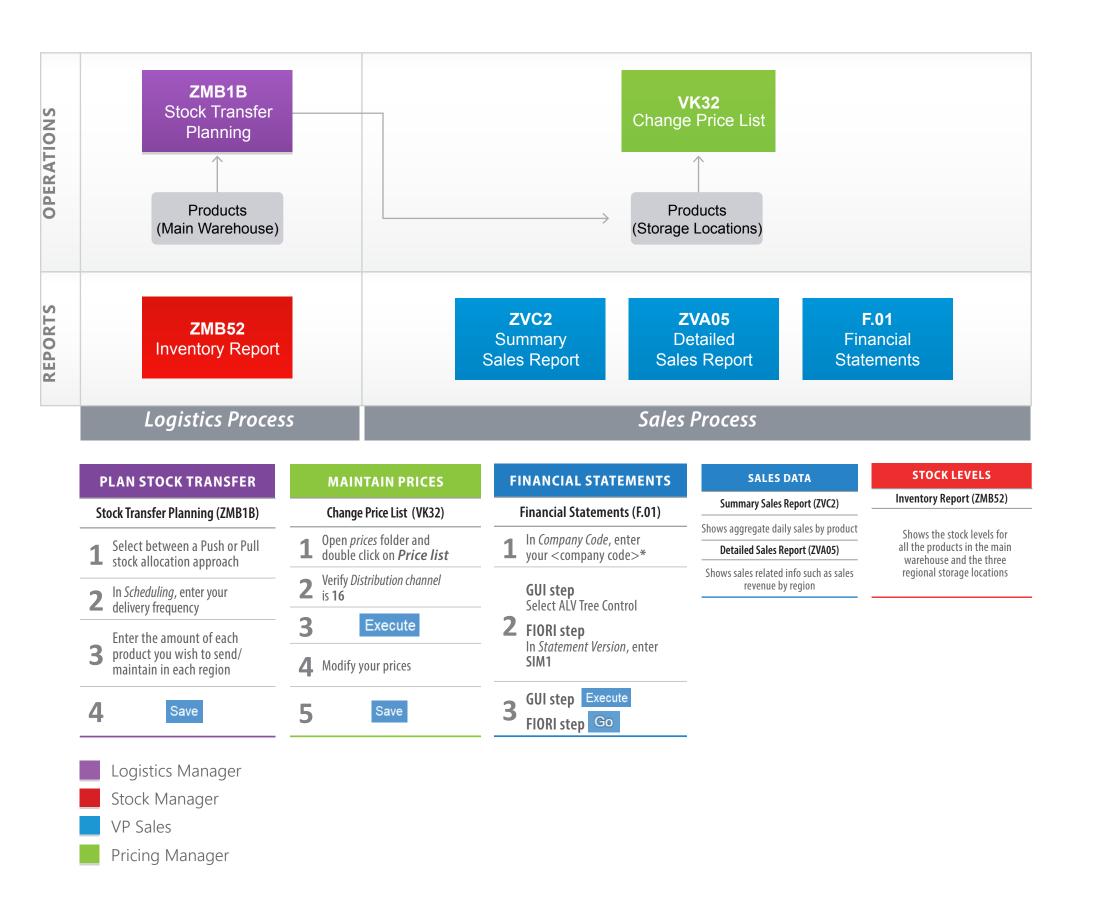
\$\_sales

Password:

REPLENISHMENT INVENTORY						
PRODUCT CODE	DESCRIPTION	UNITS (every 5 days)				
T01	Milk	950				
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T03	Yoghurt	700				
T04	Cheese	350				
T05	Butter	400				
T06	Ice Cream	300				

TRANSPORTATION FEES	
Purchasing Cost (from supplier to main warehouse)	€1 000
Main Warehouse to Regional Storage Location	€100
WADEHOUSING COSTS	

WAREHOUSING COSTS	
Base Capacity (units) (Maximum capacity without additional fees)	4 000
Extra daily fee for each additional 1 000 boxes	€50



## Sales and Market Data

#### **SALES DATA**

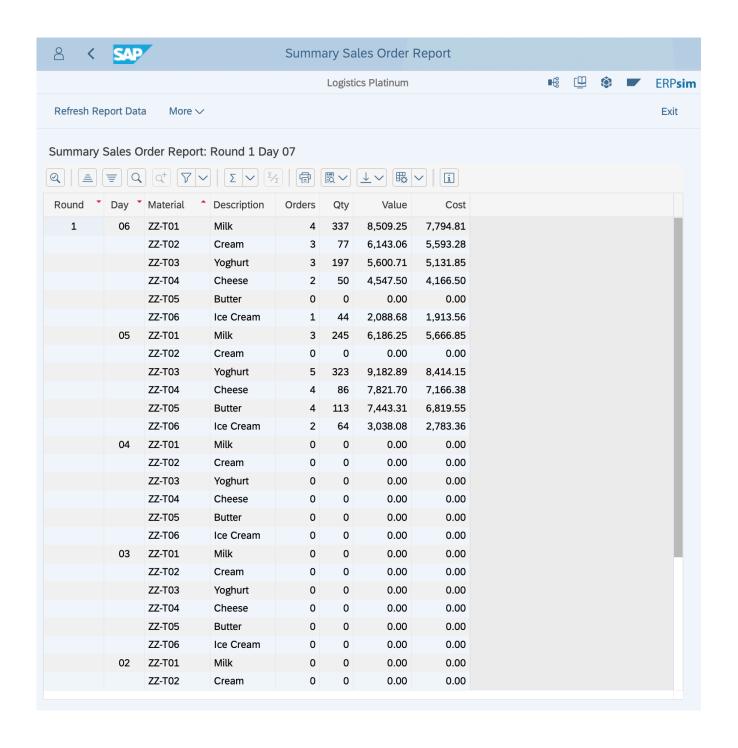
**Summary Sales Report (ZVC2)** 

Shows aggregate daily sales by product

**Detailed Sales Report (ZVA05)** 

Shows sales related info such as sales revenue by region



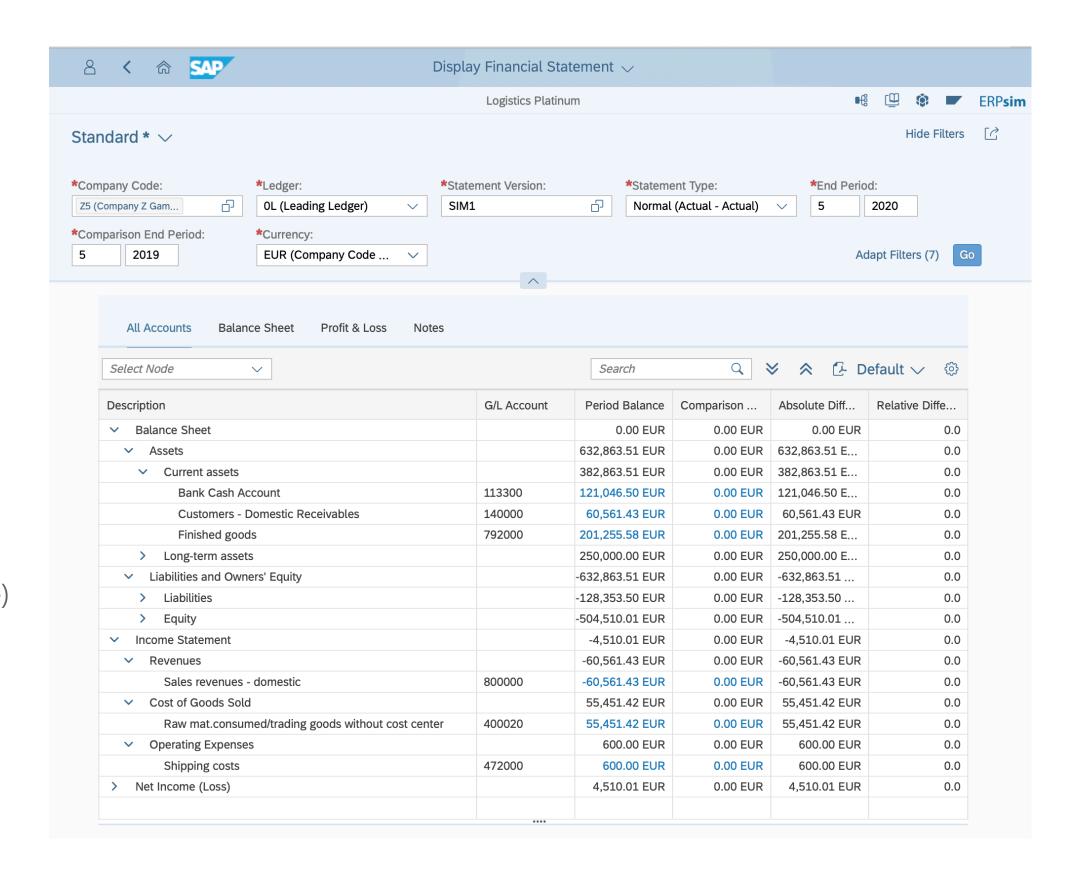


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ound *	Day *	Area 📩	Material	Description	Price	Qty	Value	Cost						
1	09	NO	ZZ-T03	Yoghurt	28.43	70	1,990.10	1,823.50						
			ZZ-T06	Ice Cream	47.47	43	2,041.21	1,870.07						
			ZZ-T01	Milk	25.25	17	429.25	393.21						
		so	ZZ-T03	Yoghurt	28.43	17	483.31	442.85						
			ZZ-T03	Yoghurt	28.43	81	2,302.83	2,110.05						
			ZZ-T02	Cream	79.78	31	2,473.18	2,251.84						
		WE	ZZ-T01	Milk	25.25	61	1,540.25	1,410.93						
			ZZ-T04	Cheese	90.95	21	1,909.95	1,749.93						
			ZZ-T01	Milk	25.25	96	2,424.00	2,220.48						
			ZZ-T04	Cheese	90.95	27	2,455.65	2,249.91						
	08	NO	ZZ-T06	Ice Cream	47.47	37	1,756.39	1,609.13						
			ZZ-T02	Cream	79.78	21	1,675.38	1,525.44						
			ZZ-T01	Milk	25.25	60	1,515.00	1,387.80						
			ZZ-T01	Milk	25.25	60	1,515.00	1,387.80						
			ZZ-T06	Ice Cream	47.47	12	569.64	521.88						
			ZZ-T01	Milk	25.25	66	1,666.50	1,526.58						
			ZZ-T03	Yoghurt	28.43	61	1,734.23	1,589.05						
			ZZ-T03	Yoghurt	28.43	56	1,592.08	1,458.80						
			ZZ-T01	Milk	25.25	72	1,818.00	1,665.36						
			ZZ-T01	Milk	25.25	42	1,060.50	971.46						
		so	ZZ-T03	Yoghurt	28.43	76	2,160.68	1,979.80						
			ZZ-T03	Yoghurt	28.43	59	1,677.37	1,536.95						
		WE	ZZ-T04	Cheese	90.95	16	1,455.20	1,333.28						
			ZZ-T01	Milk	25.25	67	1,691.75	1,549.71						
			ZZ-T01	Milk	25.25	77	1,944.25	1,781.01						
	07	NO	ZZ-T06	Ice Cream	47.47	36	1,708.92	1,565.64						

## Financial Statements



\* To find your company code, refer to transaction ZORG (Organizational Structure)





## Reports Manager



#### REPORTS MANAGER

The Reports Manager role is used in a 4-player team and created by merging the roles of the Stock Manager and of the VP Sales from a 5-player team.

Login:

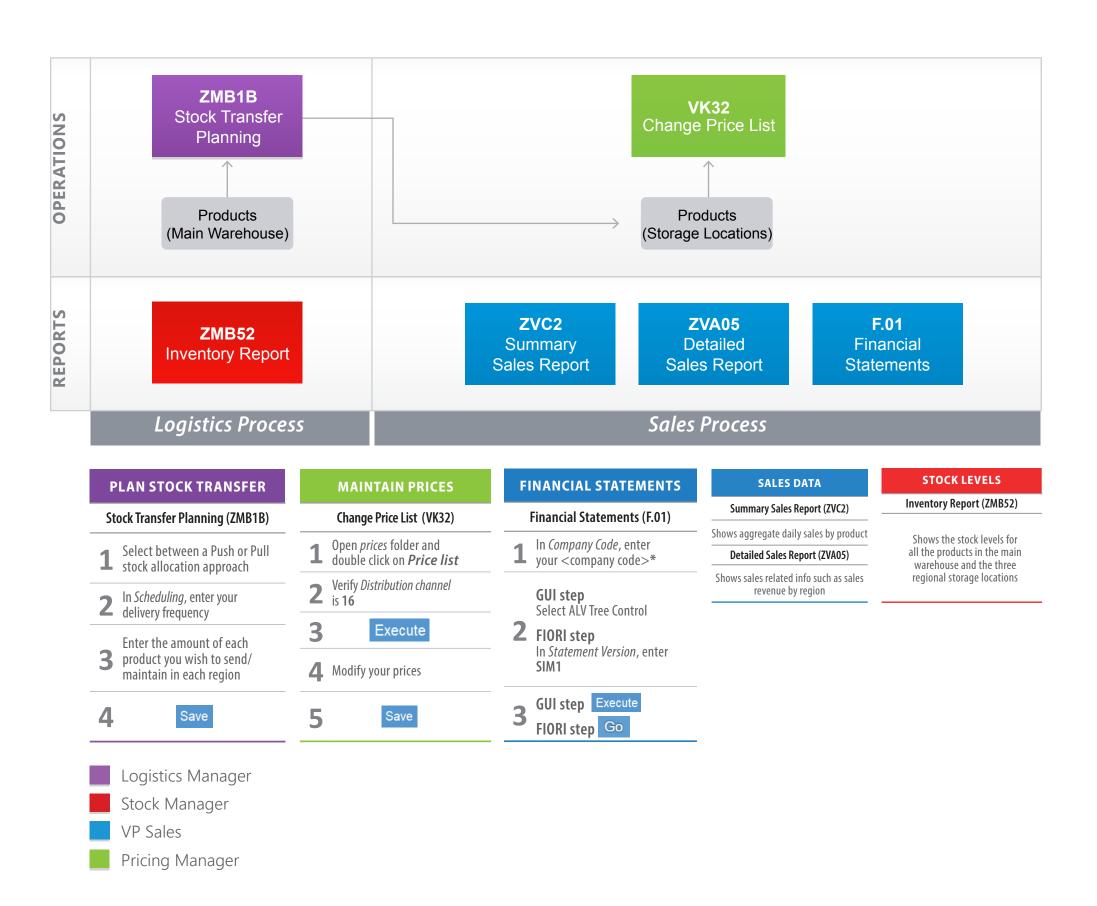
\$\_reports

Password:

REPLENISHMENT INVENTORY						
PRODUCT CODE	DESCRIPTION	UNITS (every 5 days)				
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T02	Cream	300				
T03	Yoghurt	700				
T04	Cheese	350				
T05	Butter	400				
T06	Ice Cream	300				

€1 000
€100

WAREHOUSING COSTS	
Base Capacity (units) (Maximum capacity without additional fees)	4 000
Extra daily fee for each additional 1 000 boxes	€50



## Sales and Market Data

#### **SALES DATA**

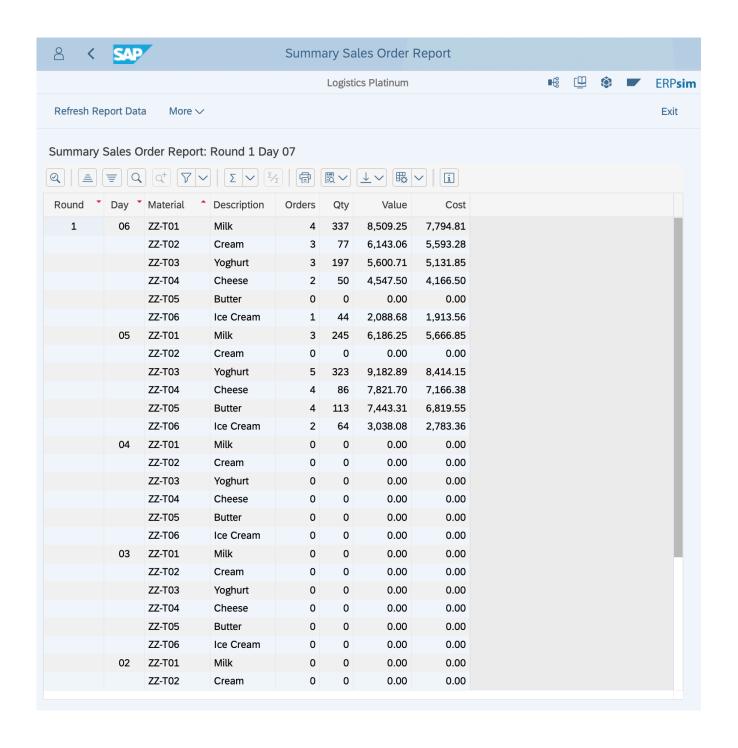
**Summary Sales Report (ZVC2)** 

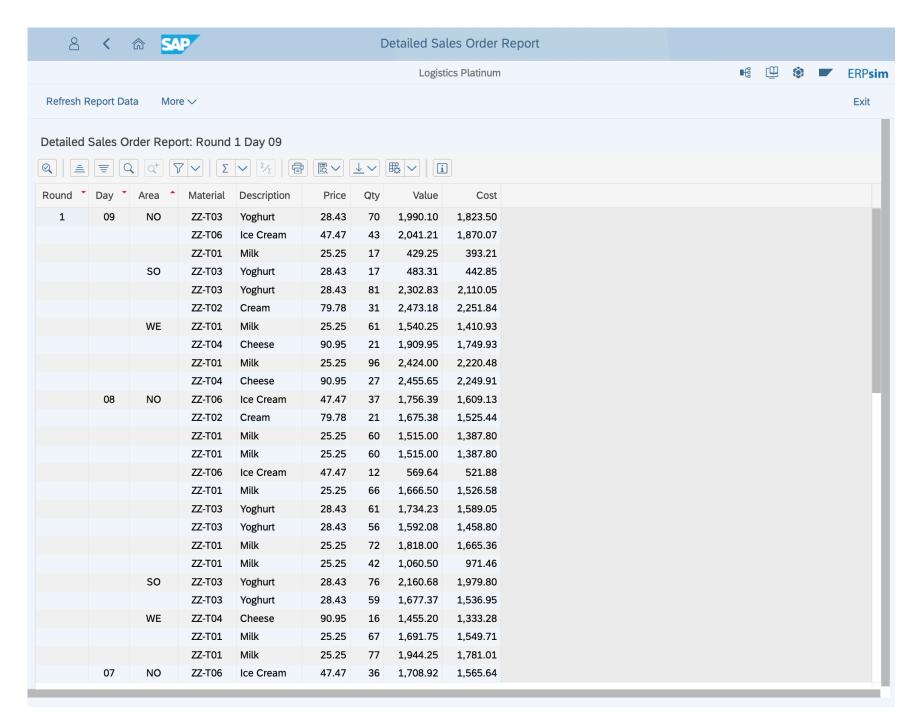
Shows aggregate daily sales by product

**Detailed Sales Report (ZVA05)** 

Shows sales related info such as sales revenue by region



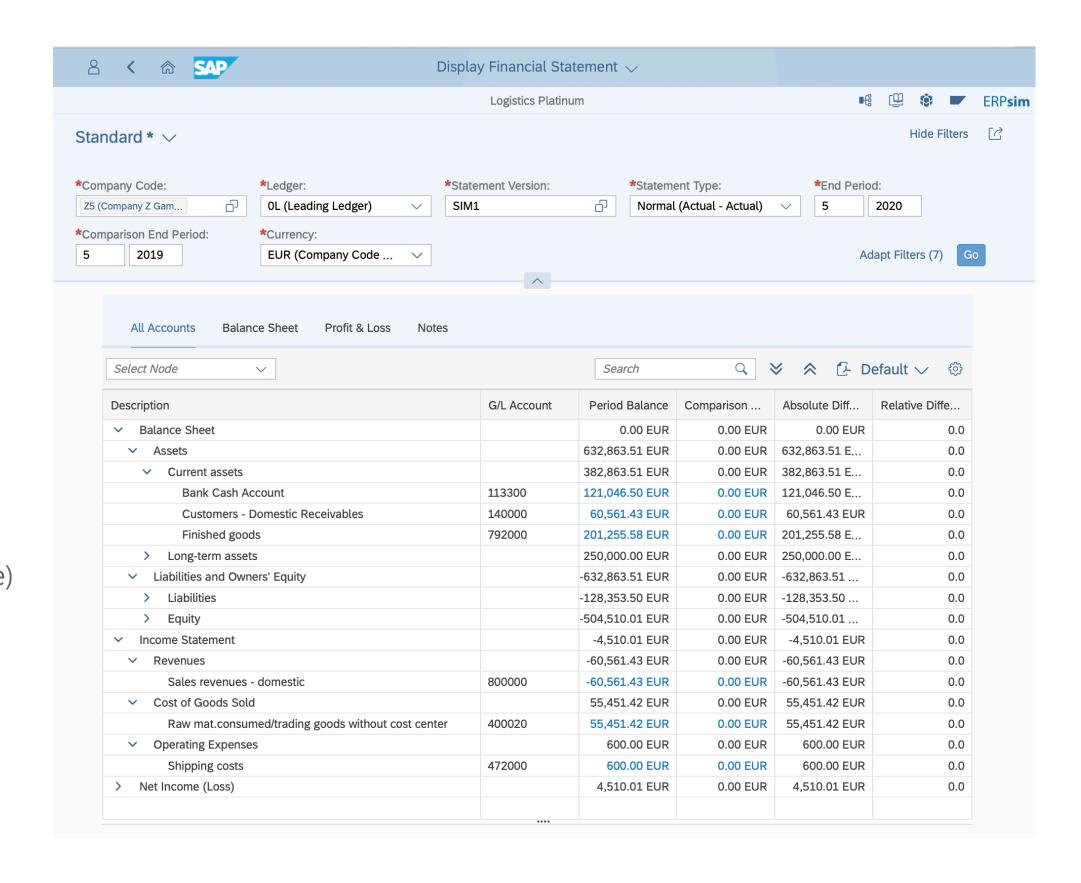




## Financial Statements



\* To find your company code, refer to transaction ZORG (Organizational Structure)



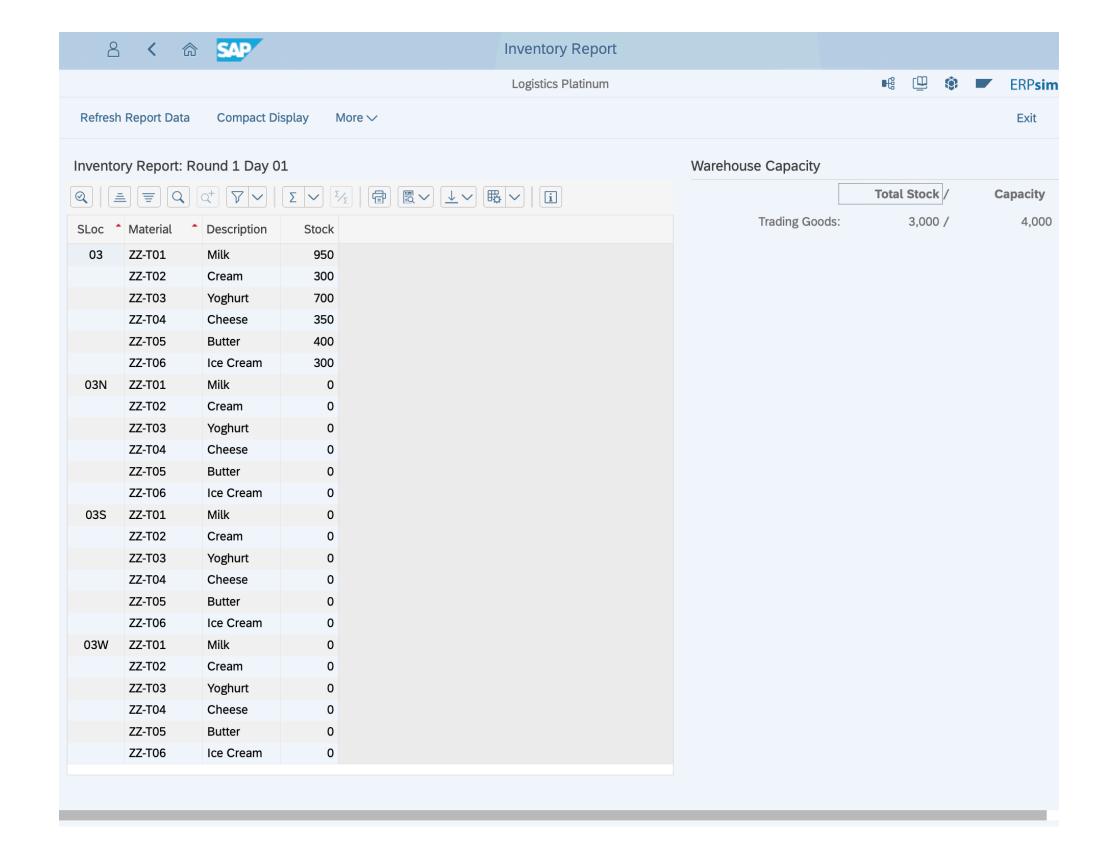


## Check Stock Levels

#### **STOCK LEVELS**

**Inventory Report (ZMB52)** 

Shows the stock levels for all the products in the main warehouse and the three regional storage locations





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Last Update: July 13, 2021

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A Serious Game for Learning

Enterprise Resource Planning Concepts

Powered by **ERPsim**Compatible with **SAP™ ERP ECC and Business Suite on HANA** 

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