



Multi-Level Sales and Operations Optimization Planning System

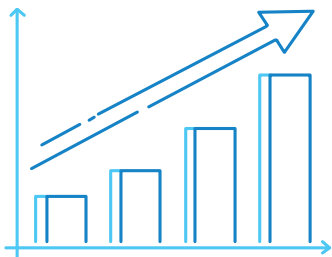
SALES AND OPERATIONS PLANNING SYSTEM

Information system for optimization planning, sales and operations management

Tasks:

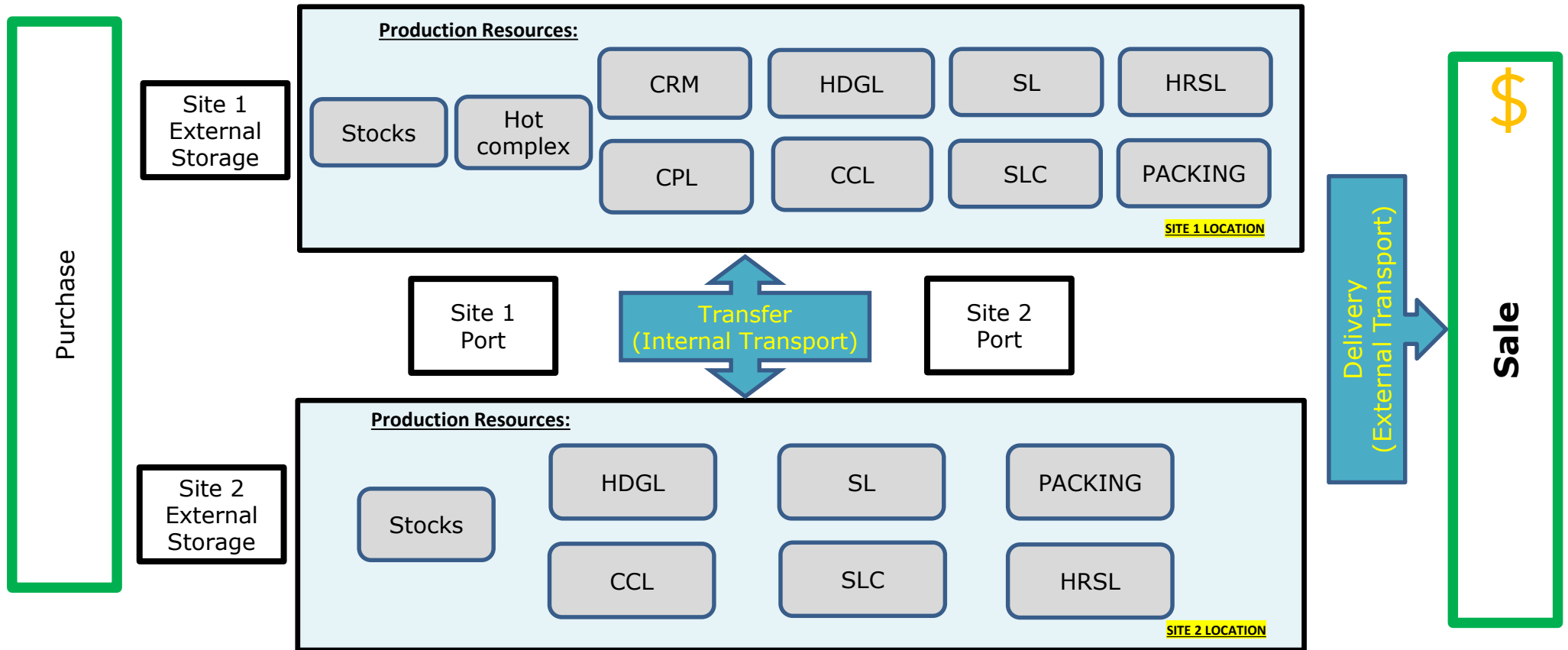
- Modeling of material and financial flows in the supply chain of MMK Metalurji;
- Collection, storage, display, editing of the reference data, planned and actual information, reflecting all the characteristics of the supply chain of MMK Metalurji;
- Formation of an optimal master plan for the entire supply chain of the company on the tactical and operational horizon;
- Automatic construction of necessary reports in tabular and graphical form;
- Scenario analysis for risk analysis;
- Organizing a regular process of collecting and analyzing data, multi-level rolling planning, and making management decisions.

Expected Results:

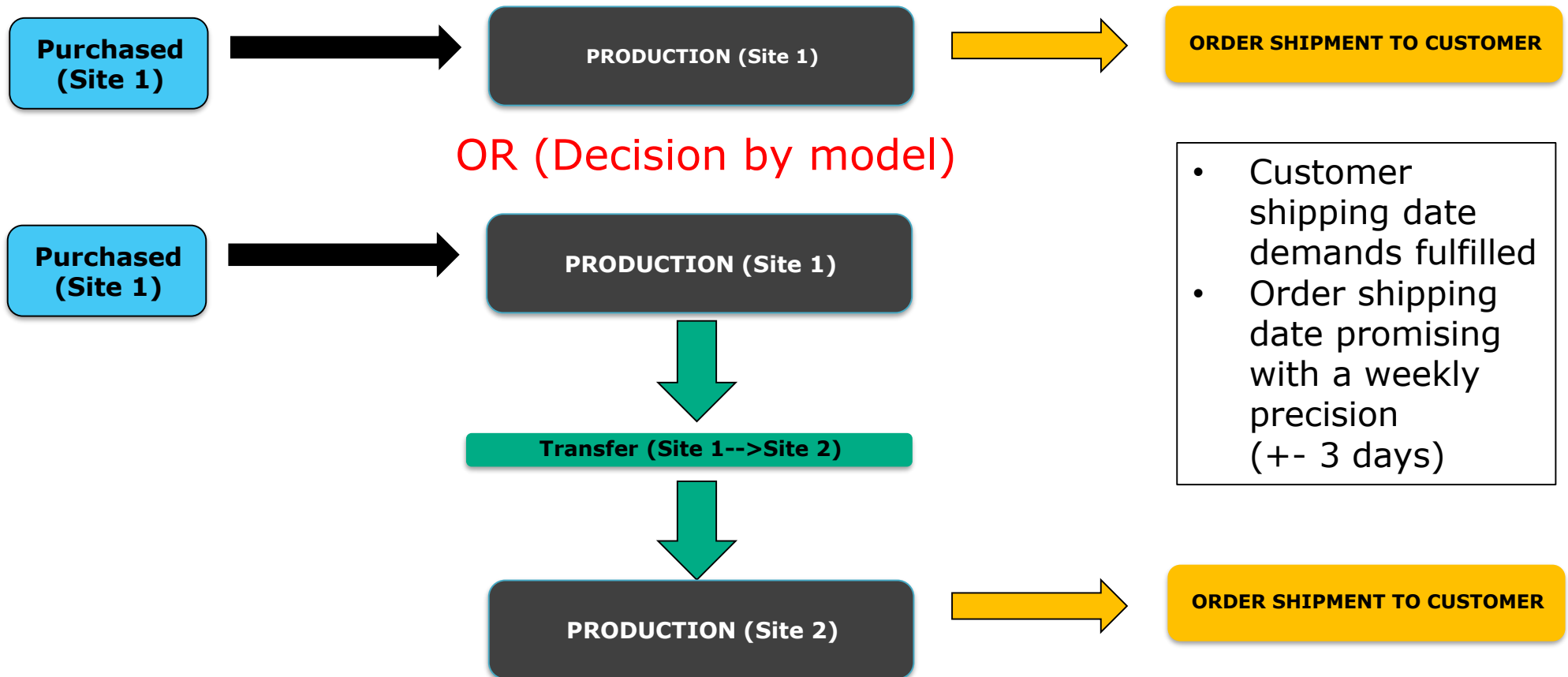


- Improving the level of customer service
- Minimization of logistic and warehouse costs
- Reorganization and integration of factory equipment use
- What-if analysis
- Risk management
- Cost minimization
- Increasing profit margin

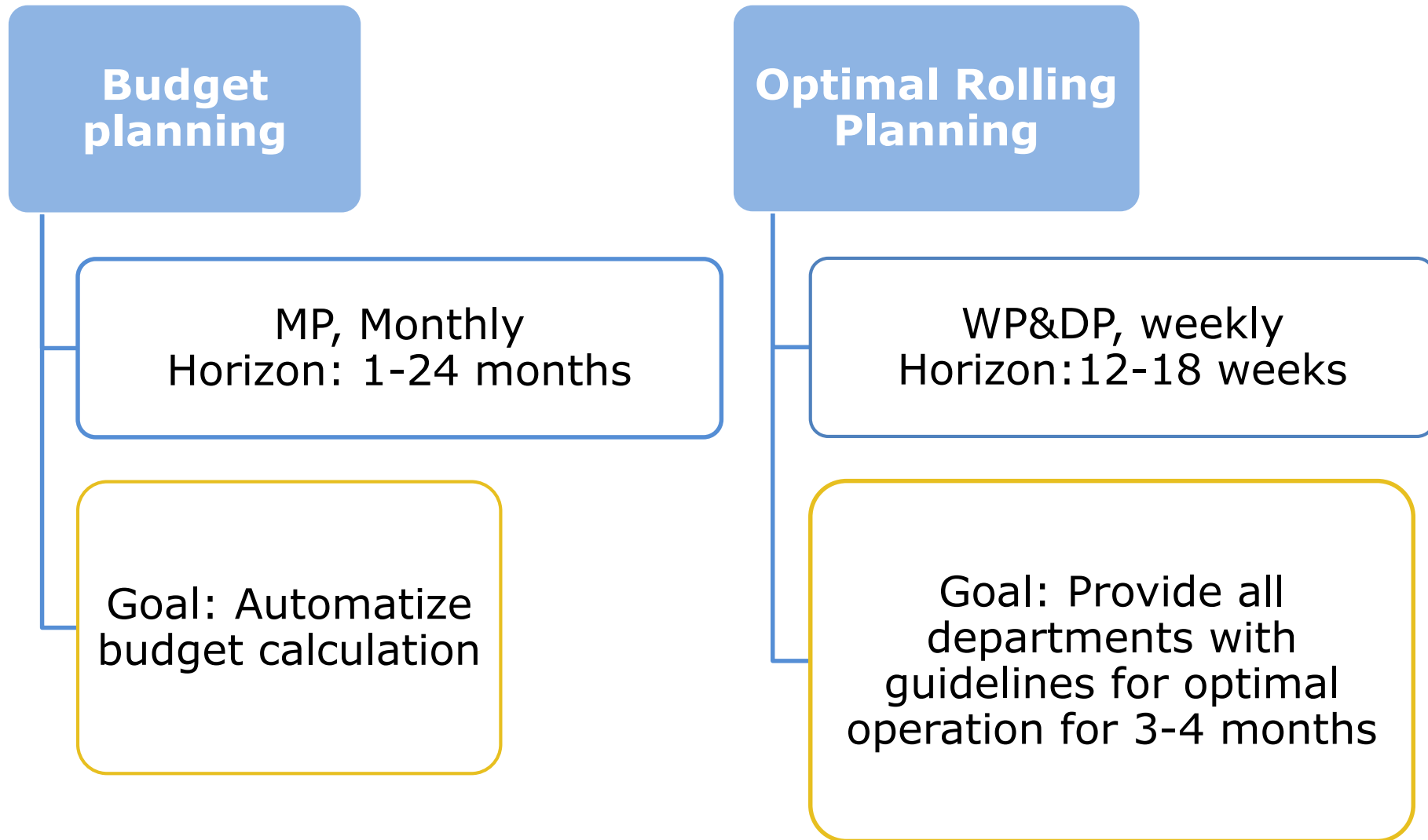
SUPPLY CHAIN ELEMENTS



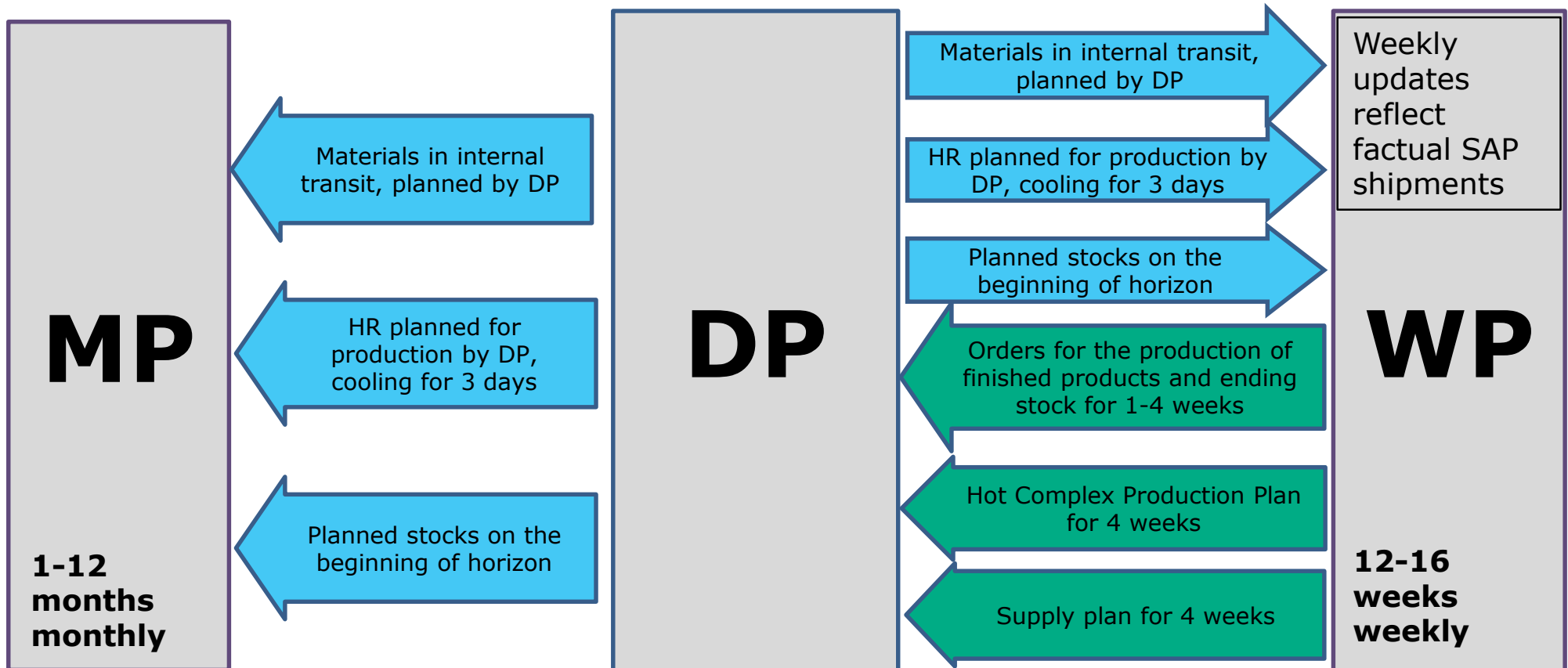
OPTIMIZATION OF SUPPLY CHAIN BETWEEN ALL LOCATIONS AND ORDER PROMISING



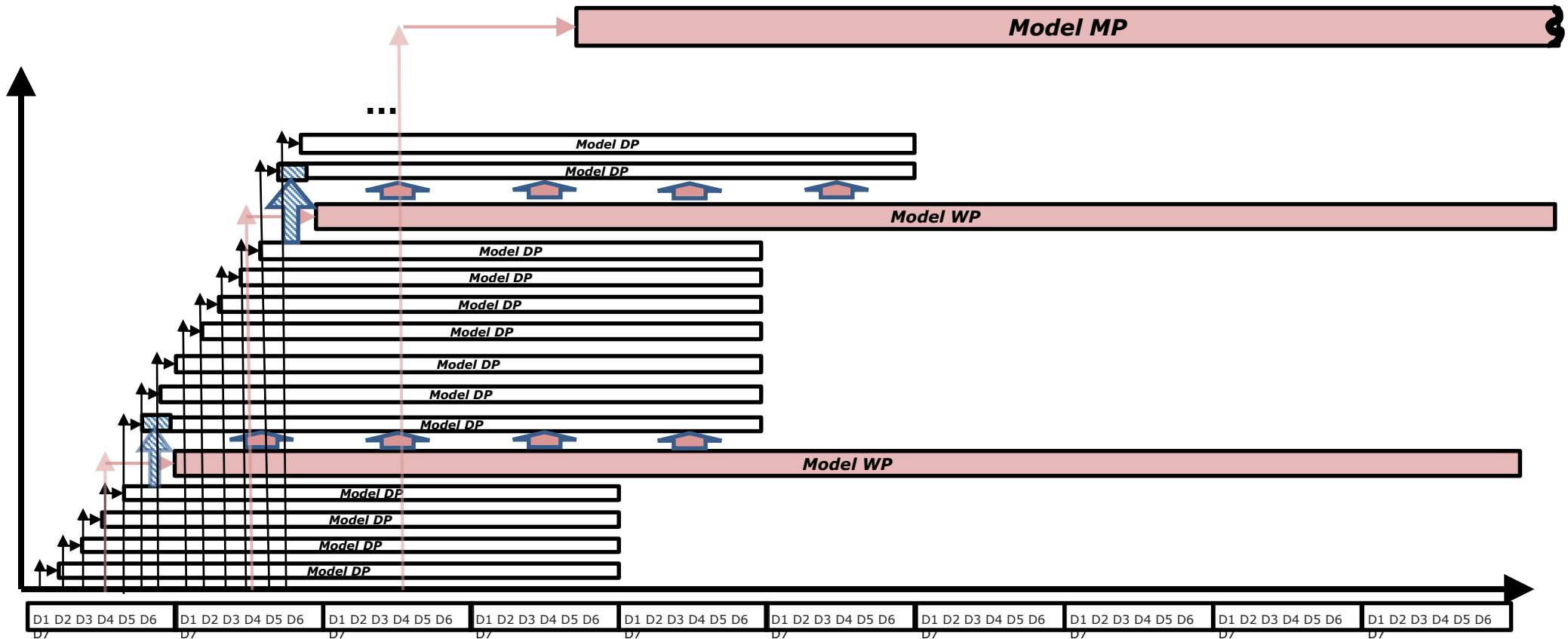
TWO BUSINESS PROCESSES IN S&OP




MULTI-LEVEL PLANNING



ROLLING PLANNING SCHEME



 Period that is not planned during the current WP Level cycle, but is taken from the previous DP Level cycle

CONTROL OF INPUT DATA PREPARATION AND PLANNING PROCESS BY MODEL OWNER


Introduction of a system for control of input data preparation and planning result analysis which mirrors internal regulation, including:

- setting up of responsible employees and timeframe for data preparation
- e-mail distribution to responsible employees
- status and timetable tracking

№ п/п	Операции планирования	Responsible	Department	Comment	+ 	Step start date	Step duration	Status	13.05.2024	14.05.2024	15.05.2024	16.05.2024	17.05.2024
1	Input Data Preparation												
1.1	Reference data (Routing, BOM, Yield)	Onur Avci	IT			1	1	✓					
1.2	Sales	Irem Bayazit	Sales										
1.3	Purchasing prices	Various	Various										
1.4	Maintenance plan		Production										
1.5	Stock & Replenishment	Emre Has	Economy			1	1						
1.6	Logistics	Gokhan Ates	Logistics										
2	Plan Calculation	Emre Has	Economy			2	1						
3	Plan Analysis	Emre Has	Economy			2	1						

INTERFACE SAMPLES – VERSION MANAGEMENT

NEW version and scenario
List of versions and scenarios
Copying data



Weekly Planning

Create new version and scenario

NEW VERSION 📄 🗑️

Description of new version	Plan 22.01.2024 12w
Start Period	22.01.2024-28.01.2024
Number of periods	12
End Period	08.04.2024-14.04.2024
How to create version	empty
Version-source	

NEW SCENARIO 📄 🗑️

Version	w:01.01.2024-24.03.2024:1
Comment	Objective testing
How to create scenario	copy
Scenario-source	01

SEND LETTER

select Version: w:01.01.2024-24.03.2024:1

select Scenario: 01

✓ Create a version

To create a version:

1. Enter version parameters
2. Press the button "✓ Create a version"

📄 - enter next week
🗑️ - delete custom parameters

✓ Create a scenario

To create a scenario:

1. Enter scenario parameters
2. Press the button "✓ Create a scenario"

📄 - enter current version
🗑️ - delete custom parameters

✉ Send letter

[Responsible users](#)

INTERFACE SAMPLES – INTEGRATION CONTROL

Control Flow param Load Data

Weekly Planning Integration DB - IBM PA

Parameters

Version(Week
w:08.01.2024-31.03.2024:1

Scenario(Week
01

Flow
All flows

Plan 08.01.2024 12w

Start integration

Step 0. Update database from SAP

Step 1. Load data into downloads cubes

Step2. Pass data to the Weekly model

[Load data from another plan](#)

Status

		User	Date\Time	Status	
Step2	Routing	1	ATAKAS/Mikhail Zverev	08.01.2024 12:43	Loading is complete
		2	ATAKAS/Tatyana KUZNET...	08.01.2024 13:32	Loading is complete
		3	ATAKAS/Tatyana KUZNET...	08.01.2024 13:36	Loading is complete
		4	ATAKAS/Mikhail Zverev	08.01.2024 13:54	Loading is complete
		5	ATAKAS/Mikhail Zverev	19.01.2024 21:45	Loading is complete
	BOM	1	ATAKAS/Mikhail Zverev	08.01.2024 12:43	Loading is complete
		2	ATAKAS/Tatyana KUZNET...	08.01.2024 13:32	Loading is complete
		3	ATAKAS/Tatyana KUZNET...	08.01.2024 13:36	Loading is complete
		4	ATAKAS/Mikhail Zverev	08.01.2024 13:54	Loading is complete

Number of rows loaded (Step 1.)

	DB	PA
∨ All flows	102,468	102,468
ItemLi...	4,611	4,611
ItemGro...	39,741	39,741
StockRe...	12,418	12,418
LoadUnl...	2	2
Purchasi...	13	13
FuelEner...	2	2

Downloaded data

[Integration Data](#)

[Input Data Management](#)

System log

Step execution time:

Step0.Time(sec)	0.00
Step1.Time(sec)	18.00
Step2.Time(sec)	166.00

Error process log:

		Process	
Step2	CopyDa...	5	8,01.Tech,1,Data Source line (8) Error: Data proc
		6	15,01.Tech,1,Data Source line (15) Error: Data p
		7	22,01.Tech,1,Data Source line (22) Error: Data p
		8	25,01.Tech,1,Data Source line (25) Error: Data p
		9	28,01.Tech,1,Data Source line (28) Error: Data p
		10	29,01.Tech,1,Data Source line (29) Error: Data p

INTERFACE SAMPLES – CALCULATION CONTROL

Start calculation ⌚ Objectives 📄 Responsible employee ⚙️ Check Result ❓

Weekly Planning
Calculation control

Parameters

🕒 Version{Week
w:01.01.2024-24.03.2024:1

🕒 Scenario{Week
02

Start of 2024 12w

Start calculation i

Check source data

Start calculation

Satisfy blocked orders:

Status

		User	Date\Time	Status
Start calculation	1	ATAKAS/Mikhail Zve...	16.01.2024 15:28	data transferred to the math.model
	2	ATAKAS/Mikhail Zve...	16.01.2024 15:31	PlanPurchasing loaded into cube
	3	ATAKAS/Mikhail Zve...	16.01.2024 15:31	PlanProduction loaded into cube
	4	ATAKAS/Mikhail Zve...	16.01.2024 15:31	PlanResource loaded into cube
	5	ATAKAS/Mikhail Zve...	16.01.2024 15:31	PlanStorage loaded into cube
	6	ATAKAS/Mikhail Zve...	16.01.2024 15:31	PlanFuelEnergy loaded into cube
	7	ATAKAS/Mikhail Zve...	16.01.2024 15:31	PlanTransport loaded into cube

Main Indicators

Total production	193,861.76
Total Sales	41,641.52
Revenue	37,846,657.39
Expenses	35,295,526.49
Profit	2,551,130.90

Step execution time:

Step1.Time(sec)	0.00
Step2.Time(sec)	324.00

Calculation data

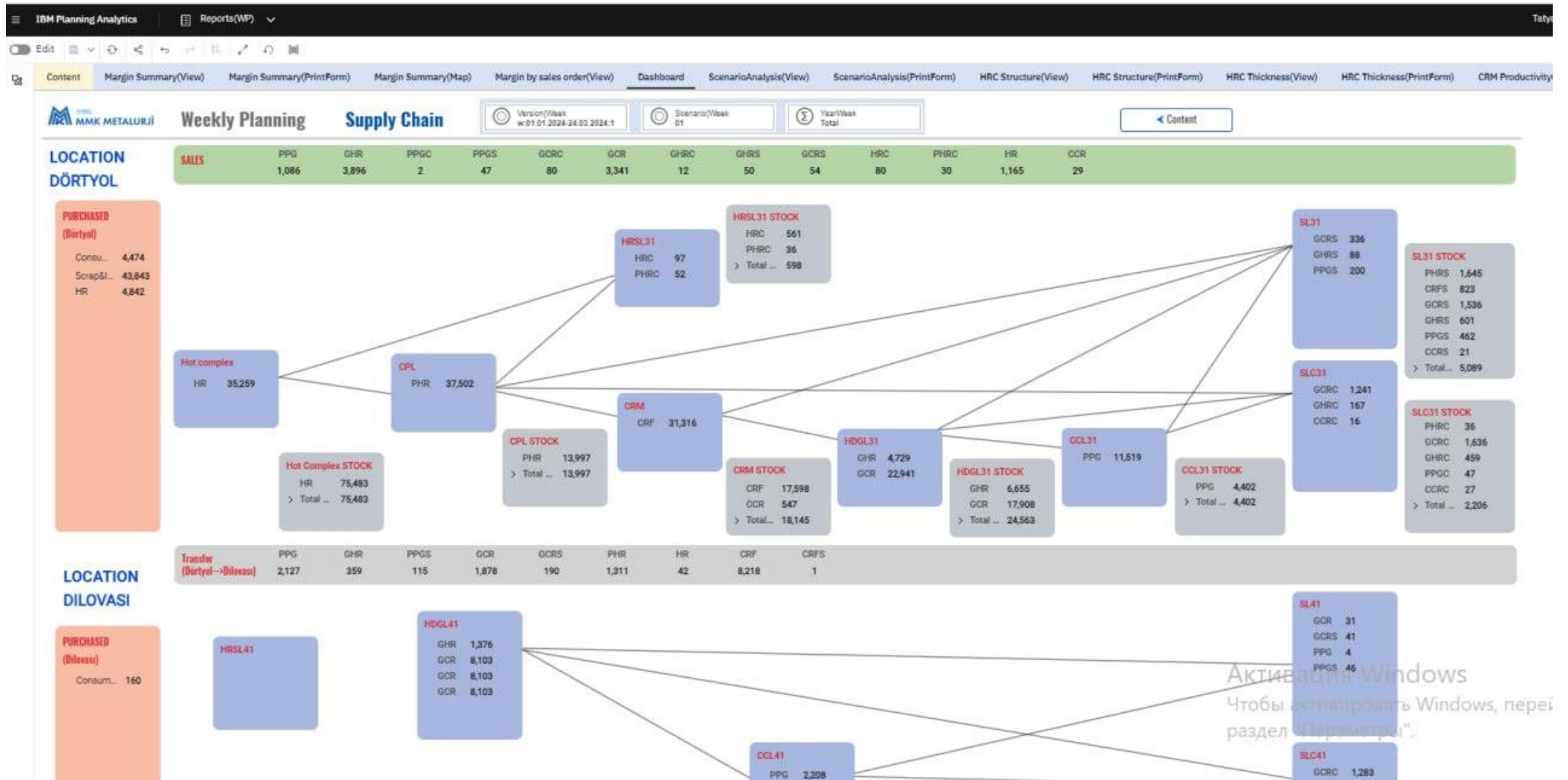
▶ Calculation results

▶ Reporting forms

Sending calculation results for review

	User		✓ send letter	Date\Time
▼				
▼	Report form			
	Plan Purchasing			
	Plan Production			
	Plan Resource			
	Plan Storage			
	Plan FuelEnergy			

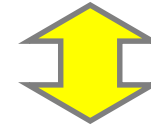
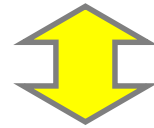
SUPPLY CHAIN DASHBOARD



SOFTWARE ARCHITECTURE

S&OP

Single platform for user interface based on IBM Planning Analytics, providing:
Reference data, editing data, displaying results, scenario analysis, planning management



A single database that provides seamless integration of all processes and reference data loaded from ERP

A single subsystem of supply chain modeling and calculation of optimal plans based on **IBM CPLEX**, supporting optimization with various objective functions and business constraints

THANK YOU FOR YOUR ATTENTION!

 STEEL
MMK METALURJİ

**MMK METALURJİ SANAYİ
TİCARET VE LİMAN
İŞLETMECİLİĞİ A.Ş.**

Özerli Mahallesi Alparslan Türkeş
Bulvarı No: 5B Dört Yol / Hatay
www.mmkturkey.com.tr