Upskilling from SAP ECC to SAP S/4HANA - Supply Chain Learning Journey and Road Map

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Cam Castelein
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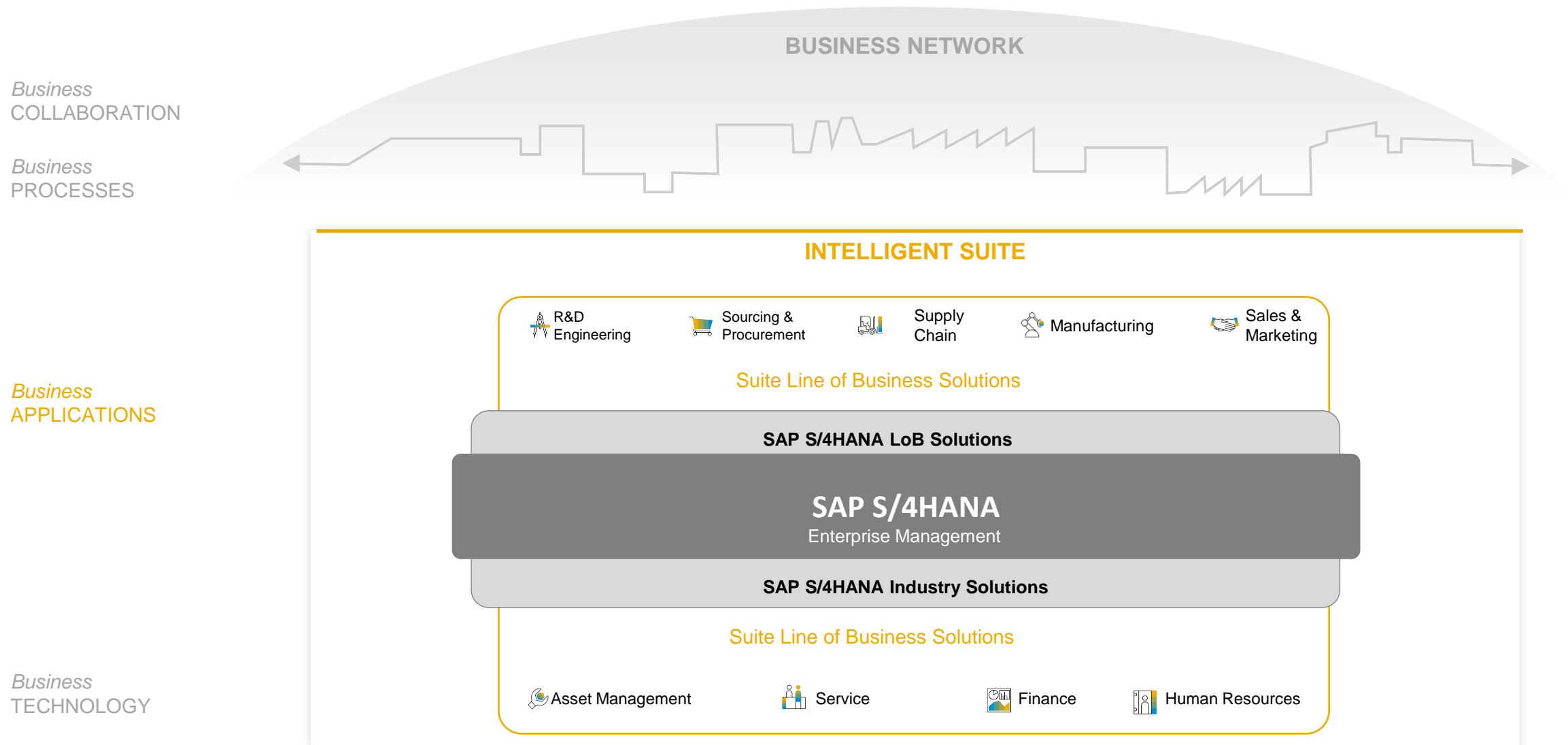
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SAP S/4HANA
## Business Scope 2020

SAP S/4HANA Intro

Research & Development

Procurement

Supply Chain

Manufacturing

Sales & Marketing

Asset Management

Services

Finance

Human Resource

Cross Topics

SAP S/4HANA in the Intelligent Enterprise

BUSINESS NETWORK

Business COLLABORATION

Business PROCESSES

Business APPLICATIONS

Business TECHNOLOGY

INTELLIGENT SUITE

R&D Engineering   Sourcing & Procurement   Supply Chain   Manufacturing   Sales & Marketing

Suite Line of Business Solutions

SAP S/4HANA LoB Solutions

SAP S/4HANA
Enterprise Management

SAP S/4HANA Industry Solutions

Suite Line of Business Solutions

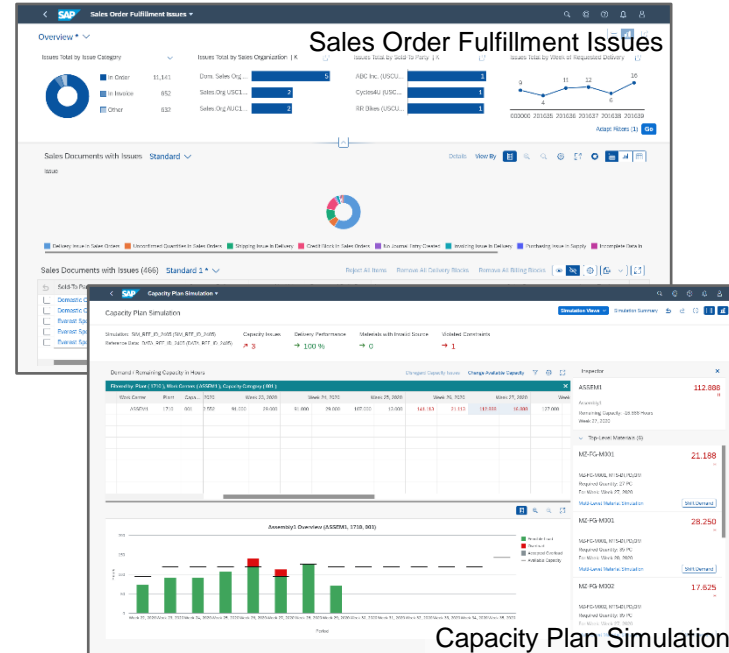Asset Management   Service   Finance   Human Resources

SAP S/4HANA

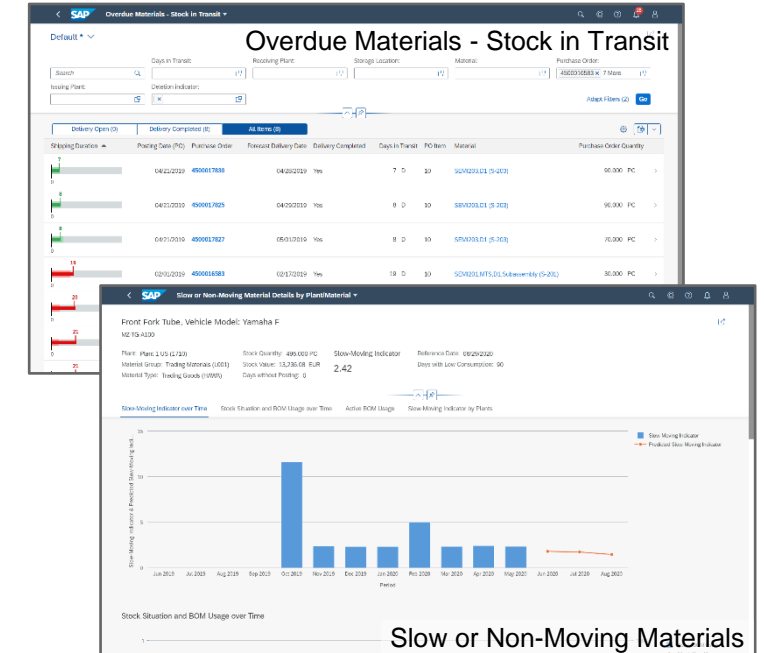…will run your business different than before

On any device, use
role based cockpits
with digital assistant
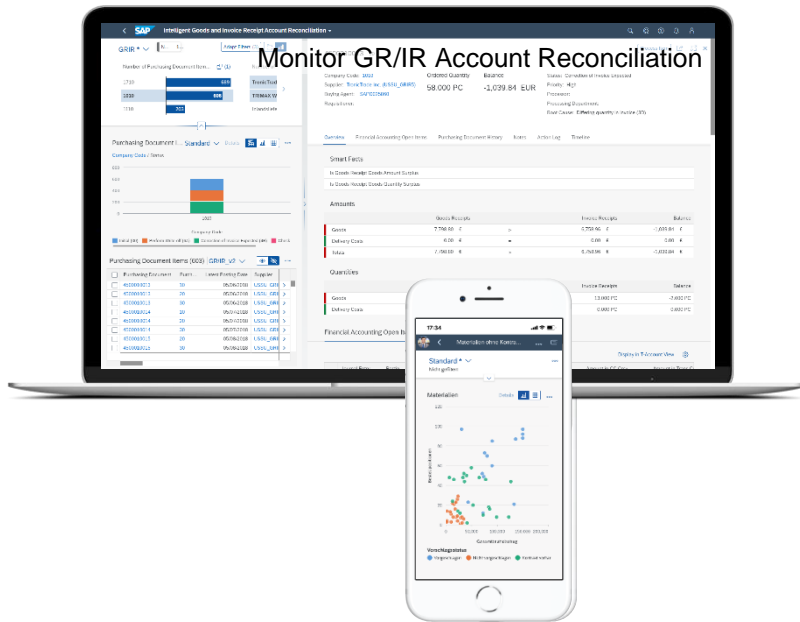
Embedded analytics for
simulation, prediction &
insight-to-action

Machine learning for
automated processing &
decision support

SAP Fiori
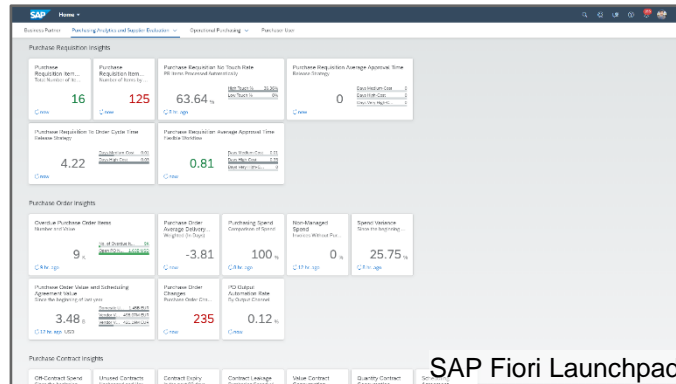

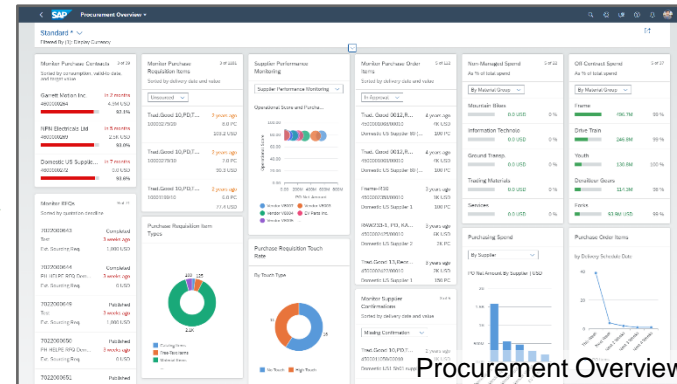Role-based   Delightful   Coherent   Simple   Adaptive

SAP Fiori Launchpad as single point of entry

SAP Fiori Launchpad
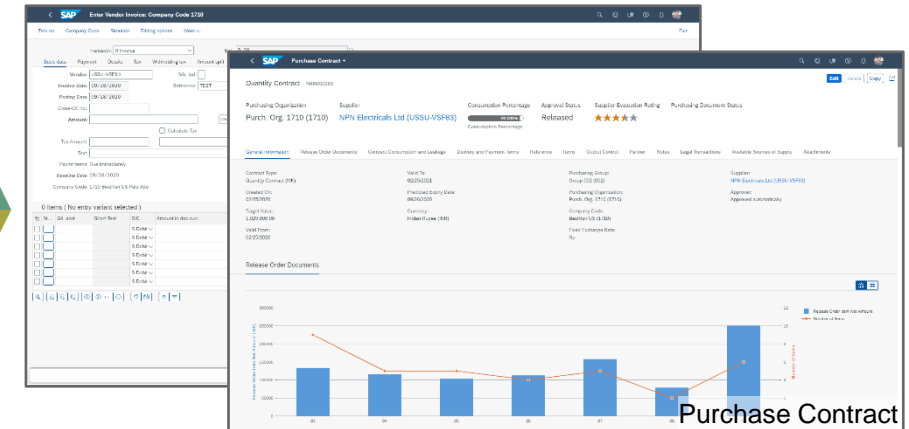
Domain-specific information and actions

Procurement Overview

Enter details and explore in depth

Purchase Contract

Start from an individual home page:

- **Role-based spaces and pages** NEW 2020
- **Customization via dedicated apps** NEW 2020
- First insights with KPI tiles

Investigate and drill-down from:

- Overview pages (graphical)
- Analytical list pages (hybrid)
- List report/worklist (list)

Carry out transactions:

- Combined in reimaged native SAP Fiori apps
- Based on insights from embedded analytics
- With the SAP Fiori visual theme

SAP Fiori Elements: https://sapui5.hana.ondemand.com/sdk/#/topic/645e27ae85d54c8cbc3f6722184a24a1

Fiori Apps Library

Reference: SAP Using SAP Fiori Today

SAP adopted SAP Fiori as main UI in 2014 and in May 2019 the entire landscape transitioned to Fiori 3.

- **16,000+** iPads, **66,000+** iPhones, **20,000+** Mac devices

- **350+** SAP Fiori launchpad tiles productive

- **100,000+** unique users in a single month

- **1,700,000+** visits on the SAP Fiori launchpad in a single month

- **17** catalogues, **13** roles, **10** groups
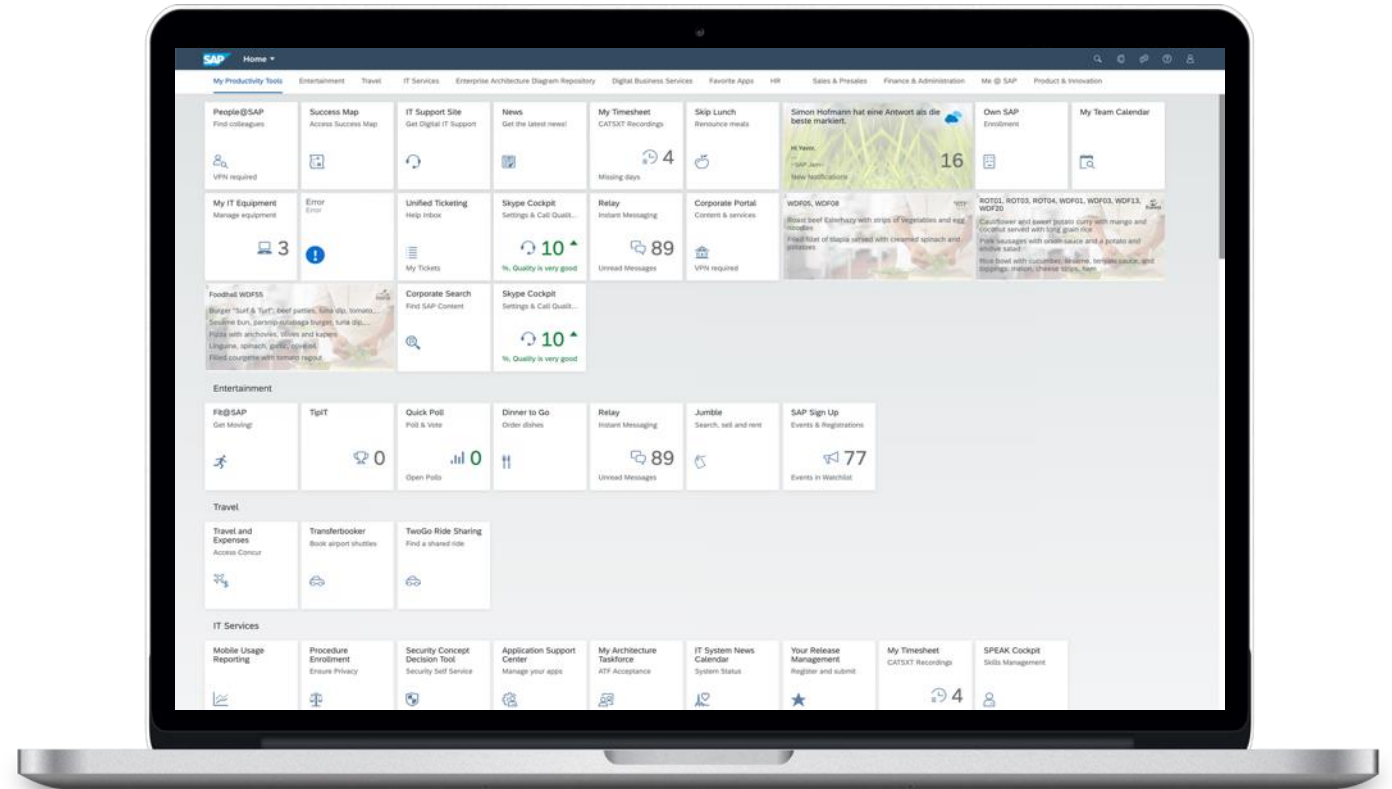
Simplifying Database & Table Structures to Prepare for Scale

SALES

	Document Header			Document Item				
Sales Order	VBAK		VBAP	>	VAKPA	VAPMA		
Delivery	LIKP		LIPS	>	VLKPA	LKPMA		
Billing Document	VBRK		VBRP	>	VRKPA	VRPMA		
Status Info	VBUK		VBUP					
Conditions		KONV			VBOX			
Document Flow		VBFA						

FINANCE

	Document Header	Document Item		Totals			Indices		
GL, AR, AP	BKPF	BSEG	>	GLT0	KNC1	KNC3	BSIS	BSAS	BSIK
Delivery			>	LFC1	LFC3		BSID	BSAD	BSAK
New GL		FAGLFLEXA	>	FAGLFLEXT			FAGLBSIS	FAGLBSAS	
CO	COBK	COEP		COSS	COSP				
AA	ANEK	ANEP	ANEA	ANLC	ANLP				
ML	MLHD…	MLIT…		MLCD…	MCLR…		BSIM	CKMI1	

SAP Business Suite®
SAP S/4HANA

MATERIAL VALUES
Valuation in MM or Valuation ML

Aggregates

Hybrid: Master Data with Valuated Stock

		History			ML Valuation	
MBEW	>	MBEWH	CKMLCR	MLPP	CKMLPP	CKMLPPWIP
EBEW	>	EBEWH	CKMLPP	MLCR	CKMLCR	CKMLKEPH
QBEW	>	QBEWH	MLHD	MLCRF	MLCD	CKMLMV004
OBEW	>	OBEWH	MLIT	MLKEPH	CKMLMV004	

MATERIAL QUANTITIES

Aggregates

Stock Aggregates — History

			Stock Aggregates				History		
Material Document		>	MSSA	MSSL	MSSQ	>	MSSAH	MSTBH	MSSQH
	MKPF	MSEG	>	MSTE	MSTQ	MSTB	>	MSTEH	MSTQH	
Inventory Movements		**Hybrid:** Master Data with Stock Aggregates				>	MARCH	MARDH	
		MCHB	MARC	MARD	MSKU	>	MSLBH	MCHBH	MSKUH
		MSKA	MKOL	MSPR	MSLB	>	MSKAH	MSKAH	

SAP S/4HANA®

Business Scope Release 2020

Supply Chain

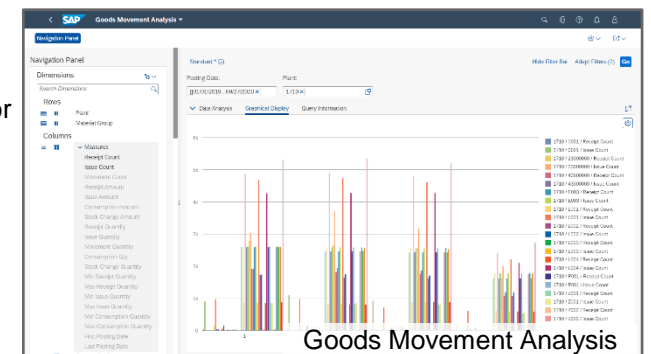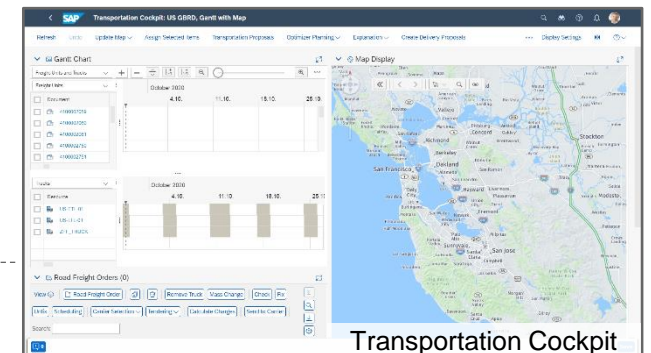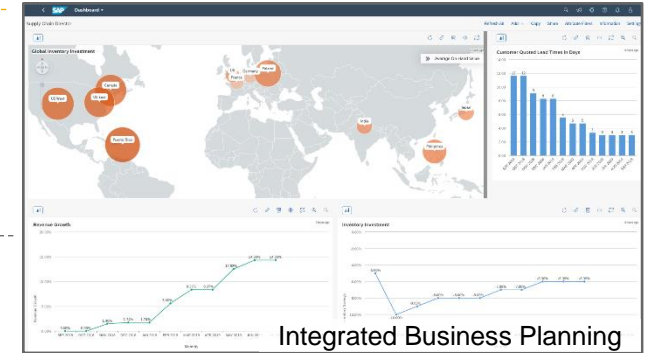# "**Smart logistics** accounts for more than **50%** of overall supply chain **cost savings**."

PWC, 2020

SAP S/4HANA: Supply Chain Overview

- Integrated Business Planning
- SAP Warehouse Insights
- Global Batch Traceability
- Logistics Business Network
- Extended Warehouse Management & Transportation Management (side by side for Hub Deployment)

SAP S/4HANA LoB Apps

💲 additional license

Extended Service Parts Planning	**Plan** service parts inventory accurately across distribution networks, based on parts volumes, velocity, and segments; strategically calculate trade-offs between costs and service.
Advanced Warehousing	**Deliver** the optimal order by leveraging features like cross-docking, workforce management, slotting, inventory optimization, and support for transit warehousing as well as connectivity to warehouse automation equipment.
Advanced Transportation	**Improve** transportation efficiency by holistically managing all inbound and outbound freight.
Advanced Order Promising	**Commit** to orders quickly and accurately by automatically considering the relevant stock in real-time, while protecting companies business priorities and profitability goals.

SAP S/4HANA Enterprise Management

Inventory	**Track and control** inventory and stock quantities in a transparent manner and ensure a streamlined material flow across all in and outbound logistics operations.
Warehousing	**Store and handle** your goods and materials efficiently. Improve asset usage, increase throughput and support accurate on-time order fulfillment with a maximum of warehouse transparency.
Delivery and Transportation	**Orchestrate** all your delivery demands, plan and execute your transports, using functionality for basic agency billing and subcontracting. Ship the right products to the right place at the right time.
Order Promising	**Determine** accurate estimates of delivery dates during order creation and changes considering material availability based on actual stock information to enhance customer satisfaction.
Logistics Material Identification	**Manage** Batches, Serial Numbers and Handling Units to increase efficiency and improve compliance across your shipping and warehousing operations.

Integrated Business Planning

Transportation Cockpit

Goods Movement Analysis

SAP S/4HANA Supply Chain

Inventory

Warehousing

Goods Movement	Inventory Analytics and Control	Returnable Packaging Logistics	Physical Inventory	Empties Management	Warehouse Management

Use simplified GI postings for **transfer and scrapping.** Experience real-time, high-volume processing using sensor data.
Benefit from locking elimination and **material ledger valuation**.
Use simplified apps for
• **Goods Receipt for PO**
• **Initial entry**
• **Goods Receipt without reference**

Experience the power of simplification by using **state-of-the-art analytical apps**, which take full advantage of the **simplified data model** incl. 40 digit mat-no. and the **power of the HANA database**. Optimize inventory and material flows based on **real-time information.**
Use simplified apps for
• **Dead Stock Analysis**
• **Slow or Non-Moving Materials**

Track shipping and receiving of returnable packaging materials to and from business partners. Gain visibility in **materials distribution** and reduce overall volume of materials by integrating logistics information into a **single version of the truth**.

Enable **real-time reporting** on your warehouse stocks and inventory.
Record the **physical quantities** of your warehouse stocks (own stock and other stock types. Enable faster and more-efficient **inventory adjustments.**
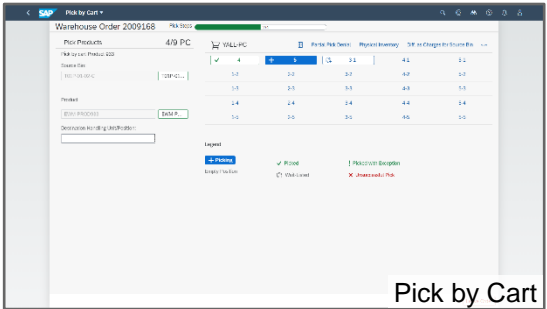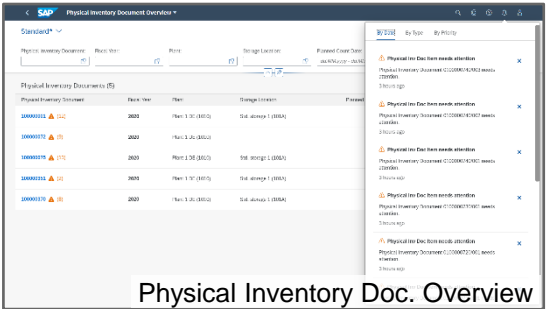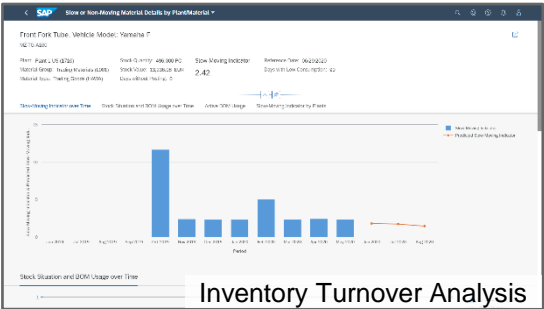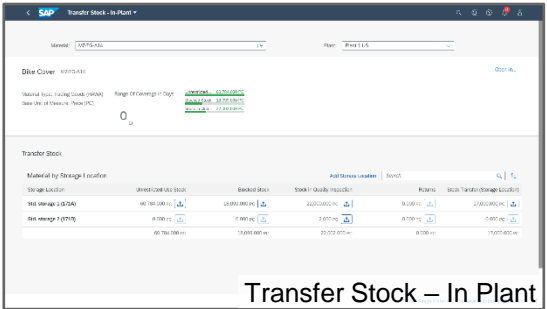
Track empties to and from business partners, capture detailed data, accurately record high-volume transactions for **empties returns** and **connected deposits.**

Leverage embedded EWM to perform standardized **inbound & outbound** processing with **internal movements**, **physical inventory and reporting** in **one system** (master data, customizing & UX).
Track alternative quantities with integrated **Catch Weight Management.**

Transfer Stock – In Plant

Inventory Turnover Analysis

Physical Inventory Doc. Overview

Pick by Cart

SAP S/4HANA Supply Chain

Logistics Material Identification

Delivery and Transportation

Order Promising

Batch Management

Serial Number Management

Handling Unit Management

Delivery Management

Transportation Management

Available to Promise

Leverage batch management to improve your product quality, ensure **end-to-end traceability**, and reduce customer and legal risks.
- Create **batch master records** and assign specific batch numbers.
- **Classify batches** and assign characteristics.
- Build a **batch genealogy to automatically** comply with legal requirements and track the batches.

Identify and differentiate between individual items of a material or equipment:
- Create **specific serial number profiles** for materials.
- Create **serial number master records** to carry important data on the serialized material.
- **Identify single items to track** in inventory management, physical inventory, and equipment.

Reflect packing-based logistics structures and **track the movements** of **entire handling units** rather than each material individually. Manage materials that are relevant for **segmentation in handling units** from cartons to containers.
Use handling unit management in inbound and outbound business processes, goods movement, and transfer posting to **improve product traceability.**
Expand on the existing packing function in shipping and warehouse processing.

Execute and confirm on transportation demands from all sources (Sales Order, Purchase Order, Stock Transport Order) in an automated fashion.
Leverage **electronic collaboration** to accelerate the process and **avoid redundancies** and human error.

Leverage **embedded Transportation Management** to handle **freight agreements** and **delivery based charges** as well as basic bookings,
plan and carry out your transports, use functionality for **basic agency billing** and **subcontracting** as well as **dangerous goods** management.
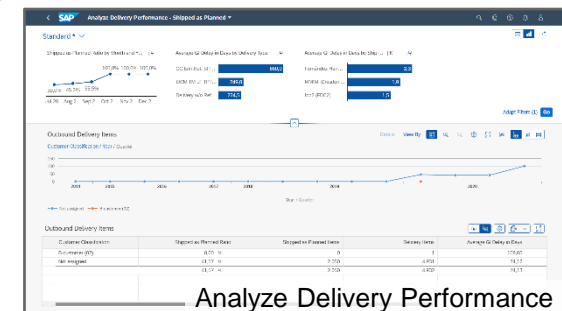
Available to promise: **new ATP algorithm based** on HANA embedded in mass component check in production.
Improve percentage **on-time delivery**.
Leverage **just-in-time** scenarios for inbound and outbound.

Manage Batches

Manage Outbound Deliveries

Analyze Delivery Performance

SAP S/4HANA LoB Solutions in Supply Chain

SAP S/4HANA LoB Solutions in Supply Chain

Advanced Warehousing

Extended Warehouse Management with SAP S/4HANA supports all levels of warehouse complexity. Use the **extended functionality** of **SAP S/4HANA Warehouse Management to optimize all warehouse operations** with no data duplication and reconciliation efforts.

Advanced Transportation

Embedded Transportation Management provides **best-of-breed functionality** seamlessly integrated into the digital core, streamlining processes and reducing the need to replicate data to a decentralized TM system. SAP S/4HANA offers modern transportation management to customers, who want to leverage **enhanced transportation** functionality. The new deployment option also allows customers to run advanced transportation management processes embedded in SAP S/4HANA removing the necessity for costly data replication and additional hardware.

Advanced Order Promising

Advanced Order Promising/ATP is a new functionality to optimize the complete Available to Promise process with simplified UI in a harmonized flow. The solution comprises **Availability Check, Backorder Processing, Product Allocation & Release for Delivery.**

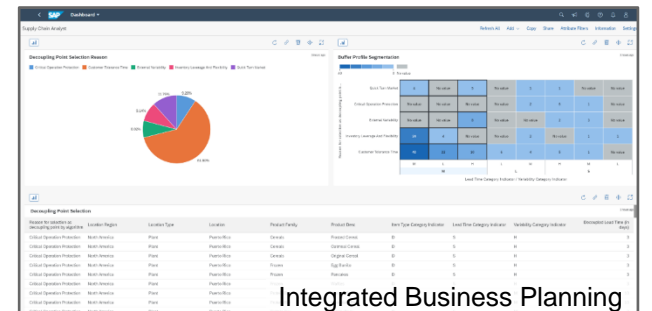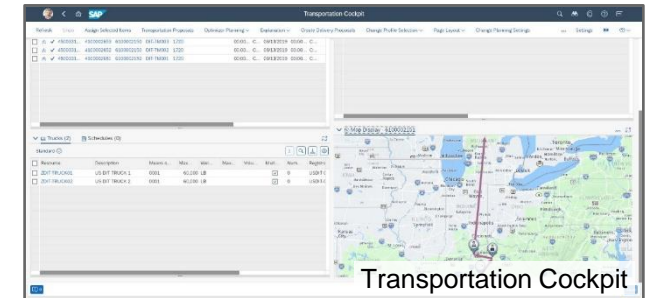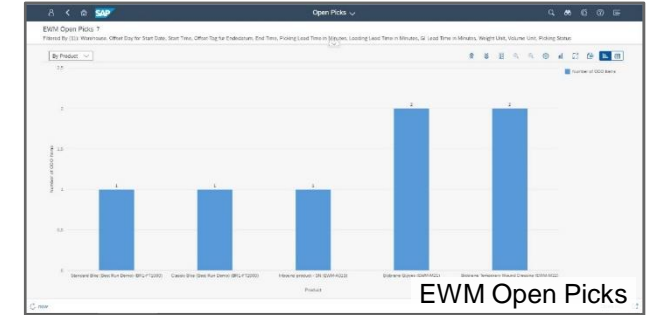**Extended Service Parts Planning**

Extended Service Parts Planning (eSPP) provides planning functions specific to service parts and transparency throughout the supply chain, right from the moment demand occurs through to the delivery of the product. It allows to plan inventory across a distribution network based on the part volume, velocity, segments, and other practical business rules. It further supports out of the box business process collaboration for the suppliers.

Additional Suite Solutions in Supply Chain

For Superior Planning and Extended Supply Chain Functions you can also integrate into:

- SAP Integrated Business Planning
- SAP Global Batch Traceability
- SAP Logistics Business Network
- SAP Extended Warehouse Management & SAP Transportation Management (side by side for Hub Deployment)
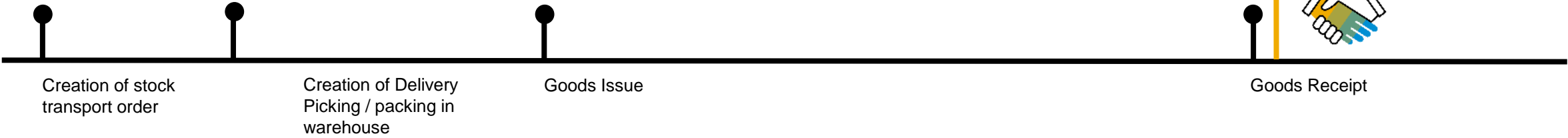- SAP Warehouse Insights

EWM Open Picks

Transportation Cockpit

Integrated Business Planning

Stock in Transit: How it Works

Machine Learning

When will my stock transports be delivered?

Delivery Date

Creation of stock transport order

Creation of Delivery Picking / packing in warehouse

Goods Issue

Goods Receipt

Transfer Stock – Cross-Plant

Overdue Materials – Stock in Transit

Situation Handling in Physical Inventory

W/O Situation Handling

When to start counting?

Communication lags between inventory manager and warehouse clerks → **Inefficient timing**

Difference identified?

Manual identification of differences
→ **High manual effort**
→ **Error prone**

When to post?

No fallback in case of delayed or forgotten posting
→ **Process interruptions e.g. blocking of material)**

Create Physical Inventory Document → Print Physical Inventory Sheets → Perform Physical Count of Stock → Enter Physical Counts → Report Differences → Post Inventory Documents
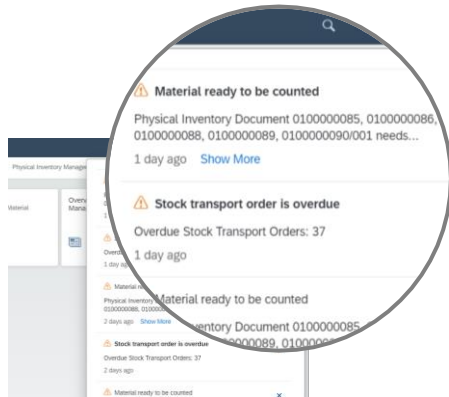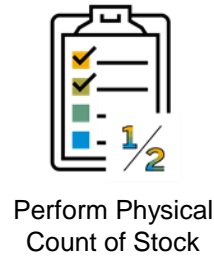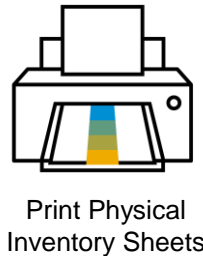
⚠ **Material ready to be counted** ⌄
1 min. ago
Physical Inventory Document 0100000085/001 needs attention.
Close Situation

⚠ **Check posting process** ⌄
1 min. ago
Physical Inventory Document 0100000652/001 ready to be posted. Check posting process: difference value based on count entry -75.696,92.
Close Situation

Recount Post

⚠ Material ready to be counted
Physical Inventory Document 0100000085, 0100000086, 0100000088, 0100000089, 0100000090/001 needs...
1 day ago Show More

⚠ Stock transport order is overdue
Overdue Stock Transport Orders: 37
1 day ago

Situation Handling provides **contextual information proactively** and offers **resolution proposals** to optimize the critical steps of the **physical inventory process.**
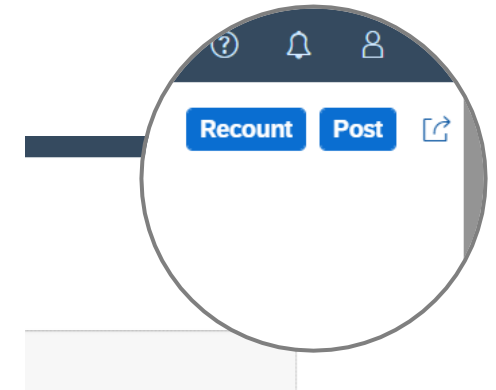
Supply Chain Functionality within SAP S/4HANA
Warehouse Management Options

SUPPLY CHAIN

Suite

- SAP Integrated Business Planning
- SAP Global Batch Traceability
- SAP Logistics Business Network
- SAP Transportation Management
- **SAP Extended Warehouse Management**
- SAP Warehouse Insights

Extended Scope

- **Advanced Warehousing (a)**
- Advanced Transportation
- Advanced Order Promising
- Extended Service Parts Management

Enterprise Management

- Inventory
- **Basic Warehousing (a or b)**
- Delivery and Transportation
- Order Promising

SAP S/4HANA

All customers converting to SAP S/4HANA from an existing ECC system with LE-WM, will – initially after conversion – reside on LE-WM as compatibility scope[1]. Going forward, warehouse management functionality within SAP S/4HANA is delivered via two options:

a) Customers **innovating their warehouse processes** follow SAP's strategic direction and will convert to **embedded EWM** with the option to run basic and/or advanced scope (which has license implications).

b) Customers with no desire to manage or even optimize complex warehouse processes, and who want to **keep their established offering**, can technically stay on LE-WM and use the *stock room management* functionality with certain restrictions[2]

Both options can also co-exist within one deployment and customers looking for a decentral approach can use SAP S/4HANA EWM standalone for some or all of their warehouses.

[1]2269324 - Compatibility Scope Matrix for SAP S/4HANA on-premise
[2] Not included are Task & Resource Management (WM-TRM), Warehouse Control Unit interface (WM-LSR), Value Added Service (WM-VAS), Yard Management (WM-YM), Cross-Docking (WM-CD), Wave Management (WM-TFM-CP), and decentral WM (WM-DWM)

Warehouse Management with SAP S/4HANA

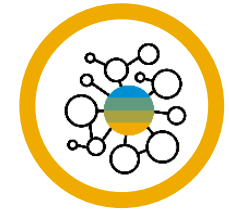## Supporting all levels of complexity

SAP S/4HANA Supply Chain

High Volume Fulfillment Center

Suite LoB Solutions

($) additional license

(◎) additional installation

Leverage Decentral SAP S/4HANA EWM for

- High volume warehouses
- Independent operations, versioning, upgrades
- Material Flow System (MFS)

SAP S/4HANA LoB Apps

($) additional license

Extended Warehouse Management

- Inventory Management Optimization (e.g. Slotting)
- Inbound Process Optimization (e.g. Deconsolidation)
- Outbound Process Optimization (e.g. Waves)
- Labor Management (incl. Processors, Shifts, Time & Attendance, Travel Distance, Standards, Tracking and Monitoring)
- Distribution Equipment
- Material Flow Control
- Yard Management (e.g. TU handling, DAS)
- Value Added Services
- Kitting
- Cross Docking
- Warehouse Billing
- Integrated Load Planning
- Improved Package Builder & Stock Consolidation

Optimize warehouse operations
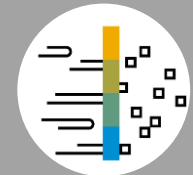
SAP S/4HANA Enterprise Management

Warehouse Management

- Inventory Management
- Inbound Processing
- Outbound Processing (incl. change of deliveries)
- Internal Warehouse Movements
- Physical Inventory
- Reporting
- Enhanced QM Integration in SAP S/4HANA with EWM
- New Pick-by-Cart FIORI App (Pick small quantities, multiple customers in one run, or into same parcel)

Transparency and control

Extended Warehouse Management within SAP S/4HANA

Inbound Processing

Storage and Operations

Outbound Processing

Door 1
Door 2
Door 3

Goods Receipt Zone

Clearing Zone

Picking Area

Cross Docking

Automatic High-Rack Storage Area

Bulk Storage Area

Pick by Voice/Light/MD

Staging Area 1

Staging Area 2

Door 4
Door 5
Door 6
Door 7
Door 8

Goods Receipt

Goods Issue

Cross Topics

Scope Highlight
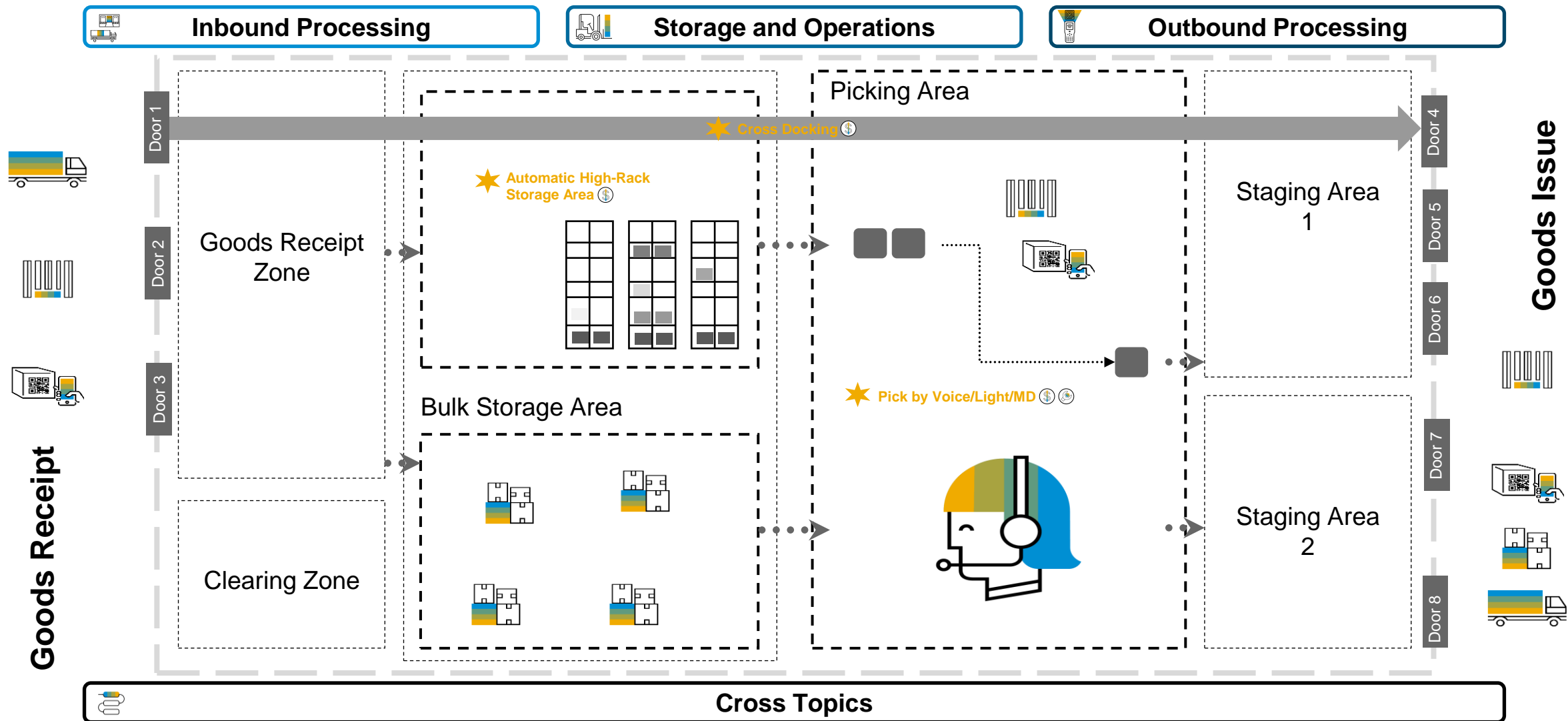
SAP Extended Warehouse Management – Inbound Processing

Goods Receipt Optimization

- **Optimized** storage utilization with **slotting functions** calculating the best bin type during putaway.

Transportation Unit Processing

- **Streamlined** receipt of products by grouping inbound deliveries by TU/vehicle to process the related activities at the same time.

Goods Receipt Management

- Process **flexibility** through multistep putaway from multiple sources with different scheduling options.
- Inventory **optimization** through putaway strategies.

Inbound Quality Management

- **Integration** with quality management covering a broad range of scenarios.

Example: Slotting

Slotting

Slotting Results

Warehouse Task Putaway

Define **slotting criteria** and **slotting steps** - - ▶ **Perform slotting** and **apply results** to product master - - ▶ **Leverage slotting** results in **warehouse task** e.g. putaway

Example: Basic Inbound Processing

Change Inbound Deliveries

RF Unloading

RF Putaway

Warehouse Management Monitor

Create **inbound delivery** and **warehouse task** - - ▶ **Unload and putaway** using radio frequency (RF) handheld - - ▶ **Monitor operation** in Warehouse Management Monitor

SAP Extended Warehouse Management – Storage and Operations

Value-Added Services

- **Optimized value** of time in storage through value-added services like packing or labeling.

Kit-to-Stock Management

- **Aligned storage and provisioning** of logically related components through creation and management of kits.

Example: Kit-to-Stock

RF Picking

Work Center Kit to Stock

Work Center Kit to Stock

RF Putaway

Pick materials for kitting → **Receive materials** at work-center and **perform kitting** → **Pack and post** finished kit and trigger putaway → **Run putaway** for created kit

Inventory Management

- Full **transparency and control** down to granularity of storage bins.
- **Optimal facility utilization** through seamless replenishment and rearrangement of stock.

Physical Inventory

- **Compliance and accuracy** with system-supported inventory counting according to common approaches.

Example: Physical Inventory

Count Physical Inventory

Counting

Difference Analyzer

Create, activate and print physical inventory document → **Run** inventory counting and **enter counting results** → **Post difference** between counting results and system

SAP Extended Warehouse Management – Outbound Processing
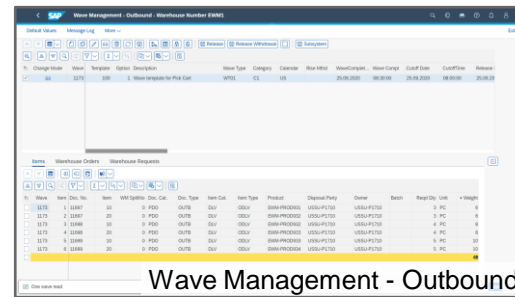
Goods Issue Optimization

- **Streamlined outbound warehouse tasks** with wave management including automation options.

Distribution Equipment

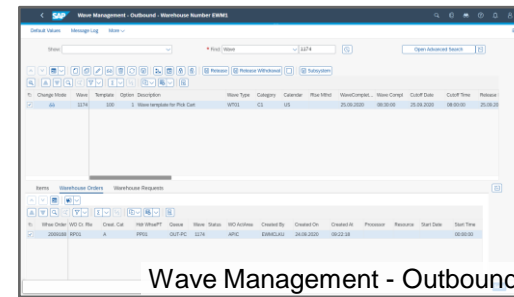- **Acceleration of supply** through the support of **distribution equipment** transporting goods in the warehouse.

Cartonization Planning

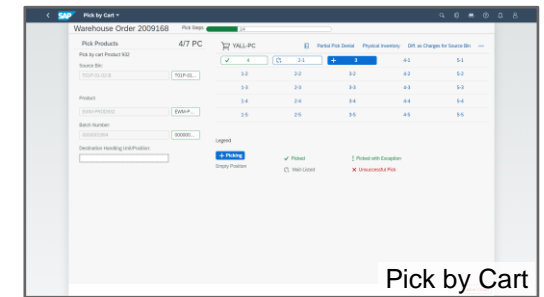- Planning capabilities for **optimal utilization** of shipping handling units.

Goods Issue Management

- **Efficient picking** through stock removal strategies to determine **optimal picking bin.**
- **Flexible goods issue** process supporting common scenarios.

Production Integration

- **Reliable and flexible supply to production** through staging and, planning capabilities and coverage of **multiple order strategies.**

Example: Wave Picking

Wave Management - Outbound

Summarize outbound deliveries in a wave

Wave Management - Outbound

Release **single warehouse order** based on wave

Pick by Cart

Perform related **warehouse tasks** in a **consolidated way**

Example: Outbound Processing
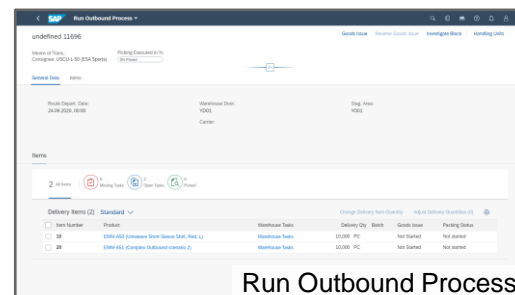
Run Outbound Process
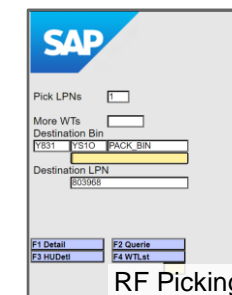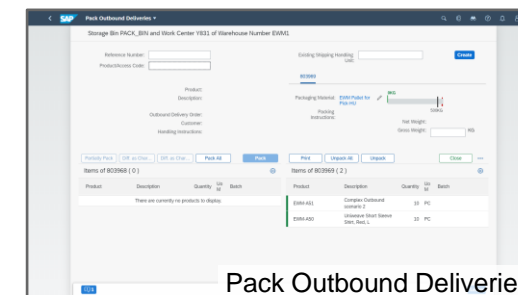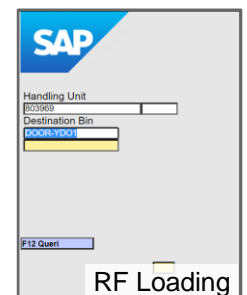
Create warehouse tasks for outbound delivery

RF Picking

Pick according to tasks

Pack Outbound Deliveries

Create shipping handling unit and **pack** picked materials

RF Loading

Stage and load shipping HU

SAP Extended Warehouse Management – Cross Topics

Warehouse Optimization

- **Automation** (Material Flow Control)
- **Resources** (Labor Management)
- **Throughput** (Cross-Docking)

Connected Warehousing

- **Trailers/Vehicles** (Yard Management)
- **Doors** (Dock Appointment Scheduling)
- **Transport** (Integration with SAP TM)
- **Billing** (Warehouse Billing)
- **Cross-Docking** (Planned and opportunistic)

Analytics and Steering

- **Analytical transparency** with CDS views and overview page. **Real-time insight-to-action** with Warehouse Management Monitor.
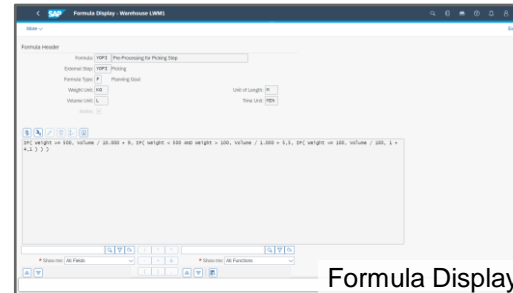
Mobile Devices

- **Efficient and transparent** fulfillment of warehouse tasks with RF framework.

Resource Management

- **Controlled distribution** of ware-house orders to resources

Example: Labor Management

Formula Display

Labor Management Overview

Executed Workload List

Calculate workload for warehouse orders based on defined formula
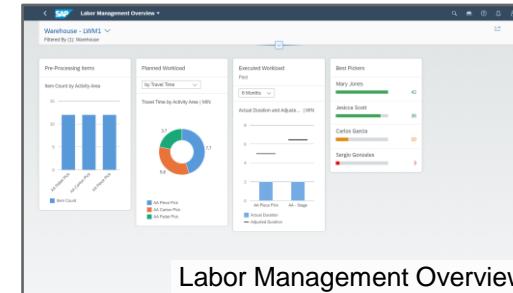
→ **Monitor planning and fulfillment** of workload

→ **Compare calculated** workload with **actual** workload to identify improvement potentials

Example: Analysis of Warehouse KPIs

KPIs Overview

Process Warehouse Tasks - Putaway
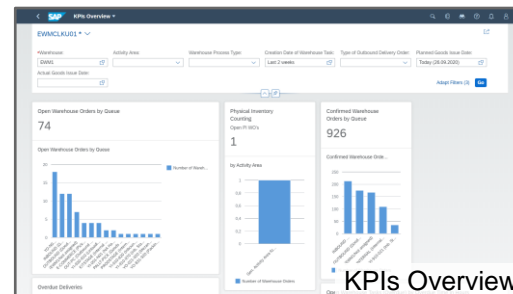
Warehouse Task

Identify anomalies in warehouse operations with the KPI overview page

→ **Drill down** into detailed list of impacted warehouse tasks

→ **Analyze** single warehouse task in detail to identify **resolution options**

Missing Parts Handling / Pre-allocated Stock

EWM-managed Warehouse

Creation of **pre-allocated stock** for missing material

Goods Receipt

PSA

Immediate provision of missing materials to PSA

Work Center

Storage

Work Center

Production

Missing Material
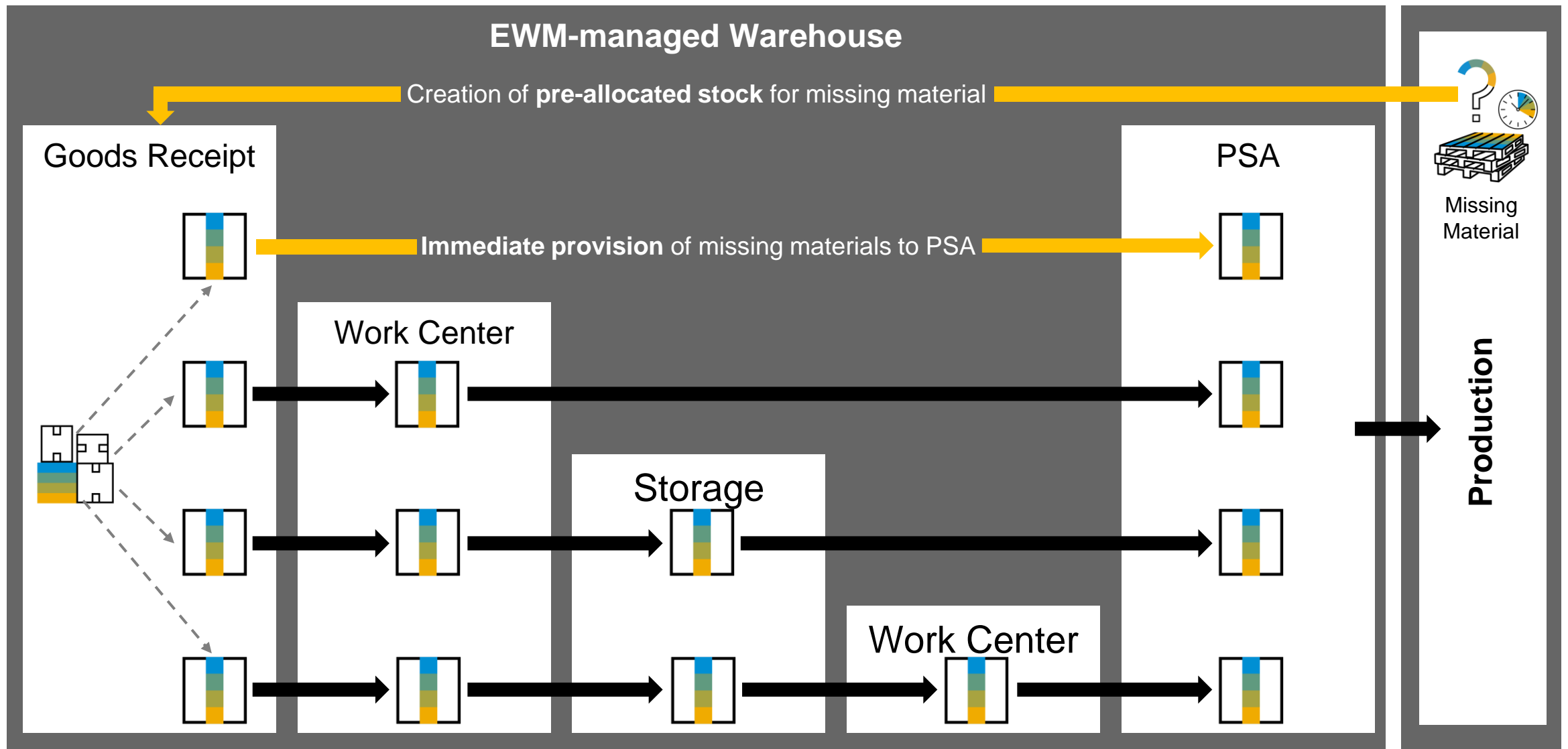
Improvements to Production Supply by Route Train
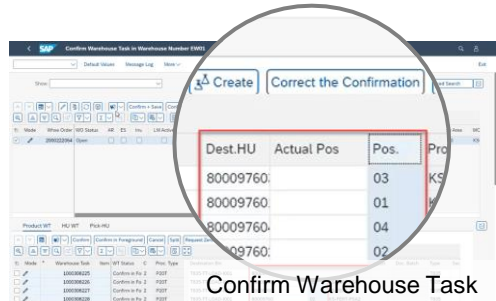
Confirm Warehouse Task

Picking

Loading

Delivery

Picking **confirmation on desktop** as alternative to confirmation via RF **NEW 2020**

Assembly

Storage

Slot No. stored in slot-HU
Create slot-HU on-the fly

Rack as pick-HU

HU-WTs optimized

RF Picking enhancements

Layout-oriented Storage Control

Inbound Section for train station

Lane1

Lane 2

Lane 3

Starting point for route train

Production Supply Areas

PSA 3

PSA 2

PSA 1

New RF transaction "NEXT" to **create new rack** with same attributes **automatically** if a rack is full **NEW 2020**

Seamless **parking and switching** of towing vehicles in case of **break, shift change or damage** **NEW 2020**

Out-of-the-box Integration with SAP Warehouse Insights

Optimization

Optimize the warehouse operation in real-time

- Optimize open warehouse orders in real-time.
- Consider the Latest Start Date (LSD) of warehouse orders.
- Create new edges by connecting existing nodes.
- Get "best traveling path recommendations" for bin-to-bin and warehouse orders.
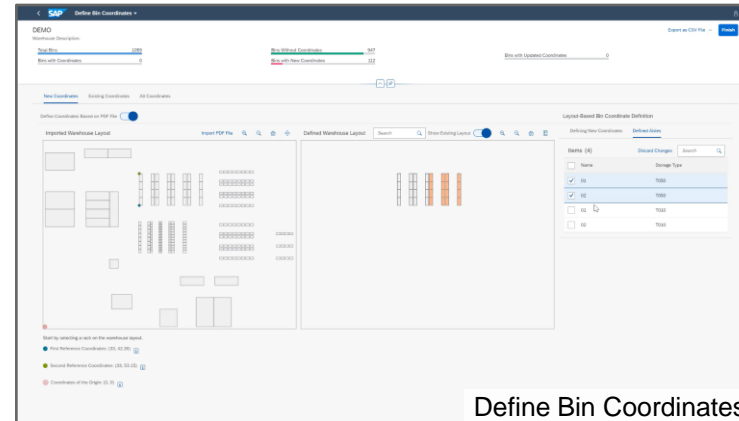
Define Bin Coordinates

Integration

Integrate with SAP S/4HANA EWM and SAP EWM

- Out-of-the-box integration w/ SAP S/4HANA EWM & SAP EWM.
  - Fetch open warehouse orders.
  - Export order assignment result.
- Write back optimized warehouse order assignments.

Visualization

Visualize warehouse layout and travel network

- Interactive warehouse layout visualization.
- Path visualization and comparison - before and after optimization.
- Edges details with user-friendly interface.
- Search for a bin and display bin details on one click.
- Use real-time in EWM monitor displaying optimized order assignments.
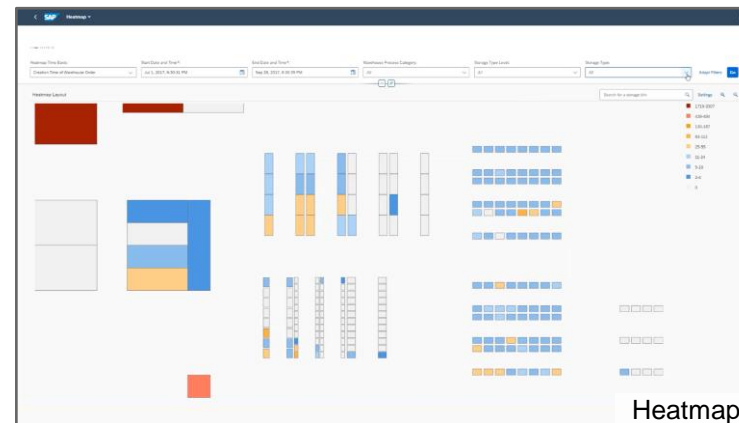
Heatmap

Analytics

Deliver instant insight to the business:

- Evaluate network completeness.
- Determine network data correctness, checking on inactive edges.
- Optimize the assignment of historical warehouse orders to show how much empty travel can be reduced.
- Check the completeness of warehouse data such as bins and edges, and correct them in the warehouse management system.

Transportation Management with SAP S/4HANA
Supporting all levels of complexity

Suite LoB Solutions

($) additional license

(⚙) additional installation

Leverage Decentral SAP S/4HANA TM for

- Transportation hub approach
- Independent operations, versioning, upgrades

SAP S/4HANA LoB Apps

($) additional license

Advanced Transportation Management

- Strategic Freight Management
- Service Order Management
- Combined Inbound / Stock Transfer / Outbound Transportation Process
- Driver Management
- Advanced Charge Calculation
- Carrier / Service Billing
- Planning:
  - Order and Delivery Based Planning Process
  - Transportation Cockpit
  - Vehicle Scheduling Routing Optimization
  - Gantt Chart

- Planning on 2 monitors
- Transportation Proposal
- Automated Carrier Selection / Carrier Ranking List
- Load Consolidation / Load Planning (3D Visualization)
- Package Building
- Professional Tendering Management
- EWM Integration (via services)
- Integration with
  - Event Management
  - Global Trade Service
  - Descartes

Optimize Transportation Processes

SAP S/4HANA

Enterprise Management

Transportation Management

- Main Parts of the Transportation Network
- Freight Agreements
- Charge Management
- Separated Inbound / Outbound Freight Order / Booking Management (Delivery based)
- Basic Transportation Planning (POWLs / manual Freight Unit Selection)
- Transportation Execution without Event

Management
- Freight Settlement Management
- Basic Agency Billing
- Direct Tendering for Service Agents (Subcontracting)
- Dangerous Goods Management
- TM Output Management
- TM Analytics

Shipping Transparency and Control

Transportation Management in SAP S/4HANA: 1 System, 1 Transport Flow

With **Transportation Management embedded** in SAP S/4HANA, companies can avoid costly data replication, extensive customization & interface maintenance, multiple UI support and additional hardware.
Customers wanting to leverage SAP TM in a hub scenario can alternatively also use the TM solution *side-by-side*.

ERP

- Purchase/ Sales/ Stock Transfer Order
- Delivery
- Carrier Invoice

TM

- Transportation Request
- Freight Unit
- Transportation Operation
- Trigger Delivery / Movement
- Charge Management Freight Settlement

Core

Interface

TM in SAP S/4HANA

- Purchase/ Sales/ Stock Transfer Order
- Delivery / Movement
- Freight Unit Transport Operations Charge Management Freight Settlement
- Carrier Invoice

Less documents, less process steps , lower TCO

SAP Direct Delivery: Last Mile Delivery

Provides **planning and optimization** capabilities for trucks, routes and the building of packages:

- Considers service activities together with logistics tour planning

- Builds optimal route thanks to tour optimization engine

- Allows for fully flexible tour planning or fixed route planning
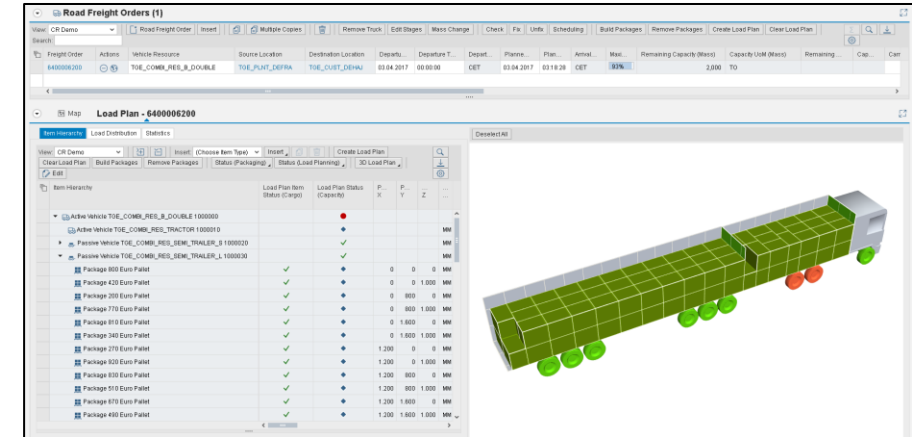
First Last Mile Delivery scenario supported:

- **Delivery driver scenario** in which a personal truck fleet is used to deliver pre-ordered goods to stores, vending machines, and other points of sale

- Supports combination resources, specific loading patterns as well as vehicle/combination incompatibility for **e.g. side-versus backloading locations**

Centralized Planning & Optimization
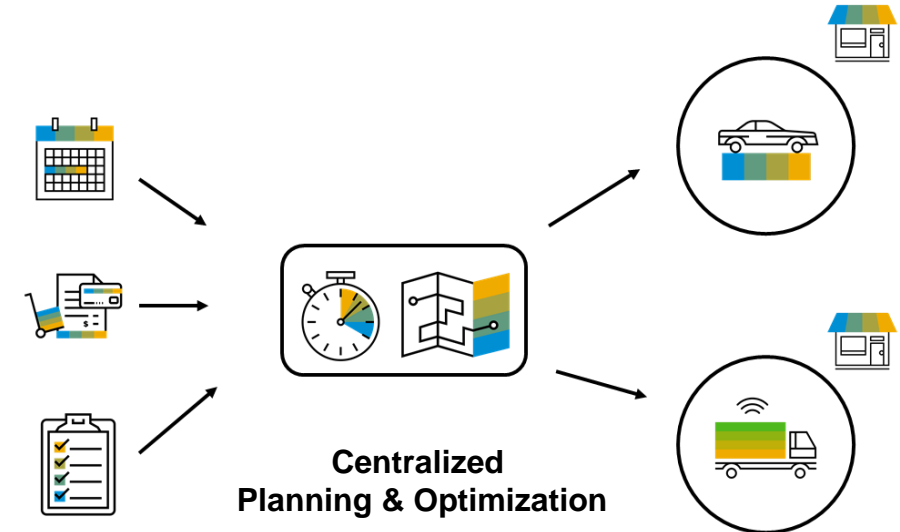
Order Promising with SAP S/4HANA
Supporting all levels of complexity

Suite LoB Solutions

💲 additional license

💧 additional installation

Integrate with Global ATP (SAP SCM)

- Capable to promise and complex algorithms like location & product substitutions, multi-level ATP

SAP S/4HANA LoB Apps

💲 additional license

Advanced Available to Promise

- Mass enabled fast availability check
- Backorder processing with intuitive requirement classification
- Last minute confirmation changes via Release for Delivery App
- Product allocation check for both sales and capacity constraints
- Intelligent and automated selection of best confirmation considering alternative plants and substitutable materials
- Review Availability Check Results for Sales Orders
- Protect supply for key customers during shortages
- Advanced transportation scheduling (integration SAP TM) [R]
- Supply creation-based confirmation (integration with production) [R]

Order to Promise Optimization

SAP S/4HANA

Enterprise Management

Available to Promise

- Mass enabled fast availability check
- Basic allocation check
- Manual material determination
- Semi-manual plant substitution
- Material-/plant-based backorder processing for sales orders
- Simple transportation and shipment scheduling

Basic Order to Promise

[R]This is the current state of planning and may be changed by SAP at any time without notice.

SAP S/4HANA Advanced Available To Promise Overview (1/2)

Product Availability Check (PAC)

Promise what and when you can deliver accurately in real-time.

- Time phased mass enabled check (parallelization)
- Supply consideration: current and future supply elements
- Demand consideration: sales orders (SO) & stock transport orders (STO)
- Checks on plants, distribution centers, sub-locations and batch level
- Supports Product Allocations (PAL) and Alternative Based Confirmations (ABC)
- Review Availability Check Result App
- oData APIs for Product Availability

Review Availability Check Result

Back Order Processing (BOP)

Order confirmation based on business priorities and changes in the demand or supply situation.

- BOP setup- requirement segmentation and classification Win, Gain, Redistribute, Fill and Lose
- Easy to use 'select option tool' for configuring BOP segments
- Customizable filter and sorter for BOP segments
- Fiori based BOP Results Monitor
- Automated exception handling with BOP fallback variants
- Supports Product Allocations (PAL), Alternative-Based Confirmations(ABC) and Supply Assignment Run

Monitor BOP Run

Product Allocations (PAL)

Prevent single customer from buying the entire available quantity and other requests not being satisfied.

Confirm orders against capacity constrains.

- Simple and flexible Product Allocation setup and maintenance with time dependent assignment to material / plant
- Hierarchical / sequential allocations (Logical 'OR' for PAL constraints)
- Simultaneous multiple allocation checks (Logical 'AND' between PAL constraints)
- Excel download and upload for mass maintenance
- oDATA APIs for importing / exporting allocation quantities from external systems
- Capacity based Product Allocations
- Easily maintain and extend the characteristic catalogs for PAL

ATP Analytics

Analyze and monitor Product Allocation data to understand the product allocation situation.

After Supply Assignment Run, analyze the Supply and Demand situation to take necessary actions.

In the Product Allocations Overview App.

- Drill down and analyze the product allocation situation for product allocation objects, characteristic value combinations in different periods.
- Drill down into order items and identify all consumed product allocation quantities and the order in which the quantities have been consumed

Product Allocation Overview

Online Order Promising • Mass Order Processing • Manage Business Priorities • Manage Shortages • Supply Assignment • Fast Re-plan
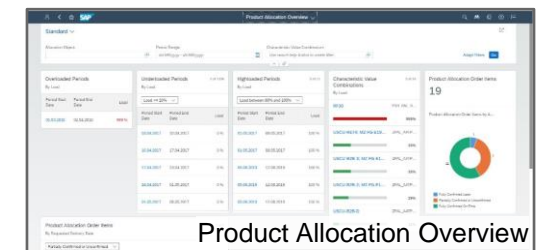
SAP S/4HANA Advanced Available To Promise Overview (2/2)

Alternative-Based Confirmation (ABC)
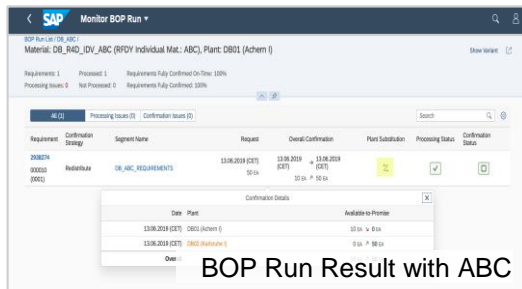
Check for all possible alternatives to confirm a requirement when, for example, the availability of the requested material-plant combination is insufficient to confirm the original requirement.

- Trigger during sales order creation and/or Backorder Processing (BOP)
- Dynamic selection of alternative : Best fit vs First fit
- Supports Product Allocations (PAL)
- Multiple alternative determination rules (Max-Earlier Confirmation, Full Confirmation, On-Time Confirmation)
- Supports partial plant substitution
- ABC is only available for Sales Orders

BOP Run Result with ABC

Supply Assignment Run

Ensure an optimal assignment of supply to the open requirements and distribute available supply to the respective sales orders, or stock transport orders.

- Perform Supply Assignment Run for relevant materials in Backorder Processing (BOP).
- Flexibility to consider future supplies within a specified horizon, rules to sort supplies, and option to retain or delete previous assignments.
- Insight to Action tool to evaluate the assignment situation and to enable the user to take manual actions like create/change existing assignments, create outbound deliveries
- In Supply Assignment Overview Apps do flexible and detailed analysis of supply and demand situation for different dimensions and KPIs, in both graphical and tabular formats
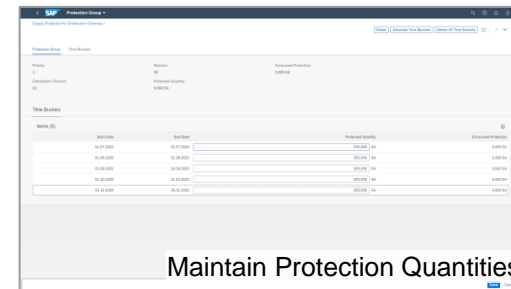
Supply Protection

Helps companies to provide minimum guarantee to priority customers in supply shortage situation.

Protect quantities of a material of a specific plant against other demands.

Supports both horizontal and vertical protection.

- Support horizontal and vertical protection
- Time period enabled
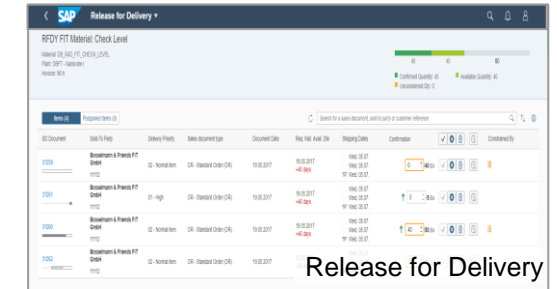
Maintain Protection Quantities

Interactive ATP - Release For Delivery

Intuitive and informative fast re-planning.

Impact analysis while confirming changes.

- Visualize constraints imposed by delivery groups
- Visualize the time zone of the delivering plant
- Fiori based interactive changes to sales order confirms amounts before releasing the orders to delivery
- Impact simulation of current ATP situation
- Direct navigation to Sales Order

Release for Delivery

Online Order Promising • Mass Order Processing • Manage Business Priorities • Manage Shortages • Supply Assignment • Fast Re-plan

Extended Service Parts Planning

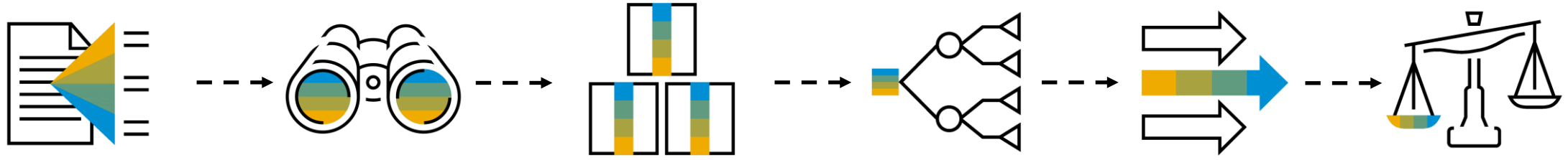| Capture & manage demand	Forecasting	Inventory Planning	Distribution Requirements Planning (DRP)	Deployment	Inventory Balancing
Capture and manage demand for **location products** to generate a **demand history**. Load sales order data & stock transfer order data.	React flexibly to demand changes . Determine the best **forecast model** for a location product. Use **stability rules** to prevent too rapid changes to the forecast model.	Plan the **optimal stock** of location products. Calculate the **economic order quantity** in combination with the **safety stock** for each location product.	Determine the demands of all locations within the **bill of distribution (BOD),** round & aggregate them along the BOD to the entry location. Create **scheduling agreement releases** & **purchase requisitions**.	Determine the **distribution of goods** within a BOD, and decide how to distribute the goods and, if necessary, initiate this within the BOD.	Balance **excess** and **shortage** at individual locations. Can be scheduled as a **periodical service** or automatically triggered by **events.**

Fixed Demand and Receipt	Forecast Approval	Inventory Planning	DRP Matrix	Deployment Logs	Stocking/Destocking Approval
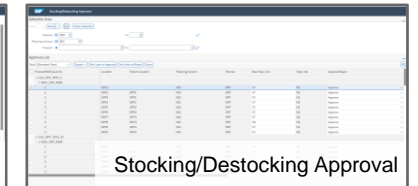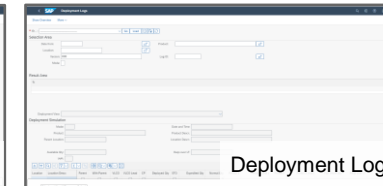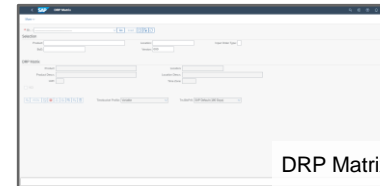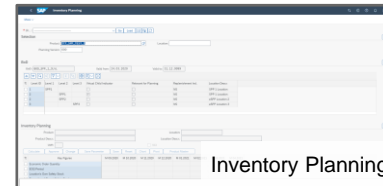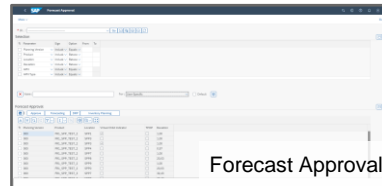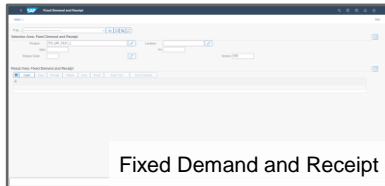
SAP Note [2946659](#) - **Release information & restrictions for Ext. Service Parts Planning in SAP S/4HANA 2020**
SAP Note [2912293](#) – eSPP Product Substitution
SAP Note [2940185](#)- S/4HANA eSPP – IBP Integration

SAP S/4HANA Supply Chain Planning

Extendable LoB scope for Strategic Planning in the Cloud

SAP S/4HANA®

Sales, MRP, Inventory, Procurement & Manufacturing

Digital Handshakes ← - - - - → **Strategic Planning**

Supply Chain Control Tower

Sales & Operations Planning

| Demand | Inventory | Supply & Response |

SAP HANA Platform

Integrated Business Planning

Left S/4HANA box	Handshake middle (left)	Handshake middle (right)
Sales Analysis / Business Partner / Products / Prices	Sales Analysis	Demand Sensing
Inventory Turnover / Supplier Performance / Contracts, Quotes	Products / Business Partner / Sales Channels	Consensus Demand / Sales & Operations Planning
MRP & PPDS Dependent Requirements, Demand Driven MRP & Constraint based Planning / Advanced ATP	Inventory Turnover / Supplier Analysis	Inventory Forecasts / Supplier Optimization
Manufacturing & Supply Chain Execution	Planned Independent Requirements / Prioritization Input for Capacity Bottlenecks, e.g. Prioritization Input for Sequencing (aATP or PPDS) / Analysis & Optimization	Production Plan / Tactical: What if Constraints / Operational: Order Creation, Rules & Priorities / Continued Analysis & Demand Match

Demand

S&OP

Inventory Planning

SAP Ariba

Response Network Planning

Control Tower

Leverage SAP Best Practices to run planning processes in IBP for sales and operations, IBP for response and supply (time-series based optimizer), IBP for demand, IBP for inventory and Supply Chain Control Tower.

SAP S/4HANA Supply Chain Solution Simplification
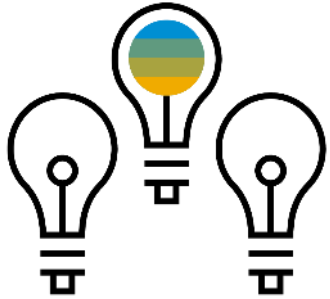
- The old ERP-ATP check code is redirected to new table VBBE with faster performance without pre-aggregation.(SAP Note 2267745)
- **New MRP live transaction (MD01N)** for optimized MRP run performance
- **Material Ledger** provides an optimized data model and replaces traditional SAP Inventory Management (SAP Note 2206980)
- **Material number** is extended to **40 characters** (SAP Note 1696821)
- **Warehouse Management** (SAP Note 2270211)
- **Transportation Management for 1709 release** (SAP Note 2514203)
- **MRP functionality** is optimized in Material Master (SAP Note 2204534)
- **MIGO** is replacing multiple MBxx transactions (SAP Note 2267801) – but individual Fiori exist in addition
- **Simplified logic** for sourcing, subcontracting (SAP Note 2226333 and 2227532)
- **Planning file** is optimized for update performance (SAP Note 2227059)
- MRP Planning is consolidated on **storage location level** (SAP Note 2227579)
- **Material Locking** optimizations (Note 2319579)
- Details on **PP/DS** (Note 2372590)
- Best Practice PPDS Migration (Note 2712349)
- Leverage **new Catch Weight Management** (Note 2358928)
- Complete list of simplifications see here

Achieving Value with SAP S/4HANA Supply Chain

Kolon Group

Industry
Chemicals

With SAP S/4HANA, Kolon Group achieved:

- 4.6x–205x Faster generation of major supply chain transactions and reports

- Up to 145x Fewer period-end closing transaction

- Real-time, mobile viewing of inventory, customer, and order information

A diverse corporation that started in nylon manufacturing, Kolon Group now comprises 19 subsidiaries across many sectors. Since moving from the SAP ERP application to SAP S/4HANA, the group is experiencing enhanced, real-time processing and a better user experience.

Click here for Kolon Group's source reference

I-D Foods Corporation

Industry
Wholesale

With SAP S/4HANA, I-D Foods Corporation achieved:

- 6x Faster transfer of customer orders to I-D Foods

- 50% Rise in targeted number of stock picks per employee

- Stock optimization that aligns with forecasted demand

I-D Foods is one of Canada's largest imported specialty and natural food companies, with offices and warehouses throughout the country and a national trucking network. So when its legacy ERP system could no longer keep pace, it was time for a digital transformation.

Click here for I-D Food's source reference

SAP S/4HANA Supply Chain: Fiori Apps 1/2

Exemplary view, most current list see Fiori Apps Library

Inventory

Inventory Analyst
- Inventory Analysis Overview
- ☆ Inventory KPI Analysis

Inventory Manager
- ☆ Create Physical Inventory Documents
- ★ Cycle Counting – Classification
- ☆ Dead Stock Analysis
- Goods Movement Analysis
- Overview Inventory Management
- ☆ Physical Inventory Analysis
- ★ Schedule Physical Inventory Document Creation
- ☆ Slow or Non-Moving Materials
- Subcontracting Cockpit

Receiving Specialist
- ☆ Expected Goods Receipt
- Inbound Delivery
- ☆ Schedule Goods Receipt for Inbound Deliveries
- ☆ Schedule Inbound Delivery Creation

Warehouse Clerk
- Material Master Reuse Component
- ☆ Overdue Materials - Goods Receipt Blocked Stock
- ☆ Overdue Materials - Stock in Transit
- Overview Inventory Processing
- ☆ Post Goods Receipt for Inbound Delivery
- ☆ Post Goods Receipt for Production Order
- ☆ Post Goods Receipt without Reference

Warehousing

Inventory Manager
- Batch Overview
- ☆ Manage Batches
- ☆ Inventory Turnover Analysis
- ☆ Manage Stock
- Material Document
- ☆ Physical Inventory Document Overview
- ☆ Stock - Multiple Materials
- ☆ Stock - Single Material

Warehouse Clerk
- ☆ Material Documents Overview
- Post Goods Receipt for Purchase Order
- ★ Post Goods Receipt for Purchasing Document
- ☆ Transfer Stock – In Plant
- ☆ Transfer Stock – Cross-Plant

Warehouse Operative (EWM)
- Pack Outbound Deliveries
- Pick by Cart
- Pack Warehouse Stock
- Process E-Commerce Returns
- ★ Process Warehouse Tasks
- ★ Process Warehouse Tasks - Internal Movements
- ☆ Process Warehouse Tasks – Picking
- ☆ Process Warehouse Tasks – Putaway

Warehouse Clerk (EWM)
- Change Inbound Delivery
- ☆ Count Physical Inventory
- Create Inbound Delivery

Delivery and Transportation

Shipping Specialist
- Analyze Delivery Logs
- Analyze Delivery Performance - Shipped as Planned
- Analyze Outbound Delivery Logs
- Create Delivery with Reference to Sales Order
- Create Delivery without a Reference (Quick Create)
- Create Outbound Deliveries
- ☆ Create Outbound Deliveries - From Sales Orders
- Manage Outbound Deliveries
- Outbound Deliveries
- ☆ Outbound Delivery
- Pick by Cart
- Pick Outbound Delivery
- Returns Delivery
- ☆ Schedule Delivery Creation
- ☆ Schedule Goods Issue For Deliveries
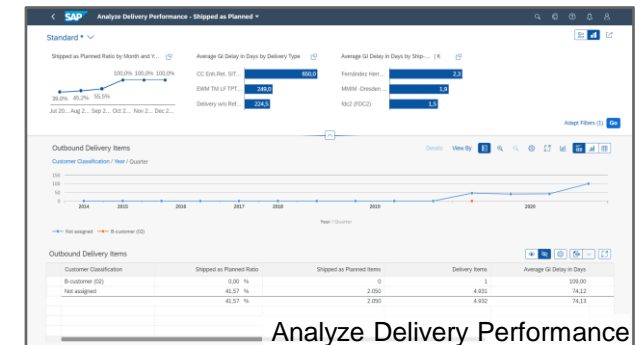
Analyze Delivery Performance

SAP S/4HANA Supply Chain: Fiori Apps 2/2

Advanced Warehousing

Warehouse Clerk (EWM)
- Run Outbound Process - Transportation Unit
- Run Outbound Process – Deliveries
- Maintain Resources
- Warehouse KPIs – Operations
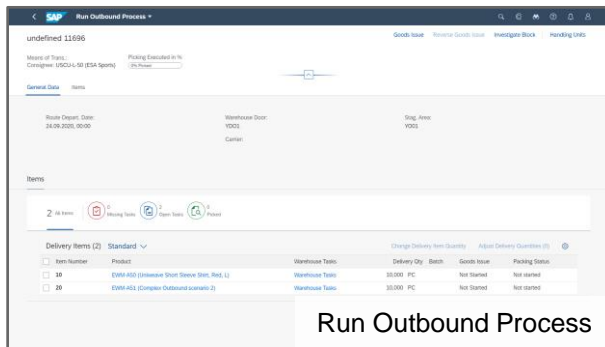
Run Outbound Process

Advanced Order Promising

Order Fulfillment Specialist
- Release for Delivery
- Reuse Component ATP interactive chart

Order Fulfillment Manager
- Assign Product to Product Allocation
- ☆ Configure Alternative Control
- ☆ Configure BOP Segment
- Customer BOP Sorting
- ☆ Configure BOP Variant
- Configure Order Fulfillment Responsibilities
- ☆ Configure Product Allocation
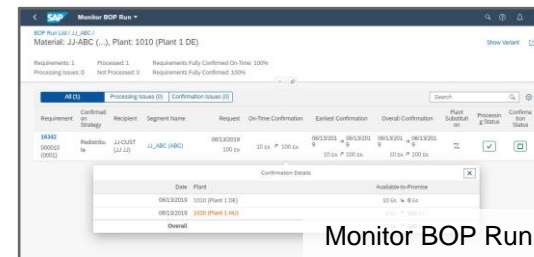
Monitor BOP Run

- ☆ Configure Substitution Strategy
- ★ Configure Supply Protection
- ☆ Manage Characteristic Catalogs
- ☆ Manage Product Allocation Planning Data
- Manage Product Allocation Sequences
- ☆ Monitor BOP Run
- Monitor Product Allocation Characteristic Value Combinations
- Monitor Product Allocation Order Items
- Monitor Product Allocation Periods
- Product Allocation Overview
- Schedule BOP run
- Schedule Deletion of ATP Results Log

Advanced Transportation

Transportation Manager (TM)
- Allocation – ALP
- Allocation Compliance
- Business Share
- Business Share – ALP
- Freight Booking Execution
- Freight Booking Execution – ALP
- Freight Booking Execution Status – ALP
- Freight Booking Quantities – ALP
- Freight Booking: Quantity Driven Operational Business
- Freight Order Execution
- Freight Order Execution – ALP
- Freight Order Execution Status – ALP
- Freight Order Quantities – ALP
- Freight Order: Quantity Driven Operational Business
- ☆ Scenario Builder
- Tendering
- Tendering – ALP
- Transportation Costs – ALP
- Transportation Invoice Blocked – ALP
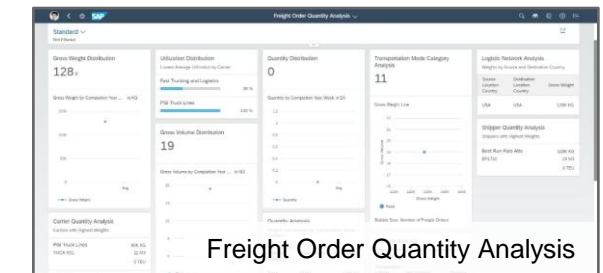
Freight Order Quantity Analysis

Upcoming Partner Webinars

Capgemini – Successful Supply Planning Strategies Leveraging IBP w/ Cognex

Thursday, May 13, 2PM East | [Registration Link](#) |

 Stellium – End to End Digital transformation with SAP EWM

Thursday, May 20, 9AM East | [Registration Link](#) |

Capgemini – Ingevity's Supply Chain Roadmap w/ IBP Demand

Thursday, May 27, 2PM East | [Registration Link](#) |

Capgemini – Demand Driven S&OP and Shelf Life Planning w/ Amicus

Tuesday, June 15, 2PM East | [Registration Link](#) |