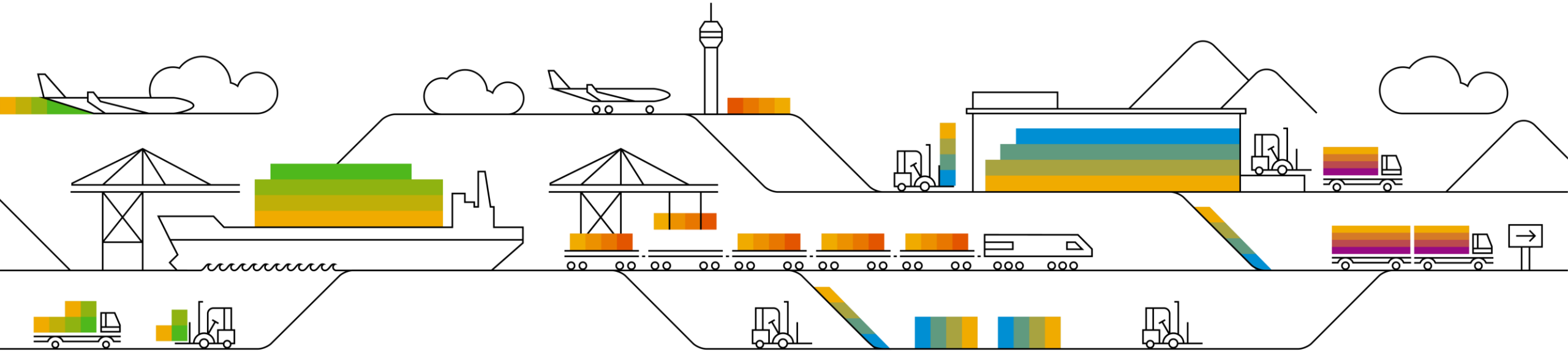


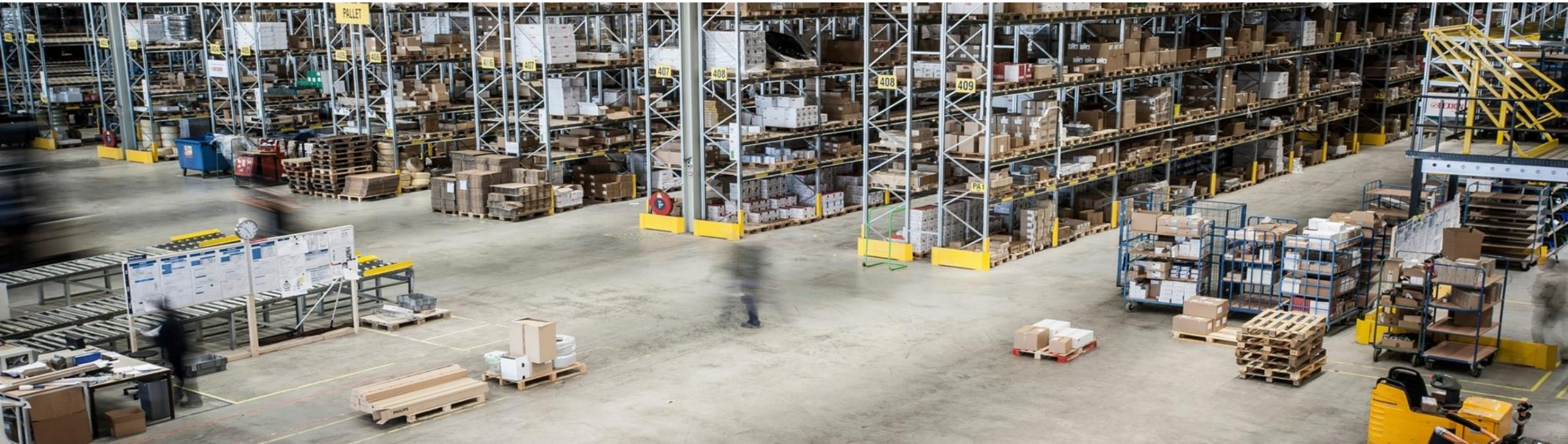
Vernetzte Lagerlogistik mit SAP

Ralf Schränkler, SAP Deutschland
Augsburg, 13. Juni 2018

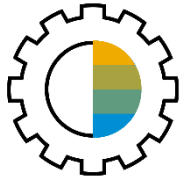
CUSTOMER

Run Simple

SAP Supply Chain Execution Platform



Digital Logistics and Order Fulfillment on Supply Chain Execution Platform

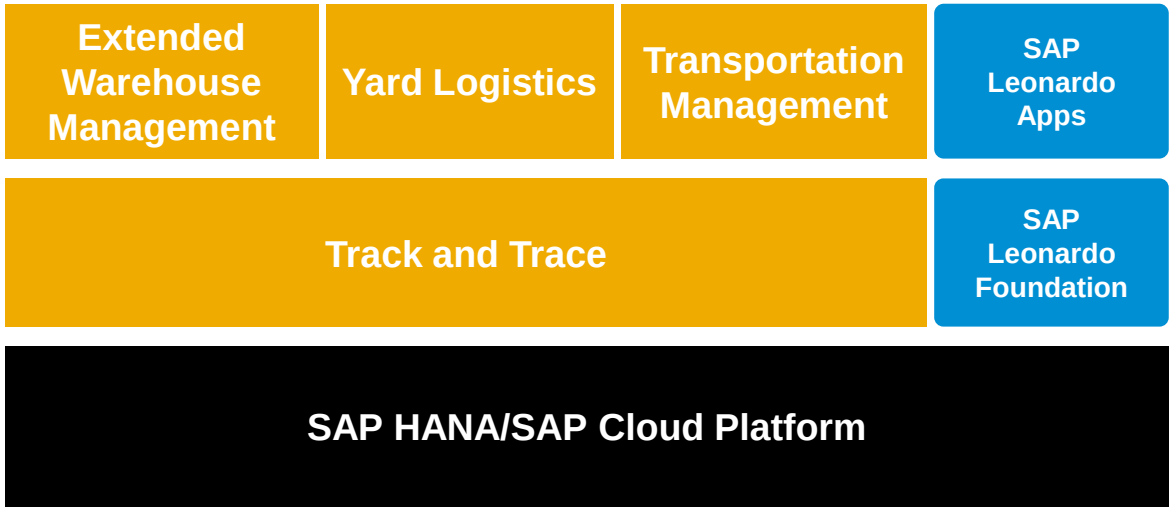


Functional

Holistic and vertical

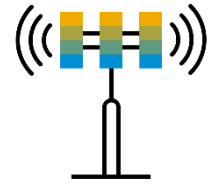
Integrated

Support for end-to-end processes



Flexible

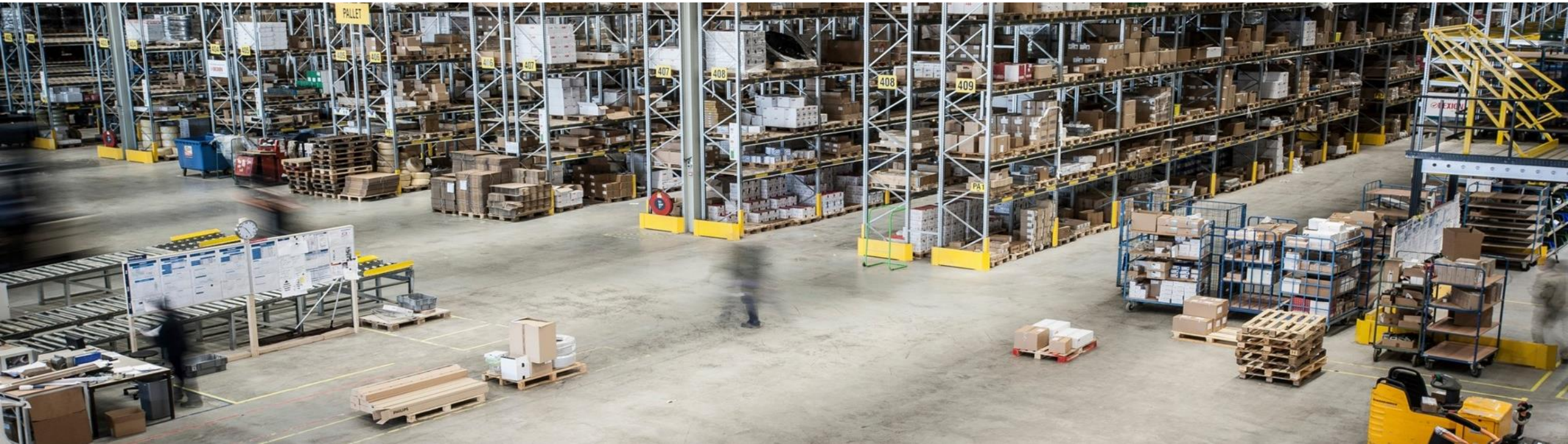
Processes and deployment



Connected

Real-time insight and network communication

Highlights of SAP Extended Warehouse Management



SAP Extended Warehouse Management (SAP EWM)

Functional

- Continuous core improvement for SCE
- New industry capabilities

Integration

- Enhanced SCE platform integration
- Enhanced integration with SAP S/4HANA

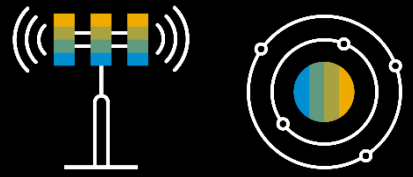
SAP S/4HANA
Enterprise Management

SAP Supply Chain Execution Platform

Warehouse Management	Transportation Management
Track & Trace	

IoT

- Next-generation automation
- Enhanced device and asset connectivity

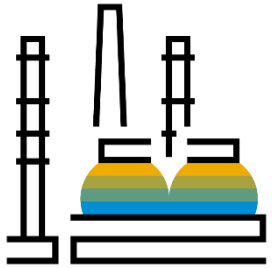


Deployment

- SAP EWM in SAP S/4HANA
- SAP EWM with SAP ECC
- Cloud solution

SAP S/4HANA
Enterprise Management

Types of Warehouses for SAP EWM

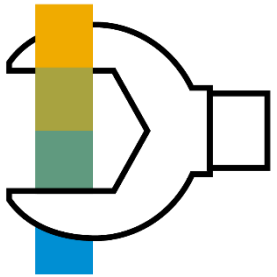


Production Warehouse

- Raw-material handling
- Integration of quality management
- Production supply
- Receipt from production
- Staging and consumption

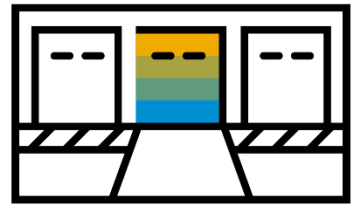
Distribution Center

- Complex process and high volume
- High degree of automation
- Wave management
- Slotting and rearrangement
- Replenishment



Service Parts Warehouse

- Low to very high complexity
- Kitting and value-added service
- High volatility
- Serial numbering
- Heterogeneous product range



Cross-Dock or Transit Warehouse

- Regional hubs, gateways, and container freight station
- Air and ocean freight handling
- Unit-load device and container handling
- Receive from and send to airport or seaport (drayage)

SAP Extended Warehouse Management – Overview

Inbound Processing

Storage and Operations

Outbound Processing

Analytics • Transit warehousing • Labor management • Cross-docking • Compliance
Native technologies • Implementation tools

SAP Extended Warehouse Management – Inbound Processing

Inbound Processing

- Transportation unit processing
- Goods receipt management and optimization
- Inbound quality management
- Internal routing

Business Benefits

- Optimize use of manpower
- Facilitate cross-docking
- Streamline receiving and dock management
- Optimize inventory placement in the warehouse with flexible put-away strategies
- Improve inbound inventory visibility

SAP Extended Warehouse Management – Storage and Operations

Inbound Processing

Storage and Operations

- Physical inventory
- Slotting
- Replenishment and rearrangement
- Kit-to-stock management
- Value-added services
- Transit warehouse
- Warehouse billing

Outbound Processing

Business Benefits

- Track every unit to the lowest level of detail
- Manage inventory balances on an ongoing basis
- Reduce effort for annual physical counts
- Eliminate inefficient movement and redundant effort
- Improve facility utilization

SAP Extended Warehouse Management – Outbound Processing

Inbound Processing

Storage and Operations

Outbound Processing

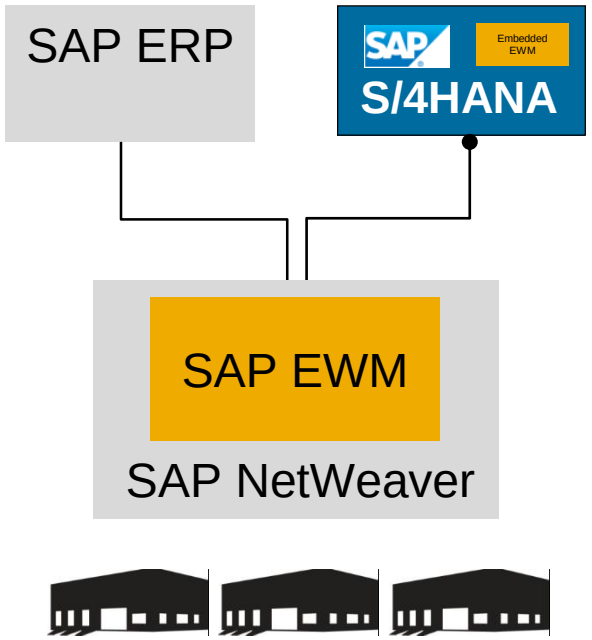
- Outbound planning, including route, wave, and bin planning
- Picking optimization, packing, staging, and load management

Business Benefits

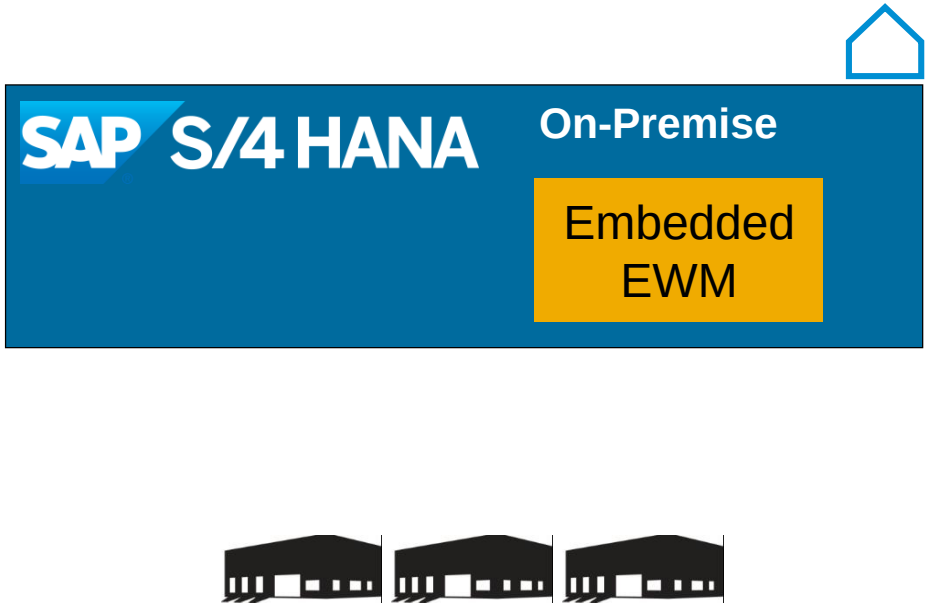
- Increase inventory accuracy and availability
- Reduce picking, shipping, and billing errors
- Raise customer service levels through high efficiency and accuracy
- Shorten order turnaround times
- Take advantage of cross-docking opportunities

Main Deployment Options for SAP EWM

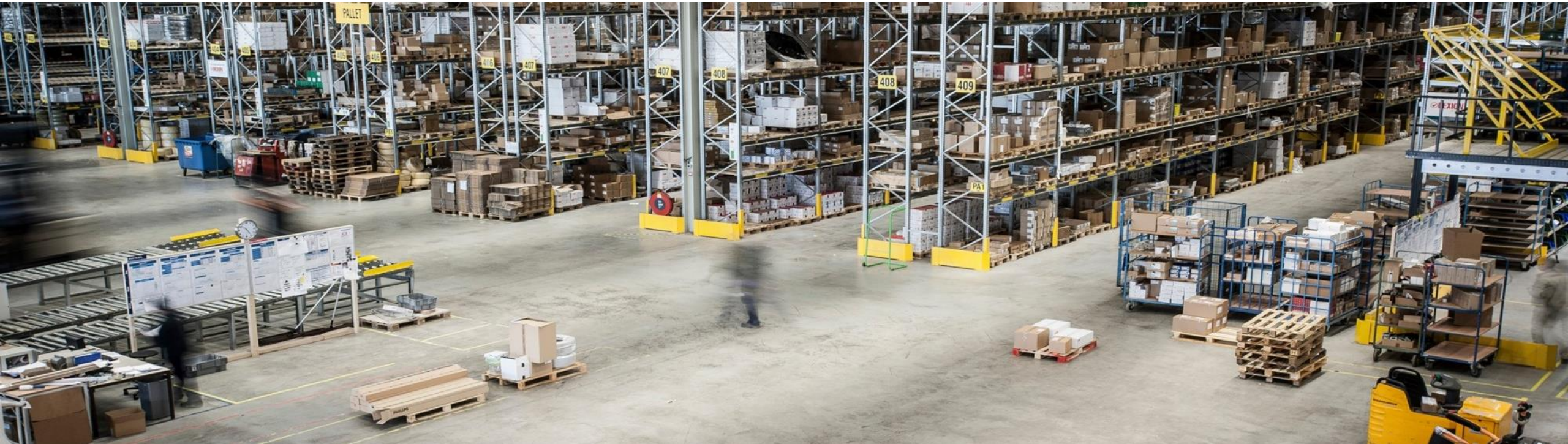
Decentral SAP EWM



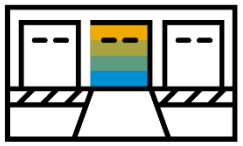
Embedded EWM in SAP S/4HANA



Connected Warehousing – Working mobile



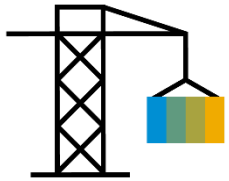
Leading-Edge Warehouse Technology Integration



SAP Extended Warehouse Management

Connected Devices

- Mobile devices
- RFID scanners
- Pick by voice
- Augmented reality
- Pagers and phones
- Label printers
- Scales



Connected Automation

- Conveyors
- Lifts
- Cranes
- Robots
- Picking systems
- Manufacturing execution systems
- Automated storage and retrieval system (ASRS)
- Automatic guided vehicle (AGV)

SAP Augmented Reality

SAP and Bechtle: At the Forefront of Device Connectivity

BECHTLE

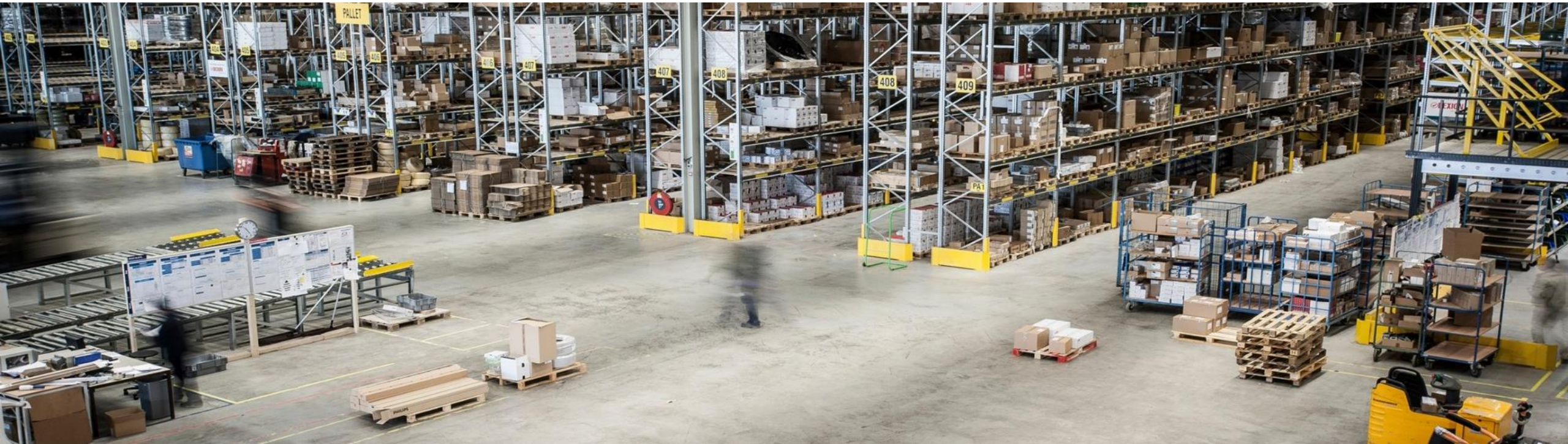
Connected Warehousing

Combined Augmented Reality & Pick-by-Voice

for Warehouse Picking

- Verbal commands & confirmation
- Scanning with glasses

Connected Warehousing – Connected automation



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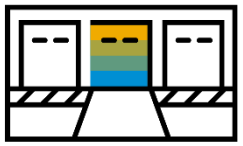

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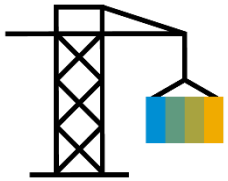

Connected Automation

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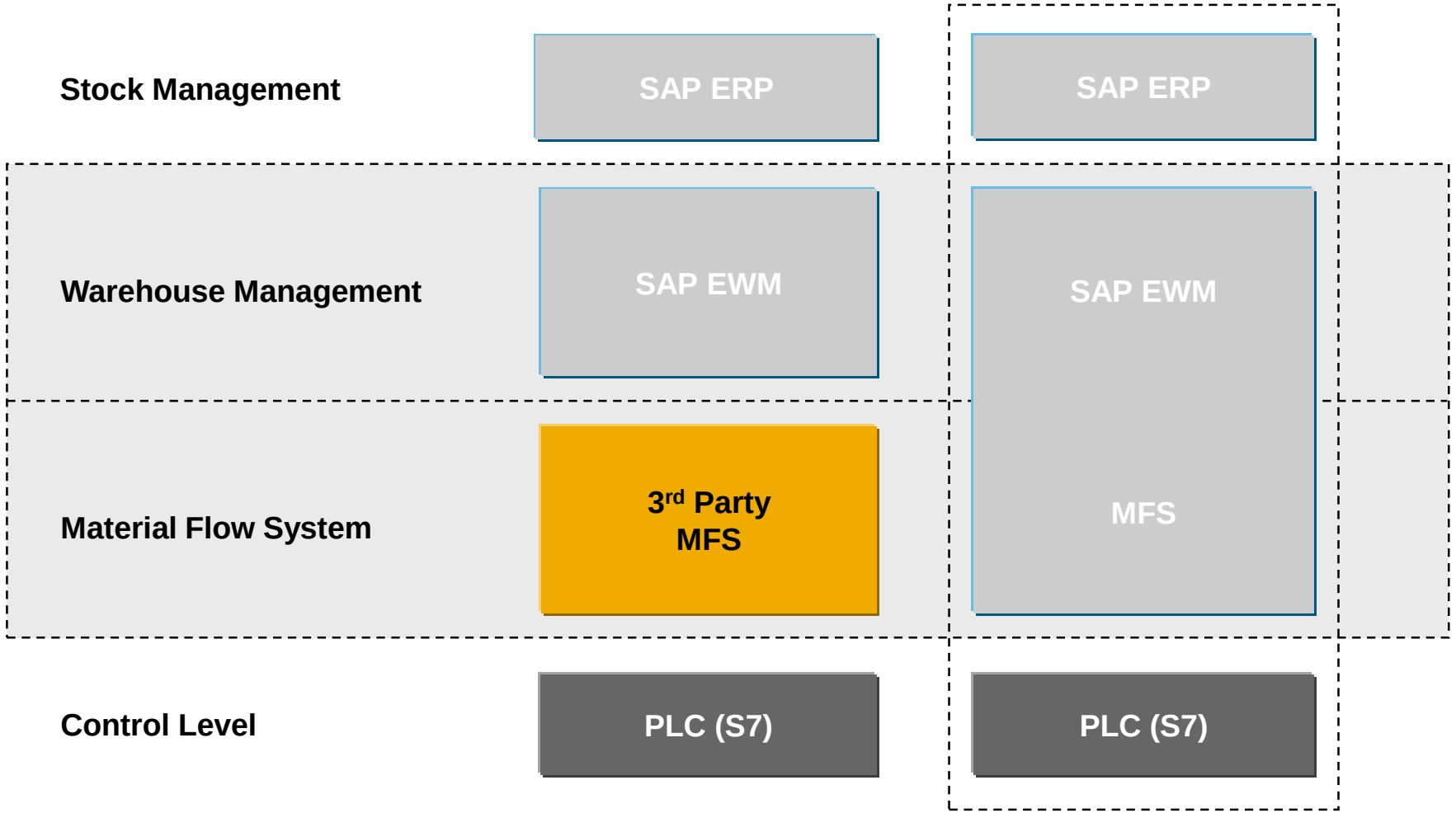
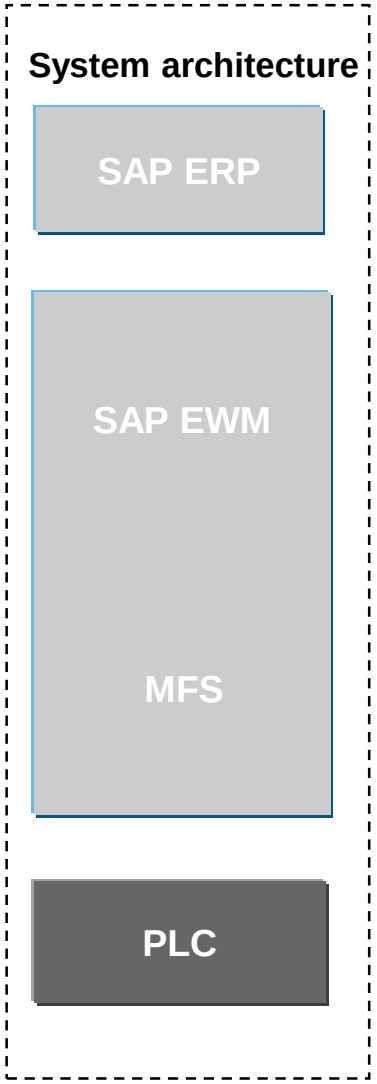
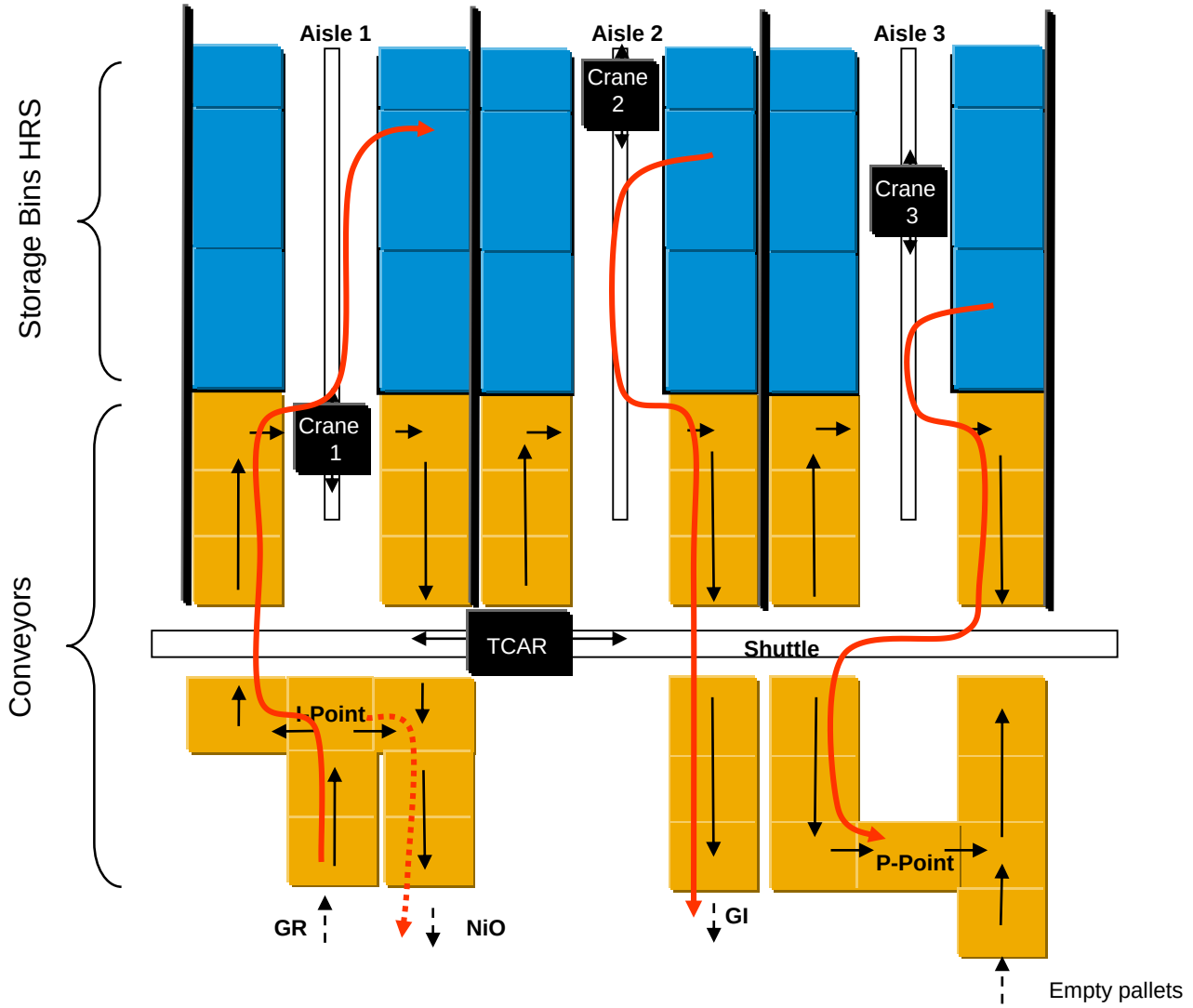
Integration of warehouse automation



Integrated Material Flow System

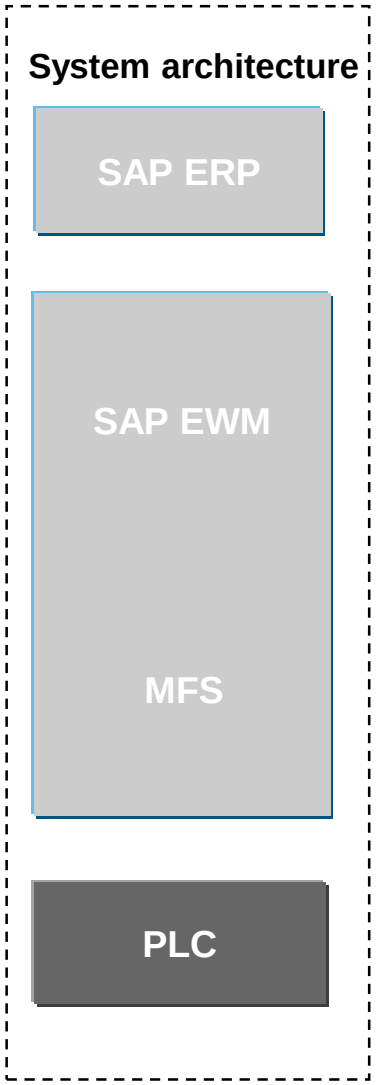
for direct control of automation – pallets

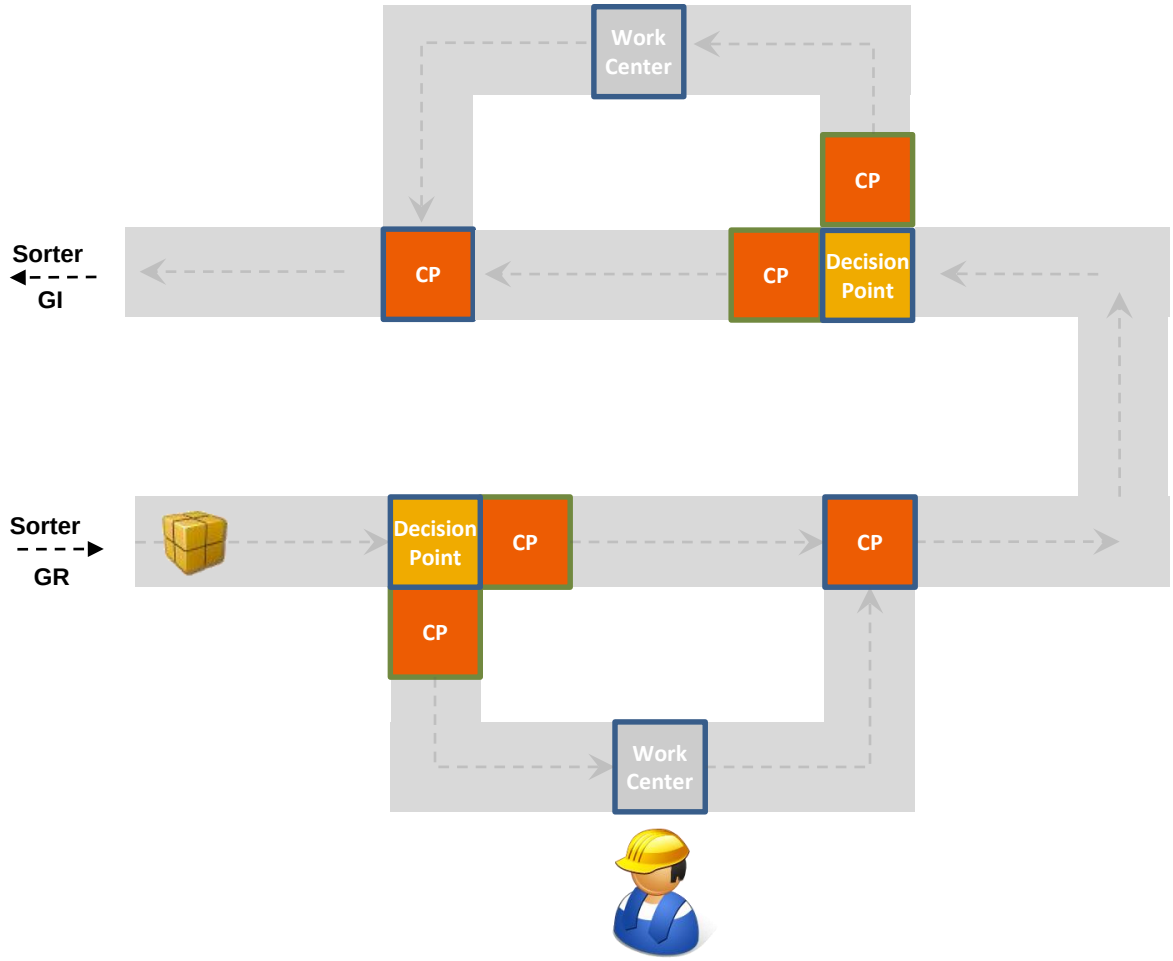




Integrated Material Flow System

for direct control of automation – case conveyors





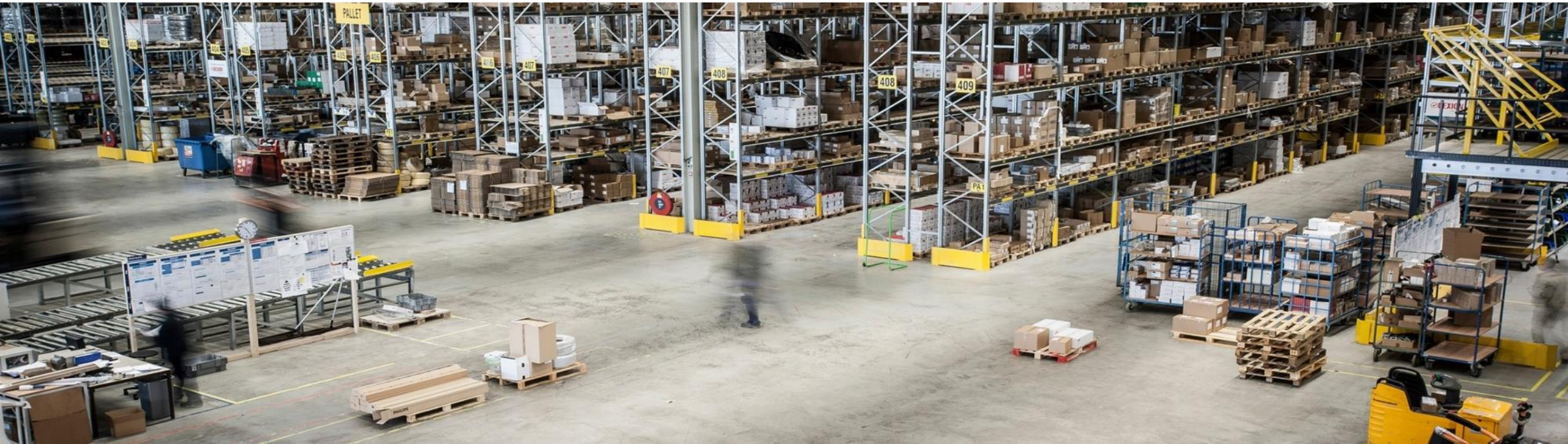
Types of Equipment

Conveyers
- Pallets / cases / packages
- Transfer cars
- Sorter
- Label applicators
- Pick-Pack-Pass picking principle

Storage Retrieval Machines
- ASRS pallets / cases
- Goods-to-man picking principle
- Shuttle warehouses

Subsystems
- Monorail system
- Automated guided vehicle systems (AGV)

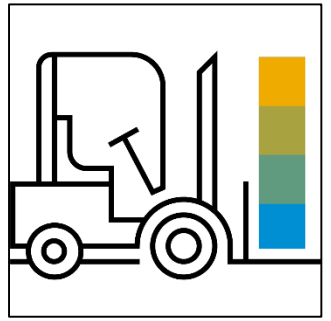
Digitization in the warehouse

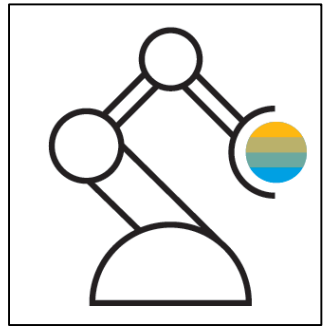


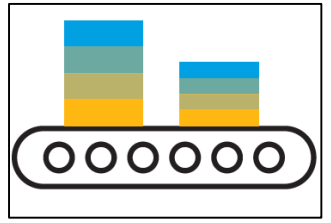
Increasing usage of Human-machine-interaction in the warehouse

Robotics / machines and humans work closely together

- High flexibilty
- High efficiency and productivity
- Less execution errors
- Collaboration in Social Networked Industry







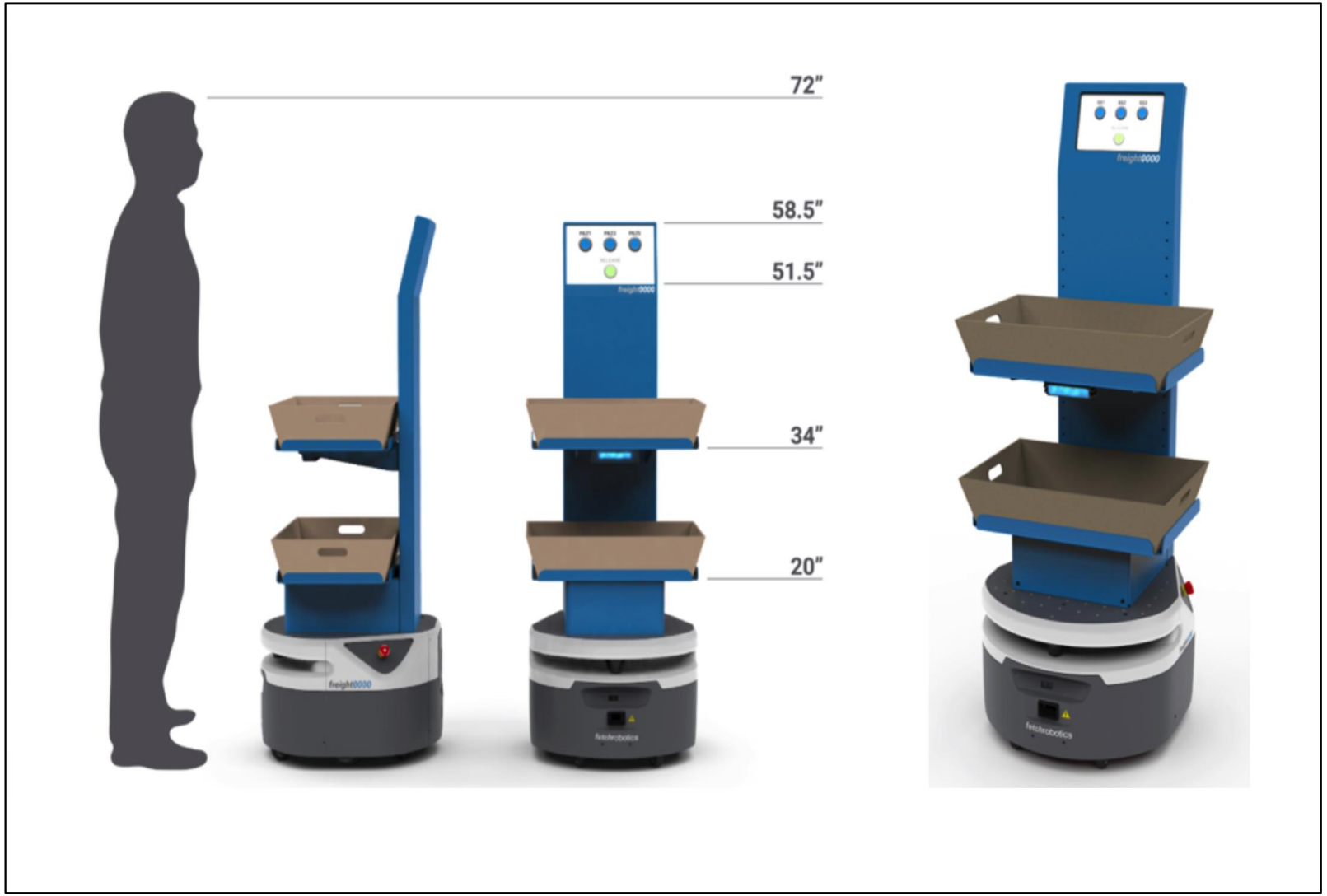
Robotics scenarios – Example: Human-machine-interaction

"Freight"

- Autonomous mobile platform with integrated through REST-ful APIs (json)
- Focused on Logistics and manufacturing workflows
- Associate can pick items from shelves, performing point to point delivery tasks, dispatching parts to an associate on an assembly line/packaging station etc.

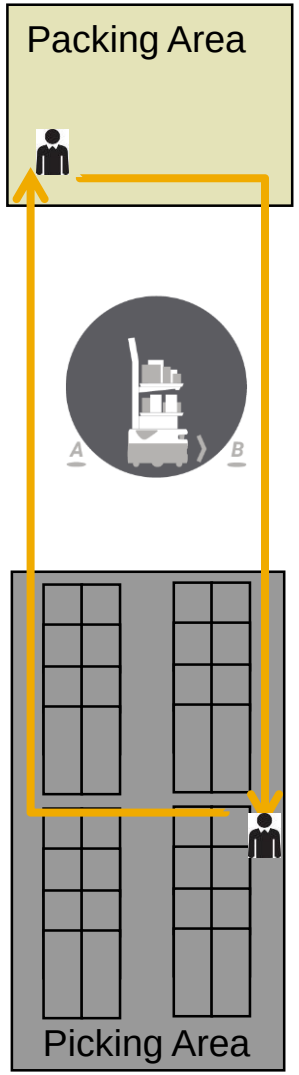
SAP Integration Scenarios

- SAP Extended Warehouse Management
- …
- …



Robotics scenarios – Example: Human-machine-interaction

Outbound use case and key benefits



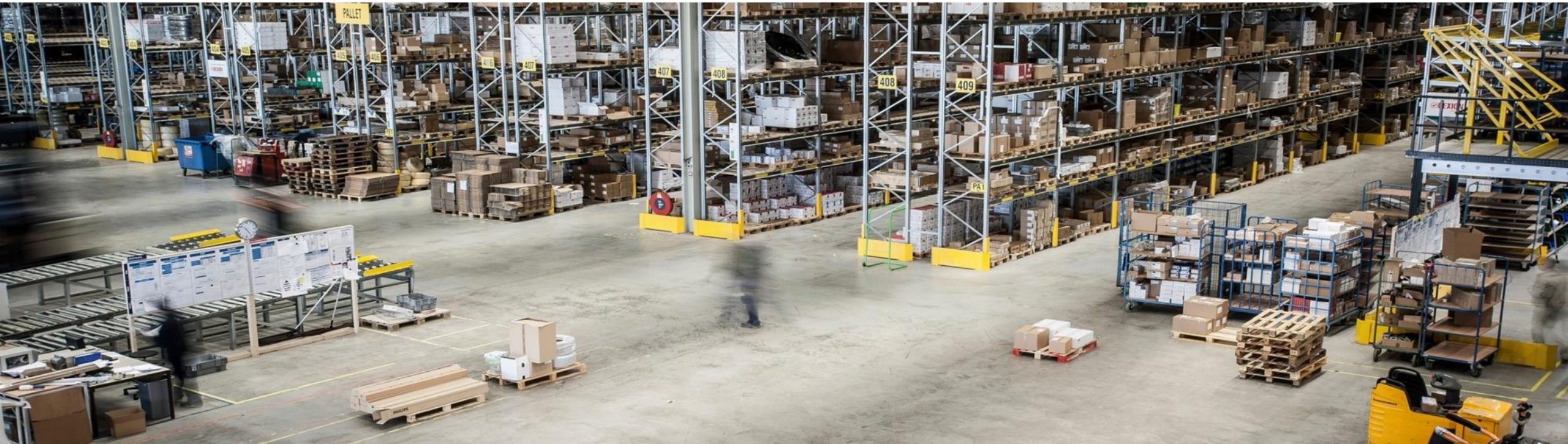
EWM Use Case

1. Picker receives WO/WT
2. Picker places picked items on robot
3. Picker confirms WO/WT
4. Picker sends robot to Packing Area
5. Packer retrieve the picked product
6. Packer sends robot back to Picking Area

Expected Benefits

- Drastically Reduces Transport Time
- Improves Warehouse Throughput by 30%
- Improves Picker Productivity by 40%

What else?



Summary

- EWM in S/4HANA as a new deployment option
- Strong Innovations in 2017
- Continuous investment in best-of-breed warehouse functionality

Thank You!

Contact information:

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