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Abstract

Target Group	• Application Consultant • Business Analyst • Business Process Architect • Business Process Owner/Team Lead/Power User • Executive • Industry Specialist • Program/Project Manager
General Description	This course will give an overview of the SAP S/4HANA Manufacturing

Learning Objectives	• SAP S/4HANA Enterprise Management (logistics): Overview
	  • Outline the scope of SAP S/4HANA Enterprise Management (Materials Management and operations)
	• SAP S/4HANA Enterprise Management: User Interface and Role Concept
	  • Use the SAP S/HANA User interface
	• SAP S/4HANA Enterprise Management: Simplifications
	  • Understand the basics of the SAP S/4HANA Simplifications for Manufacturing
	  • Understand the basics of Basic Subcontracting in SAP S/4HANA Manufacturing
	  • Understand the basics of Storage Location MRP in SAP S/4HANA Manufacturing
	  • Understand the basics of the Logistics_PP – External Interfaces

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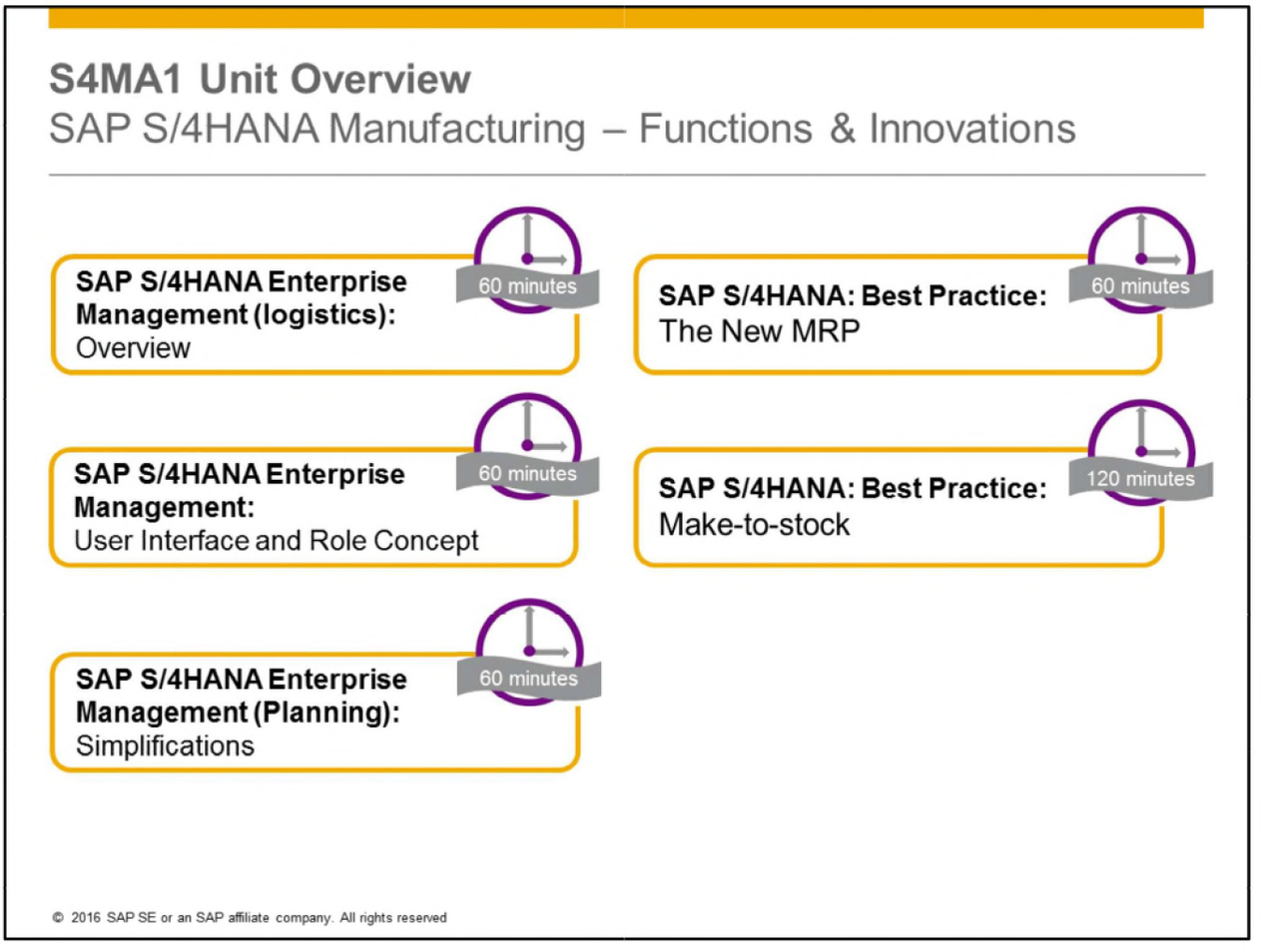
Abstract

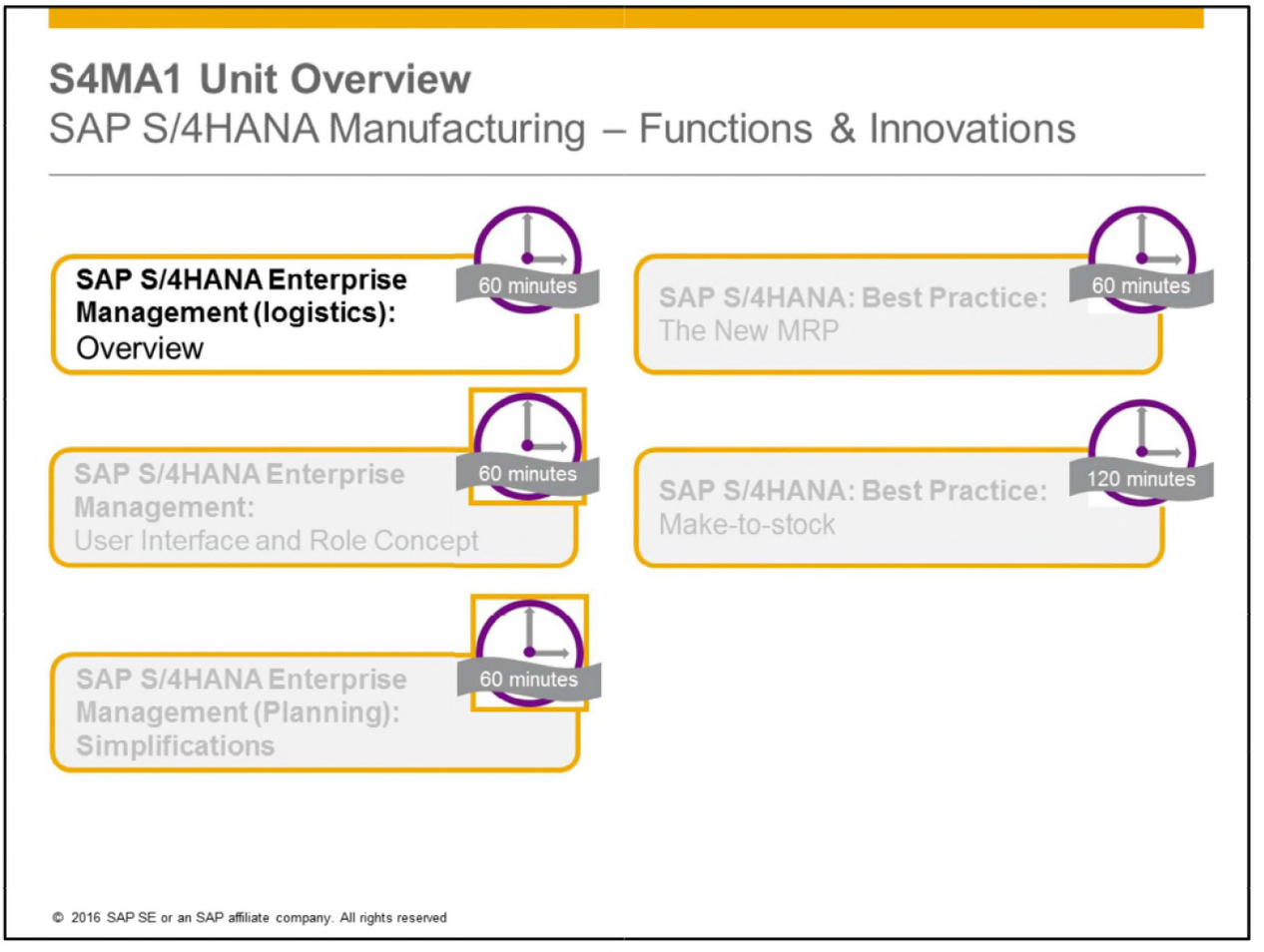
Learning Objectives	• SAP S/4HANA Enterprise Management: Simplifications continued
	  • Understand the basics of the Graphical Planning Table
	  • Understand the basics of the SAP S/4HANA Logistics Information System (LIS)
	  Understand the basics of the SAP S/4HANA Integrated Business Planning (IBP)
	  • Understand the basics of SAP S/4HANA Simplified Sourcing
	  • Understand the SAP S/4HANA Planning File & Planning Horizon
	  • Understand the Total Dependent Requirements of SAP S/4HANA Manufacturing
	  • Understand which Functions of the previous Manufacturing are obsolete with SAP S/4HANA Manufacturing
	• SAP S/4HANA: Best Practice: The New MRP
	  • Outline challenges and Benefits of MRP on SAP S/4HANA
	  • Outline key benefits of MRP on HANA
	  • Outline the value proposition and the roadmap of MRP on SAP S/4HANA
	  • Understand the basics of the Materials Requirement Planning with SAP S/4HANA Manufacturing
	  • Describe the SAP S/4HANA MRP Solution
	• SAP S/4HANA: Best Practice: Make-to-stock
	  • Understand the Make-to-Stock Production in Discrete Industry

Duration	1 Day



Agenda

SAP S/4HANA Enterprise Management (logistics): Overview
SAP S/4HANA Enterprise Management: User Interface and Role Concept
SAP S/4HANA Enterprise Management (Planning): Simplifications
SAP S/4HANA: Best Practice: The New MRP
SAP S/4HANA: Best Practice: Make-to-stock



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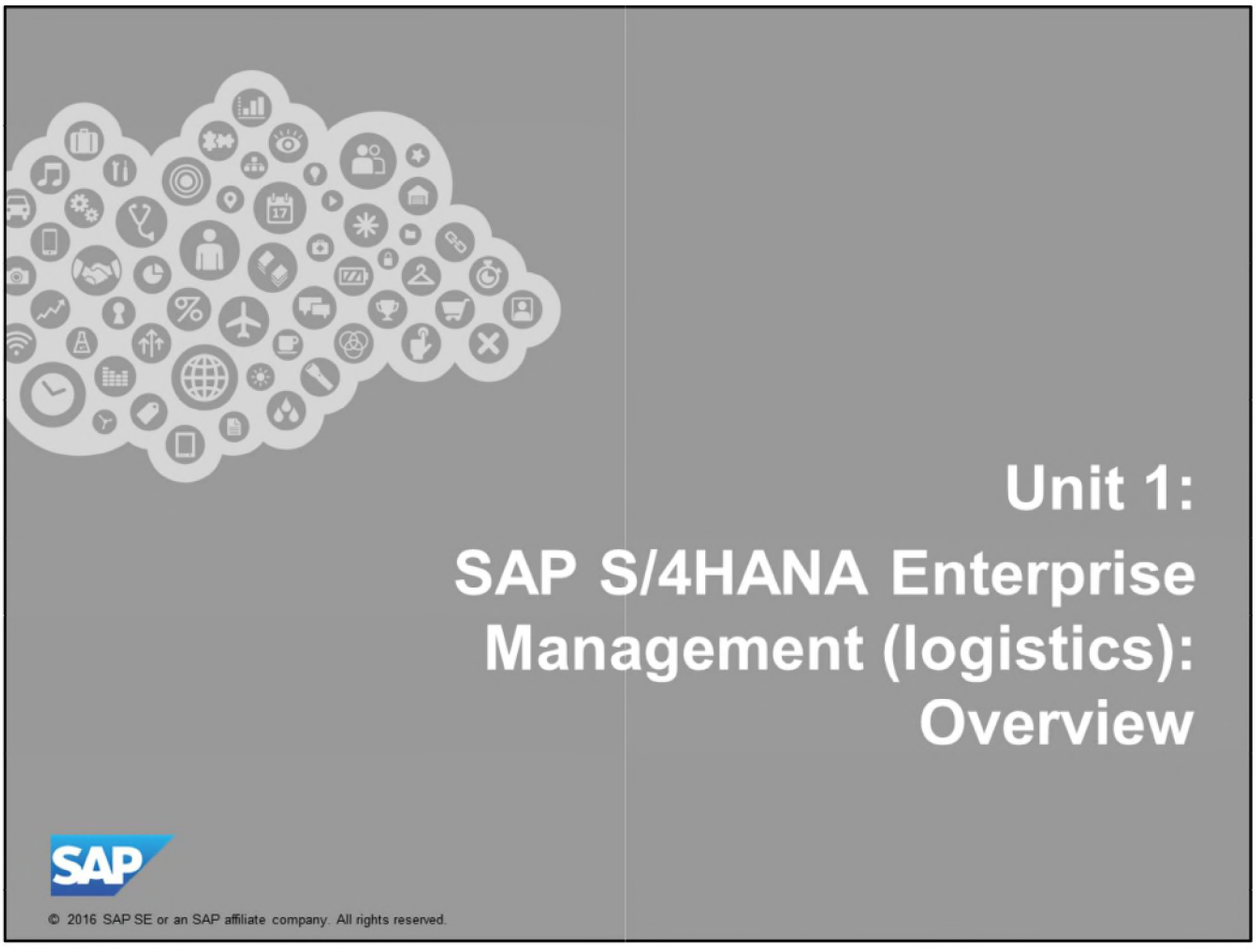
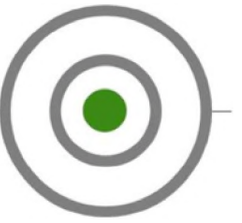


Scenario

As a long-term SAP user, you want to get some insights in the the new SAP S/4HANA Enterprise Management (logistics) solution with focus on manufacturing.

Learning Objective



After completing this lesson, you will be able to:

- Outline the scope of SAP S/4HANA Enterprise Management (Materials Management and Operations).

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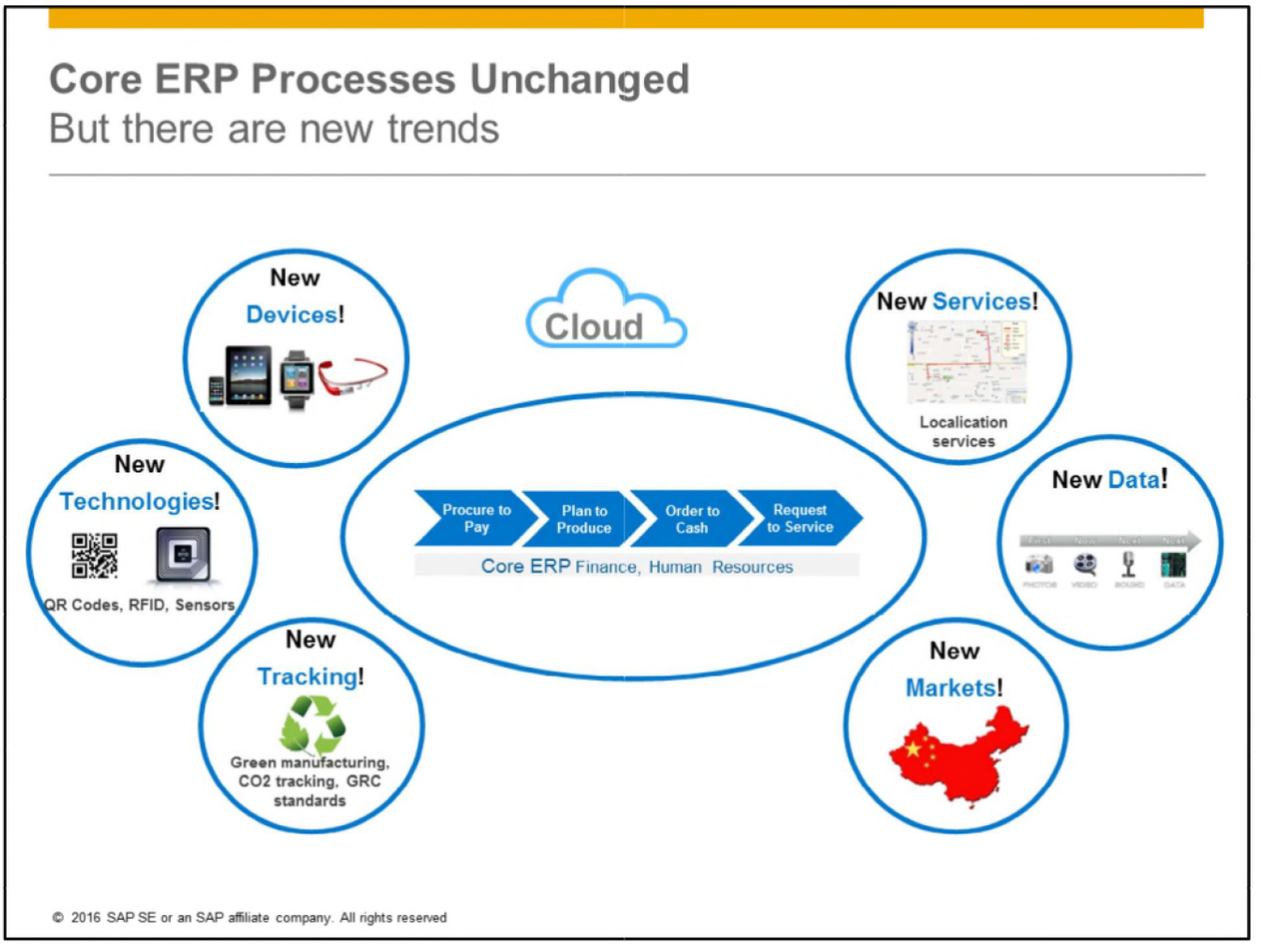


The main ERP processes are, e.g. procure to pay, plan to produce, order to cash or request to service are unchanged. What is changing?
The way accessing these processes changed dramatically. In the past these processes were executed on desktop or laptop. Today it is important that these solution can be used on a mobile device using data stored in Cloud solution.

Also new Services and new technologies request new solutions.

The next generation core and lines of business solutions includes solution for SAP S/4HANA Finance for SAP S/4HANA HR, SAP S/4HANA Supply Chain & Asset Management, SAP S/4HANA Sales, Services and Marketing and also for SAP S/4HANA Sourcing & Procurement.

Thereby solutions from ARIBA, CONCUR successfactors, fieldclass and hybris will be used.

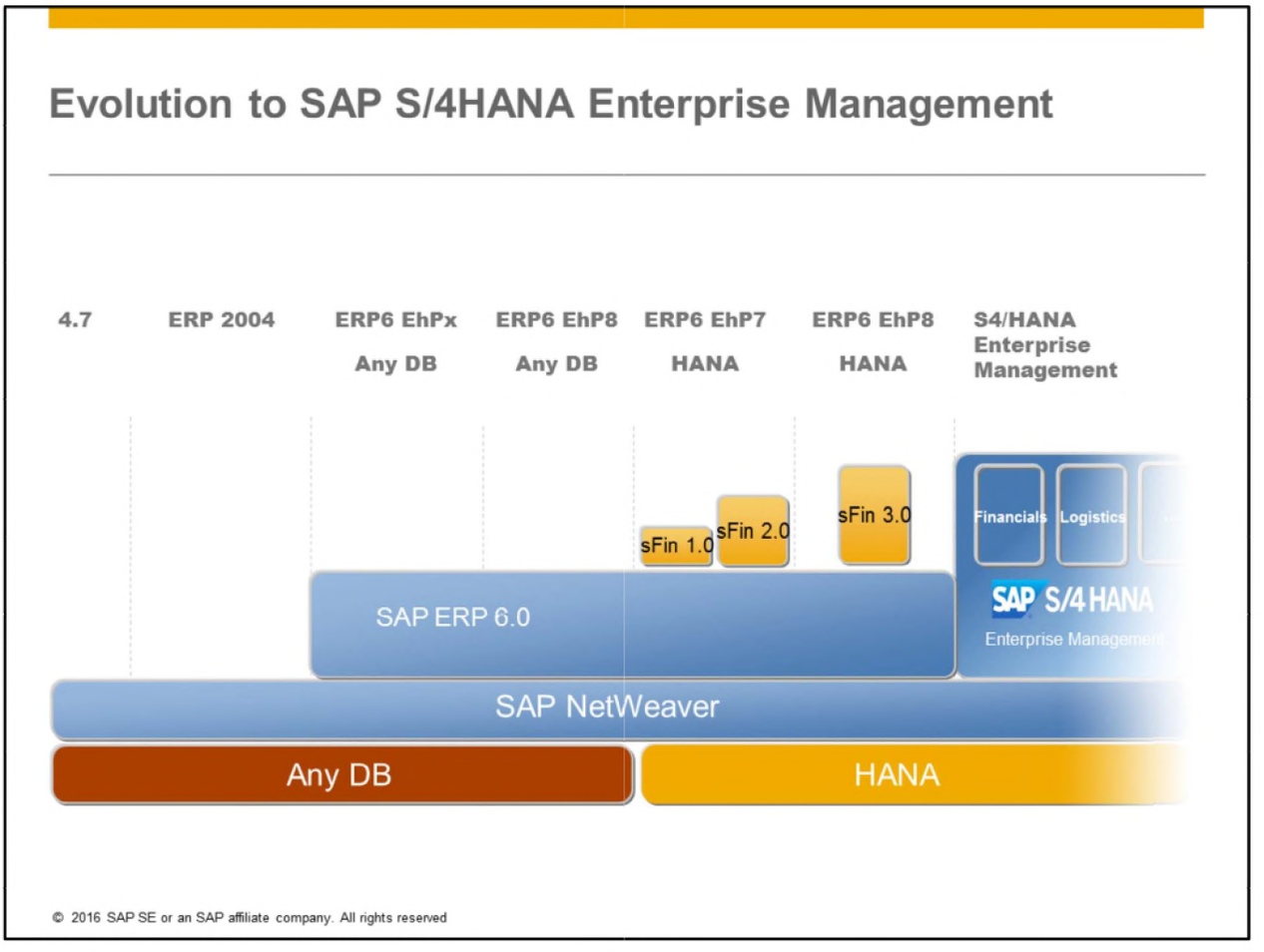
SAP Ariba is the world's business commerce network. SAP Ariba combines industry-leading cloud-based applications with the world's largest Internet-based trading community to help companies discover and collaborate with a global network of partners. Using the SAP Ariba® Network, businesses of all sizes can connect to their trading partners anywhere, at any time from any application or device to buy, sell and manage their cash more efficiently and effectively than ever before.

Concur Travel & Expense web and mobile solutions for travel and expense management. It includes corporate travel booking, expense report automation, reimbursement, audit, and business intelligence, and corporate card integration. It is offered in multiple editions (Small Business, Standard, Concurforce, Professional, Premium)

SAP SuccessFactors is the leader in cloud-based Human Capital Management (HCM) software for talent management, core HR, and HR analytics.

SAP Fieldglass provides a cloud-based Vendor Management System (VMS) to manage contingent workforce and services procurement programs

SAP Hybris helps businesses around the globe sell more goods, services and digital content through every touchpoint, channel and device

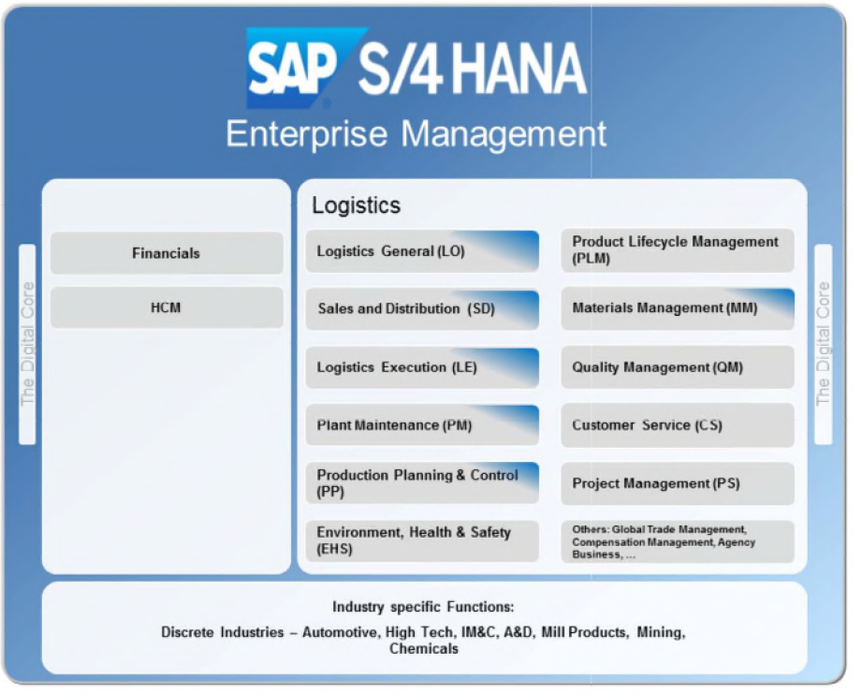


The evolution starts on SAP R/3 Rel. 4.7 which was able to run on any database and uses SAP NetWeaver as a basement.
ERP2004 was followed by SAP ERP6.0.

SAP ERP6.0 EhP7 was the first solution which runs on SAP HANA, the starting point of sFIN.
sFIN on the other hand was the first step in the SAP S/4HANA Enterprise Managment Solution.

All these solutions are executed on SAP HANA database.

SAP S/4HANA Enterprise Management Logistics



- SAP S/4HANA Enterprise Management Logistics comprises generally the functionality covered by ECC 6.0x logistics
- Major Simplifications in the areas of:
  - Inventory Management
  - Material Requirements Planning
  - Capacity Planning
  - Sales and Distribution
  - Procurement

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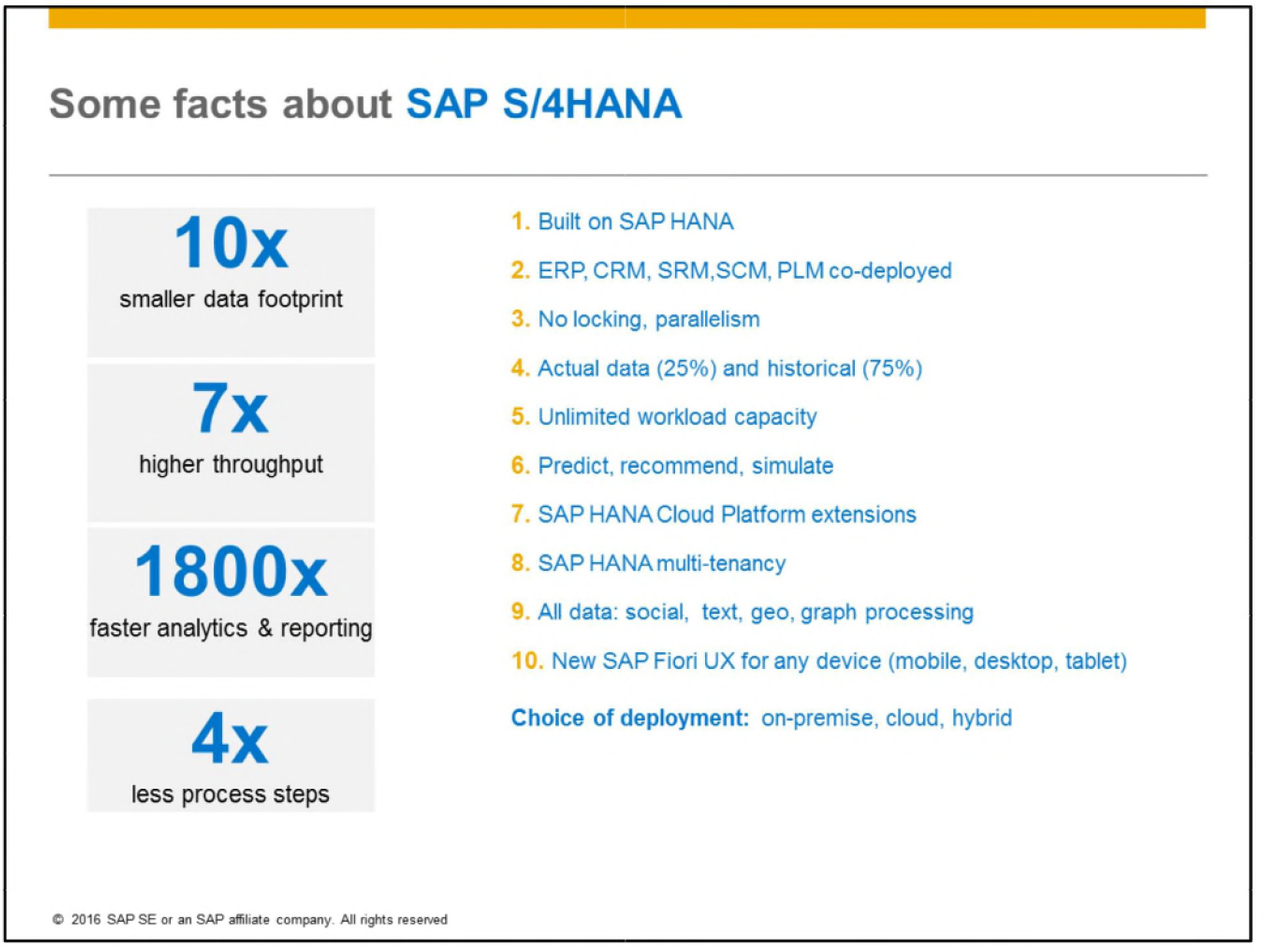
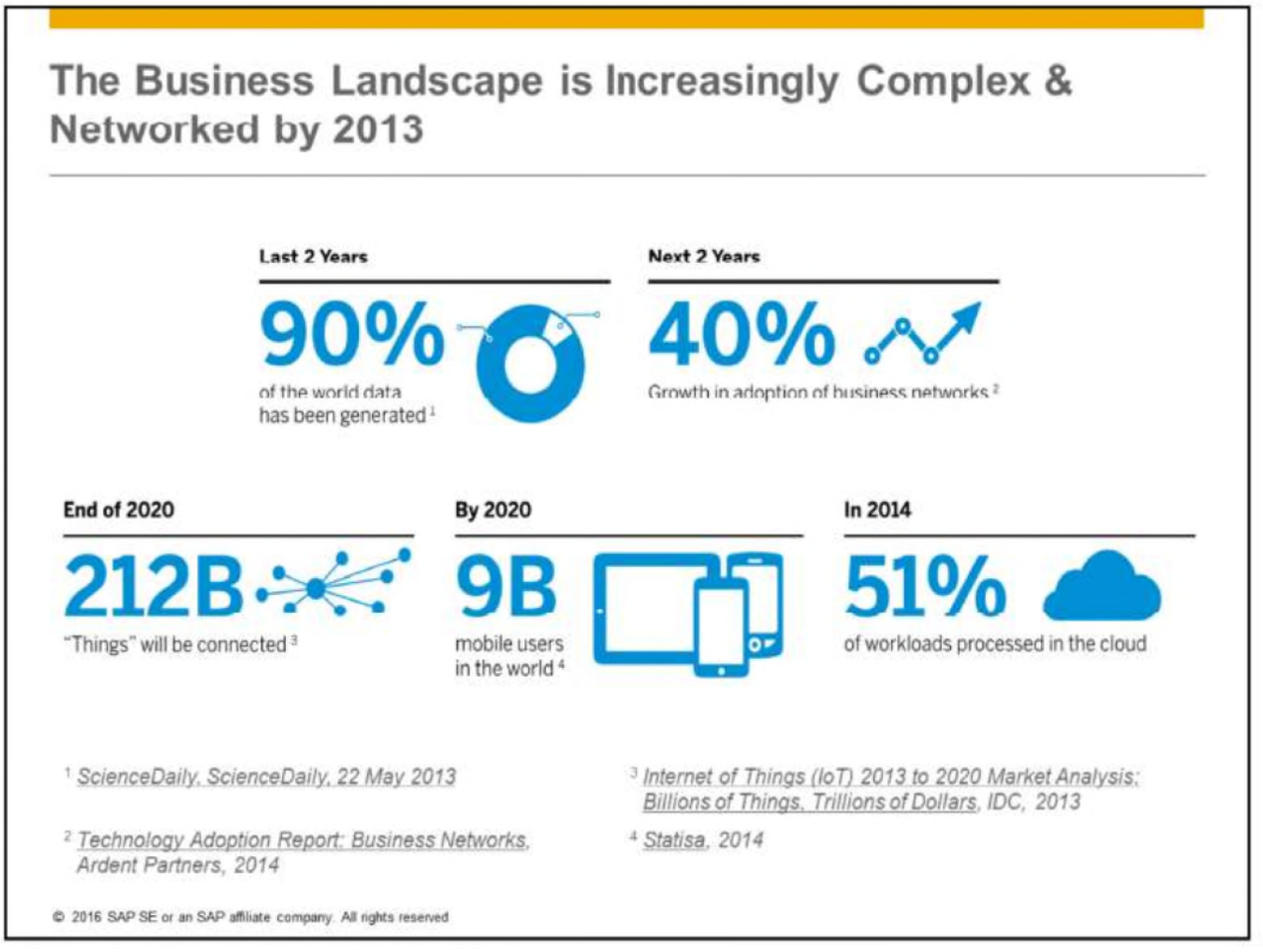


SAP S/4HANA: A NEW CODE BASE, NEW FIORI UX, NEW GUIDED Configurations
Our new generation of the Suite. Completely 4 HANA delivering the advances of HANA.

These simplified applications are seamlessly integrated to offer one solution for every business problem.
All these application get completely a modern web-based Fiori User Experience – ready for real cloud consumption
All this together makes these applications a completely new product: with a new database, data management, technology and front-end.
- 10x smaller data footprint
- 1800 times faster analytics and reporting
- ERP, CRM, SRM,SCM,PLM, in one system reintegrated
- starts with following industries:
- split in actual data (25%) and historical (75)
- unlimited workload capacity via replication of actual
- applications predicting, recommending, simulating
- no touch extensions with HCP
- multi tenancy for smaller systems
- All DATA: text , geo data, graph processing

A major achievement is the ability to reintegrate ERP, CRM, SRM, SCM, PLM co-deployed - to save hardware costs, operational costs and time. This is possible because SAP S/4HANA has a 10x smaller data footprint compared to a best-in-class business suite on traditional database.

Another example is less process steps: Processing receivables app in SAP GUI vs. FIORI/Simple Finance: Number of screen changes 8 --> 2 (4x)



If you look at the numbers here on the slide it becomes obvious that
The world around us is not getting simpler, it's getting more complex:

- Exponential growth of digital information – social, mobile, big data
- Globalization and spread of business networks
- **Internet of Things** or you could also say – **Internet of everything**

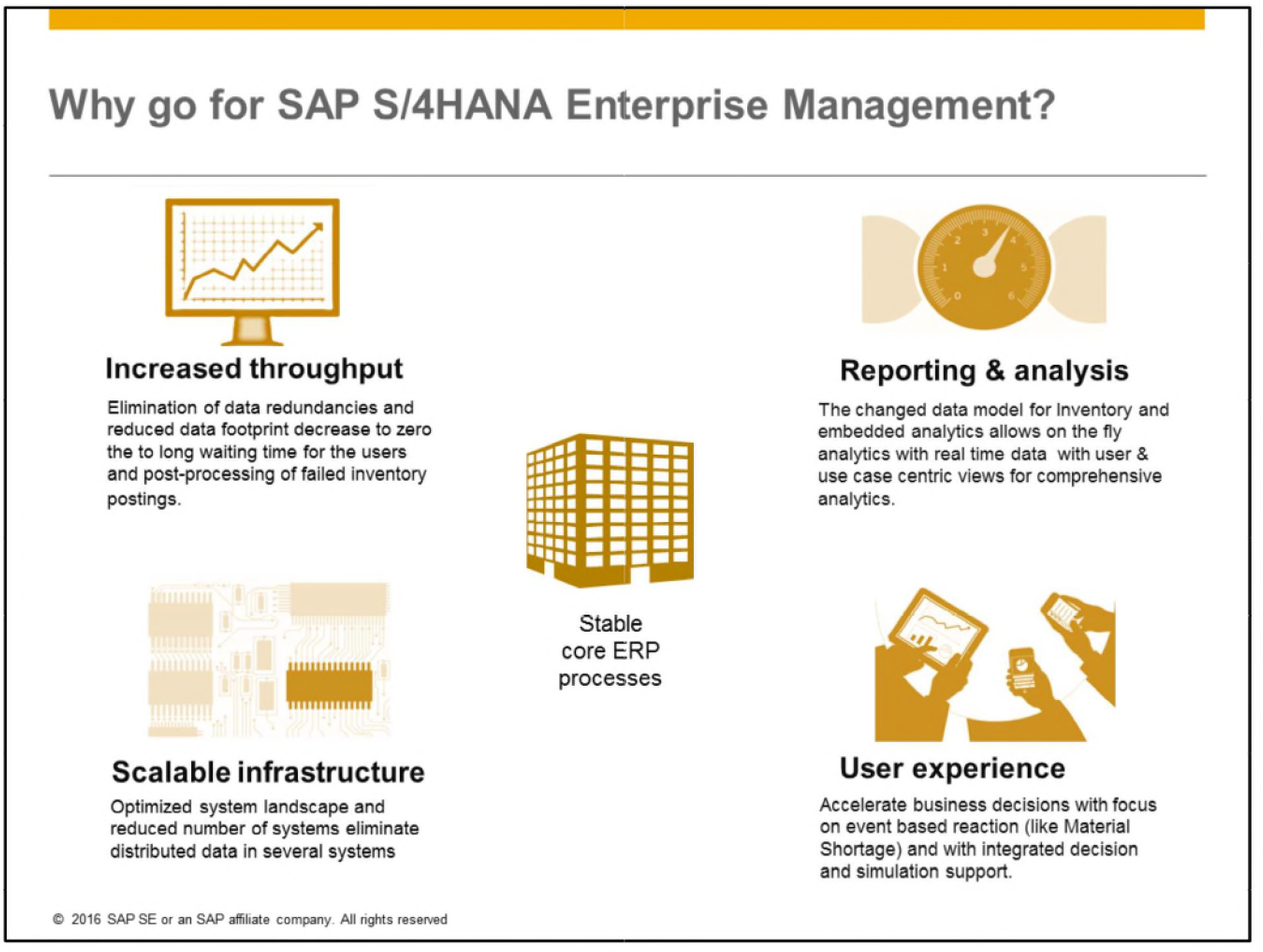
The response so far was - more complex business processes, more complex organizations and more complex software solutions

At the end of 2009, 5% of the world's population owned smartphones. Four years later, that figure jumped to 22%. Currently, 1.7 billion people are on social networks. Over the next three years, that audience will surpass 2.55 billion. By 2020, 5 billion people will enter the middle class and come online, while 50 billion devices will be connected to the "Internet of Things," creating a digital network of virtually everything. And cloud computing – a $41 billion business in 2011 – will grow to a $241 billion business in that same time frame.

The exponential proliferation of mobile devices, social media, cloud technologies and the staggering amounts of data they generate have transformed the way we live and work. In fact, 61% of companies report that the majority of their people use smart devices for everything from email to project management to content creation.

While all of these advancements have improved our lives and provided us with greater opportunities for innovation than ever before, they have also accelerated the rise of an entirely new problem to contend with: unprecedented and crippling complexity.

The world may be getting smarter, but it hasn't gotten any easier.



Core ERP processes remain stable. Sales Order remains Sales Order, Delivery remains Delivery.
SLOG innovations are based on **4 pillars:**

Increased throughput:
- Main value proposition from SLOG

Reporting & analytics:
- Store data on finest granularity
- Semantically integrated, easy to consume (no redundancies/aggregates)
- No latency to BW

Scalable infrastructure:
- Trends: Cloud, system consolidation onPremise, new services (e.g. localization), new devices
- Supported by: Scale-out, reduction of memory footprint (HANA columnar)

User experience:
- Support user productivity: Example Nestle, several thousand users for central roles, assume productivity increase by 10% - immediate business case
- Support aspects such as: multiple devices, analytics

Increased System Throughput by Simplifying the Data Model

Increased throughput

Increased system throughput by eliminating data redundancies and reduced data footprint by

- Table reduction – all aggregates and history tables dropped
- Locking removal – No locking

Business Impact of this simplification

- Move from batch processing to real-time processing
- Manage inventories at the smallest lot sizes passing through the logistic operations
- Real-time processing of inventory postings and visibility of inventory values
- Run complex and data intensive processes (ATP, Backorder Processing)
- More timely and detailed inventory postings lead to higher inventory accuracy
- Reduced safety stocks due to increased visibility into stock situations

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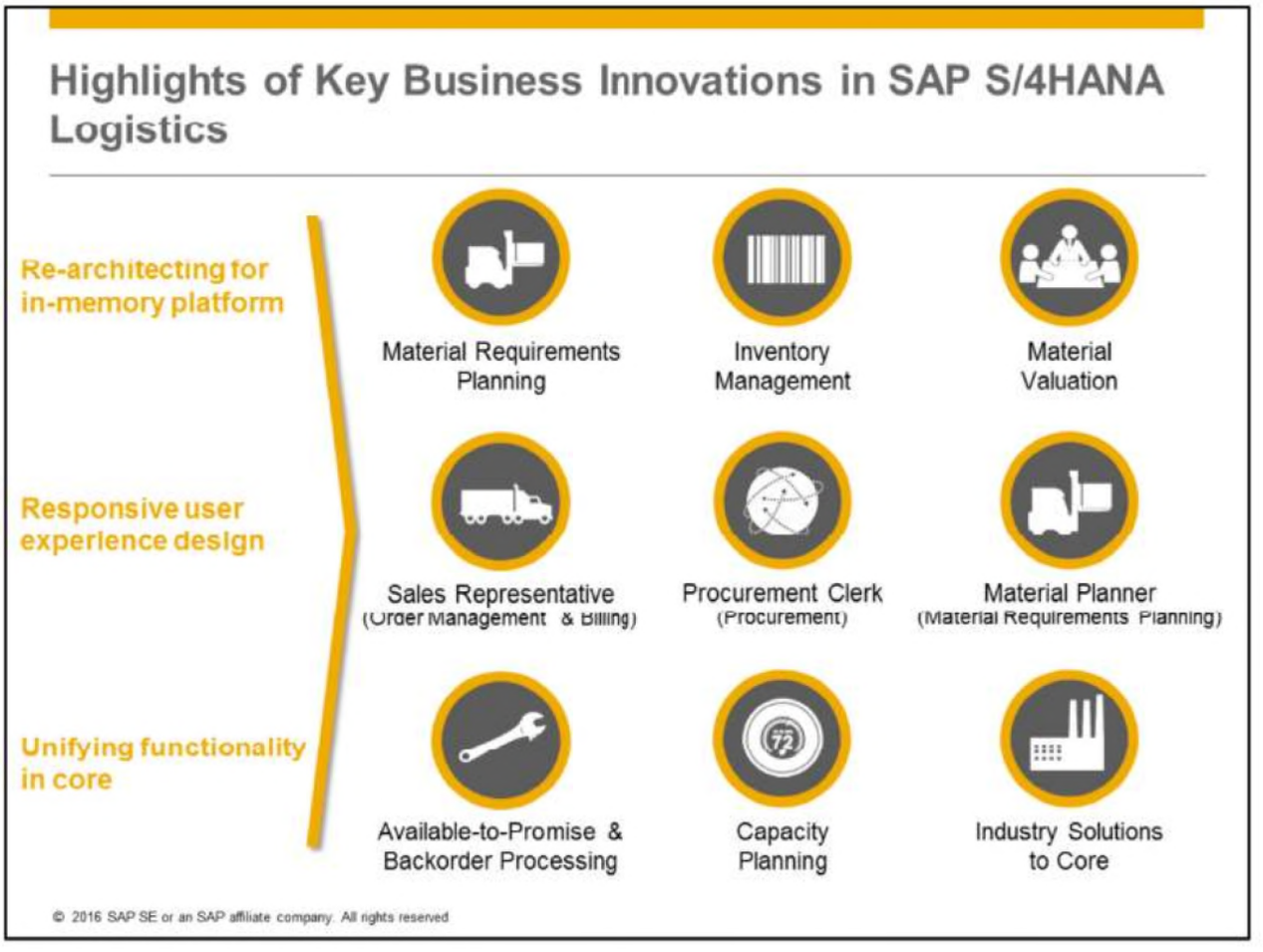
Moving from batch to real-time processing



Let us start with redesigned, role-based user experience, with a new Responsive design. The UIs run on any Devices – desktop, tablets, smart phones, and even smart watches. For example **Order Fulfillment Cockpit for Sales representatives** which we saw in the demo, and **Procurement Cockpit for purchasing clerk roles** have been redesigned for exception-based issue handling.

Second set of innovations are in the SAP S/4HANA Core, which has been modernized by **simplifying & optimizing the technology footprint**, and by collapsing **Online Transaction Processing & Online Analytical Processing** to make the functionality more relevant and designed for data-driven businesses.

An example of such **substantial advancement is Material Requirements Planning**, which is now real-time and enhanced by a decision support cockpit.

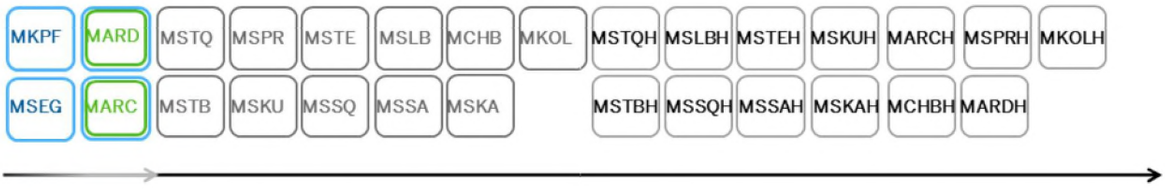
Another example is **Inventory Management** where Inventory tables were reduced to eliminate aggregates and locking optimized for postings to increase the system throughput.

And the final example is of **Material Valuation**, where Inventory valuation is only posted once into the Unified Ledger, unlike in the past in 2 places - Material Ledger & Accounting tables. This creates a single source of truth for the user.

Thirdly, by **eliminating functional redundancies** which have been built into the Business Suite over the years. The user benefits from a superior solution. Example is **Available-To-Promise or ATP, and Backorder processing**. The ATP functionality will be brought into the SAP S/4HANA core, by converging advanced global ATP functionality in APO & basic ATP functionality R/3. With a multi-year roadmap, comprehensive ATP capabilities will be enabled in the Core.

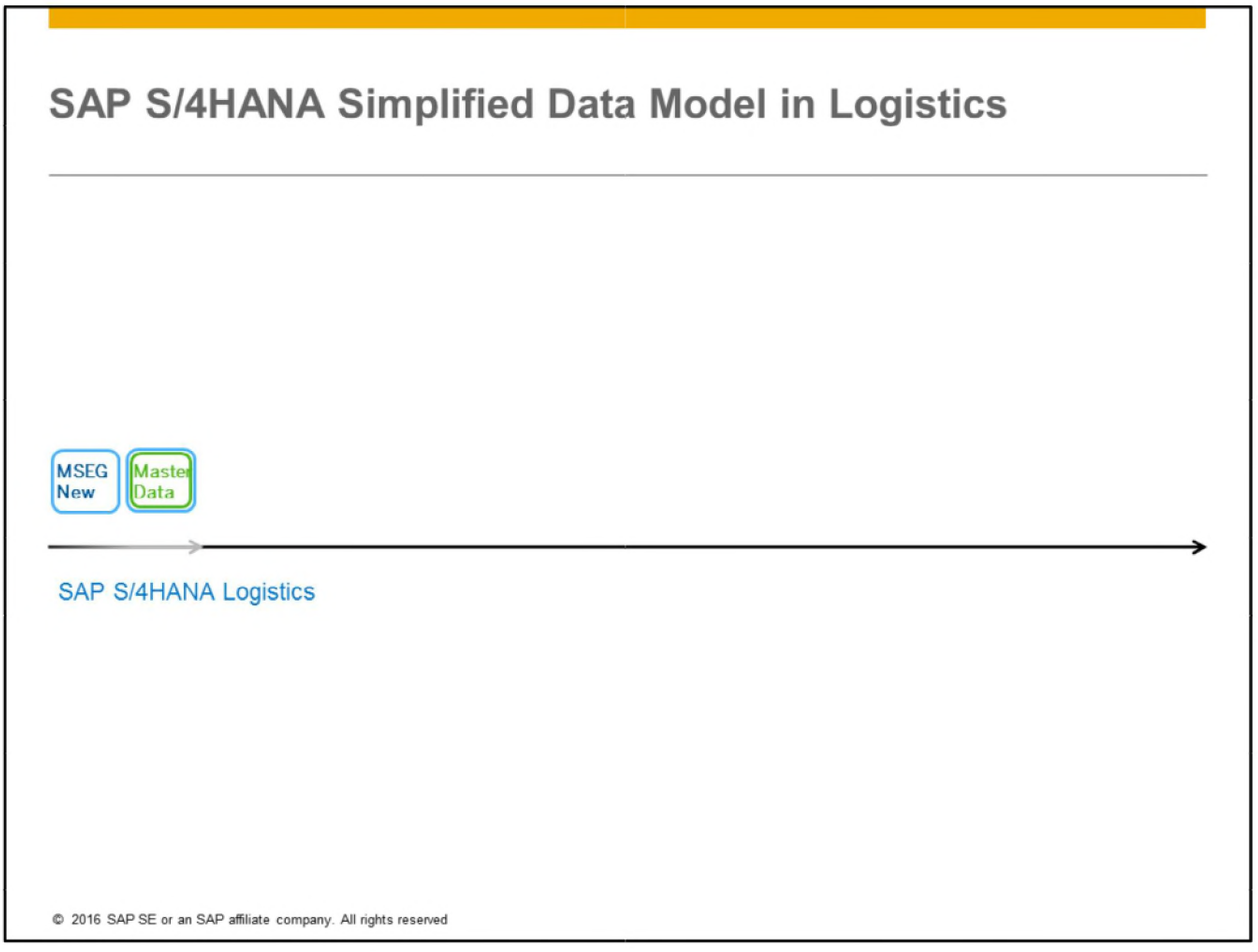
And finally, SAP S/4HANA will provide **One solution for One business problem**. With a multi-year roadmap, by consolidating system landscape by co-deploying Production Planning & Detailed Scheduling in APO with SAP S/4HANA Core.

Classic Data Model in Logistics



SAP Logistics with aggregates and indices

In Simple Logistics we event went further; we had two document tables (header MKPF/item MSEG) containing business transactions and delta information, 26 tables containing inventory aggregates thereof two material master tables (MARC/MARD), 11 tables for particular stock types and 13 tables for historic stock figures. The redesign led to one new document table merging header and item level (avoiding joins); this forms the basis for on-the-fly-aggregation. In addition we semantically corrected the material master data table, supporting table buffering on application server level.
Overall this resulted in an ultra-thin data layer that cannot be further stripped down anymore – more reduction of tables and functionality would not lead to more simplification but to more reduction of data (data loss). Simplification is not reduction, simplification is same feature scope made simpler – only primary information is left, all secondary (redundant) information is removed.



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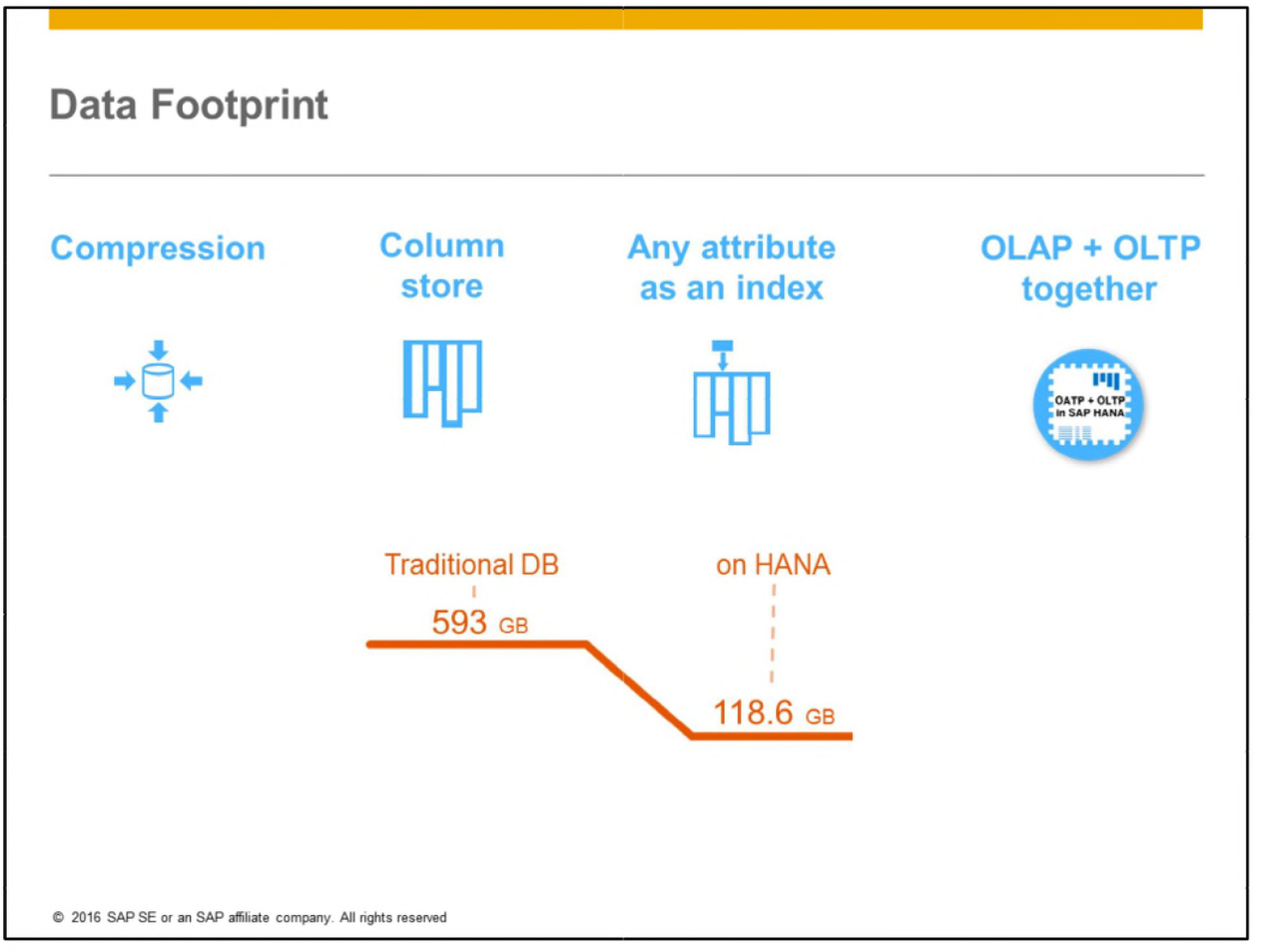
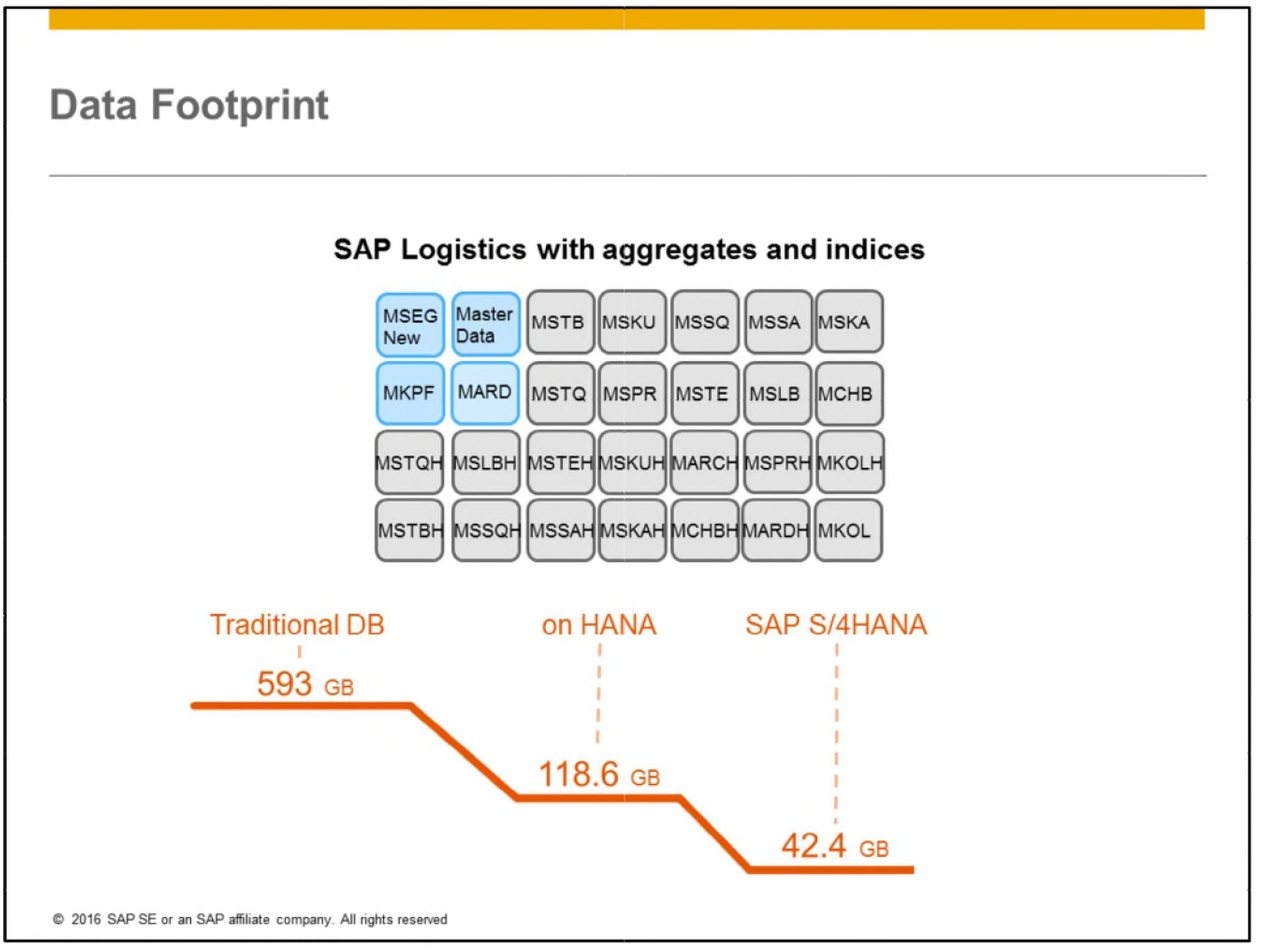


Simplified solution architecture will benefit your IT organization immediately.

The IT landscape, processes, and maintenance routines are all positively impacted by a simplified solution architecture. The numbers shown here are from real-world experience of SAP Benchmarking Services, a division of SAP's services and support organization.
Simplify the IT landscape
Cut memory and storage resources dramatically and improve reliability

71% **Reduce maintenance**
Simplify maintenance by greatly reducing ETL and re-indexing batch jobs

Infinite scale
The fact having an engine at hand that allows to process and analyze massive amounts of any data leads to a situation that only our imaginations limits the boundaries to use the system. All data – inside and outside the company, structured and unstructured – can be processed and analyzed. Therefore systems need the performance and scale to operate on a complete new level of data quality and quantity – it must be ensured that any redundant data is removed from the system, any data that does not directly contribute and benefit the business process or the quality of the information provided.
Business agility
Systems need to be able to support massively increased business agility and need to instantly react on user requests. It must be avoided to have processes that hinder system performance and system agility – this is the end of batch processing; batch has started with punch cards, punch cards have died, UIs which were the interfaces of function modules have died and the batch is now dying in these days.



And we can see the data compression that we get with HANA vs other databases and our estimate with SAP S/4HANA .

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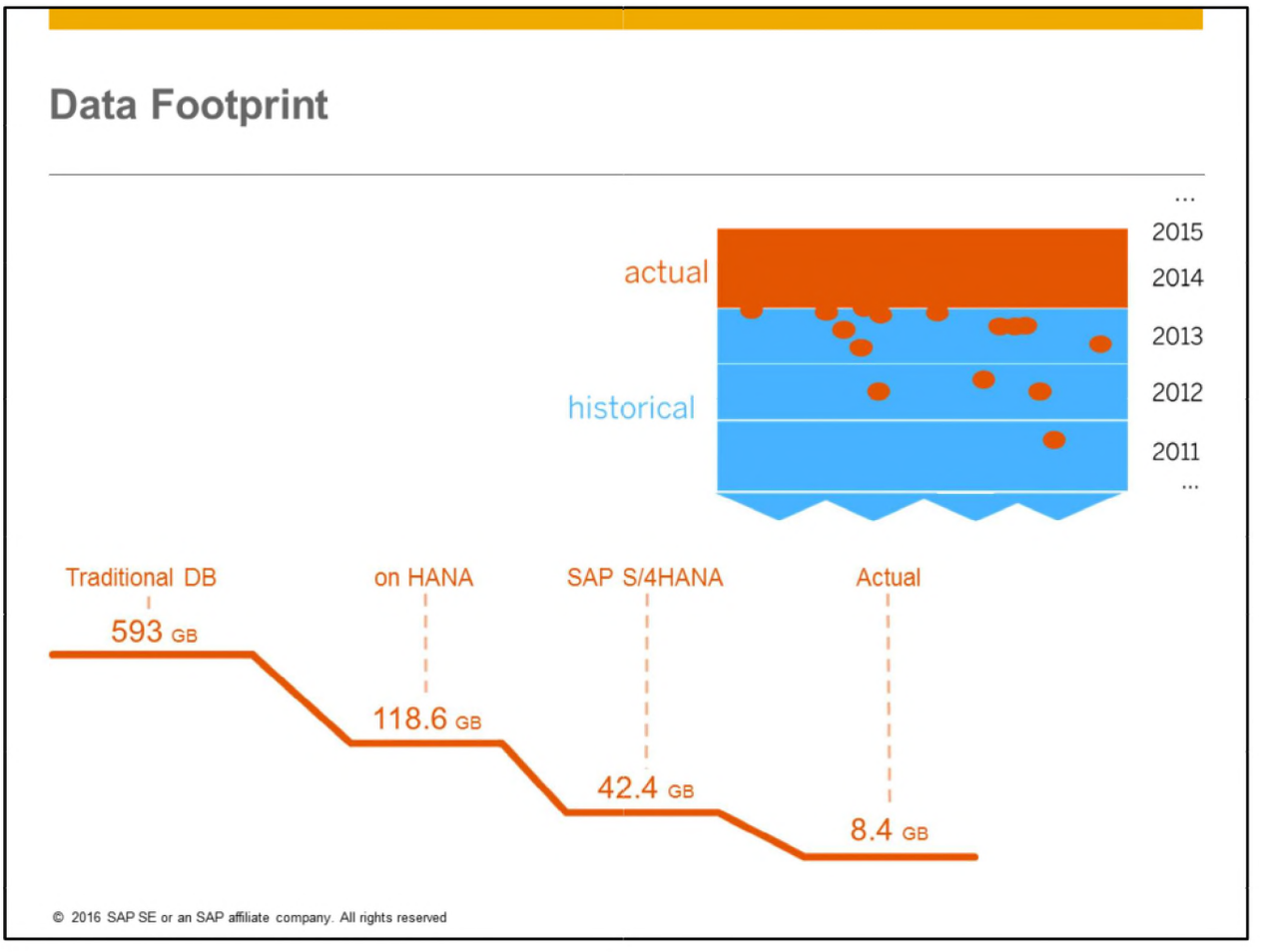
In order to ensure an economically use of data – it must be ensured that any redundant data is removed from the system, any data that does not directly contribute and benefit the business process or the quality of the information provided should not be part of the company's data universe anymore. In addition the main node of the system only needs to deal with the current data and can outsource the historic data for extended storage. This can reduce the data footprint in Finance by factor 4 to 5 including the assigned TCO and drive for even higher performance and agility.

Thirdly, the system needs to be designed that it can ensure massive throughput compared to traditional systems as the demand for analysis and data processing will increase analog to the data volume. This requires minimizing any locking of data during transactions. Locking was needed in the application due to complexity of update sequences and in addition on the database to ensure exclusivity during updates. Both is history with the new technology.



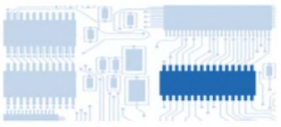
A reduction from 593 GB to 8,4 GB provides much more than simply storage capacity reduction:

- you can run the application on a mobile device (see Launch Event with Hasso)
- you increase the flow of data through your Business Applications
- response times are shorter
- you can see more data on a screen (statistical data directly into a data entry screen)
- Backup and updates are faster.
- Restore are faster

System Landscape Optimization & Consolidation

Business Impact of this simplification

- Lower TCO as customers can reduce number of systems & BW from their landscape
- Data compression and flexible access to the data
- Reduced interfaces between systems
- Less technology stack will be needed



Scalable infrastructure

- Scalable Infrastructure with high performance and lower TCO from
- Optimized system landscape and reduced number of systems gives customer possibilities to significantly improve performance

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User experience:
- Support user productivity: Example Nestle, several thousand users for central roles, assume productivity increase by 10% - immediate business case
- Support aspects such as: multiple devices, analytics

User Experience Simplified

Increased productivity by building business-user relevant, role-based UIs

- Intuitive graphics for faster insights
- Exception-based rendering of information
- Pre-evaluated solution proposals, with possibility to make manual adjustments
- Decision support by enabling simulation of every proposal before deciding
- 1-click execution of a solution
- Intuitive personalization allows tailoring of Apps to individual work-styles
- Available on multiple devices

Business Impact

- Business users can focus on real-time decision making & insight-to-action in their daily tasks

User experience

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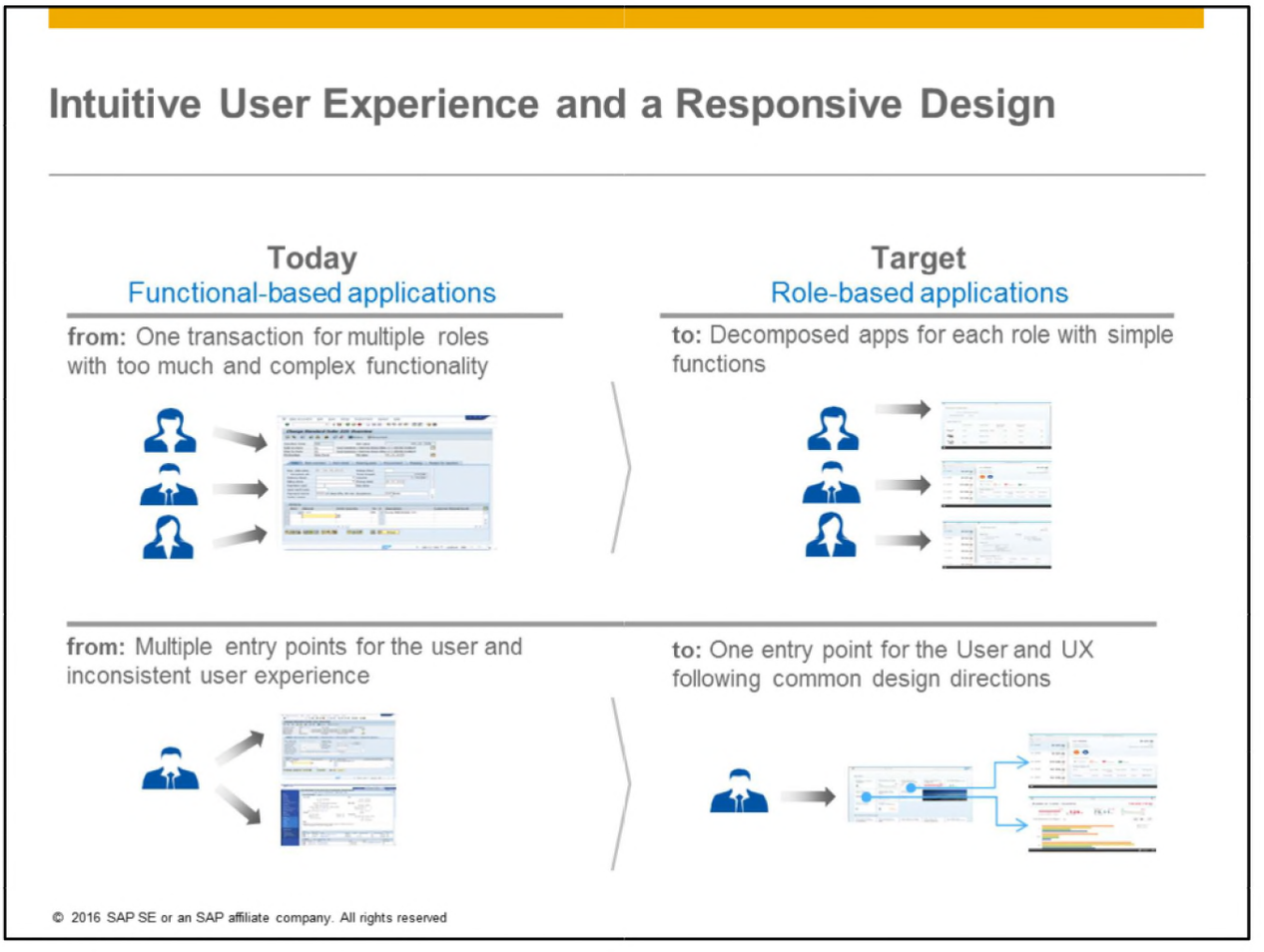
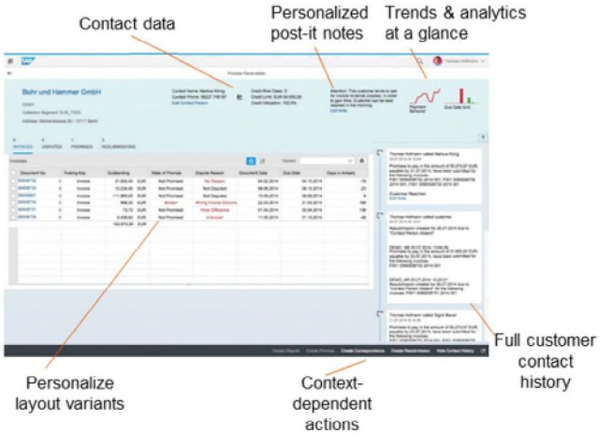


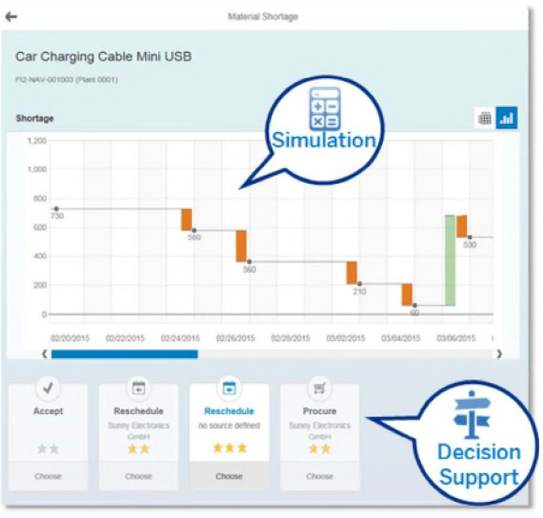
Fiori is a technology that offers a state of the art web UI, based on HTML5 and UI5 (SAP technology) and provides capabilities to personalize the screen – thereby Fiori enables technologically everything that we need to provide the right screens for the new end users. Fiori design principles make it possible to be able to adjust the screens to every front end device and adopt it automatically to future new design principles and thus keep the screens always state of the art.
Fiori is also a development and design principle for SAP – the screens are role-based – and thus our developers know everything of the end user and can design and adopt the screen to the needs of the end user of this particular role: putting the user into the center of the business process. With this principle we ensure that the software is not targeting a 'neutral individual' that enters all information into one screen but that the software is aware of the business context, the tasks and the exceptional situation the user is working in and thus provides all the relevant information that the user needs to perform his tasks *("the system is working for me; I am not working for the system")*.

Key Capabilities of an Exception-Based User Interface Design

Key capabilities

Consolidation of activities, Intelligent navigation patterns, Intuitive usability





Example: MRP Cockpit - Material Shortage

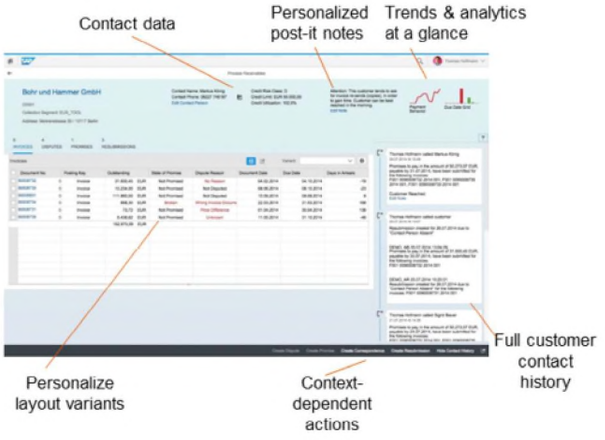
This architectural principle resulted in a new product that is ultra-lean, ultra-performant and ultra-flexible; Fiori-enabled for web access, role-based to enable the system of me, OLTP and OLAP merge to enable embedded analytics and to focus on problem and decision solving tasks.
This new decisive mode of the software is also embedded in the new MRP Cockpit.

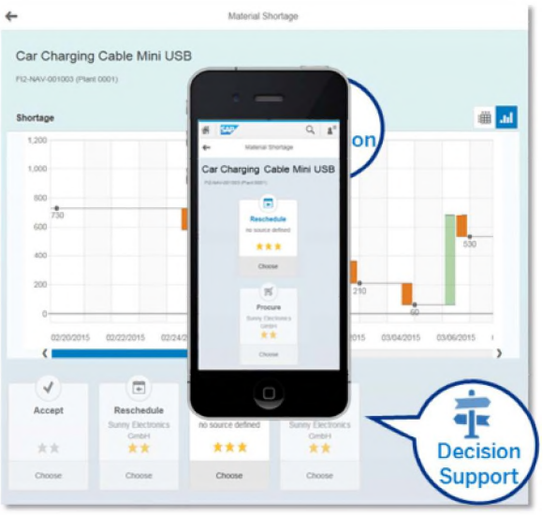
Left side is depicted the classical transaction based screen of the MRP Run, an interface to the underlying function modules taking input of the data and parameters – the user drives the system. Right side is the new MRP Cockpit actively taking all information and data into account, providing on the fly simulation and additional decision support directly provided by the system.

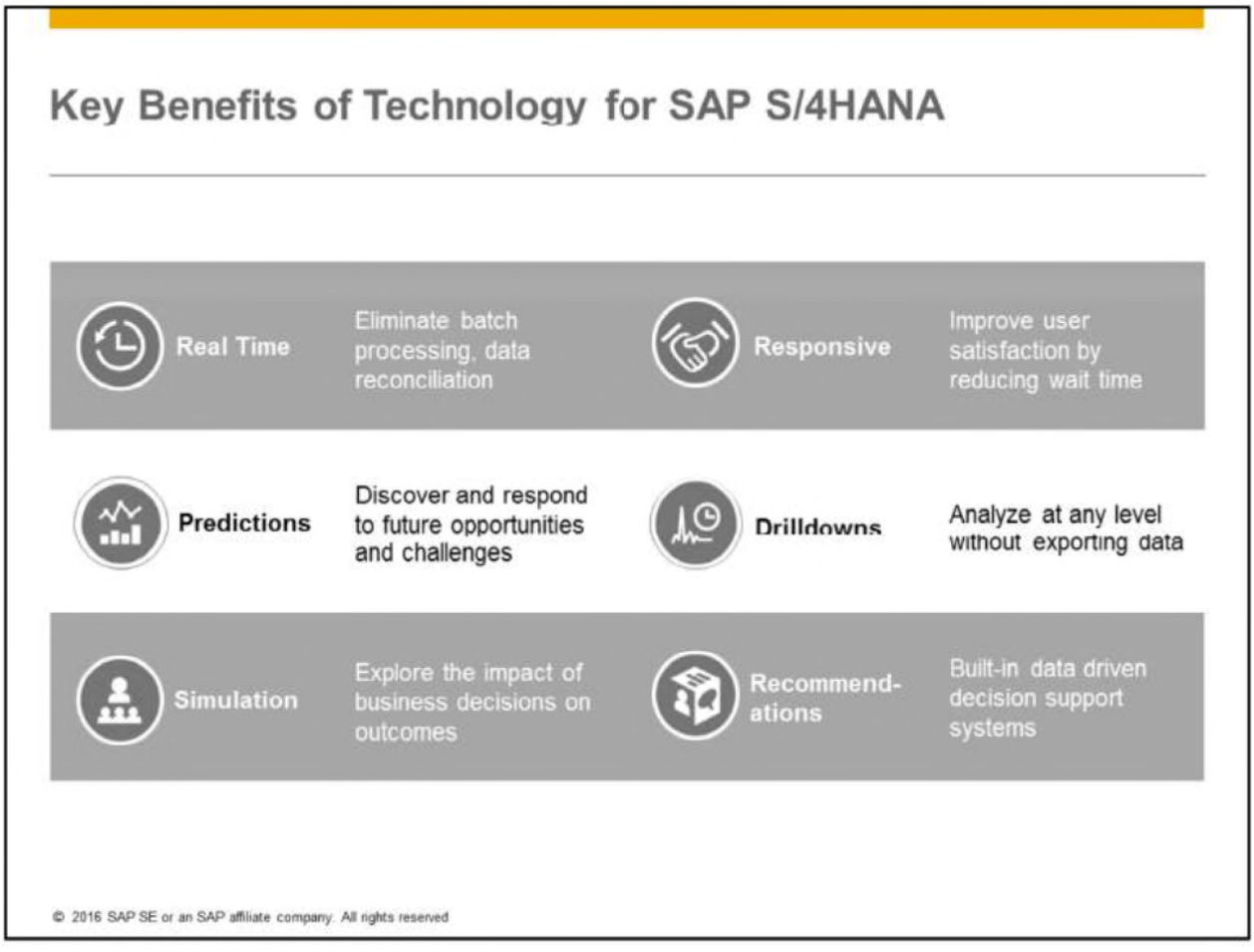
Key Capabilities of Intuitive UI with Multi-Device Support

Key capabilities

Consolidation of activities, Intelligent navigation patterns, Intuitive usability







This slide provides examples of the innovations possible in business solutions with a modern platform and user experience. Because we no longer are limited by redundant data, and with the capabilities of a role-based interface, every application in the new suite will benefit from these six capabilities.
It is important not to get caught up on the differences between predictions, simulations, and recommendations. The important concept to convey is that these capabilities are now possible within the applications themselves, thanks to the simplified data model. In the past, data had to be extracted to another database where a separate application would do forecasting. This was a standard Business Intelligence process.

From HANA to SAP S/4HANA

Let´s take an example with our in-memory database HANA
For half a decade it has been an ongoing discussion about the value of Speed. If you look at it from a velocity perspective but frame the conversation within the existing environment, you end up rating the solution in best case as an accelerator for business process with limited business impact – because you have a bottom line conversation.
But as soon as you understand the impact of a move out-of-the-box and reimagine the fundamental design of business process you are able to transform to new business models and impact the business outcome directly. The entire modelling of processes can be changed from PUSH to PULL from a user perspective. That is what SAP S/4HANA is standing for…

Increase efficiency

We allow redesign of business processes from PUSH to PULL. Data preparation and predesigning questions is not required in the Enterprise of the Future any more. Batch orientation is not directly related to the business process. In the very moment a customer implements a solution based on a blue print, the system is build on old boundary conditions. The new design allows to ask any question on the fly.

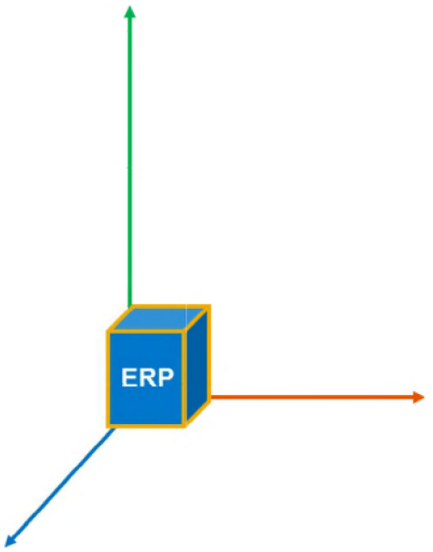
Increase effectiveness

simulation engine enables new scenarios and system behavior, a rule based and instantaneous decision support guides the user and text mining as well as the ability to embed structured and unstructured data in one business process ensure innovative business processes and business decisions

Increase agility

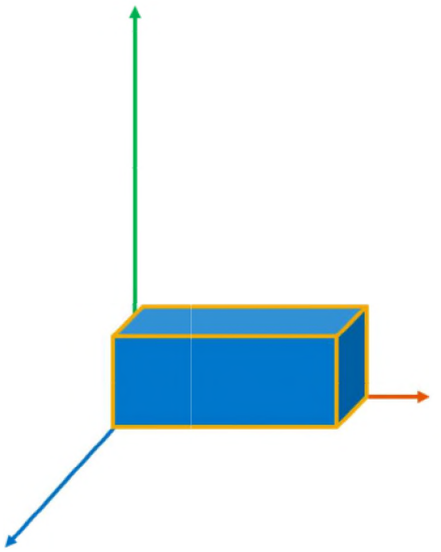
scattered information and data duplication that create different versions of the truth complicating decisions and making it difficult for enterprises to bring good ideas to market quickly and profitably

SAP S/4HANA: Synergies & Collaboration in 3 Dimensions



Starting with SAP ERP6.0 the first innovation was executed in the **Architecture.**

SAP S/4HANA: Synergies & Collaboration in 3 Dimensions

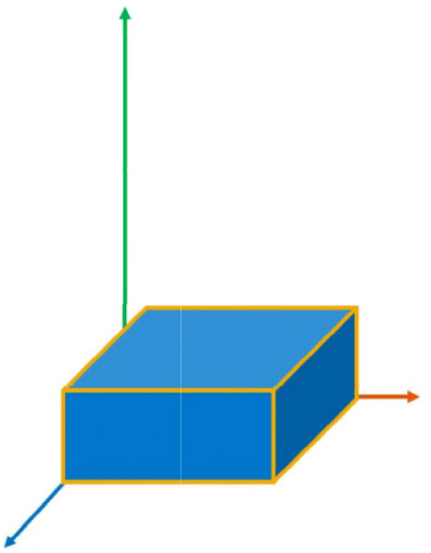


Innovation in Architecture

- Throughput
- Scalability
- Principle of one
- SAP Fiori
- TCO reduction

The innovation in architecture focused on throughput, scalability SAP Fior and at least on TCO reduction.

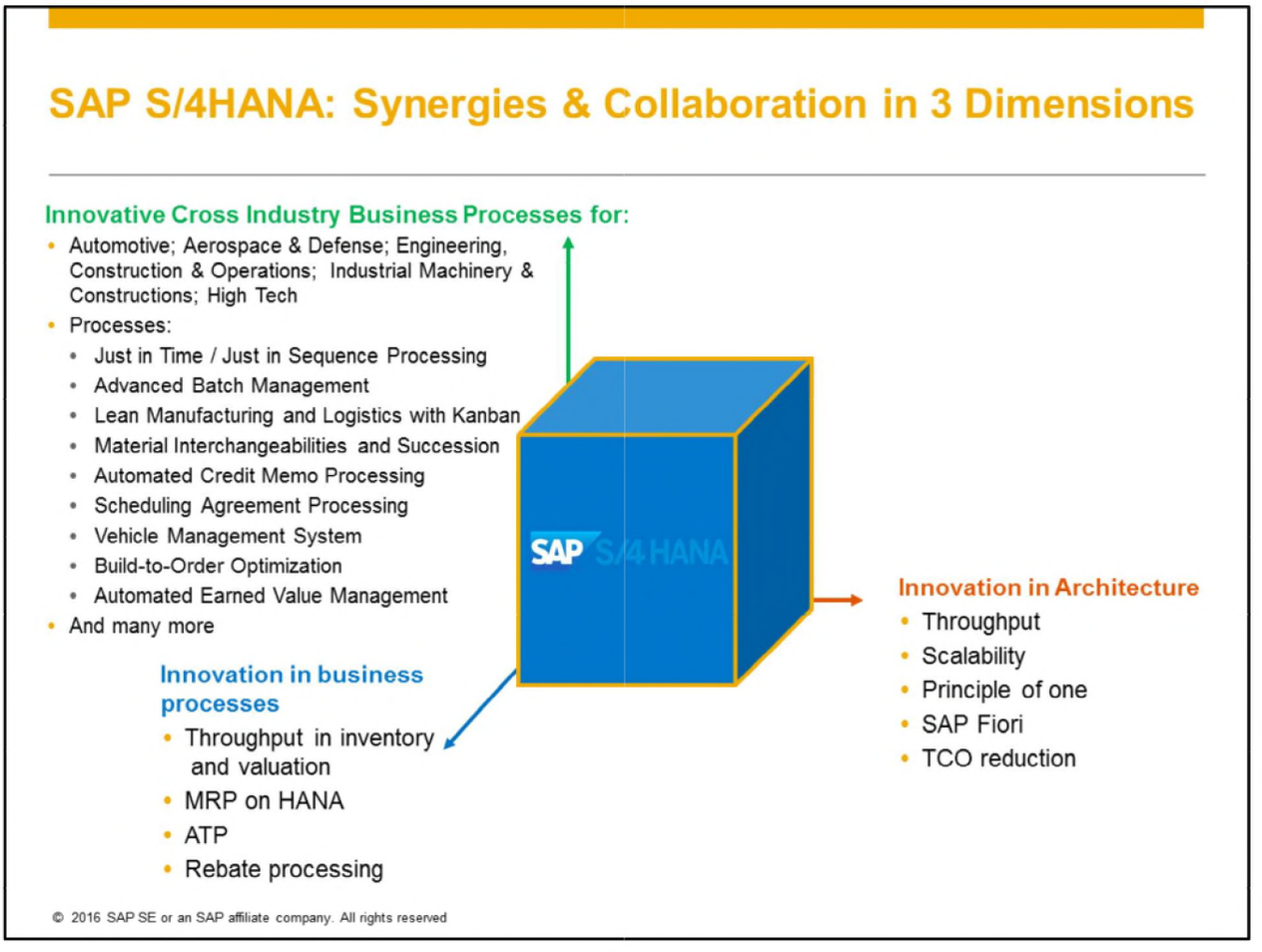
SAP S/4HANA: Synergies & Collaboration in 3 Dimensions



Innovation in business processes
- Throughput in inventory and valuation
- MRP on HANA
- ATP
- Rebate processing

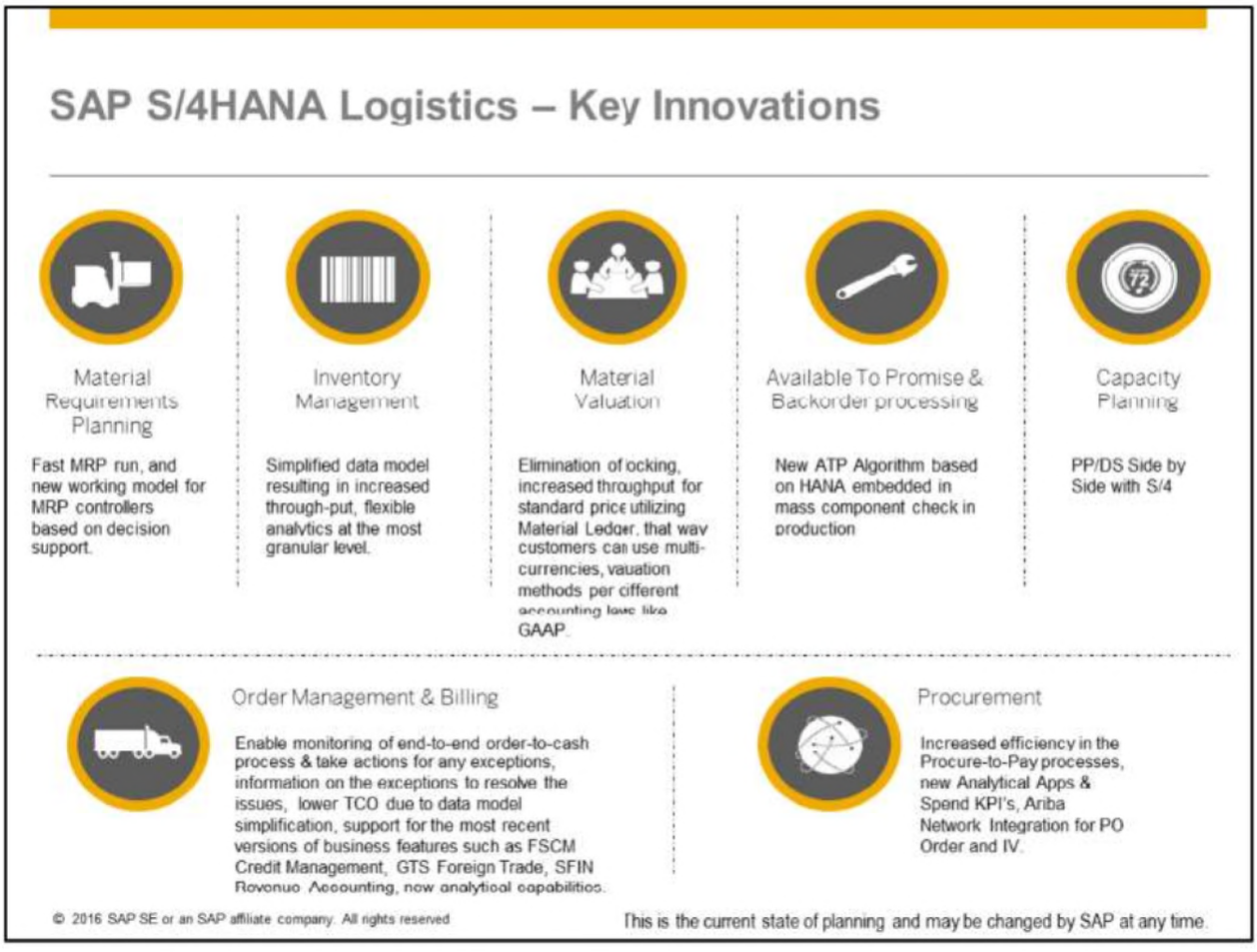
Innovation in Architecture
- Throughput
- Scalability
- Principle of one
- SAP Fiori
- TCO reduction

The next step of innovation was innovation in business processes.
Major parts of these innovations were the throughput in inventory and valuation, the new MRP on HANA functionality, enhancements in ATP and the new rebate processing



The last area of innovation are innovations in Cross Industry Business Processes like Just in Time / Just in Sequence Processing

- Advanced Batch Management
- Lean Manufacturing and Logistics with Kanban
- Material Interchangeabilities and Succession
- Automated Credit Memo Processing
- Scheduling Agreement Processing
- Vehicle Management System
- Build-to-Order Optimization
- Automated Earned Value Management



Within SAP S/4HANA the following key innvoations were developed:

Material Requirements Planning: Fast MRP run and new working model for MRP controllers

Inventory Management: Simplified data model resulting in increased through-put, flexible analytics at the most granular level

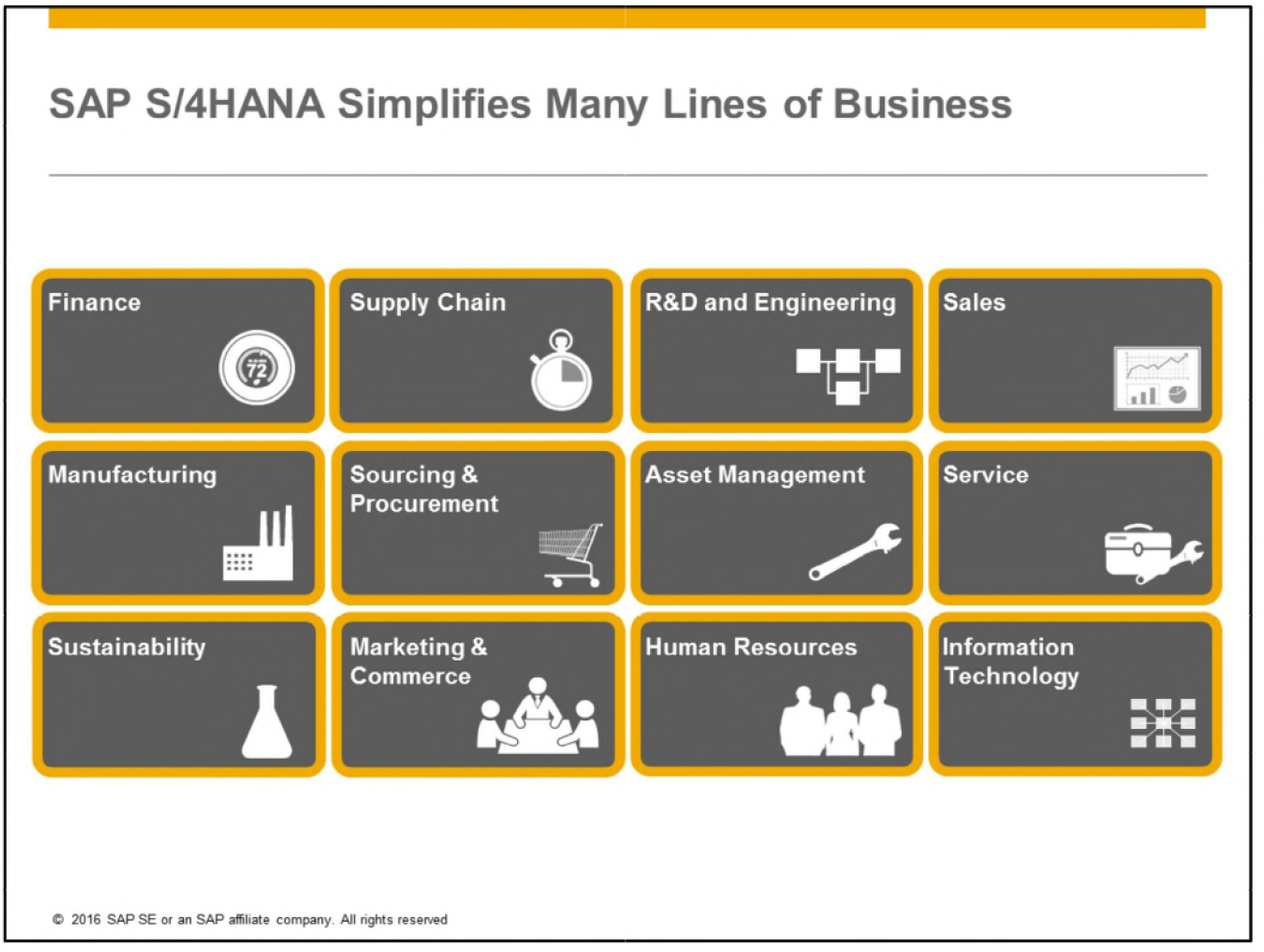
Material Valuation: Elimination of locking, increased throughput for standard price utilizing Material Ledger,

Available To Promise & Backorder processing: New ATP Algorithm based on HANA embedded in mass component check in production

Capacity Planning: PP/DS Side by Side with S/4

Order Management & Billing: Enable monitoring of end-to-end order-to-cash process & take actions for any exceptions, information on the exceptions to resolve the issues

Procurement: Increased efficiency in the Procure-to-Pay processes, new Analytical Apps & Spend KPI's, Ariba Network Integration for PO Order and IV.

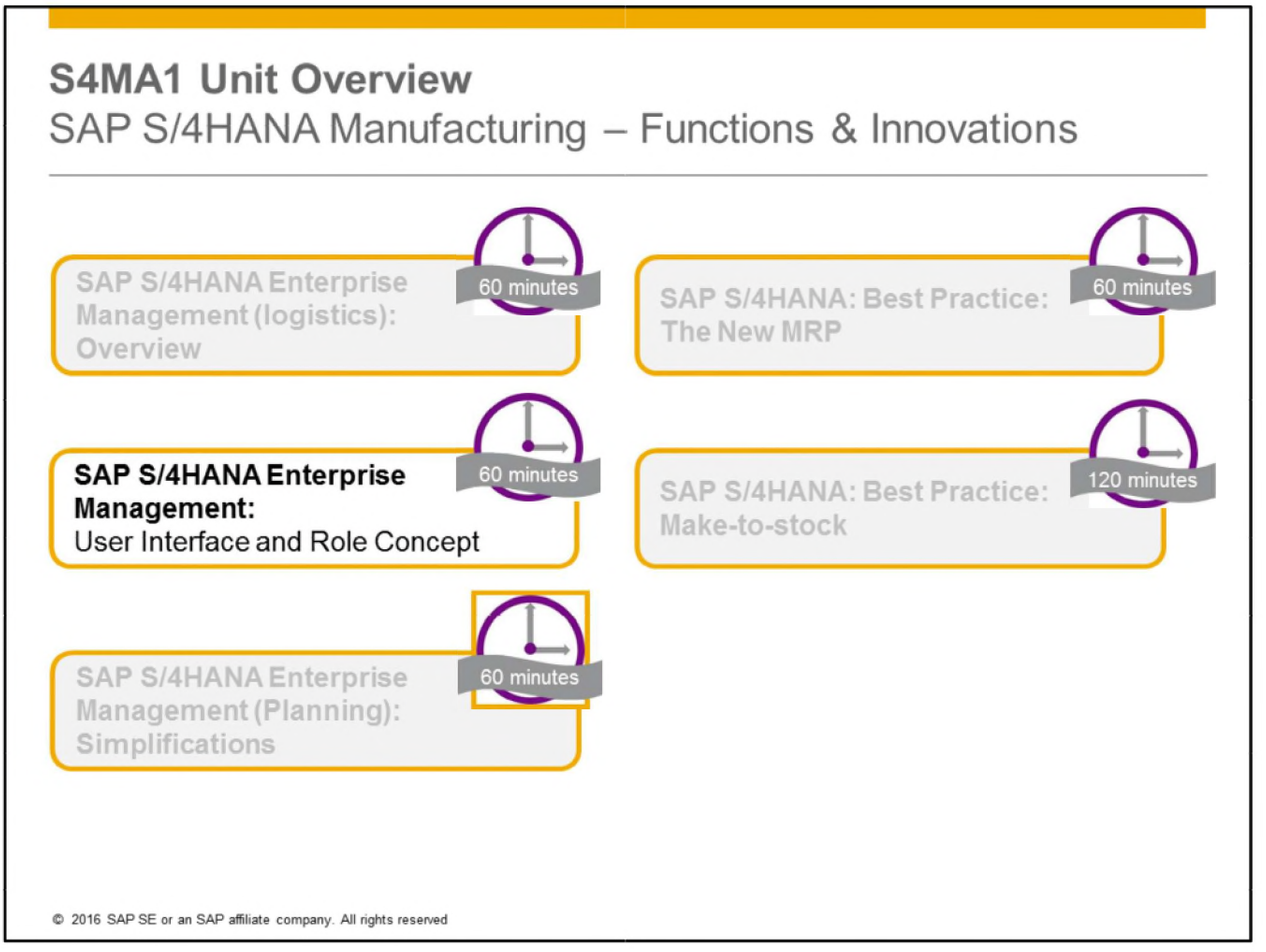


- Finance
- Supply Chain
- R&D and Engineering
- Sales
- Manufacturing
- Sourcing and Procurement
- Asset Management
- Service
- Sustainability
- Marketing, Commerce
- Human Resources

Summary

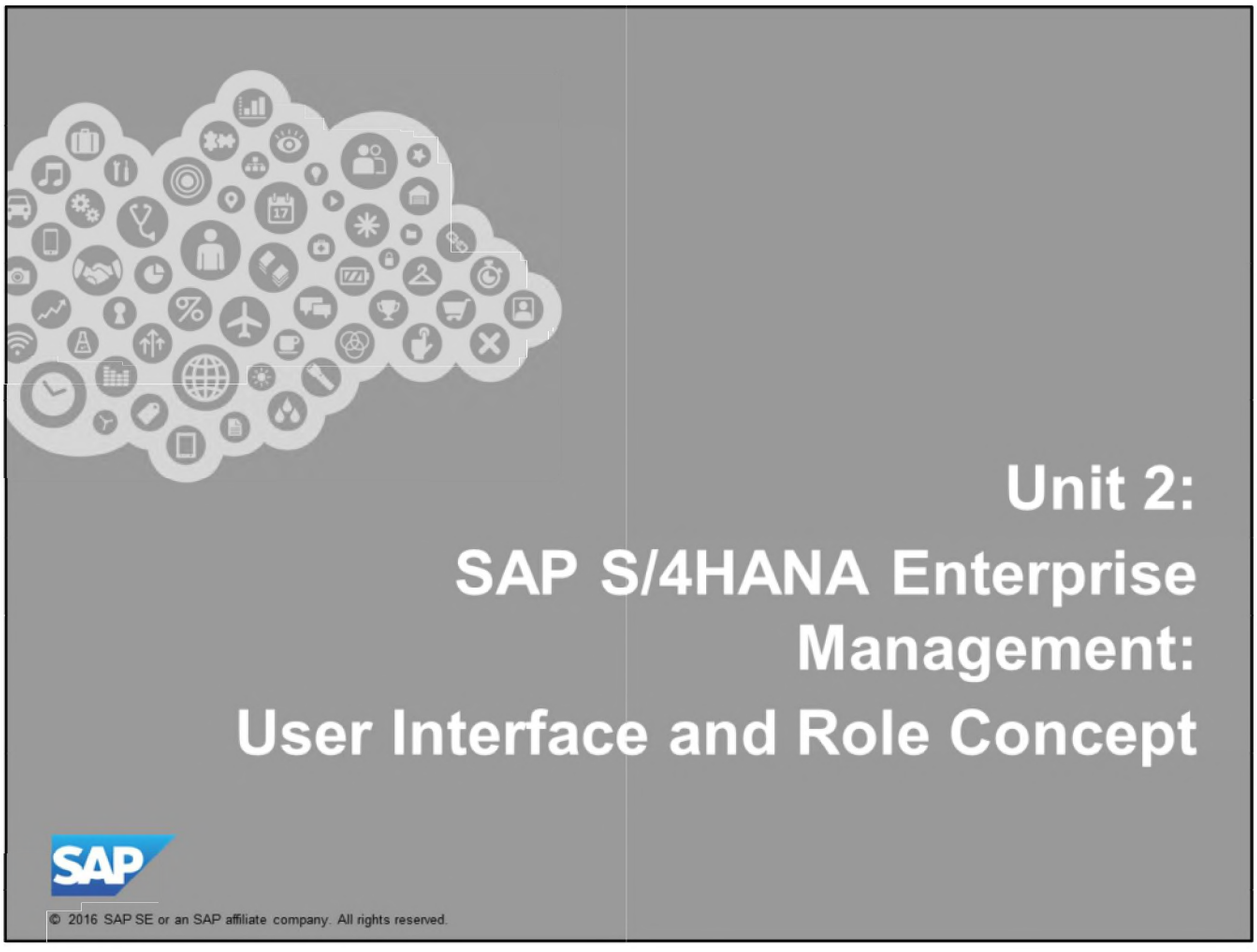
You should now able to:

- Outline the scope of SAP S/4HANA Enterprise Management (Materials Management and Operations).



Agenda

SAP S/4HANA Enterprise Management (logistics): Overview
SAP S/4HANA Enterprise Management: User Interface and Role Concept
SAP S/4HANA Enterprise Management (Planning): Simplifications
SAP S/4HANA: Best Practice: The New MRP
SAP S/4HANA: Best Practice: Make-to-stock



Scenario

As a long-term SAP user, you want to get some insights in the the new SAP S/4HANA Enterprise Management (logistics) solution with focus on manufacturing. In this unit the new interface is discussed.

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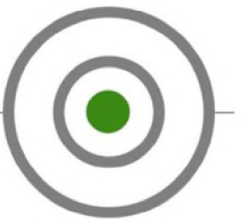
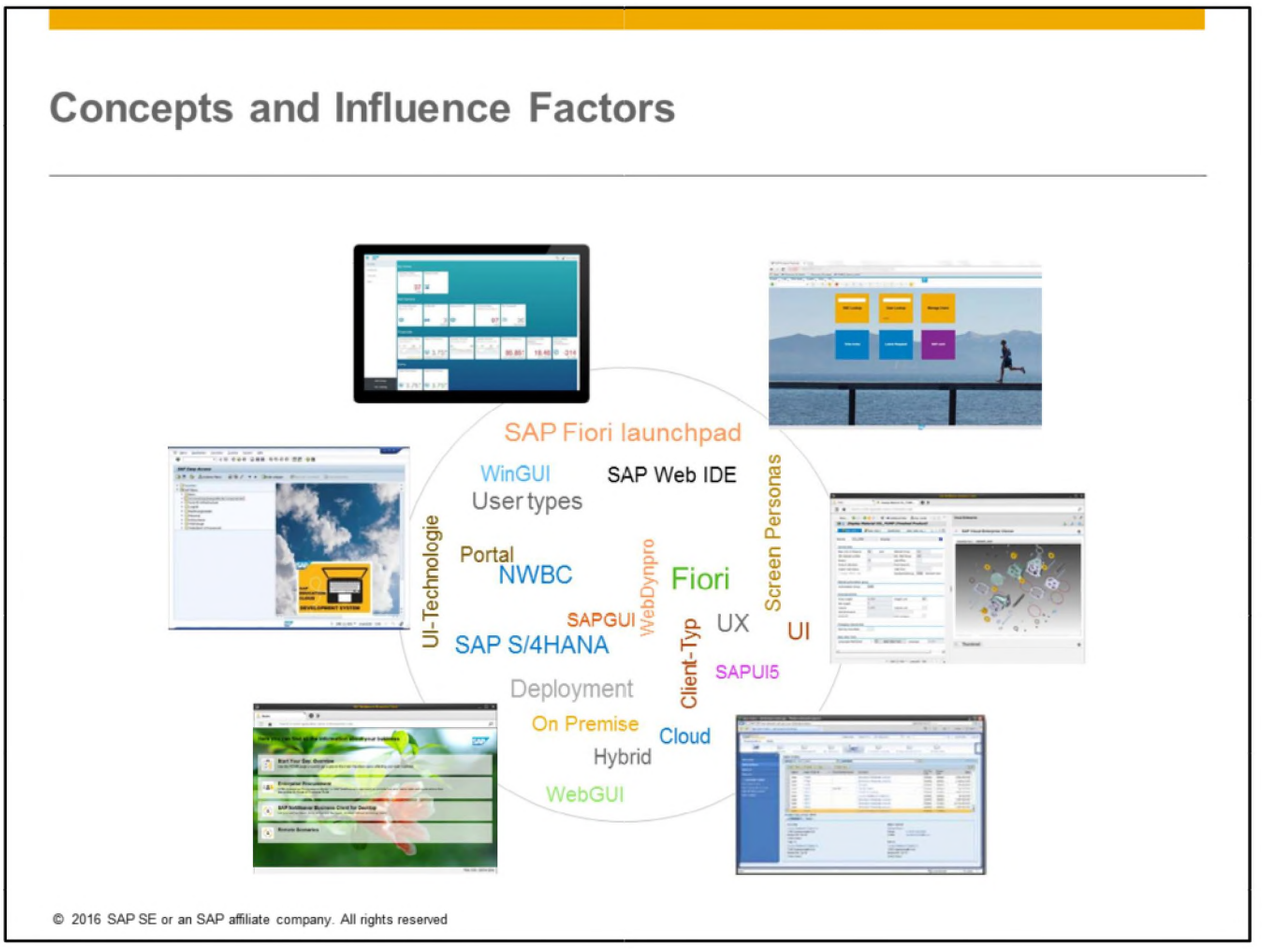
Learning Objective



After completing this lesson, you will be able to:

- Use the SAP S/4HANA User Interface.

Concepts and Influence Factors

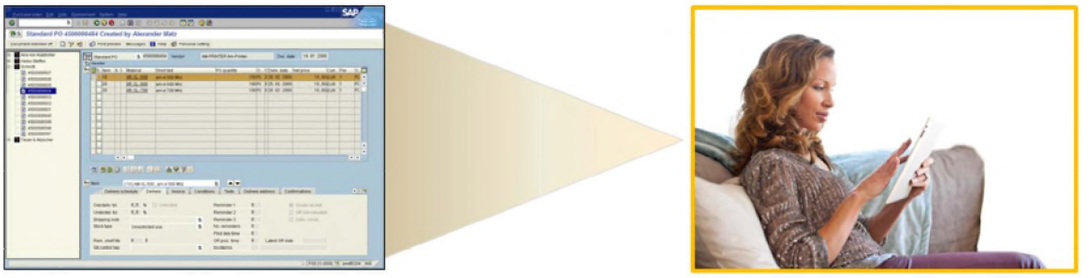


IT and the use of electronic devices is not reserved for a group of experts any longer but it has spread within society throughout all social groups.
In this context a more and more performant hardware stands against a wide variety of software products with different scope and potential which puts the stress more and more on the ease of use from the perspective of the end user.
The main drivers of this development are smartphones and tablets with their easy-to-use and flexible user interfaces. The focus of these user interfaces is no longer a maximum of functionality but rather a comfortable user experience which puts the focus on the consumer.
The focus on the expert user with many years of experience is now a matter of the past.
With regard to this background business software must adapt and transform the impact of this trend into a maximum advantage for the roles of an enterprise.
In this evolution user interfaces (UI) play an important role.
With regard to the SAP software products the challenge is to keep a clear view and to understand the overall SAP strategy in the area of user experience.
Furthermore it is important to have a clear understanding of what are the goals and the target groups of each UI technology to avoid wrong decisions and frustrated users.
In the beginning it is helpful to clarify and understand the terminology.
To describe and better understand the evolution in this context it is a good to start to look at the terms User Interface (UI) and User Experience (UX).

UI vs. UX

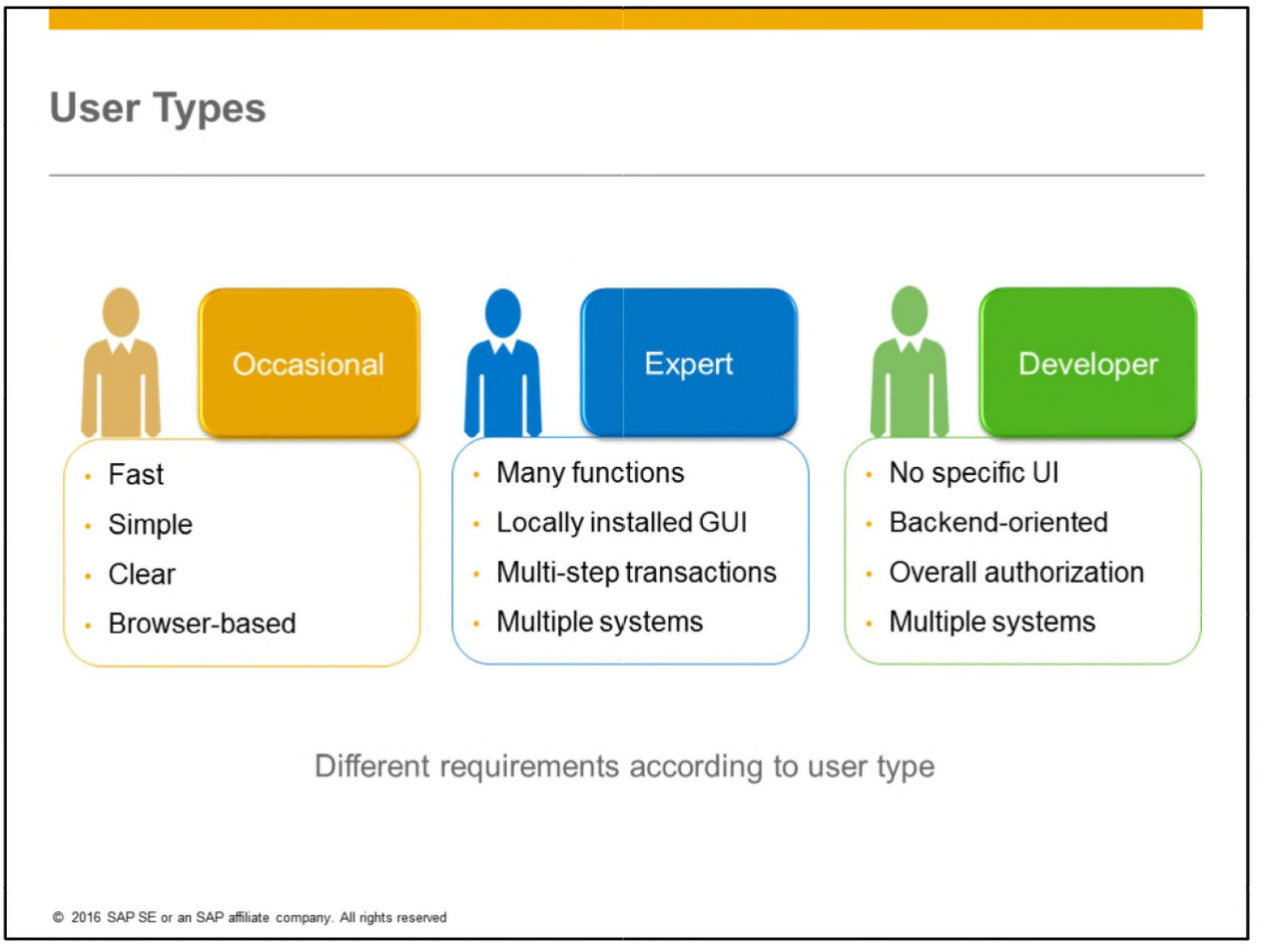
UI

UX



From UI to UX – from function to experience

The terms User Interface (UI) and User Experience (UX) stand for two different ways of thinking.
UI from a software perspective describes the interface between human being and device and aims at maximum of efficiency during the moment of use.
UX takes on the perspective of the end user and aims at motivation and emotion not only during use but also before and after. UX tries to achieve a sustainably positive attitude of the user and to create a motivating experience.



Depending on industry and company various user types can be found. There is certainly a great variety of different user types depending on the structure of the specialized area and the IT department as well as the degree of digitization.

However, in almost every company there are three basic types:

Occasional User
Makes use of the system only occasionally and therefore needs simple and easy-to-use applications. In many cases single-step transactions are executed.

Expert
The expert or key user is a fully trained SAP user, knows the processes and the available applications in detail and very often uses multiple systems and different UIs.

Developer
The developer or programer has detailed process and system know how and deals with the adaptation and extension of the existing applications. He or she has to look after several applications with different UIs.

Deployment Types

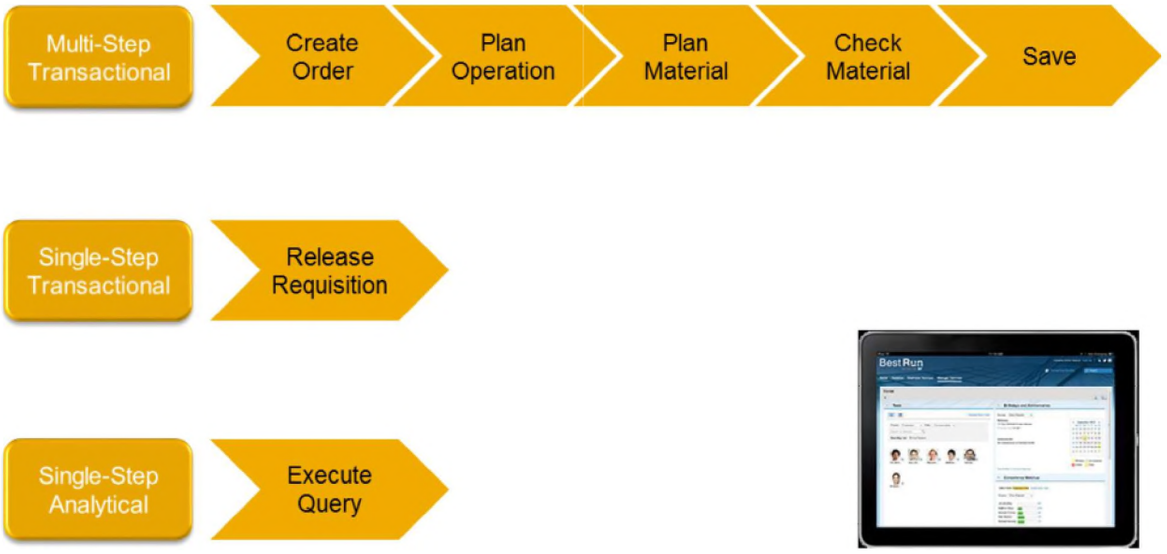
The deployment type defines license model and operational environment:

On Premise
The customer buys software and hardware and operates the combination by himself. Therefore the customer is solely responsible for implementation, updates extension and adaptation as well as for replacements and new investments.

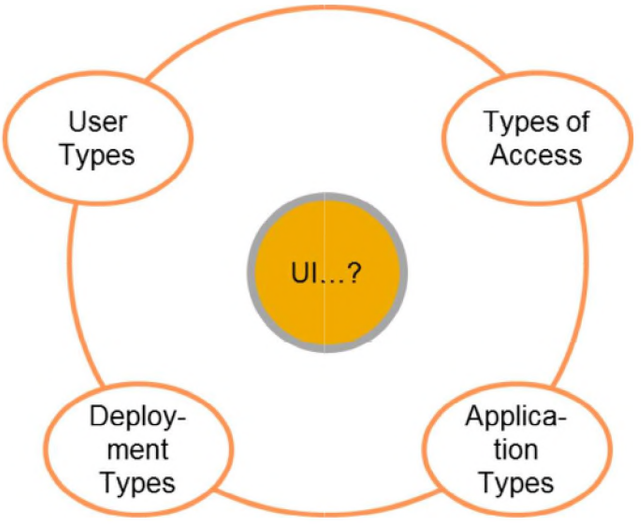
Cloud
The cloud company provides infrastructure (hardware & software) and business software and rents this combination to the customer. The cloud company is responsible for the operation, updates, extension and new investments.
At SAP different operational models (Public Cloud, Private Cloud, Private Managed Cloud) with different software and service provisioning are available.

Hybrid
The customer runs certain parts of his business software on his own servers and uses additional solutions of a cloud provider. This deployment type requires an intense integration between the on premise parts and the cloud parts.

Types of Access

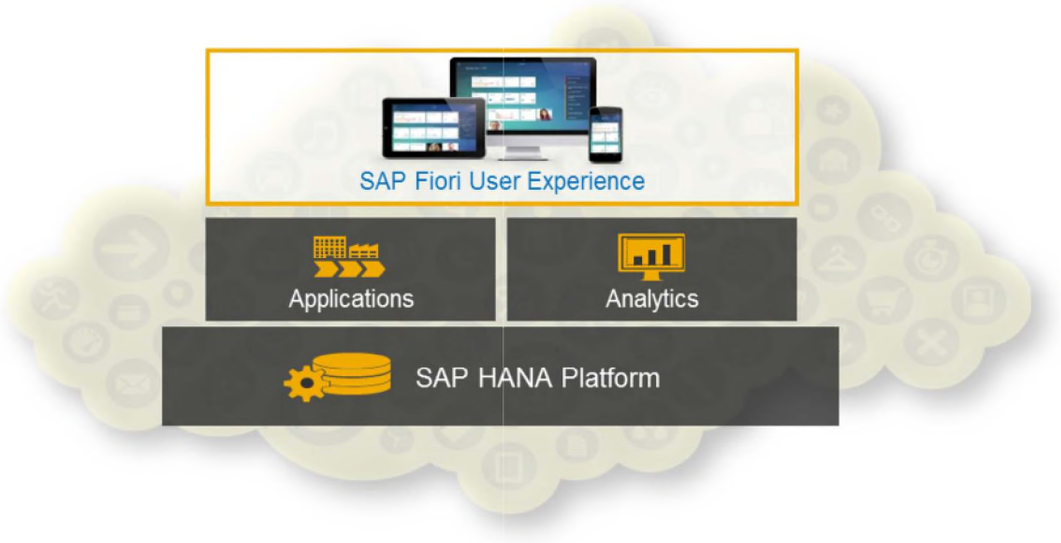


One Size Fits All?



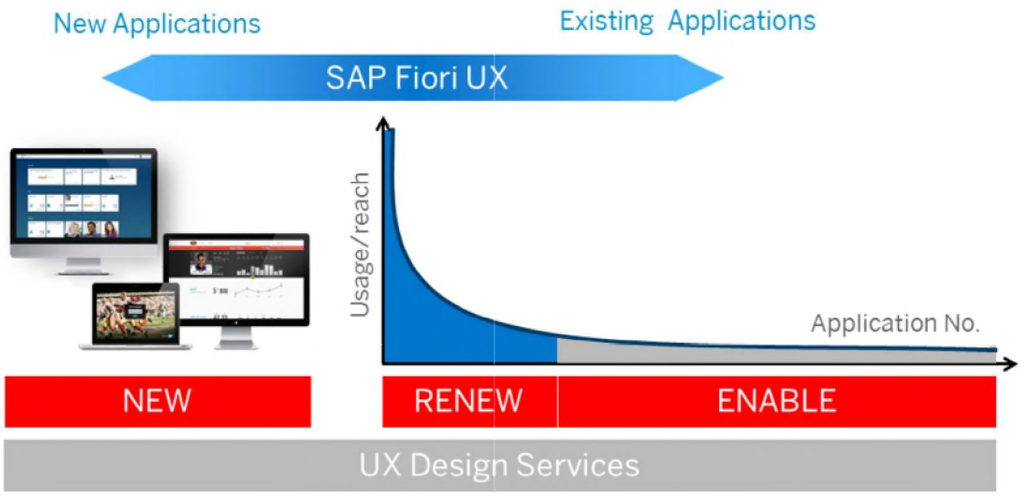
When summarizing the different factors it becomes clear: One Size fits all does not work.

Target: Unified UX Direction for All SAP Software



The long term goal of the SAP UX strategy is to offer all business and all analytic applications on SAP HANA with SAP Fiori as the unified UI.

The SAP User Experience Strategy



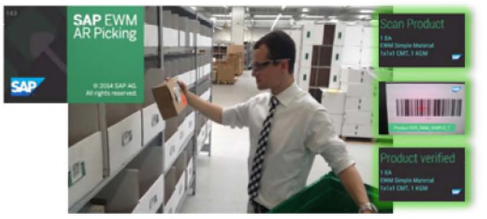
NEW: new applications will be delivered with the latest UI technology which in most cases is SAP Fiori.
RENEW: the most important and most widely used applications will be renovated by SAP regarding their UI.
ENABLE: the less used applications can be improved by the customer by using various technologies.

Example for NEW

New Cloud Applications

SAP Scouting

Visual Business & Visual Enterprise

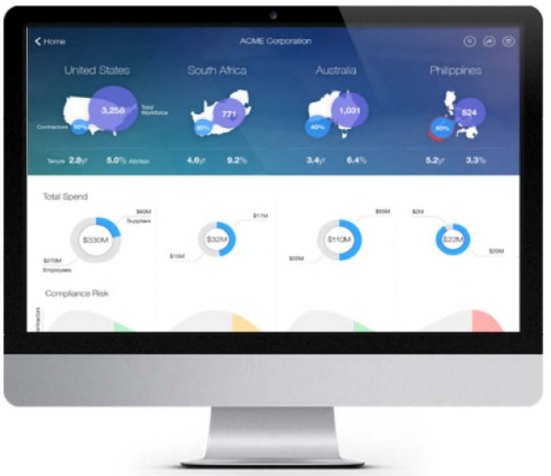


Warehouse Picking with Google Glasses

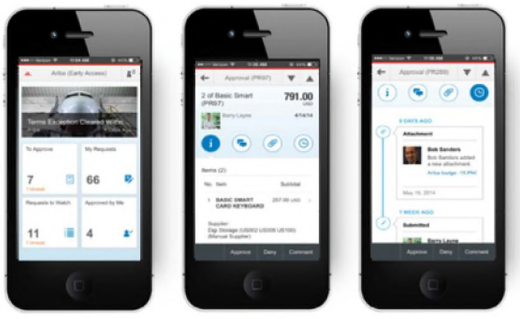
NEW means:

- SAP Fiori for new applications
- SAP Visual Business supports certain new applications
- SAP Visual Enterprise supports certain new applications

Example for RENEW



SAP Fieldglass

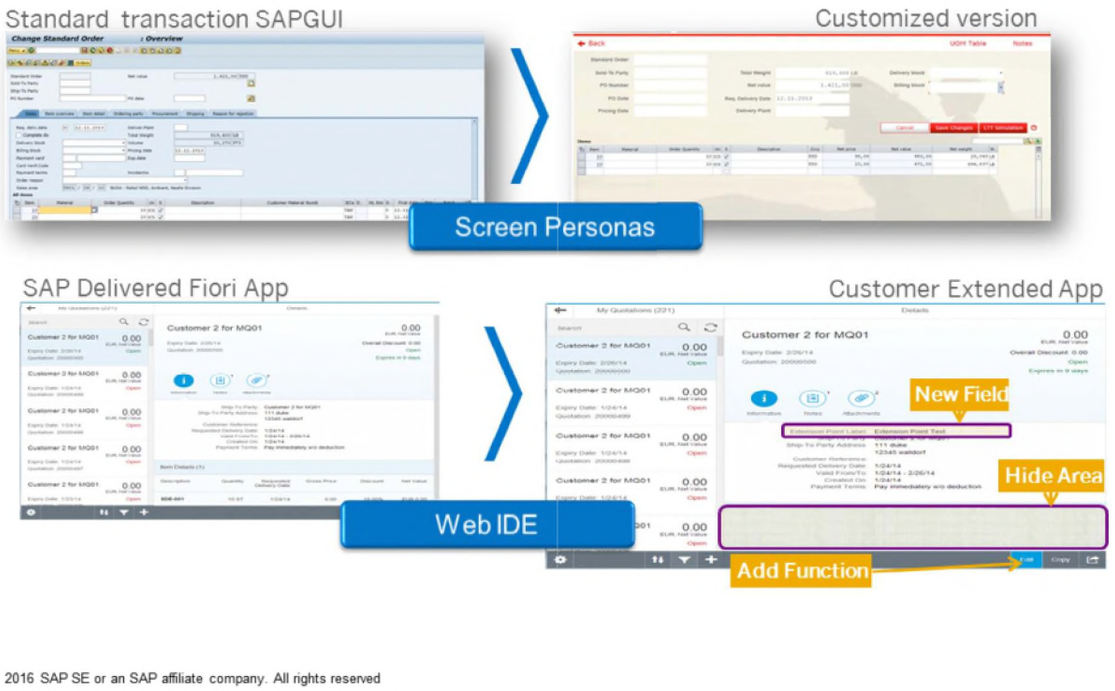


SAP Ariba

RENEW means:

- Fiori as common UI for all devices (Desktop, Laptop, Tablet, Smartphone)
- Fiori for existing applications, for example cloud applications like Fieldglass, Ariba, SuccessFactors
- Fiori for existing SAPGUI- or WebDynpro applications
- Single entry point via NWBC

Example for ENABLE



ENABLE means:

- Improve and simplify SAPGUI/Dynpro-based screens using Screen Personas
- Adapt and extend standard Fiori Apps using Web IDE
- Customize different UIs regarding color schemes, fonts, icons etc. as well as company logos using UI Theme Designer

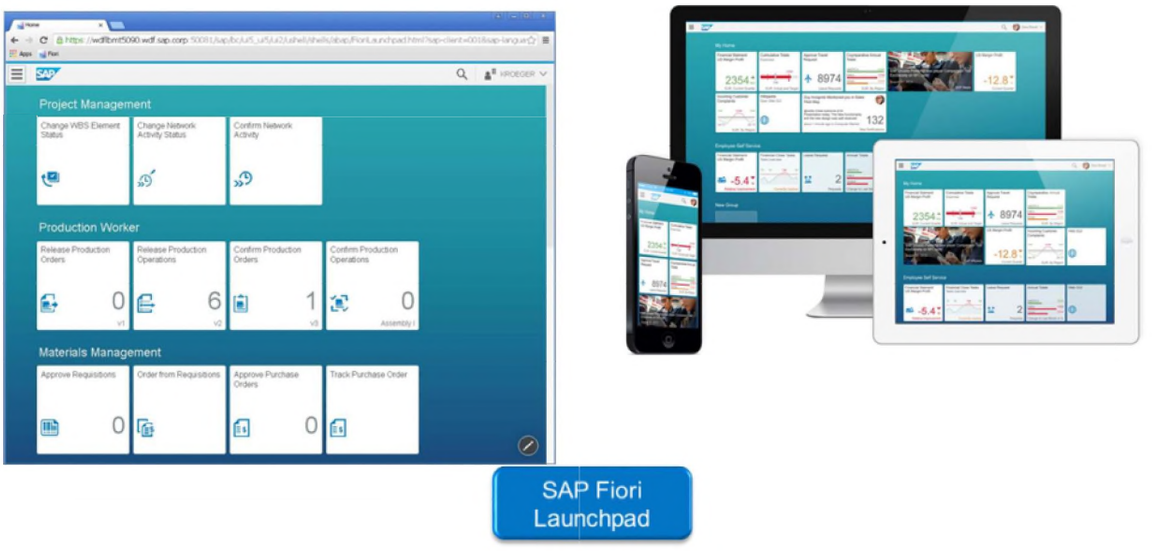
Screen Personas is available for SAPGUI/Dynpro-based screens (WebDynpro support is planned).

Web IDE is available for SAP UI5 applications.

UI Theme Designer is available for:

- SAPUI5 (incl. SAP Fiori applications and SAP Fiori launchpad)
- Web Dynpro ABAP, Web Dynpro Java
- SAP GUI for HTML
- Business Server Pages, HTMLB
- SAP NetWeaver Business Client for Desktop
- SAP Enterprise Portal

Fiori Launchpad



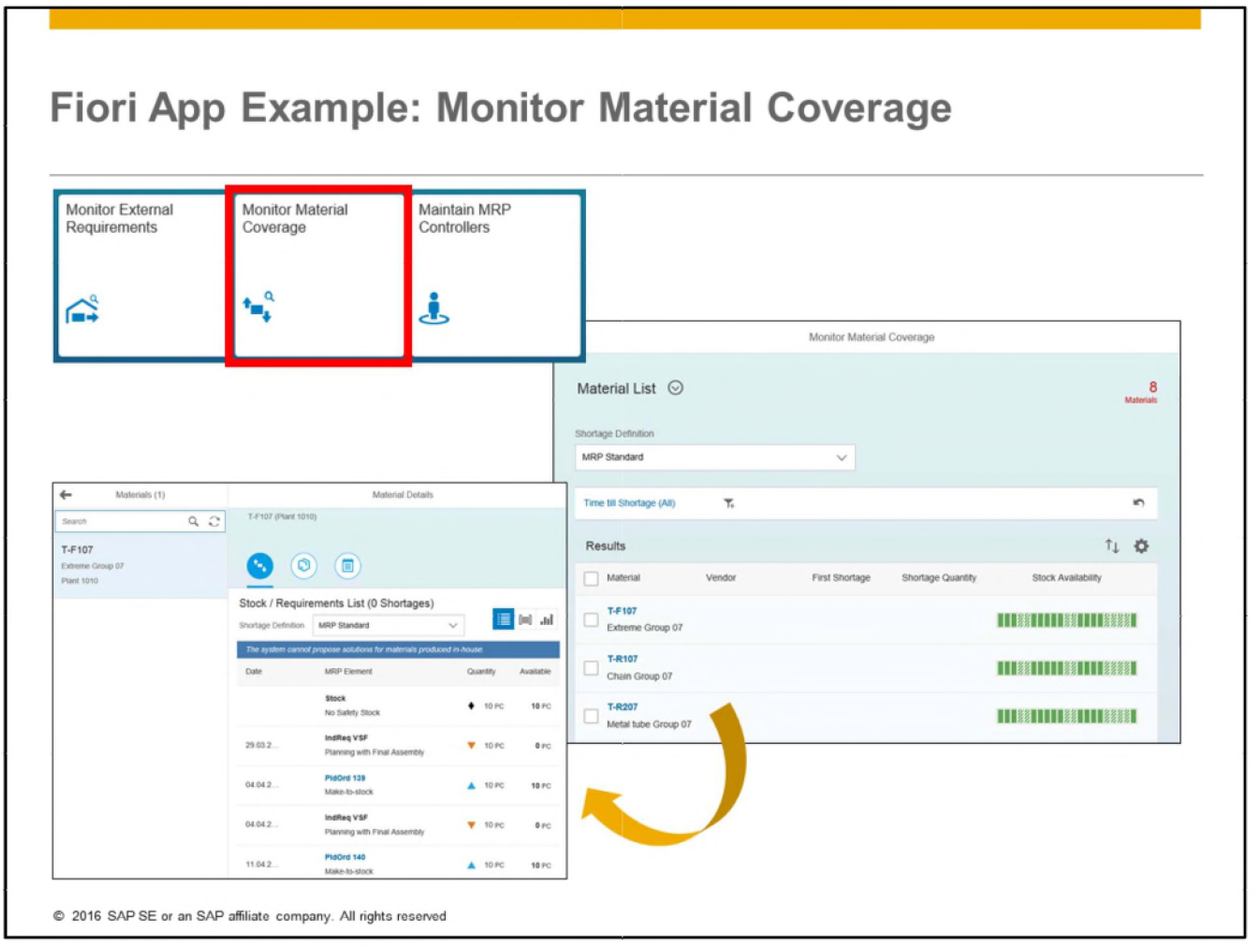
The SAP Fiori Launchpad is a role based, personalized UI client that enables users to access SAP Fiori apps side by side with established UIs. The launchpad is based on SAPUI5 and as such can be used on multiple devices leveraging the responsive design paradigm and deployed on multiple platforms (SAP NetWeaver Application Server (ABAP Stack), SAP Enterprise Portal, SAP HANA Cloud Platform). The SAP Fiori launchpad comes with predefined content to streamline implementation processes.

SAP Fiori launchpad is aligned with the two main UI clients - SAP Enterprise Portal (available) and SAP NetWeaver Business Client (planned).

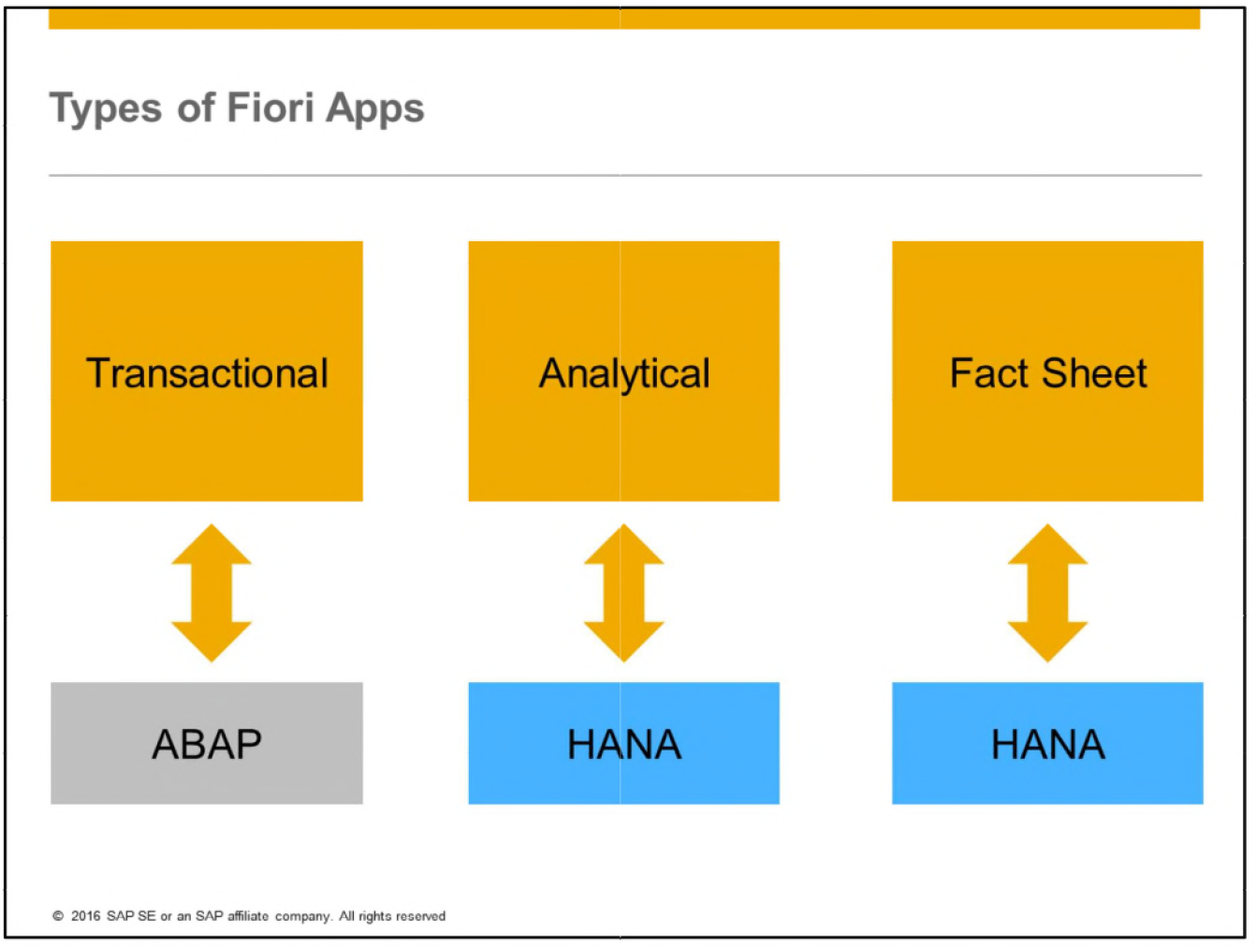
- Alignment with the SAP Enterprise Portal is achieved by running the Fiori launchpad user experience within the SAP Enterprise Portal (also known as Fiori framework page) while leveraging established portal infrastructure and best practices
- Alignment of SAP NetWeaver Business Client for Desktop (NWBC) with SAP Fiori launchpad design is planned for future releases

The SAP Fiori launchpad can be visually adapted and customized using the UI Theme Designer.

It is designed according to the simple and intuitive SAP Fiori user experience, while supporting established UI technologies (such as Web Dynpro ABAP and SAP GUI for HTML).

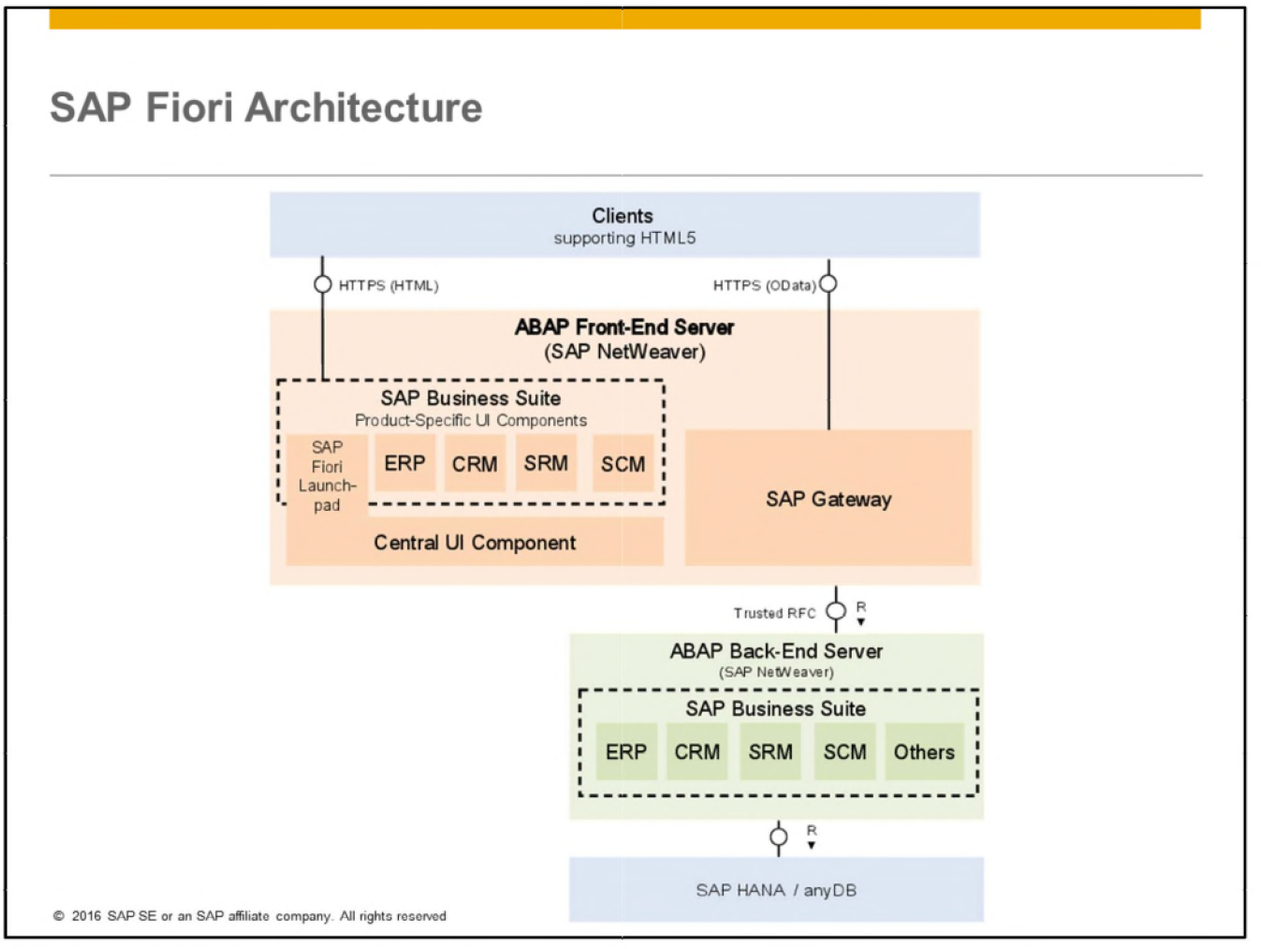


As an example, a Fiori application called Monitor Material Coverage supports the user in both getting an overview of the stock availability / material coverage and directly navigating to the current material's stock/requirements situation.



Transactional Fiori Apps need an ABAP environment and very often are used for single-step transactions.
Analytical Apps and Fact Sheets are SAP HANA-based and very often contain new functionality that did not exist before.

SAP Fiori Architecture



The Fiori architecture consists of the following levels:

- HTML5 client, i.e. Fiori Launchpad
- ABAP Frontend Server with central UI component and Fiori roles implemented
- ABAP Backend system
- Database (SAP HANA or AnyDB)

Demo 2:
How to get Started with SAP S/4HANA and User Specific Roles

For the steps and data of this demo, refer to the exercise:
Get Started with SAP S/4HANA and User Specific Roles.

Exercise 2:
Get Started with SAP S/4HANA and User Specific Roles

10 minutes

Watch

Try

Self-Test

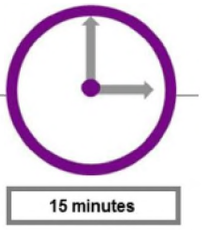
Print

In this exercise, the participants will log on and check, if tiles are available. You will find out about the role specific Concept.

Demo 3:
How to create a user specific UI

For the steps and data of this demo, refer to the exercise:
Create a user specific UI.

Exercise 3:
Create a user specific UI



Watch

Try

Self-Test

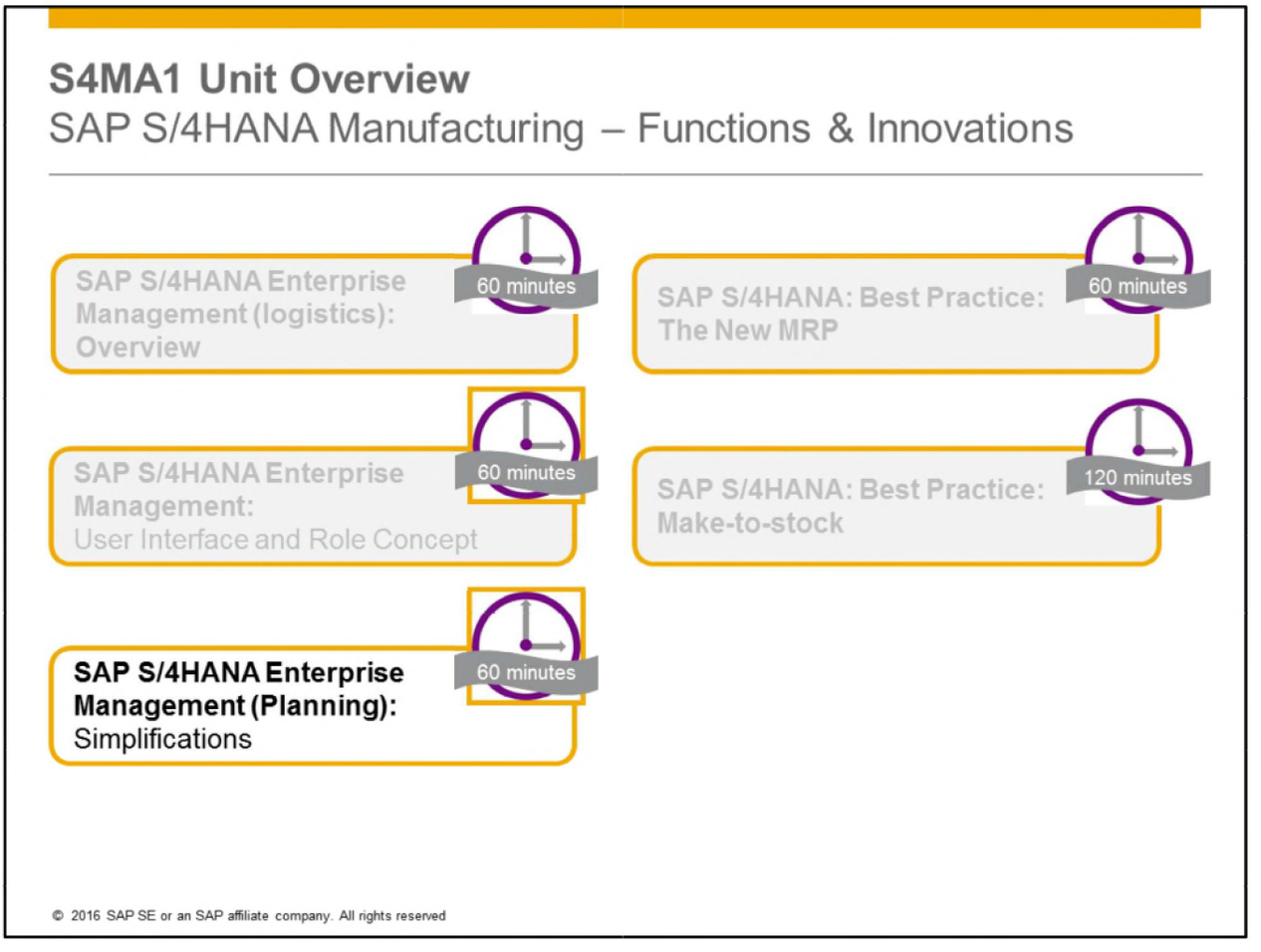
Print

In this exercise, the participants in the first part of this exercise will learn to work with favorites. Therefore you will create a new group, you will assign an App and you will modify this assignment. In the second part you will create two additional own groups and you will assign apps to them.

Summary

You should now able to:

- Use the SAP S/4HANA User Interface.



Agenda

SAP S/4HANA Enterprise Management (logistics): Overview
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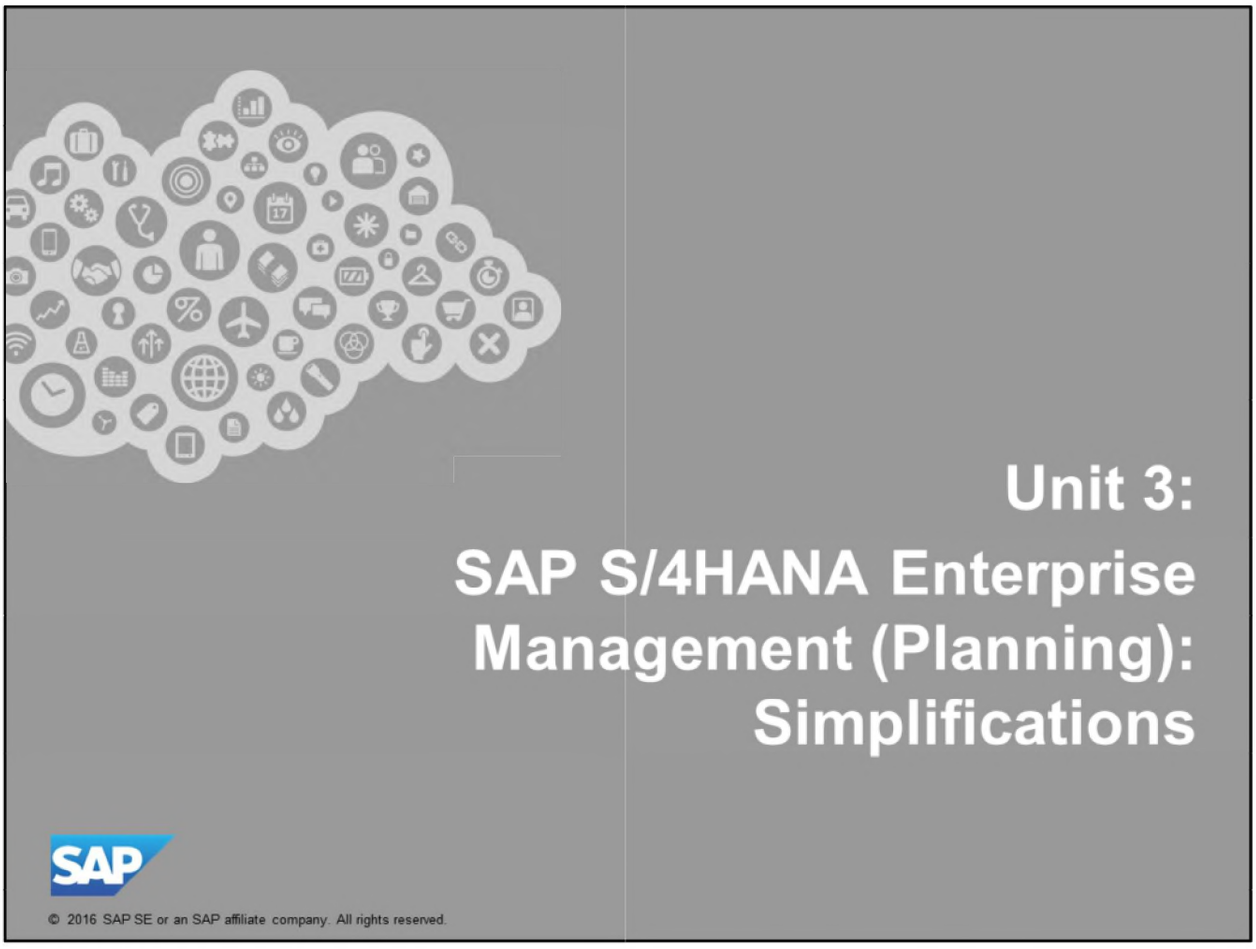
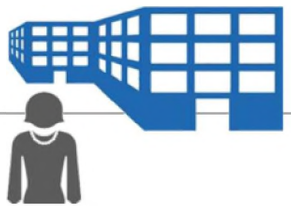
SAP S/4HANA Enterprise Management (Planning): Simplifications
SAP S/4HANA: Best Practice: The New MRP
SAP S/4HANA: Best Practice: Make-to-stock



In the approach to build SAP S/4HANA, SAP is re-architecting its solution for modern business processes demanded by an increasing digitization of the world. Re-architecting a solution that has
been growing over the past 25 years means and sometimes evolved into different data structures and architectures means as well that we have to decide on one data structure and architecture
moving forward. This is the only way how we can prepare the solution for more simplicity and faster innovation cycles.

One major focus in the first step of this solution are simplifications.

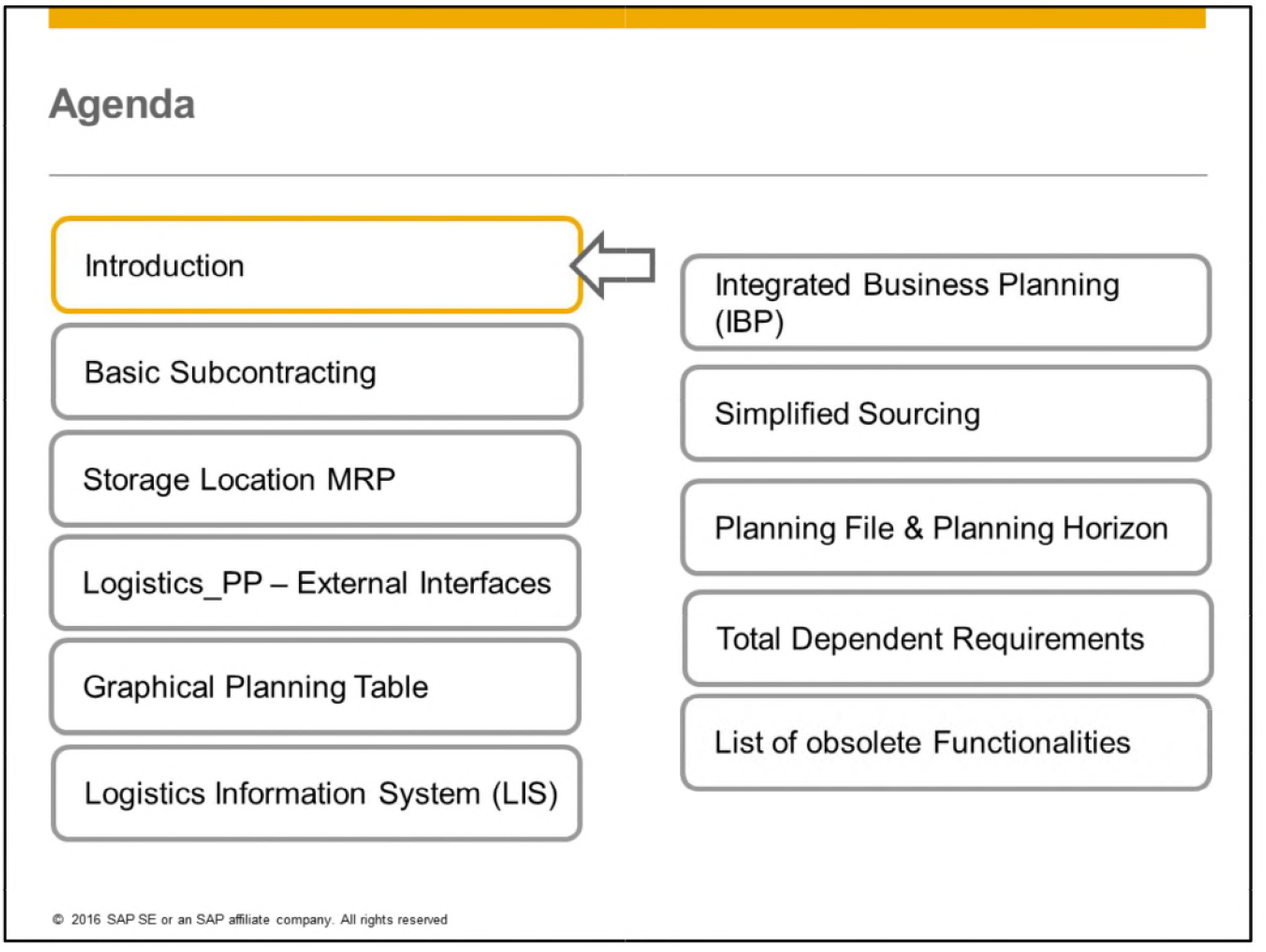
Scenario



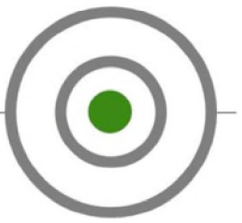
SAP S/4HANA features several simplifications.
This unit will present the most important ones.

Agenda

- Introduction
- Basic Subcontracting
- Storage Location MRP
- Logistics_PP – External Interfaces
- Graphical Planning Table
- Logistics Information System (LIS)
- Integrated Business Planning (IBP)
- Simplified Sourcing
- Planning File & Planning Horizon
- Total Dependent Requirements
- List of obsolete Functionalities

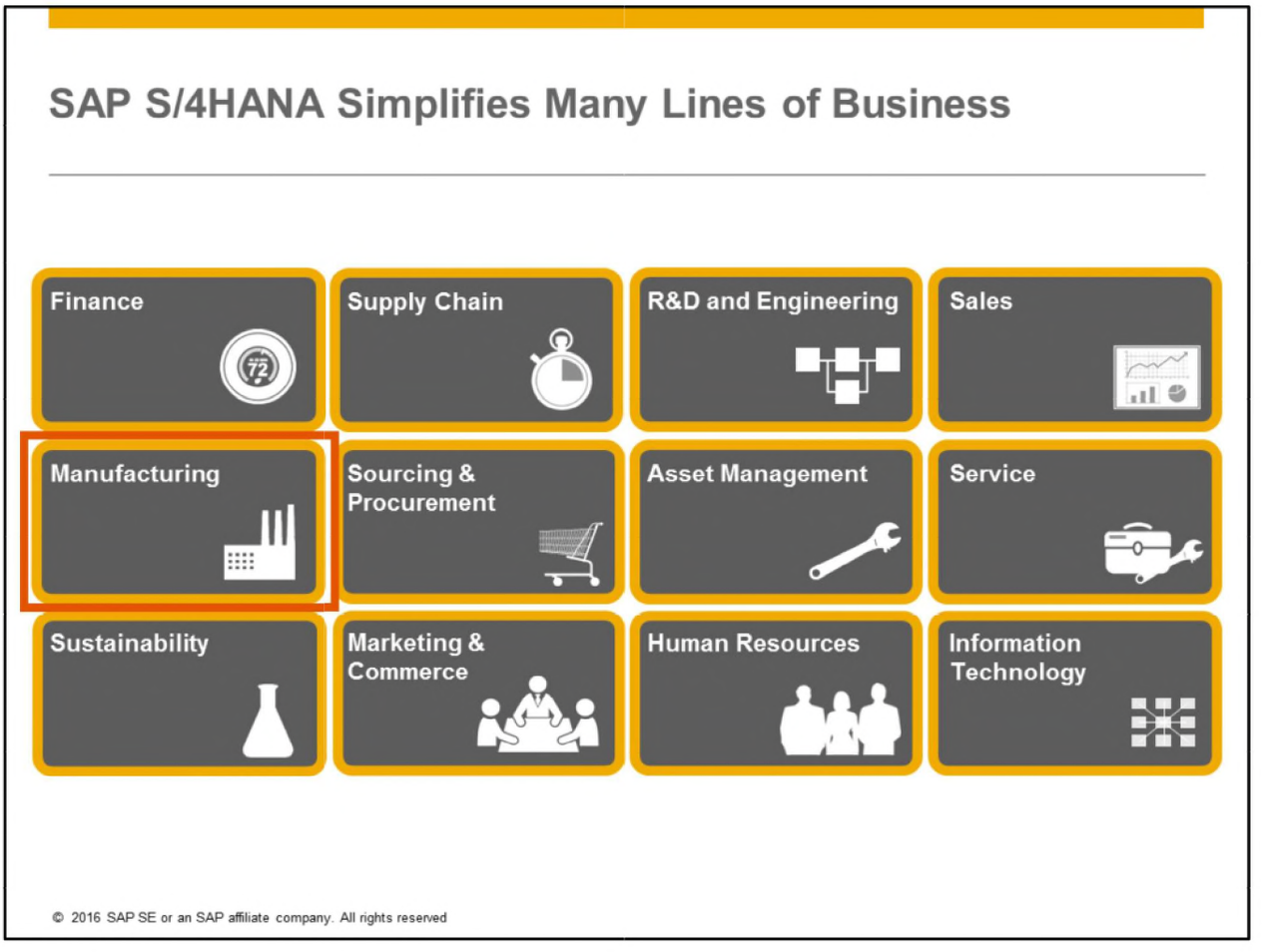


Learning Objective



After completing this lesson, you will be able to:

- Understand the basics of the SAP S/4HANA Simplifications for Manufacturing.

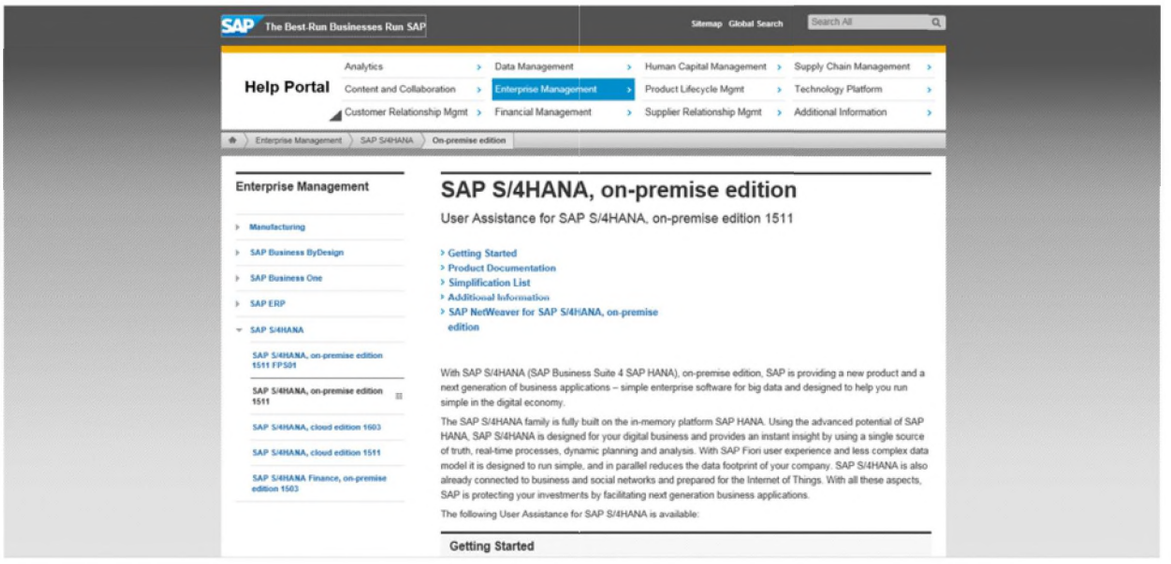


With SAP S/4HANA (SAP Business Suite 4 SAP HANA), on-premise edition, SAP is providing a new product and a next generation of business applications – simple enterprise software for big data and designed to help you run simple in the digital economy.

Manufacturing:
The Simplification List consists of simplification items with the focus on what has to be considered by customers in an implementation / system conversion project from SAP ERP 6.0 to SAP S/4HANA, on-premise edition.

Simplifications in MRP and Production Planning

Link to the global simplification list:
https://uacp.hana.ondemand.com/http.svc/rc/PRODUCTION/pdfa4322f56824ae221e10000000a4450e5/1511%20000/en-US/SIMPL_OP1511.pdf



Direct Access to detailed information regarding SAP S/4HANA

Outstanding Simplifications in MRP & Production Planning

- SI1: Basic Subcontracting
- SI2: Storage location MRP
- SI3: External Interfaces
- SI4: Graphical Planning Table

Lab Preview

- SI5: logistics information system – LIS

Lab Preview

- SI6: Sales and Operations Planning will be replaced by Integrated Business Planning
- SI7: Simplified Sourcing

Outstanding Simplifications in MRP & Production Planning

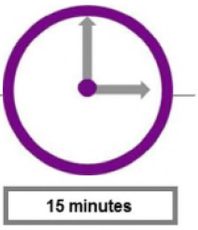
Agenda Manufacturing Execution (SAP S/4HANA):

- SI11: MRP on SAP S/4HANA: MRP Live
- SI12: Planning File & Planning Horizon
- SI13: Total Dependent Requirements

Demo 1:
How to check Simplifications in S4/HANA in the area of Production Planning

For the steps and data of this demo, refer to the exercise:
Check Simplifications in S4/HANA in the area of Production Planning.

Exercise 1:
Check Simplifications in S4/HANA in the area of Production Planning



Watch

Try

Self-Test

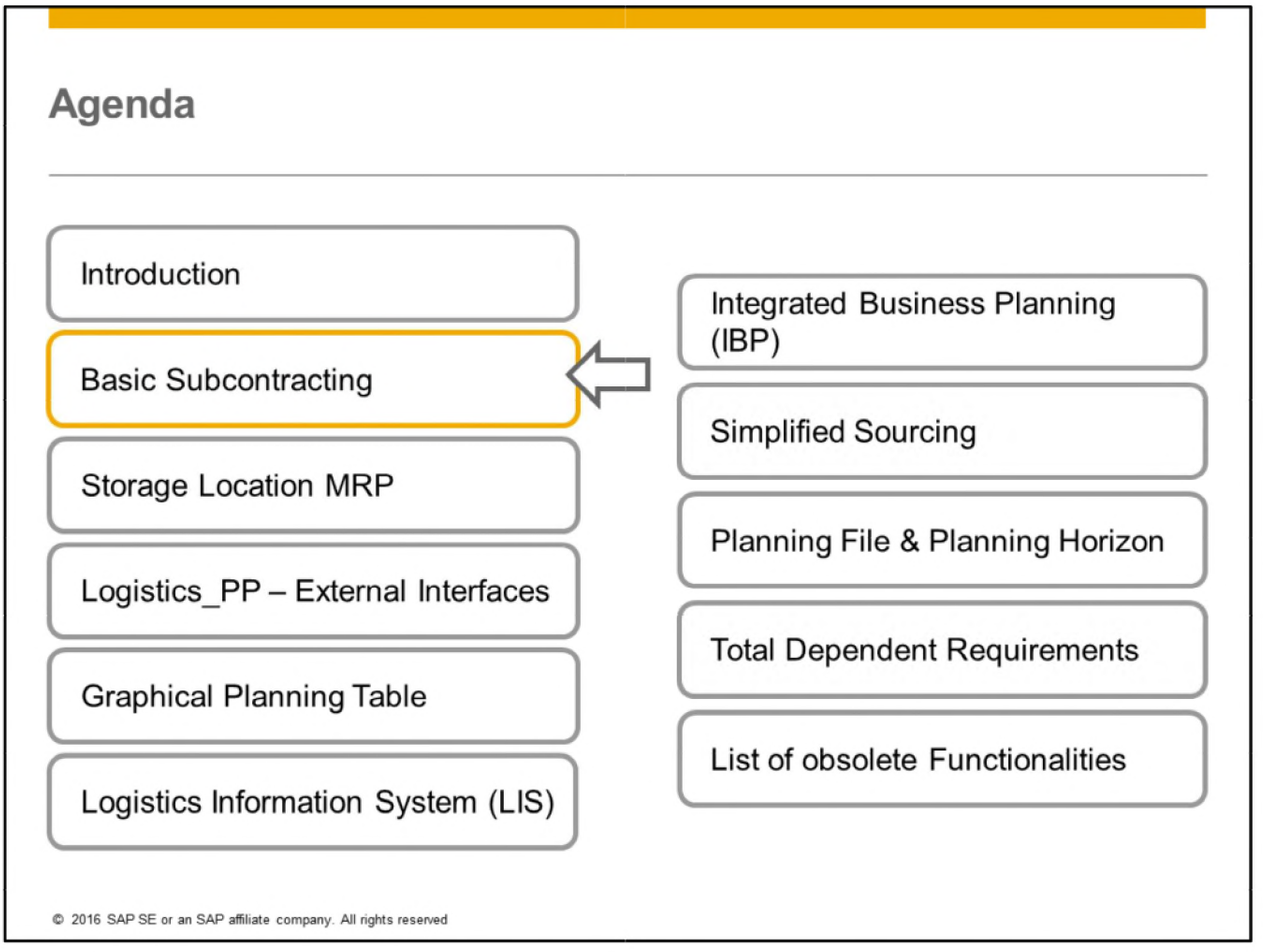
Print

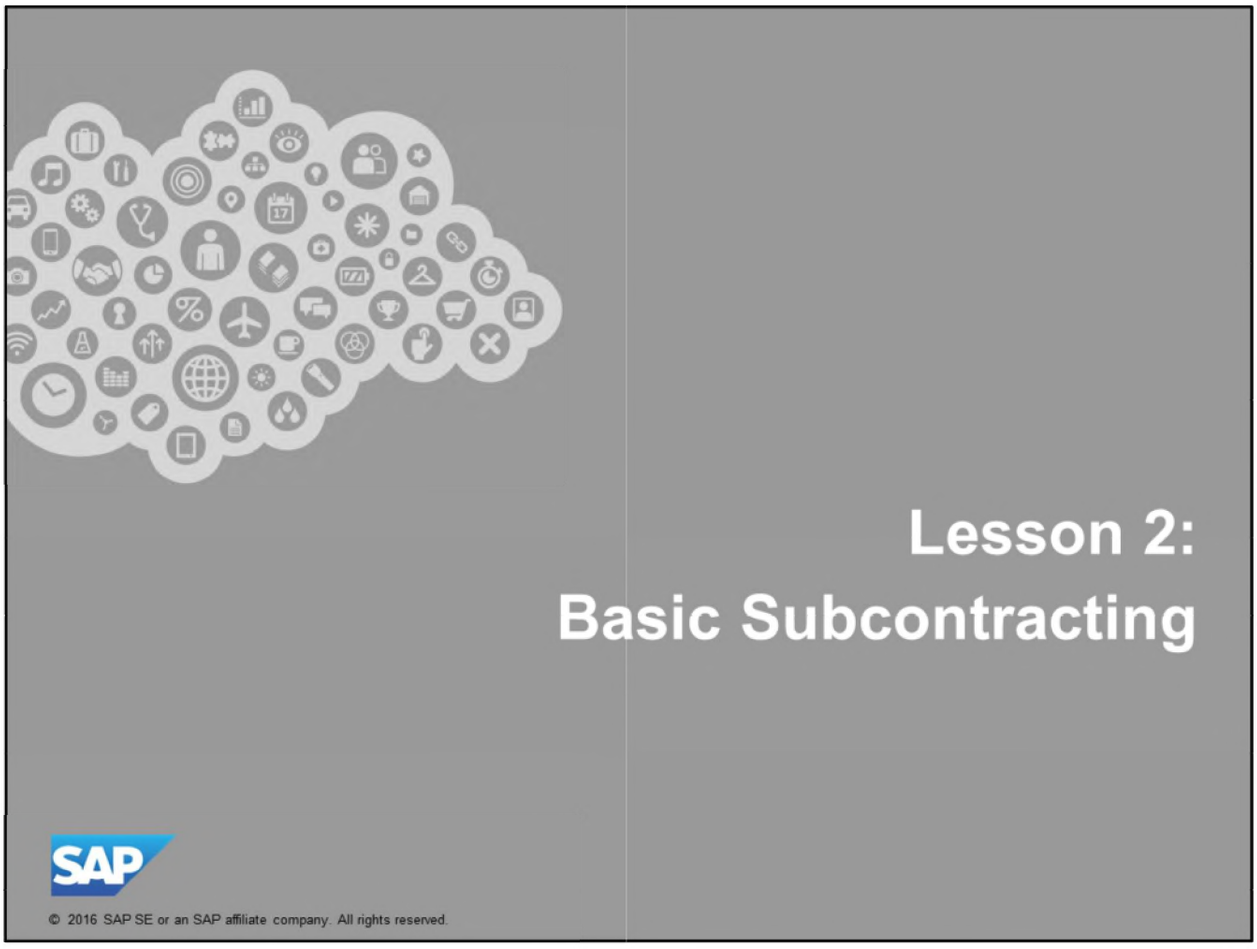
In this exercise, the participants will check the SAP Simplification List, to find out the differences to previous SAP ERP releases.

Summary

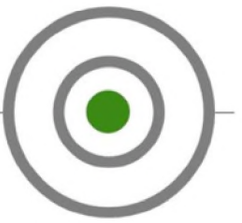
You should now able to:

- Understand the basics of the SAP S/4HANA Simplifications for Manufacturing.





Learning Objective



After completing this lesson, you will be able to:

- Understand the basics of Basic Subcontracting in SAP S/4HANA Manufacturing.

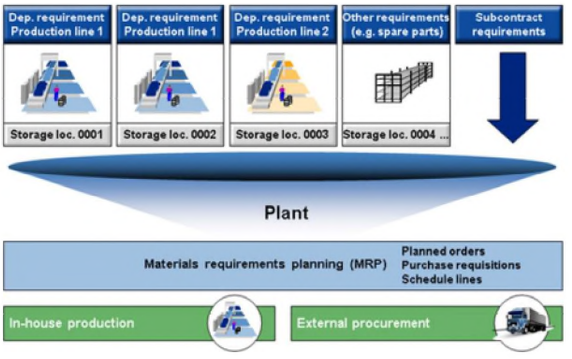
Manufacturing Execution Basic Subcontracting

General Content

Without MRP areas, MRP takes place at plant level. All the requirements of a material (such as sales orders and subcontracting requirements) flow into requirements planning together at plant level.

Demand of different subcontractors cannot be separated.

With the introduction of MRP areas, a larger degree of differentiation is possible in MRP. Planning takes place separately for each MRP area it is possible to plan the requirements separately for different subcontractors.



MRP areas are the key to plan requirements for production lines, sales areas and sub contracting separately. It's the only way separate different subcontractor requirements.

SAP ERP had three different ways of planning parts to be provided to a subcontractor:

- Planning subcontracting demand together with internal demand in the make-to-stock planning section (3.0-logic)

Separating subcontracting demand and stock into single subcontracting planning sections (one section per subcontractor) and planning uncovered subcontracting demand together with internal demand in the make-to-stock planning section (4.0-logic)

- Planning separately the demand of every subcontractor by means of subcontracting MRP areas (available from SAP ERP release 4.5)

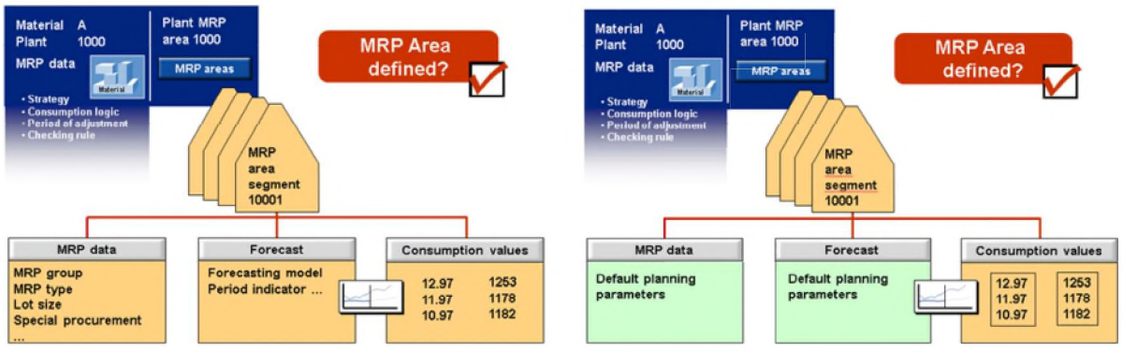
Manufacturing Execution Basic Subcontracting

MRP areas and subcontracting – old

Separate area with the need of MRP specific master data for each area

MRP areas and subcontracting – new

A subcontracting MRP area should be created for every subcontractor. No need to create an MRP-area-specific material master record for every part.



In SAP S/4HANA on-premise edition 1511, the 4.0 logic was removed while the 4.5 logic was simplified.

The SAP S/4HANA MRP uses default planning parameters if MRP-area-specific material master records do not exist.
You only have to create an MRP area for every subcontractor. Of course, it is still possible to create MRP area/supplier-specific material master data if required.

Manufacturing Execution Basic Subcontracting

Advantages:

- handling of sub contraction requirements still possible
- degrease of maintenance effort due to standard values
- flexibility of usage special setup for certain sub contrating materials
- no additional setup effort required

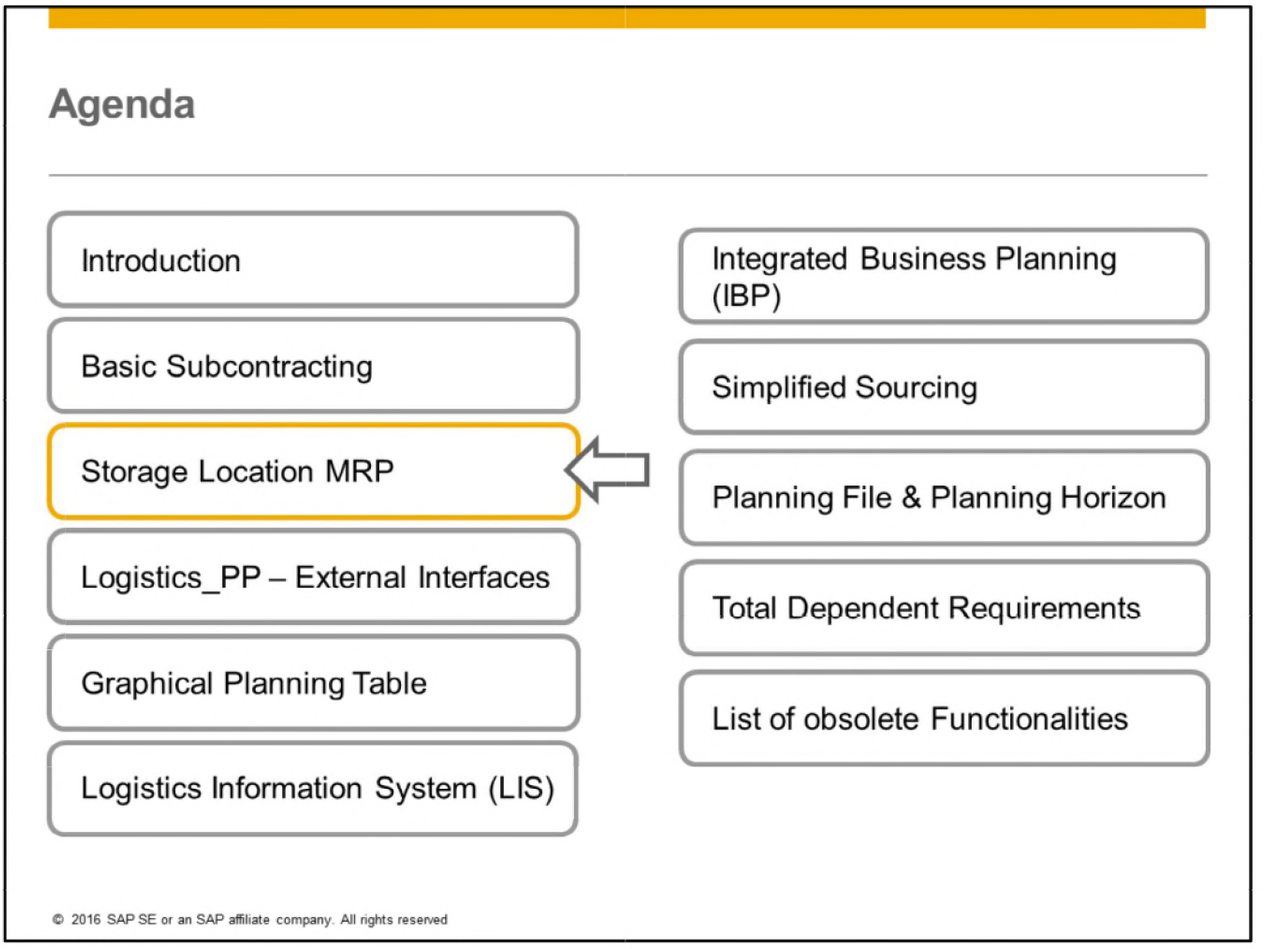
Separate planning of every subcontractor is possible without having to create an MRP-area-specific material master record.

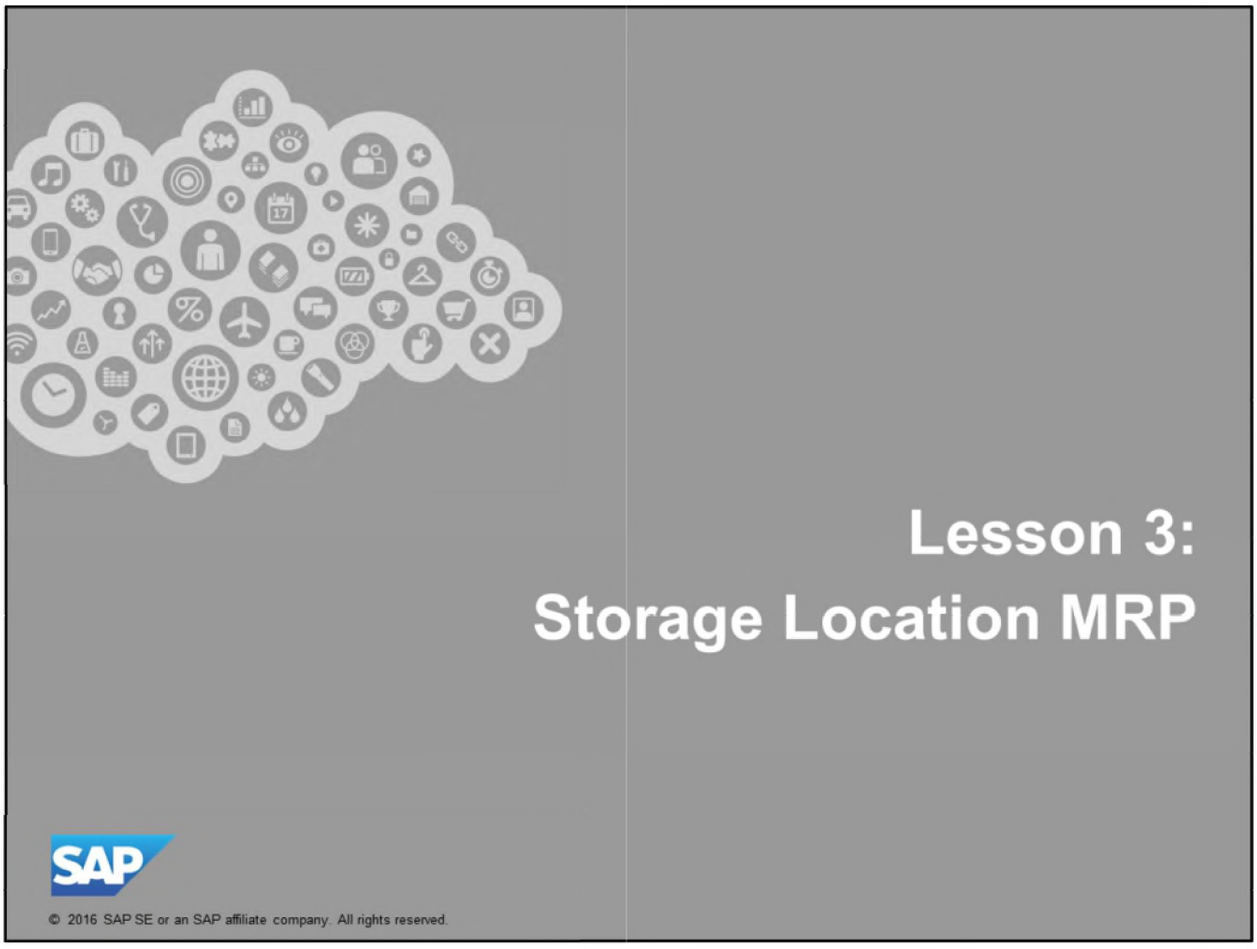
The planning logic is simplified. There are two rather than three different ways to plan parts to be provided to a subcontractor.

Summary

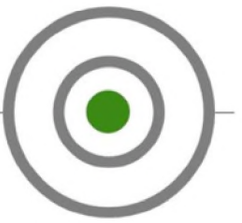
You should now able to:

- Understand the basics of Basic Subcontracting in SAP S/4HANA Manufacturing.





Learning Objective



After completing this lesson, you will be able to:

- Understand the basics of Storage Location MRP in SAP S/4HANA Manufacturing.

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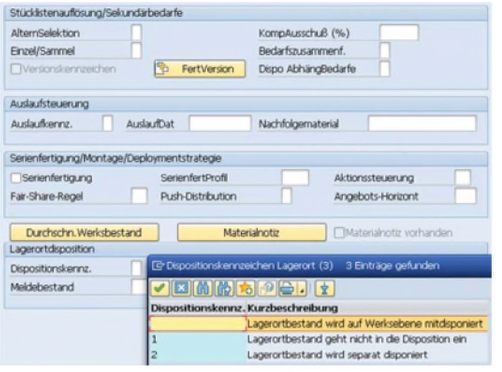
Manufacturing Execution Storage Location MRP

General Content

- In SAP ERP, storage locations can be excluded from MRP planning or they can be planned separately from other storage locations.
  MRP areas cover the very same business requirements.



- Materials with MRP-area-specific MRP type:

  - 'ND' => materials with a storage location excluded from MRP.

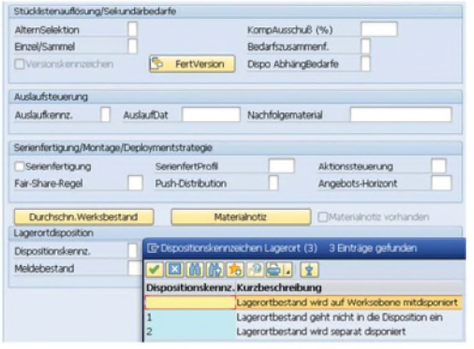
  - 'VB' => storage location functionality is a subset of the MRP areas capabilities.

In SAP ERP, storage locations can be excluded from MRP planning or they can be planned separately from other storage locations.
In the latter case a reorder point procedure with maximum lot size is used which triggers transport reservations to fill up the storage location.

Manufacturing Execution Storage Location MRP

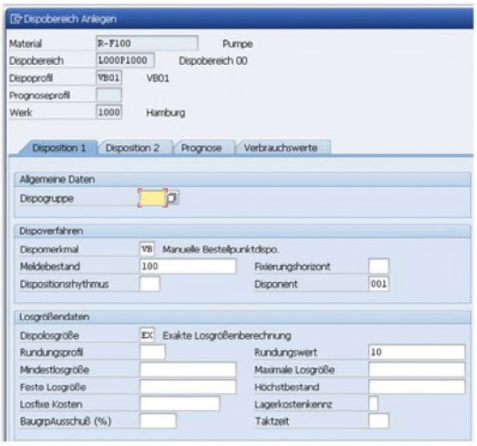
Storage Location MRP – old

storage locations can be excluded from MRP planning or they can be planned separately from other storage locations

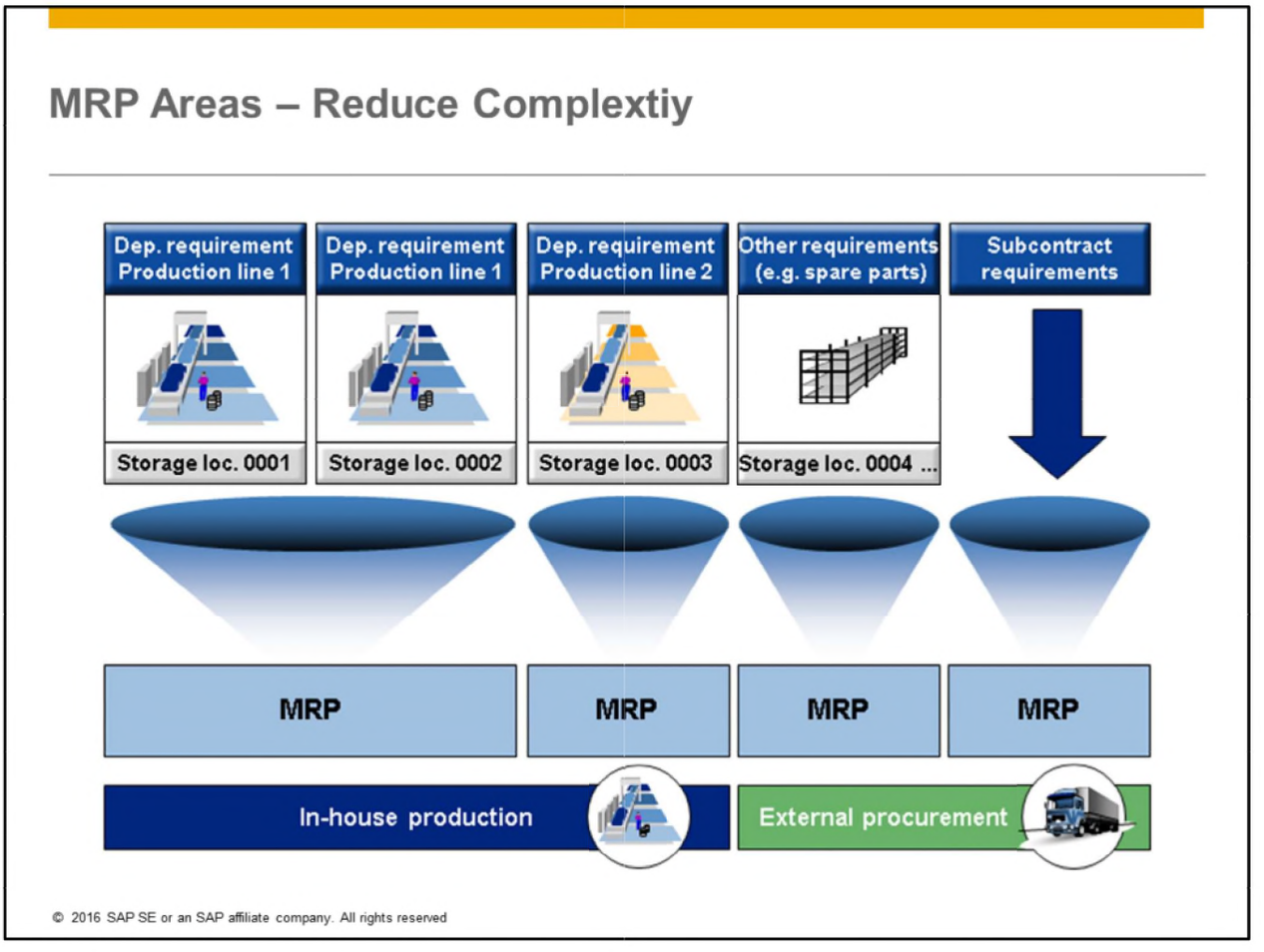


MRP areas and subcontracting – new

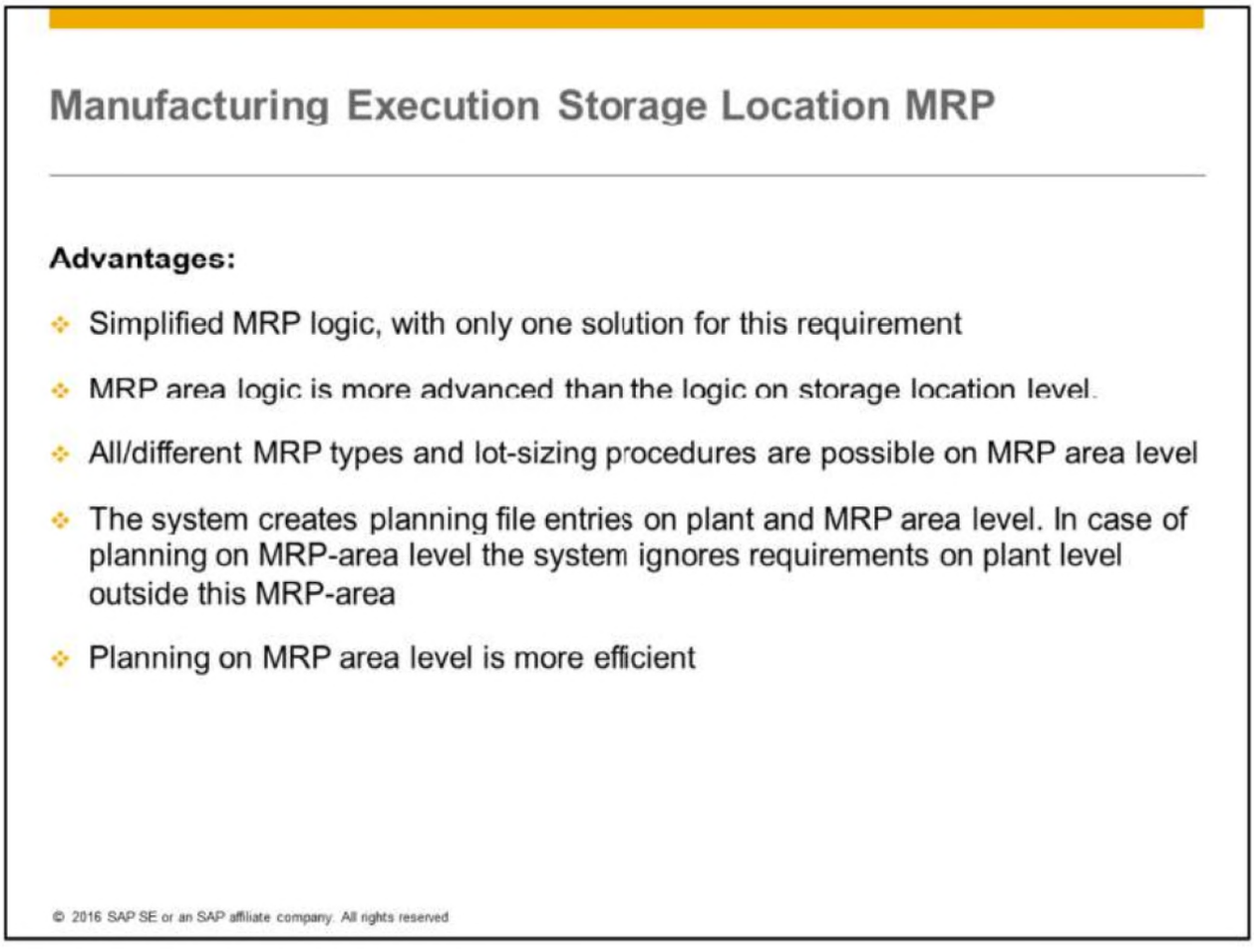
The MRP area logic is more advanced than the logic for planning on storage location level. All MRP types and lot-sizing procedures are possible on MRP area level



MRP areas cover the very same business requirements. Materials with MRP-area-specific MRP type 'ND' (no MRP) can be used instead of materials with a storage location excluded from MRP.
Materials with MRP-areaspecific MRP type 'VB' (reorder point planning) can be used instead of materials with separately planned storage locations.
The storage location functionality is a subset of the MRP areas capabilities.



The SAP S/4HANA MRP only plans on plant and MRP area level. Planning on storage location level is not available in SAP S/4HANA, on-premise edition 1511.



- The MRP logic is simplified. There is only one solution for planning on storage location level
- The MRP area logic is more advanced than the logic for planning on storage location level. All MRP types and lot-sizing procedures are possible on MRP area level
- The system creates planning file entries on plant and MRP area level. If planning is required on MRP area level, then the system only plans the affected MRP area. The system does not create planning file entries on storage location level and it did not do so in SAP ERP. The SAP ERP MRP had to plan all separately planned storage locations and the plant level every time inventory or an expected receipt was changed in a single separately planned storage location. Planning on MRP area level is more efficient.

Hint:

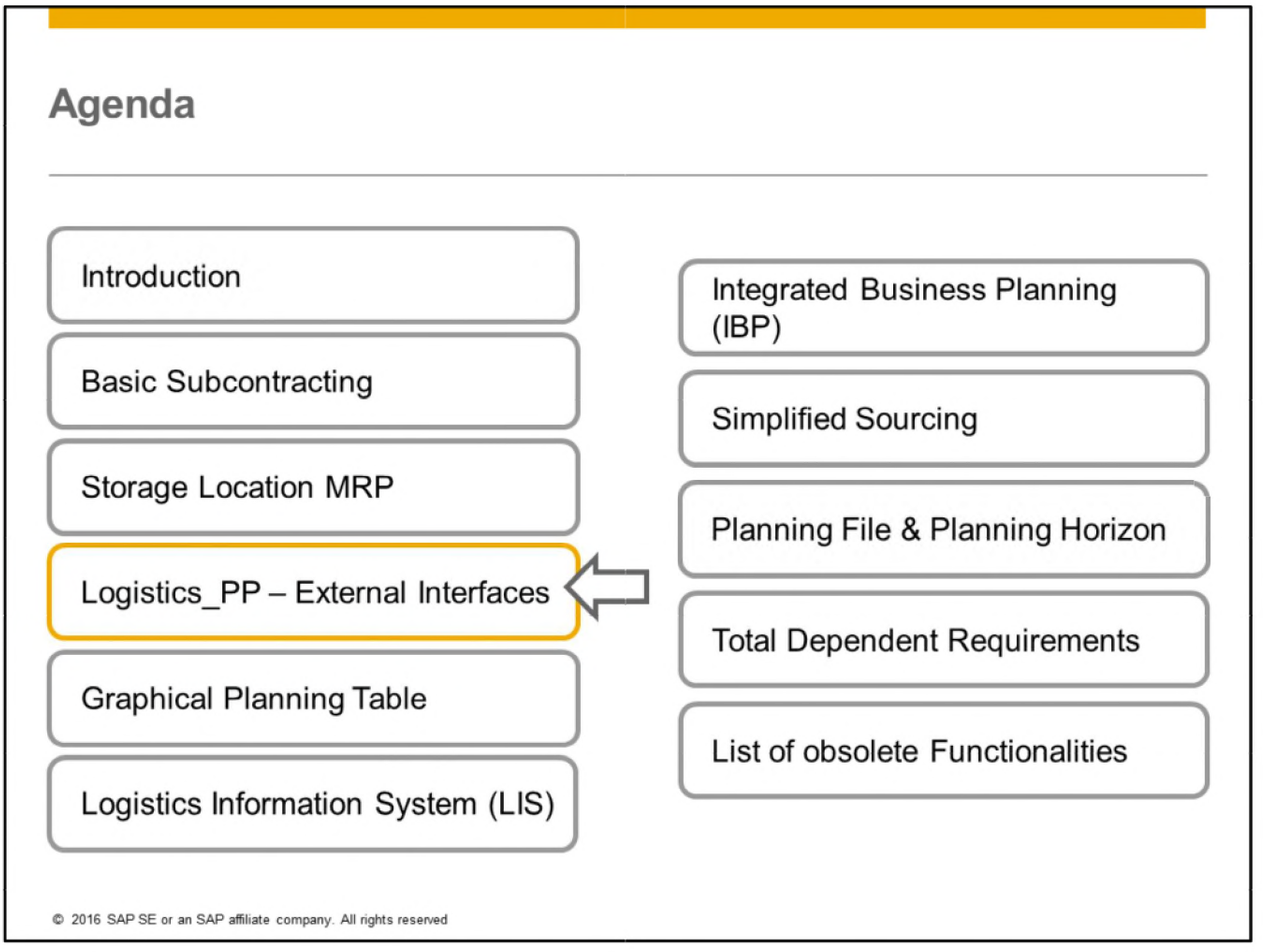
Required and Recommended Action(s)

Conversion Pre-Checks raise an error if storage location MRP is used in the source ERP system. Run report MRP_AREA_STORAGE_LOC_MIGRATION if the pre-checks detect that storage location MRP is used. The report first checks some prerequisites like MRP types, lot-sizing procedures, and MRP areas in customizing. If the required customizing entries are missing, you have to create them manually. Follow the instructions provided by the report. If all prerequisites are fulfilled, then the report generates material master records for planning on MRP area level using the storage location material records. After the report was performed, planning is done on MRP area level, also if MRP is performed on the start release.

Summary

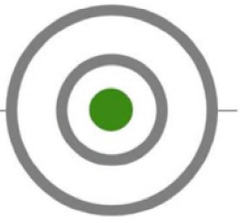
You should now able to:

- Understand the basics of Storage Location MRP in SAP S/4HANA Manufacturing.



Lesson 4:
Logistics_PP – External Interfaces

Learning Objective



After completing this lesson, you will be able to:

- Understand the basics of the Logistics_PP – External Interfaces.

Manufacturing Execution Logistics_PP – External Interfaces

The following interfaces to external systems are no longer supported in SAP S/4HANA

Interface	Package	Reason
PFS-Interface	CPFS	The process flow scheduler PFS was a scheduling tool for the process industries offered by SAP. It was replaced by SAP-SCM with R/3 release 4.6C. See also separate simplification item SI33.
LPO-Interface	XLPO	Lean planning and operations LPO was an algorithm for leveling production based on lean principles. The algorithm was never productized
Icon Interface	/SCRM/*	Icon was a response management solution. SAP's preferred solution for response management is IBP for response.
CBP Interface	CBPC	The constraint-based planning interface (CBP interface) was replaced by the POI interface in 2002. For details, see note 500526.
KK2 Interface		This interface used an outdated interface technology (flat file)
KK5 Interface		This interface used an outdated interface technology (flat file)
S95 Interface		See separate simplification item S19: Logistics PP

General recommendation: Use the POI interface or the integration with Manufacturing Execution Systems instead.

Use the POI interface or the MES interface to connect SAP S/4HANA to an MES system or a planning system.
For details, see the MES integration documentation and the POI documentation.

ERP-MES Integration (PP-MES)

This component enables you to integrate your ERP application with a manufacturing execution system (MES). You can use this solution for manufacturing processes in discrete and repetitive manufacturing.

Implementation Considerations
Install this component if you want to integrate shop floor data with the ERP system using an MES.
By implementing this component, you can simplify numerous production processes and keep data consistent between the ERP system and an MES.

Production Optimization Interface (POI): Overview
Optimization programs are implemented in production planning for expensive and complex productions.
POI (*P* roduction *O* ptimization *I* nterface) is an open interface that allows an SAP system user to access and use the functionality of these optimization programs.

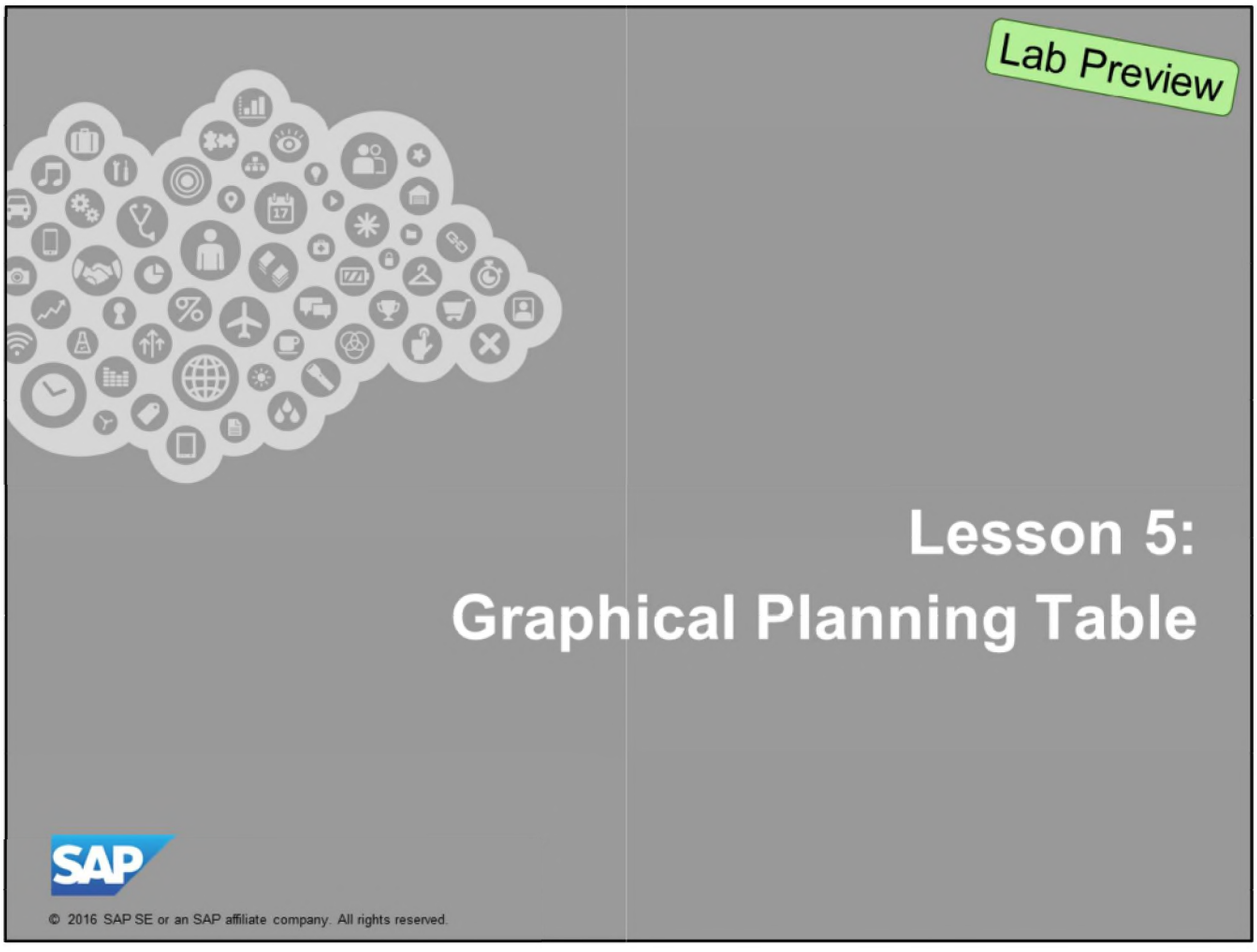
Summary

You should now able to:

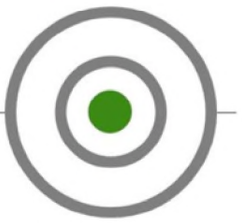
- Understand the basics of the Logistics_PP – External Interfaces.

Agenda

- Introduction
- Basic Subcontracting
- Storage Location MRP
- Logistics_PP – External Interfaces
- Graphical Planning Table
- Logistics Information System (LIS)
- Integrated Business Planning (IBP)
- Simplified Sourcing
- Planning File & Planning Horizon
- Total Dependent Requirements
- List of obsolete Functionalities



Learning Objective



After completing this lesson, you will be able to:

- Understand the basics of the Graphical Planning Table.

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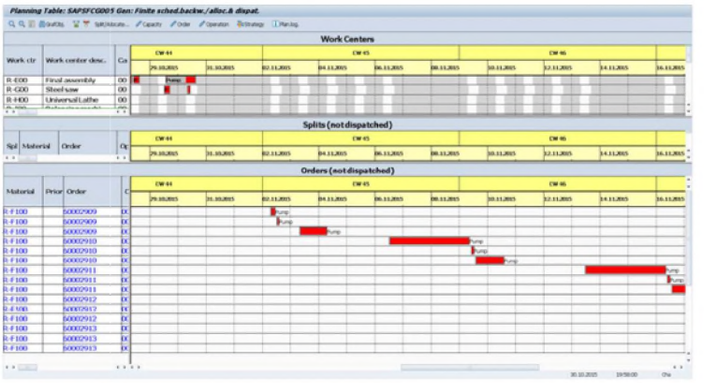
Manufacturing Execution
Graphical Planning Table

General Content

The classic ERP implementation of the graphical planning table has the following disadvantages:

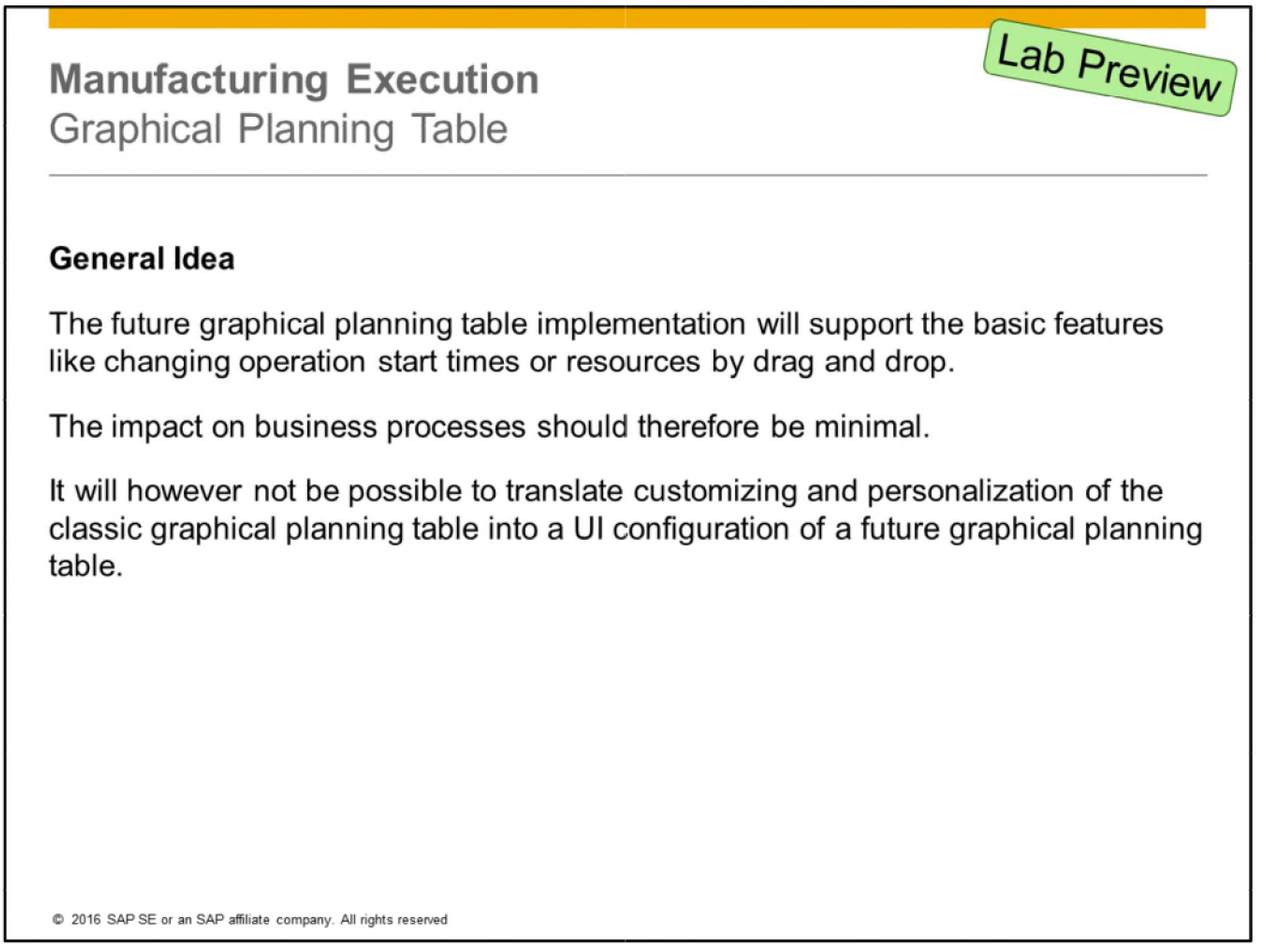
- Complicated customizing
- Poor performance
- Old UI technology; does not run in browsers (not suitable for cloud)
- Locking problems

Therefore SAP intends to replace the classic planning table with a new implementation.



The graphical planning table (also known as graphical planning board or Gantt chart) can be used for capacity load levelling and sequence planning.

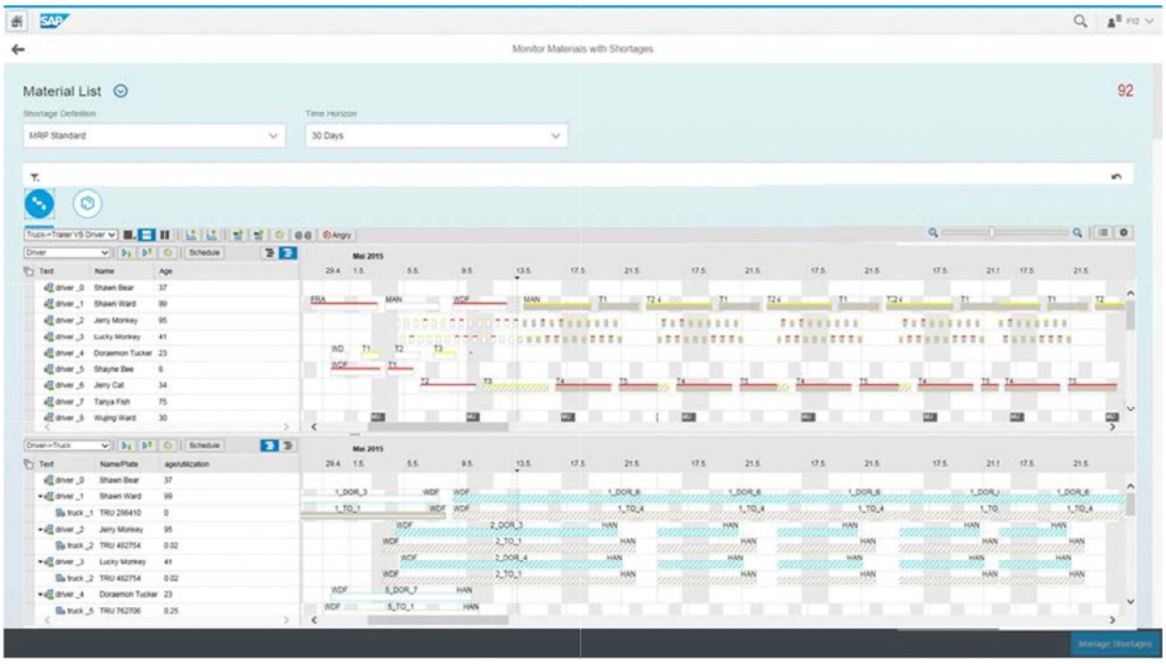
The graphical planning table is still available in SAP S/4HANA, but not considered as the target architecture.
Currently there is no functional equivalent available within SAP S/4HANA, on-premise edition 15119.



The future graphical planning table implementation will support the basic features like changing operation start times or resources by drag and drop. The influence on business processes should therefore be minimal. It will however not be possible to translate customizing and personalization of the classic graphical planning table into a UI configuration of a future graphical planning table.

Lab Preview

Manufacturing Execution
Graphical Planning Table



Manufacturing Execution
Graphical Planning Table

Lab Preview

Disadvantages classical planning board:

- Complicated customizing
- Poor performance
- Old UI technology; does not run in browsers and is therefore not suitable for cloud solutions
- Locking problems
- Therefore SAP intends to replace the classic planning table with a new implementation.

Advantages new planning board:

- The future graphical planning table implementation will support the basic features like
- changing operation start times or resources by drag and drop. The impact on business processes should therefore be minimal.
- It will however not be possible to translate customizing and personalization of the classic graphical planning table into a UI configuration of a future graphical planning table.

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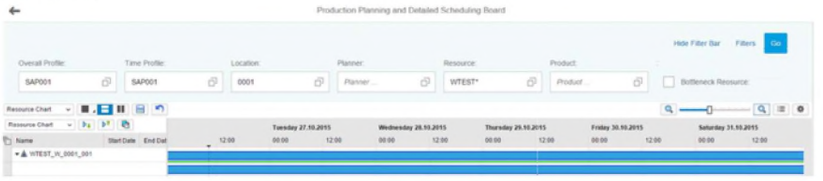
Lab Preview

Manufacturing Execution

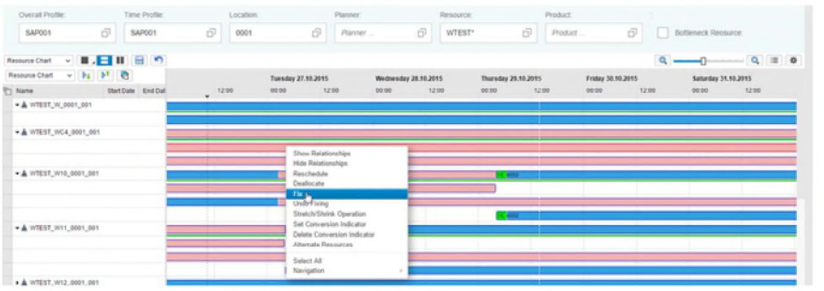
New planning board – preview of planned functionalities

General Idea

- Selection of the relevant resources directly in the new planning board including F4-help



- Navigation in the new planning board via context menu



New look and feel with higher flexibility and easy handling

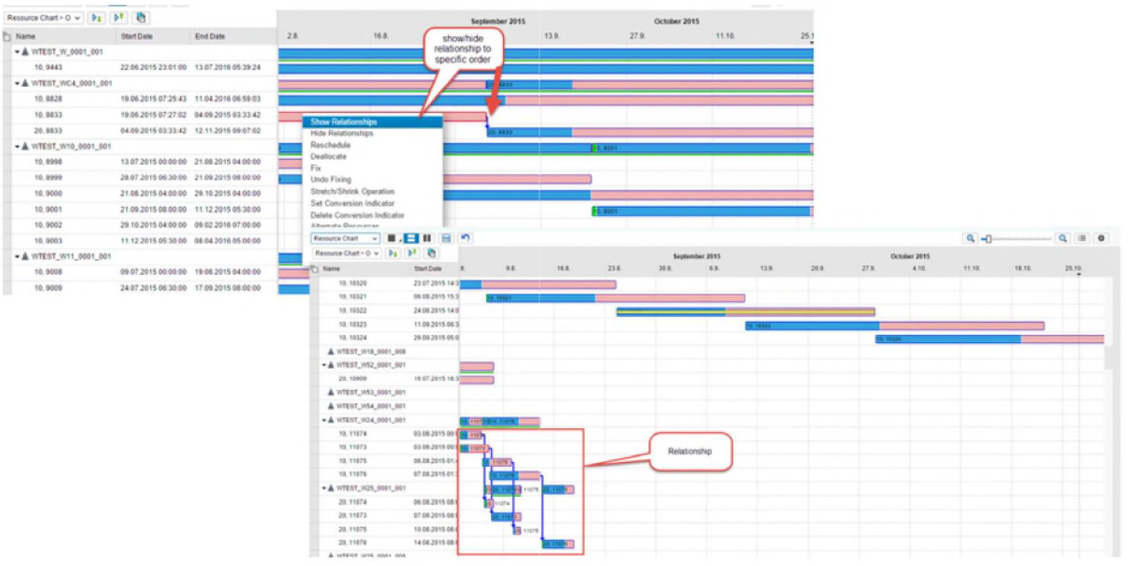
Lab Preview

Manufacturing Execution

New planning board – preview of planned functionalities

General Idea

- Advanced functionalities for analysis of orders and ressources



Advanced functionalities for resource and order planning via new context menu.

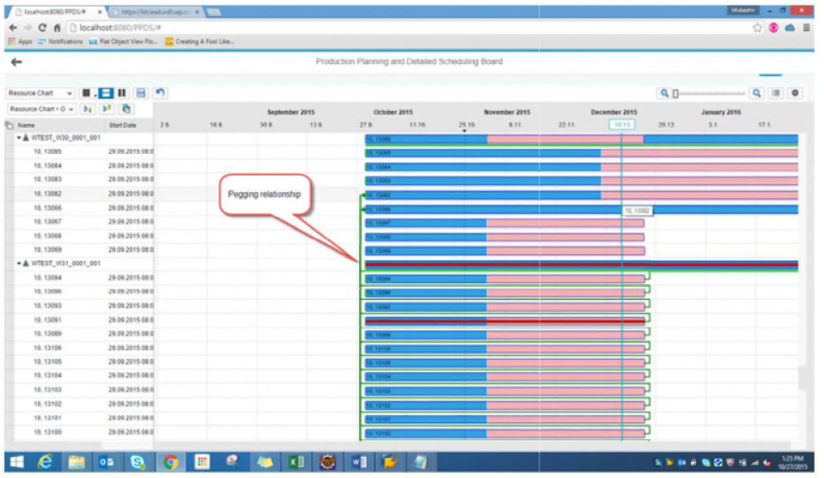
Lab Preview

Manufacturing Execution

New planning board – preview of planned functionalities

General Idea

- Pegging Information



Pegging is used to assign suitable existing product receipts and product stocks, which can cover the requirement, to a product requirement. Pegging organizes the material flow through all BOM levels, from the procurement of components and raw materials to delivery of a sales order, for example. Orders that are linked together, and their pegging relationships, form a pegging structure.

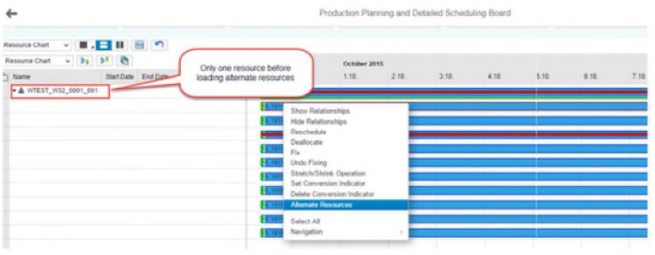
Manufacturing Execution

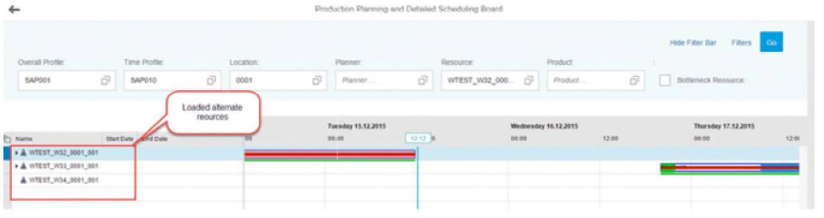
New planning board – preview of planned functionalities

Lab Preview

General Idea

- Usage of alternate resource





You can specify several alternative resources for an operation, on which the manufacturing can be carried out. In the resource planning table, you can then reschedule these operations to an alternative resource, in order, for example, to achieve better resource utilization.

Lab Preview

Manufacturing Execution

New planning board – preview of planned functionalities

General Idea

- Product and resource chart at a glance

Summary

You should now able to:

- Understand the basics of the Graphical Planning Table.

Agenda

- Introduction
- Basic Subcontracting
- Storage Location MRP
- Logistics_PP – External Interfaces
- Graphical Planning Table
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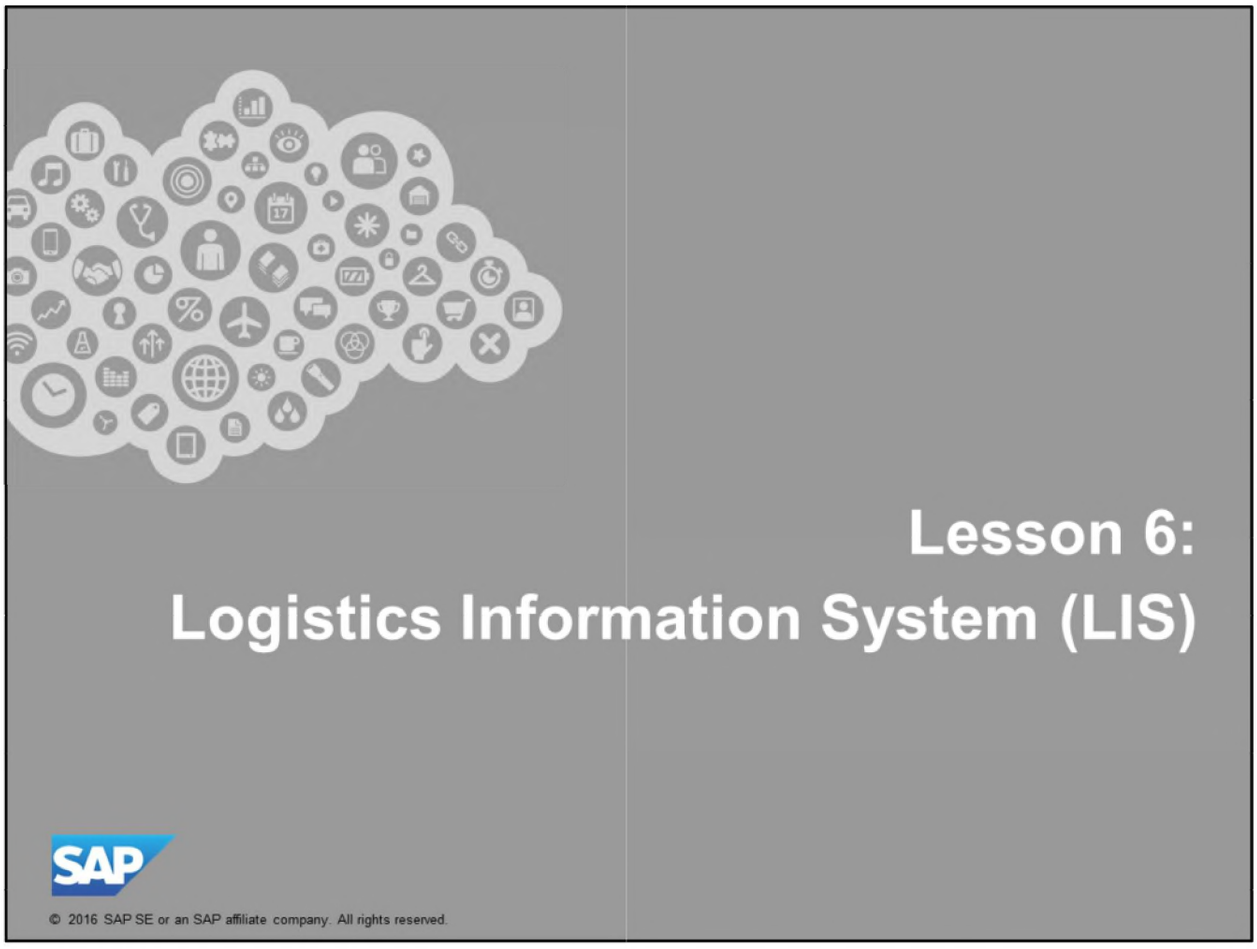
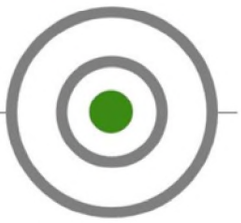


Remark: For the general approach regarding analytics within SAP S/4HANA see the following analytics simplification item in cross topics area.

Learning Objective



After completing this lesson, you will be able to:

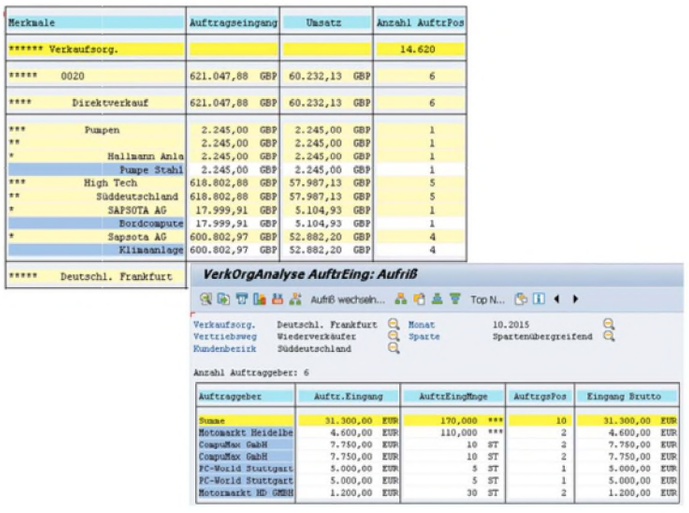
- Understand the basics of the SAP S/4HANA Logistics Information System (LIS).

Logistics Information System LIS

General Content

LIS operates on redundant data. Every business transaction not only updates the business documents, but also pre-aggregated data in LIS.

Performance suffers, locking conflicts might occur, and memory is wasted.



Merkmale	Auftragseingang	Umsatz	Anzahl AuftrPos
****** Verkaufsorg.			14.620
***** 0020	621.047,88 GBP	60.232,13 GBP	6
**** Direktverkauf	621.047,88 GBP	60.232,13 GBP	6
*** Pumpen	2.245,00 GBP	2.245,00 GBP	1
**	2.245,00 GBP	2.245,00 GBP	1
* Hallmann Anla	2.245,00 GBP	2.245,00 GBP	1
Pumpe Stahl	2.245,00 GBP	2.245,00 GBP	1
*** High Tech	618.802,88 GBP	57.987,13 GBP	5
** Süddeutschland	618.802,88 GBP	57.987,13 GBP	5
* SAPSOTA AG	17.999,91 GBP	5.104,93 GBP	1
Bordcompute	17.999,91 GBP	5.104,93 GBP	1
* Sapsota AG	600.802,97 GBP	52.882,20 GBP	4
Klimaanlage	600.802,97 GBP	52.882,20 GBP	4
***** Deutschl. Frankfurt			

VerkOrgAnalyse AuftrEing: Aufriß

Verkaufsorg. Deutschl. Frankfurt — Monat 10.2015
Vertriebsweg Wiederverkäufer — Sparte
Kundenbezirk Süddeutschland — SpartenÜbergreifend

Anzahl Auftraggeber: 6

Auftraggeber	Auftr.Eingang	AuftrEingMnge	AuftrgsPos	Eingang Brutto
Summe	31.300,00 EUR	170,000 ***	10	31.300,00 EUR
Motomarkt Heidelbe	4.600,00 EUR	110,000 ***	2	4.600,00 EUR
CompuMax GmbH	7.750,00 EUR	10 ST	2	7.750,00 EUR
CompuMax GmbH	7.750,00 EUR	10 ST	2	7.750,00 EUR
PC-World Stuttgart	5.000,00 EUR	5 ST	1	5.000,00 EUR
PC-World Stuttgart	5.000,00 EUR	5 ST	1	5.000,00 EUR
Motormarkt HD GMBH	1.200,00 EUR	30 ST	2	1.200,00 EUR

The shop floor information system is part of the logistics information system LIS10. The LIS can be used to compare planned vs. actual parameters like lead time, execution time, queue times, scrap, and so on. The classic ERP implementation of the LIS has some specifics:

- LIS operates on redundant data. Every business transaction not only updates the business documents, but also pre-aggregated data in LIS. Performance suffers, locking conflicts might occur, and memory is Wasted
- LIS operates on pre-aggregated data. It is not possible to drill down into the individual business documents. Multi-dimensional reporting (aka Slicing and dicing) is only possible for dimensions provided in the pre-aggregated data
- LIS uses an old UI technology making multi-dimensional reporting clumsy
- LIS only supports material numbers with up to 30 characters

Manufacturing Execution
Logistics Information System LIS

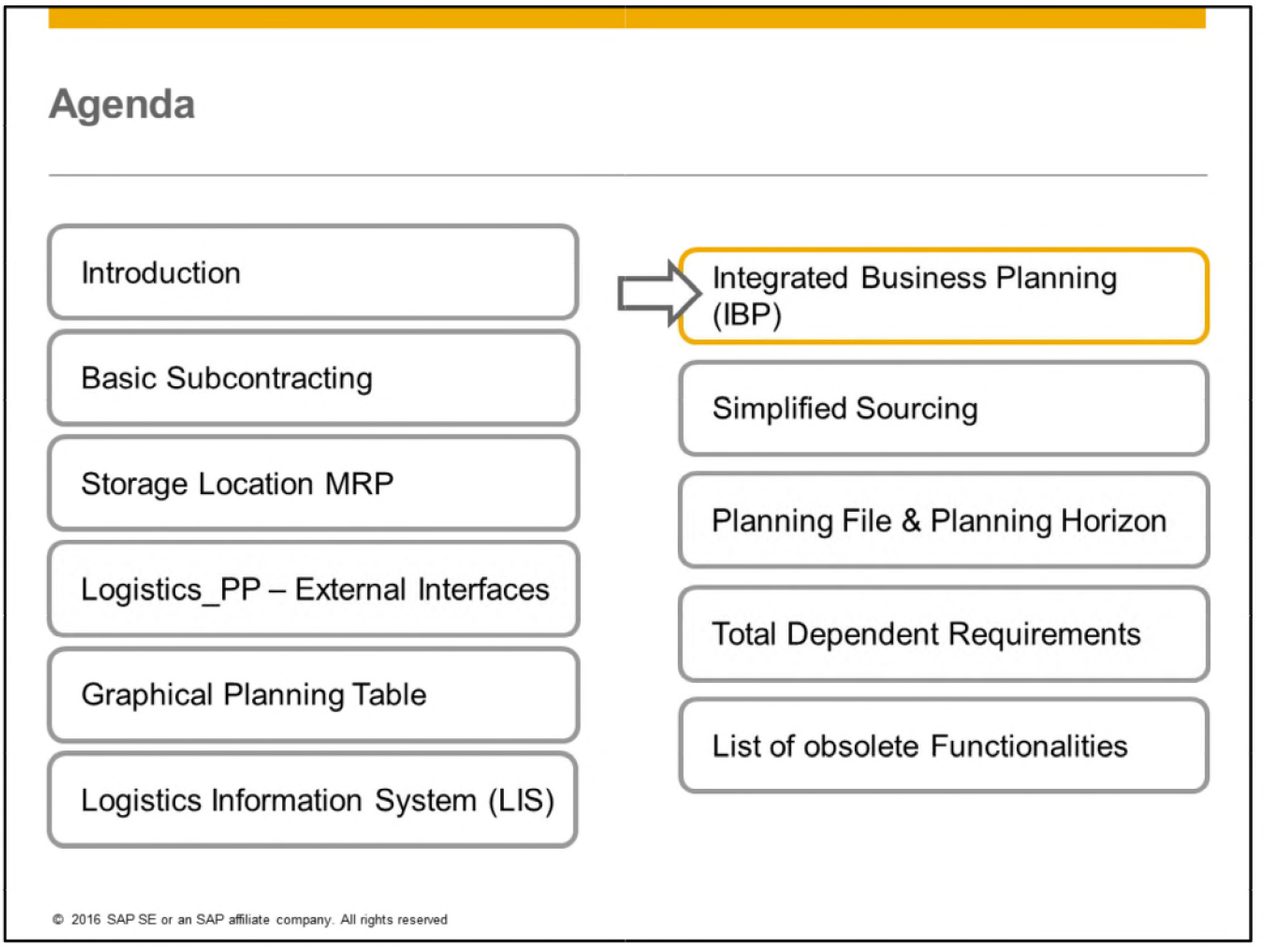
Disadvantages of LIS

- LIS operates on pre-aggregated data. It is not possible to drill down into the individual business documents.
- Multi-dimensional reporting (aka Slicing and dicing) is only possible for dimensions provided in the pre-aggregated data
- LIS uses an old UI technology making multi-dimensional reporting clumsy
- LIS only supports material numbers with up to 30 characters

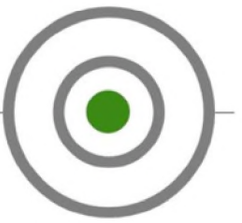
Summary

You should now able to:

- Understand the basics of the SAP S/4HANA Logistics Information System (LIS).



Learning Objective



After completing this lesson, you will be able to:

- Understand the basics of the SAP S/4HANA Integrated Business Planning (IBP).

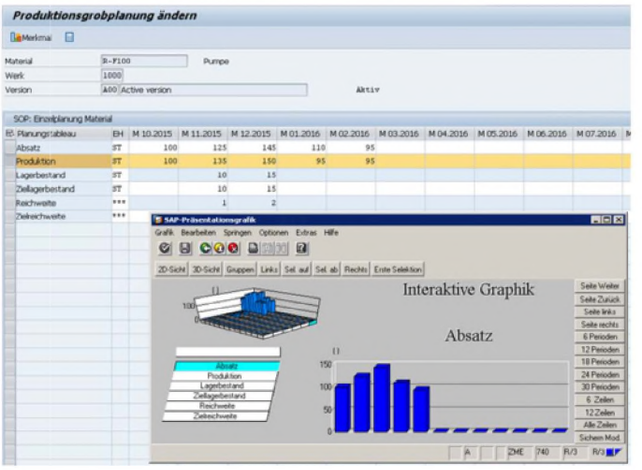
Manufacturing Execution

Sales & Operations Planning SOP will be replaced by IBP

General Content

Sales & Operations Planning (SOP) will be replaced by Integrated Business Planning IBP.

Integrated Business Planning supports all SOP features plus advanced statistical forecasting, multi-level supply planning, an optimizer, collaboration tools, an Excel-based UI, and Web-based Uis.



Recommendation:

Do not invest in the classic PP SOP!

Sales & Operations Planning (SOP) is a forecasting and planning tool for setting targets for sales and production based on historical, current, or estimated data. SOP is used for long-term strategic planning, not short-term tactical planning. Resource requirements can be computed to determine work center load and utilization.

SOP is often performed on aggregated levels such as product groups and work-center hierarchies. Sales & Operations Planning includes standard SOP and flexible planning. Standard SOP comes preconfigured with the system. Flexible planning offers options for customized configuration.

Lab Preview

Manufacturing Execution
Integrated Business Planning for Sales & Operations

Key Capabilities:

- Create the **optimal business plan** to drive revenue growth and increase market share
- Effectively **balance demand and supply**, while attaining financial targets
- **Increase speed and agility of planning**, and drive the most profitable responses
- **Improve forecast accuracy** and on-time delivery

Future production analytics will be based on HANA, CDS views aggregating transactional data dynamically, and powerful analytical UIs for multi-dimensional reporting. With this it will be possible to replace the current LIS.

You will be able to use classic LIS and the future production analytics in parallel for some time as long as you do not switch off the update of the LIS tables11. Once future production analytics supports all your analytics requirements, you can switch off the update of the LIS tables. Once you have switched off updating LIS tables, you will notice the following improvements:

- Improved performance of many transactions (fewer tables to update, fewer locking conflicts)
- Less memory required

Lab Preview

Manufacturing Execution
Integrated Business Planning for Sales & Operations

Key Capabilities:

- Ability to **model multiple tiers** of the supply chain network including: Customers, DC's, Plants, and Suppliers
- Ability to **model multiple level BOM's** as a constraint
- Capable of **planning for distribution, production, and procurement**

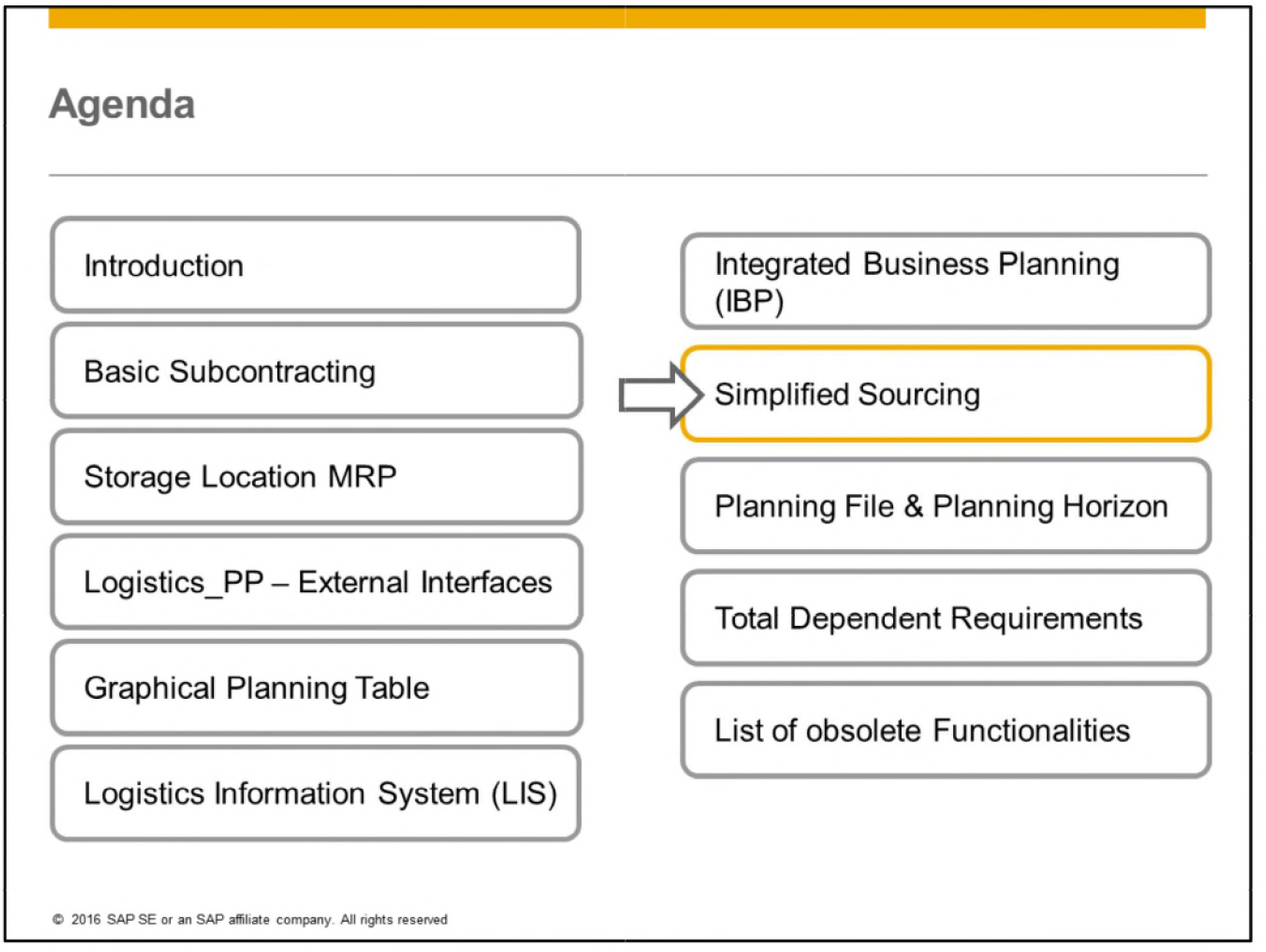
Sales & Operations Planning (SOP) will be replaced by Integrated Business Planning IBP12. Integrated Business Planning supports all SOP features plus advanced statistical forecasting, multi-level supply planning, an optimizer, collaboration tools, an Excel-based UI, and Web-based UIs.

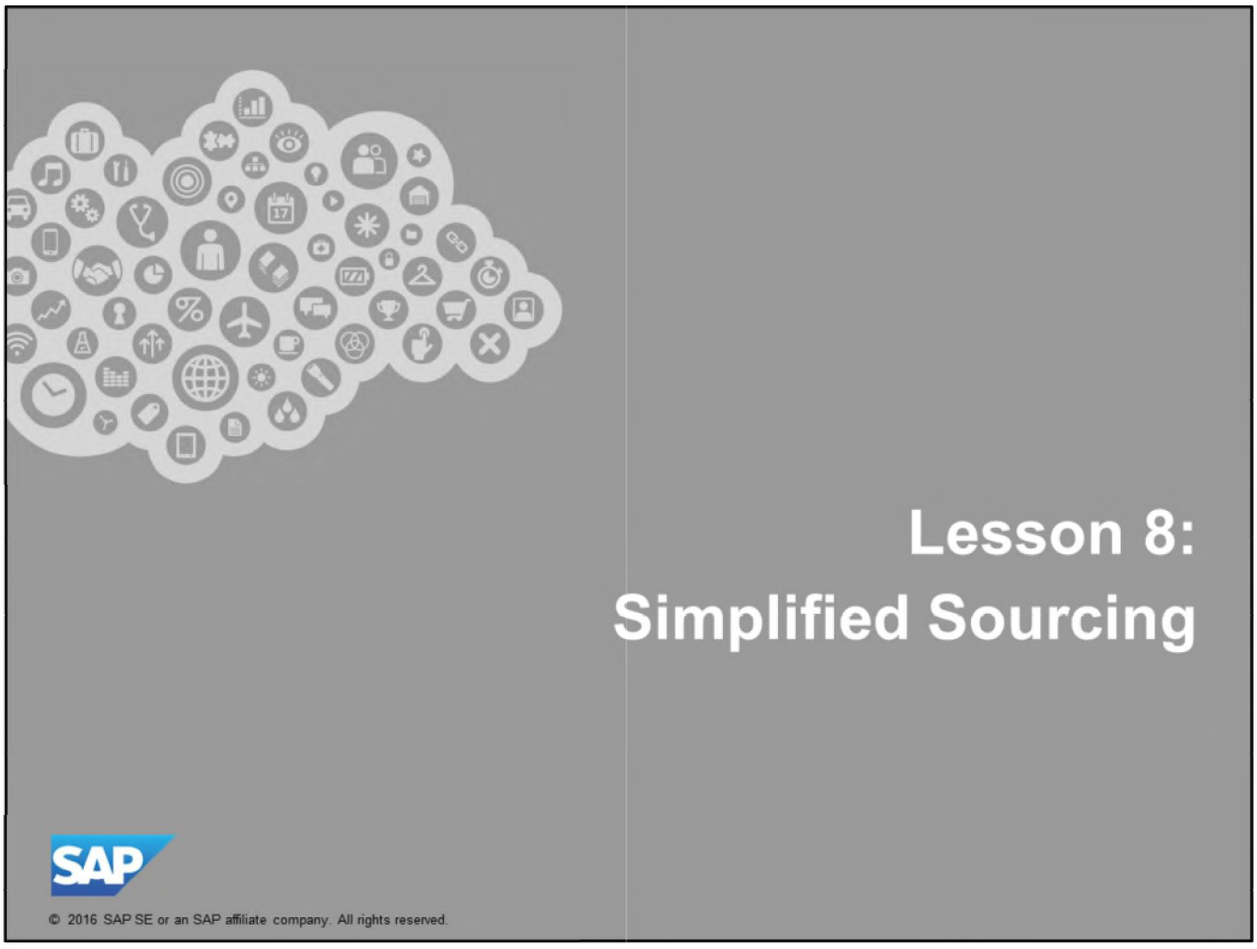
PP SOP is intended as a bridge or interim solution, which can be used until IBP is available as part of SAP S/4HANA, on-premise edition 1511 and which allows you a stepwise system conversion from SAP ERP to SAP S/4HANA, on-premise edition 1511.

Summary

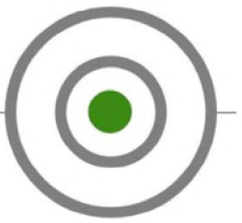
You should now able to:

- Understand the basics of the SAP S/4HANA Integrated Business Planning (IBP).





Learning Objective



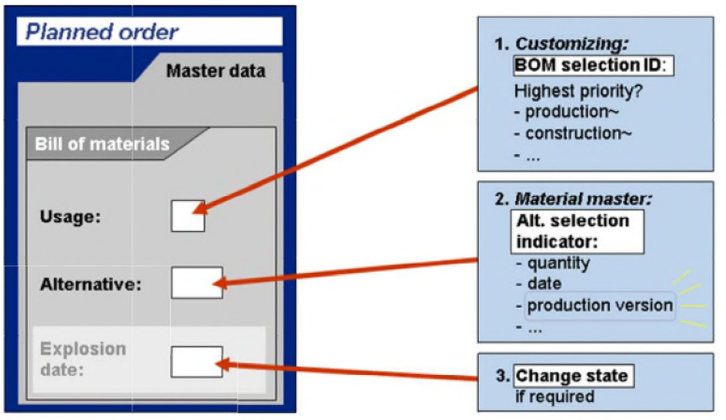
After completing this lesson, you will be able to:

- Understand the basics of SAP S/4HANA Simplified Sourcing.

Simplified Sourcing

General Content

MRP determines material shortages, then determines lot sizes, and then sources of supply. After lot sizing, the planned material receipts with the requirement date and quantity are known. Subsequently sourcing determines whether the required quantity is manufactured or purchased and from which supplier the material is purchased.

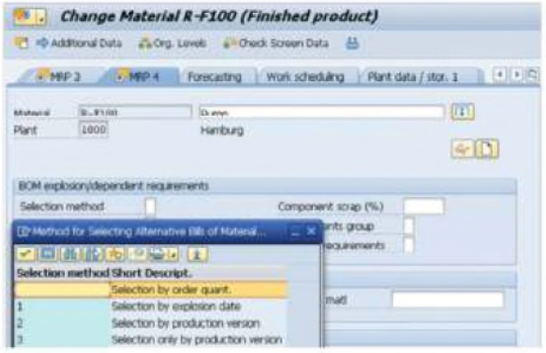


MRP determines material shortages, then determines lot sizes, and then sources of supply. Lot sizing can decide to cover several material shortages with just one material receipt. After lot sizing, the planned material receipts with the requirement date and quantity are known. Subsequently sourcing determines whether the required quantity is manufactured or purchased and from which supplier the material is purchased.

Manufacturing Execution
Simplified Sourcing (SAP S/4HANA)

Source of supply – old

The source of supply for internal production was determined via selection method in the master data. Selection could be done via quantity, explosion date and production version



Source of supply – new

For the determination of the source of supply for internal production in future only the production version is available.

Pre-requisite:

- the planned material receipt's quantity is inside the quantity range of the production version
- the planned material receipt's delivery date is in the validity period of the production version

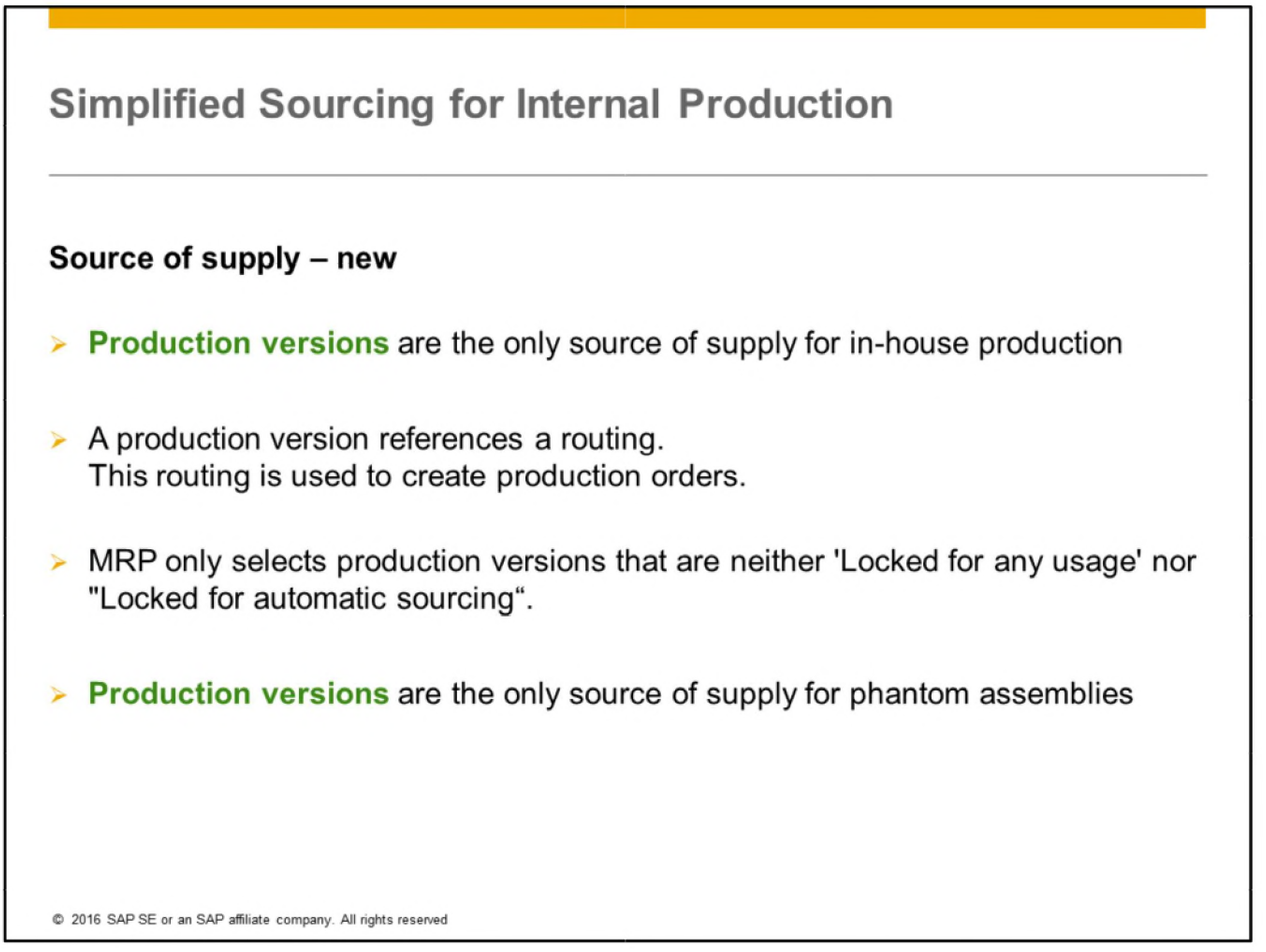
The Basic idea of this simplification is a reduced set possible sources of supply. SAP S/4HANA supports the
following types of sources of supply:

- Production versions
- Delivery schedules
- Purchasing contracts
- Purchasing info records

Sources of supply have a common set of attributes like a temporal validity interval and a quantitative validity interval.

Sourcing selects valid sources of supply with the following conditions:

- The source of supply is a production version
  - and the procurement type of the material is either 'F' (in-house production) or 'X' (Both procurement types)
  - and the production version is neither "Locked for any usage" nor "Locked for automatic sourcing"
  - and the planned material receipt's quantity s inside the quantity range of the production version
  - and the planned material receipt's delivery date is in the validity period of the productionversion
- The source of supply is a purchasing info record
  - and the procurement type is 'F' (external procurement)
  - and the purchasing info record is flagged for "Relevant for automatic sourcing"
  - and the planned material receipt's quantity s inside the quantity range of the purchasing info record
  - and the planned material receipt's delivery date is in the validity period of the purchasing info record
- The source of supply is a delivery schedule and the procurement type is 'F' (external procurement)
- The source of supply is a purchasing contract and the procurement type is 'F' (external procurement)



If you want a BOM or routing to be considered by MRP, you have to create a production version.

If you want MRP to source a purchase requisition from a certain supplier, you no longer have to define a source list entry.
It is sufficient to set the indicator "relevant for automatic sourcing" in the purchasing info record.

Simplified Sourcing for External Production

Source of supply – new

Subcontracting:
Production versions are the only source of supply for subcontracting. Using subcontracting purchasing info records to define the supplier, the production version should be defined in the purchasing info record

Purchasing info records and source list:
A new indicator “relevant for automatic sourcing“ managed, if purchasing info records are a source of supply in their own right

Source lists are not yet considered in the SAP S/4HANA on-premise edition 1511. Use quota arrangements as a workaround. MRP considers quota arrangements always. It is not required to switch it on in the material master

Simplified Sourcing

Advantages:

- The sourcing logic can treat the different sources of supply in a uniform way
- Quota arrangements can be used to prioritize any of the possible sources of supply
- Production versions make sure BOM and routing fit together
- Production versions have always been the only in-house production source of supply integrated with APO PP/DS. ERP sourcing and PP/DS sourcing become more similar.
- Purchasing info records, contracts, and delivery schedules have always been the external procurement sources of supply integrated with APO.

Actions required for manufactured materials

Check if production versions exist for those BOMs and routings that should be considered by MRP. The Conversion pre-check mentioned above can be used to this end. Report CS_BOM_PRODVER_MIGRATION
creates proposals for production versions based on BOM validities. Run the report and accept or reject the proposed production versions. Note 2194785 contains report CS_BOM_PRODVER_MIGRATION.

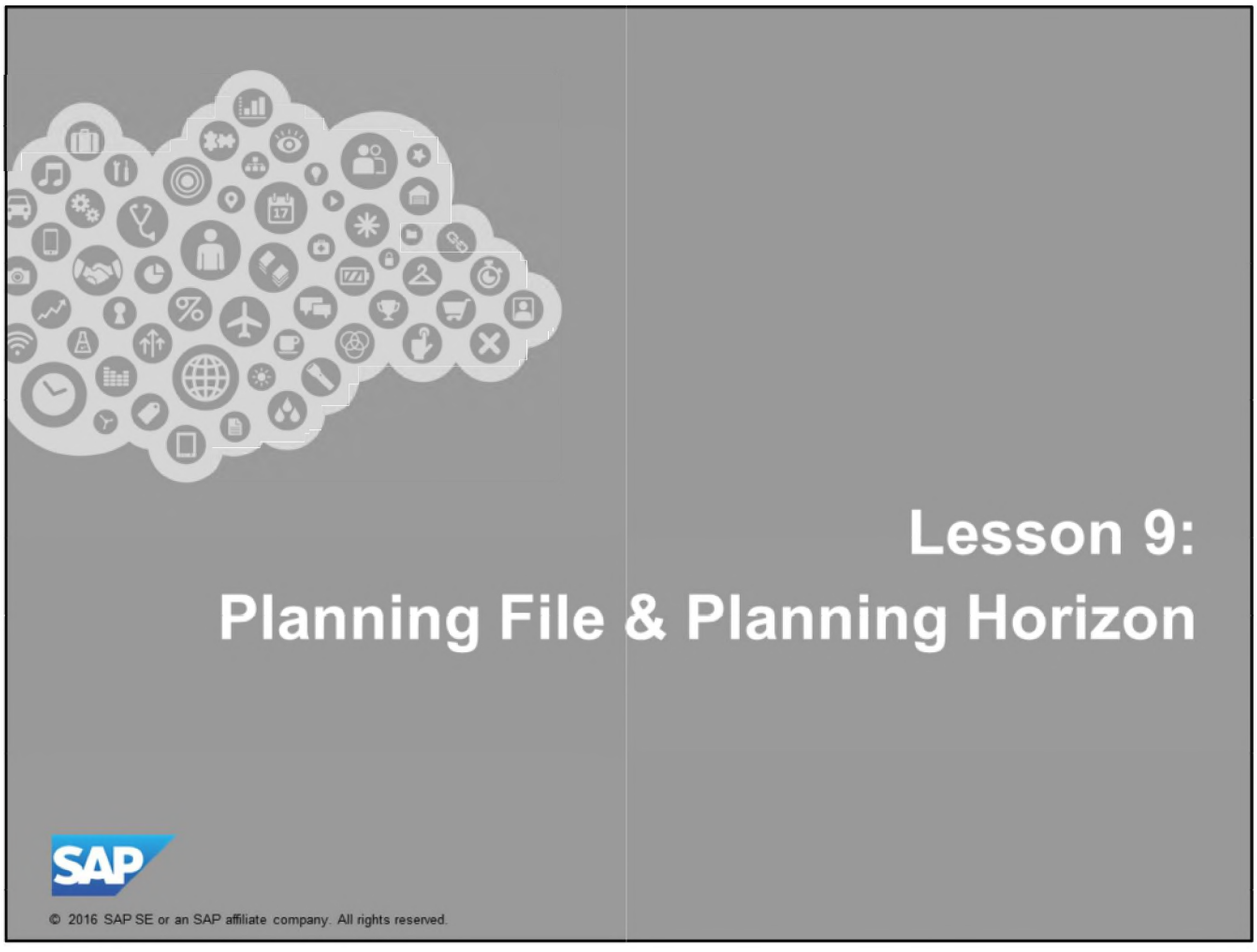
Summary

You should now able to:

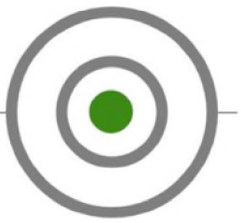
- Understand the basics of SAP S/4HANA Simplified Sourcing.

Agenda

- Introduction
- Basic Subcontracting
- Storage Location MRP
- Logistics_PP – External Interfaces
- Graphical Planning Table
- Logistics Information System (LIS)
- Integrated Business Planning (IBP)
- Simplified Sourcing
- Planning File & Planning Horizon
- Total Dependent Requirements
- List of obsolete Functionalities



Learning Objective



After completing this lesson, you will be able to:

- Understand the SAP S/4HANA Planning File & Planning Horizon.

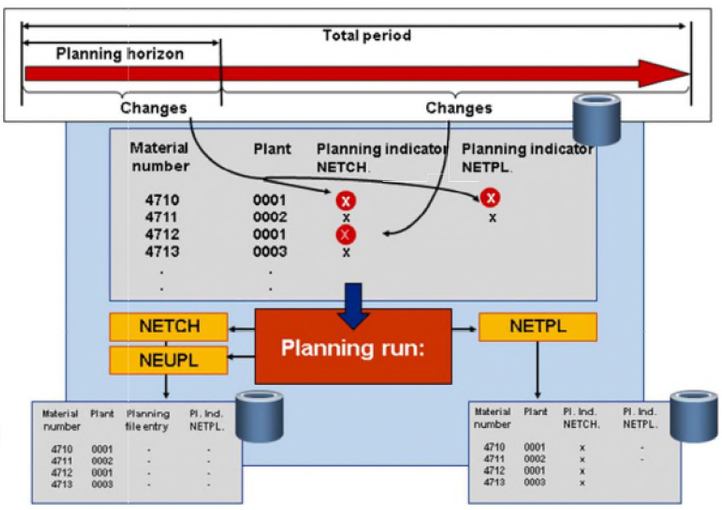
Manufacturing Execution
Planning File & Planning Horizon

General Content

MRP calculations are complex and therefore an MRP run can be lengthy.

Main idea:
Only the materials which requires a planning due to a new/changed material requirement should be planned.

Current solution:
Usage of the planning file, which has to be read during every planning run!



Planning File & Planning Horizon

General Idea

The planning file was used to reduce the elements which have to be planned to a minimum.
Therefore only materials with relevant changes (marked in the planning file) will be planned.

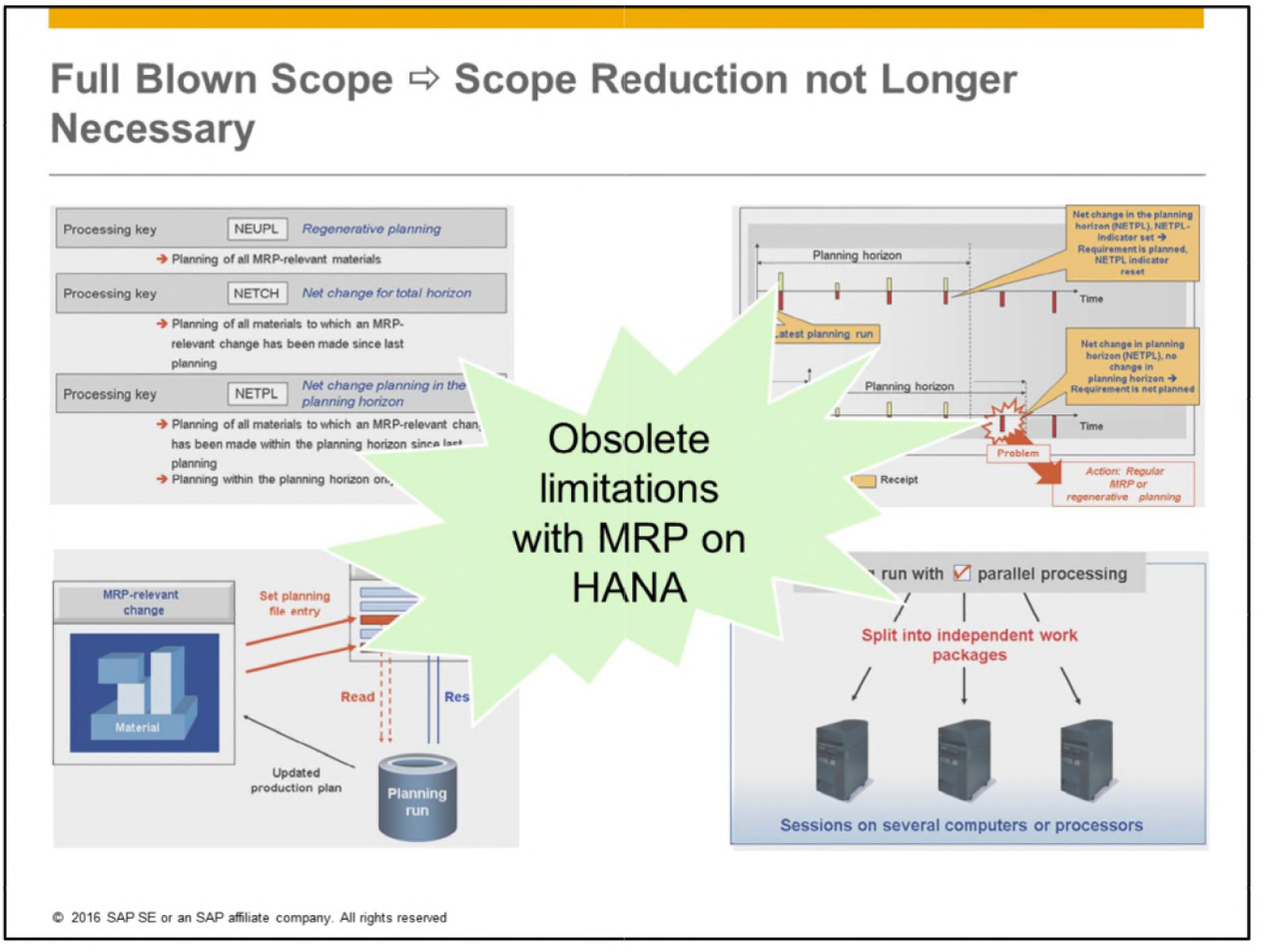
SAP S/4HANA always covers all material demand, just like processing key "NETCH" in SAP ERP. Planning inside the planning horizon is no longer supported.

⇒ Consequence:

The evaluation of the planning file during the planning run is not necessary anymore!

In the classic Business Suite, reports RMMDVM10 and RMMDVM20 made a first setup of planning file entries and checked planning file consistency for operative planning.

In SAP S/4HANA, run report PPH_SETUP_MRPRECORDS instead. For long-term planning, the reports RMMDVL10 and RMMDVL20 are replaced by the report PPH_SETUP_MRPRECORDS_SIMU.



SAP S/4HANA, on-premise edition 1511 no longer supports net change planning in the planning horizon (processing key NETPL). MRP always determines material shortages for all known material
requirements. MRP can no longer cover only the material shortages inside a limited planning horizon.

Demo 4: How to Perform a PP-Process in SAP S/4HANA
Create and Release Forecast

For the steps and data of this demo, refer to the exercise:

Perform a PP-Process in SAP S/4HANA-Create and Release Forecast.

Exercise 4: Perform a PP-Process in SAP S/4HANA

Create and Release Forecast

20 minutes

Watch

Try

Self-Test

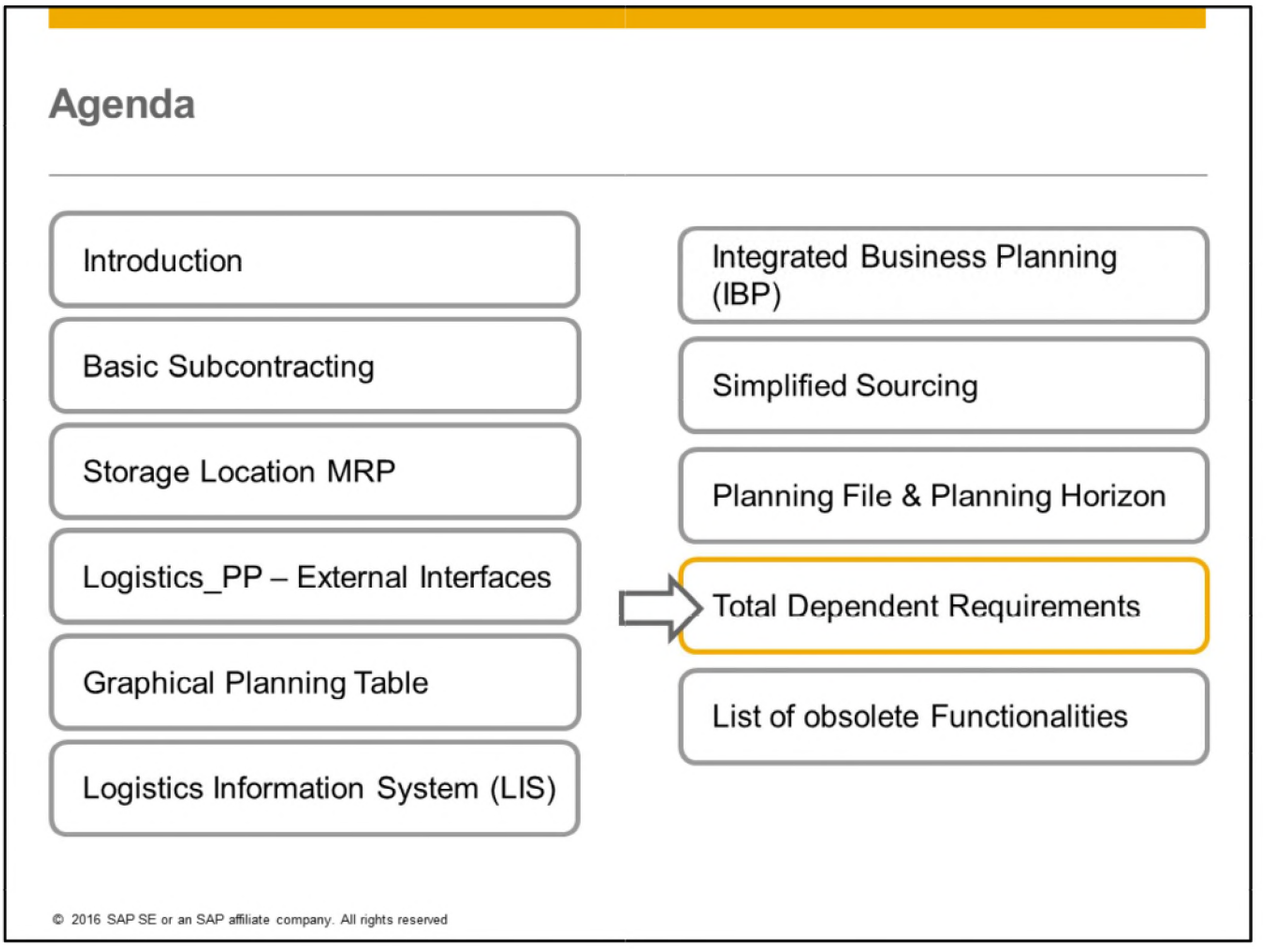
Print

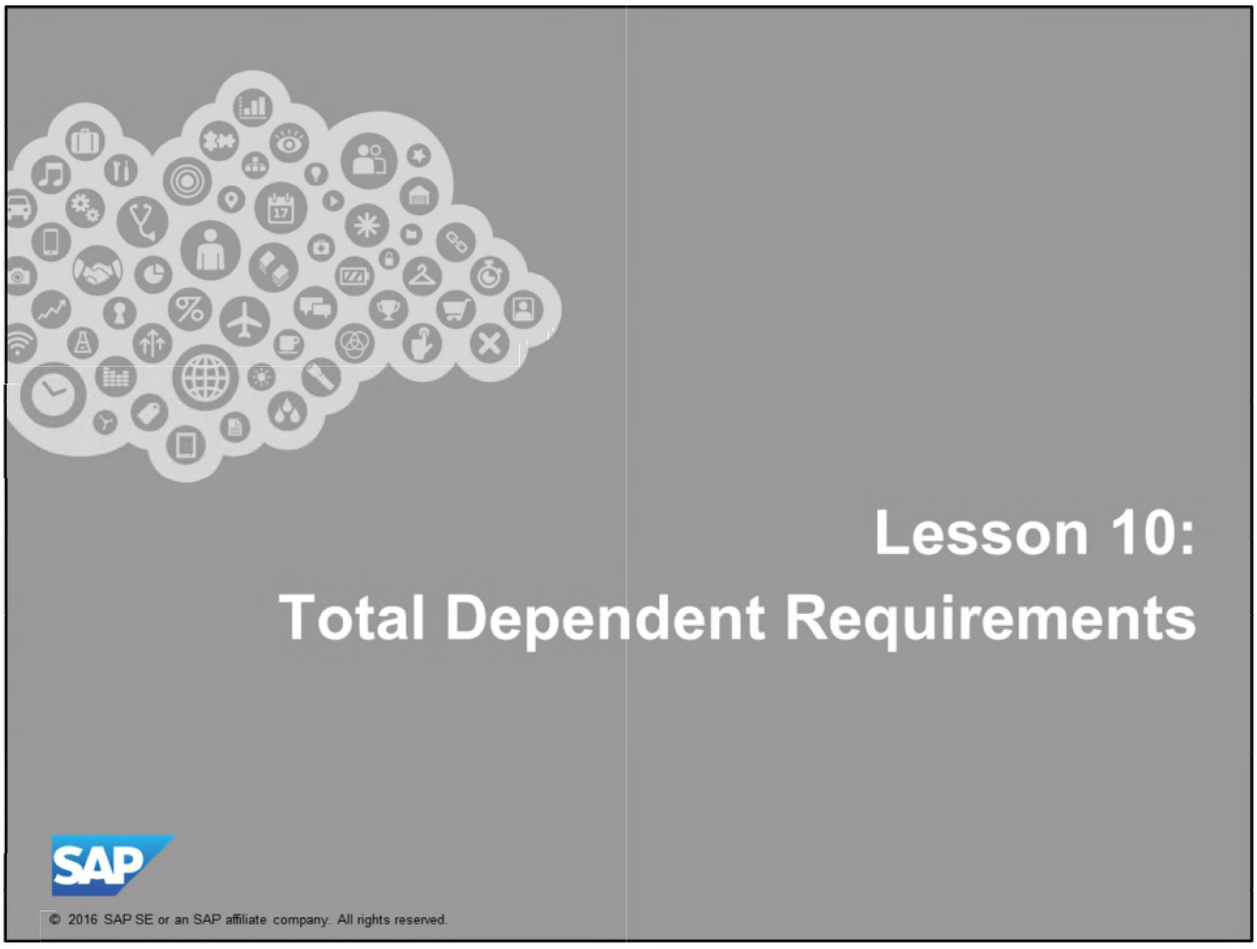
In this exercise, the participants will perform a complete production planning process in SAP S/4HANA.

Summary

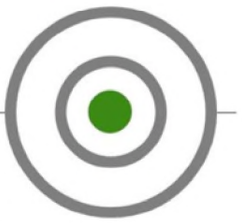
You should now able to:

- Understand the SAP S/4HANA Planning File & Planning Horizon.



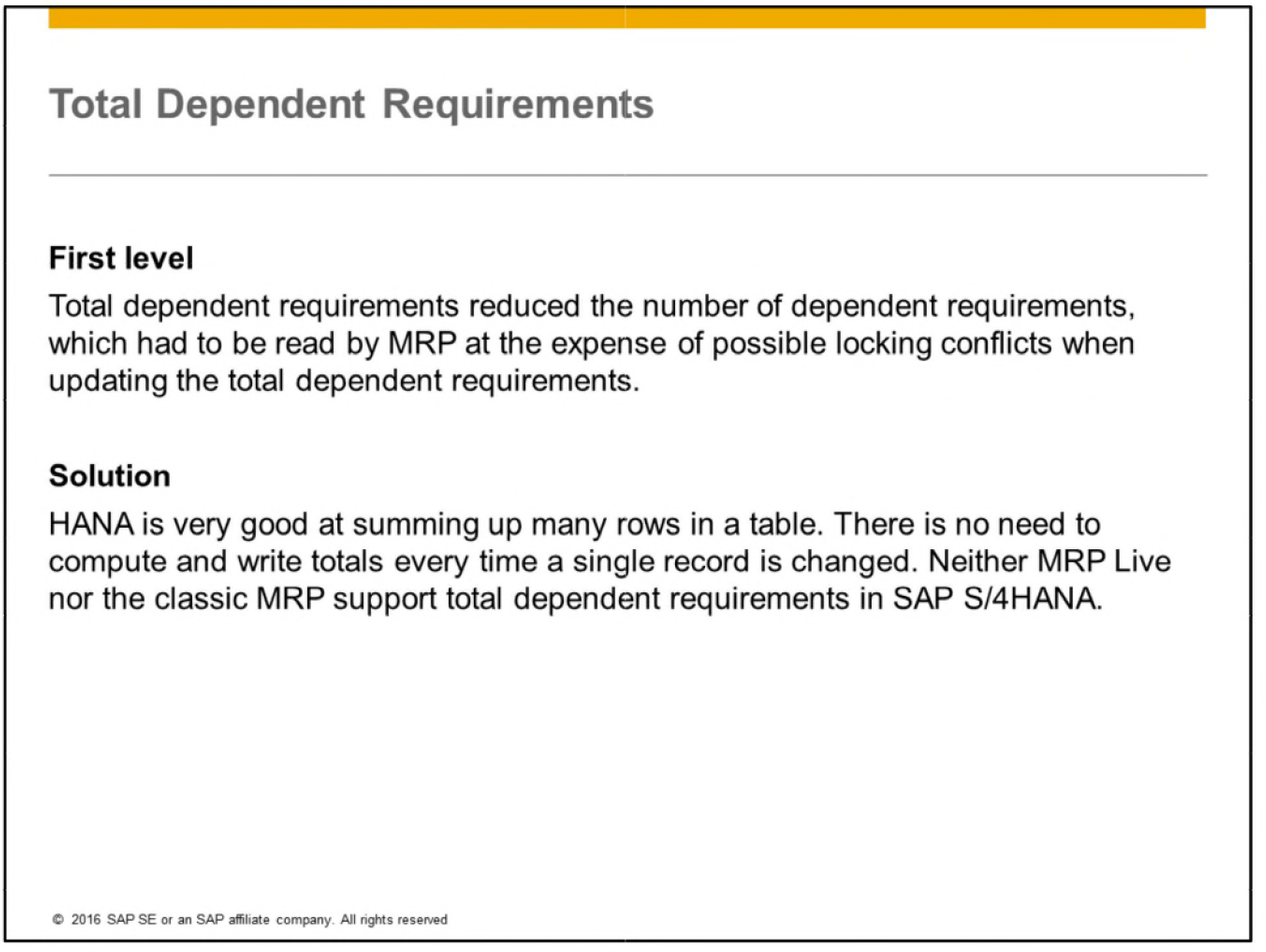


Learning Objective



After completing this lesson, you will be able to:

- Understand the Total Dependent Requirements of SAP S/4HANA Manufacturing.



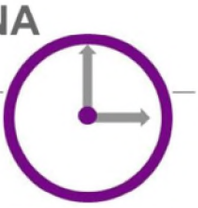
MRP runtime depends among many other factors on the number of material receipts and requirements that have to be read to compute a material's shortages. Materials, which are component of very many BOMs, can have many thousands of dependent requirements. Total dependent requirements reduced the number of dependent requirements, which had to be read by
MRP at the expense of possible locking conflicts when updating the total dependent requirements.

BOM explosion creates dependent requirements for all component materials needed to manufacture a material. Total dependent requirements create locking problems if the same component material is
used in the BOM of different materials. MRP live creates very many planned orders in parallel.
Locking conflicts would impair parallel processing and total MRP runtime.

Demo 5: How to Perform a PP-Process in SAP S/4HANA

For the steps and data of this demo, refer to the exercise:
Perform a PP-Process in SAP S/4HANA.

Exercise 4: Perform a PP-Process in SAP S/4HANA



15 minutes

Watch

Try

Self-Test

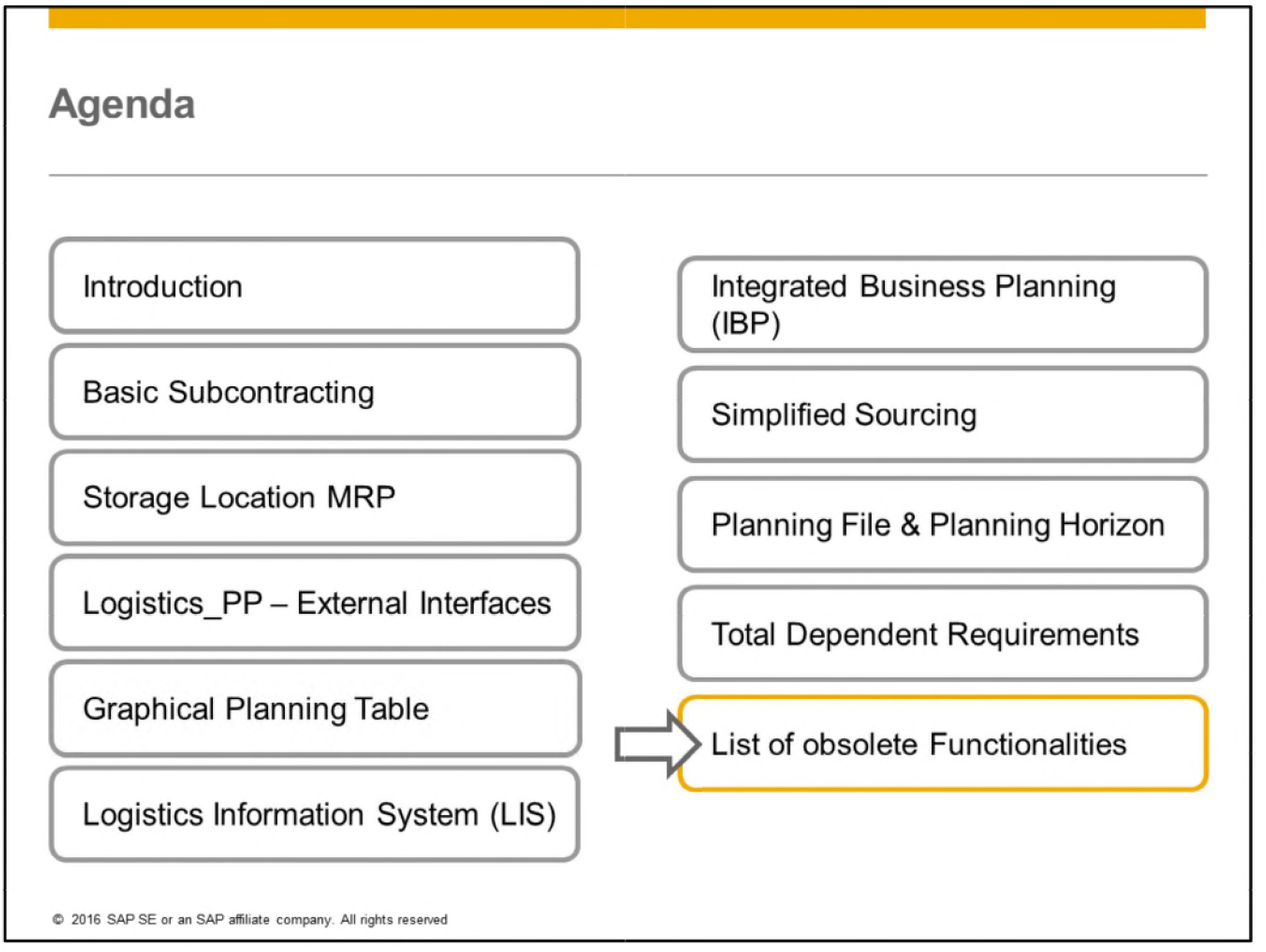
Print

In this exercise, the participants will display a Material Shortage and run a Material Shortage Analysis.

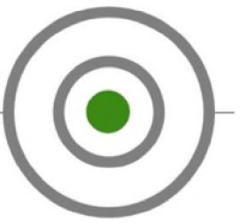
Summary

You should now able to:

- Understand the Total Dependent Requirements of SAP S/4HANA Manufacturing.



Learning Objective



After completing this lesson, you will be able to:

- Understand which Functions of the previous Manufacturing are obsolete with SAP S/4HANA Manufacturing.

Manufacturing Execution
List of obsolete functionalities (1)

Previous functionality	Future planned functionality
Forecast based planning (MRP type VV) is not strategic anymore within SAP S/4HANA and should be avoided if possible.	Step 1: Convert forecast requirements into planned independent requirements (PIR) Step 2: Change MRP type VV to one of the MRP types PD, P1, P2, P3, or P4
Classic demand forecasting copies the consumption history into an ABAP application server, performs the forecasting algorithm in ABAP and writes the result back into the database	SAP S/4HANA has a built in library of forecasting algorithms, which could be utilized for forecasting material demand. A future demand forecasting solution will probably perform the forecasting algorithm in HANA utilizing HANA's forecasting library.

Manufacturing Execution
List of obsolete functionalities (2)

Previous functionality	Future planned functionality
Standard value calculation with "Computer Aided Process Planning" CAPP was intended to determine the processing durations for production operations	Therefore CAPP was used very rarely. CAPP is no longer supported in SAP S/4HANA
ABAP list-based process instruction sheets have been replaced by browser-based PI sheets (SAP Note 397504)). Currently only very few customers (less than 5 known) still use ABAP list-based PI sheets.	The code needed for list-based PI sheets is still available in SAP S/4HANA on-premise edition 1511 but will be deleted in a future release. Use browser-based PI sheets for the time being.

Manufacturing Execution
List of obsolete functionalities (3)

Previous functionality	Future planned functionality
The ANSI/ISA S95 interface is outdated and has functional gaps that prevent easy consumption	The code needed for ANSI/ISA S95 interface is still available in SAP S/4HANA on-premise edition 1511 but will be deleted in a future release. Use MES Integration or the POI Interface instead.
Downtimes functionality (PP-PI-DTR) was developed in SAP R/3 4.6 C. Its productive usage has been withdrawn (SAP Note 333382).	The usage of downtimes functionality is therefore withdrawn in SAP S/4HANA on-premise edition 1511. The corresponding functionality will be removed in a future release.

Manufacturing Execution
List of obsolete functionalities (4)

Previous functionality	Future planned functionality
In SAP R/3 4.6 C, coding was created to support MiniApps and workplaces. MiniApps and workplaces were never released for productive usage.	The coding is still available in SAP S/4HANA on-premise edition 1511 but will be deleted in a future release.
The outdated functionality of flow manufacturing is still available in SAP S/4HANA, on-premise edition 1511 but will be deleted in a future release.	SAP Advanced Planning and Optimization (SAP APO) acts as successor. ERP coding enhancements will not be supported after replacement with SAP APO.

Manufacturing Execution
List of obsolete functionalities (5)

Previous functionality

The process flow scheduler PFS was a scheduling tool for the process industries offered by SAP. Since SAP R/3 4.6 C, the process flow scheduler is replaced by SAP Advanced Planning and Optimization APO (SAP Note 217113). The PFS interfaces have been deleted in SAP S/4HANA on-premise edition 1511.

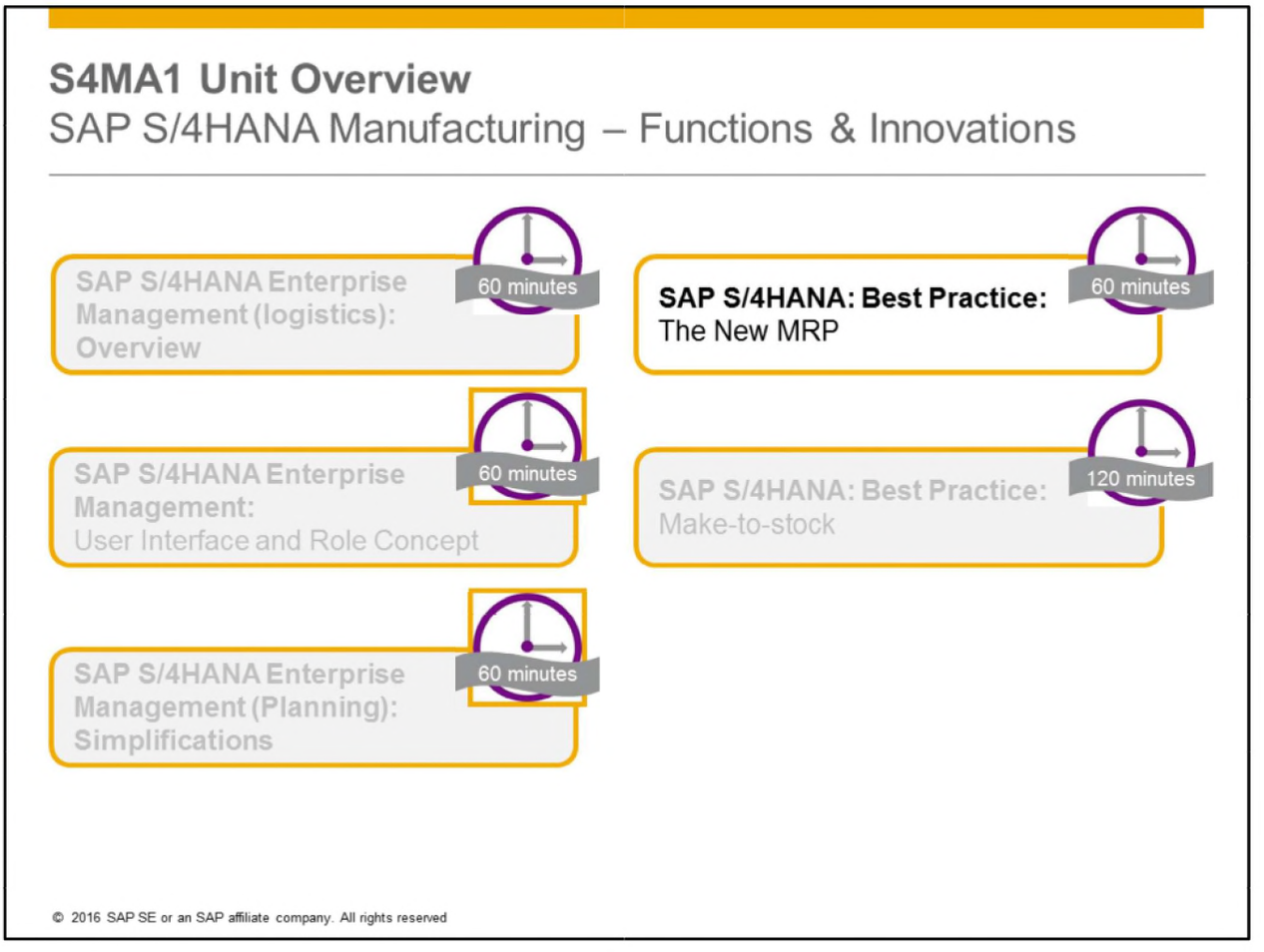
Future planned functionality

The PFS interfaces have been deleted in SAP S/4HANA on-premise edition 1511.

Summary

You should now able to:

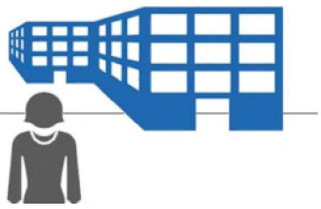
- Understand which Functions of the previous Manufacturing are obsolete with SAP S/4HANA Manufacturing.



Agenda

SAP S/4HANA Enterprise Management (logistics): Overview
SAP S/4HANA Enterprise Management: User Interface and Role Concept
SAP S/4HANA Enterprise Management (Planning): Simplifications
SAP S/4HANA: Best Practice: The New MRP
SAP S/4HANA: Best Practice: Make-to-stock

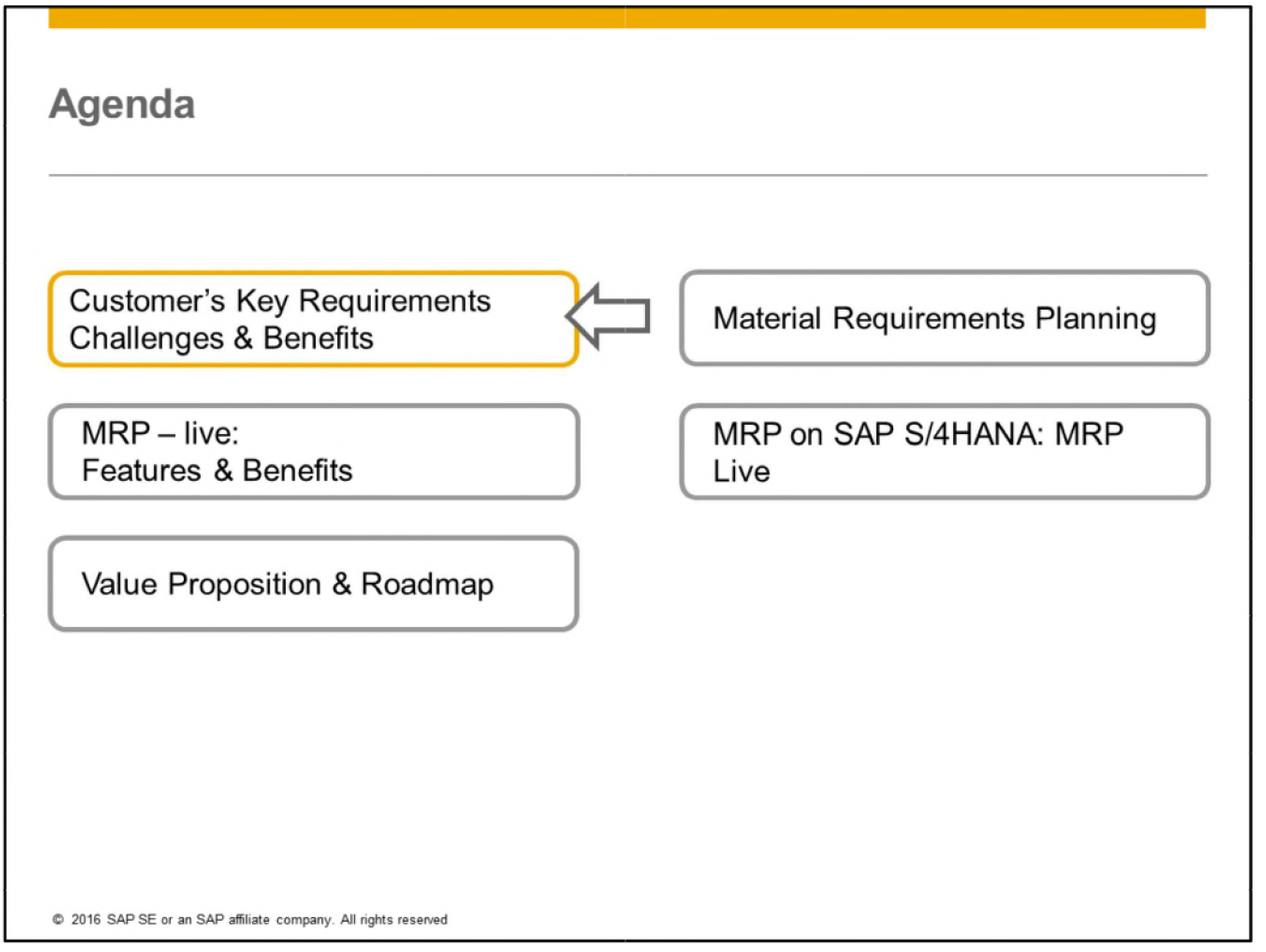
Scenario



SAP S/4HANA features MRP Live; an MRP run optimized for SAP HANA.

Production planners have to make sure material is available when needed.

MRP assists production planners with this task. The MRP run determines expected material shortages and creates planned orders, purchase requisitions, or delivery schedule lines to cover the expected material shortages. A shortage exists for a material if the material is subject to demand-driven planning and if the total quantity of material requirements (sales orders, stock transfer requirements, production requirements, and forecast requirements) up to a certain point in time exceeds the total quantity of material receipts (inventory, production orders, purchase orders, delivery schedule lines, firmed planned orders, and firmed purchase requisitions).




Lesson 1:
Customer's Key Requirements:
Challenges & Benefits
SAP
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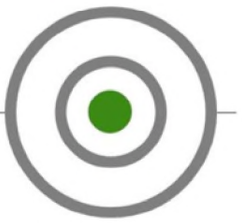
Learning Objective



After completing this lesson, you will be able to:

- Outline challenges and benefits of MRP on HANA.

As a Manufacturing Professional, You Are Struggling with…

"Decisions based on incomplete, inaccurate and often outdated information

So I cannot optimally reduce the cost of manufacturing operations and increase profitability

"Time-consuming, planning and evaluation processes where critical situations often cannot be detected easily

So I cannot optimally plan production schedules and sequences over longer time horizons"

"Inability to gather accurate, complete manufacturing-related data

So I cannot effectively minimize production risks across our network"

Manufacturing today often lack sufficient support for their **major pain points**, namely:

1) The sheer volume of data makes it difficult to access information as and when needed and results in:
   - Delayed response and negative impacts due to manufacturing variance, quality issues, and status
   - Limited visibility to work in process: quality, quantity, and cost
   - Customer service issues due to delayed communication of critical manufacturing events and poor traceability

2) They are typically not empowered to leverage data easily and flexibly for their own specific requirements
   - Uncoordinated production and asset management, line shutdowns
   - Managing operational risk of people and environment
   - Poor resource utilization of labor, energy, and assets

3) They don't have the right visualisation and analytical tools to build key insights based on real-time data

This can significantly impact the manufacturing performance, resulting in, for example:

- Decisions based on incomplete, inaccurate and often outdated manufacturing data, which can lead to increased costs
- Time-consuming planning processes with high volumes of data, resulting in poor production scheduling and sequencing.
- Inability to access detailed demand information from the entire value chain (manufacturing entities), making it difficult to optimally manage energy consumption costs.

Detecting the Most Critical Issues

Today's situation: 'Searching for needles in the haystack'

A typical material planner is responsible for hundreds of materials and challenged by dozens of exceptions day by day.

His working time is limited, so he needs to focus on the most important and most urgent issues.

To identify the issues that require immediate attention, the planner needs information like:

- What kind of demand is affected: Forecast or real sales order? By which customer?
- What is the effect on the demand item: delayed shipment by 1 day or by a full week?
- How much time do I have to solve the issue (before it gets effective)?

Up to now a planner needs to manually analyze the stock requirements list of a material plus additional information in order to answer these kinds of questions.

Detecting the Most Critical Issues

New with HANA: 'Information served on a silver plate'

In ERP on HANA the system is able to analyze the material flow of all materials upfront and to identify:

- All kinds of disruptions in the material flow
- The impact of each material flow issue
- The remaining time-to-action until the issue starts being effective.

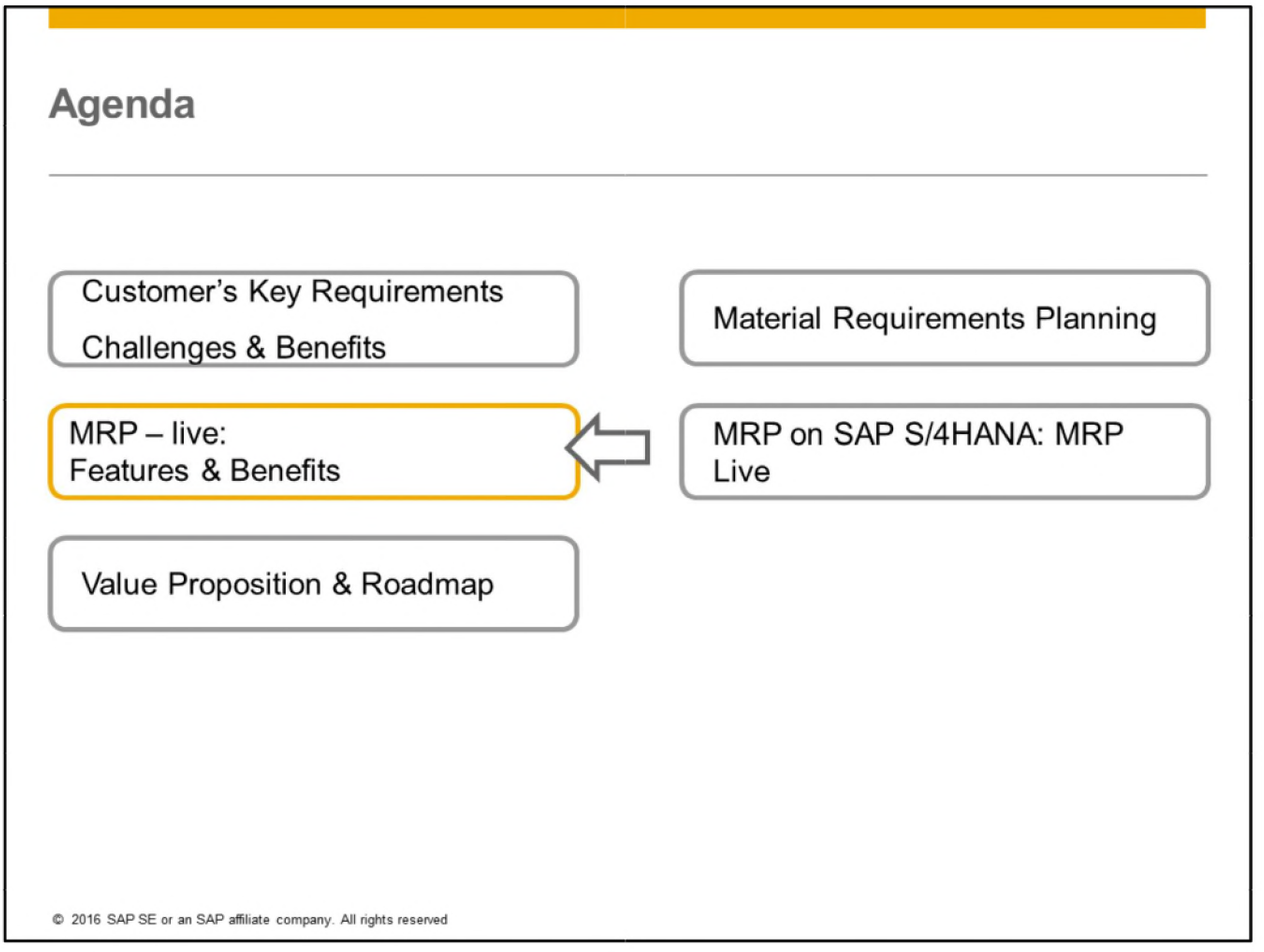
Having that kind of information at hand can change the way of how a planner structures his daily work, e.g. he or she may:

- Start with taking care of the most important demand items uncovered (across all materials)
- Pay attention to late supply items that have the biggest impact on demand coverage (across all materials)
- Use 'classic' material exceptions to regularly check the demand and supply situation of all materials.

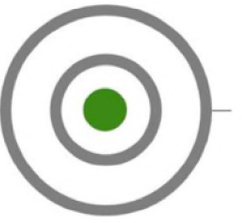
Summary

You should now able to:

- Outline challenges and benefits of MRP on HANA.



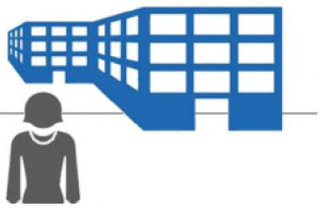
Learning Objective



After completing this lesson, you will be able to:

- Outline key benefits of MRP on HANA.

Scenario



SAP S/4HANA features MRP Live; an MRP run optimized for SAP HANA.

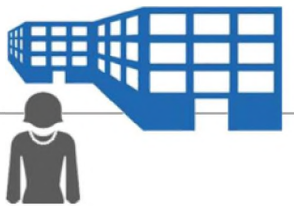
MRP Live reads material receipts and requirements, calculates shortages, and creates planned orders and purchase requisitions **all in one database procedure**.

This minimizes the volume of data that has to be copied from the database server to the application server and back, which considerably improves performance.

Production planners have to make sure material is available when needed.

MRP assists production planners with this task. The MRP run determines expected material shortages and creates planned orders, purchase requisitions, or delivery schedule lines to cover the expected material shortages. A shortage exists for a material if the material is subject to demand-driven planning and if the total quantity of material requirements (sales orders, stock transfer requirements, production requirements, and forecast requirements) up to a certain point in time exceeds the total quantity of material receipts (inventory, production orders, purchase orders, delivery schedule lines, firmed planned orders, and firmed purchase requisitions).

Scenario



Additional advantages of MRP Live:

- **Higher flexibility** in the definition of the **planning scope**
  => MRP Live allows you to plan a set of materials with all components, materials for which a certain production planner is responsible, or one material across all plants.
- Stock-transfer-requirement
  => If a material is transferred from one plant to another then the **stock-transfer requirement** is not known in the supplying plant until after the material has been planned in the receiving plant. MRP Live determines the sequence in which materials have to be planned across several plants.

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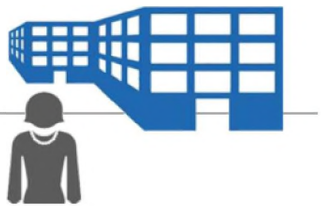

Additional advantages of MRP Live:

- Future production planning and detailled scheduling functionality
  =>MRP Live is a prerequisite for the future production planning and detailed scheduling PP/DS solution in SAP S/4HANA.

- Classic MRP is still available
  => Classic MRP is still available as an interim solution, which at the moment has to be used in the following cases:

  - Capacity requirements shall be created by MRP (in a future release, MRP Live will also be able to create capacity requirements).

  - For creating MRP lists.

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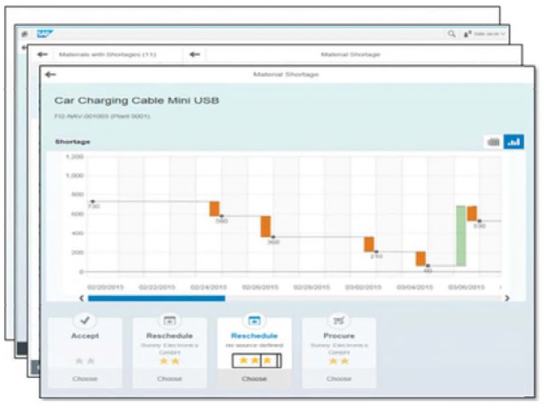
Features & Benefits

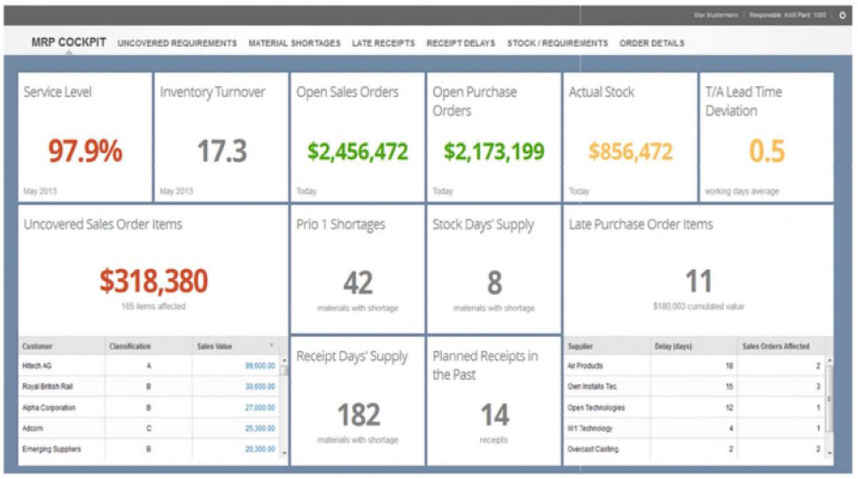
Key Features and Benefits

- System analyzes and does Impact Analysis of the entire material flow in real time and identifies disruptions in the material flow
- Role-based, KPI-driven solutions are proactively proposed for users to consider
- Run on any device
- Fast Performance by up to factor 10 / Memory footprint reduction by factor 5
- Code pushdown ABAP
  → SQL Script: 15.000 lines of code
- New mode (SQL Script): Central business functions such as procurement, in-house production, delivery schedules, configurable products.
- Classic mode (ABAP): For capacity planning and discontinuation



MRP Cockpit
Entry page

Lab Preview



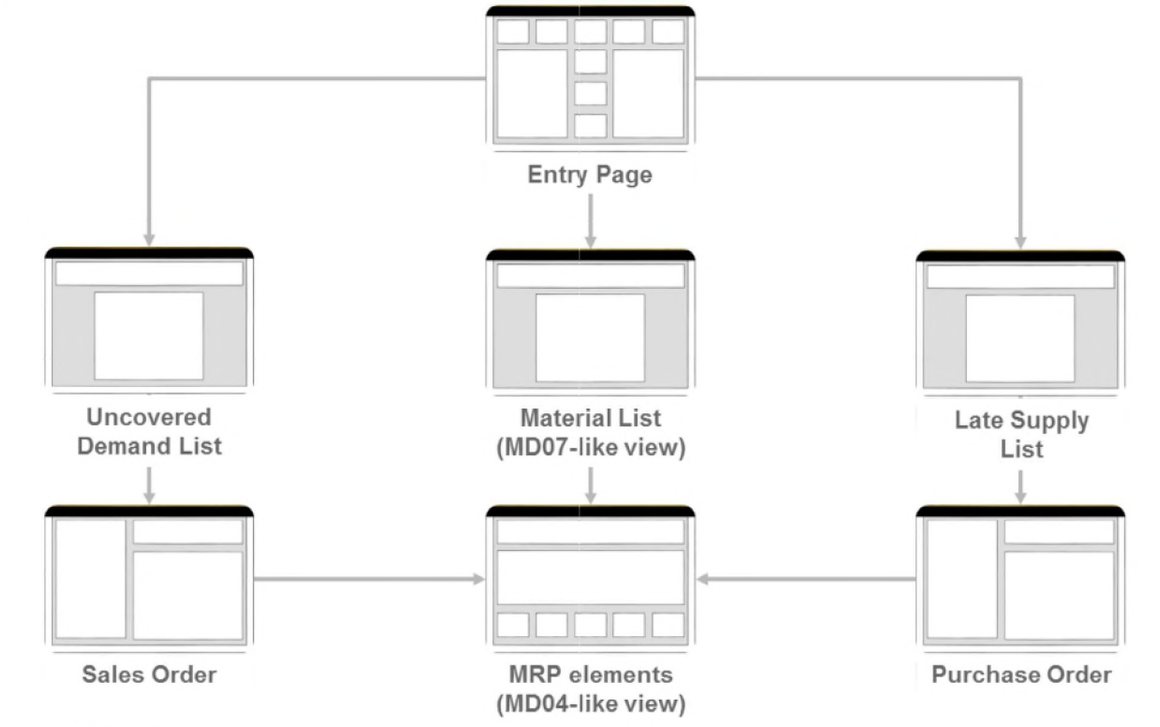
Personalized KPIs and alerts allow material planners to quickly see sales orders at risk due to missing materials

Easily identify customers with the highest order value to address issues immediately.

SAP Business Suite Powered by HANA provides the material planner with insight to decision making criteria and alternatives on how to resolve missing material issues quickly.

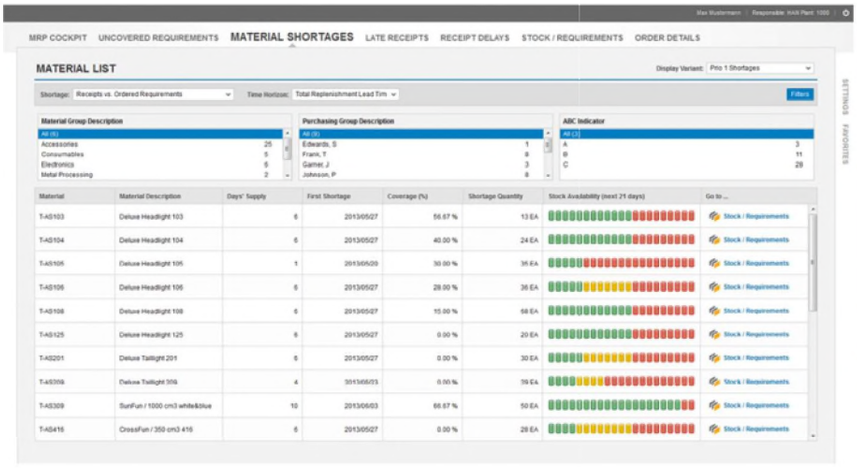
System-Demo

MRP Cockpit
Screen flow



MRP Cockpit
Material shortages

Lab Preview



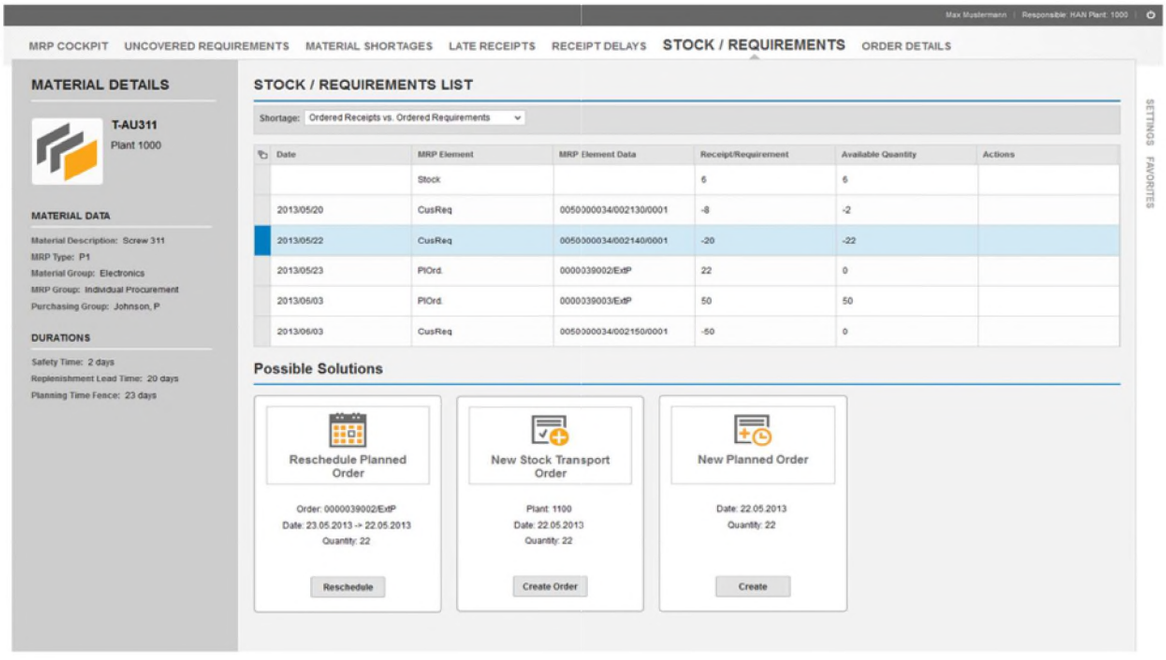
Material overview providing compressed real-time information about material supply/demand match

- Overview with KPIs and alerts
- Variable display of availability, demand or supply, color coded

MRP Cockpit

Stock Requirement List with solution proposals

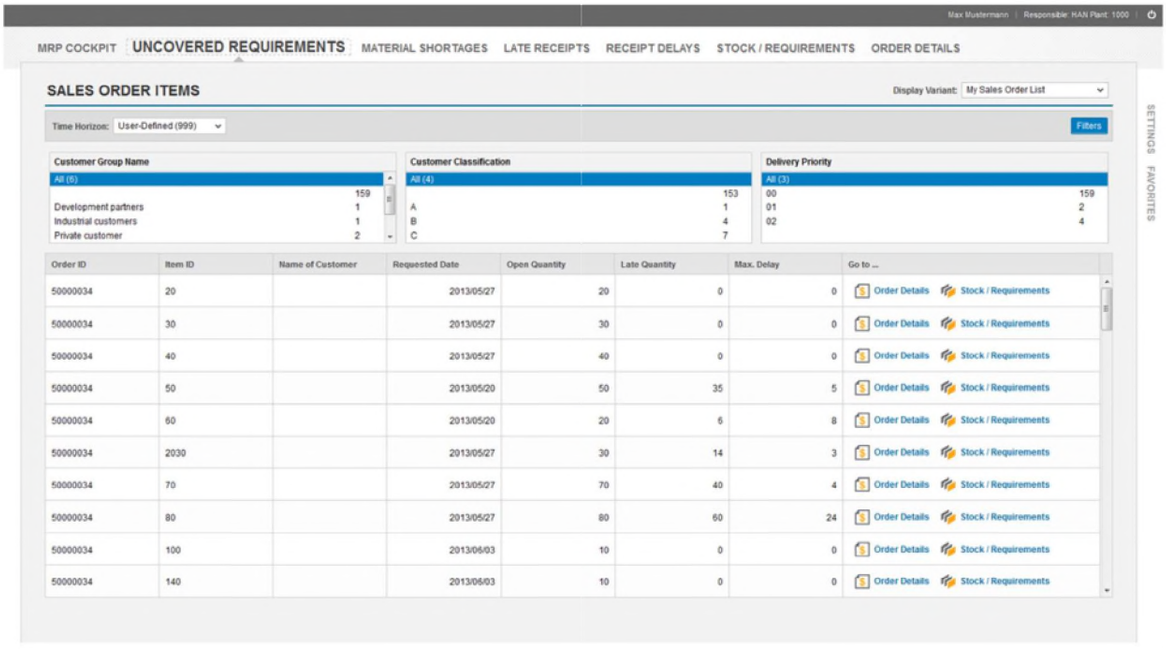
Lab Preview

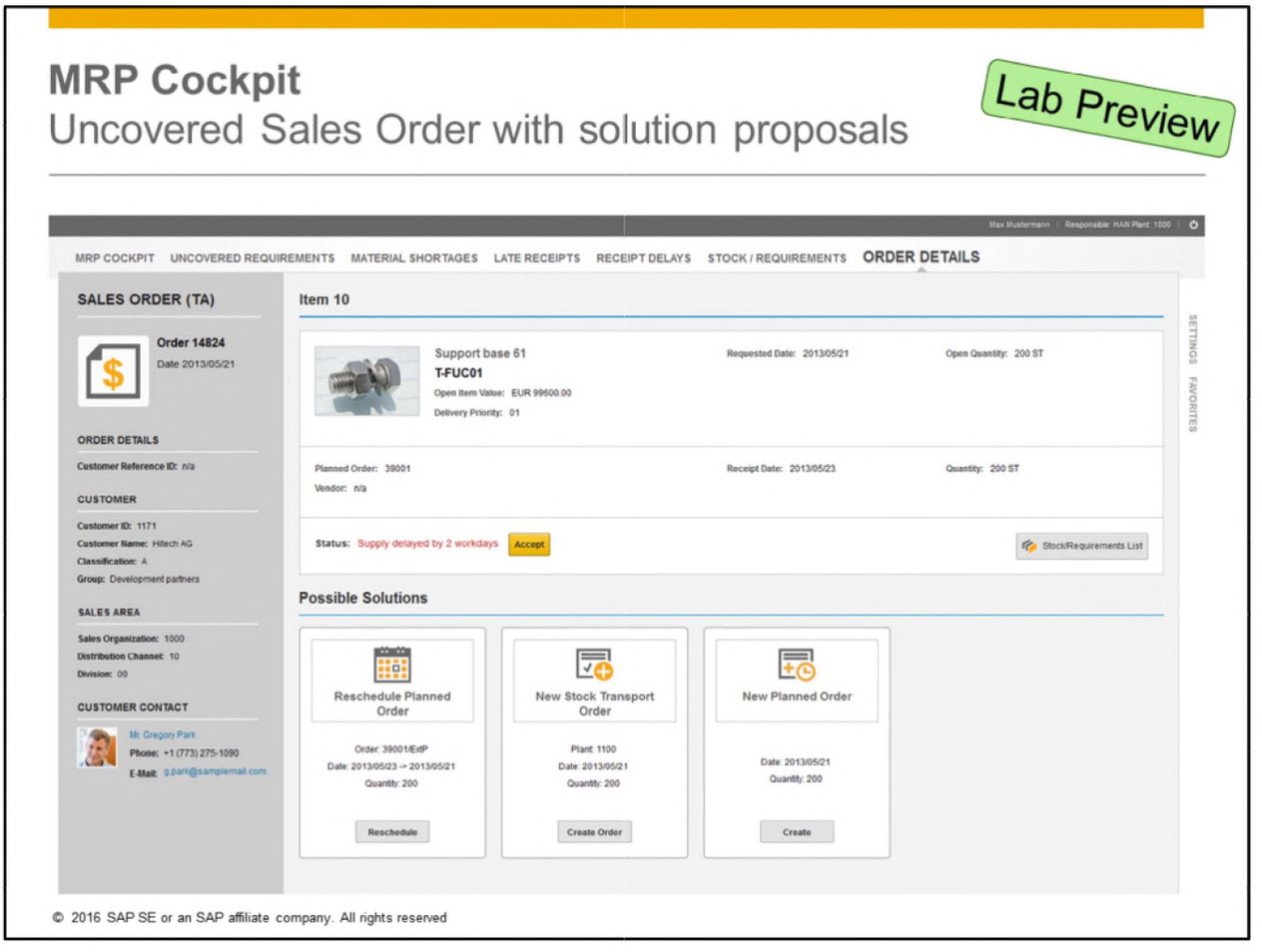


MRP Cockpit

List of uncovered requirements

Lab Preview





Summary

You should now able to:

- Outline key benefits of MRP on HANA.

Agenda

- Customer's Key Requirements Challenges & Benefits
- Material Requirements Planning
- MRP – live: Features & Benefits
- MRP on SAP S/4HANA: MRP Live
- Value Proposition & Roadmap

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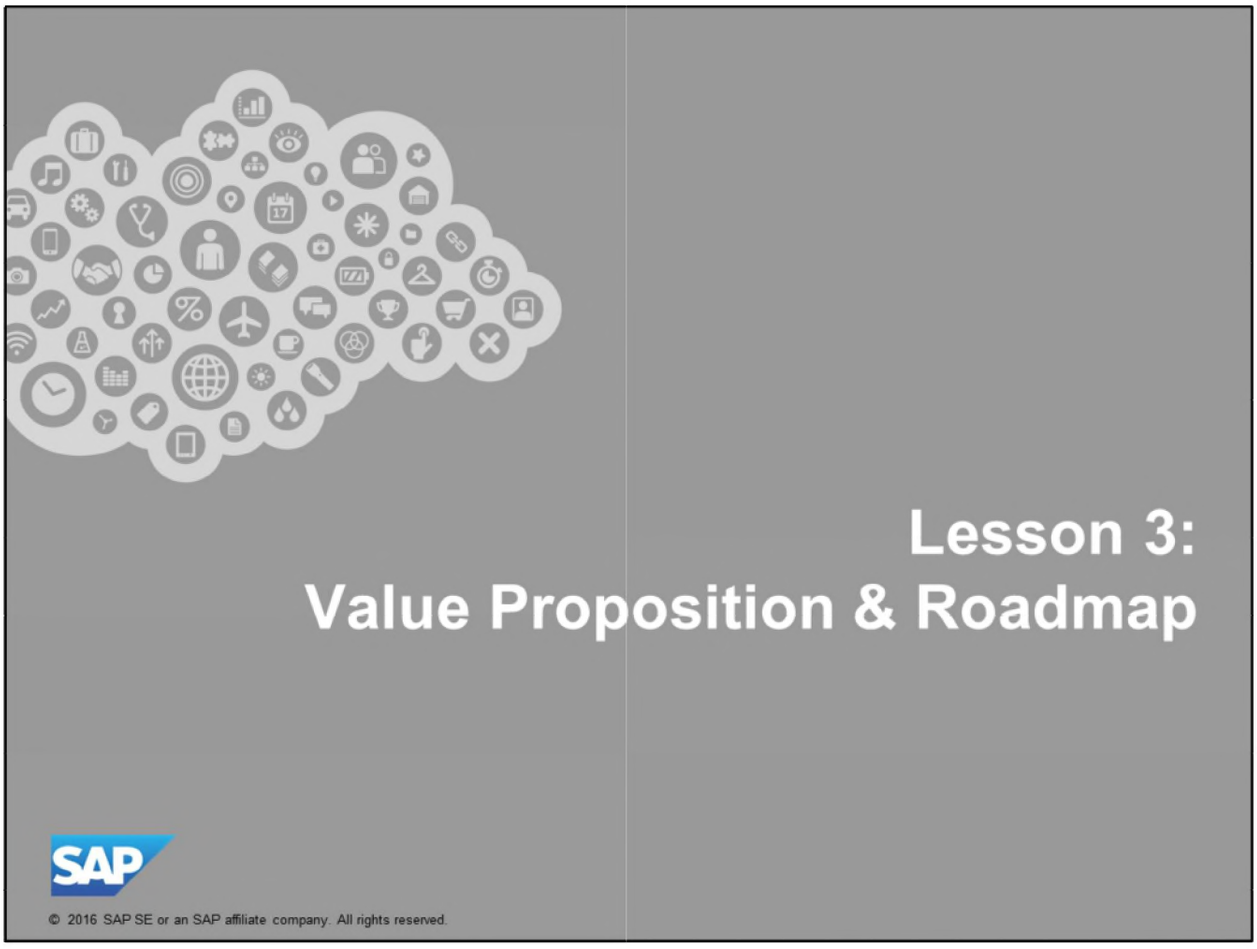
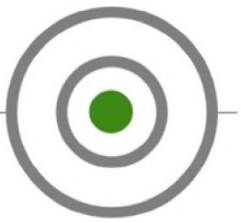
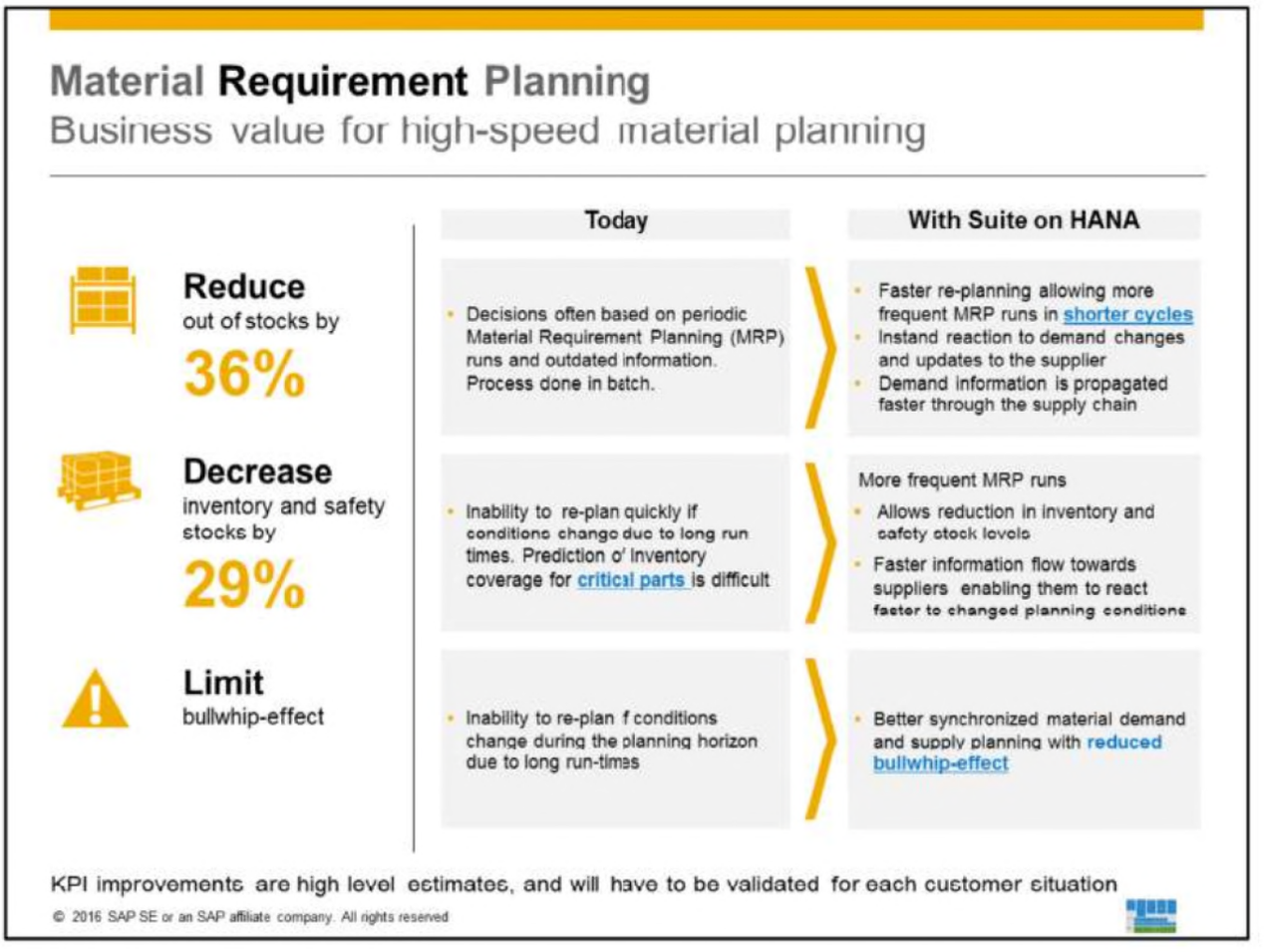


Learning Objective



After completing this lesson, you will be able to:

- Outline the value proposition and the roadmap of MRP on HANA



High-Speed Material Planning
enabling end to end supply chain visibility and control

Business Context/Status Quo

MRP determines material shortages by comparing sales orders, forecast demand, stock transfer demand and any other know material demand with inventory and expected material receipts and creates planned orders or purchase requisitions for the missing material. MRP is widely adopted in all **manufacturing industries**. The transaction is typically done in batch and it is time consuming. As a result decisions can only be based on the data derived from this periodic runs. Production and sales are suffering from stock-outs, delivery inaccuracy, and loss of revenue.

Challenges

- MRP usually runs daily or even less frequently. Decisions are based on **outdated information**
- Inability to re-plan if conditions change during the planning horizon due to **long run-times**
- No holistic production planning **across all relevant production sites**. Demand information needs several MRP runs until it is propagated through the complete supply chain (unless material flow is always uni-directional and planning sequence of plant is defined manually)
- Prediction of Inventory coverage for **critical parts** is difficult.

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Process Innovation

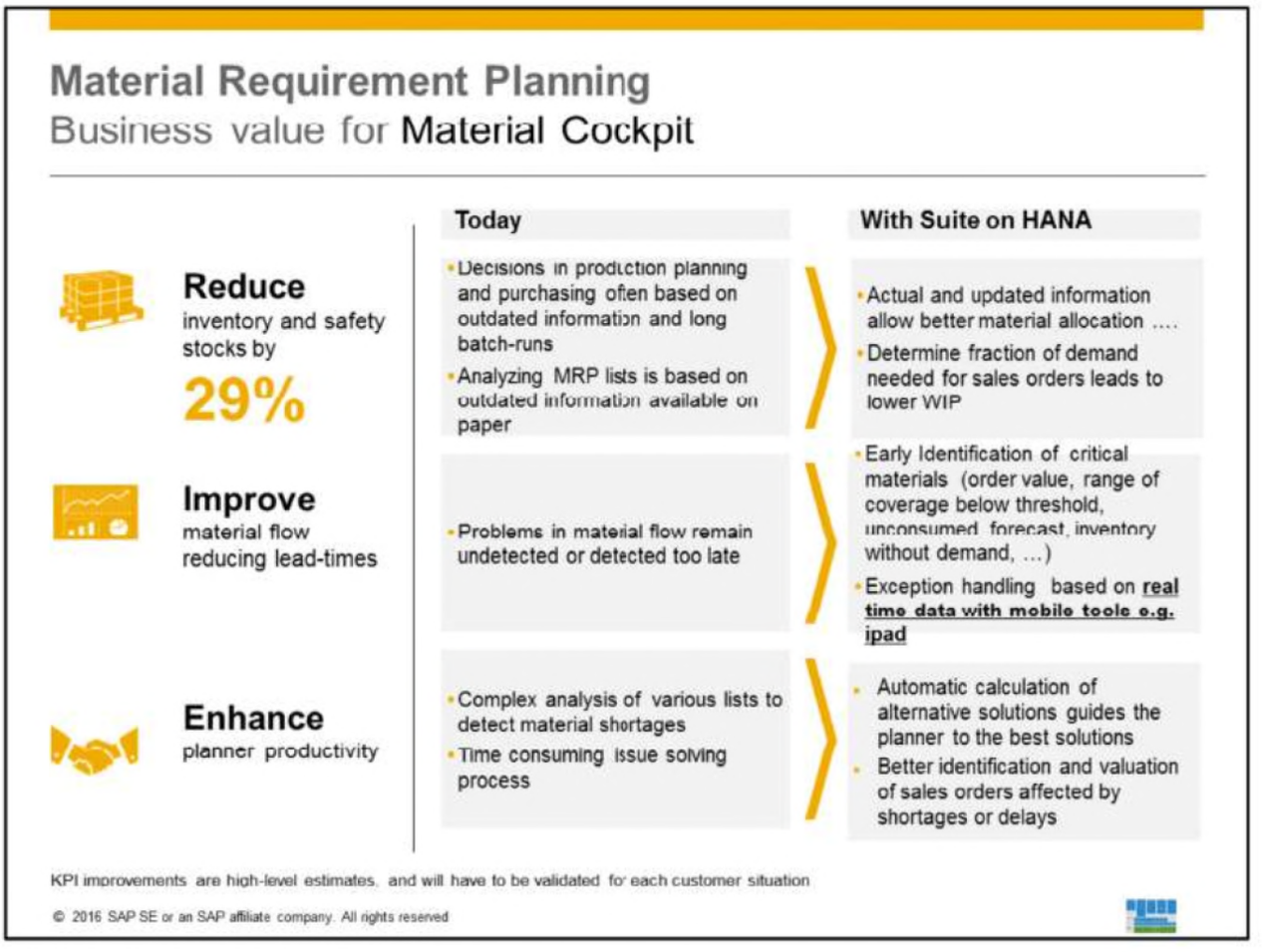
- Faster re-planning allowing more frequent MRP runs **in shorter cycles**
- **Global cross-plant planning**
- Demand information is propagated faster through the supply chain. **Faster reaction to demand changes** reduces the risk of stock-outs and allows to reduce safety stocks
- Better synchronize demand and supply and **reduce bullwhip-effect** (by moving towards one-piece-flow/EPEI)
- **Simulation** of different what if scenarios real-time to decide faster upon new situation (reallocation, outsourcing)
- **Instant update on Supply network collaboration** with latest demand information. Suppliers can react much faster.

Contribution of SAP HANA

- High-speed read access slashes runtime of read-intensive MRP (50%)
- Increased usage of stored procedures to accelerate calculations such as Stock Requirements List and where used lists
- Rapid BOM Explosion with stored procedures and fast read

Value Driver

- Reduction of stock-outs
- Reduce bullwhip effects
- Reduces inventory and safety stocks
- Faster reaction to demand changes
- Better synchronization of material demand and supply
- Reduction of purchasing lead time and costs due to less fire drill buys.



Use Case 2:
Instant Material flow control
- reducing the bullwhip effect in the supply chain

Business Context/Status Quo

The result of MRP is stored in MRP lists. Adcitionally the current material receipts and requirements for selected materials can be checked in the stock-/requirement list. Production planners can select MRP lists with problems and stock-/requirement lists with short range of coverage (where the latter is performance critical) . Today decisions in production planning dep. And purchasing dep. are made based on **outdated information due to batch runs.**

Challenges

- Analyzing MRP lists is comfortable but **based on outdated information and on paper**
- Analyzing **stock-/requirement lists is less comfortable and performance critical also paper work**
- Problems in the **material flow remain undetected or are detected late**

...

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Process Innovation

- **Early Identification of critical materials** (range of coverage below threshold, unconsumed forecast, over-consumed forecast, inventory without demand, ...)
- Feasibility check of production orders on the fly allows **better production order sequences**
- Determine fraction of demand needed for sales orders leads to lower WIP, shorter lead times, better due-date performance if only the required quantity is produced
- Exception handling based on **real time data e.g. on the ipad** or any other mobile device supporting Go-gemba
- **Dynamic range of coverage analysis**
- **Improved supplier collaboration**

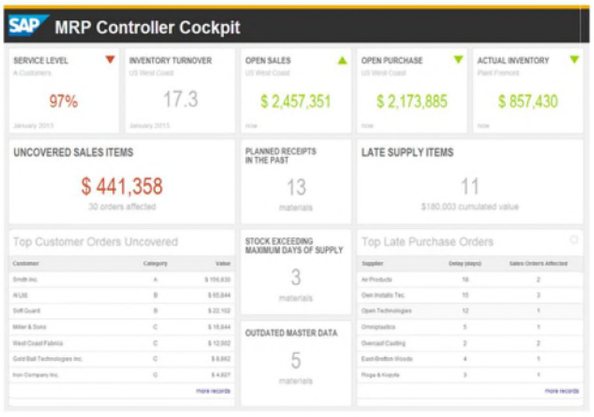
Contribution of SAP HANA

- High-speed read access slashes runtime of read-intensive reports
- Increased usage of stored procedures to accelerate calculations such as Stock Requirements List and where used lists

Value Driver

- Reduction of wrong decisions based on real time info
- Reduces inventory and safety stocks
- Faster reaction to changes in production
- Improved material flow reducing lead-times
- Improved supplier collaboration

Value Driven Material Requirements Planning with HANA
Overview



User Story

New Dashboard for the Material Planner that supports the

- Monitoring of KPIs and alerts with corresponding actions to solve issues
- Identification and valuation of sales orders affected by shortages or delays to guide the user to the most important issues
- Simulation of different 'what if' scenarios in real-time
- Calculation of alternative solutions, user is guided to the best solutions via colors

User Benefits

- Get business insight that has not been possible before and thus identify issues faster than ever before
- Match demand and supply more efficiently than ever before
- Give better service to the customers than ever did before

Challenges without HANA

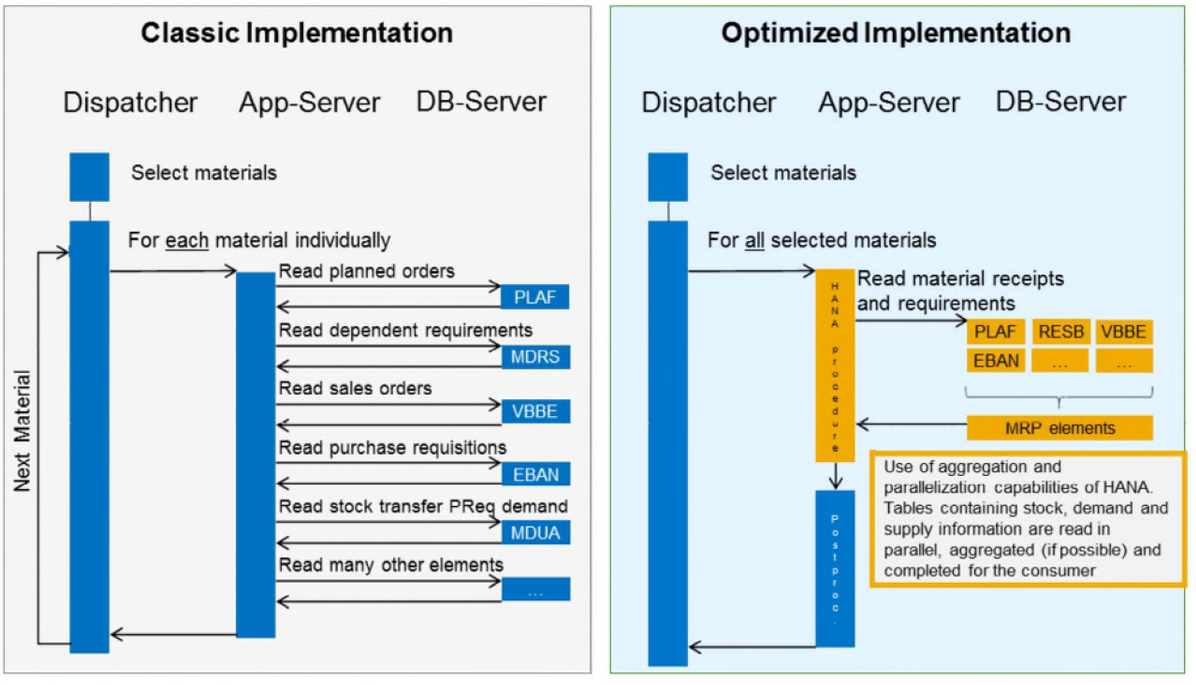
- Decisions often based on periodic Material Requirement Planning (MRP) runs and outdated information
- Inability to re-plan quickly if conditions change due to long run times
- No holistic production planning across all relevant production sites
- Analyzing MRP lists is based on outdated information available on paper
- Problems in material flow remain undetected or detected too late

Key Capabilities

- 50% reduction in MRP runtime with high-speed reads
- Increased usage of stored procedures to accelerate calculations such as Stock Requirements List and where used lists
- Instant update on Supply network collaboration with latest demand information
- High-speed read access slashes runtime of read-intensive reports
- Real-time access to large volumes of data
- Proposal of different alternatives for taking action

Optimized MRP Run

First optimization step: Read MRP Data – exists already

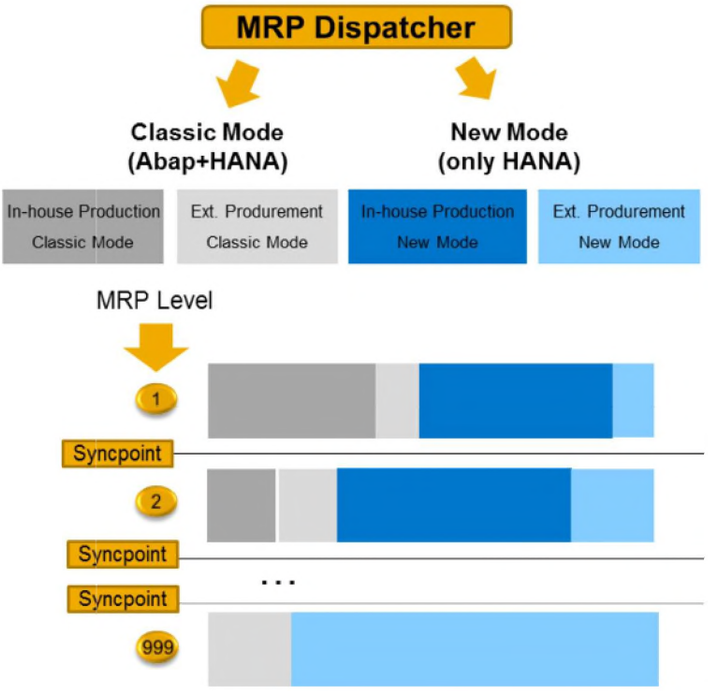


Optimized MRP Run

New and classic mode working together

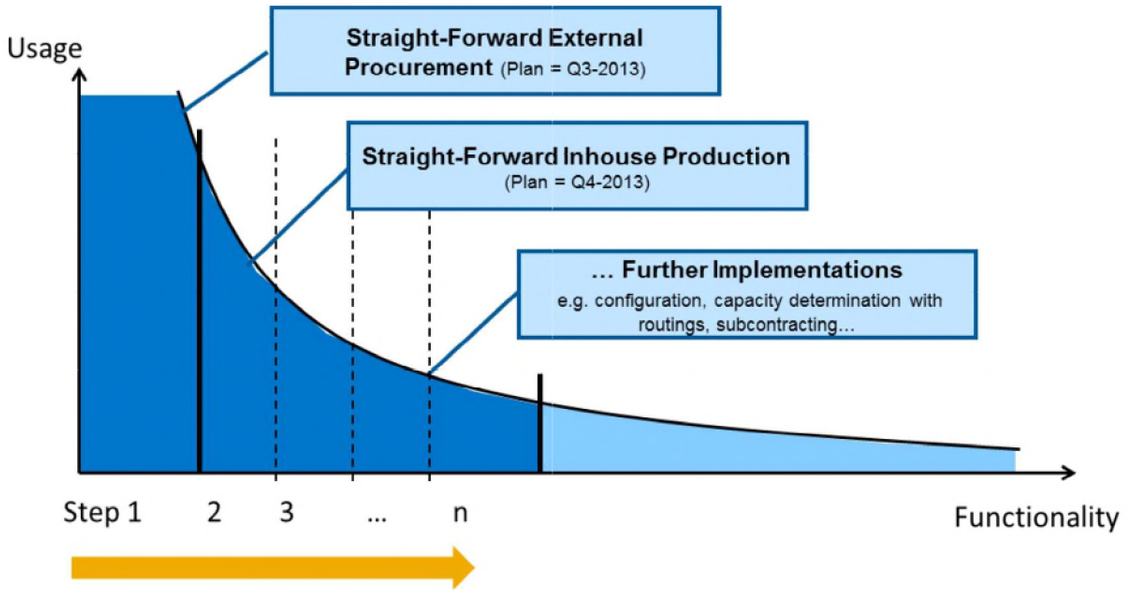
MRP run with "MRP Dispatcher"

- **Automatic determination** and selection of planning mode per material, dependent on functional requirements of the material regarding planning; can be overruled manually
- The functionality of the new mode will be **enhanced continuously** – with that more and more materials can be planned in the new mode
- **Special functionality** will remain in the classic mode
- Existing **customer enhancements** will also be supported in the classic mode
- **Result:** The implementation of this planning run will not lead to **loss of functionality**, it can be used immediately in a compatible way



Optimized MRP Run

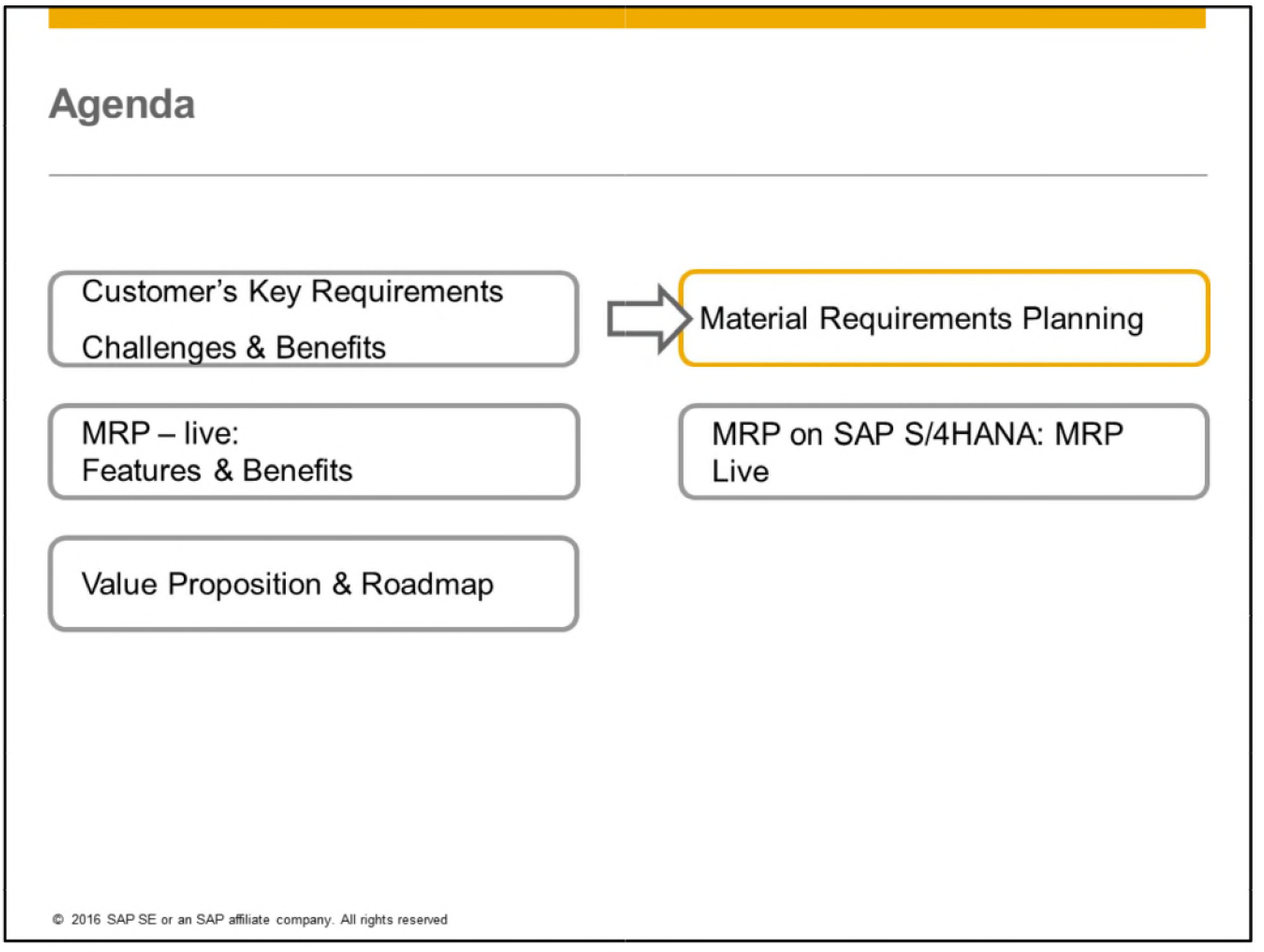
Continuously increasing functionality

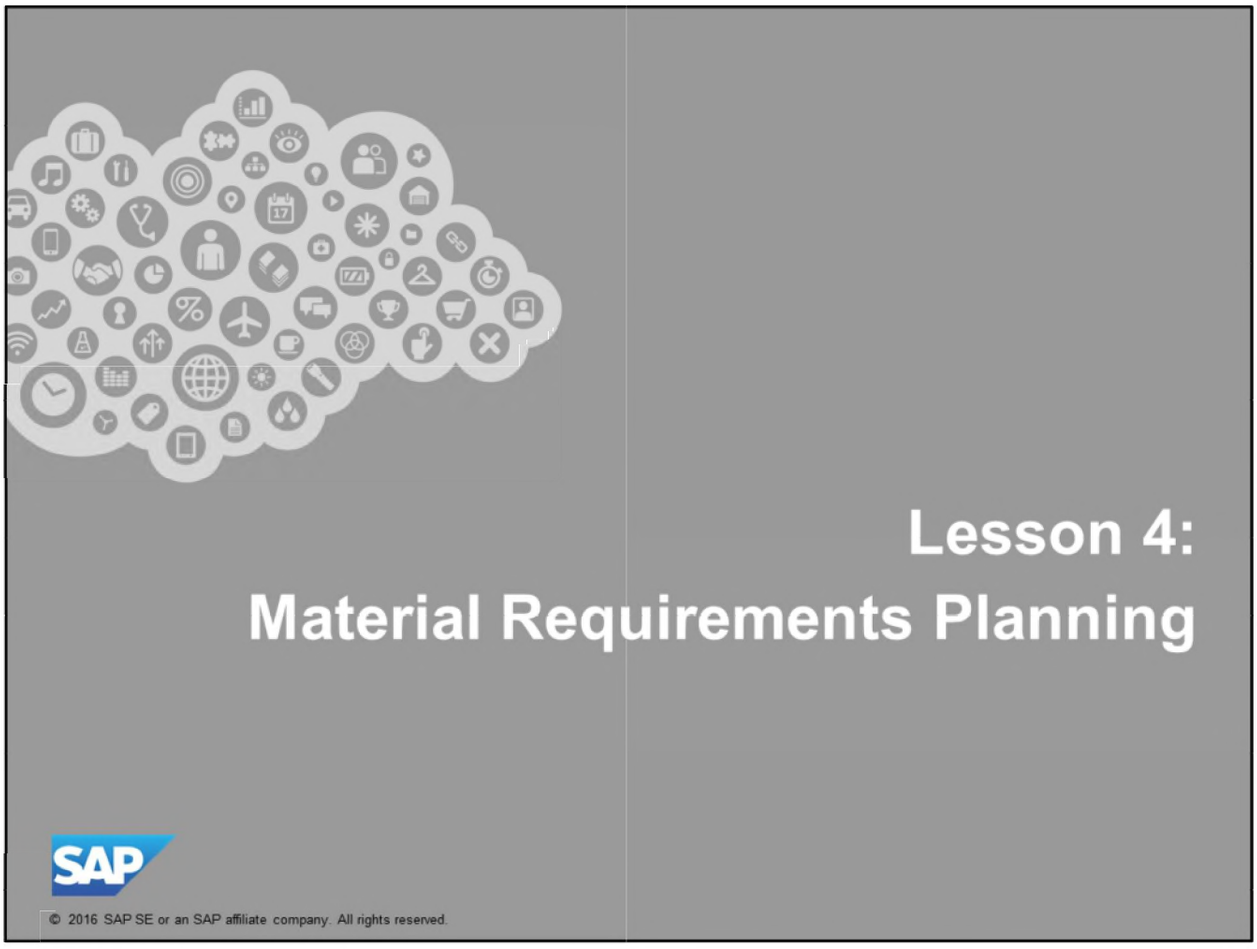


Summary

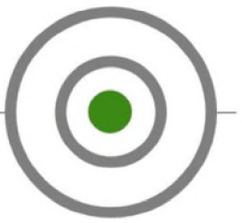
You should now able to:

- Outline the value proposition and the roadmap of MRP on HANA.



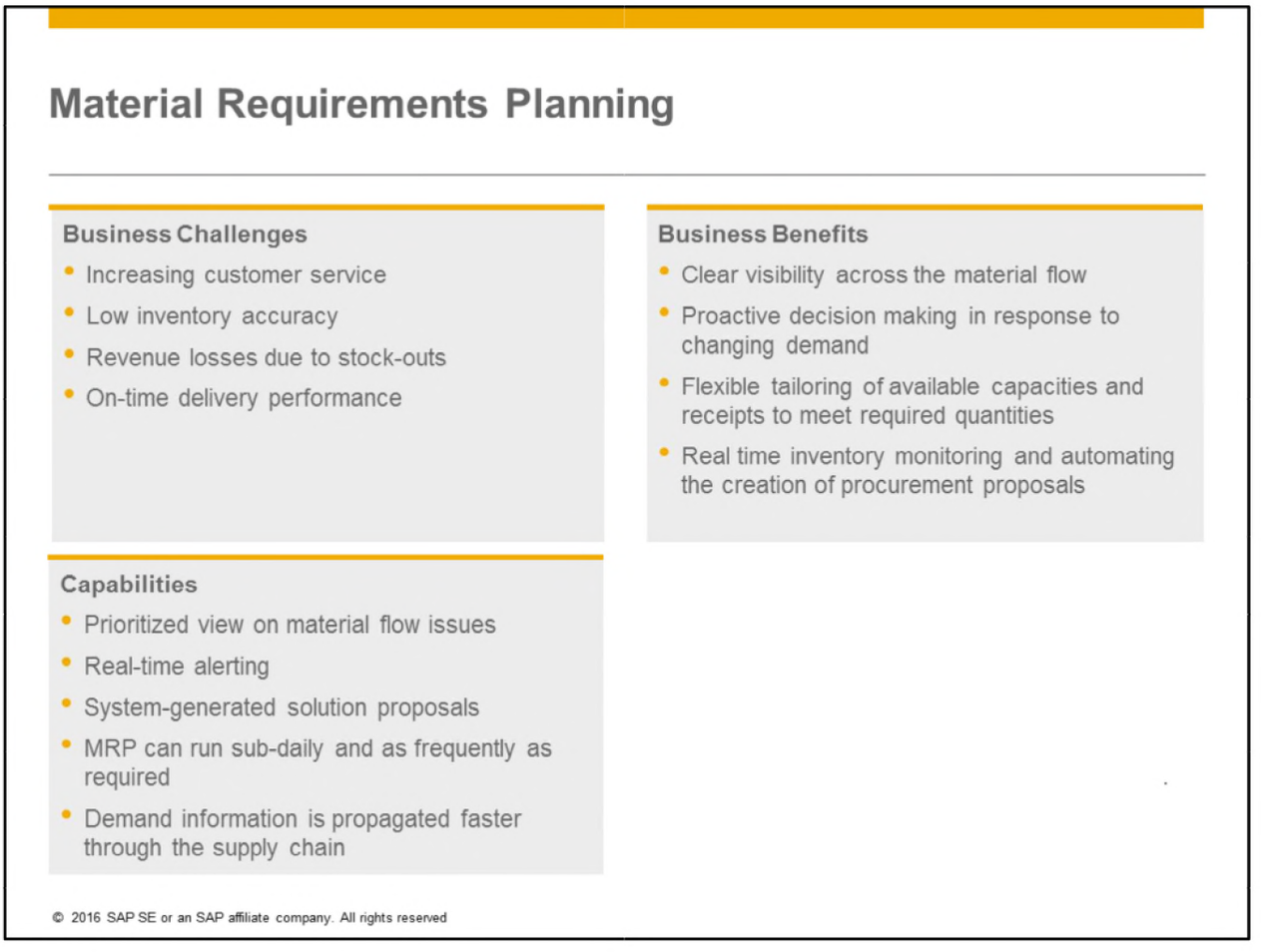


Learning Objective



After completing this lesson, you will be able to:

- Understand the basics of the Materials Requirement Planning with SAP S/4HANA Manufacturing.



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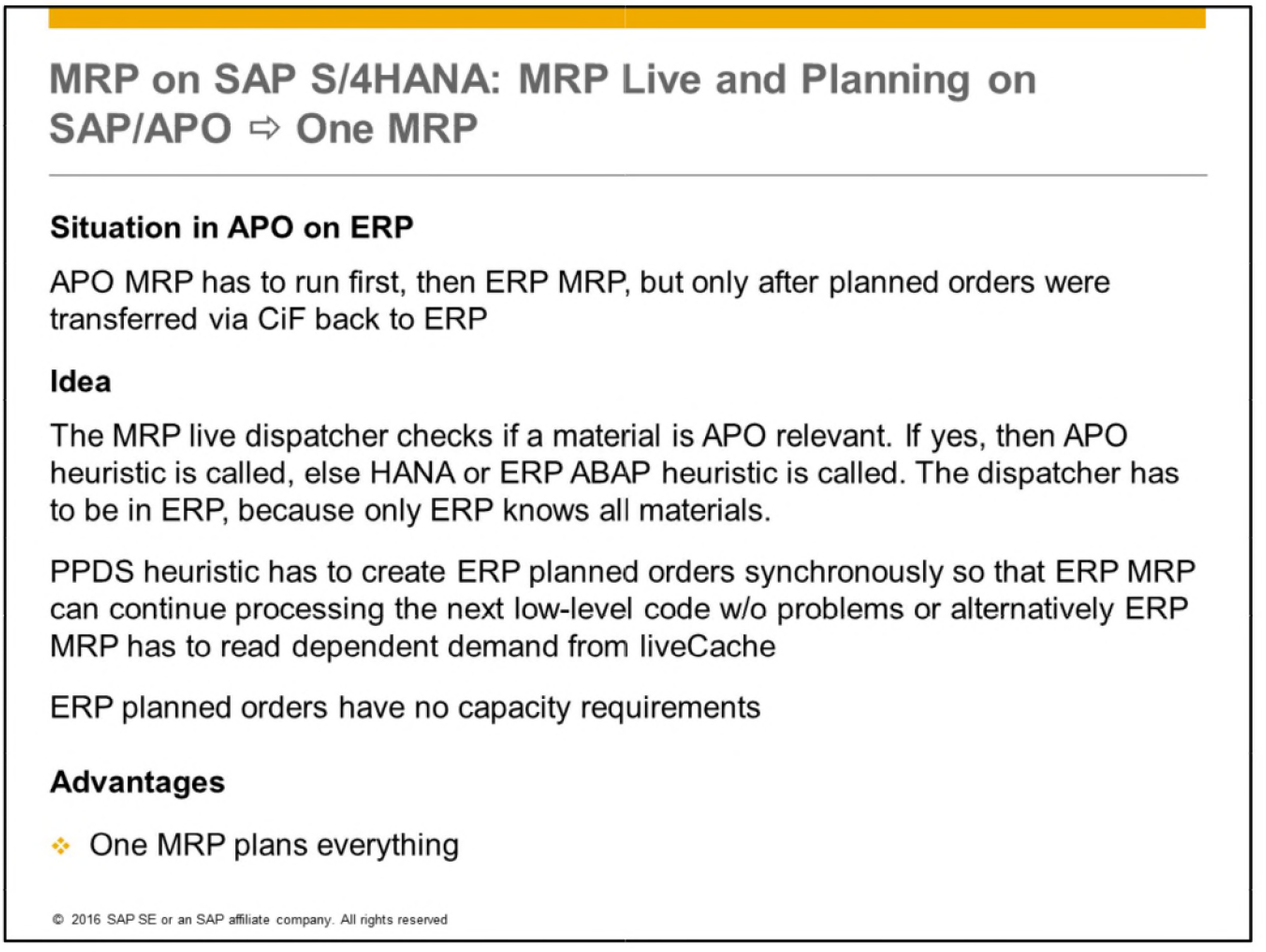

The planned orders created by the APO MRP heuristic in the ERP database could be very special lean planned orders (sometimes called high-performance orders HPO). These special planned orders should not be changeable in ERP. They should also not be convertible into production orders in ERP. Conversion of APO planned orders into production orders in ERP rather than APO results in loss of operation dates and times.

Material Requirements Planning Key Features & Benefits

Key Features and Benefits

- System analyzes and does Impact Analysis of the entire material flow in real time and identifies disruptions in the material flow
- Role-based, KPI-driven solutions are proactively proposed for users to consider
- Run on any device
- Fast Performance by up to factor 10 / Memory footprint reduction by factor 5
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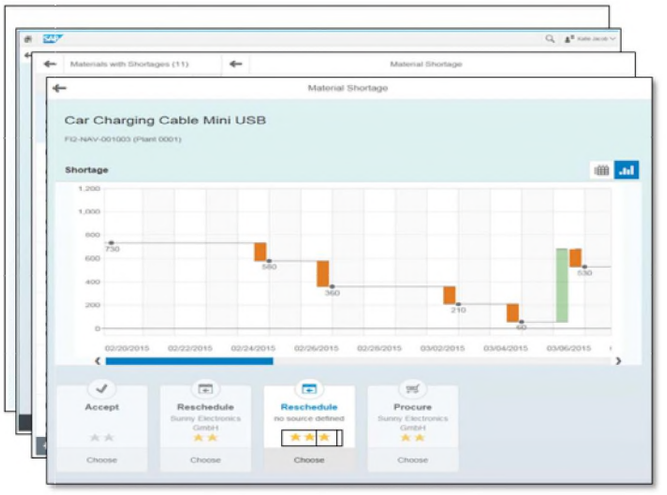

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MRP Live has some additional advantages including the following, for example:

- The definition of the planning scope is more flexible. MRP Live allows you to plan a set of materials with all components, materials for which a certain production planner is responsible, or one material

across all plants.

- If a material is transferred from one plant to another then the stock-transfer requirement is not known in the supplying plant until after the material has been planned in the receiving plant. MRP Live

determines the sequence in which materials have to be planned across several plants.

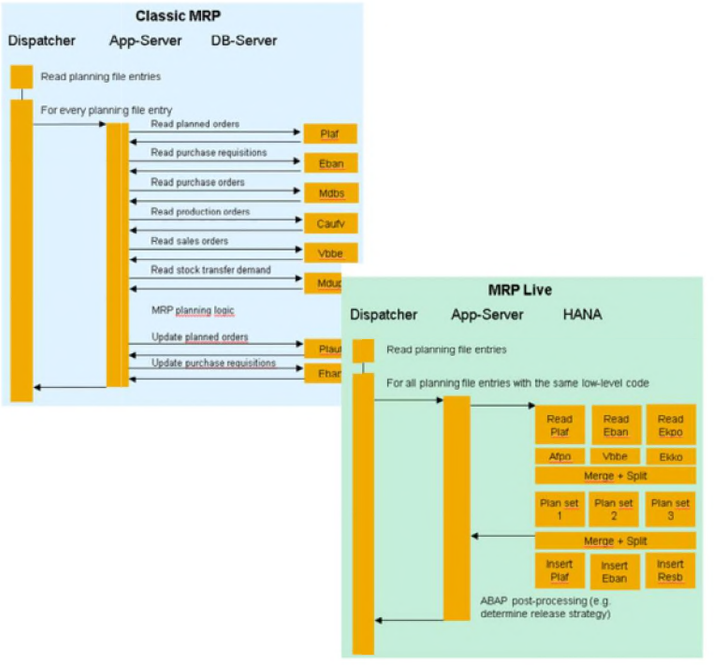
 MRP Live is a prerequisite for the future production planning and detailed scheduling PP/DS solution in SAP S/4HANA.

MRP on SAP S/4HANA

General Content

MRP Live, an MRP run optimized for SAP HANA, reads material receipts and requirements, calculates shortages, and creates planned orders and purchase requisitions all in one database procedure.

⇨ Minimization of the volume of data that has to be copied from the database server to the application server and back, which considerably improves performance.



MRP on SAP S/4HANA

Impact on Business Processes

MRP live differs from classic MRP in the following aspects:

- MRP live does not write MRP lists
  The MRP apps determine materials with issues in real-time. In S4 there is no need for outdated MRP lists.
- Multi-level, make-to-order planning (MD50) and Individual project planning (MD51) is not optimized for SAP S/4HANA ⇨ These elements could be planned in MRP live scenario and don't require a separate planning run anymore

MRP on SAP S/4HANA

Impact on Business Processes

- Creation indicators

Classic MRP has a complicated set of rules for instructing the MRP run to create either purchase requisitions or planned orders for externally procured materials (similar for delivery schedule lines, purchase requisitions, or planned orders for externally procured materials with valid delivery schedules).

Creation indicators are defined on different levels (in MRP groups, on the initial screen of the MRP run, and default values are defined in the code. This is a complex logic with very limited business value.

Creation indicators were originally intended to separate the responsibilities of production planners and purchasers. Today the roles of production planners and purchasers have changed. Therefore MRP live always creates delivery schedule lines/purchase requisitions for externally procured/delivered material and valid dates.

MRP on SAP S/4HANA

Advantages:

- If a material is transferred from one plant to another then the stock-transfer requirement is not known in the supplying plant until after the material has been planned in the receiving plant. MRP Live determines the sequence in which materials have to be planned across several plants.
- MRP Live is a prerequisite for the future production planning and detailed scheduling PP/DS solution in SAP S/4HANA.
- Classic MRP is still available as an interim solution, which at the moment has to be used in the following cases:
  - Capacity requirements shall be created by MRP (in a future release, MRP Live will also be able to create capacity requirements).

MRP on SAP S/4HANA

Advantages:

- MRP Live, an MRP run optimized for SAP HANA. MRP Live reads all relevant data all in one database procedure. This minimizes the volume of data that has to be copied from the database server to the application server and back, which considerably improves performance.
- MRP Live has some additional advantages including the following, for example:
  - Enhanced flexibility in the definition of the planning scope.
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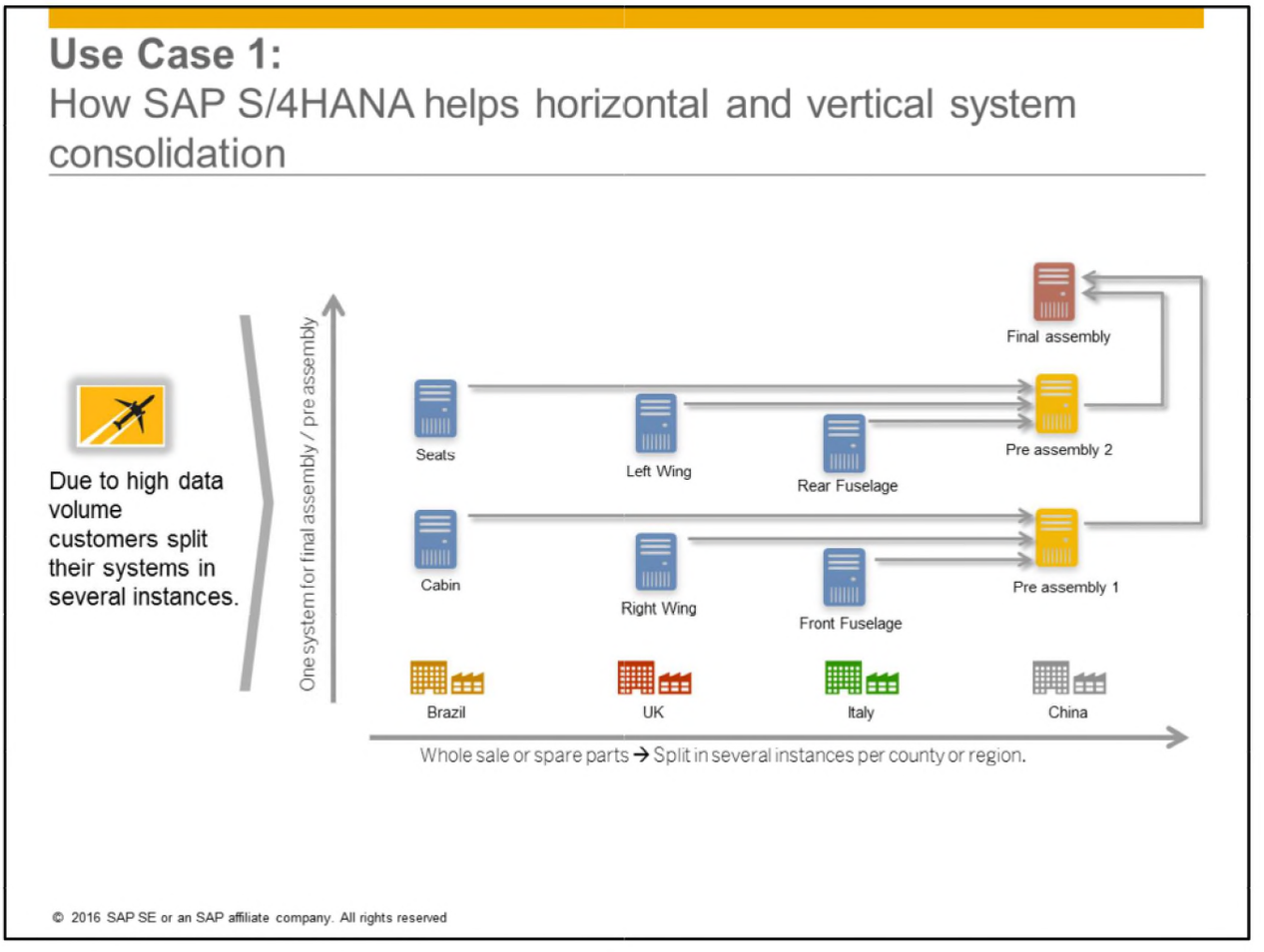


Customer example: Aircraft Manufacturing

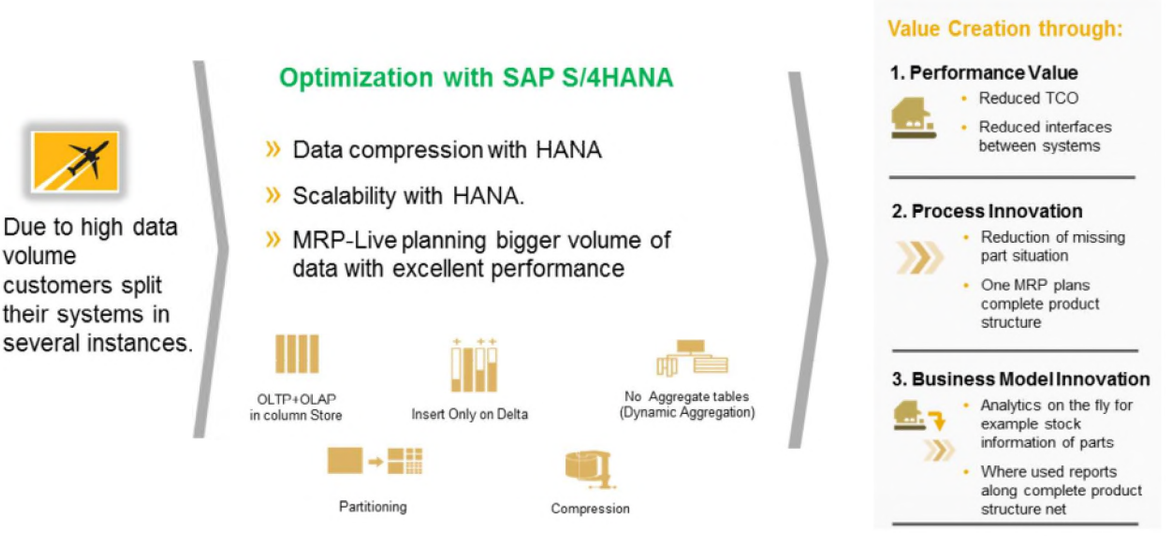
Situation before SAP S/4HANA Simple Logistics:
Due to high data volume customers split their systems in several instances.
Horizontal e.g. Whole sale or spare parts. Split in several instances per county or region.
Vertical e.g. one system for final assembly, one for pre assembly

Potential with SAP S/4HANA Simple Logistics:
Consolidate into one system.

Enabler: Data compression with HANA, Scalability with HANA. MRP-Live planning bigger volume of data with excellent performance.

Business Benefit:
Reduced TCO, reduction of missing part situation, one MRP plans complete product structure, analytics on the fly for example stock information of parts, where used reports along complete product structure net.

Use Case 1:
How SAP S/4HANA helps horizontal and vertical system consolidation

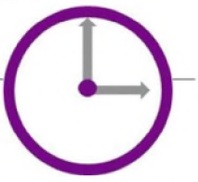


Demo 6: How to Perform a PP-Process in SAP S/4HANA – Interactive Planning

For the steps and data of this demo, refer to the exercise:

Perform a PP-Process in SAP S/4HANA – Interactive Planning.

Exercise 6: Perform a PP-Process in SAP S/4HANA – Interactive Planning



15 minutes

Watch

Try

Self-Test

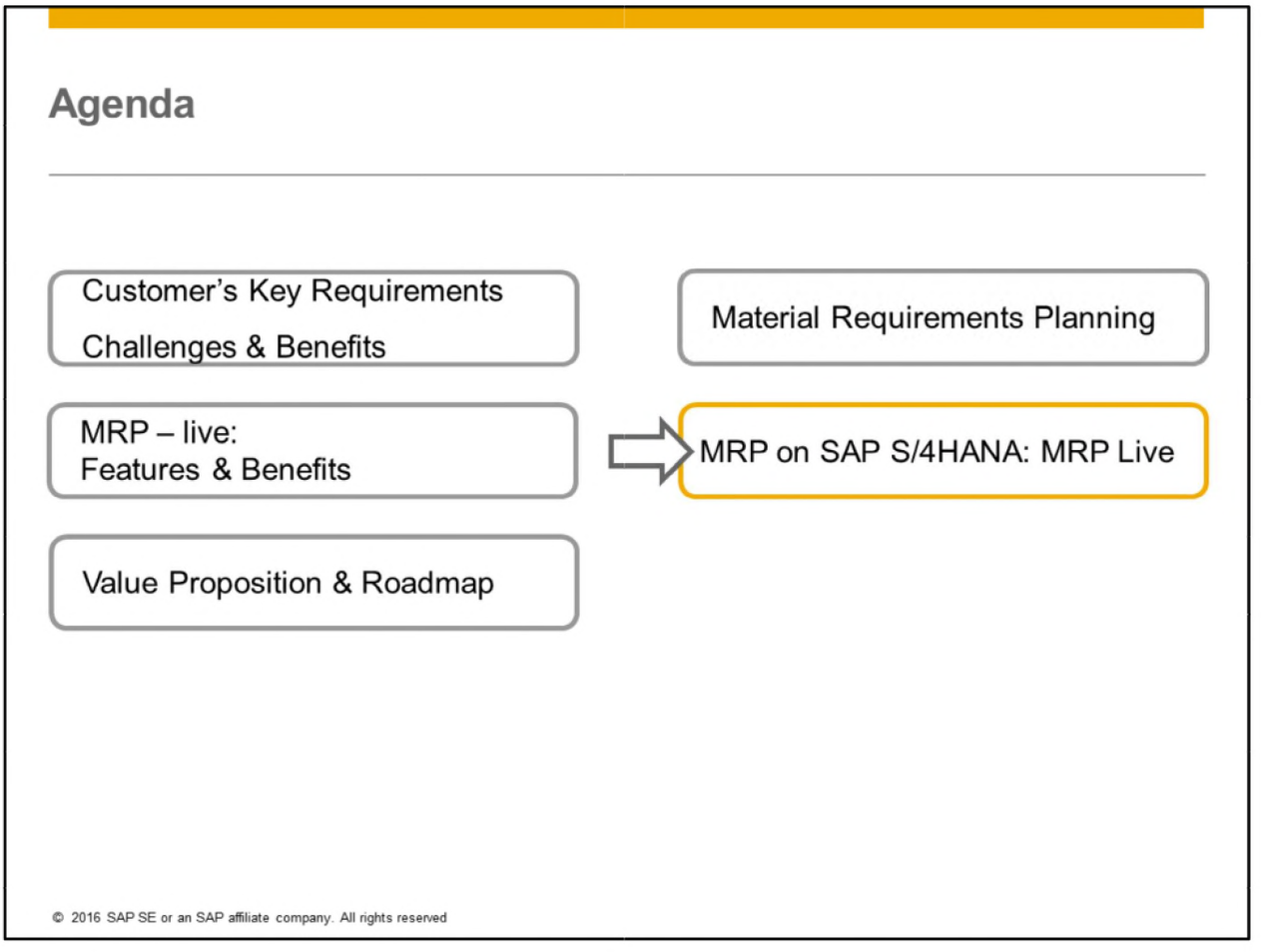
Print

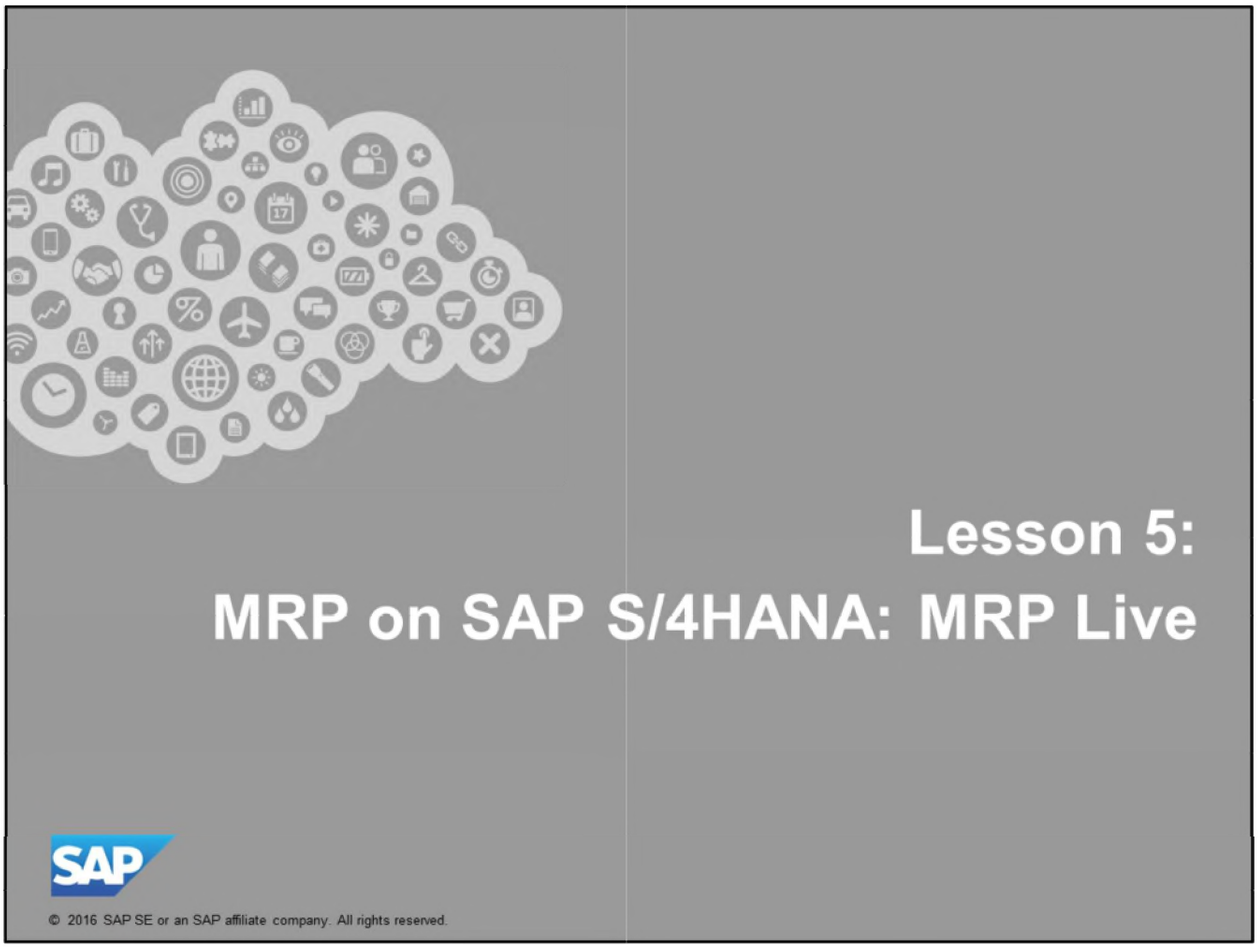
In this exercise, the participants will execute in MRP run manually like interactive planning and check the planning results.

Summary

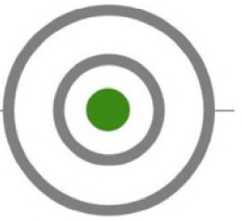
You should now able to:

- Understand the basics of the Materials Requirement Planning with SAP S/4HANA Manufacturing.





Learning Objective



After completing this lesson, you will be able to:

- Describe the SAP S/4HANA MRP Solution.

What is the Main Function of Material Requirement Planning (MRP)?

Material requirement planning (MRP)

The main function of material requirements planning is to guarantee **material availibility**

- In the “right” quantity
- From the “right” source of supply
- At the “right” time

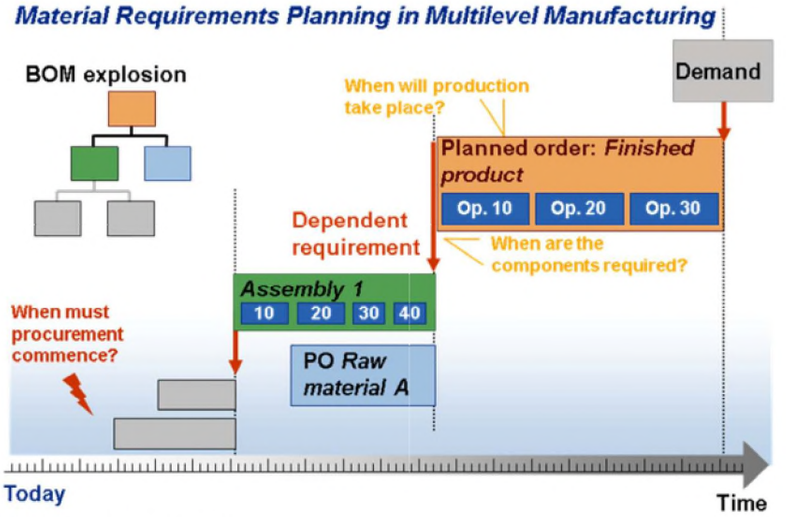
Considering capacity situation

For Any SAP / IBM / Oracle - Materials Purchase Visit : www.erpexams.com OR Contact Via Email Directly At : sapmaterials4u@gmail.com

What is the Main Function of Material Requirement Planning (MRP)?

Material requirement planning (MRP)

Material requirement planning has to be executed within all low level codes taking into account quantities and dates

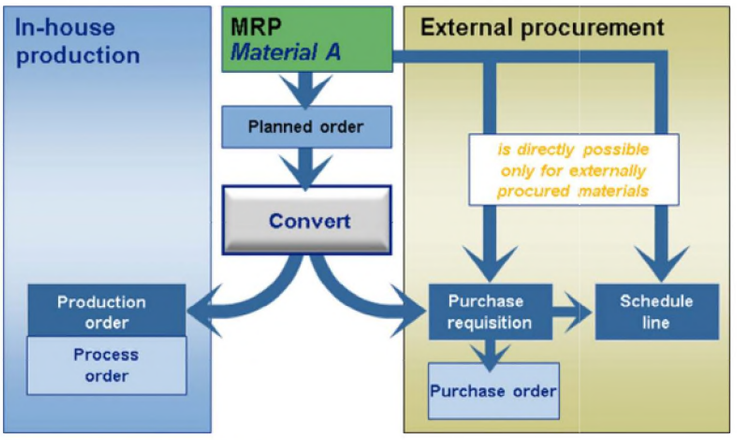


The main function of material requirements planning is to guarantee **material availability**, that is, it is used to procure or produce the requirement quantities on time both for internal purposes and for sales and distribution. This process involves the monitoring of stocks and, in particular, the automatic creation of procurement proposals for purchasing and production.

What is the Main Function of Material Requirement Planning (MRP)?

Material requirement planning (MRP)

The result of the MRP planning run is either a purchase requsition or a scheduline for external procurement or planning order for internal or internal/external processing



So, what's new???

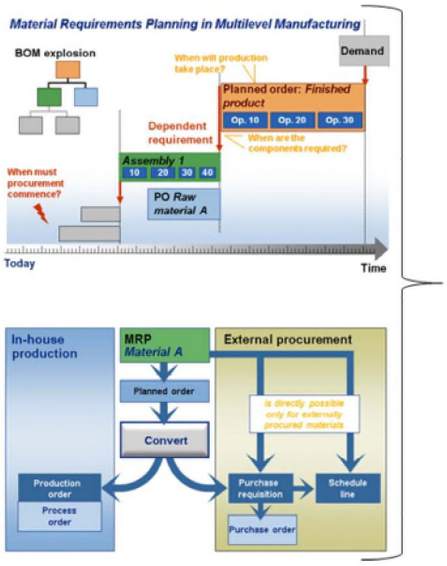
Material requirements planning takes current and future sales as its reference point. The planned requirement quantities trigger the MRP calculation. In MRP, the requirements elements include sales orders, planned independent requirements, material reservations, the dependent requirements created by exploding the BOM, and so on.

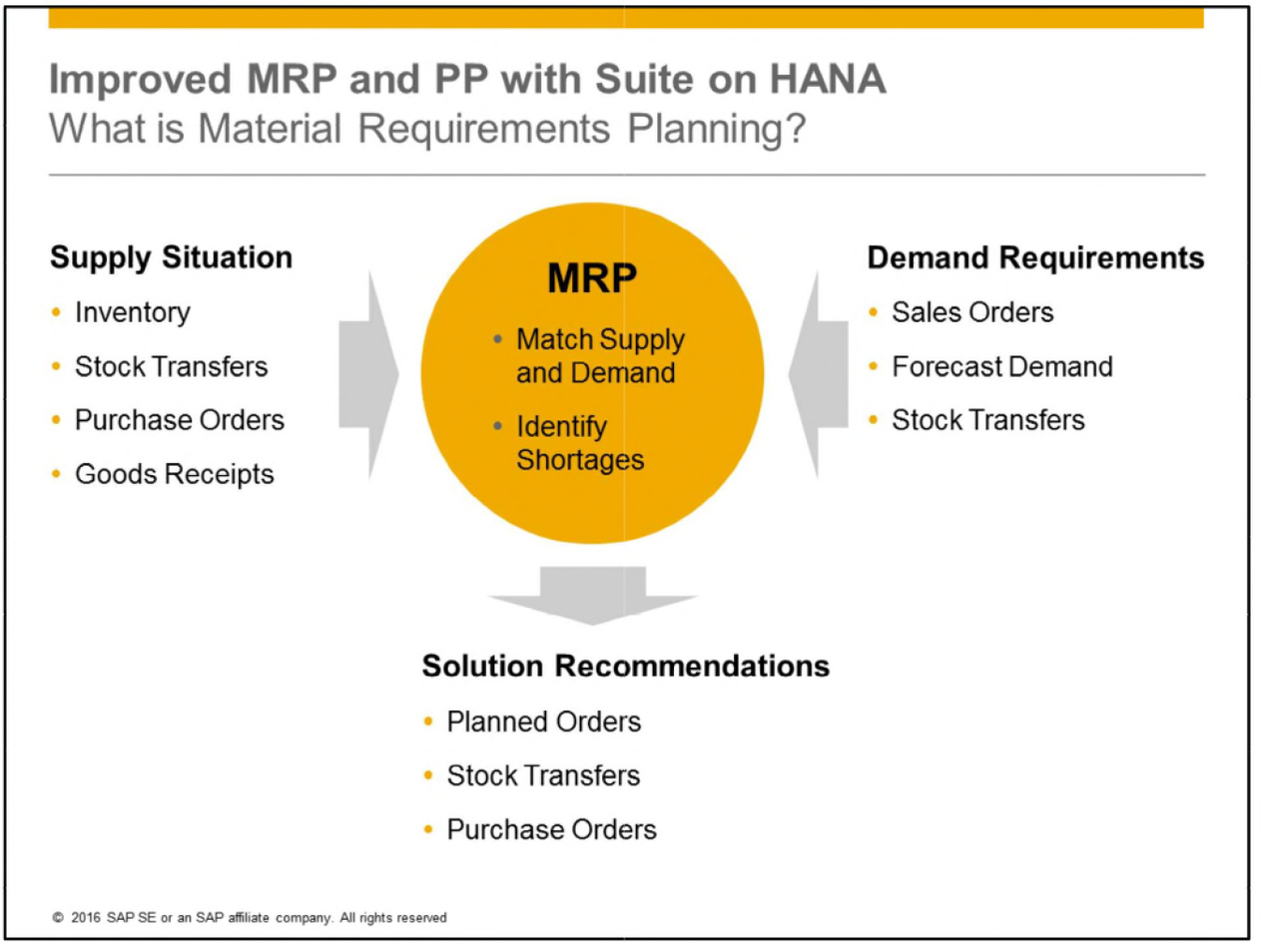
If the MRP run determines shortage quantities, the system creates procurement proposals: Purchase requisitions and planned orders are internal planning elements that can be changed, rescheduled, or deleted at almost any time. With in-house production, the system creates planned orders for planning the production quantities. When planning is complete, planned orders can be converted into production orders.

With external procurement, the system either uses a planned order or uses a purchase requisition directly to plan the external procurement quantity. When planning is complete, the planned order is converted into a purchase requisition, which is subsequently converted to a purchase order. Using the creation indicator for purchase requisitions
on the initial screen of the planning run, you control whether the system immediately creates purchase requisitions directly, or first creates planned orders.

If a scheduling agreement exists for a material and is relevant for MRP in the source list, you can also create schedule lines directly using MRP. You control this using the creation indicator for scheduling agreement delivery schedule lines on the initial screen of the planning run.

Improved MRP and PP with Suite on HANA





- Material Requirements Planning (or MRP) is a supply chain planning process used in conjunction with other planning process such as, Demand Planning, Supply Planning, Sales & Operations Planning, Production Planning and Transportation Planning
- All of which are used to manage the supply chain activity of the enterprise
- MRP is the process of matching enterprise wide supply with actual and forecasted customer demand to identify potential material shortage situations and to recommend potential solutions
- Examples of Supply includes material in inventory, planned stock transfers, purchase orders and good receipts from manufacturing
- Examples of Demand includes customer sales orders and forecasts of future customer demand
- Supply and demand requirements are location specific and MRP matching is performed to ensure the materials are in the right location at the right time to fulfill customer demand

Improved MRP and PP with Suite on HANA
Detecting the Most Critical Issues

- A Material Planner is respon-siblefor hundreds of materials
- Challenged by dozens of exceptions a day
- Time is limited
- Focus on the most important and urgent issues
- Manually intensive analysis of the stock requirements list
- Additional information from multiple sources is required to answer these questions

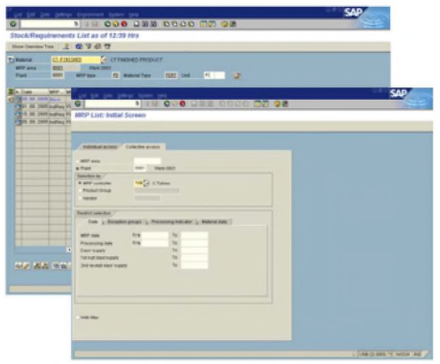
- A Material Planner is challenged with potentially dozens of material shortage issues a day
- He needs to identify, prioritize and focus on the most important issues first
- He needs to know which sales orders are affected, for which customers and how much time he has to solve the issue before the shortage effects fulfillment.
- With traditional MRP, a Material Planner could be making material decisions on out dated information
- A Material Planner has had no real-time, single view of material issues taking into account a total view of supply and demand across multiple sites based on current information
- They have only had visibility to materials shortages from a site specific and material point of view
- Identification of critical material shortages based on out dated information have made real issues harder to detect and increased the opportunity for poor decision making.

Improved MRP and PP with Suite on HANA

MRP Today – Batch-Driven Process and Multiple ERP Transactions

MRP Planning Run

- Batch process – resource and data-intensive
- Long execution time – runs once a week, every couple of days, or nightly



Evaluate MRP Requirements

- "Snapshot" of material requirements based on MRP run
- Snapshot immediately outdated after new supply and demand activity occurs
- Evaluate Stock Requirements
- 2nd most widely used transaction across all of ERP
- Very slow to execute
  - **Change Production Order**
  - **Change Planned Order**
  - **Change Purchase Order**
  - **Change Purchase Requisition**

- Today the MRP Planning Run is a resource intensive batch process
- It involves thousands of materials in hundreds of physical locations
- It performs hundred's of thousands of database reads from across multiple database tables in ERP
- The process typically takes hours to execute
- As such, it is typically run once a week, once every couple of days or over night
- Upon completion, it creates a "snap shot" of the existing material situation across all the locations in an enterprise

Improved MRP and PP with Suite on HANA

More Frequent MRP Runs, More Accurate Data, Better Decisions

MRP Live:

- Faster MRP run → More frequent planning → Up-to-date information
- Detect and evaluate material shortages with flexible rules
- Find critical demands – uncovered sales order items or missing parts in production
- Find critical supplies – late or overdue purchase orders or production orders
- Evaluation of consequences – which sales orders are endangered by a late supply

- MRP Live refers to the migration of the traditional MRP Planning capability to run on HANA
- MRP on HANA provides the ability to run MRP faster and therefore more frequently.
- This means more real-time visibility to a broader set of supply and demand data from across the enterprise
- Including the combination of sales order, inventory and procurement information into a single view
- The solution immediately calculates and highlights the material issues that need to be addressed across thousands of material stock situations.
- The new process is faster, is streamlined and is less manually intensive.
- All of which allows the Material Planner to identify issues more quickly and find better solutions to material shortage issues.
- The migration of MRP to HANA is work in process that started in 2013 and will continue thru 2014

Improved MRP and PP with Suite on HANA
Smart Business for MRP

Real-time Information

Real-time metrics and KPIs by material, order, inventory, and procurement

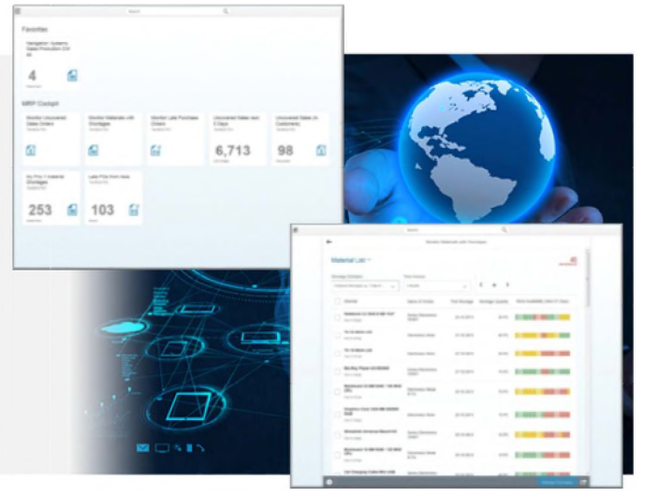
Personalized views

Enterprise-Wide Visibility

Across thousands of materials, hundreds of locations, hundreds of thousands of stock situations

Consumer-Grade User Experience

Visually appealing Uis Red, yellow, and green status for simple issue identification



- Traditionally, to identify solutions to materials shortages, a Material Planner had to investigate options across multiple ERP transactions which was time consuming
- With Smart Business for MRP, the ability to identify and make decisions to solve material shortage issues is greatly improved:
  - More frequent MRP runs provides more timely and accurate material stock information
  - It provides a single, real-time view of material shortage information across sites without having to navigate across multiple ERP transactions
  - There are new views of material shortages from a sales order, inventory and procurement point of view, instead of just a material view
  - There is new ability to simulate recommended solution viability and effectiveness in real-time across sites and thousands of material situations
- All of which make the Material Planner much more effective as a result

Improved MRP and PP with Suite on HANA
Improved Solution Identification and Resolution

Highlighted Issues

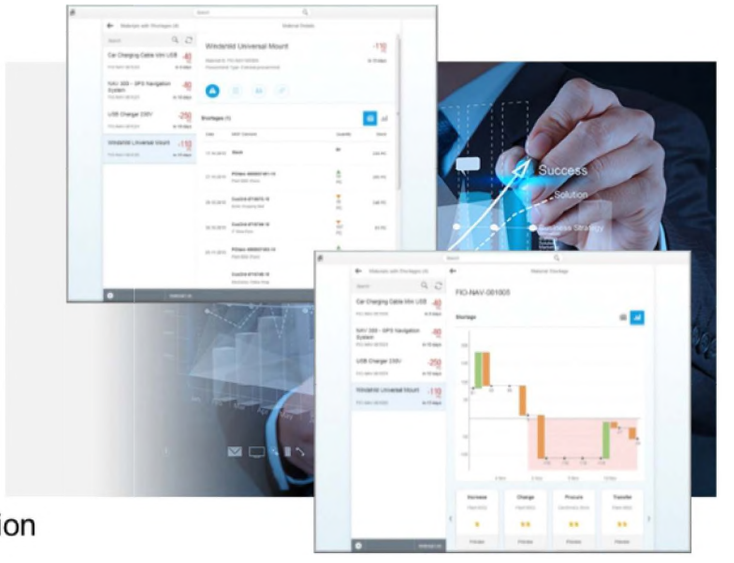
Identification and prioritization of most critical material shortages based on current information

Time-Critical Perspective

Graphical stock situation for next 21 days

Solution Recommendation

Presentation of best solution options Preview solution viability Simple solution application



Smart Business for MRP is new capability being developed to replace existing MRP UI and transactions in ERP

- For each material, it provides real-time visibility to the stock situation and indicates when a stock level will become insufficient or critical
- It provides personalization capability to allow the Material Planner to filter on certain types of materials and get different and customized views of shortages.
- It performs re-calculation of thousands of material situations in real-time.
- It not only suggests potential solutions but, using HANA, also allows the ability to evaluate the potential viability and results of a solution, before it is applied.

Improved MRP and PP with Suite on HANA

Fiori apps for production planning

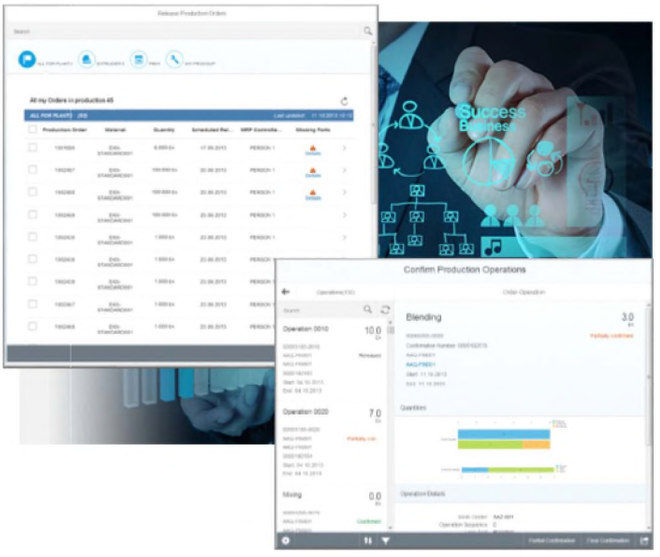
Release Production Orders

Review orders to be released based on custom user-defined variants Visibility to missing parts

Confirm Production

Streamlined UI for full and partial production confirmation

Graphical bars and color-coded status Browser-based, HTML5 UI for use with desktop, tablet, and mobile devices



- In Suite on HANA, there is also improved UI and processes for traditional Production Planning, Quality Management and Enterprise Asset Maintenance.
- In Production Planning, planned orders and purchase requisitions inside the replenishment lead time have to be “released” to the shop floor and the purchasing department respectively.
- Upon completion of production, the amount of product produced and raw materials and resources consumed need to “confirmed”.
- In Suite on HANA, new User interface exists to convert planned orders into production orders, to convert purchase requisitions into purchase orders, to release production orders and to confirm production upon completion.

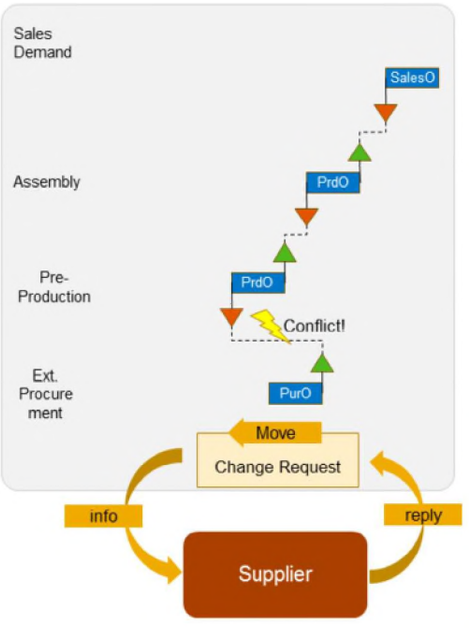
Improved MRP and PP with Suite on HANA
Demo

Smart Business for MRP Demo

Production Planning Fiori App Demo

This is an appropriate point to present the Smart Business for MRP demo

MRP Apps
Change Request – Overview



Customer Pain Point:

- Collaboration between material planners and their suppliers is often based on telephone calls or manually edited e-mail without system support
  (… if no collaboration system is in place – which we find often at customers)
- Hand-written paper or yellow post-its are used to track and monitor which changes shall be communicated or for which the reply from the supplier is open.
- The whole process in completely nontransparent to other interested parties (production, sales)

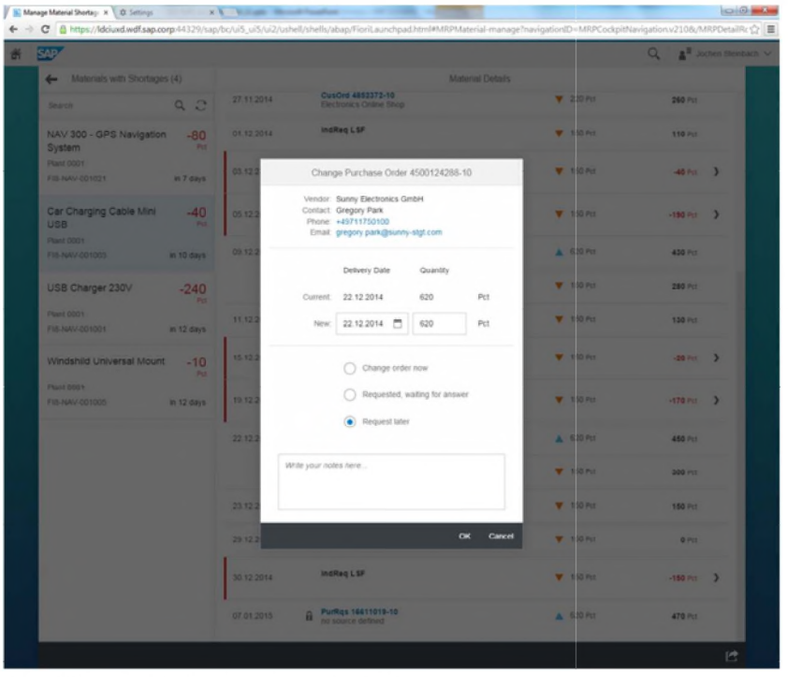
Solution Approach:

Introduce new business object 'Change Request' and Fiori Apps that

- provide appropriate support for the process when immediate (purchase order item) change is not possible as negotiation is needed first
- enable collection of change requests in the system and communicate all changes for one supplier at once
- automate the process of sending change requests, e.g. with template-based e-mails
- simulate the effects of open change requests on the material flow
- allow for efficient execution by straight-forward adaptation of replies

The newest function for the Smart Business for MRP available in wave 7 later this month is Change Requests.
In previous demo, we made changes to Purchase Orders without any negotiation or interaction with a supplier. Sometimes this is required before a new or change to a Purchase Order can be made.
New functionality has been created to manage the interaction with a supplier for a changed order.

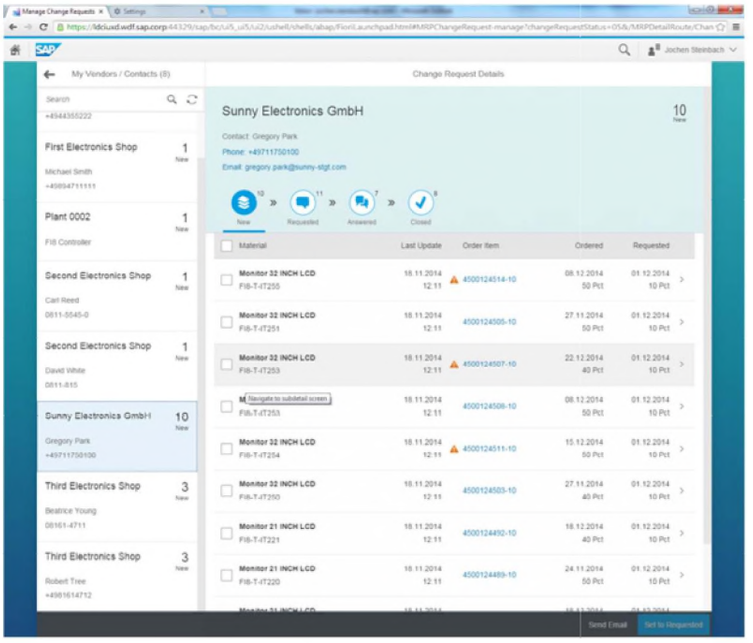
MRP Apps
Manage Change Requests



- Instead of updating a purchase order immediately, you can alternatively create a change request.

In the Smart Business for MRP, when a solution has been determined, instead of immediately submitting the solution as a new or change to an existing Purchase Order, there is now a screen to initiate a change request.

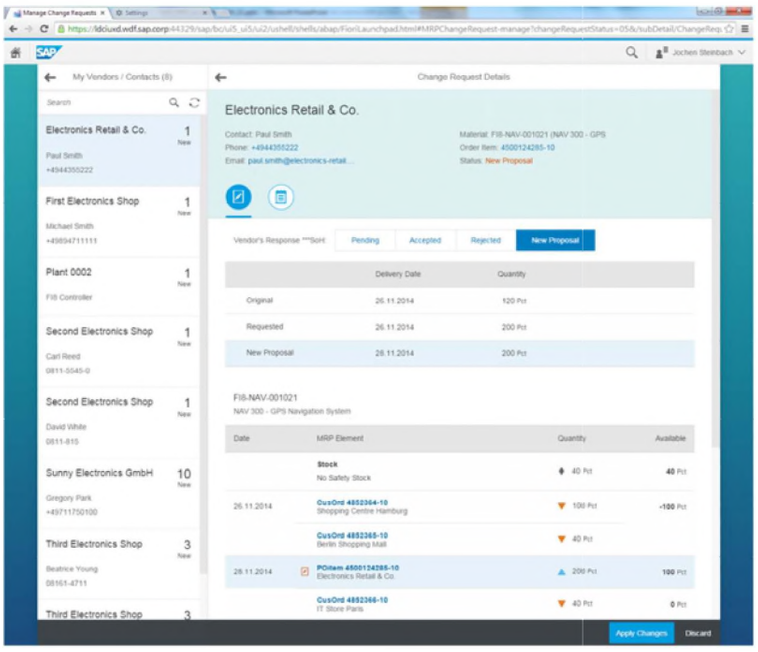
MRP Apps
Manage Change Requests



- On the left side you have an entry for each supplier (and contact) for which you have change requests.
- On the right side you get a list of all change requests for that supplier and contact with the basic information (material, purchase order ID, ordered date and quantity, requested date and quantity)
- You can inform the supplier contact via phone or mail about the requested changes

On the next screen, the user sees a list of the Suppliers for which change requests exist. On the right, you see the list of change requests for a selected Supplier. The user can filter by status.

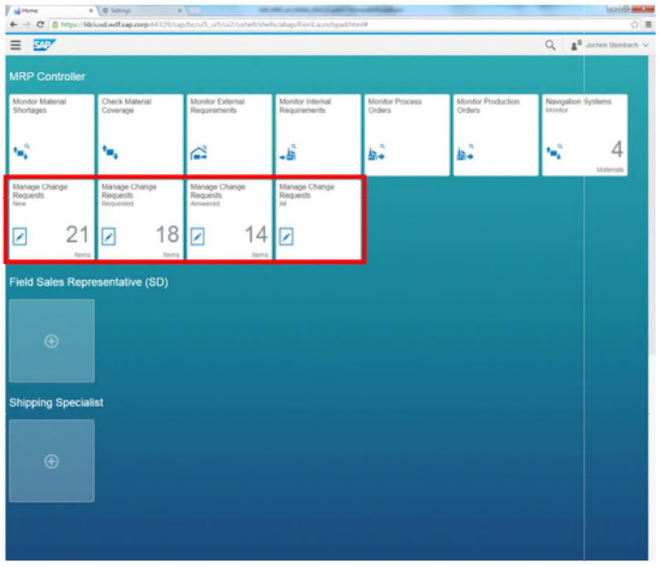
MRP Apps
Manage Change Requests



- Looking at the details of a specific change request you see the details about the requested change and a simulation of how it effects the material flow.
- You can maintain the supplier's response including the possibility to maintain a counter proposal.
- Finally, you can apply the changes (meaning that the purchase order is automatically updated) or discard the change request.

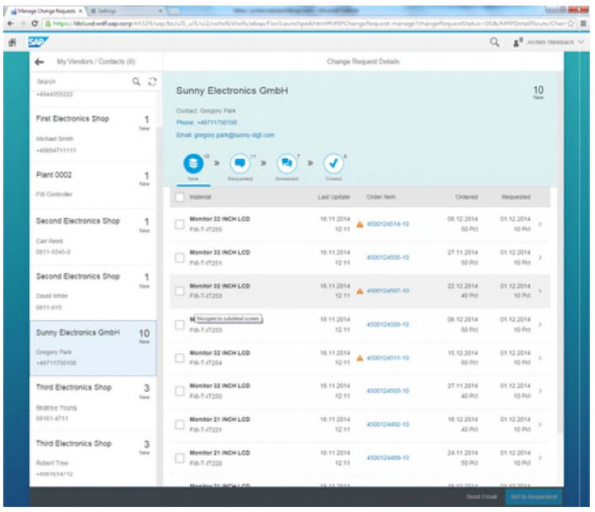
For a selected change request, the user sees the details of the change request, the timeline of the effect on the material flow. The user can modify, delete or apply the change request.

Smart Business for MRP
Manage Change Requests



A new set of launch pad tiles helps you to manage your change requests

Smart Business for MRP
Manage Change Requests



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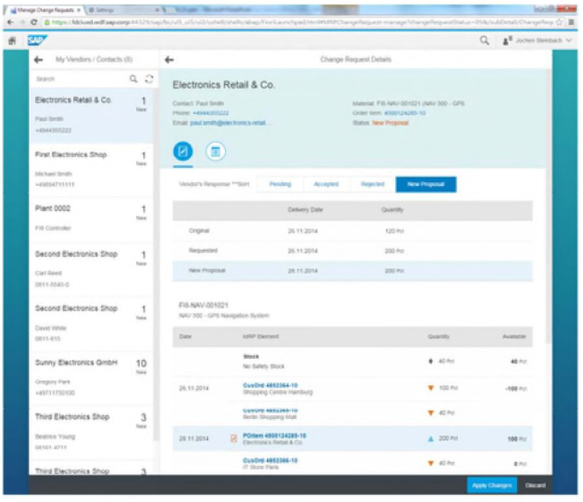
Smart Business for MRP
Manage Change Requests



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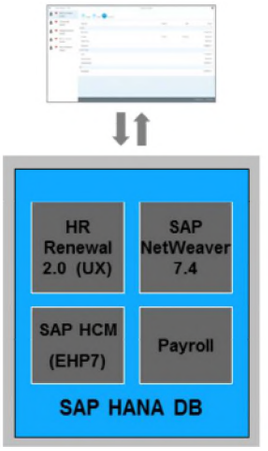
Improved MRP and PP with Suite on HANA
Deployment options and architecture

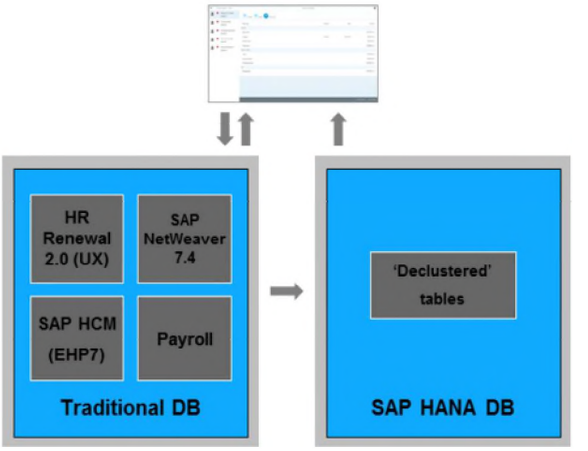
Integrated Suite on SAP HANA Scenario

- Full deployment as part of Suite on SAP HANA
- Required for MRP on SAP HANA

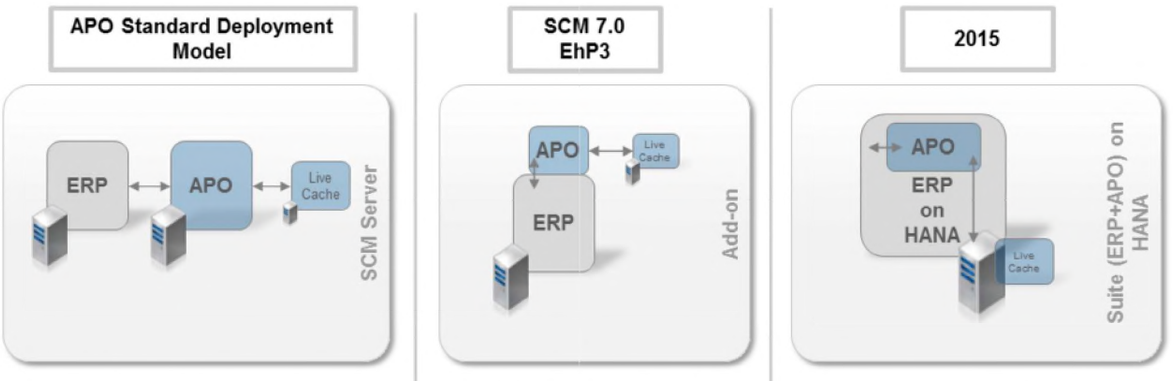


Side-by-Side Scenario

- Exists, but can not be utilized for MRP on SAP HANA



Improved MRP and PP with Suite on HANA
APO on HANA



Large & X-Large Installations

- High Data Volume: two NetWeaver Servers
- APO with D/Q/P Landscape

Medium-Sized Installations

- Simplified Landscape, reduced TCO
- Less DB/OS/Backup/Basis Operations
- Restrictions in the area of iPPe, VC and planning with batches (*)

HANA based Installations

- Simplified Landscape, reduced TCO
- Simplified Application: Integration, Data Model, UI, Analytics
- No restrictions of APO-PPDS use cases

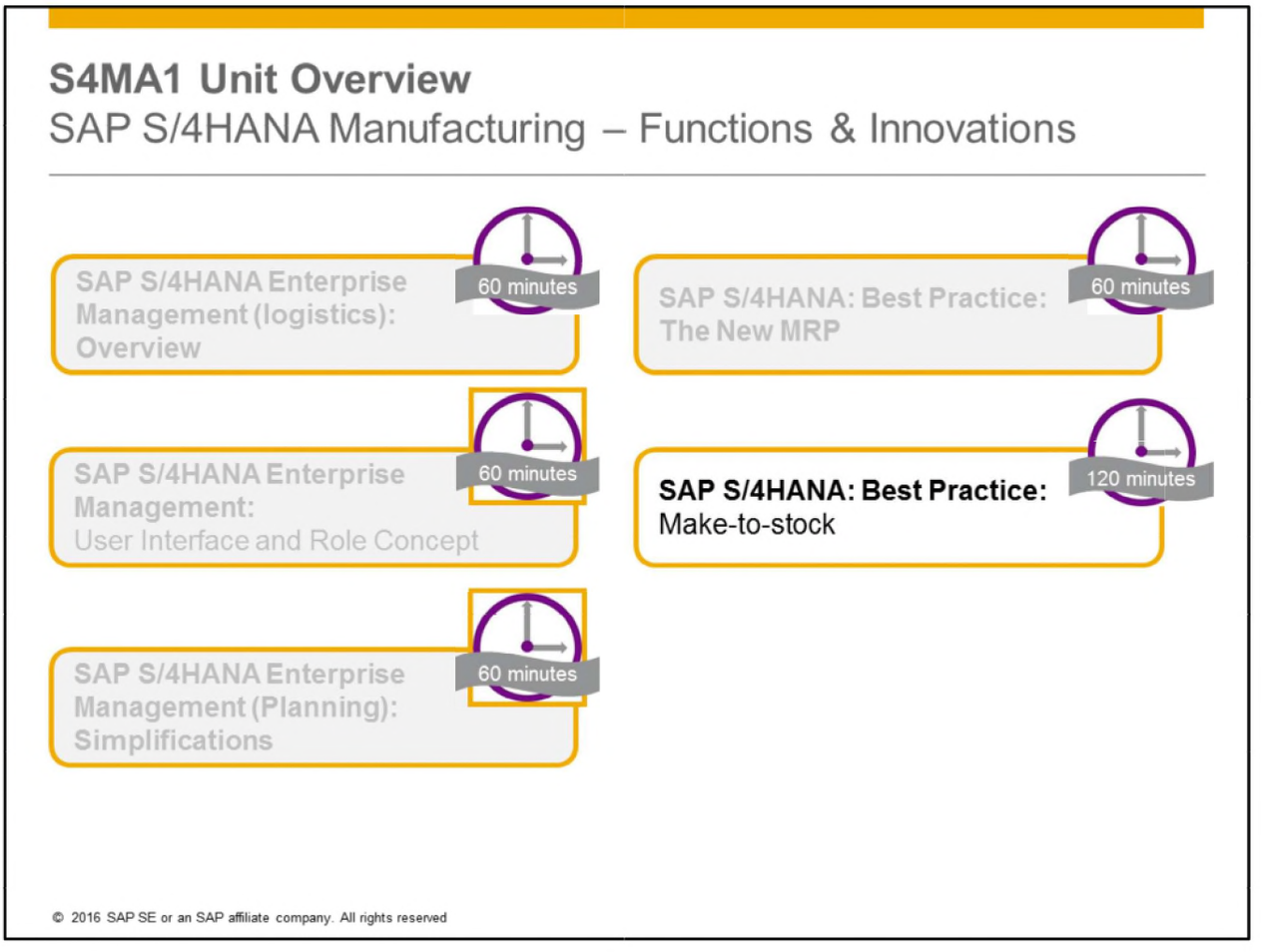
* Removal of restrictions planned for Q1 2015 SP

MRP is the ERP side of Planning
APO has been migrated to HANA and to work side by side with ERP.
2015 development to bring MRP, APO, PPDS together in SoH for on premise continues.
APO role in cloud still being determined.

Summary

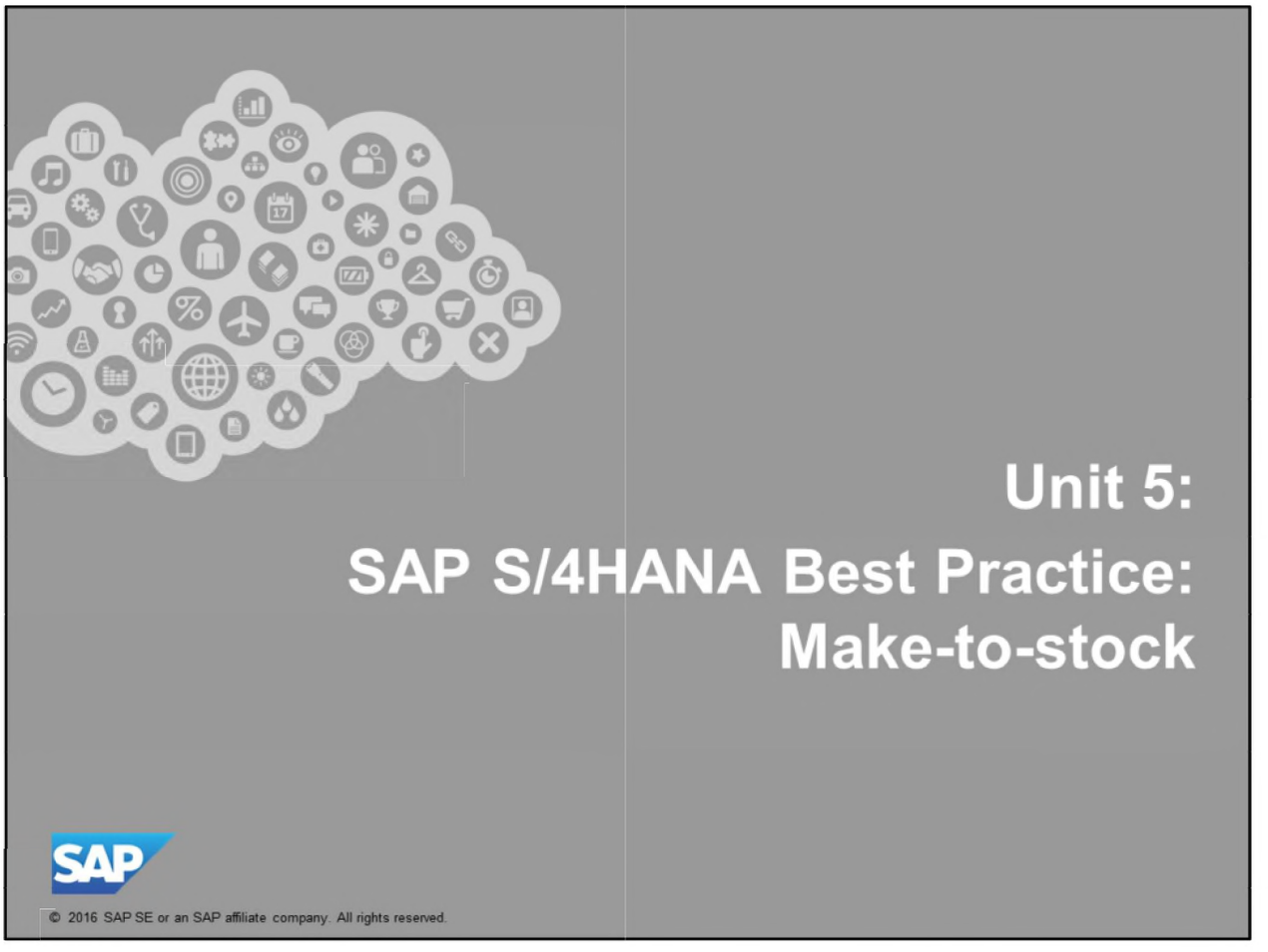
You should now able to:

- Describe the SAP S/4HANA MRP Solution.

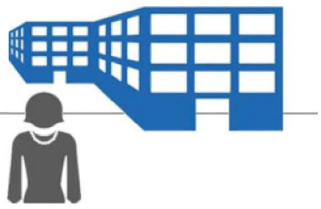


Agenda

SAP S/4HANA Enterprise Management (logistics): Overview
SAP S/4HANA Enterprise Management: User Interface and Role Concept
SAP S/4HANA Enterprise Management (Planning): Simplifications
SAP S/4HANA: Best Practice: The New MRP
SAP S/4HANA: Best Practice: Make-to-stock



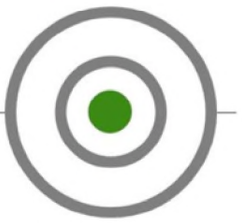
Scenario



In this unit, an additional advantage of MRP Live is discussed:

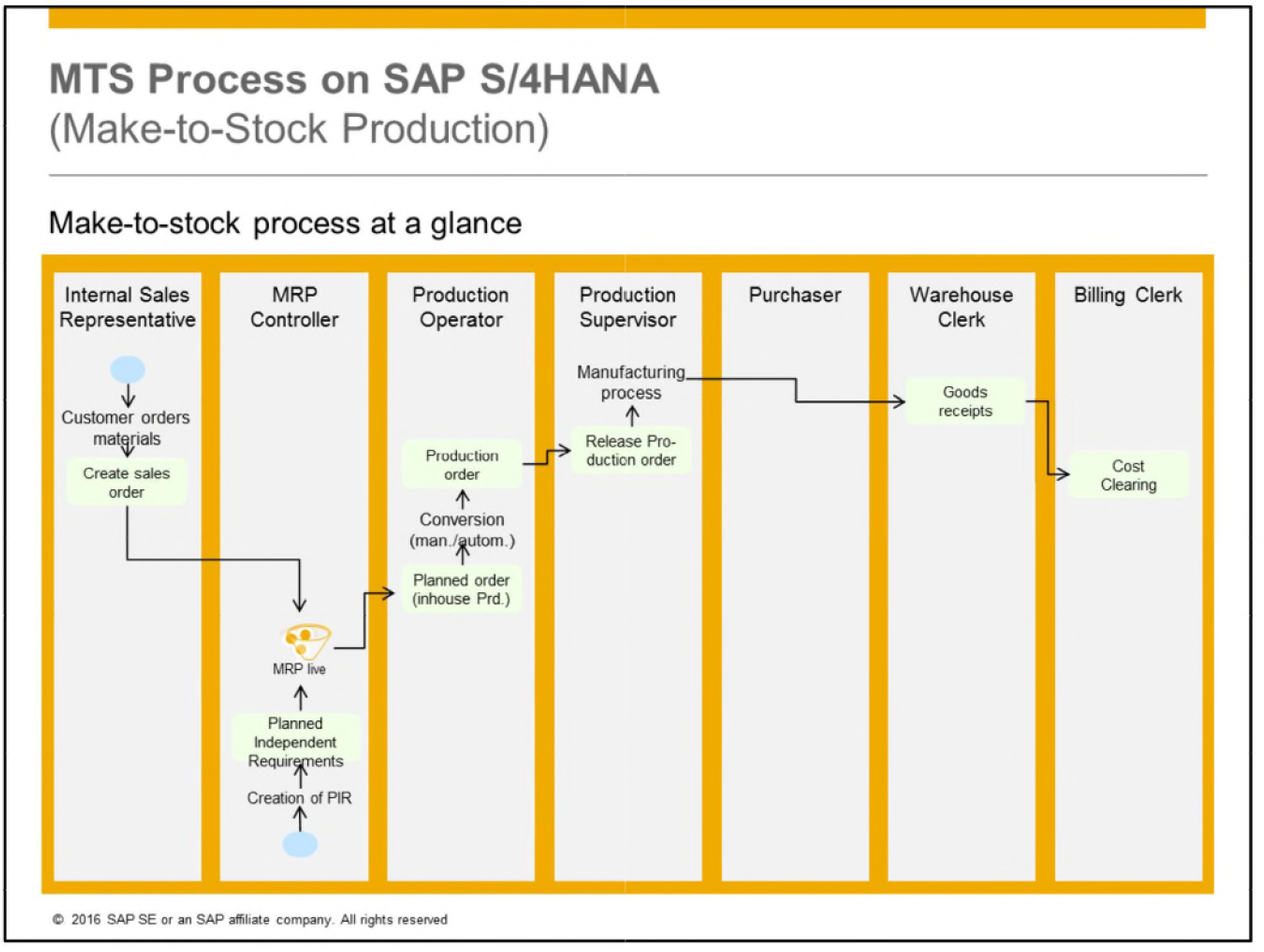
- Stock-transfer-requirement
  => If a material is transferred from one plant to another then the **stock-transfer requirement** is not known in the supplying plant until after the material has been planned in the receiving plant. MRP Live determines the sequence in which materials have to be planned across several plants.

Learning Objective

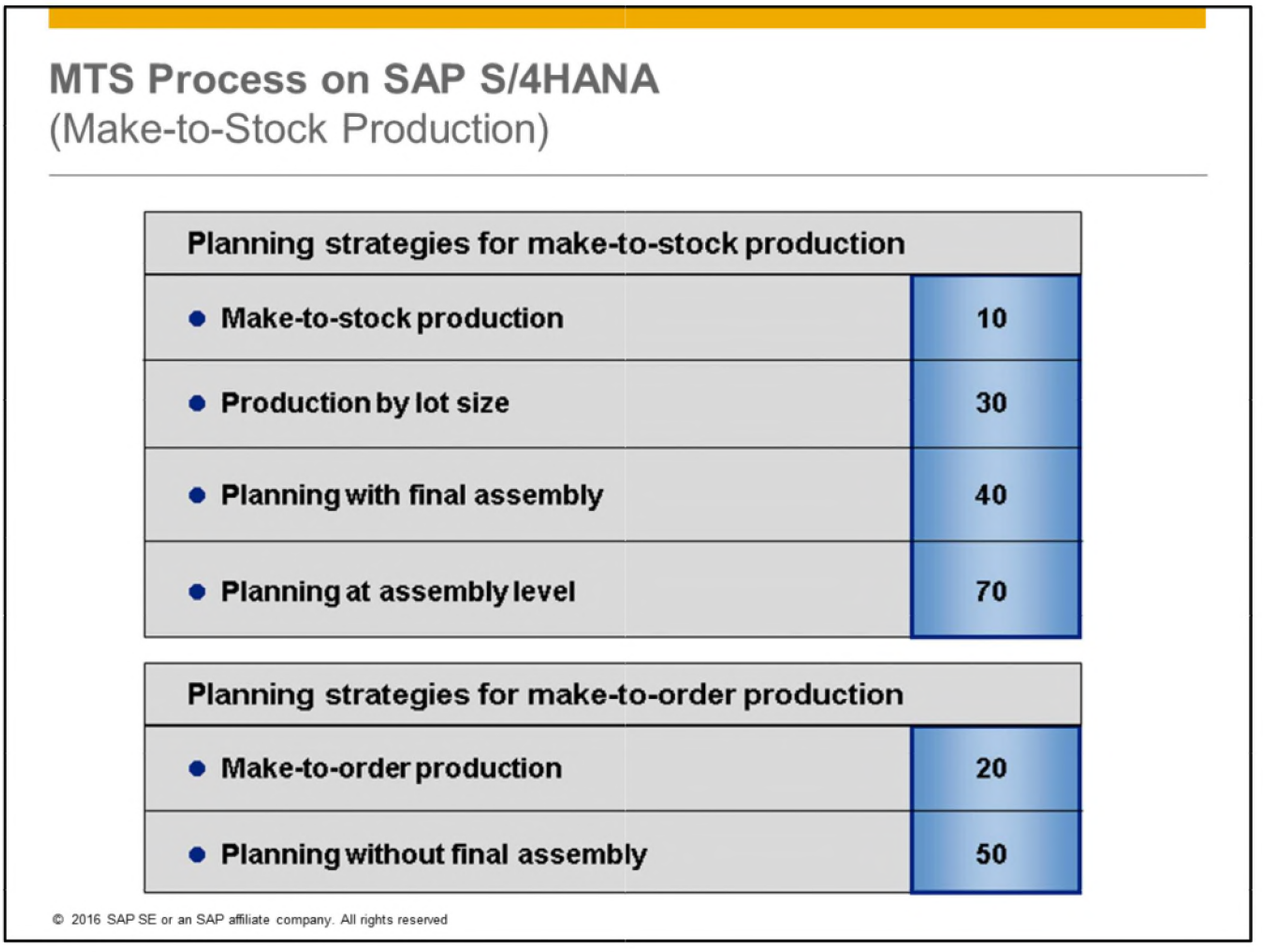


After completing this lesson, you will be able to:

- Understand the Make-to-Stock Production in Discrete Industry.



The production supervisor releases the production orders The warehouse clerk uses the pick list to issue the components for each order. The production operator confirms the work done and order progress along the operations of the production orders.
Production orders are processed for subassembly Semi-finished Good (T-B1##and T-B2##) and for Finished Goods (T-F1##)
Production versions are used for different kind of routings. The selection of production versions is done automatically (selection of different routings depending on production order lot size)



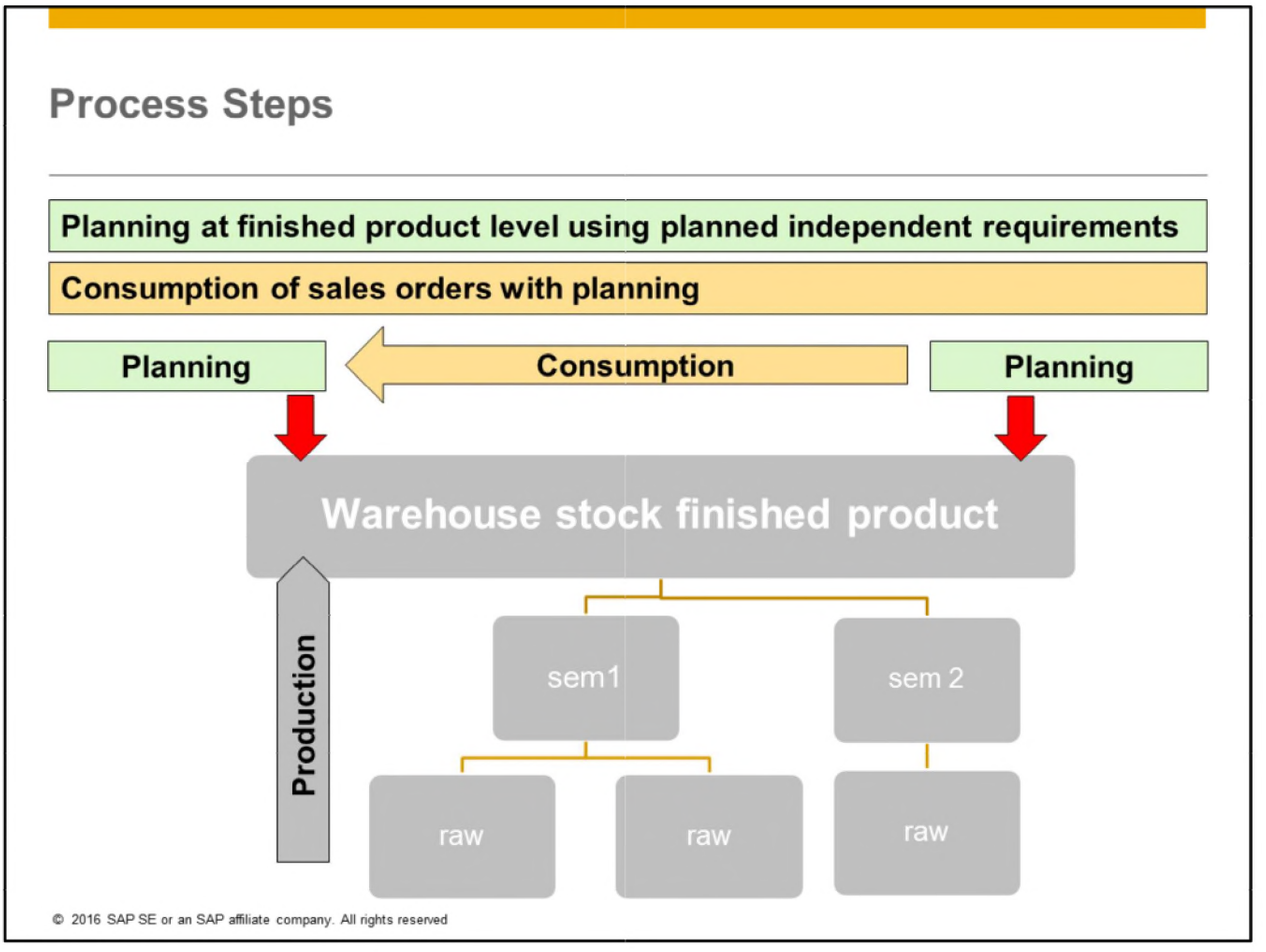
The make-to-stock production strategies plan production or procurement using planned independent requirements, which can be created from sales or forecast figures.

Sales orders are fulfilled by warehouse stock. Make-to-stock production strategies are used in industries where demand and sales fluctuate but where production should be kept at full capacity. Fluctuations in demand and sales are balanced out by warehouse stock.

Make-to-stock production strategies are designed for planning the procurement of components (production or purchasing) by planning the finished product.

Scenario

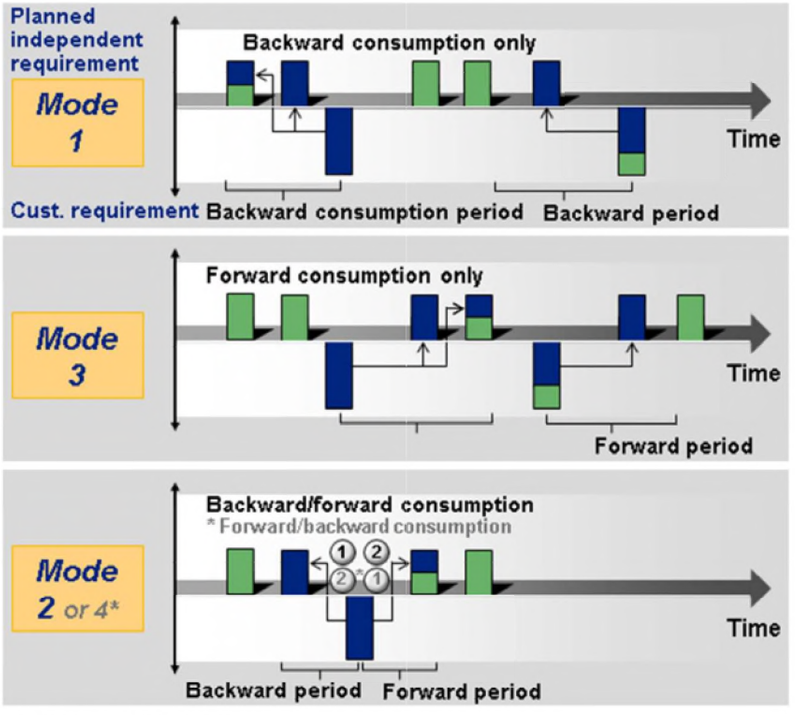
1. Planning is executed on finished product level
2. Finished product will be produced in advanced and stocked in warehouse
3. Consumption of sales order with planning



Planning with final assembly (planning strategy 40) allows you to focus on flexible and fast reaction to customer demand, whilst also aiming for a production process that is as smooth as possible.
The procurement and production of all components and assemblies including their final assembly should be triggered by planned independent requirements before sales orders arrive.

You set the planned independent requirements for the finished product in Demand Management. Incoming sales orders consume these planned independent requirements.

Consumption Modes



You can use consumption mode to determine the direction on the time axis in which incoming sales orders are to consume planned independent requirements.

In backward consumption (consumption mode 1), the sales order consumes planned independent requirements from before the customer requirement.
In forward consumption (consumption mode 3), the sales order consumes planned independent requirements from after the customer requirement.
You can combine backward and forward consumption provided that you take the consumption periods into account (consumption modes 2 or 4).

You can define the consumption mode and the consumption periods either in the material master or for each plant and MRP group. If no values have been entered, the system uses the default setting with backward consumption for 999 days

Demo 7: How to Perform the Make-to-Stock Production in the Discrete Industry Using MRP-Planning Run

For the steps and data of this demo, refer to the exercise:

How to perform the Make-to-Stock Production in the Discrete Industry using MRP-Planning run.

Exercise 7: Perform the Make-to-Stock Production in the Discrete Industry Using MRP-Planning Run

15 minutes

Watch

Try

Self-Test

Print

In this exercise, the participants will execute in MRP run and manually like interactive planning and check the planning results for the Discrete Industry.

Summary

You should now able to:

- Understand the Make-to-Stock Production in Discrete Industry.

SAP S/4HANA Manufacturing – Functions & Innovations

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About This Handbook

This handbook is intended to complement the instructor-led presentation of this course, and serve as a source of reference. American English is the standard used in this handbook. The following typographic conventions are also used:

Use	Example/Visualization
Demonstration by Instructor A hint or advanced detail is shown or clarified by the instructor – please indicate reaching any of these points to the instructor	
Warning or Caution A word of caution – generally used to point out limitations or actions with potential negative impact that need to be considered consciously	
Hint A hint, tip or additional detail that helps increate performance of the solution or help improve understanding of the solution	
Additional information An indicator for pointing to additional information or technique beyond the scope of the exercise but of potential interest to the participant	
Discussion/Group Exercise Used to indicate that collaboration is required to conclude a given exercise. Collaboration can be a discussion or a virtual collaboration.	
User Interface Text	Find the `Flavor Gallery` button
Solution or SAP Specific term	E.g. *Flavors* are transaction specific screen personaslization created and rendered using SAP Screen Personas.

The handbook is presented in two parts. Part 1 covers the content of the course, while Part 2 covers the exercises.

This exercise handbook should be followed with great care on detail. A simple typo in your code or entries will produce errors, so please double-check your spelling while performing the exercises.

Unit 1
Exercise 1

Exercise 1: Check Simplifications in S4/HANA in the area of Production Planning

1. Simplifications in S/4 HANA

How can you get the latest information about the new solution of S4/HANA and an overview of the simplifications in this enviroment?

Please note:_____

_____

2. Detailled information about “MRP-live”

You already heart that one of the major changes in the area of production planning will be the MRP planning functionality? Could you find some additional information about ths topic?

Please note:_____

_____

_____

3. Obsolete transactions

Changes extist in several areas of the S4/HANA system not only in the area of production planning.
During the production planning process inventory postings e.g. goods issue and goods receipts are necessary.
In former releases there are multiple possibilities to execute these bockings e.g. **MB1C** or **MIGO**.

Execute **MB1C** to create some initial stock for your finish product **T-F100**.

Can you execute this? _____

Why not?
Please note:_____

Can you get some additional information about this?
Please note:_____

_____

4. Check MRP settings in material master

1) You want to use **T-F1##** for your planning process.
Find out which componentens are necessary to plan and produce the product **T-F1##.**

Component 1: T-S1##.

Component 1: ……

Sub-Component 1: ……

Sub-Component 2: ……

Component 2: ……

Sub-Component 1: ……

Sub-Component 2: ……

2) Check the assembly and the sub-assembly for this material.
What is the planning strategy for these conmponents?

BOM of T-F1##

T-F1##: ……

Low-level-code 1:

T-S1##: ……

T-S2##: ……

T-R1##; ……

Low-level-code 2:

T-R2##: ……

T-R3##: ……

T-R4##; ……

T-R5##; ……

This completes the exercise

Unit 1
Solution 1

Solution 1: Simplifications in S4/HANA in the area of Production Planning

1. Simplifications in S/4 HANA

How can you get the latest information about the new solution of S4/HANA and an overview of the simplifications in this enviroment?

The easierst way to get the latest information about S4/HANA is to check the hompage of SAP under help.sap.com/s4hana. Here you can get complete view about this solution.

2. Detailled information about "MRP-live"

You already heared that one of the major changes in the area of production planning will be the MRP planning functionality called "MRP-live"? Could you find some additional information about ths topic?

Major developments are documented in the "Simplification List". This list you can find under help.sap.com/s4hana. It is also possible to access this list using Google. To do this, type in "SAP Simplification List" in Google and execute search. What's the result?

The search directly leads to the webside, where you can access the "Simplification List".

https://help.sap.com/disclaimer?site=http%3A//uacp.hana.ondemand.com/http.svc/rc/PRODUCTION/pdfa4322f56824ae221e10000000a4450e5/1511%2520000/en-US/SIMPL_OP1511.pdf

Execute simplification list and check information about the MRP in HANA process.

3. Obsolete transactions

Changes extist in several areas of the S4/HANA system not only in the area of production planning.
During the production planning process inventory postings e.g. goods issue and goods receipts are necessary.
In former releases there are multiple possibilities to execute these bockings e.g. **MB1C** or **MIGO**.

a) Log into system T41, which is the backend system for the T4N CLOUD system.
b) Call **MB1C** and execute the following Goods Receipts:

Item	Value
Material:	T-F1##
Plant:	1010

Storage Location:	0001

Can you execute this? No, its not possible

Why not?
The system shows a message that this transaction is obsolete.

Can you get some additional information about this?
Detailed informations are documented in OSS-note 2210569).

4. Check MRP settings in material master

1) You want to use **T-F1##** for your planning process.
Find out which componentens are necessary to plan and produce the product **T-F1##.**

Call transaction *CS12* in system T41 with the following values:

Item	Value
Material:	T-F1##
Plant:	1010
BOM Usage:	1 (BEST)

b) Choose Execute.

Material: **T-F1##**

Sub-Component 1: T-R2##

Sub-Component 2: T-R3##

Component 2: T-S##

Sub-Component 1: T-R4##

Sub-Component 2: T-R5##

2) Check the assembly and the sub-assembly for this material.
What is the planning strategy for these conmponents?

Either you can call transaction *MM02* for all the following materials and check the setting for the planning strategy step by step. A more effective way is the usage of *MD04* with the collective access and the following selection: **1010** in *MRP Area* field . MRP-Planner: **0##**

Execute the search and mark all materials in the “Stock/Requirement List / Material list using the icon  “select all”. Then call the functionality “Display selected lists”.

In the first material press  "show header details and check the strategy group in the section "Overview of material data.

BOM of T-F1##

T-F1##: Strategy Group 40

Low-level-code 1:

T-S1##: Strategy Group 40

T-S2##: Strategy Group 40

T-R1##; Strategy Group initial

Low-level-code 2:

T-R2##: Strategy Group 40

T-R3##: Strategy Group initial

T-R4##; Strategy Group initial

T-R5##; Strategy Group initial

	Hint: Using the icon  you can jump forwards and backwards in your BOM.

This completes the exercise.

Unit 2
Exercise 2

Exercise 2: Get started with S4/HANA and User Specific Roles

S4/HANA is a role based concept. General roles are preconfigured and can be used for daily work. It's only necessary to assign preconfigured roles to an user. Otherwise there are no tiles visible after login.

In this exercise, you will log on and check, if tiles are available. You will find out about the role specific Concept.

Access the System without an assigned Role

In the standard configuration a role isn't assigned initially to a user. Logon to the training system landscape and start Fiori Launchpad. Check, if tiles are available.

Tiles are visible: _____.

Assign Role ZSE_SAP_BR_PRODN_PLNR and execute again

There are several roles initially available in the S4/HANA environment. In addition there exist the possibility to enhance the given role.

1) Check, if the role **ZSE_SAP_BR_PRODN_PLNR** is assigned to your user.
2) Assign the role and check, which tiles are displayed, then.

Tiles are visible: _____.

Visible tiles are: _____.

This completes the exercise.

Unit 2
Solution 2

Solution 2: Get started with S4/HANA and User Specific Roles

In this exercise, you will log on and check, if tiles are available. You will find out about the role specific Concept.

Access the System without an assigned Role

a) First of all you have to login to the training system landscape. Call *SAP logon* via Menu *START* und check if system T4N is available.
b) Log on to T4N with the credentials given by your trainer.

	Hint: System T4N is the gateway to system T41, which is the backend system.

c) In the user specific menu you will find the possibility to choose *SAP Fiori Launchpad*. Execute it, by double-clicking it. Calling the “SAP Fiori Launchpad” will leads you to the “SAP Fiori Launchpad”. This launchpad is empty at this time. That means ne tiles are available.

Tiles are visible: **No, the relevant role is not assigned yet.**

Assign Role ZSE_SAP_BR_PRODN_PLNR and execute again

In the S4/HANA environment the system works with user specific roles. These roles have to be assigned to users. After this, all tiles which are assigned to the roles will appear after login.

	Hint: In the CLOUD solution it is only possible to work with these tiles. In the on-premise solution you can also work with the familiar UI. There you can also work with transaction-codes.

1. Login to System T4N and use transaction *SU01* to maintain your user parameter. You will get the required login information from your trainer.

   a) Execute transaction *SU01*.
   b) in the *User field* enter your user, choose *Change*.
   c) Call the view *Roles*.

b) Check, if the role **ZSE_SAP_BR_PRODN_PLNR** is assigned to your user?

2. Assign role *SAP_PP_BCR_MRPCONTROLLER* to your user.
   a) In the *Roles* tab, click on an empty row in the *Role* field. Choose the F4 value help
   b) in the pop-up, in the single role field, enter: **ZSE_SAP_BR*** and choose *Start Search*.
   c) in the next pop-up check-mark the single role: **ZSE_SAP_BR_PRODN_PLNR** and choose *Copy*.
   d) On the *Maintain Users* screen, choose *Save*.
3. Login in System T4N and check, if tiles (e.g." Production Planning - MRP Runs") are now available?
   a) Choose *Create a new Session*.
   b) On the *SAP Easy Access* menu choose *SAP Fiori Launchpad*.

   Tiles are visible: **Yes, now the tiles are visible**

   Visible tiles are:_____.

This completes the exercise.

Unit 1
Exercise 3

Exercise 3: Create a User Specific UI

The standard solution provides several pre-configured roles, e.g.:

Employee (Professional User):	SAP_NBPR_EMPLOYEE_S
Production Planner:	SAP_NBPR_PRODPLANNER_S
Purchasing Manager:	SAP_NBPR_PURCHASER_M
Purchaser:	SAP_NBPR_PURCHASER_S
Warehouse Clerk:	SAP_NBPR_WAREHOUSECLERK_S
Accounts Payable Accountant:	SAP_NBPR_AP_CLERK_S

All these roles contain a lot of Apps. There is a chance that the user will be confused and get lost. Therefore it makes sence to create and work with own favorites, called “My Home”. In addintion there exists the possibility to group own favorites in own groups which we want to follow in this training.

In the first part of this exercise you will learn to work with favorites. Therefore you will create a new group, you will assign an App and you will modify this assignment. In the second part you will create two additional own groups and you will assign apps to them.

1. Usage of Groups and Apps in S4/HANA environment

Create an own Group *Forecast and MRP* and assign Apps

Create a group called *Forecast and MRP* and assign the app Material Documents Overview

Is the new group now available in S4/HANA UI?: _____.

2. Change you own Group *Forecast and MRP* – deletion or re-assignment of Apps

Unfortunately you remember that the assignment was wrong. This App is a general App and should be part of the area *My Home*.
How could you handle this in a proper way?

3. New Assignment of Apps to your own Group *Forecast and MRP and creation of two additional groups*

1. Change the settings of your own group *Forecast and MRP* and assign the following Apps:

- Create PIRs
- Manage PIRs
- Schedule MRP Runs

2. Create the Group Demand Coverage: Production and Purchasing and assign Apps.

Create a group called **Demand Coverage: Production and Purchasing** and assign the following apps:

- Display Production Order
- Display Bill of Material
- Display Routing
- Monitor Order Progress
- Pick Components for Process Orders
- Release Production Orders
- Confirm Production Order Operation
- Post Goods Movement
- Convert to Production Order

3. Create a Group Monitoring Planning Process and assign Apps

Create a group called *Monitoring Planning Process* and assign the following apps:

- Monitor Material Shortages (it may be, that this tile is not available)
- Monitor External Requirements
- Monitor Material Coverage
- Monitor and Manage Material Shortages (it may be, that this tile is not available)

Unit 1
Solution 3

Solution 3: Create a User Specific UI

The standard solution provides several pre-configured roles, e.g.:

Employee (Professional User):	SAP_NBPR_EMPLOYEE_S
Production Planner:	SAP_NBPR_PRODPLANNER_S
Purchasing Manager:	SAP_NBPR_PURCHASER_M
Purchaser:	SAP_NBPR_PURCHASER_S
Warehouse Clerk:	SAP_NBPR_WAREHOUSECLERK_S
Accounts Payable Accountant:	SAP_NBPR_AP_CLERK_S

All these roles contain a lot of Apps. There is a chance that the user will be confused and get lost. Therefore it makes sence to create and work with own favorites, called “My Home”. In addintion there exists the possibility to group own favorites in own groups which we want to follow in this training.

In the first part of this exercise you will learn to work with favorites. Therefore you will create a new group, you will assign an App and you will modify this assignment. In the second part you will create two additional own groups and you will assign apps to them.

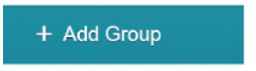
1. Usage of Groups and Apps in S4/HANA environment

Create an own Group *Forecast and MRP* and assign Apps

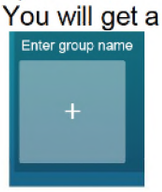
Create a group called *Forecast and MRP* and assign the app Material Documents Overview

Is the new group now available in S4/HANA UI?: _____

a) If not already open, open the SAP Fiori Launchpad.
b) To create or change settings on your Home Page you first have to click on the icon *Personalize Home Page*  to get in change modus of the S4/HANA UI.

c) Now you have the possibility to create a new group by clicking the icon “Add group” 

d) Result:
You will get a new area, which you can use for your own group.



e) By clicking *Enter group name* you have the possibility to rename your group.

- Forecast and MRP To do so enter the titel "**Forecast and MRP**".

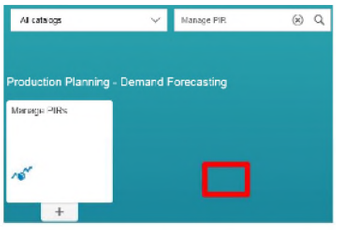
f) Add the following App to the new group:

- Manage PIRs

When you click on "+" in the tile of your new created group the system leads you to "Tile Catalog - Personalize Group "Forecast and MRP". By scrolling down on this view there is a hughe number of available tiles from several areas.

The App "Manage PIRs" you can find in the area of Production Planning - Demand Forecasting. By clicking on the "+" on the buttom of this tile you will include it to your group.

	Hint: There are a lot of tiles available. You can also use the serach in catalog functionality find the app faster.



g) To add this tile click on the "+" and go back to S4/HANA UI.

In addition assing also the App. *Maintain Business Partner* to your group.

2) Is the new group now available in S4/HANA UI?

Yes, the group *"Forecast and MRP"* with the tile "Manage PIR's" and "Maintain Business Partner" is now available

2. Change you own Group *Forecast and MRP* – deletion or re-assignment of Apps

1. Re-Assingment of Apps

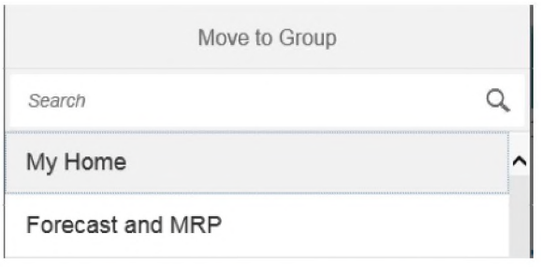
Unfortunately you remember that the assignment was wrong. This App is a general App and should be part of the area "My Home".

How could you handle this in a proper way?

a) To move an Apps to a another group click on the icon "Personalize Home Page"  to get in change modus of the S4/HANA UI.:

b) Click on  . and choose the option "Move" 

In the appearing popup choose "My Home".



Result: The App. "Manage PIR's" is now part of "My Home".

	Hint: With this procedure, you can create your own favourites. Alternatively, you can drag and drop the tiles, which are really moved, then.

Delete a tile

a) By checking your settings you find out that the App. "Maintain Business Partner" is not relevant for your daily work. This App. could be removed from your group "Forecast and MRP"

b) To delete a tile click again on the icon "Personalize Home Page"  to get in change modus,

b Then click on „x" in the tile "Maintain Business Partner" for deletion.

Result:

The tile disappears and the group “Forecast and MRP” is again empty.

3. New Assignment of Apps to your own Group *Forecast and MRP and creation of two additional groups*

1. Change the settings of your own group *Forecast and MRP* and assign the following Apps:
- Create PIRs
- Manage PIRs
- Schedule MRP Runs

2. Create the Group **Demand Coverage: Production and Purchasing** and assign the following Apps

- Display Production Order
- Display Bill of Material
- Display Routing
- Monitor Order Progress
- Pick Components for Process Orders
- Release Production Orders
- Confirm Production Order Operation
- Post Goods Movement
- Convert to Production Order

3. Create a Group **Monitoring Planning Process** and assign Apps

Create a group called *Monitoring Planning Process* and assign the following apps:
- Monitor Material Shortages (it may be, that this tile is not available)
- Monitor External Requirements
- Monitor Material Coverage
- Monitor and Manage Material Shortages (it may be, that this tile is not available)

This completes the exercise.

Unit 2
Exercise 4

Exercise 4: Perform a PP-Process in S/4HANA – Create and Release Forecast

In this exercise you will perform a complete production planning process in S/4HANA.

This planning run based on the planning strategy “40” which is maintained in the MRP-area of the masterdata.

The finished product can be planned either with the planning strategy 10 or 40.

Planning strategy 10 is useful in mass production environments. You should choose this strategy if you want production to be determined by a production plan (Demand Management) and when sales orders should influence production directly. One of the most important features of this planning strategy is that it enables you to smooth the demand program.

Planning strategy 40 is probably the most widely used strategy if you can forecast production quantities for the final products. With this strategy, planned independent requirements are consumed by incoming sales orders so that the master plan is always adjusted to suit the current requirements situation. An important feature of this planning is that you can react quickly to customers’ requirements. The smoothing of the master plan is less important.

You already checked in exercise 1 that for the BOM material T-F1## and the components T-S1## and T-S2## the strategy group 40 is maintained.

Create and release a Forecast

1. Create Forecast

The starting point of planning strategy “40” are a released forcast from “Demand Planning”, which is calculated based on the requirements in the past. In case there are no requirements in the past you can also maintain the forecast in the system manually to get the planned independent requirements needed for planning strategy “40”

Create and save the following forecast figures (Planned independent requirements):

Field	Value
Material	T-S1##
MRP-Area	1010

Period	Act. Month+1	Act. Month+2	Act. Month+3	Act. Month+4	Act. Month+5
PC	50	0	0	0	0

The system shows the PIRs on mothly level, why?

How can you display them on daily basis and on which day of the period the PIRs are created?

2. Release the Forecast

Release the Planned independent requirements

Press Release PIRs and check if the forecast are also displayed in the column "Released PIRs.

Yes, the maintained planned independent requirements are available in column "Released PIRs.

This completes the exercise.

Unit 2
Solution 4

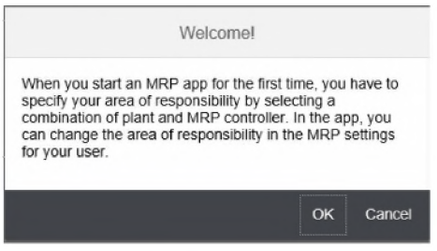
Solution 4: Perform a PP-Process in S/4HANA – Create and Release Forecast

Create and release a Forecast

1. Create Forecast

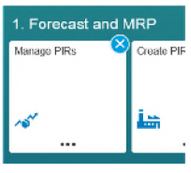
The starting point of planning strategy “40” are a released forcast from “Demand Planning”, which is calculated based on the requirements in the past. In case there are no requirements in the past you can also maintain the forecast in the system manually to get the planned independent requirements needed for planning strategy “40”

a) By clicking “Manage PIRs” you receive a popup that the system requires some settings for the MRP planner and the plant the first time.



b) Confirm this message and select the entry Plant 1 DE (1010) with your MRP Planner **0##.** Confirming this selection another popup appears with the “Area of responsibility” which you confrm with *OK*.

c) To do so Create a Forecast (Planned independent requirements) with the following values: Call tile “Manage PIR’s” from the Groupe Forecast and MRP, you created in exercise 2.



d) In case your user is assigned to a high number of materials you can use the filter options in the following way. Type in the following data and press *GO*

Field	Value
Material	T-S1##
MRP-Area	1010

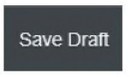
e) Now the material is displayed in the Material list. Here you can maintain the following “Planned Independent Requirements”:

Period	Act. Month+1	Act. Month+2	Act. Month+3	Act. Month+4	Act. Month+5
PC	50	0	0	0	0

f)The system shows the PIRs on weekly level.Why?
Systembehavior, which depends on the setting “Periodical Indicator” for Forecast Requirements in MRP3 view.

How can you diplay them on daily basis and on which day of the period the PIRs are created?

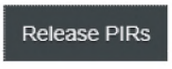
a) Mark the checkbox of the header material T-S1## and click on the icon  at the very right side of this row. The system shows a detailed view of the existing planned independent requirments on calender week level. To get further, detailed informantion on daily level go to “personalize table by clicking  and select “Period Start Date”. Confirm this selction

b) Save your drafts. Therfore press 

c) Stay in the window “Manage PIRs”- don’t close it.

2. Release the Forecast

Release the Planned independent requirements

a) Press 

and check if the forecast are also displayed in the column “Released PIRs.

Yes, the maintained planned independent requirements are available in column “Released PIRs.

This completes the exercise.

Unit 2
Exercise 5

Exercise 5: Perform a PP-Process in S/4HANA

In this exercise you will Display a Material Shortage and Run a Material Shortage Analysis.

Display a Material Shortage

1. Check actual stock and requirements situation

Check the current planning situation for your material using the tile “Monitor Material Coverage”.

Field	Value
Material	T-S1##
Plant	1010

What is the current planning situation for this material?
Analyse this situation in detail.

What is the available quantity at the date of the latest planned independent requirement?

Quantity: _____

Date: _____

2. Get additional information about the actual stock and requirements situation

Show the **current situation in a aggregated table view and in a chart view**

This completes the exercise.

Unit 2
Solution 5

Solution 5: Perform a PP-Process in S/4HANA

Display a Material Shortage

1. Check actual stock and requirements situation

a) Check the current planning situation for your material using the tile "*Monitor Material Coverage*".

Field	Value
Material	T-S1##
Plant	1010

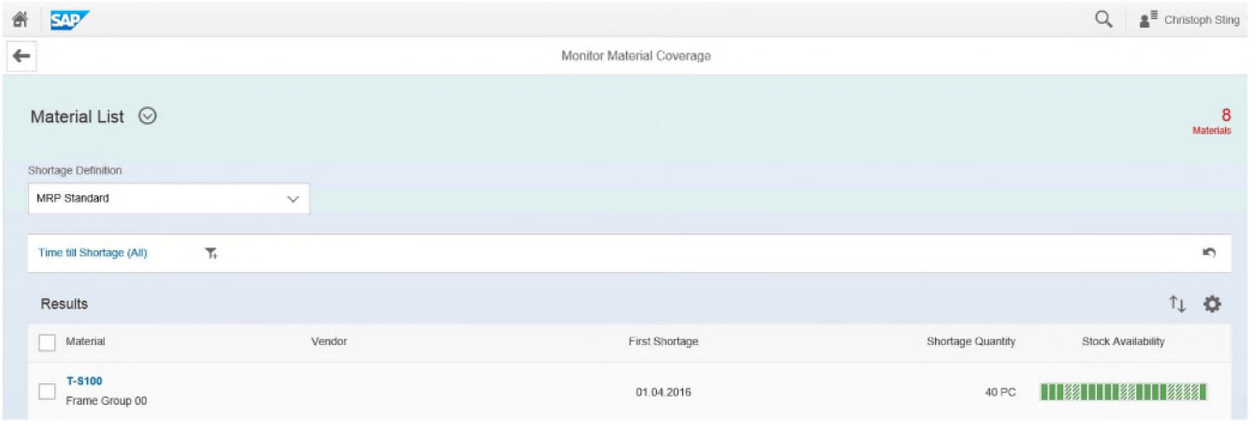
b) What is the current planning situation for this material?
Analyse this situation in detail.

c) Check the current planning situation for your material using the tile "Monitor Material Coverage".

d) In the "Monitopr Material Coverage" click on the icon  to filter the entry for **T-S1##** in Plant **1010**
Set filter settings:

Field	Value
Material	T-S2##
Plant	1010

e) Click OK



What is the current planning situation for this material?

The stock availability status shows that currently there exits a shortage about 40 PC, but not in the next 21 days.

	Hint: The traffic light bar on the right side gives an overview of the stock-/demand situation.  Here you can directly get an impression how long the extisting requirements are fulfilled. That means in our current situation we are running out of stock 10 calender days.

Analyse this situation in detail.

a) To analyse in detail mark the material in the monitor view and click on 

b) What is the available quantity at the date of the latest planned independent requirement.

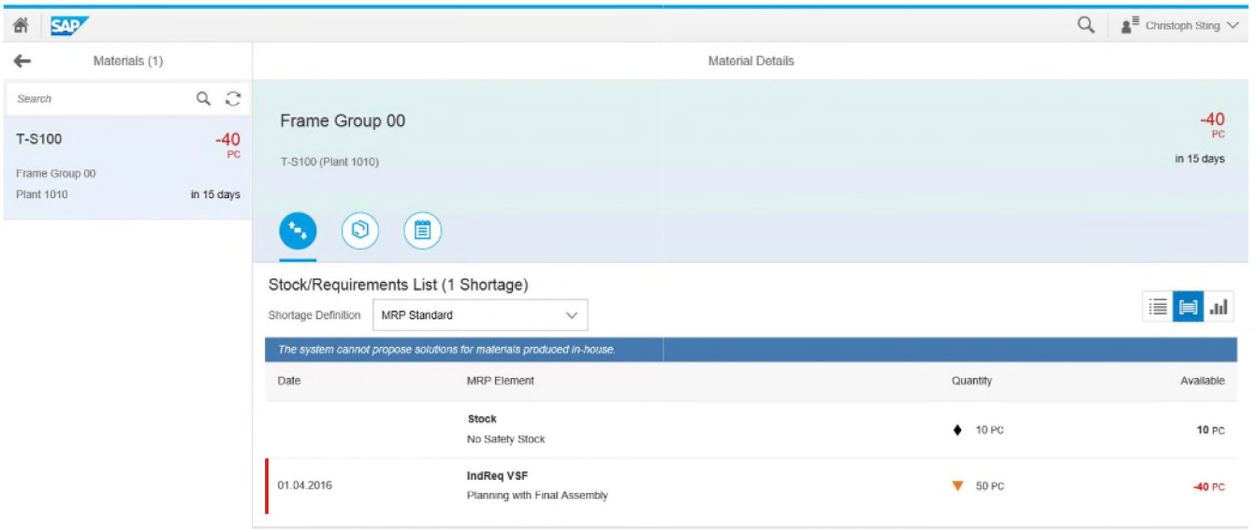
Quantity: minus 40

Date: first workday act. Month+1

2. Get additional information about the actual stock and requirements situation

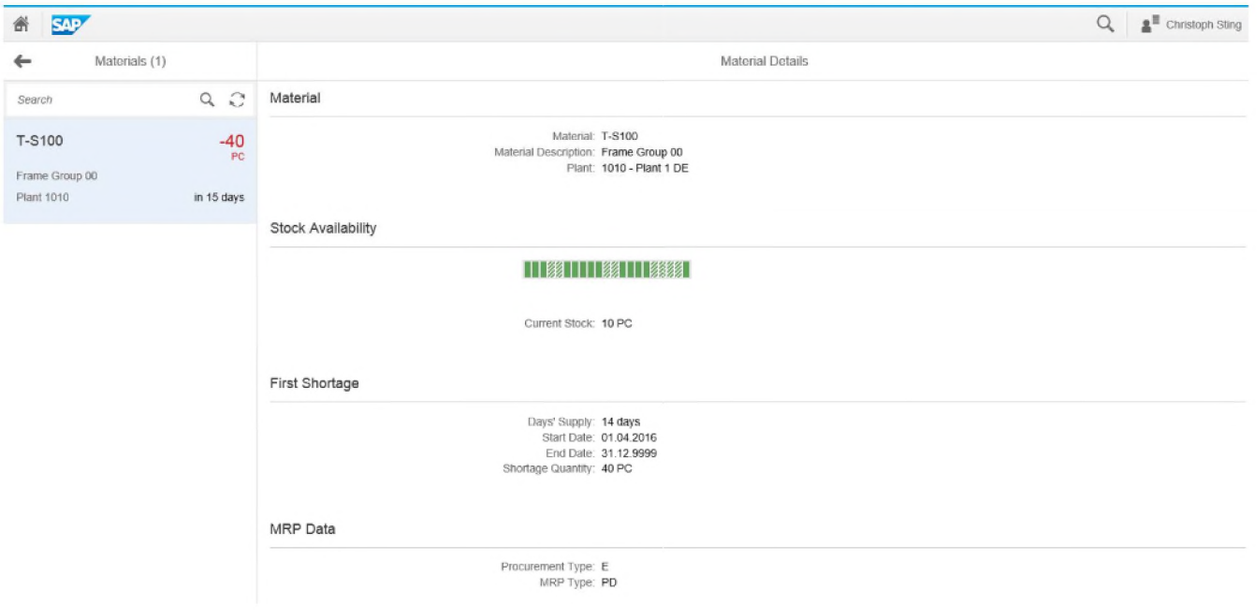
Show the current situation in the chart view and check additional material information

a) To do so call the chart view by clicking] 



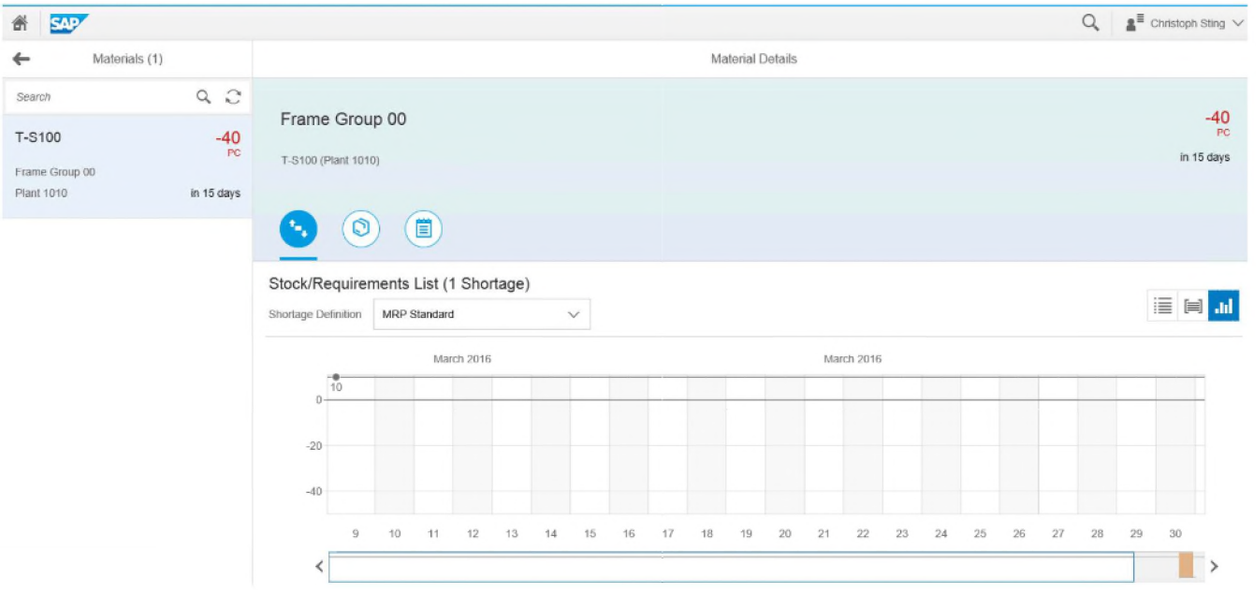
b) Here you get an overview about all planning elements for your material analog the MD04 in ECC6.0

By clicking on  , there exist the possiblity to get enhanced information of the current situation:



c) This includes several importaten MRP data like days, procurement type, MRP-type and planned delivery time.

d) When you click on you receive a chart view of the current stock/requirement situation



e) On the buttom of this view you have also the possibility to navigate to future periods.

This completes the exercise

Unit 3
Exercise 6

Exercise 6: Perform a PP-Process in S/4HANA – Interactive Planning

1. Execute an interactive Planning to solve the planning issues?

At this time execute in MRP run manually like interactive planning and check the planning results.

Is it possible to meat the requirement quantitíes and dates sufficient?
What is the situation on sub-component level?

In case of unsufficient demand coverage, what can you do?

2. Check again the new planning situation by using the Monitor Material Coverage

Are there still unconfirmed or late confirmed independent requirements or other demands?

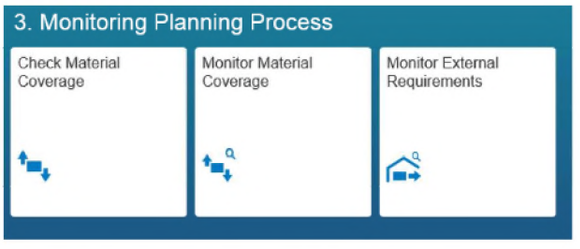
This completes the exercise

Unit 3
Solution 6

Solution 6: Perform a PP-Process in S/4HANA – Interactive Planning

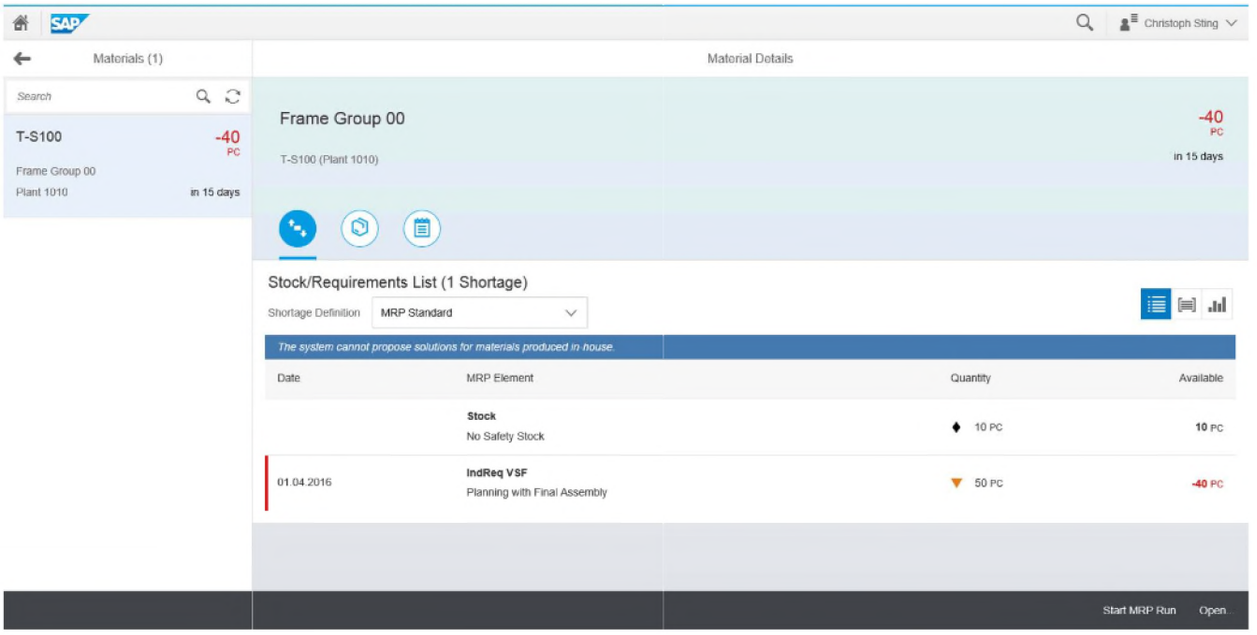
1. Execute an interactive Planning to solve the planning issues?

At this time execute in MRP run manually like interactive planning and check the planning results.



Execute the *Monitor Material Coverage* tile if necessary, search for your Material, select material and choose Manage Materials.

On the following screen you got an overview about the actual planning situation.



In addition you have the possibility here to execute an interactive planning run choosing 

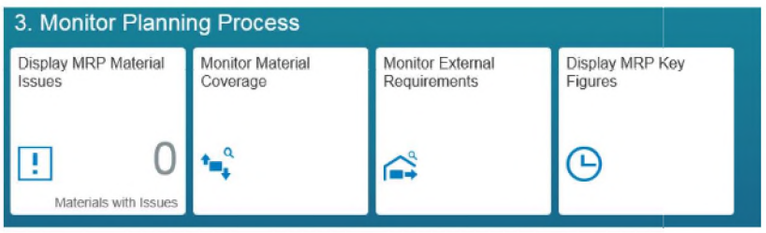
.

The system message 

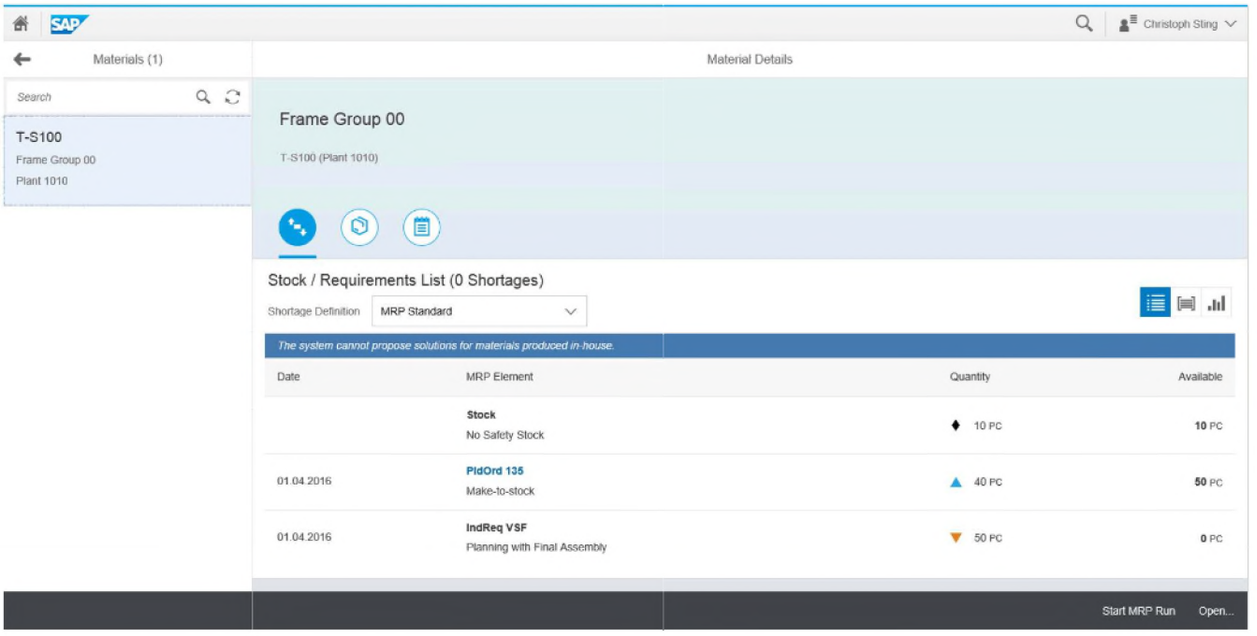
shows you, that the system execute an MRP run in background.

2. Check again the new planning situation by using the Monitor Material Coverage

To do so, call again the “Monitor Material Coverage”, set a filter for Material T-S100 and execute search. What’s the result?



Call again the *Monitor Material Coverage*, select material **T-S100** and choose *Manage Materials*:



All requirements are now covered in time.

This completes the exercise.

Unit 3
Exercise 7

Exercise 7: Perform the Make-to-Stock Production in the Discrete Industry using MRP-Planning run

1. Check prerequisites

To fulfill open demands in form of an inhouse production it is necessary to have suitable master data. Therefore especially bill of materials and production versions are necessary.

Check the prerequisites in the S/4 HANA System?

To do so use tile “Display Bill of Material” for the following header material:

Field	Entry
Material:	T-F1##
Plant	1010
BOM Usage	1

What is the result?_____

2. Check storage location stock for semifinished products

To check storage location stocks you can use the tile “Monitor Stock/Requirements List. This list represents the MD04 in SAP/ECC system.

Write down the stock quantities of the following materials:

T-F1##: …….. pcs

T-S1##: …….. pcs

T-S2##: …….. pcs

3. Create Forecast Demand for finished Product

As a result of the SOP for the next two weeks the following quantities are planned:

NOTE:
If there is no results table displayed, Enter your *MRP Controller* and choose *Go.* In the result list choose the first group and perform a double click on it.

Period	Displayed: Act. Week+1	Displayed: Act. Week+2	Displayed: Act. Week +3	Displayed: Act. Week +4	Displayed: Act. Week +5
PC	Add to the avail. Stock: + 20	Add to the avail. Stock: + 20	0	0	0

Depending on the existing planning/stock data check the planning situation at the date of the latest planned independent requirement.

Date: ……

Stock-/requirement quanitity: ……pcs

What is the current situation?_____

4. Create a job for a planning run to cover remaining requirements

In the next step the remaining requirements should be covered by a MRP planning run in the background.

Therefore a planning run hast o be setup with the following parameters:

Field	Content
Job description	MRP Planning run Group ##
Plant	**1010**
MRP Controller	**0##**

Activate the following check-boxes:

Field	Content
BOM components	
Stock Transfer Materials	
Regenerative Planning	
Scheduling	**1**
Planning Mode	**3**

Start the planning run immediately and set the recurrence pattern in that way that the planning run will be executed every hour.

Release the new created job and Check the results in the application log?

Are you able to find your job? Is your job successfully scheduled?

	NOTE: You have to refresh the display frequently until the status is *Finished*. To do so choose *Go* frequently.

Notice the start/end time of your first job and also the duration time:

Start time: ……..

End time: ……..

Duration: ……..

	NOTE: You have 4 materials in your job. This has taken more than one minute. This is a basic processing time for planning in S4HANA, which takes some time. Please note. This job becomes much faster, when many materials are planned. No matter how many materials are processed, the miminum time is required.

5. Check the results of the Planning Run

In this step check if all requirements are fulfilled in time. To do so check the stock-/requirement list of the material **T-F1##** in plant **1010.**

What is the result?

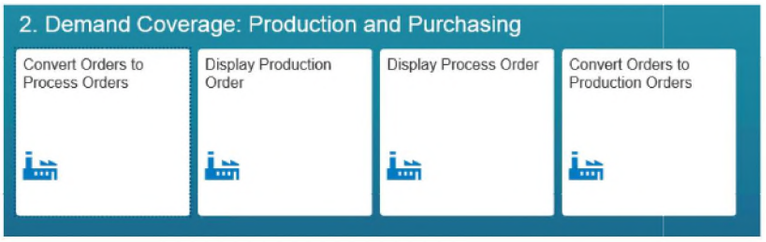
……

……

6. Production Order Processing for Subassembly

	NOTE: Only in case of a shortage for subassembly, T-S1## the following steps are required.

Create a Production order for a subassembly



Before final assembly of your finished good can start you have to produce the components. Planned orders already exist on this level as output from the last planning run. Now these planned orders have to be converted to production orders, have to produce and finally a goods receipt process has to be executed.

6.1. Convert Planning Orders to Production Orders

In the following selection screen “Collective Conversion of Planned Orders: Initial Screen” type in the following selection criteria:

Field	Value
Planning Plant	1010
MRP Controller	0##

We also want to convert planned oders for the final product in the same step. Write down planned order numbers

T-F1##: …….. and ……..

T-S1##: ……..

T-S2##: ……..

6.2. Check result of the collective conversion using stock-/requirement list

Therefore call the *Stock-/requirement list* tile, type in the following selection parameter and execute.

Field	Value
Material	T-S1##
MRP Area	1010
Plant	1010

Write down the number of the production order for the first depending demand._____
Then go this production order and release it. Check prefix “REL” of this order.

Production order first depending demand: _____

Do the same with material **T-S2##:**

Production order first depending demand: _____

6.3. Execute goods receipt process in system T41 using TA MIGO

To execute goods receipt process in system T41 type in transaction *MIGO*, select “*Goods receipt*” and type in the first order you noticed in the last step.

Do the same for the second order (for material **T-S2##**)

6.4. Check stock situation for material T-S1## and T-S2##

Check updated stock situation for **T-S1##** and **T-S2##** using stock requirement list.
What is the stock situation for component T-S1## and T-S2##?

Result:

---

7. Production Order Processing for Final Assembly

7.1 Perform the Final Confirmation of Production and Post Goods for Production

Call the stock-/requirement list using the *Monitor Stock/Requirements List* tile and execute selection with the following parameter:

Field	Value
Material	T-F1##
MRP Area	1010

Plant	1010

Goto the details of the first production order and check the details:

Production order: .....

Scheduled End date: .....

Quantity: .....

7.2 Release the order as you did before on component level and save your settings.
Check the result.

Production order first depending demand: .....

7.3. Execute goods receipt process in system T41 using TA MIGO

To execute goods receipt process in system T41 type in transaction MIGO, select “Goods receipt” and type in the first order you noticed in the last step.

Check the entries, mark item as “OK” and post goods receipt.

Result:

.....

.....

.....

This completes the exercise.

Unit 3
Solution 7

Solution 7: Perform the Make-to-Stock Production in the Discrete Industry using MRP-Planning run

1. Check prerequisites

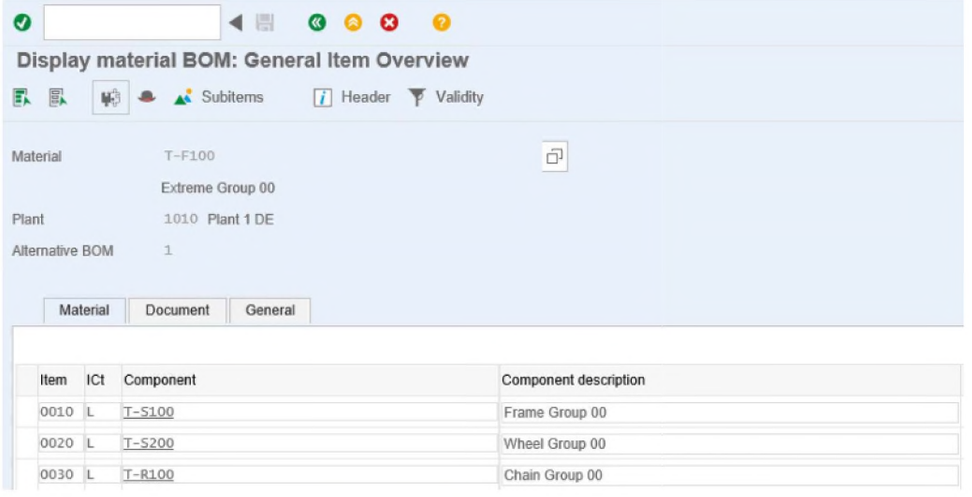
To fulfill open demands in form of an inhouse production it is necessary to have suitable master data. Therefore especially bill of materials and production versions are necessary.

Check the prerequisites in the S/4 HANA System?

a) To do so use tile *Display Bill of Material* for the following header material

Field	Entry
Material:	T-F1##
Plant	1010
BOM Usage	1

The header material **T-F1##** and the first low-level code will be displayed.

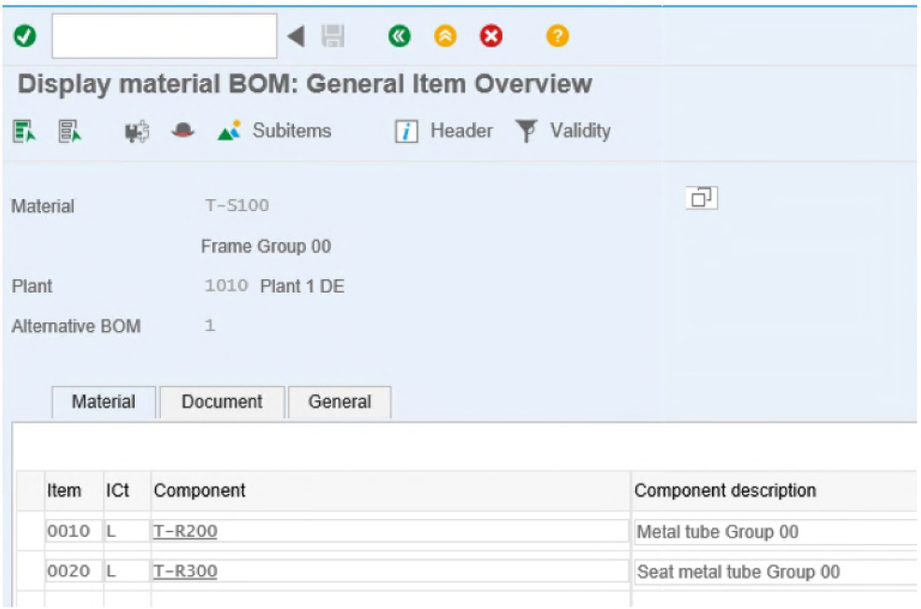


Mark line 0010 and choose Subitems to show the next low-level code.

b) Alternatively you can use tile *Display Bill of Material* again for the following material

Field	Entry
Material:	T-S1##
Plant	1010
BOM Usage	1

Here is the result:



2. Check storage location stock for semifinished products

a) To check storage location stocks you can use the tile *Monitor Stock/Requirements List*. This list represents the MD04 in SAP/ECC system.

b) Therefore it is either possible to call this list for a single material in a single plant or choose the collective access. Choose the *Collective access* tab with the following selection parameter:
Plant: **1010**
MRP controller: **0##**

c) Confirm your selection with  "Continue (ENTER)".

d) In your selection you get an overview of materials assigned to your MRP planner with different informations e.g. MRP area, material type,… In the column "Plant stock" you can see directly stock on hand values:

Stock/Requirements List: Material List

Selected Stock/Requirements Lists | Define Traffic Light | Exception Groups

Plant 1010 Plant 1 DE

MRP Controller 000 MRP Controller 000

Light	Valid from d...	Material	F MRP Area	Material Description	A	M	StckDS	1st RDS	2nd R	1	2	3	4	5	6	7	8	Plant st...	BUn	Sa...	Re...	MTyp
		T-R300	11010	Seat metal tube Group 00		C	3,0	3,0	3,0							1		0	PC	0	0	ROH
		T-R400	11010	Rim with spokes Group 00		C	3,0	3,0	3,0							1		0	PC	0	0	ROH
		T-R500	11010	Tyre and tube Group 00		C	3,0	3,0	3,0							1		0	PC	0	0	ROH
		T-R100	11010	Chain Group 00		C	5,0	5,0	5,0									10	PC	0	0	ROH
		T-S100	11010	Frame Group 00		C	5,0	999,9	999,9									10	PC	0	0	HALB
		T-S200	11010	Wheel Group 00		C	5,0	999,9	999,9									20	PC	0	0	HALB
		T-F100	11010	Extreme Group 00		C	6,0	999,9	999,9									10	PC	0	0	FERT
		T-R200	11010	Metal tube Group 00		C	999,9	999,9	999,9	1								20	PC	0	0	ROH

e) Write down the stock quantities of the following materials:

T-F1##: …….. pcs

T-S1##: …….. pcs

T-S2##: …….. pcs

3. Create Forecast Demand for finished Product

a) Execute tile *Manage PIRs. The Result list should be displayed.*
b) In the table select **T-F1##**. And click on the little right arrow on the very right side.

	NOTE: If there is no results table displayed, Enter your *MRP Controller* and choose *Go*. In the result list choose the first group and perform a double click on it.

c) As a result of the SOP for the next two weeks the following quantities are planned. In the corresponding fileds, enter the following values:

Period	Displayed: Act. Week+1	Displayed: Act. Week+2	Displayed: Act. Week +3	Displayed: Act. Week +4	Displayed: Act. Week +5
PC	Add to the avail. Stock: + 20	Add to the avail. Stock: + 20	0	0	0

d) Choose *Save Draft*, then choose Release PIRs
e) Depending on the existing planning/stock data check the planning situation at the date of the latest planned independent requirement. To do so, execute tile *Monitor Material Coverage*.
Check for your material **T-F1##.**

Date: ……

Stock-/requirement quanitity: ……pcs

f) What is the current situation?

Actual a stock on hand for **T-F1##** exists about 10 pcs. Therefore planned independent requirement are not fully covered.

Date: first workday of actual CW+2

Stock-/requirement quantity: _____

There is a material shortage. To fix this shortage, we will perform a planning run, see next step.

4. Create a job for a planning run to cover remaining requirements

a) In the next step the remaining requirements should be covered by a MRP planning run in the background. Choose the *Schedule MRP runs* tile.

b) Therefore a planning run hast to be set up. Choose *New* and enter the following parameter in the *Planning Scope* area:

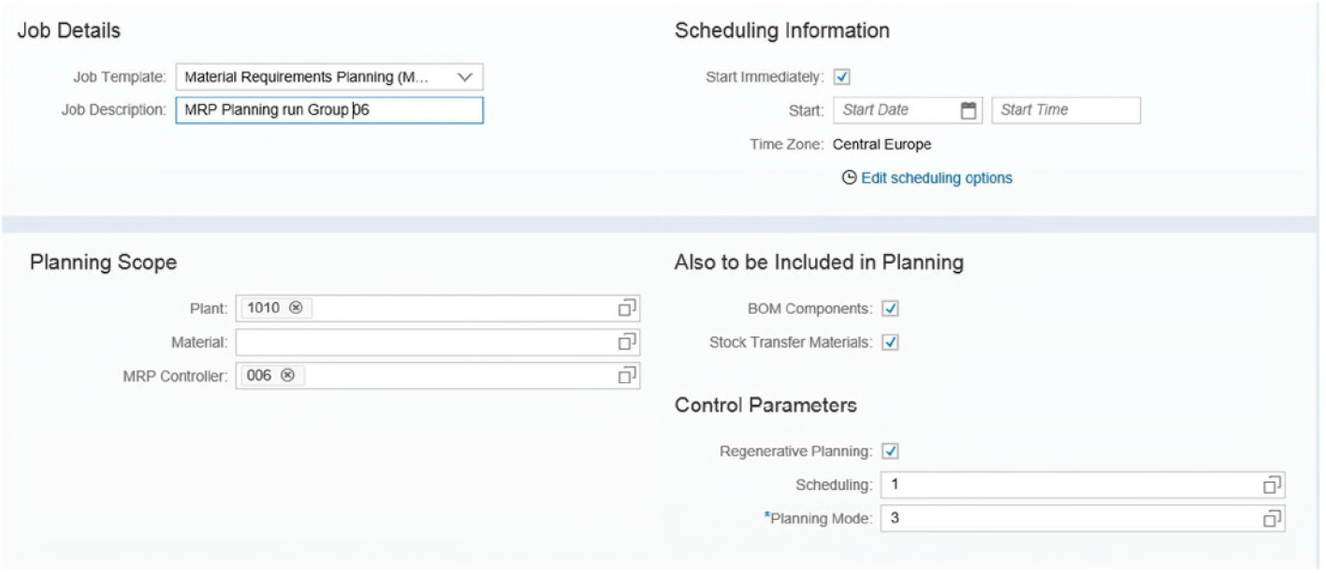
Field	Content
Job description	MRP Planning run Group ##
Plant	**1010**
MRP Controller	**0##**

In the *Also to be Included in Planning* and *Control Parameters* areas activate the following check-boxes and enter the following data:

Field	Content
BOM components	
Stock Transfer Materials	
Regenerative Planning	
Scheduling	**1**
Planning Mode	**3**

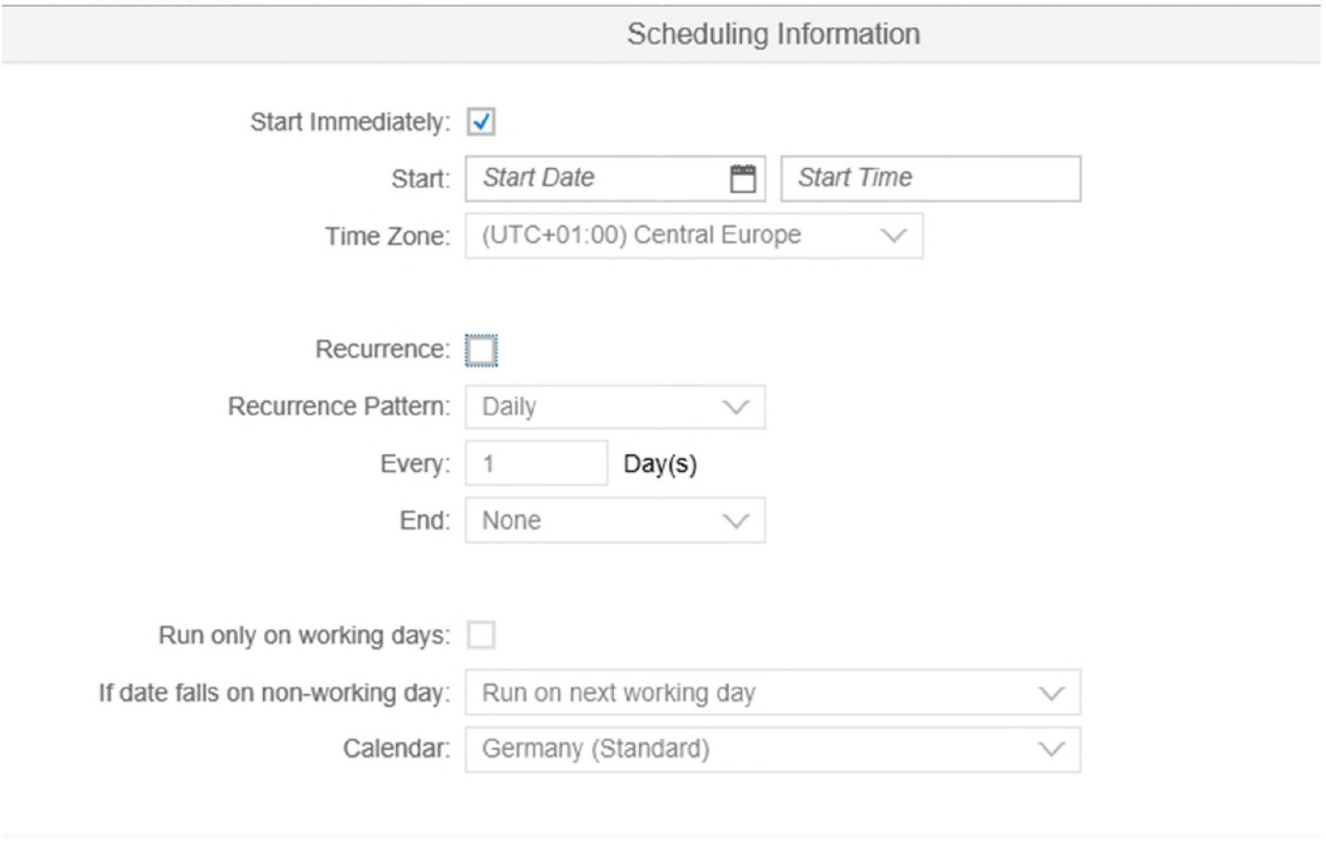
c) Start the planning run immediately, to do so, flag *Start Immediately* in the *Scheduling Information* area.

d) The recurrence pattern in not set. See screnshot:



e) To maintain scheduling settings Click Edit scheduling options and maintain the following figures:

- the first planning run has to be executed directly without recurrency, therefore unflag *Recurrence, see screenshot:*



f) Confirm your settings with *OK*.

g) Back on the Planning run, choose Schedule.

h) Check the results in the application log. Are you able to find your job? Is your job successfully scheduled?

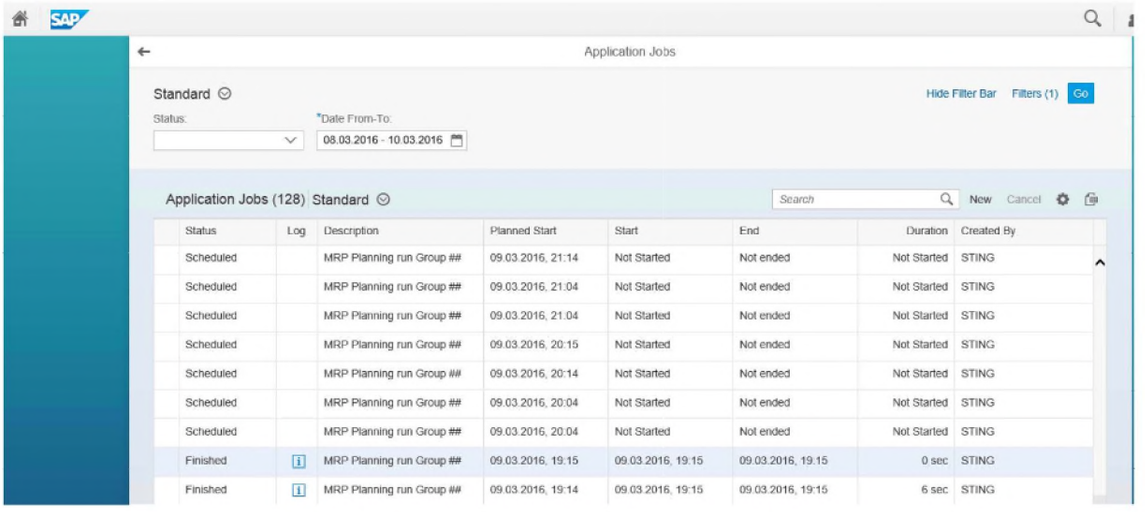
	NOTE: You have to refresh the display frequently until the status is *Finished*. To do so choose *Go* frequently.

Notice the start/end time of your first job and also the duration time:

Start time: ……..

End time: ……..

Duration: ……..

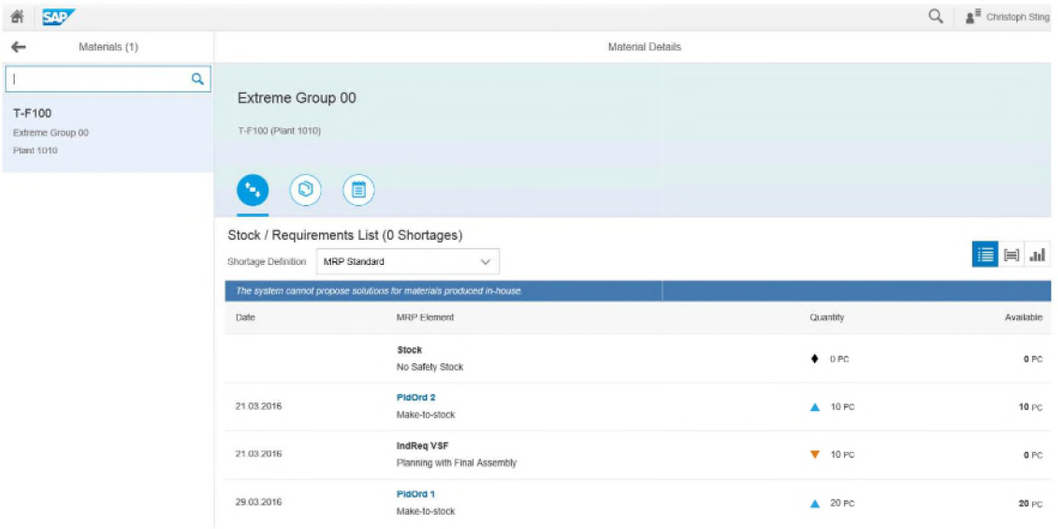


	NOTE: You have 4 materials in your job. This has taken more than one minute. This is a basic processing time for planning in S4HANA, which takes some time. Please note. This job becomes much faster, when many materials are planned. No matter how many materials are processed, the miminum time is required.

5. Check the results of the Planning Run

In this step, check if all requirements are fulfilled in time.

a) To do so choose the *Monitor Material Coverage*. Here check the stock-/requirement list of the material **T-F1##** in plant **1010.** Choose *Manage Materials* and check the result. See screenshot.



b) Go back by using the arrow to the left.

c) To get an overview about several BOM materials you are able create a multi item selection in the following way: choose the Funnel Icon  next to *Time till Shortage*.

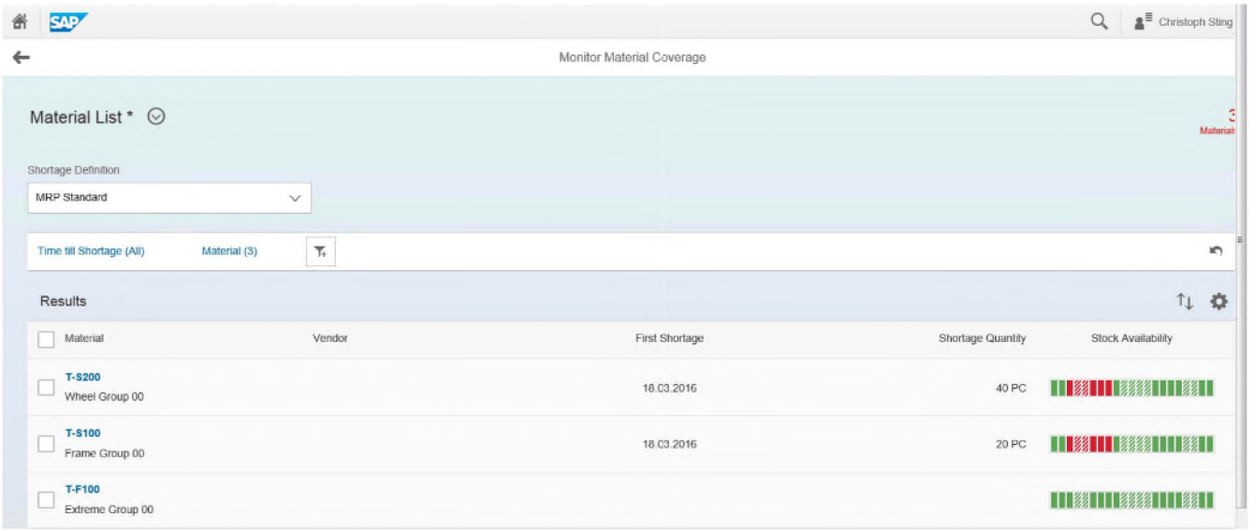
d) On the next pop-up choose *Material*.

e) Now you can select the Material. Finish the selection by choosing *OK*.

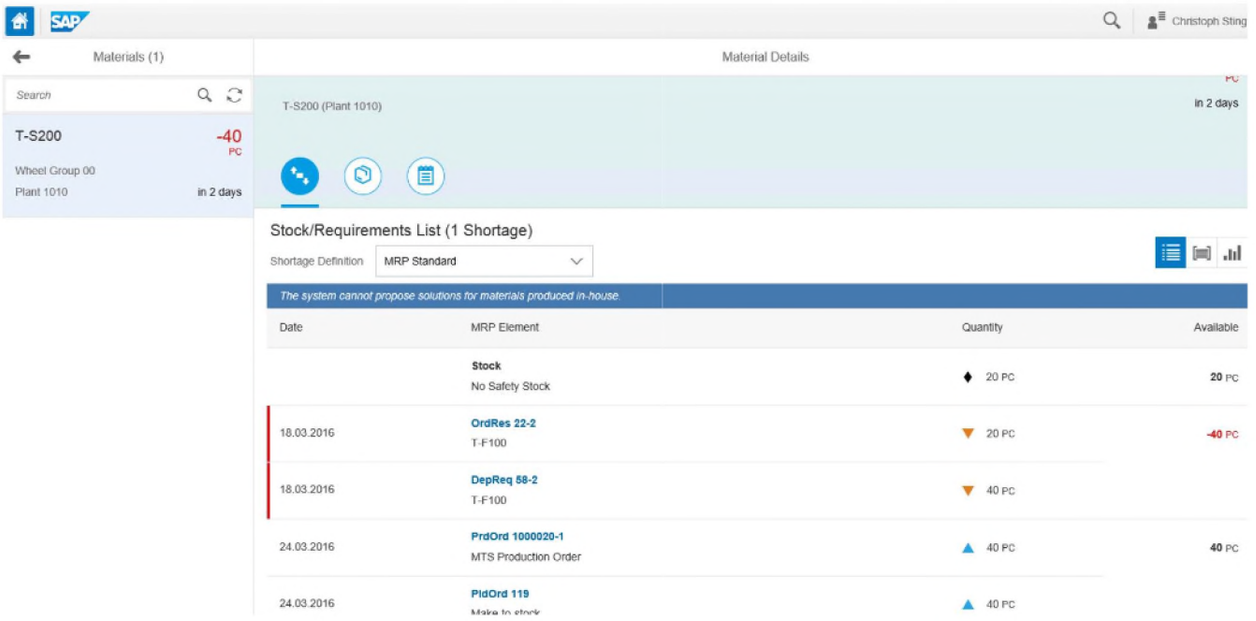
f) What is the result? Here you can see the material coverages for the selected materials.

g) To see more detail of a material, select it and choose *Manage Materials.*

h) Go back. Is there any shortage in between the next 21 days? In case of a shortage, select the related materials and choose *Manage Materials*.



On final product level all demands in between the next 21 days are fulfilled, but on the assembly/raw material level there exists unfullfied demands. To check the situation on assembly/raw material level mark checkbox(es) and go to details, see screenshot:

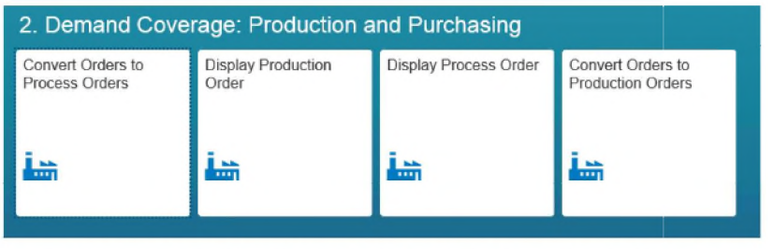


i) Further example: For semifinished/raw material dependent demands exists for the finished product **T-F1##**. This demands will be covered but not all in time.

6. Production Order Processing for Subassembly

	NOTE: Only in case of a shortage for subassembly, **T-S1##** the following steps are required.

Create a Production order for a subassembly



Before final assembly of your finished good you have to produce the components. Planned orders already exist on this level as output from the last planning run. Now these planned orders have to be converted to production orders, have to be produced and finally a goods receipt process has to be executed.

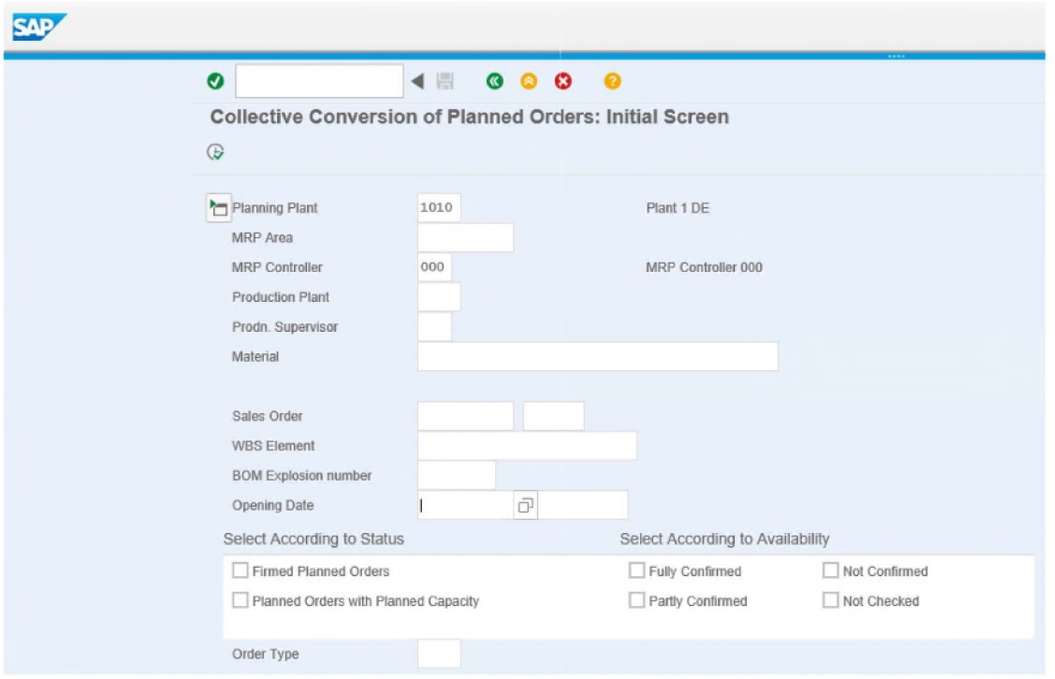
6.1. Convert Planning Orders to Production Orders

a) To convert planning orders to production orders use the tile *Convert Orders to Production Orders*:

b) In the following selection screen *Collective Conversion of Planned Orders: Initial Screen* type in the following selection criteria:

Field	Value
Planning Plant	1010
MRP Controller	0##

Result:



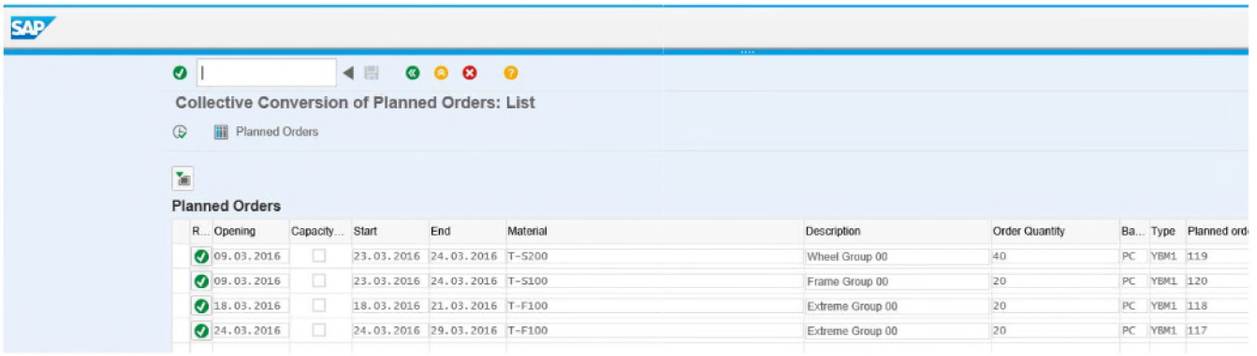
c) Start conversion using *Execute*:

d) The upcoming list gives you an overview about all collected planned orders, which could be converted.

In our case we would not only convert planned orders to production orders for the semifinished products **S1##** and **S2##.** We also want to convert planned oders for the final product in the same step.

To do so mark all lines by pressing *Select All* and press *Convert:* Convert.

e) The result:



f) Write down planned order numbers (scroll to the right)

T-F1##: …….. and ……..

T-S1##: ……..

T-S2##: ……..

6.2. Check result of the collective conversion using stock-/requirement list

a) Therefore execute the *Monitor stock-/requirement list* tile

b) Type in the following selection parameter and choose *Execute*.

Field	Value
Material	T-S1##
MRP Area	1010
Plant	1010

c) Write down the number of the production order for the first depending demand. To do so, find the **PrdOrd** row and Note the **MRP element data**:_____

d) Now click on *Element Details*.

e) Choose *Change Element*.

f) On the *Production Order Change: Header* screen choose *Release* using the icon  .

g) If there is a detected shortage, choose *Release Order* in the next pop-up.

h) Check prefix **REL** of this order.

i) Choose **Save**.

j) Note down: production order first depending demand: ……

Do the same steps a-i for the material **T-S2##**

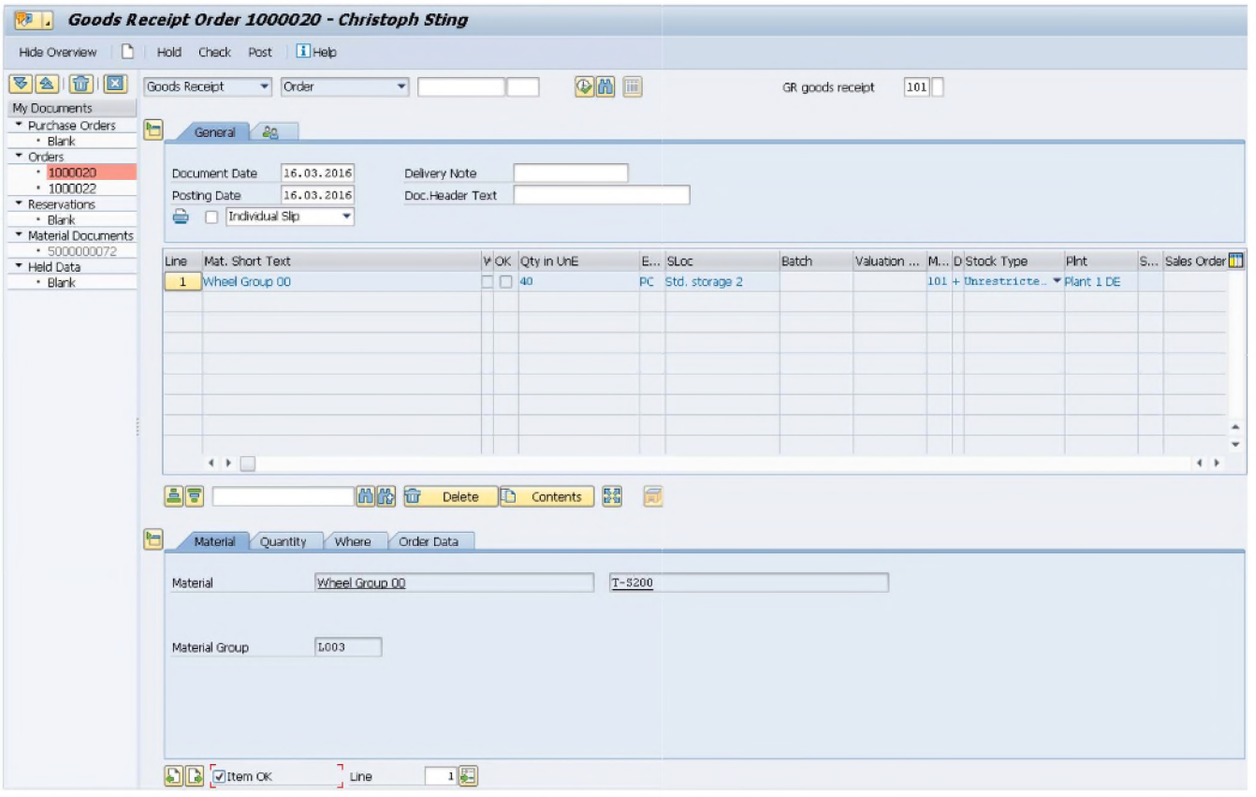
m) Production order first depending demand: ……

6.3. Execute goods receipt process in system T41 using TA MIGO

a) Log in to the system *T41* with the given credentials.

b) To execute goods receipt process type in transaction *MIGO*.

c) Select *Goods receipt* in the first field, in the second field select *Order*, and type in the first order Number you noticed in the last step. In the *GR Goods Receipt* field enter **101**. Choose *Execute*.



d) Check the entries. Mark item as **OK** in the *Item OK* field.

e) Choose *Post* to post goods receipt.

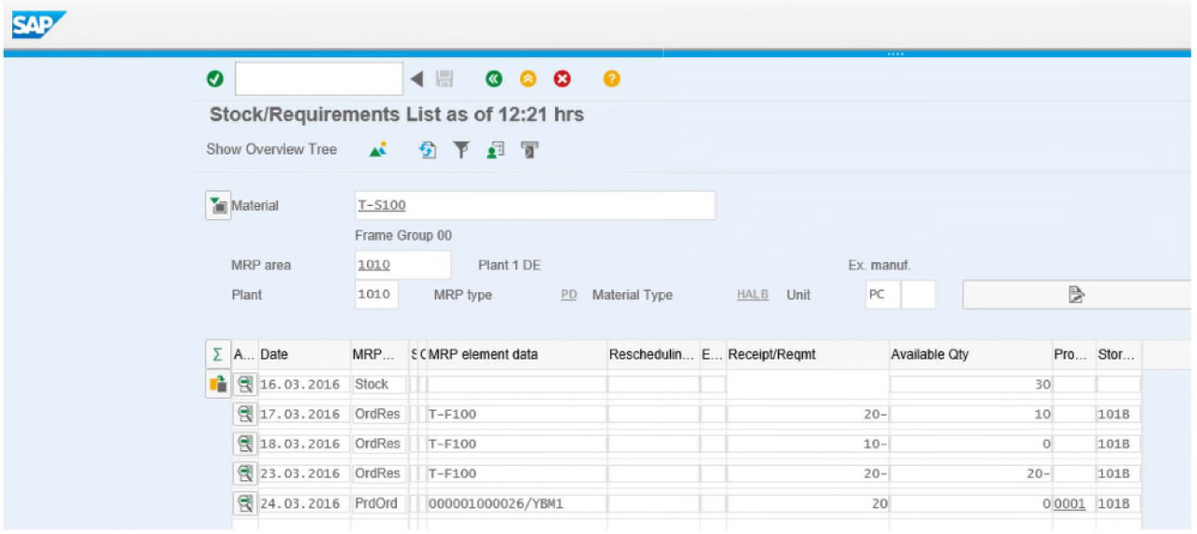
Do the same for the second order (for material **T-S2##)**

6.4. Check stock situation for material T-S1## and T-S2##

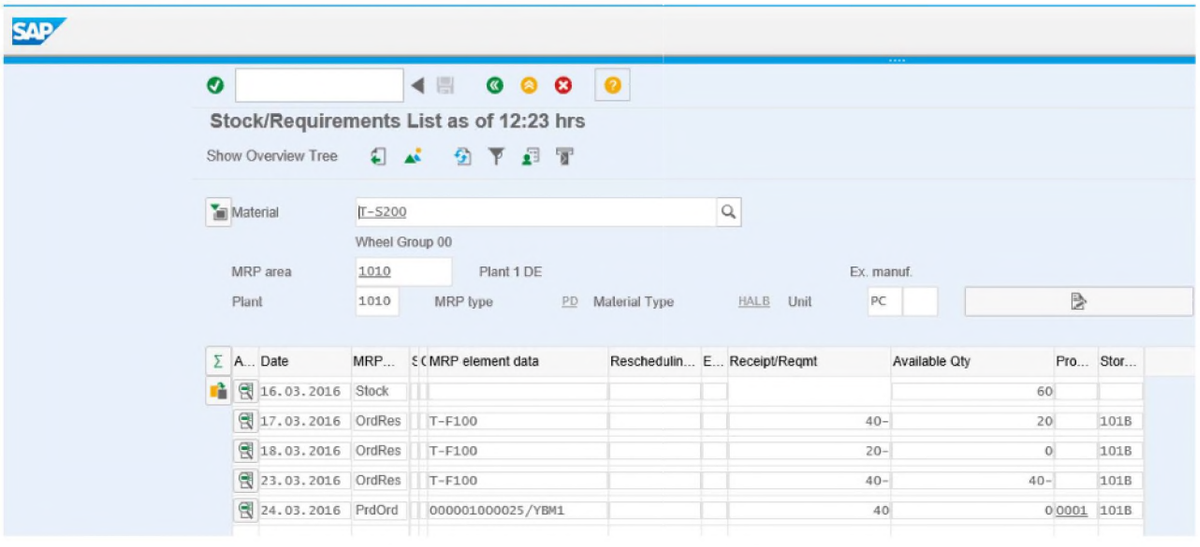
a) Execute the *Monitor Stock Requirement List* tile

b) Check updated stock situation for **T-S1##** and **T-S2##** using stock requirement list. See steps described in the previous task.

c) What is the stock situation for component **T-S1##** and **T-S2##?**



And for T-S2##:



Result:

All sub-components for T-F1## are now available.

Now final assembly process could be executed.

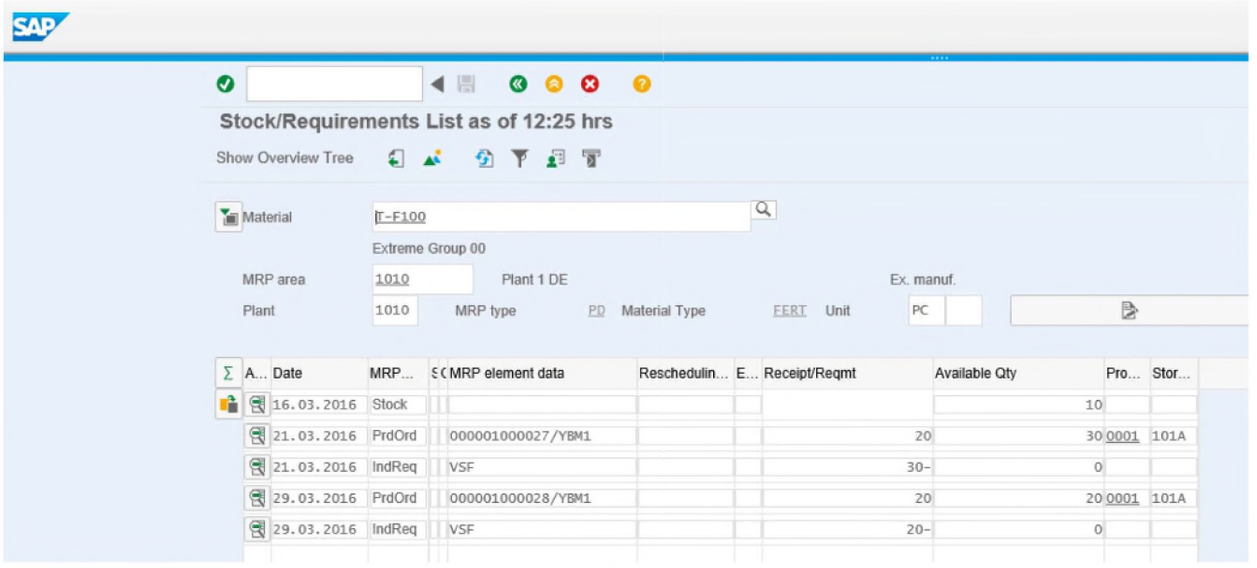
7. Production Order Processing for Final Assembly

7.1 Perform the Final Confirmation of Production and Post Goods for Production

a) Call the stock-/requirement list using the *Monitor Stock/Requirements List* tile

b) Type in the following selection parameter and choose *Execute*.

Field	Value
Material	T-F1##
MRP Area	1010
Plant	1010



c) Select the first production order, click on *Element Details*.

d) On the pop-up choose and choose Display Element.

e) Check the details:

Production order: .....

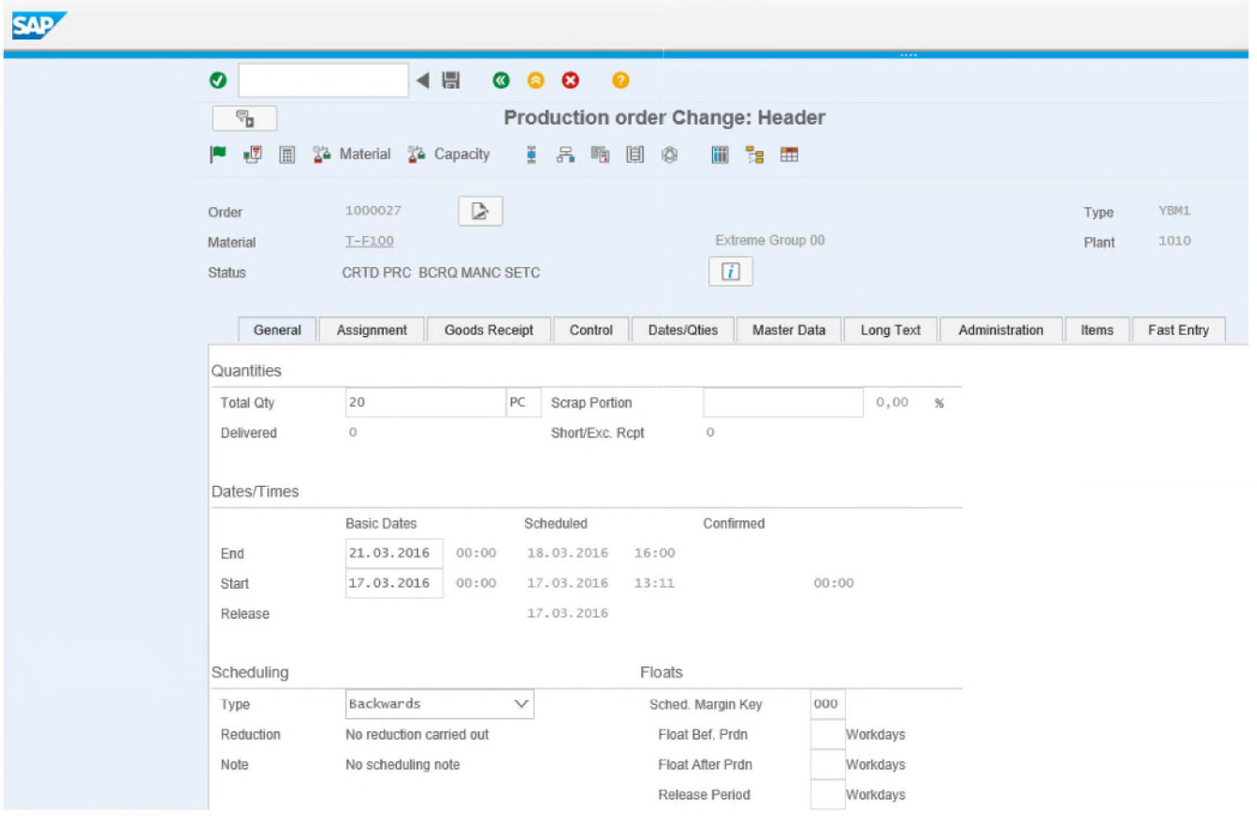
Scheduled End date: .....

Quantity: .....

7.2 Release the order as you did before on component level, save your settings and check the result.

a) Release the order as you did before on component level and save your settings. See steps a-l of Task 6.2

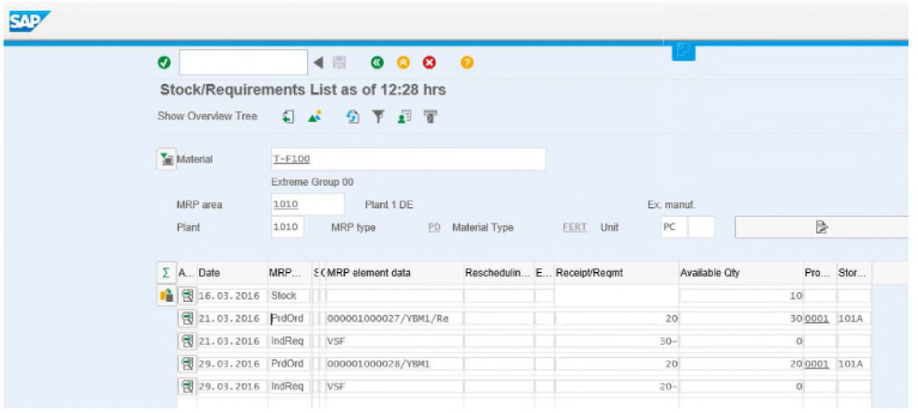
b) Check the result.



c) Release production order using the icon  .

d) Note down: Production order first depending demand: .....

e) Check the result.



Now the production order on header level exists with the status “REL” (released).

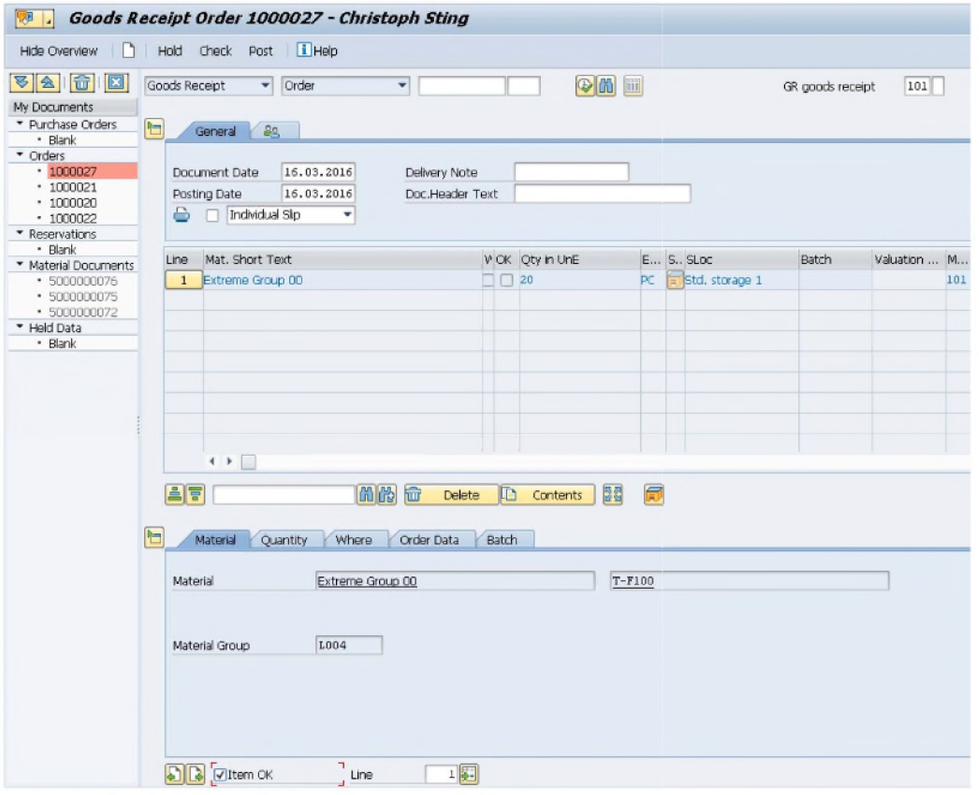
7.3. Execute goods receipt process in system T41 using TA MIGO

a) Switch to system T41.

b) To execute goods receipt process in system T41 type in transaction *MIGO*. Choose Enter.

c) Select *Goods receipt* in the first field, in the second field select *Order*, and type in the first order Number you noticed in the last step. In the *GR Goods Receipt* field enter **101**. Choose *Execute*.

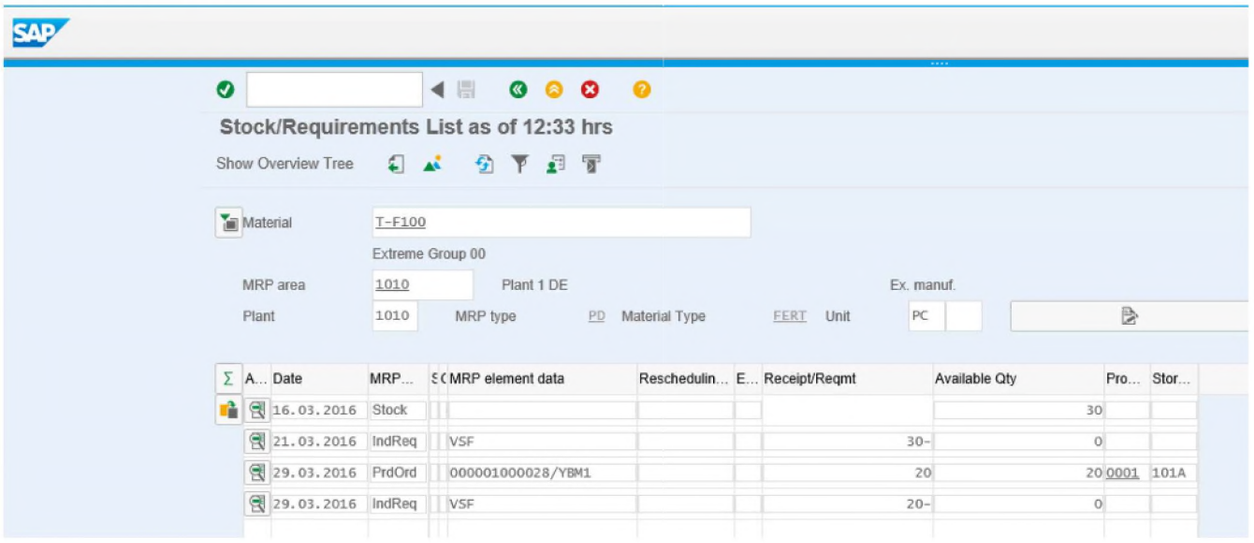
Result:



d) Check the entries.

e) Mark item as **OK** in the *Item OK* field.

f) Check the result.



Result:

Now 30 pcs of the Extreme Group 00 are available of stock in plant 1010

This completes the exercise.