Legal disclaimer

The information in this presentation is confidential and proprietary to SAP and may not be disclosed without the permission of SAP. This presentation is not subject to your license agreement or any other service or subscription agreement with SAP. SAP has no obligation to pursue any course of business outlined in this document or any related presentation, or to develop or release any functionality mentioned therein. This document, or any related presentation and SAP’s strategy and possible future developments, products and or platforms directions and functionality are all subject to change and may be changed by SAP at any time for any reason without notice. The information in this document is not a commitment, promise or legal obligation to deliver any material, code or functionality. This document is provided without a warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability, fitness for a particular purpose, or non-infringement. This document is for informational purposes and may not be incorporated into a contract. SAP assumes no responsibility for errors or omissions in this document, except if such damages were caused by SAP’s willful misconduct or gross negligence.

All forward-looking statements are subject to various risks and uncertainties that could cause actual results to differ materially from expectations. Readers are cautioned not to place undue reliance on these forward looking statements, which speak only as of their dates, and they should not be relied upon in making purchasing decisions.
Agenda

• Supply Chain Trends
• Demands on the Supply Chain
• S/4HANA for Digital Supply Chain
• S/4HANA Innovations for Extended Supply Chain
• Q&A
Supply Chain (Almost a Century Ago)

- **33** Countries in which Ford operated. From Brazilian forests to Northern Michigan mines.
- **28** Hours for the iron ore to turn into finished automobile.
- **700,000** Acres of timberland.
- **16** Coal mines controlled by Ford Motor Company.

Source: The Henry Ford
Supply Chain
From First to Last Mile

Customers
Retail location
Distribution Center
Factory
Supplier
Supplier’s Supplier
Supply Chain Today - By the Numbers

1 Billion
Possible Configurations

630 Million
Estimated packages delivered by UPS during holiday season in 2015

34.4 Million
Items ordered on Prime Day in 2015

500,000 Miles
Supply chain journey of an iPhone

2 Weeks
From an idea to store shelf

2 Hours
Order-to-delivery time for groceries
Best Supply Chains are Industry Leaders
Or do Industry Leaders have the Best Supply Chains?

Source: Gartner (Best Supply Chains – 2016)
Industry and Business Trends Affecting Supply Chains

Omni-channel

E-commerce

Right combination of global and local supply chain

Right level of vertical and horizontal integration
Demands on Supply Chain

- Agile
- Responsive
- Personalized
- Cost-effective
- Resilient
“Speed” Underlies Many Aspects of a Competitive Supply Chain

**Competitive Factors Driving “Need for Speed”**

- More frequent product introductions and shorter product lifecycles
- Frequent adjustments/corrections to forecast (demand sensing)
- Frequent re-planning; shorter frozen periods
- Same day shipments / frequent deployments (B2B & B2C)
- Omni-channel fulfillment; More frequent pick/pack/ship waves per day
- More frequent changeovers, smaller lot sizes
- Proactive preventative maintenance

**Aberdeen Survey**

**Agility Factor Required to Make Decisions**
- Within the Hour and below: 10%
- Within the Day: 36%
- Within the Week: 42%
- Within the Month: 12%

**Availability of Information Within Day**
- More than 80% of the time: 20%
- 61-80% of the time: 30%
- 41-60% of the time: 26%
- 21-40% of the time: 14%
- Less than 20% of the time: 10%

Source: Aberdeen Group, January 2011
Status Quo in Systems and Technology
Obstacle to Supply Chain Transformation and Excellence

Slow Decision Making

“Large global organizations have created so much complexity that businesses often struggle to bring good ideas to the marketplace profitably.”

(McKinsey, 2014)

Slow Execution

Large organizations can spend between 40% and 80% of their time on non-value-added activities

(BCG, Complexity Report)

Technology Limitations

73% percent of executives said the complexity of data is the largest IT challenge

(Forrester, 2013 report)

10.2% or $237B*

of profits lost by top 200 global companies due to hidden costs of complexity

*Global Simplicity Index, 2013
SAP S/4HANA - Digital Core for Supply Chain Transformation and Excellence

- Live business insight
- Role-based experience
- All devices

Immediate business impact

- Real-time processes
- Digitally connected enterprise
- Best business practices

New profit models

- Simplified data model
- Choice of deployment
- Open innovation platform

Much lower TCO
SAP S/4HANA
Digitized core business processes

Key Capabilities

• Real-time mission-critical business processes across your entire enterprise, One single source of live information
• Personalized user experience with instant insight on any device

Benefits

• Faster business outcomes with reduced operational cost thanks to a simpler IT
• Increased competitiveness with integrated, fast, and flexible business processes
• Higher employee productivity with focus on value-added tasks

SAP S/4HANA SUITE
SAP and Partner Solutions that are deployed alongside S/4 HANA, with standard integrations. These include on-premise and cloud solutions.

SAP S/4HANA PRODUCTS
Separately priced S4 branded components optimized for HANA that will be deliverable embedded within the S4 landscape. (Some of these products may also be available outside of S4)

SAP S/4HANA Enterprise Management
Simplified processes built natively on HANA with streamlined data structures and enhanced user experience, delivered as part of S4 user-based license.
SAP S/4HANA Overview (1610)

**SAP S/4HANA FINANCE**

- **CONCUR**
- Integrated business planning

**SAP S/4HANA HUMAN RESOURCES**

- SAP SuccessFactors
- SAP Fieldglass
- Core human resources and payroll
- Talent management
- Time and attendance management
- Human capital analytics

**SAP S/4HANA SOURCING & PROCUREMENT**

- SAP Ariba
- SAP Fieldglass
- Supplier Collaboration
- Business Network

**SAP S/4HANA MANUFACTURING**

- Manufacturing Integration and Intelligence
- Manufacturing Execution System
- Quality Issue Management
- Visual Enterprise

**SAP S/4HANA SUPPLY CHAIN**

- Supply Chain Control Tower
- Integrated Business Planning
- Customer & Supplier Collaboration
- Extended Warehouse Management
- Transportation Management
- Advanced Planning & Optimization

**SAP S/4HANA ASSET MANAGEMENT**

- Maintenance Management
- Asset Operations and Maintenance
- Environment, Health, and Safety

**SAP S/4HANA RESEARCH AND DEVELOPMENT**

- Engineering Collaboration
- Authoring Tool Integration
- Visual Interaction Services

**SAP S/4HANA SALES**

- SAP Hybris (Cloud for Sales)

**SAP S/4HANA SERVICE**

- SAP Hybris (Cloud for Service)

**SAP S/4HANA MARKETING AND COMMERCE**

- SAP Hybris (Cloud for Marketing)

**Digital Core**

- SAP S/4HANA Enterprise Management
- Production Planning & Scheduling
- Product Development and Project Control
- Product Data Management
- Document Management

**Products**

- Products for Suite
- Products for Cloud
- Products for Industries

**Suite**

- Products for Suite
- Products for Cloud
- Products for Industries

**Cloud for Service**

- Cloud for Service
- Cloud for Marketing
- Cloud for Sales

**INDUSTRIES**

- INDUSTRIES
- CLOUD SOLUTIONS
- ENTERPRISE SOLUTIONS
- EXTENDED WAREHOUSE MANAGEMENT
- INTEGRATED BUSINESS PLANNING
- ADVANCED PLANNING & OPTIMIZATION

**Planned - subject to change**

© 2016 SAP SE or an SAP affiliate company. All rights reserved.
SAP S/4HANA Suite for Supply Chain Transformation

SAP Hybris (Omni-channel & E-commerce)

SAP IBP Demand Planning
SAP IBP Sales & Operations Planning
SAP IBP Response & Supply Planning
SAP IBP Inventory Planning & Optimization
SAP IBP Supply Chain Control Tower

SAP Hybris (Cloud for Sales)

Enterprise Management

Available-to-Promise
Order Management

Inventory Management
Materials Requirement Planning

Order Fulfillment
Transportation
Warehousing

Quality Management
Production Planning & Detailed Scheduling
Outsourced Manufacturing

SAP TM (Transportation Management (planning, optimization and execution))

SAP Event Management
SAP EWM (Warehouse automation and optimization)
SAP Manufacturing Execution
SAP IoT & Predictive Maintenance
SAP Track and Trace

SAP Ariba (Supply Chain Collaboration & Integration)

© 2016 SAP SE or an SAP affiliate company. All rights reserved.
Highlights of Key Business Innovations in S/4 HANA

Re-architecting for in-memory platform

Responsive user experience design

Unifying functionality in core

Inventory Management

Material Requirements Planning

Material Valuation

Sales Representative (Order Management & Billing)

Procurement Clerk (Procurement)

Material Planner (Material Requirements Planning)

Available-to-Promise & Backorder Processing

Capacity Planning

Industry Solutions to Core
SAP S/4HANA for Operations and Logistics – Key Innovations
Available now, and planned for 1610 release where marked

<table>
<thead>
<tr>
<th>Material Requirements Planning</th>
<th>Capacity Planning</th>
</tr>
</thead>
<tbody>
<tr>
<td>10x Faster MRP run, and new working model for MRP controllers based on Fiori UI for exception management and decision support.</td>
<td>Advanced PP/DS functionality inside S/4 HANA. Simplified and automated integration with seamless master data &amp; UI harmonization. Including constrained planning and detailed scheduling and new planning UI</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Material Valuation</th>
<th>Available To Promise &amp; Backorder processing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principle of One, scalable material valuation capabilities, utilizing Material Ledger, that way customers can use multi-currencies, valuation methods per different accounting laws like GAAP.</td>
<td>Advanced ATP capabilities in S/4 HANA. New innovative functionality for Re-scheduling orders based on customer and demand priorities and advanced real time rules based order promising</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Inventory Management</th>
<th>Order Management &amp; Billing</th>
<th>Project Mgmt</th>
<th>Procurement</th>
<th>Industry Solutions in the core</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simplified data model resulting in increased through-put, flexible analytics at the most granular level.</td>
<td>Enable monitoring of end-to-end order-to-cash process &amp; take actions for any exceptions with new Fiori UI</td>
<td>Portfolio and Project Mgt, and Commercial project Mgt in S/4 HANA, with improved Analytics, UI's and integration for faster adoption and business value</td>
<td>Increased efficiency in the Procure-to-Pay processes, new Analytical Apps &amp; Spend KPI's, Ariba Network Integration for PO Order and IV.</td>
<td>Bring Industry Solutions, like the DIMP template (Discrete &amp; Mill Industries) back into core so all industries can leverage the best practices such as lean functionality etc.</td>
</tr>
</tbody>
</table>

| Warehousing | | | |
| Easy to adopt flexible warehousing for advanced business needs. | |

This is the current state of planning and may be changed by SAP at any time.
Simplification with S/4HANA: Inventory Management – Aggregates eliminated (1511 release)

**New Suite**
- Delete redundant aggregate tables (26 of them)
- Simplify to only 2 master tables
- Simply create aggregate views on the fly when needed
- Remove overhead of updating and locking and processing unnecessary tables

**SAP S/4HANA**

**Design principles**
- Foster in-memory technology
- Utilize columnar data layout

**Target architecture**
- Eliminate redundancies and aggregates
- Have a simple and high-performant reporting, both for quantities and values
- Reduce memory footprint
- Performance

**Value Implications**
- Scalability
- Real time Inventory (concurrent backflush)
- Always Accurate Inventory / ATP
Planned innovations – Q1/2017
Increased Insight to Action / IM Inventory Management

Remaining Shelf Life App
App to detect expiring batches early and trigger appropriate follow-up actions in order to avoid losses due to scrapping.

Slow Moving Materials App
App that helps to avoid unnecessarily bound capital by identifying slow moving materials.
S/4 HANA MRP and MRP Cockpit

Benefits:

- More frequent MRP runs
- More timely and accurate material info
- Single, real-time view of material shortage information across sites
- Sales order, inventory and procurement views
- Simulate solution viability and effectiveness in real-time
Advanced ATP with SAP S/4HANA
Respond with Confidence

Advanced ATP

- Mass enabled fast Availability Check
- Use case-driven product allocation check
- Intelligent and fully automated selection of best confirmation considering alternative plants and substitutable materials
- Backorder processing with intuitive requirement classification and automatic exception handling
- Easy-to-use and device-independent ATP explanation and simulation app
- FIORI Apps for Release for Delivery, Advanced Interactive backorder processing, etc

Basic ATP

- Simple Product Availability Check
- Basic Allocation Check
- Manual material determination
- Semi-manual plant substitution
- Material-/plant-based backorder processing for sales orders
- Simple transportation and shipment scheduling based on days (and hours)
Available to Promise

Current functional model

APO
- Product Availability Check
- Product Allocation
- Substitutions
- Rescheduling
- Etc.

ERP
- Product Availability Check
- Product Allocation
- Substitutions
- Rescheduling
- Etc.

Data replication via CIF

With SAP S/4HANA for Supply Chain

SAP S/4HANA
- Product Availability Check
- Product Allocation
- Substitutions
- Rescheduling
- Etc.

Code Pushdown to HANA
Reduce TCO. One Run fits all. Former solution requested more subsequent runs. Increase margin due to flexible order confirmation based on business priorities in ATP back-order processing.

Flexible and intuitive selection and ranking of sales order requirements.

High performance mass ATP-check.

**Advanced ATP – Backorder Processing**

- New FIORI-UIs to set-up BOP-runs.
- New concept for requirement classification:
  - Winner
  - Gainer
  - Redistributor
  - Filler
  - Looser
- New FIORI-app to display the BOP-result:
  The result is displayed on different aggregation levels and allows an easy identification of (and fast drill down to) confirmation issues.

This is the current state of planning and may be changed by SAP at any time.
Planned innovations – Q4/2016
Finite capacity scheduling - PP/DS in S/4

Increase production throughput and reduced production costs leveraging finite capacity planning embedded in S/4HANA

Reduced order cycle time
Reduce replanning effort
Minimize shortage situations
Harmonization of capacity load

Creating finite production plan according to the available capacity situation and schedule available resources and generating production plan to the precision of seconds. Gantt themed web based scheduling board to manually schedule capacities

SAP Fiori App for Production Scheduling Board

This is the current state of planning and may be changed by SAP at any time.
Reduce transportation costs utilizing truckload optimized purchasing

Reduce communication effort between supplier and customer

The Material Planner can quickly identify all materials to be ordered due today or within the next days. All materials from one vendor are ordered together in a way that the availability is balanced and that the used means of transportation are fully loaded.

SAP Fiori App: Create Optimal Orders for Shipment

Fiori Application to identify all materials due today or in the near future to avoid material shortages. Quantities are proposed for one selected vendor to balance the availability of these materials and to fully load the chosen means of transportation. After a possible manual correction, one purchase order is created handling all selected materials.

This is the current state of planning and may be changed by SAP at any time.
Warehouse Management with SAP S/4HANA
Supporting all levels of warehouse complexity

Advanced Warehouse Management
- Inventory Management Optimization (e.g. Slotting)
- Inbound Process Optimization (e.g. Deconsolidation)
- Outbound Process Optimization (e.g. Waves)
- Material Flow Control
- Yard Management (e.g. TU handling, DAS)
- Labor Management
- Value Added Services
- Kitting
- Cross Docking
- Warehouse Billing

Basic Warehouse Management
- Inventory Management
- Inbound Processing
- Outbound Processing
- Internal Warehouse Movements
- Physical Inventory
- Reporting
Warehouse Management with SAP S/4HANA
Supporting all levels of warehouse complexity – Component view

Advanced Warehouse Management

- **Decentral SAP EWM** integrated to SAP S/4HANA
  - High volume warehouses
  - Independent operations
  - E.g. for Material Flow System (MFS)

- **Embedded SAP EWM** in S/4HANA
  - Small & midsize warehouses
  - Production warehouses
  - New deployment option

Basic Warehouse Management

Today: LE-WM used
- Part of S/4HANA compatibility scope (see SAP note [2269324](#))

**New with 1610:** Simplified SAP EWM component used
Manufacturing in S/4HANA Enhancements for Production Supervisor Role

Value Proposition
- Real time information about the current situation in the production supervisor’s area of responsibility
- Early detection of deviations from the plan, enabling him to take immediate action

Capability
- Monitor production orders and production operations in the area of responsibility
- Select, sort, filter and save tailored variants for the SAP Fiori launchpad, evaluating the production situation in real time
- Drill down to details and adjust when needed
- Access related apps and transactions, for example in PP, SAP MRP and quality management

This is the current state of planning and may be changed by SAP at any time.
SAP Connected Manufacturing
Overall Solution: Cloud / On-Premise / Shop Floor
The SAP Engineering Control Center for SAP S/4HANA is the single platform the engineer needs to get a 360 degree product view, including mechanics, electronics, software, and simulation. Further interfaces to E-CAD tools are provided by our partners to cover the market leaders.

**ECTR integration with S/4HANA supports:**
- New collaboration capabilities
- Simplified configuration
- Integration into the Visual Enterprise Manufacturing Planner

**Electronic CAD design tools with integration for ECTR:**
- Altium
- Cadence
- EPLAN
- Mentor Graphics
- Zuken
Simplified Bill of Material supports:

- Easy BOM search
- Ad-hoc creation of change numbers
- Timeline control to scroll through changes
- Overview of change documents per change on items
- Drafts
- Direct file attachment
Bridging the gaps between engineering, manufacturing, and maintenance & service via a visual user interface: easy to learn and easy to use.

**Visual Enterprise Manufacturing Planner supports:**
- Visual hand-over from engineering to manufacturing
- Configurable structures
- Increasing productivity in manufacturing planning

**Visual Enterprise Asset Planner supports:**
- Visual hand-over from engineering to maintenance & service
- Visual creation and maintenance of a visual asset structure and/or visual service parts BOM
- Increasing productivity in asset and service planning
The Post SAP S/4HANA Supply Chain Architecture

- Core processes run directly inside SAP S/4HANA
- Extended innovations are seamlessly integrated into the core running directly on top of the core or outside the core in a side by side model
- Cloud applications will be connected into the core with HANA Cloud Integration (HCI)
- New applications and extensions are developed using the SAP API Business Hub in HCP
- End-to-end insights across all these applications and solutions will leverage SAP BusinessObjects Cloud