Connected Products

Your Digital Product Innovation Platform

Frank Spiegel, SAP
June 2016

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.

About SAP Road Maps

SAP road maps cover innovations that focus on business solutions and processes. They span products that are relevant for customer lines of business in their industries and explain how our innovations can add value to your business.

In SAP road maps, you can learn about our innovations along three different timelines:

1. **Recent innovations** for our solutions have been launched in the past weeks or months and can already be purchased.

2. **Planned innovations** for our solutions are expected to be launched in the short term or midterm.

3. **Future direction** provides a long-term perspective on high-level development plans on innovations for our solutions – inspired by your requirements.

Individualization

Interesting Facts: BMW

11 models...

...36 body types, 36 engine types...

...and nearly unlimited options

Flexible CONFIGURATION enables tailored products for markets of one or many

Digital Accelerator: extend the digital design process to customers

Speed of Innovation

Interesting Facts: Nestle

~10,000 product projects at once...

...over 60,000 projects per year...

...in 32 R&D centers in 13 counties

Global and local ORCHESTRATION drives profit from new products

Digital Accelerator: big data technology to integrate people, processes and products

Smarter Products

Interesting Facts: Tennant

Cleaning solutions for a safer, healthier world...

...with IOT enabled machines

...that track usage, location, water, costs and alerts

Systems Thinking delivers improved product performance with cross-domain SYNCHRONIZATION

Digital Accelerator: design for and by the Internet of Things

Stewardship Demands

Interesting Facts: Walmart

Focus on products that sustain people and the environment

Onboarded >1,400 suppliers in 6 weeks

...across 700 product categories

Ensure business continuity with COMPLIANCE

Digital Accelerator: business networks accelerate product and compliance intelligence

Cross Functional Teamwork

Interesting Facts: CNR Tangshan Railway

Needed a single, cross-department platform for design, manufacturing and maintenance

Cross-department collaboration on a single system

+33%
Faster R&D
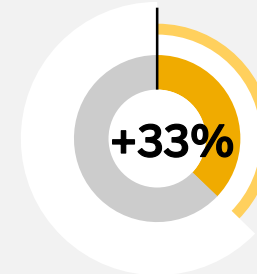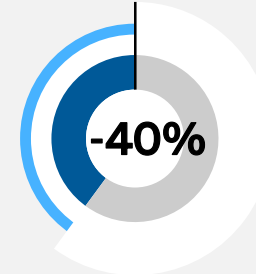
-40%
Engineering Changes
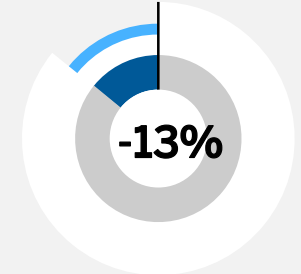
-13%
Costs

Leverage a common core for xBOM Management to enable COLLABORATION

Digital Accelerator: enable all aspects of your enterprise to work with the digital product

Success Strategies for a Digital Economy

SPEED OF INNOVATION

Orchestrate

Direct all necessary resources and assets to meet market needs and portfolio goals

SOLUTION INDIVIDUALIZATION

Configure

Customize offerings to meet unique customer needs and reduce costs

SMARTER PRODUCTS

Synchronize

Develop and create cross-domain components into one solution (mechanical, electronic, software, …).

CROSS FUNCTIONAL TEAMWORK

Collaborate

Ensure all departments and team members leverage a single digital backbone

STEWARDSHIP DEMANDS

Comply

Build products to meet regulations from governments and customers alike

Sources: The Chief Supply Chain Officer, Forbes, NERA Economic Consulting, Cisco, HBR

SAP Point of View
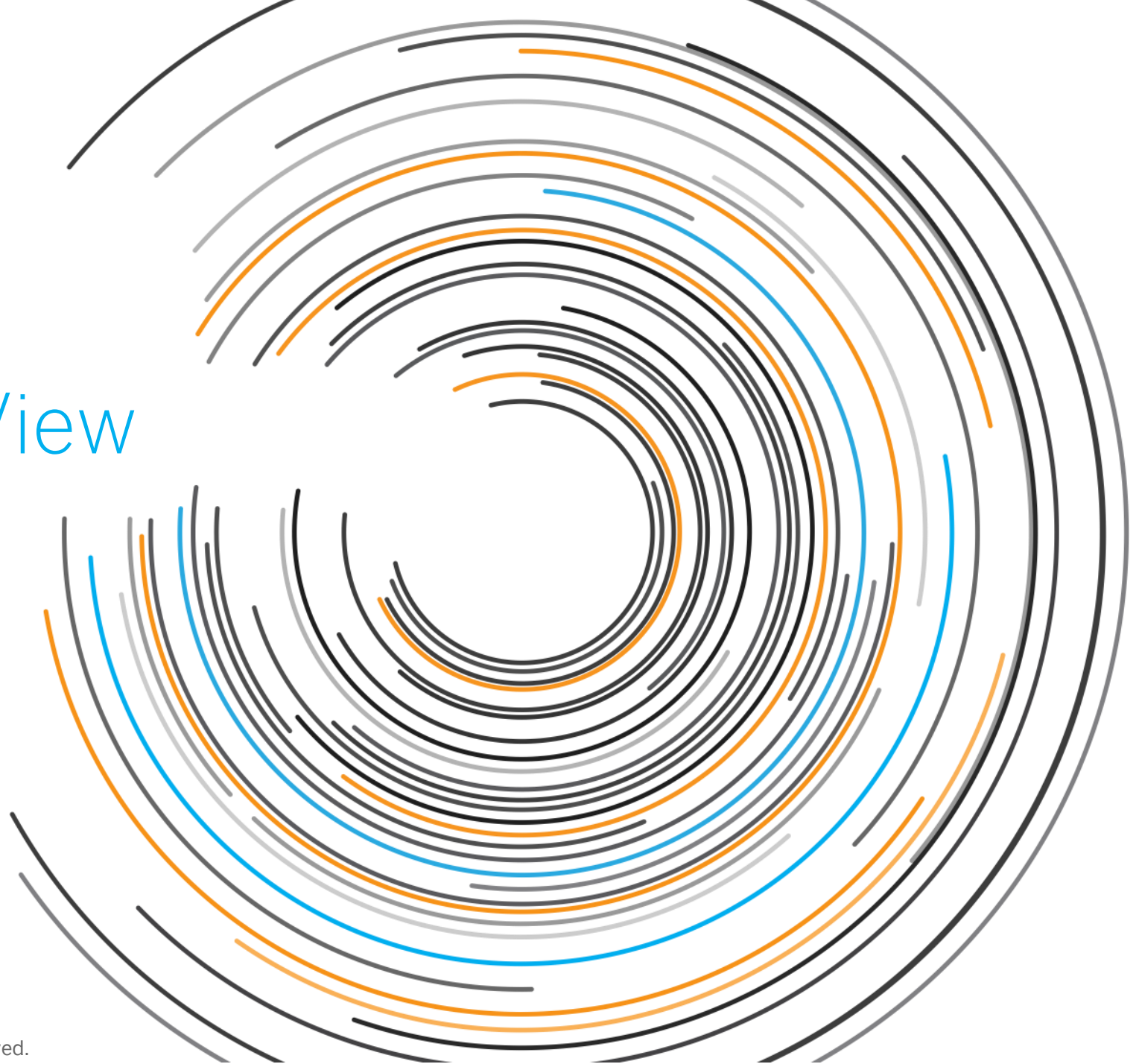
Ready for the Digital Transformation?
Disconnected Value Chains and Multiple Solution Models
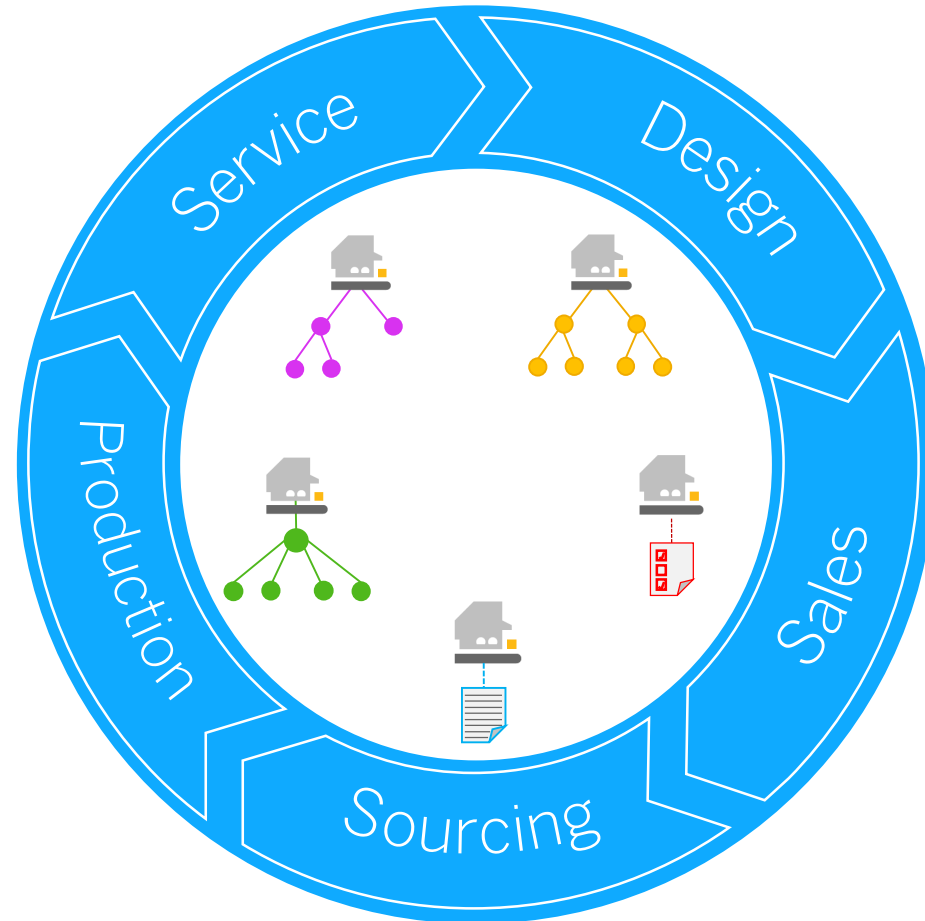
SAP Point of View
From Sequential Steps to Collaborative Networks
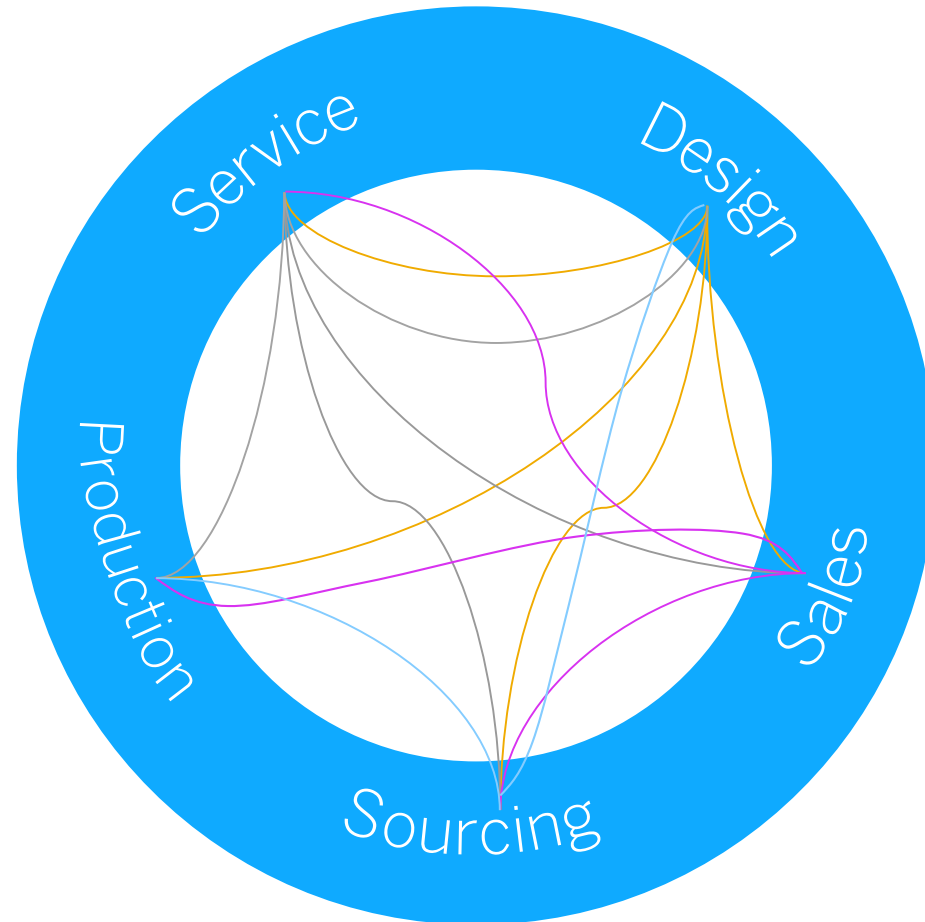
SAP Point of View

Seamless Collaboration on One Common Solution Model

As-built/As-maintained BOM

Engineering BOM

Manufacturing BOM

Sales Configurator

Working together seamlessly

Purchased parts list

All aspects of creating, managing and changing the solution model have to be done in a controlled and collaborative way. No strict serialization of process.
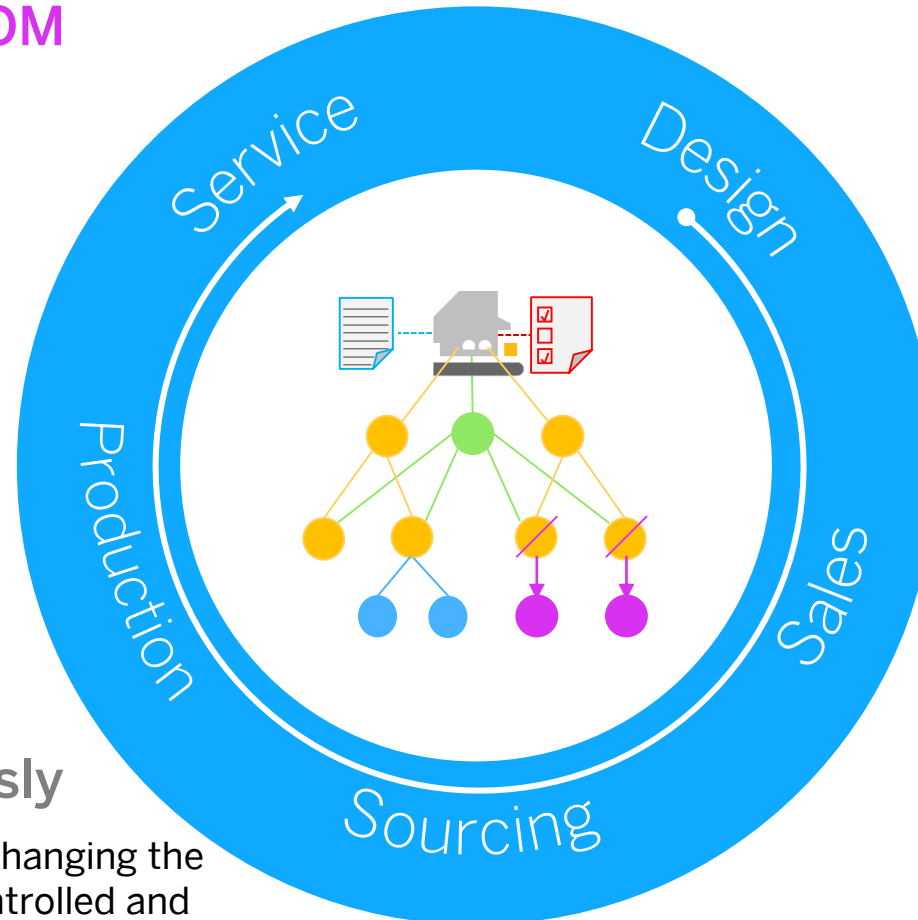
SAP Connected Product Strategy
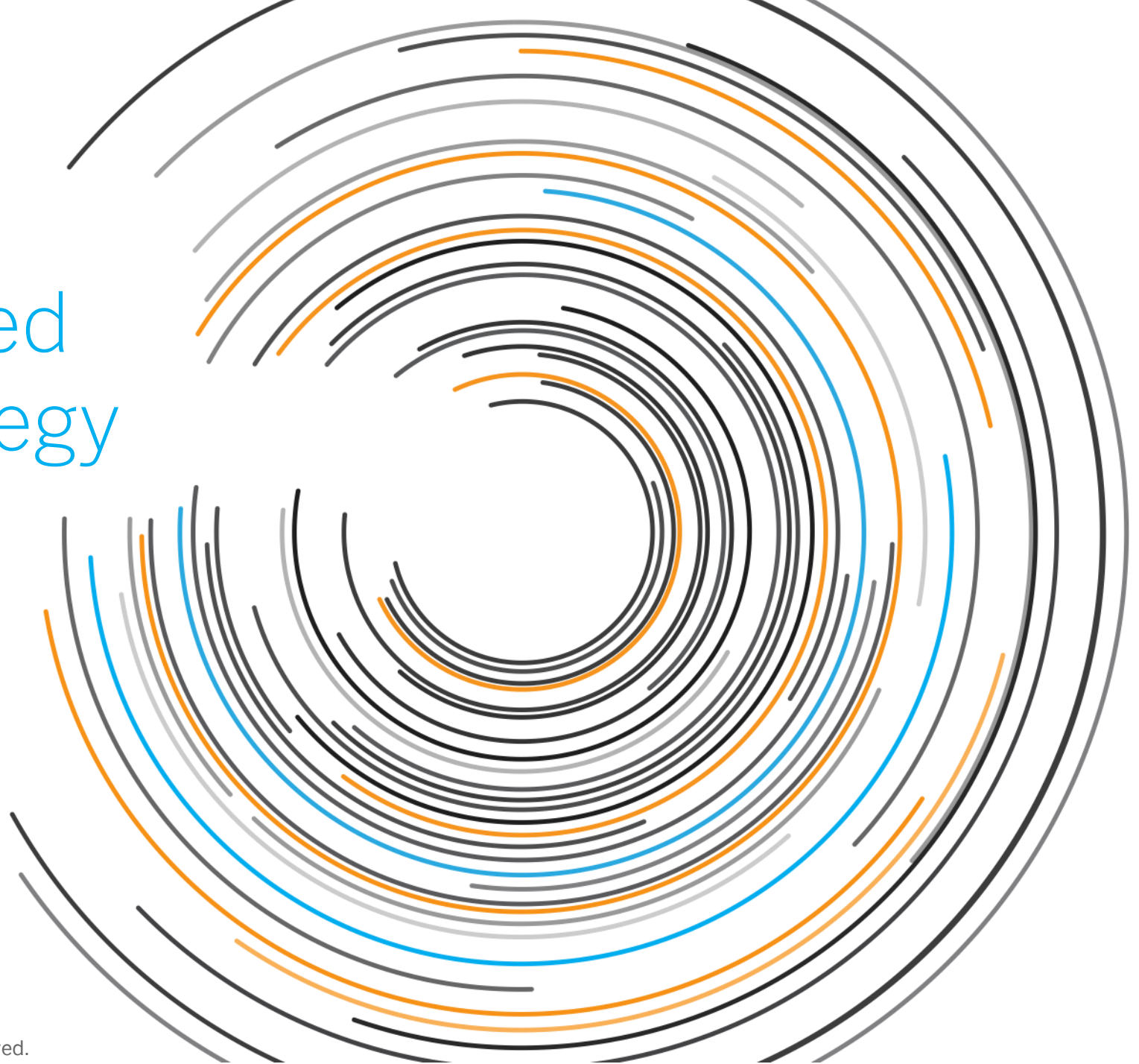
SAP Framework for Digital Business

Adapting to the digital economy requires a simple and powerful strategy framework

SAP Connected Products
The Digital Product Innovation Platform

Partner

Project Collaboration Network

SAP HANA CLOUD PLATFORM

Design Collaboration Network

SAP HANA CLOUD PLATFORM

Supplier

Digital Core S/4HANA

Projects & Portfolios

Formulation   Engineering

Design

Digital Manufacturing

Asset Intelligence Network

Manufacturer, Aftermarket Customer

Industry 4.0 & Internet of Things

C4C

hybris

Customer Engagement and Commerce

Customer

SAP HANA PLATFORM

Future

SAP Connected Products
The Digital Product Innovation Platform

Partner

Project Collaboration Network

SAP HANA CLOUD PLATFORM

Design Collaboration Network

SAP HANA CLOUD PLATFORM

Supplier

Digital Core S/4HANA

Projects & Portfolios

Formulation   Engineering

Design

Digital Manufacturing

Asset Intelligence Network

Manufacturer, Aftermarket Customer

Industry 4.0 & Internet of Things

C4C

hybris

Customer Engagement and Commerce

Customer

SAP HANA PLATFORM

Future

SAP Connected Products
Your Digital Product Innovation Platform

ORCHESTRATE

Portfolio and Project Management

Commercial Project Management

Innovation Management

COLLABORATE

Enterprise Product Formulation

Enterprise Product Engineering

Visual Enterprise
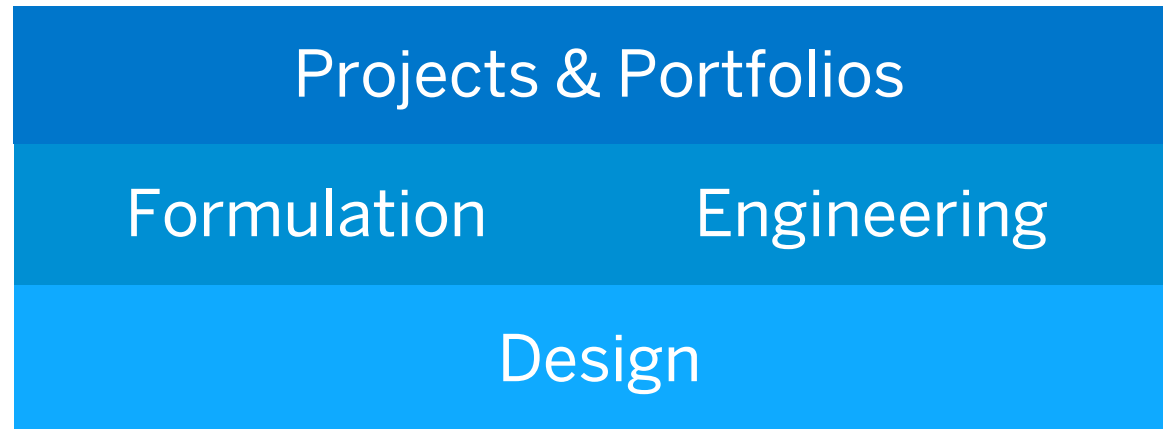
CONFIGURE

Configure, Price, Quote

Variant Configuration

Product Lifecycle Costing

Projects & Portfolios

Formulation   Engineering

Design

COMPLY

Product Stewardship Network

Cloud for Product Stewardship

Product Safety

SYNCHRONIZE

Engineering Control Center

MCAD

ECAD

Customer   19

SAP Connected Products
Operate at the Speed of Innovation

Projects & Portfolios

Capture Ideas

Orchestrate Business

Portfolio
Products
Resources

Deliver Results

Project Execution

Innovation Management

Portfolio and Resource Optimization
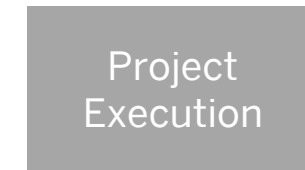
Project Execution

Increase profit from new products

SAP Connected Products
Enabling Product Individualization

Formulation

Specification (Ingredient/Product Packaging)

Routing (Operations, Material, Documentation)

…

Engineering
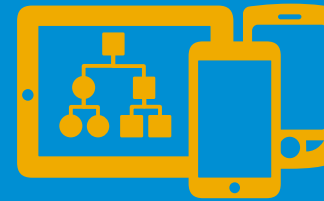
Concept BOM

Design BOM

Variant BOM

Electronic BOM

Software Simulation BOM

…

Recipe
Development

Variant
Configuration

Multi-BOM
Management

Deliver market expansion

SAP Connected Products
Create Smarter Products

Design

| CAD | Software | Regulatory | Packaging | Simulations | Operational Data | Usage Data | Social Data |

Product Definition Data Sources   **Industry4.0/IoT**

Systems Engineering   Product Compliance   Real-time data insights
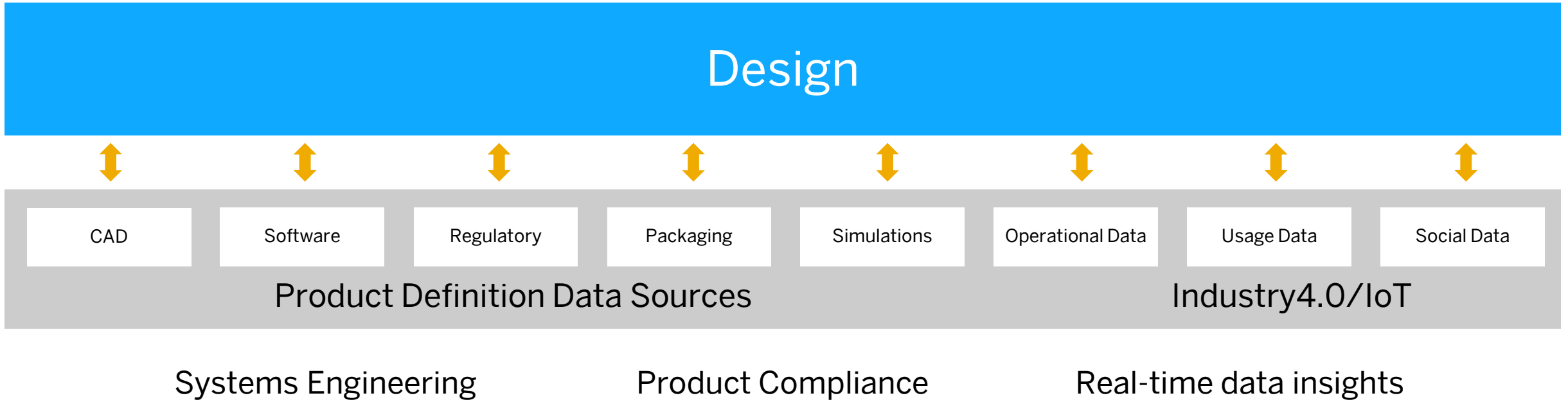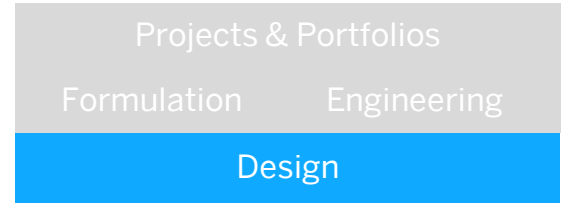
Design product performance

Today's Solution & Recent Releases
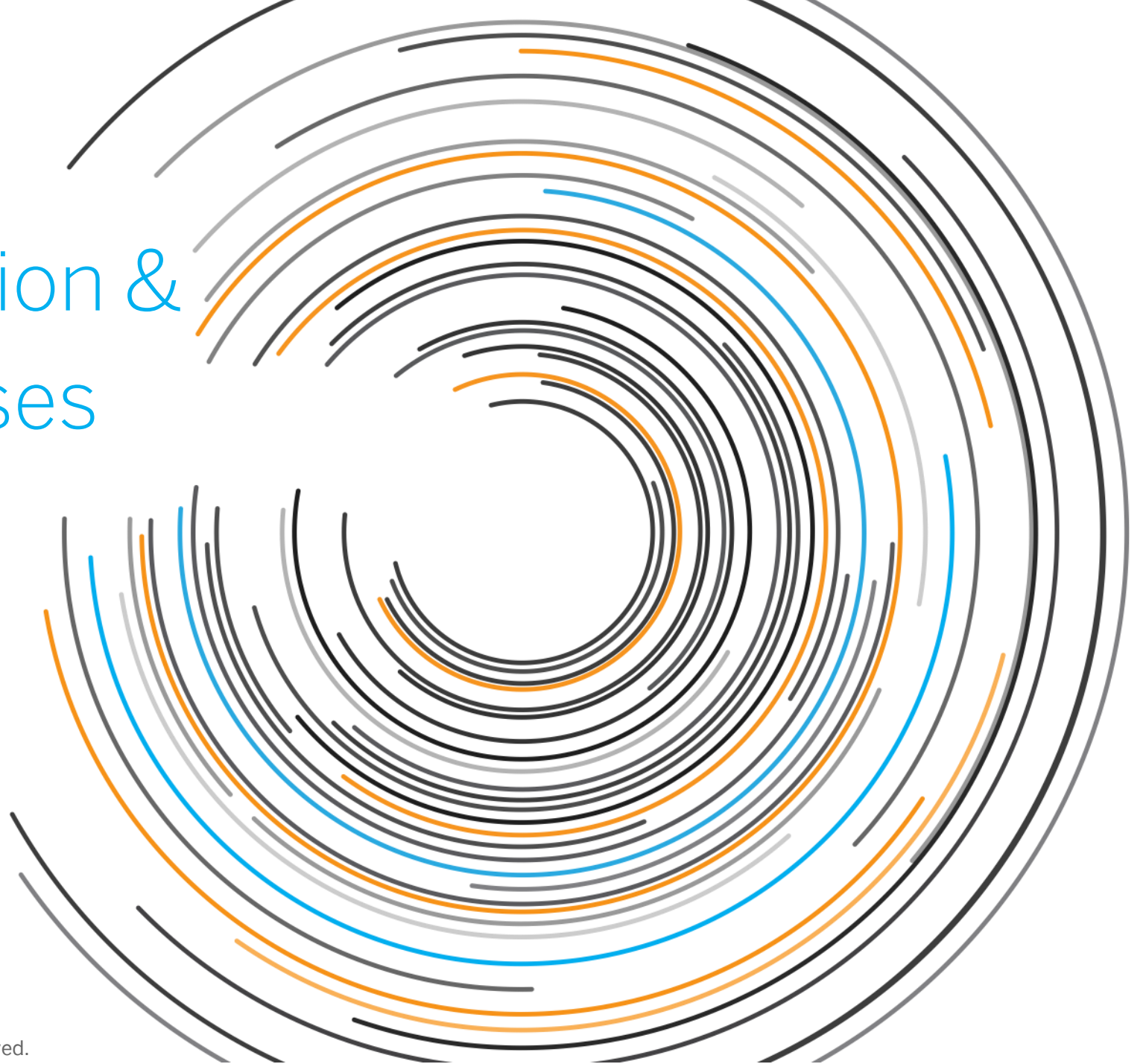
Orchestrate
SAP Innovation Management

User Experience
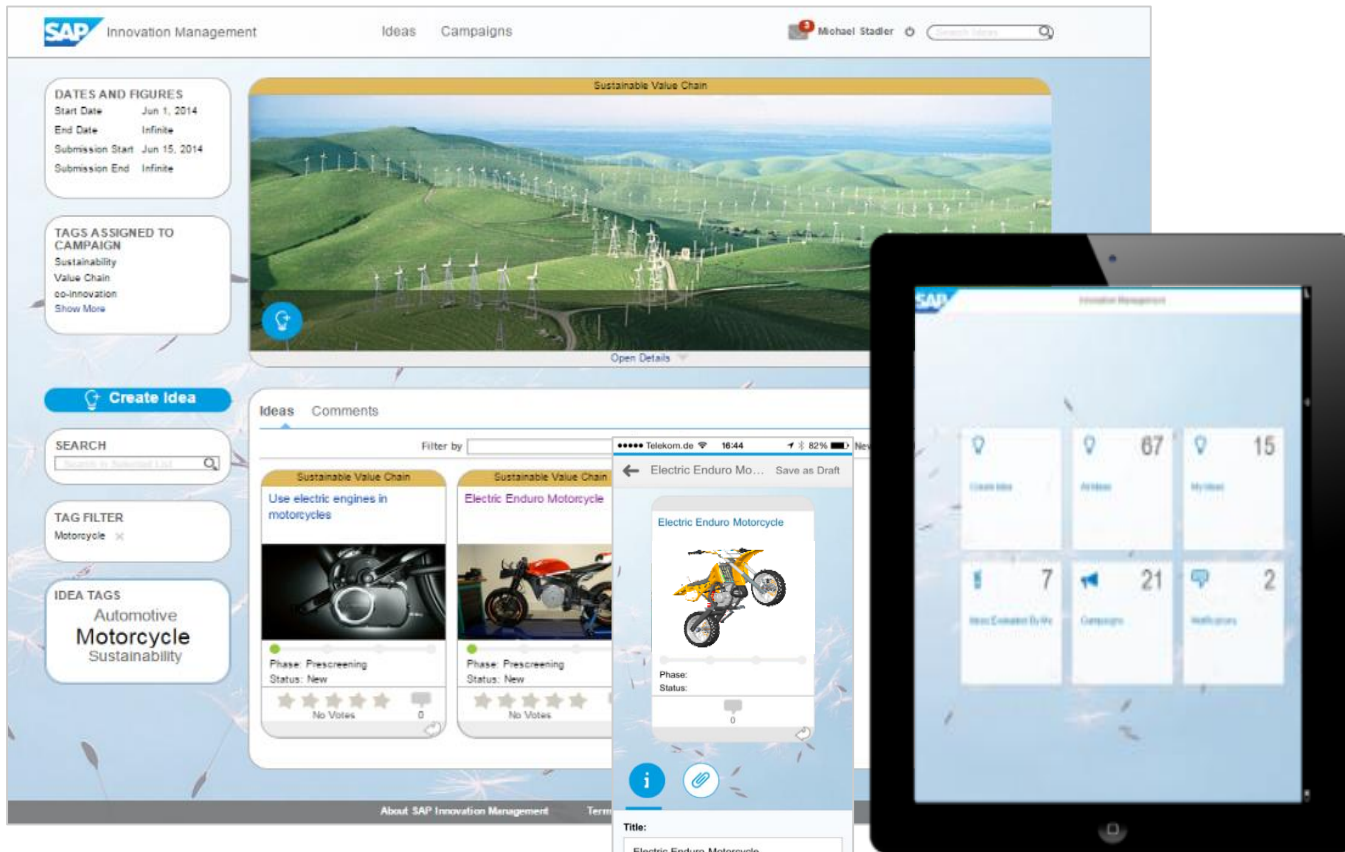
Capabilities

Manage your ideas

Idea submission

Collaboration/social media

Integration with social app

Community management

Progress tracking, prioritization

Customer Examples

Synchronize
SAP Engineering Control Center

User Experience
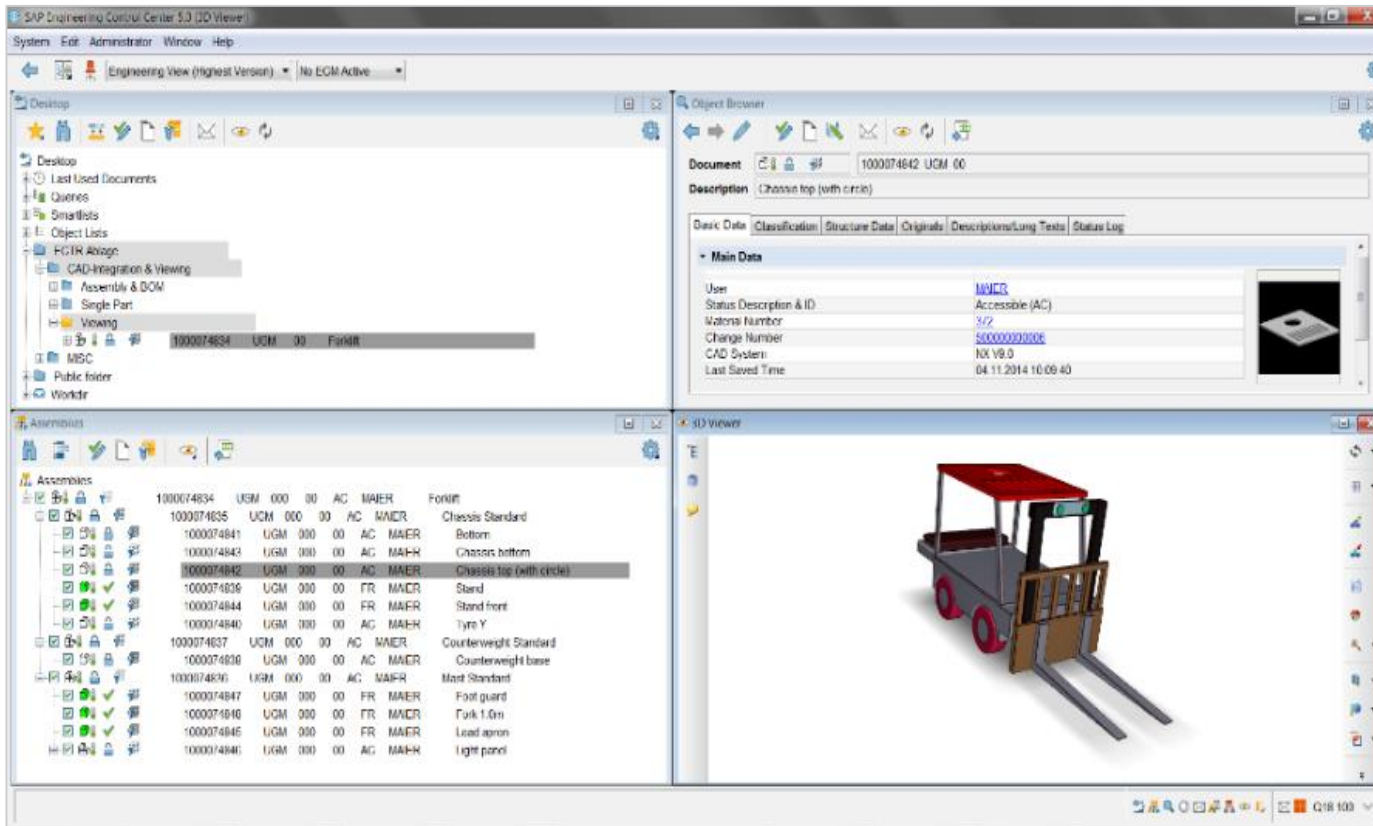
Capabilities

Engineers single UI

Multi CAD connection to ERP

Central access point to all product data

Integration authoring platform

Interlink between design and production

Central platform systems engineering and mechatronics

Customer Examples

Configure
SAP Product Lifecycle Costing

User Experience

Capabilities

ERP integration to price and materials

Simulation. What if analysis

Profitability simulation target costing

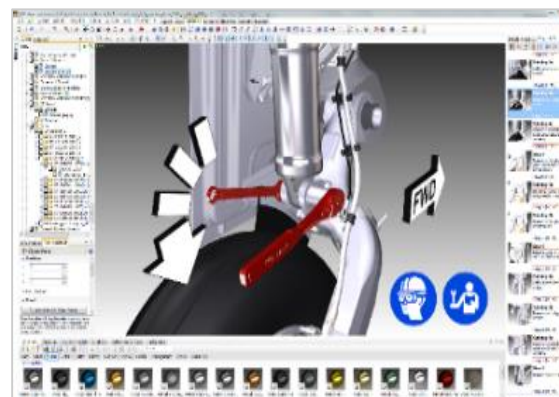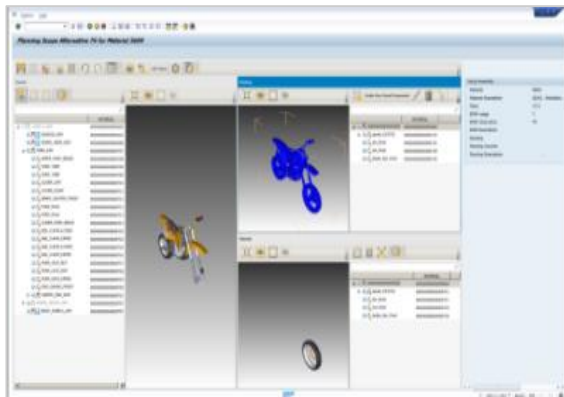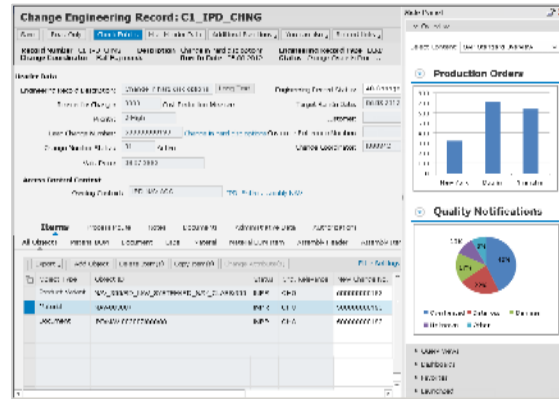UI, flexible structure creation

Lifecycle costing

Customer Examples

- International Automotive Suppliers
- Global Machinery Industry Players
- Midsized tier one suppliers
- High Tech global players

Customer   27

Collaborate
SAP Enterprise Product Engineering

User Experience

Capabilities

Engineering change management

Document management/access control

Product structure management with variants

Handover to manufacturing
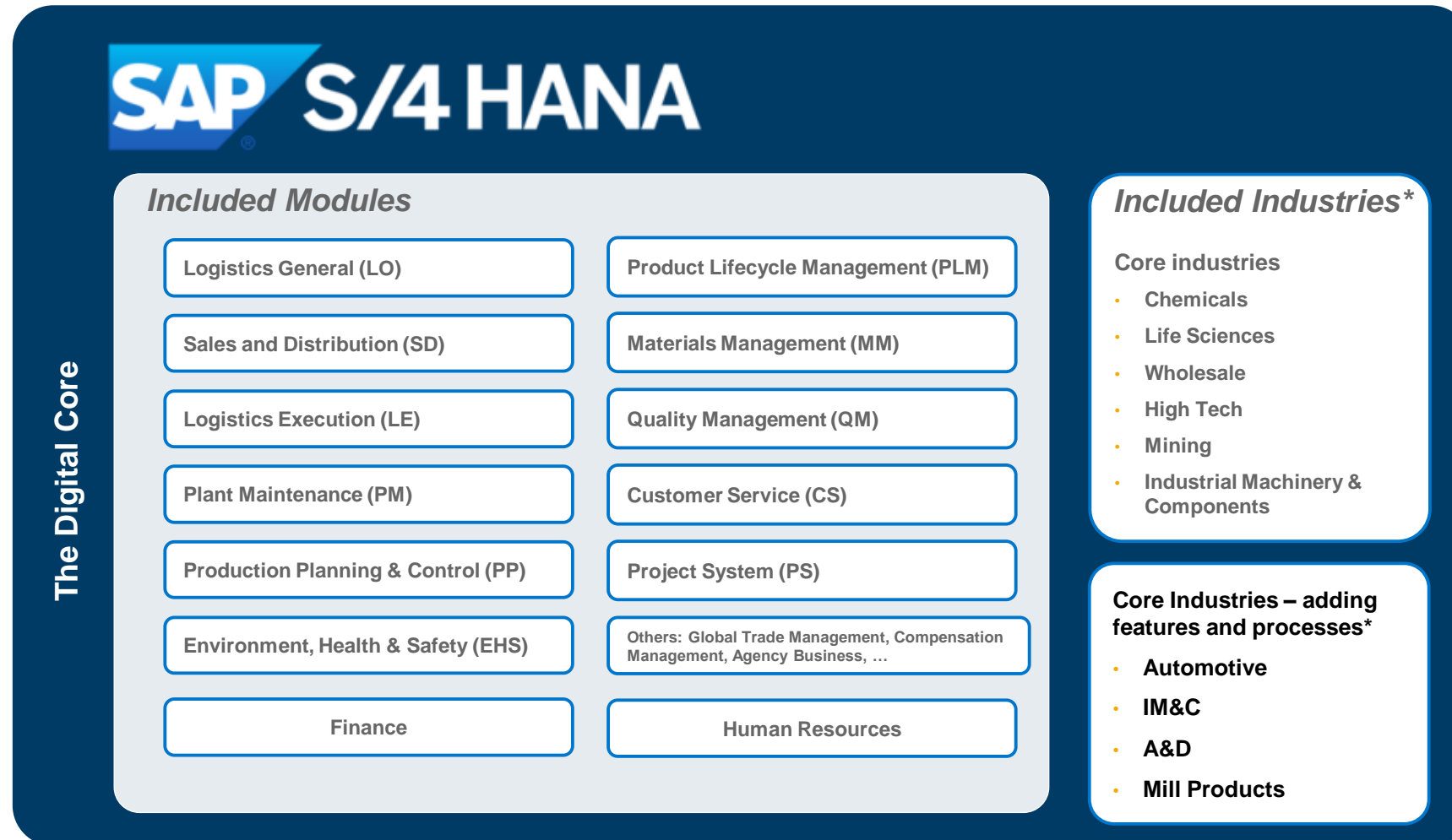
Context sensitive analytics with real time product data

Visual work instructions, technical publishing

Customer Examples

SAP S/4HANA
Next-Generation Business Suite

SAP S/4 HANA

Included Modules

Logistics General (LO)	Product Lifecycle Management (PLM)
Sales and Distribution (SD)	Materials Management (MM)
Logistics Execution (LE)	Quality Management (QM)
Plant Maintenance (PM)	Customer Service (CS)
Production Planning & Control (PP)	Project System (PS)
Environment, Health & Safety (EHS)	Others: Global Trade Management, Compensation Management, Agency Business, …
Finance	Human Resources

Included Industries*

Core industries

- Chemicals
- Life Sciences
- Wholesale
- High Tech
- Mining
- Industrial Machinery & Components

Core Industries – adding features and processes*

- **Automotive**
- **IM&C**
- **A&D**
- **Mill Products**

Feature and function parity to SAP ECC 6.0x

plus

» Major innovations in core modules like **Finance** and **Materials Management and Operations**

» Inclusion of additional **industries** in the Core

» Major Simplifications (http://help.sap.com/s4hana_op_1511)

» Supporting **digital Trends** like Internet of Things, Business Networks, etc

See Roadmap

Planned
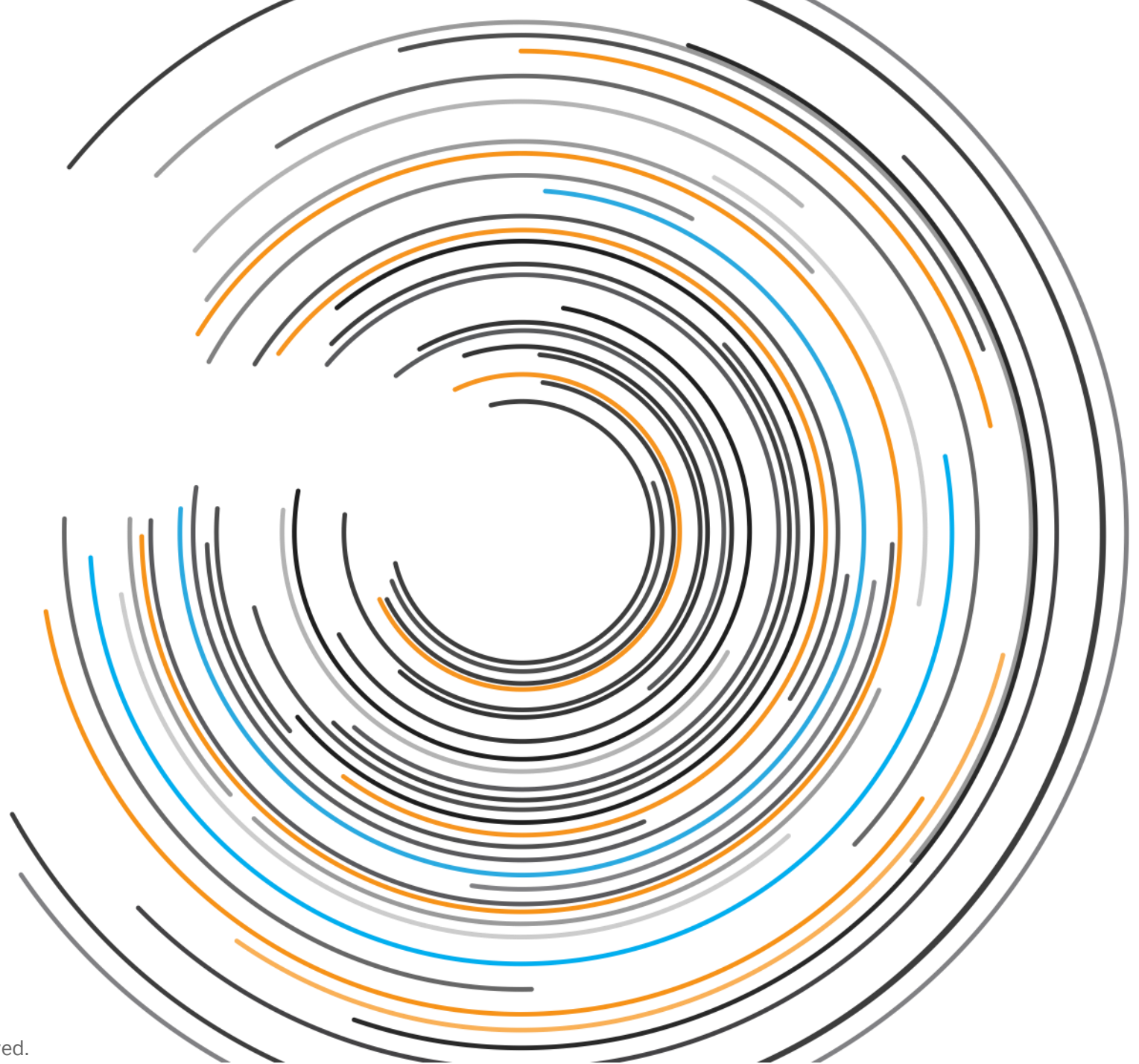
Systems Engineering
Supporting All Design Phases of Intelligent Connected Products

Ideas for Future Capabilities

Requirement-driven Design

Systems Engineering integrated with PLM

Total quality control cycle

Requirement-driven simulation

Change management control

Systems Engineering cockpit

Feedback application supports product decisions based on usage information (IoT)
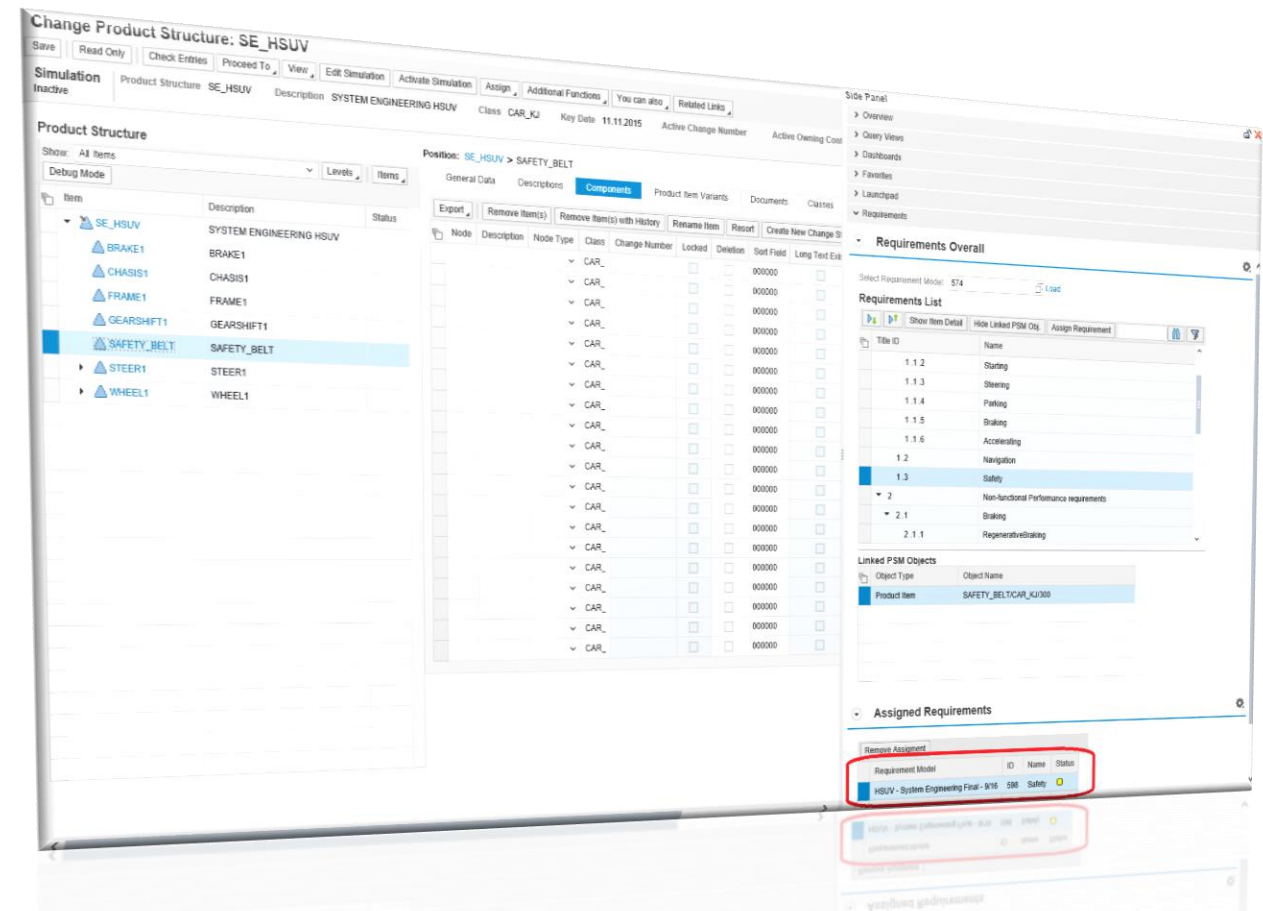
Planned

Embedded Software
PLM for Intelligent Connected Products

Ideas for Future Capabilities

Embedded Software maintained in the development product structure

Integration of software development tools

Hand-over to manufacturing and to service

Compatibility Management between Software, Hardware and Mechanics for the product lifecycle
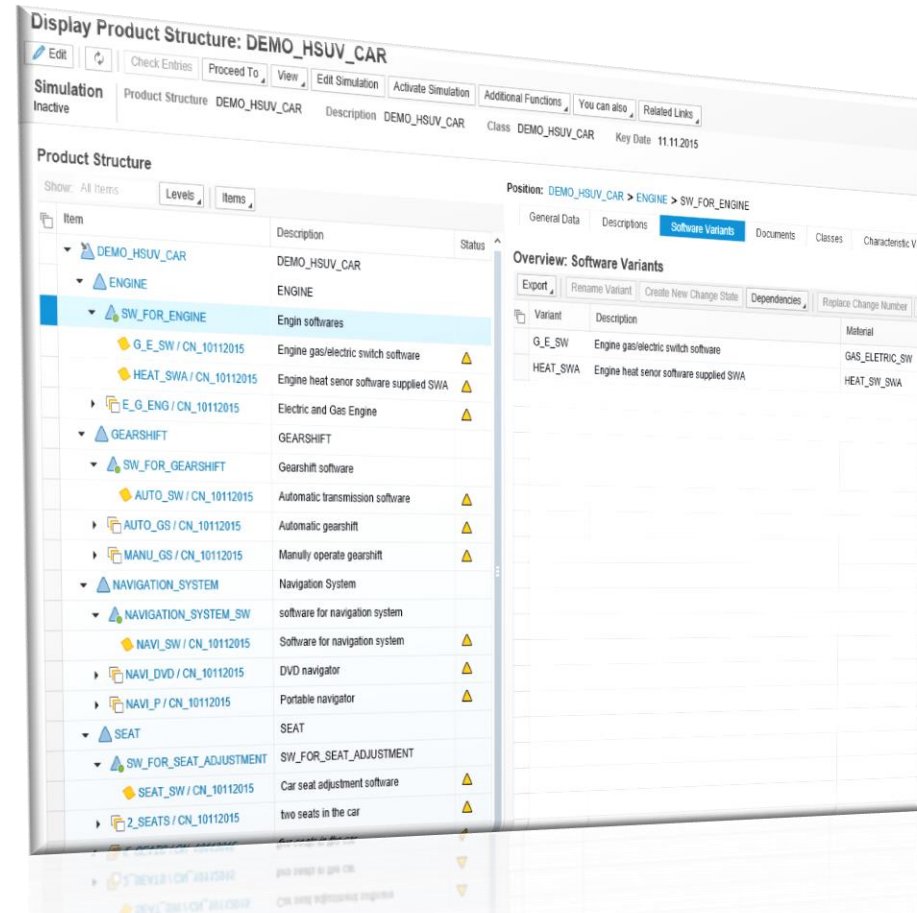
Planned

Product Configuration on HANA
New integrated Product Configurator

Ideas for Future Capabilities

High performant state of the art configurator

Flexible Fiori based configuration UI

Improved user guidance by precise value restrictions and conflict handling

Loose coupling of Sales and Production view of configuration

New Fiori based simulation environment

Syntax enhancements (e.g. negative tables)

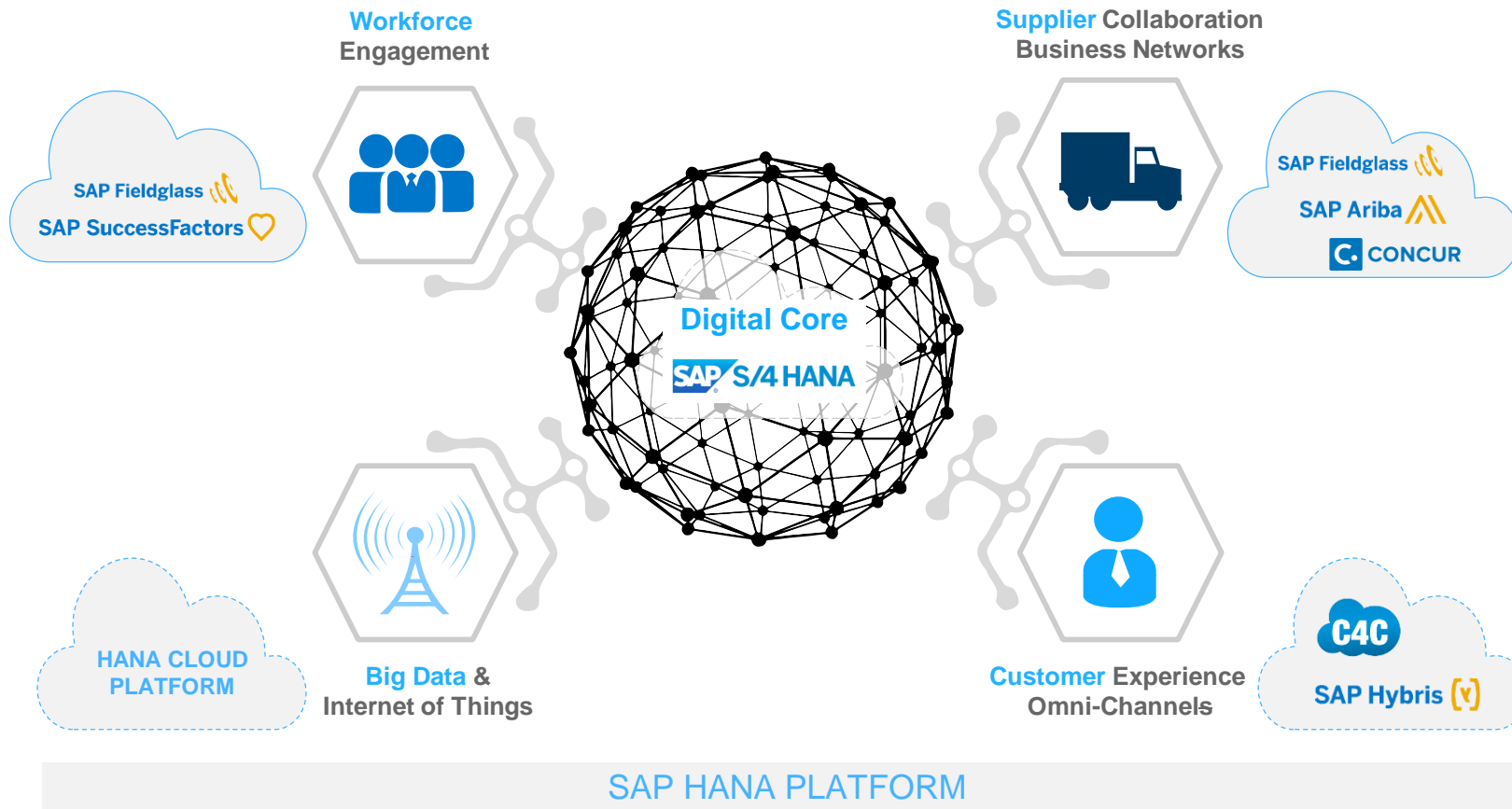New Fiori based modelling environment

Simplified Engineer to Order process

Planned

Future

SAP Framework for Digital Business

Adapting to the digital economy requires a simple and powerful strategy framework

Workforce Engagement

Supplier Collaboration Business Networks

SAP Fieldglass

SAP SuccessFactors

SAP Fieldglass

SAP Ariba

CONCUR

Digital Core

SAP S/4 HANA

HANA CLOUD PLATFORM

Big Data & Internet of Things

Customer Experience Omni-Channels

C4C

SAP Hybris

SAP HANA PLATFORM

Future

SAP Connected Products
The Digital Product Innovation Platform

Partner

Future: Project Collaboration Network

SAP HANA CLOUD PLATFORM

Future: Design Collaboration Network

SAP HANA CLOUD PLATFORM

Supplier

Digital Core S/4HANA

Portfolios & Projects

Formulation | **Engineering**

Embedded Systems Design

Variant Configuration

Digital Manufacturing

Asset Intelligence Network

Manufacturer, Aftermarket Customer

Industry 4.0 & Internet of Things

C4C

hybris

Customer Engagement and Commerce

Customer

SAP HANA PLATFORM

Future

Wrap Up

Innovation highlights in R&D/engineering
Project and portfolio management

Recent innovations	Planned innovations	Future direction
Enhanced collaboration between project team members and stakeholders	Customer Connection 2016 for project systems in SAP	Project networks: Cloud-based project platform supporting collaborative project execution across internal and external project teams
Integration with engineering change management	Additional scheduling integration scenarios and enhanced capabilities for SAP Enterprise Project Connection	Delivering project and portfolio management capabilities for SAP S/4HANA as the future platform for an integrated enterprise processes
Sharing of project documents with internal and external parties using the SAP Document Center solution	Simplified authorization for portfolio and project management	Simplification of project and portfolio management capabilities through additional SAP Fiori apps and optimized data model
SAP Fiori apps for project systems in SAP S/4HANA, on-premise edition	SAP Fiori apps for project team members	Leveraging in-memory support for real-time analytics based on SAP HANA and seamless ERP integration scenario
Cash flow planning		Visualization of project structure and schedule based on SAP Fiori apps

Click on recent and planned innovation names for more details

Innovation highlights in R&D/engineering
Design orchestration

Recent innovations	Planned innovations	Future direction
KPI dashboards for engineering records	Enhancements for product structure and assembly management in SAP enhancement package 8 for SAP ERP 6.0	Systems Engineering: MCAD, ECAD and Software Tool integration. Requirements Management integration and support for Model Based Systems Engineering.
Enhancements to product structure and assembly management	Enhancements for product structure and assembly management in SAP enhancement package 8 for SAP ERP 6.0	Configuration: Variant configuration as the key enabler in engineering, manufacturing, sales, and beyond to manage "lot size 1"
Recipe development – labeling enhancements 2015	Product lifecycle management: target-driven recipe development	Product networks: Developing the future of collaborative product design and project execution in a public cloud network
Enhancements to the SAP Engineering Control Center integration tool	Recipe finder for recipe development in SAP Product Lifecycle Management – search and result screen enhancement	Simplify and secure: Investments in the evolution of SAP S/4HANA and securing our customers' current landscape
Visual Enterprise Manufacturing Planner	Manufacturing engineering: Visual enterprise manufacturing planner	

Click on recent and planned innovation names for more details

Thank you

Frank Spiegel

Chief Product Owner Strategy & Eco System– LOB R&D / Engineering
Products & Innovation
Frank.Spiegel@sap.com

© 2016 SAP SE or an SAP affiliate company. All rights reserved.