



SAP Enterprise Product Development Engineering

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PUBLIC

THE BEST RUN

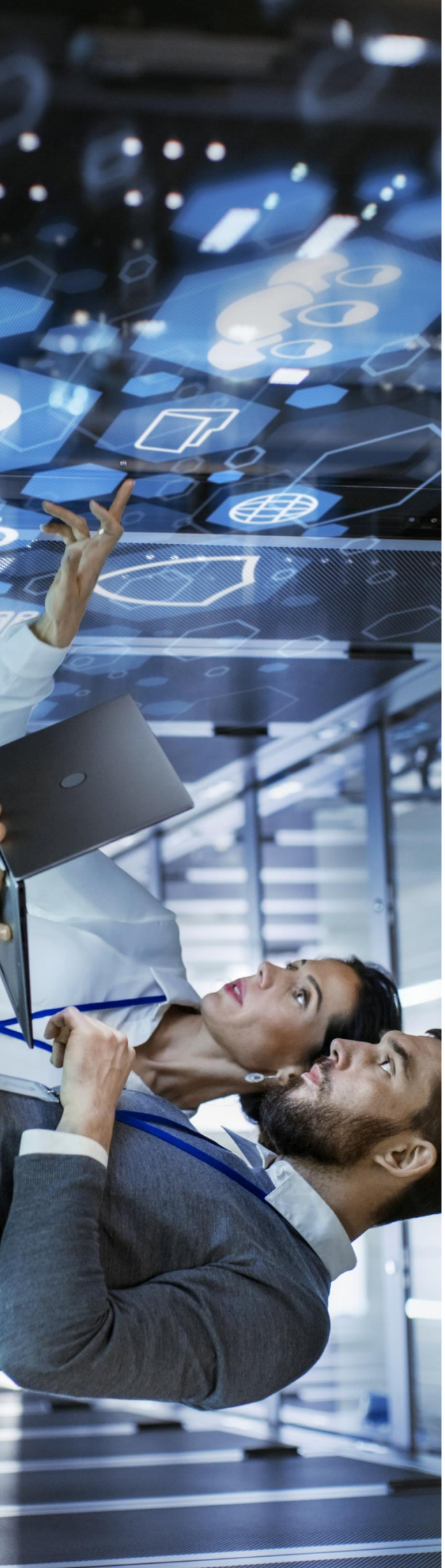


Agenda

- Market Challenges & Trends
- SAP Enterprise Product Development Solution Overview
- SAP Enterprise Product Development Engineering
- Roadmap
- Summary

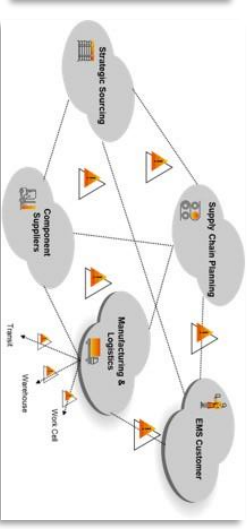
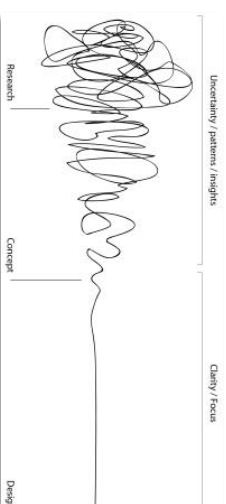
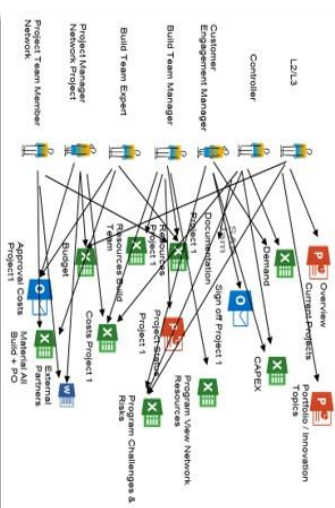
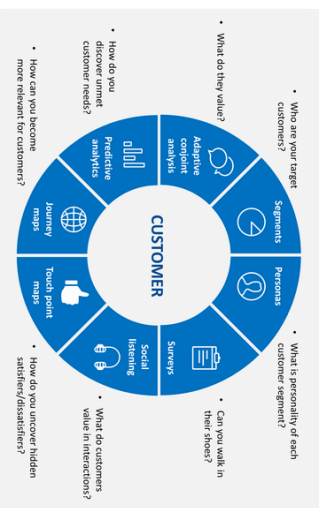


Market Challenges & Trends



Challenges in the Design processes today....

Fragmented product lifecycles across an enterprise yield productivity loss and increased time to market



Requirements

Limited customer influence on product development.

Early Engineering

Complex products developed in **isolated** teams.

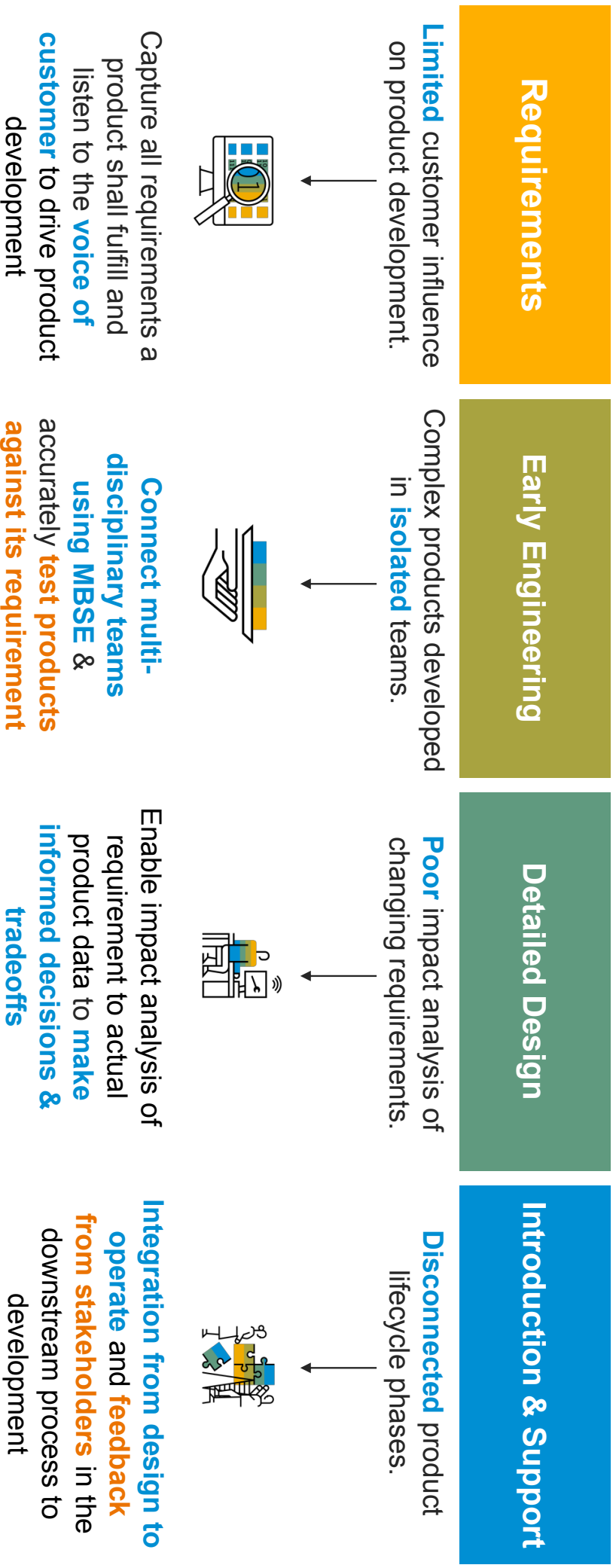
Detailed Design

Poor impact analysis of changing requirements.

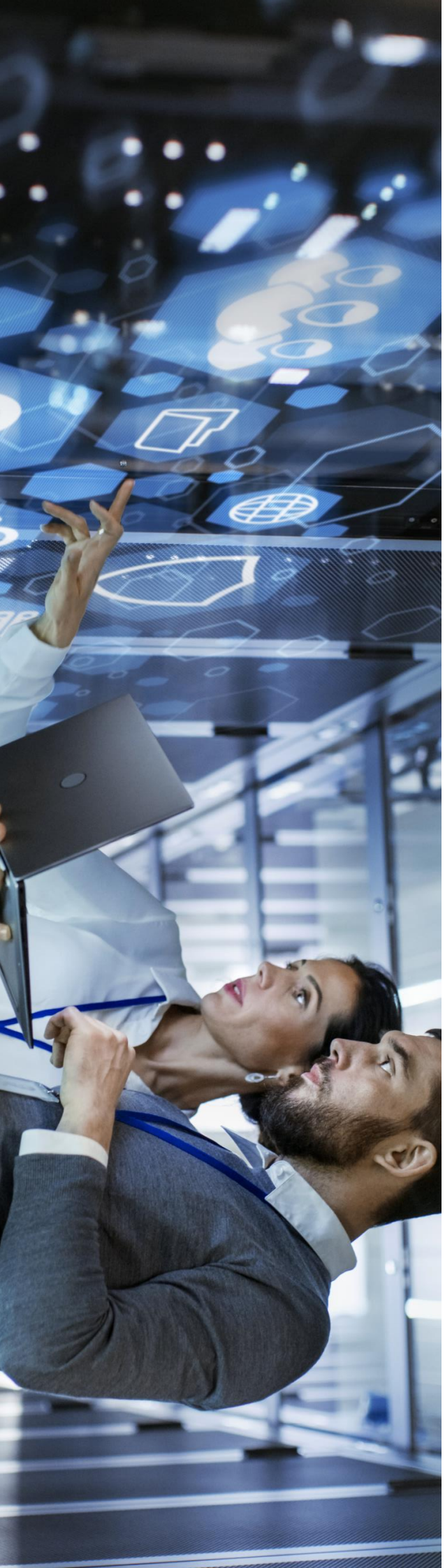
Introduction & Support

Disconnected product lifecycle phases.

As part of SAP Enterprise Product Development, Engineering is **responding to these challenges** supporting digital transformations.



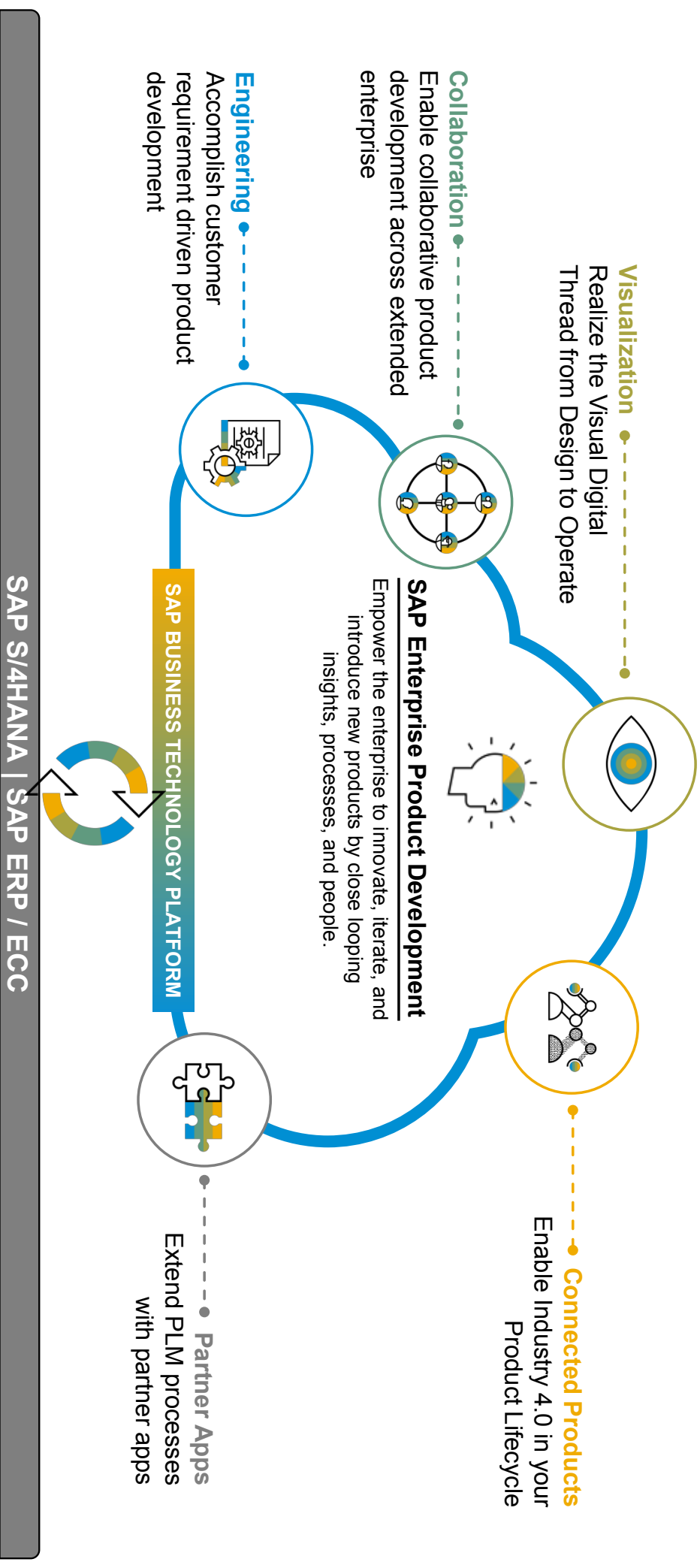
SAP Enterprise Product Development Solution Overview





SAP Enterprise Product Development

Reimagine Innovation





SAP Enterprise Product Development

Capabilities and Key Features

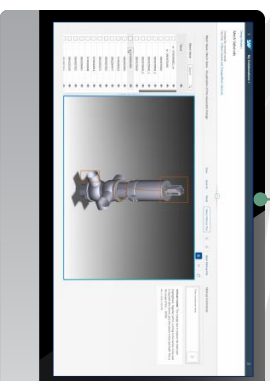
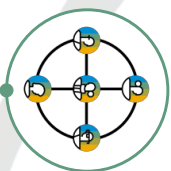
Engineering



- Requirements Acquisition
- Requirements Management
- Model-based Systems Engineering
- Impact & Lineage Analysis
- Test Planning & Execution
- Manage Test Artefacts & Results

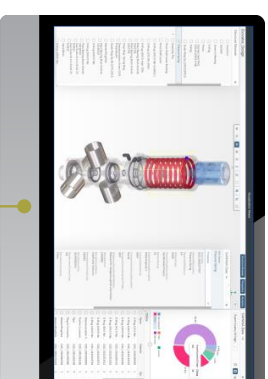


- Requirements Driven Engineering Collaboration
- Share Documents
- 3D Visual Design & Redlining
- Simple Task/Workflow Management
- Collaborate on Structured Product Data incl BoM
- Supplier Collaboration
- Collaborate on Changes
- Comments

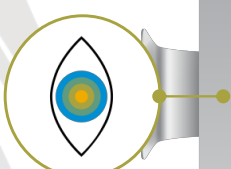


Collaboration

Visualization



- Simplified User Experience
- Import, Browse & Share
- Visual Data Integration
- Author, Edit & Enhance Visualizations
- Role-based Visual Application Templates
- 3D Visual Work Instructions



- Simulation Based Digital Twin
- Virtual Sensors
- Health Prediction
- What-If Simulation
- Dynamic 3D Visualization
- Collaboration with OEMs



Connected Products

SAP Enterprise Product Development – Product Cockpit

Derive **real time insights** to determine appropriate actions



Motivation / Context

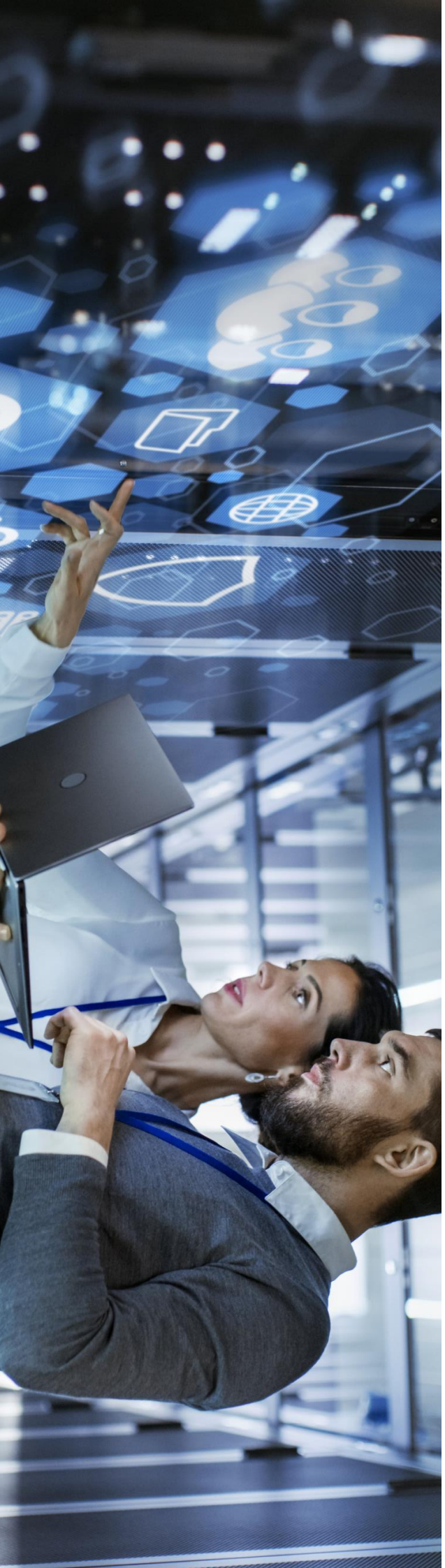
User wants to have a quick overview of all the relevant information related to product development and to support daily activities



Highlights

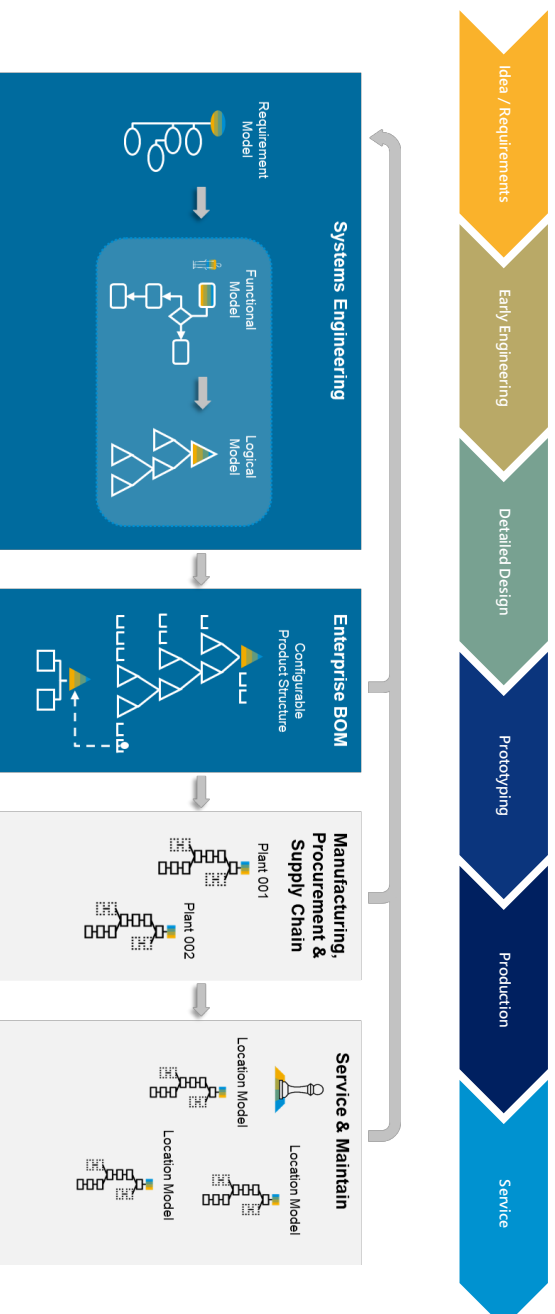
- Card based **dashboard** that aggregates and represents diverse data
- One stop shop** for the user to get an **overview** of pending tasks, workflow items, collaboration, requirements, product data, feedback from downstream product usage and more
- Flexible and configurable**, with **real time update** of the content to ensure accuracy of the content
- Authorization** to ensure rightful access and **Personalization** to enhance usability of the cockpit

Enterprise Product Development Engineering



Tapping the full potential of Requirement Management and Systems Engineering by focusing on end-to-end processes

Requirements driving product development



Systems Engineering integrated with Product Lifecycle Management processes

SAP Enterprise Product Development – Engineering

Requirements Acquisition: Capture the needs and **voice of the customer**



Motivation / Context

User wants to collect and analyze feedback from various channels and create product requirements



Highlights

- **Acquire & consolidate** the market responses for your product from surveys of the Experience Management (Qualtrics) into product requirements.
- Manually **create** or **import** the raw feedback data into the product development process as feedback items and create them as product requirements
- Gain **better visibility** and better **alignment of voice of customers** into product development by tracing the feedback into requirements

SAP Enterprise Product Development – Engineering

Drive product development based on defined Requirements



Motivation / Context

User wants to ensure that all requirements are fulfilled by the developed product and quickly identify the impact of requirement changes



Highlights

- Support **requirements management** in a **centralized** location for better collaboration.
- Link requirements to various objects to provide **complete traceability**
- Enable **requirements change impact analysis** to offer an accurate scalability
- Use standard Requirements Interchange Format to **exchange requirements** between different companies

SAP Enterprise Product Development – Engineering

Manage product complexity with Model Based Systems Engineering



Motivation / Context

User wants to develop complex products in interdisciplinary teams



Highlights

- Capture and manage **systems architectures**, as well as **system behavior**
- Detect issues and omissions early and **reduce system defects**
- Improve system understanding **through visual analysis**
- **Facilitate communication** among various stakeholders
- Model products and exchange information based on defined **standards**

SAP Enterprise Product Development – Engineering

Integrated Systems Engineering

The screenshot displays the SAP Enterprise Product Development Engineering interface. The top part shows a hierarchical tree structure of a product, with 'PowerSubSystem' selected. Below this, there are two main sections: 'Choose Name of New Node and Class' and 'Choose Name of New Node and Class'. The 'Choose Name of New Node and Class' section has a 'Name the Node and Class' field and a 'Name the Node and Class' button. The 'Choose Name of New Node and Class' section has a 'Name the Node and Class' field and a 'Name the Node and Class' button. The 'Choose Name of New Node and Class' section has a 'Name the Node and Class' field and a 'Name the Node and Class' button.

Node	Node Description	Node Type
☒ HYBRIDVEHICLE	HybridVehicle	Product Family
☐ FUEL	Fuel	Product Item
☐ POWER_SUBSYSTEM	Power Subsystem	Product View
☐ FUELTANKASSEMBLY	FuelTankAssembly	Product View
☐ FUELPUMP	FuelPump	Product Item
☐ INTERNALCOMBUSTIONE...	InternalCombustionEn...	Product View
☐ FUELINJECTOR	FuelInjector	Product Item
☐ BATTERYPACK	BatteryPack	Product Item
☐ POWERCONTROUNIT	PowerControlUnit	Product Item
☐ ELECTRICALPOWERCON...	ElectricalPowerControl...	Product Item
☐ ACCELERATOR	Accelerator	Product Item
☐ ELECTRICMOTORGENER...	ElectricMotorGenerator	Product Item
☐ DIFFERENTIAL	Differential	Product Item
☐ TRANSMISSION	Transmission	Product Item
☐ BRAKEPEDAL	BrakePedal	Product Item
☐ FRONTWHEEL	FrontWheel	Product Item
☐ WHEELHUBASSEMBLY	WheelHubAssembly	Product Item
☐ CONTROL	Control	Product Item



Motivation / Context

User wants to create a product structure in SAP S/4HANA based on the product breakdown in model-based systems engineering



Highlights

- Structured product development process with the support of early design phases
- Closing the gap between early product design phases, defining products in terms of functional and logical objects, and detailed product design, including the definition of the bill of materials

SAP Enterprise Product Development – Engineering

Verify the output through **managing tests**, to ensure that all requirements are fulfilled and all customer needs are satisfied



Motivation / Context

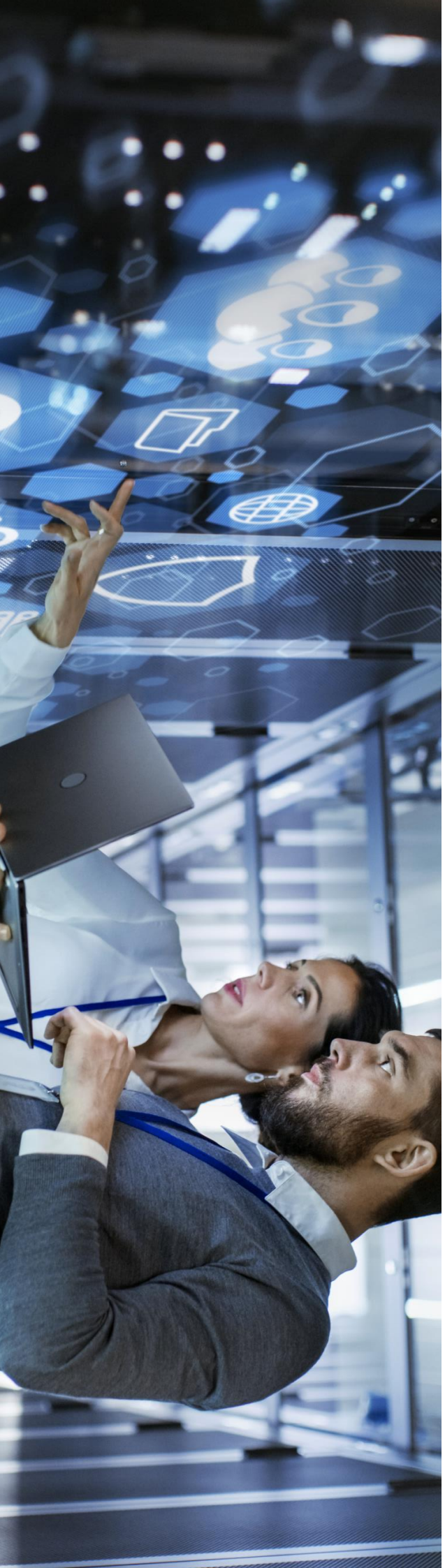
User wants to validate the new prototype, whether it fulfills requirements



Highlights

- Define test cases against requirements
- Detail out the individual test steps/sequences for test cases
- Plan and perform the execution of tests
- Provide visibility of test results in a systems-engineering environment
- Reusable test cases

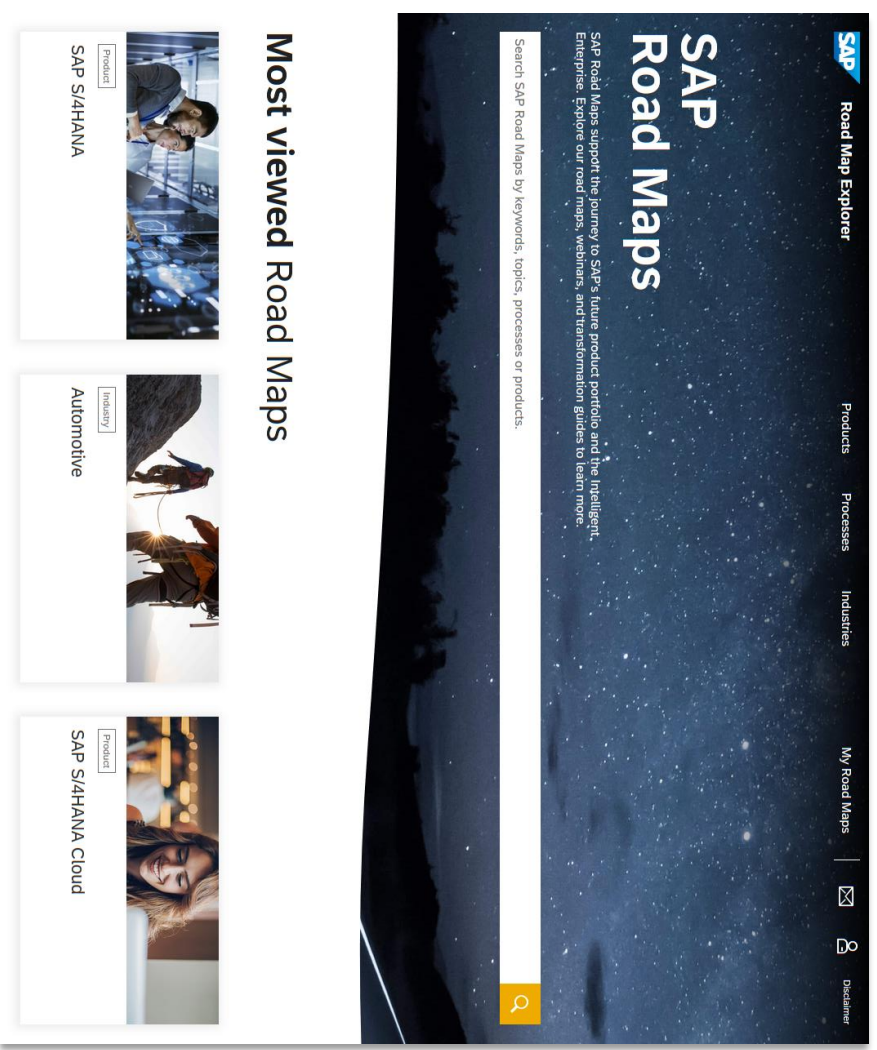
Roadmap



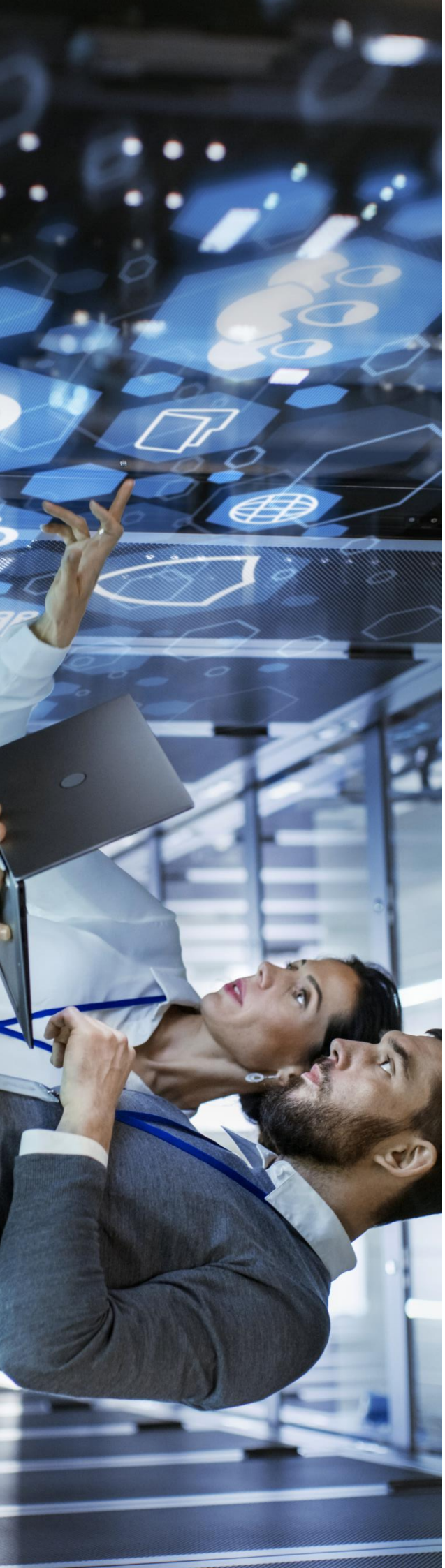
SAP Road Map Explorer

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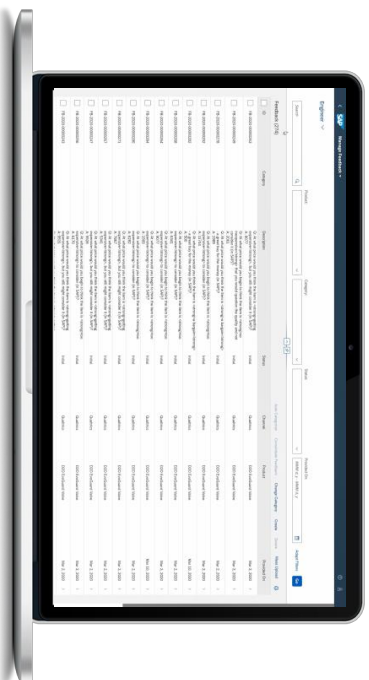


Summary



SAP Enterprise Product Development – Engineering

Realize the Engineering Digital Thread from Design to Operate



Voice of Customer

Develop right products for right market needs and accelerate time to market



Conquer Complexity

Establish Model Based Systems Engineering approach to enable multi disciplinary smart product development



Actionable Insights

Empowering product developers & users with insights to act in the moment

Thank you.