New Product Costing –
SAP Product Lifeycle Costing goes Cloud!

Ulf Petzel, High Tech Industry Solution Management, SAP SE
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CUSTOMER

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About the Speakers

Ulf Petzel

- High Tech Industry Solution Manager, SAP SE

- 21 years with SAP, Mechanical Engineer

- First time I got an alternate speaker slot!

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Key Outcomes/Objectives

1. Get an overview about SAP Product Lifecycle Costing

2. Learn about the availability in the Cloud

3. See the latest innovations live

asUG

Agenda

01

Challenges in Early Product Costing

The Challenge Today

In today´s fast-evolving market, companies are facing increasing pressure to provide innovative, customer-driven products and quotations at competitive prices. Lack of visibility into early product cost hurts profitability downstream. **TODAY customers are using Excel spreadsheets to calculate future product costs.**

Microsoft Excel and legacy tools used for early cost estimates and planning but **SAP ERP** for actual cost calculation
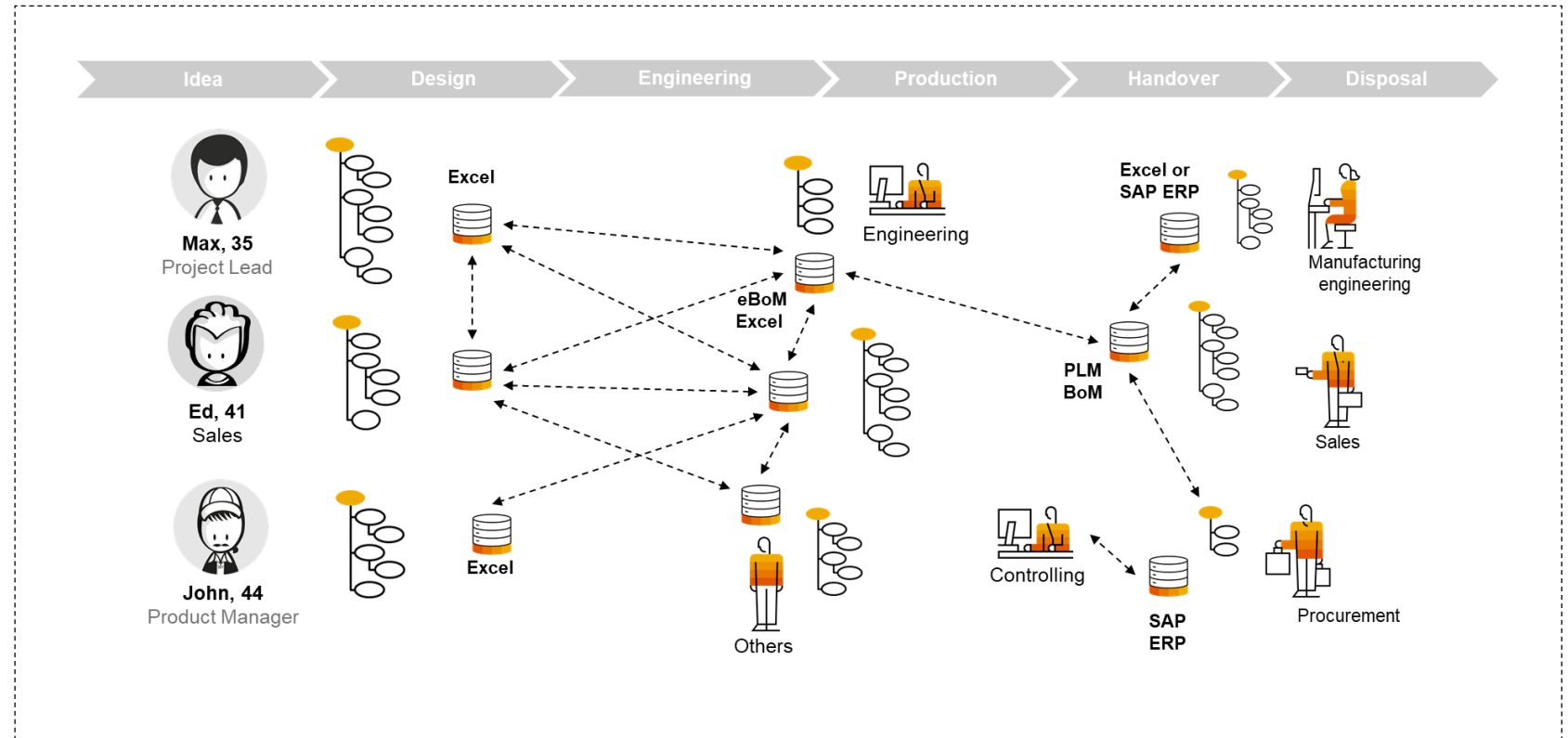
Typical Customer Pain Points
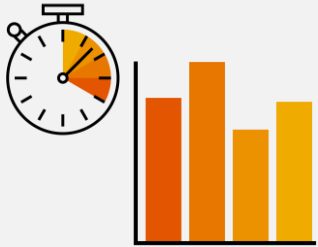
How can I identify cost drivers, optimize the cost structure and improve time to market?

How do I get accurate cost estimates when structures and values are only partially available?

How can I minimize the risk of hidden cost and profit loss?

How can I collaboratively work on cost estimates across boundaries throughout the organization?
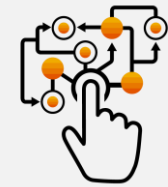
How can I keep control of cost estimates for complex products?

Early Product Costing Challenges at AGCO

10 different cost rollup solutions

7 different ERP systems globally

10 different costing sheets

Zero transparency on global level

Manual interfaces to ERP systems

Different processes & reporting standards across sites

Focus use cases for early product costing

| Concept acquisition | Product or process development | Production ramp-up | ◆ **Start of production** Production | Disposal |

Preliminary cost estimate
(new product introduction [NPI] or continuous improvement [CI])

Inventory valuation (SAP ERP today)

Production cost simulation

Quotation costing

Lifecycle costing

Engineering or design bill of materials

Manufacturing bill of materials

Product maturity

Unstructured data

Structured data and values available, such as material, bill of materials, routing, and pricing information

Time

02

Customer Case Studies

Typical Customer Implementations – Global Product Costing at….

- Automotive global player, OEM, use case calculation of new products
- **Initial situation:** 11 different plants with their own calculation schemas in MS Excel and disjoint calculation processes
- **TODAY:** A standardized process, a database, efficiency gain 3%.

- High Tech Company, Use Case calculation of new products
- **Initial situation:** Replacement of several software tools with a single solution.
- **Today:** Standardization of calculations for the entire group of companies Comparability and traceability through one database, identical cost structures and uniform process

- SME automotive supplier, use case offer calculation for new products
- **Initial situation:** 4 plants with their own Excel calculation, different calculation schema, no ERP integration
- **Today:** One calculation process, one instance, ERP integration

- Global IM&C Company - Food processing machinery manufacturer
- **Initial situation:** Costing was carried out with several customer-specific systems across several plants
- **Today:** ONE process, ONE tool, ONE database, ERP integration

03
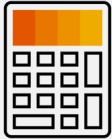
SAP Product Lifecycle Costing

Early Product Costing within the Product Development Process

Idea / Requirements	Early Engineering	Detailed Design	Prototyping	Production	Service

Portfolio and Project Management

Collaboration

Requirements Management

Early Product Costing

Engineering – System Engineering

Engineering BOM | **Manufacturing Bill of Material**

AVC (Design Time) | **AVC - Advanced Variant Configuration (Run Time)**

Recipe Development | **Master Recipe**

Engineering Change Management | **Manufacturing Change Management**

PLM Handover / TDM Integration

3D Visualization

Document Management

Lifecycle Costing – Product Cost Control

Idea / Requirements → Early Engineering → Detailed Design → Prototyping → Production → Service
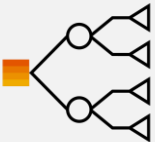
Manage costs for new product innovations & customer-specific engineered products

Minimize costs by **securing future product margins early**, when the design is evolving & master data is incomplete

Simulate the impact of cost reduction measures by identifying cost drivers in later stages of the product lifecycle

Gain visibility on cost structures **across diverse teams**
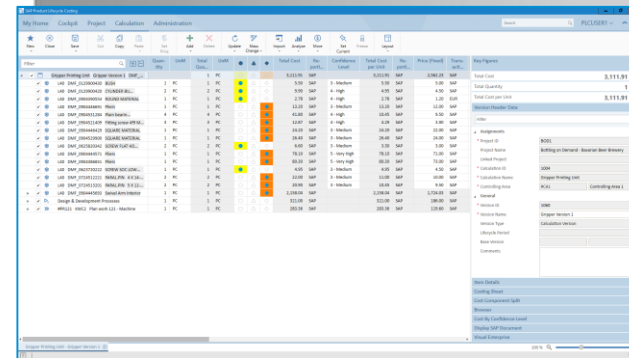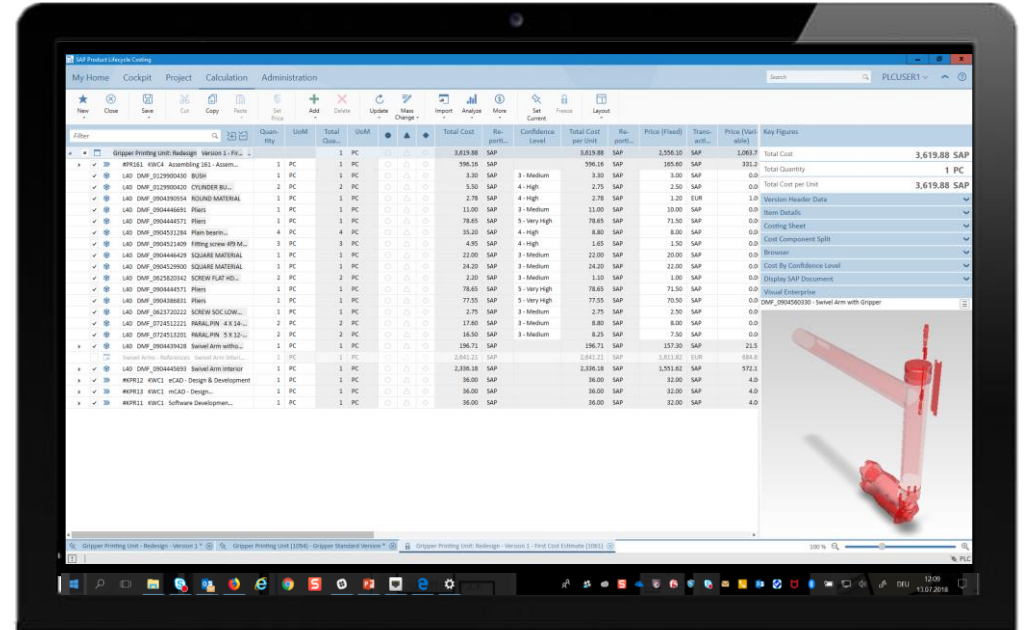
Solution definition

SAP Product Lifecycle Costing is a solution to calculate costs and other dimensions for **new products or quotations** in an **early stage** of the product lifecycle, to quickly identify **cost drivers along the lifecycle,** and to easily **simulate** and compare alternatives.

Real time SAP HANA	**User centric** Microsoft Excel–like UI	**Open** SAP ERP or S/4HANA, Microsoft Excel, non SAP	**Flexible** Cost structure
First-class **user experience**	High **performance**		**Integration** with SAP ERP or SAP S/4HANA

Key Features
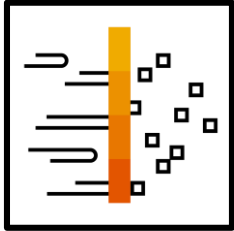
Calculation Structures
Calculations, Versions
Variant Matrix
Reference Calculations
ERP/Excel Import
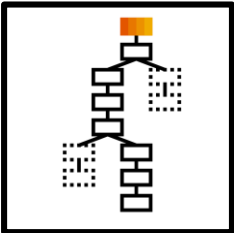
Calculation Master Data
Material
Cost Center, Work Center, Process
SAP ERP & S/4HANA Integration
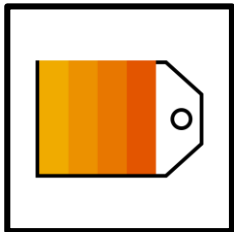
Valuation Data
Prices, Rates
Costing Sheets
Multi Currencies, Exchange Rate Types
Units of Measure
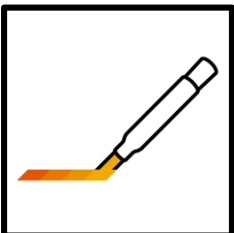
User Support
Mass Change
Highlighting
Layout
Search

Projects
Project Master Data
Lifetimes
Surcharges

Analytics
Self Service Analytics
Managed Analytics
Management Reporting
KPI Analysis
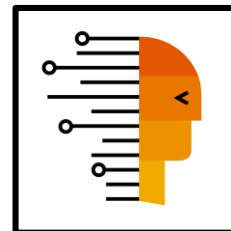
Extensibility
Custom Fields / Formulas
Integration to other Applications
Templates
API / Add In Framework

Further Information
Cloud enablement
User Management / Authorization
Security Engineering / Locking
Single Sign On / Data Security

Recent Innovations – Share link to calculation version

Easier collaboration between different parties working on a calculation

Motivation

- To enable easier collaboration, users need the functionality to create and share hyperlinks pointing to an existing calculation version

Highlights

- New option to automatically generate hyperlinks to calculation versions, available in the calculation view & cockpit view

- The link is copied automatically to the system clipboard and users can share the link

- Clicking on the link will start the SAP PLC application automatically (if closed) and the corresponding calculation version gets opened

Recent Innovations – Variant Matrix

Create product variants in one go – calculate and simulate product variants

Motivation

- Calculate, simulate and compare product variants in one go.
- Based on a maximal structure quickly outline variants.

Highlights

- Define variant matrix based on a base version that represents the maximal costing structure
- Simulate and calculate different variant mix by editing quantities and the occurrence of the items in the costing structure
- Compare all variants in one view, the "Variants" view
- Create new variants based on existing variants in the same variant matrix
- (Mass-) Generate new calculation versions based on variants
- Visualize and accept changes in the variant matrix after changes to the variant base version

Recent Innovations – Different exchange rate scenarios

Simulate with different exchange rates – use the exchange rate type
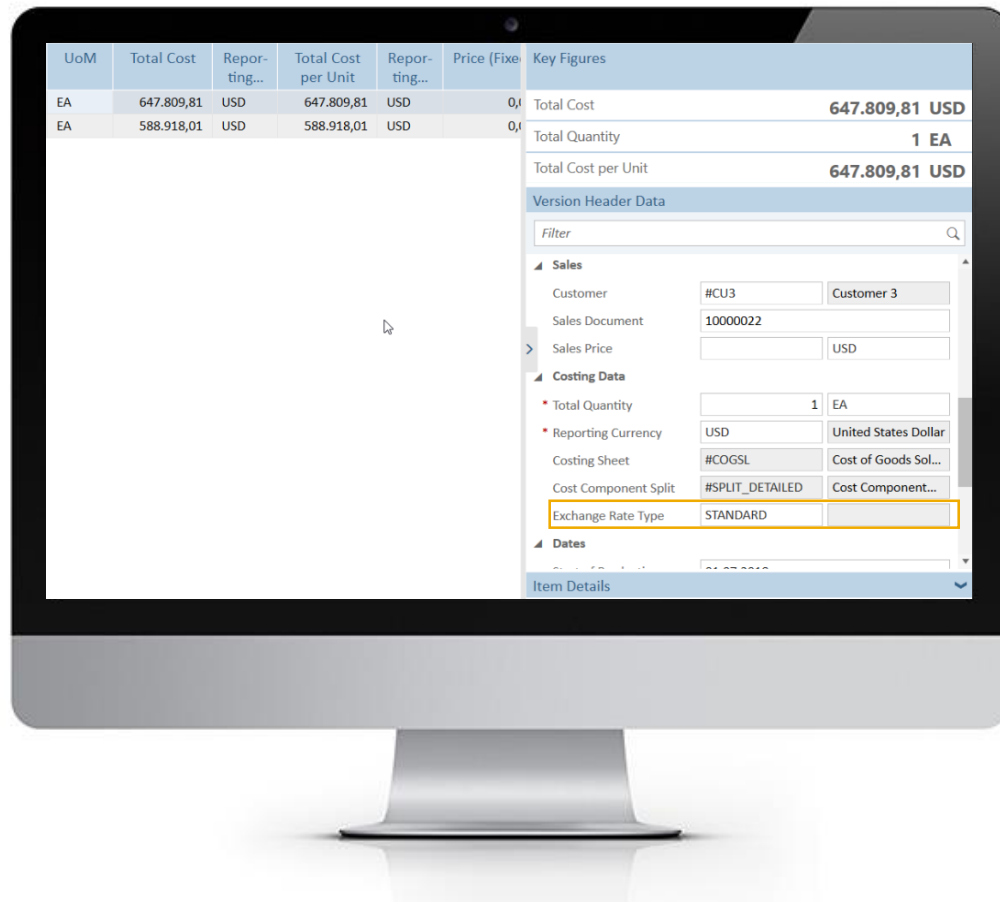
Motivation

- Customers want to simulate exchange rate scenarios. To mitigate exchange risks and play with alternatives.

Highlights

- transaction currency per item that is converted to the reporting currency used for the calculation
- Exchange rate type to simulate different exchange rate scenarios

Recent Innovations – Advanced Filter and Mass Change Scenarios

Create and reuse simulation scenarios – Easy to simulate and change complex changes
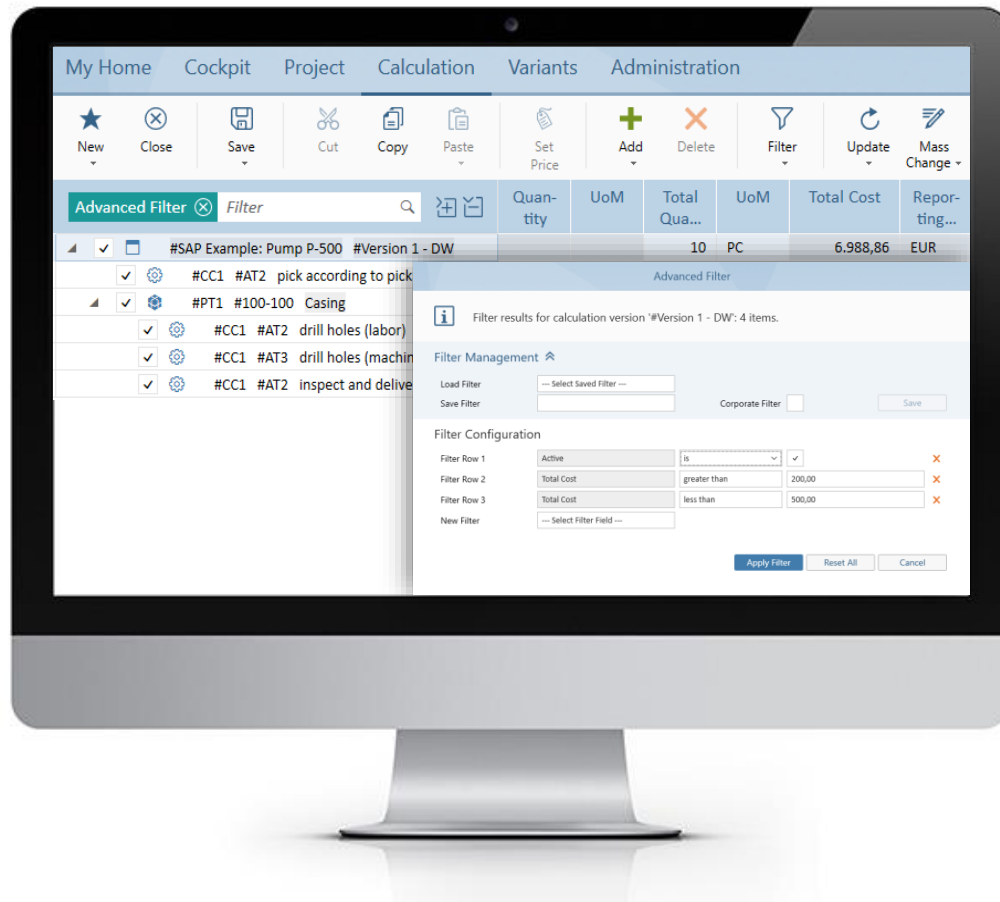
Motivation / Context

- Customer want to quickly simulate changes or want to filter and change based on their settings. The mass change and filter functionality offers a rich set of select, filter and change criteria and can even be used with the simple filtering. Complex scenarios for operators and functions covered.

Highlights

- Filter and change settings can now be saved as one configuration

- Filter items based on complex filter criteria, e.g. with any operators or upper and lower limits

- Combine filter criteria for different fields or the same field

- Load / Save / Rename / Delete filters

- You can clear the value from a field. This is only possible for non-mandatory fields

- Multiply existing values by a factor, e.g. to subtract the cost of an assembly

- Replace part of string by another part of the string

Recent Innovations – Highlighting

Highlighting – Use highlighting define current status of items
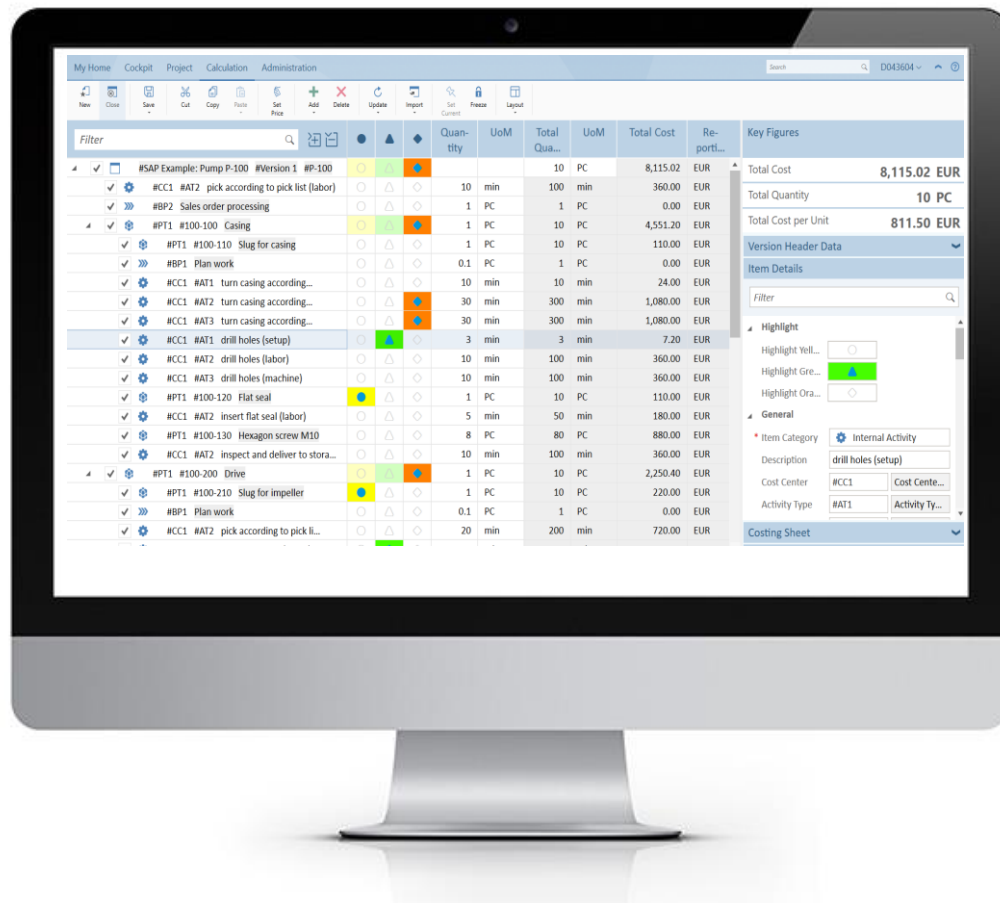
Motivation / Context

- Customer want to highlight and filter items based on defined settings to later take action on it.

Highlights

- Highlight status of items

- Filter items with the simple filter by just typing e.g. "Yellow"

- Mass change highlighted items

- Filter and highlight items

Recent Innovations – Visualize master data overrides on item level

Visualization – Use visualization techniques for deviations

Motivation / Context

- Customers want to see whether a material item or activity item has different field values then in the master data set

Highlights

- Quickly identify items, such as materials, activities and other master data related items which have been changed and differ from the recent master data

- Use the tooltip to show the different field values

Recent Innovations – Lifetime Surcharges

Plan future material prices with surcharges

Plan lifetime material surcharges for materials to forecast material costs for all production years without planning the material prices for each period.

Plan future process costs with surcharges

Plan lifetime surcharges on rates to plan internal processes in production along future production years.

Without planning all the rates for future years.

Recent Innovations – Machine Learning with SAP PLC

Machine Learning – Use Machine Learning to improve your calculations

Motivation / Context

- Customers want to use machine learning capabilities to improve calculation accuracy and avoid inconsistent pricing in different calculation versions.

Highlights

- Find Materials, Components, Products or internal production processes which have been used in other calculations

- Get information on usage, plants, up to date price information

- Decide which item to be used in the recent calculation

- Leveraging SAP Machine Learning technologies

YouTube Video

Recent Innovations – SAP Analytics Cloud for Management Reporting

- SAP Cloud Analytics is used to run analytics on PLC **live data connection**

- SAP Cloud Analytics is used for **management reporting AND for detailed analysis**

- It can be combined **with other data sources** and also LOB data based on the data views created

- Data sets can **be customized and adjusted due to customer needs**.

Recent Innovations – Auto-Updating Business Client

Automated frontend installation and upgrade process for better user experience
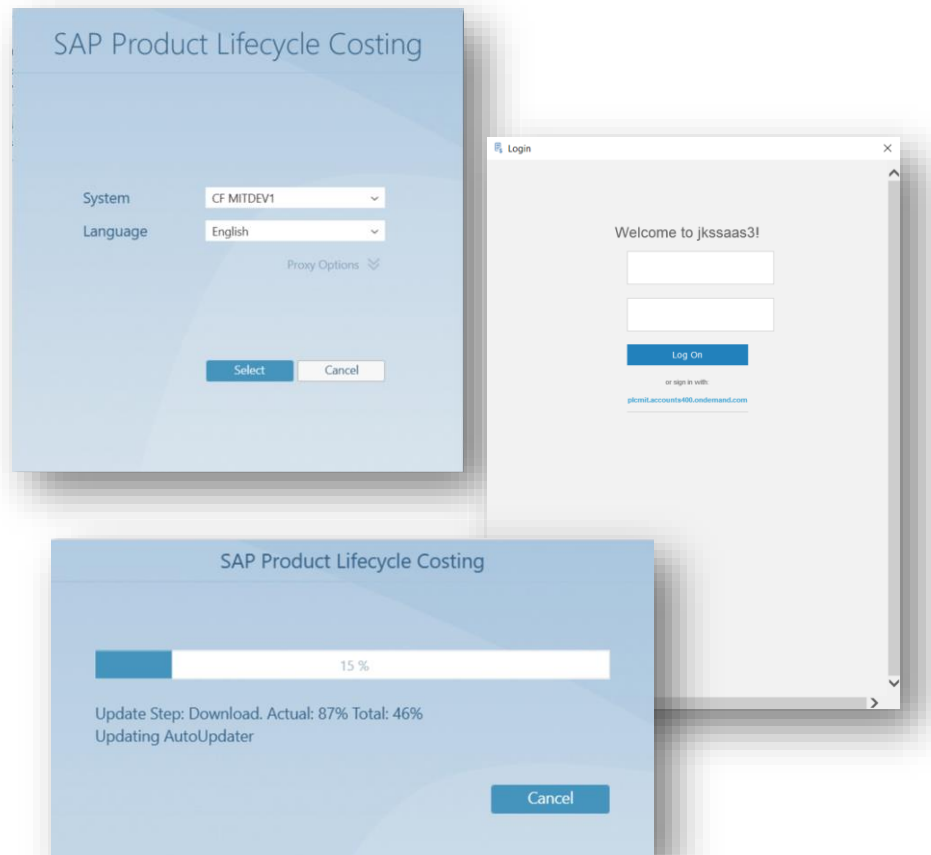
Motivation / Context
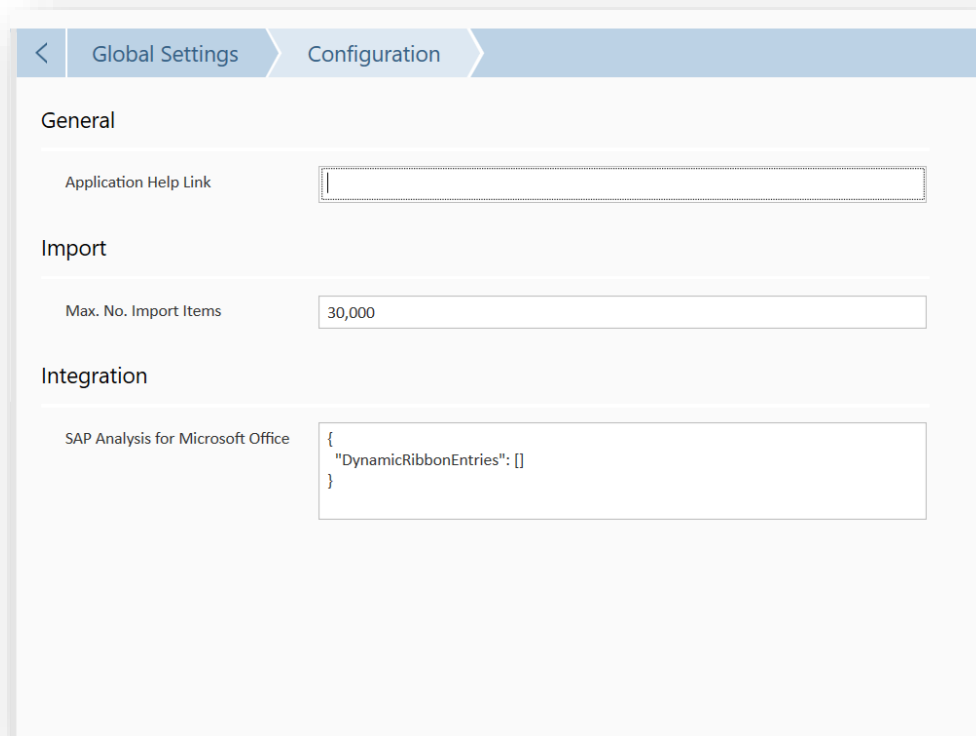
- The Cloud edition requires a fully automated frontend installation and upgrade process

Highlights

- Frontend auto-updates when new features/bug fixed become available
- The frontend installation is executed fully automated by using a newly introduced SAP PLC Installer
- SAP PLC frontend application can be started multiple times on one machine to connect to different SAP PLC systems

Recent Innovations – Maintain application settings in the Admin View

New entry in the Admin View to maintain application settings

Motivation / Context

- Easier maintenance of application settings

Highlights

- New configuration option in Administration View allows users to:

  - set a target link to the application's help functionality

  - change the default value for maximum number of imported items

  - maintain customer specific integration settings as for example SAP Business Objects Analysis for MS Office

Recent Innovations – Personal Data Handling

Deletion of Personal Data enabled

Motivation / Context

- Enable companies to fulfill the legal DPP requirements defined by the European Union.

Highlights

- New User Interface to search for, download, and delete personal data used in SAP Product Lifecycle Costing
- In SAP PLC, personal data applies to user, customer, and vendor data

Extensibility options – Cloud Edition

SAP Product Lifecycle Costing is open for extensions by customers and partners to address custom use cases and enable integration with third-party systems while helping to ensure data integrity and security.

There are three technical options to extend SAP PLC cloud edition and integrate with external applications. Each option has different capabilities and enables different use cases.
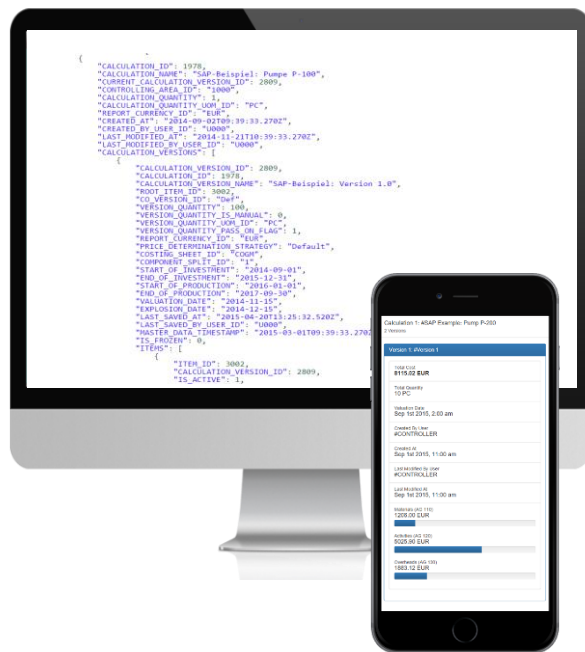
Public back-end API
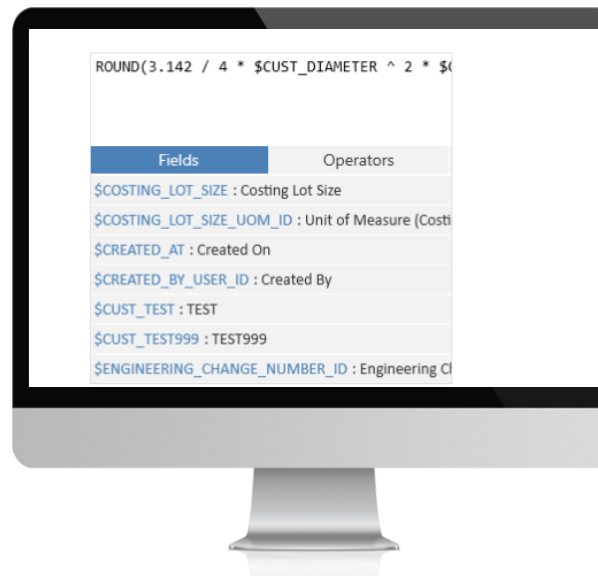
Custom fields
and formulas
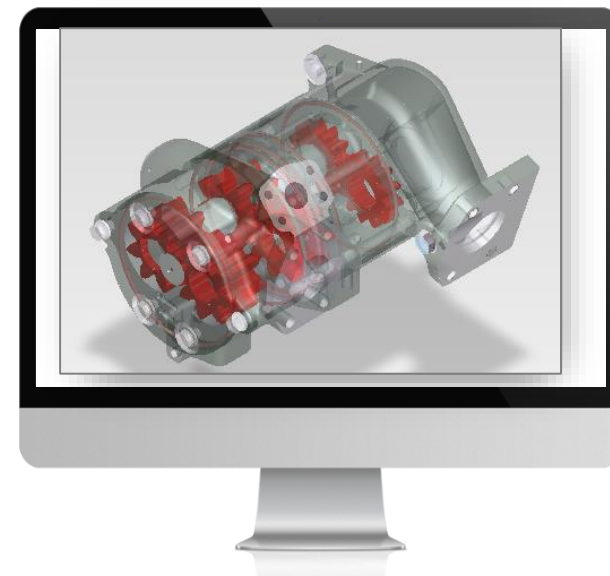
Front-end
add-in framework

High-Level Architecture – Cloud Edition

SAP ERP or S/4 (on-premise)

PLC Frontend Application
(MS Windows application, C#/WPF, auto-updating)

Add-In Framework

Microsoft ® Excel

optional

JSON via HTTPS

Any Database

Communication via PLC Backend API

Business Logic (JavaScript on XS compatibility mode, SQLScript)

JSON via HTTPS

Legacy System

optional

Analytic Views

Hana Analytics Adapter (HAA)

InA

Analytics

optional

Local Master Data / Calculations / …

Calculation Engine & Custom Formula Interpreter

SAP Landscape Transformation Replication Server

Replicated ERP Master Data

Data

C++/AFL (AFL SDK)
(not yet fully supported by HaaS)

optional

SAP HANA2 (SAP Cloud Platform/Cloud Foundry) - HaaS

On-Premise & Cloud, 2 Alternative Usage Options

Two alternative deployment options for SAP Product Lifecycle Costing

Criteria	On-Premise Release 4.0	Cloud Release 1903
Features	• Version 4.0	• Same features as in Version 4.0
Cost	• Pay associated hardware, energy and IT costs • Hosted on customer's own servers • Priced under a license fee	• Predictable costs over time • No additional hardware investment • Hosted on SAP's servers • Priced under monthly or annual subscription
Security	• Data security is handled by the customer	• Data security is handled by SAP; strict security standards
Implementation	• The customer has control over the implementation process • Implementation process can take longer	• Implementation process takes less time
Upgrade	• The customer has complete control; it decides when to do an upgrade • Upgrade process takes longer	• Continuous updates triggered by SAP

04

Live Demo

05

Summary and Roadmap

SAP Product Lifecycle Costing offers
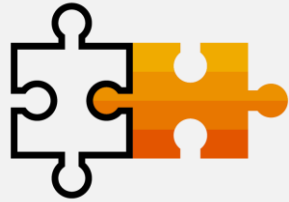
Straightforward **integration** with SAP and third-party applications

High **performance**
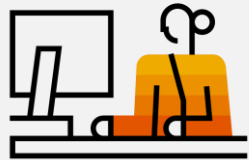
Extensibility that is made for customers and is easy to apply

First-class **user experience**
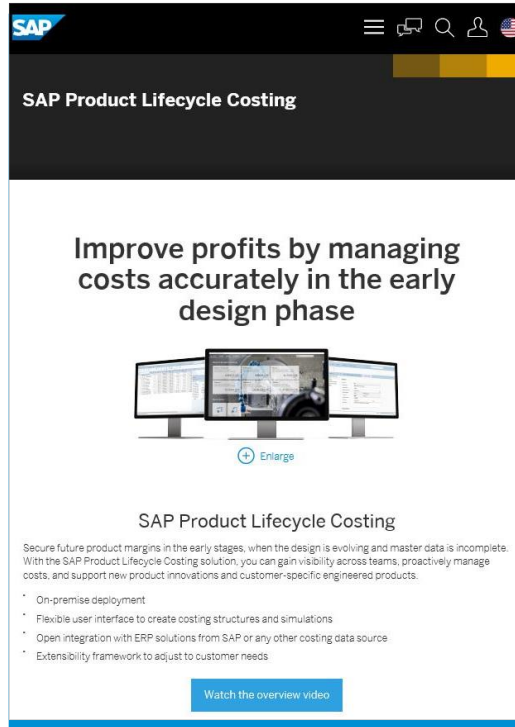
openSAP Course – Freedom to Calculate with SAP Product Lifecycle Costing

This course was held from Sep 04, 2018 through Oct 10, 2018.

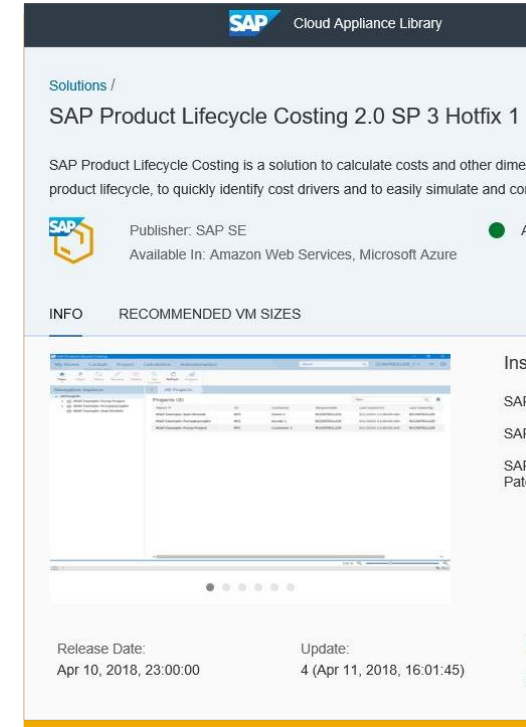6460 learners enrolled.

Here the direct link to the training.

Further Information

SAP Web Site
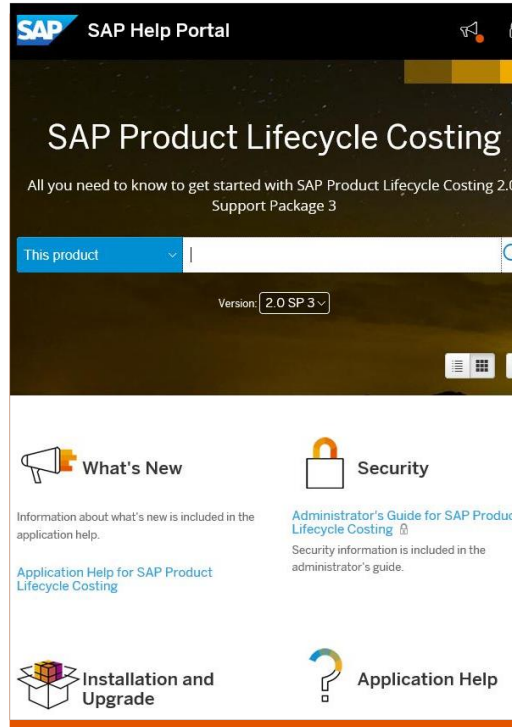
SAP Help Portal

SAP Cloud Appliance Library

Key Assets
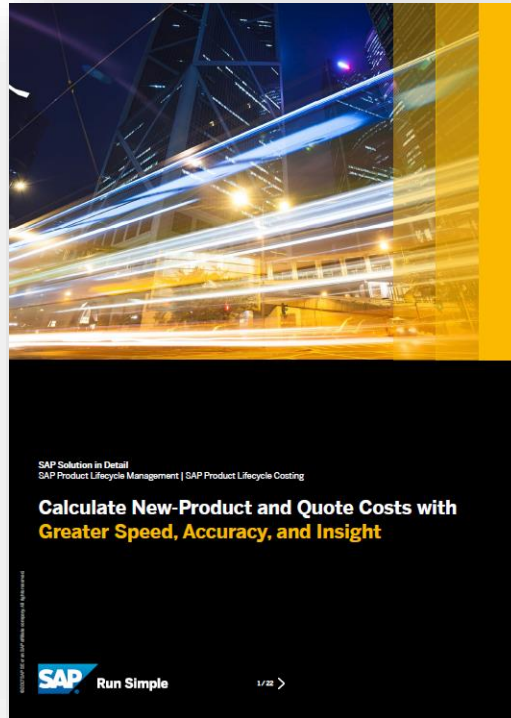
Solution in Detail Brochure
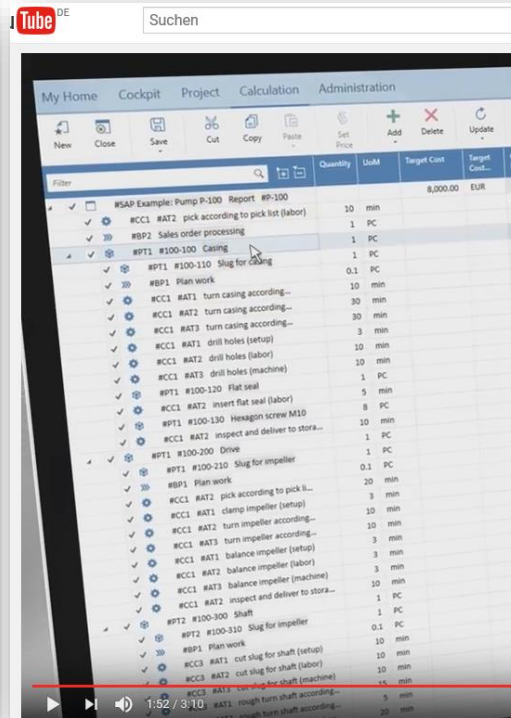
- **Overview Video**
- **Machine Learning Video**

Compendium Flipbook
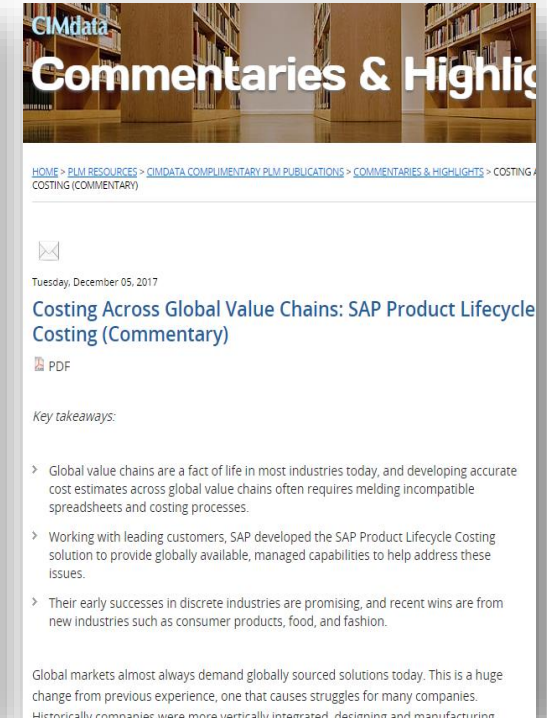
CIMdata Commentary

Customer References

Bühler Group

AGCO
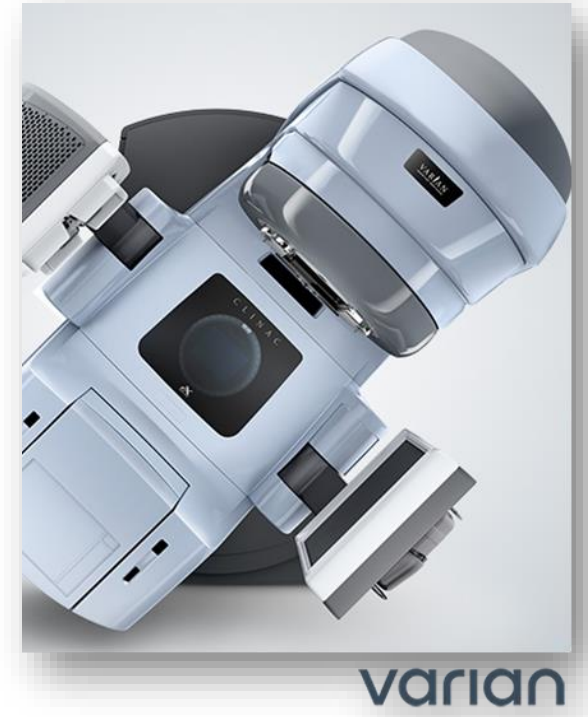
Varian Medical Systems

SAP Contacts

Thank you

SAP Solution Management

Petra Köpfer-Behncke
petra.koepfer-behncke@sap.com

Marion Heidenreich (IM&C)
marion.heidenreich@sap.com

Ulf Petzel (High Tech)
ulf.petzel@sap.com

Mukund Rao (Automotive)
mukund.rao@sap.com

Michel Haesendonckx (Finance)
michel.haesendonckx@sap.com

SAP Development

Andrei-Liviu Tufis
andrei-liviu.tufis@sap.com

Julia Petrea-Papadima
julia.petrea-papadima@sap.com

SAP Product Management

Markus Gille (Walldorf)
markus.gille@sap.com

Katarzyna Maciak (Walldorf)
katarzyna.maciak@sap.com

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Q&A

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