



SAP
Innovation
Awards 2019



SAP Innovation Awards 2019 Entry Pitch Deck

From initial cost estimation to strategic EbIT line – PLC@Mercedes-Benz

DAIMLER AG

THE BEST RUN





<https://share.icloud.com/photos/0YadmPQqWyApM6pKQ8XxB0WLA>

Link valid until 09.03.2019

DAIMLER AG

“Quote”

“We knew we needed to prepare ourselves today for the challenges of tomorrow in order to maintain our strong position in the automotive industry and continue to lead change rather than react to it.”

Alexander Viezens, Product Owner Business

“The biggest on premise HANA system built in Daimler to improve new product decisions.”

Christoph Streuber, Product Owner IT

Challenge

No integrated system to provide life cycle costs on product projects.

Solution

Using HANA technology combined with ML components in Product Life Cycle Costing, Mercedes-Benz is able to provide integrated data with respect to the stage of development for forecasting and valuating product decisions influencing product's profitability and strategic EBIT line.

Outcome

System-based, consolidated preliminary costing for all Powertrain and Mercedes-Benz Cars product projects; Automated generation of flexible calculation structures and evaluation logic according to the product project phase; end-to-end forecasting for whole portfolio of MBC

Replacement of more than

>100

individual data sources

1st

Online Tool for Product

Controller and **single source of truth** for all product costing forecasts

Effort for project costing phase reduced by

70%



Partner Information

SAP Consulting

Implementation, Process and Technology Consulting



“Integrating PLC into DAIMLERs landscape and building DAIMLER specific functionality to best support controllers in their daily work is key for the great success of this project. Bringing innovation such as Machine Learning to the project will allow people to work more efficient in future.”

Michael Baumeister, Principal Consultant / Project Manager



Partner Information

MHP GmbH

Project Management, Process Consulting and SCRUM Master



“The project's success is based on the collaboration of all involved parties in a one team approach. Our part is transforming DAIMLER's business needs into specific requirements and enabling the team to work in an efficient and agile way.”

Ulf Moormann, Senior Consultant / Project Manager



Business Challenge & Objectives

- till 09/2018: Creation of product project calculations by using individual Excel files
- since 09/2018:
 - System-based, consolidated preliminary costing for all Powertrain and Mercedes-Benz Cars product projects
 - Automated generation of flexible calculation structures and evaluation logic according to the product project phase
- 2019: Integrated system, providing data for:
 - Management reporting
 - Material cost planning
 - Strategic EBIT-line
 - Contribution margins

- PLC uses relevant information from different input systems very flexible.
- PLC provides costing data for the yearly prognosis.
- By using automated approaches in PLC the costing process is more precise and much faster.



Project / Use Case Details

The implementation of the SAP Product Lifecycle Costing solution at Mercedes-Benz Cars has brought the company numerous benefits that help simplify costing processes and preserve profitability.

Working faster and smarter

- Establishing a single costing calculation across all business units has helped this intelligent enterprise **slash product costs for new projects**. Customization by means of add-ins has allowed the company to fold in various existing systems to **harmonize business processes** across functions and facilitate comprehensive analytics. Sophisticated visualizations help users at all levels quickly comprehend important data and trends. Streamlining the costing process has given costing engineers much more time to focus on strategic tasks in value-added design and development.

Enjoying a long-term collaborative partnership

- Throughout the 12-month implementation, experts from Daimler and SAP worked hand in hand to **integrate business and engineering** functions in both companies. They explored and customized machine learning capabilities to help costing engineers prepare intelligent BOMs for products just entering design. And together, they created additional engineered services to improve the delivery of SAP Product Lifecycle Costing to customers and demonstrate ways to augment its already powerful functionality. Such co-innovation bodes well for future success at both companies.

Daimler plans to scale its enterprise intelligence and protect its market share by adopting **emerging machine learning innovations** in SAP Product Lifecycle Costing together with **SAP Leonardo** initiative. With these capabilities, a self-teaching computer algorithm helps define the costs of future products even when they are just ideas.



Benefits and Outcomes

Business / Social

Replace >100 individual files and databases by using one single source of truth for all product projects

Increase transparency and comparability between all product projects

Flexible valuation strategies in order to evaluate projects with respect to the stage of development

Value the whole product's lifecycle in order to increase the profitability of the business case and to steer the strategic EBIT Line

IT

6TB HANA 2.0 platform to boost productivity for DAIMLER's business

State-of-the-Art technology to push and enable innovations in FI/CO

Re-thinking collaboration between IT and Business – a real Lighthouse Project

Fulfilling IT Strategy "Data is the New Oil"

Human Empowerment

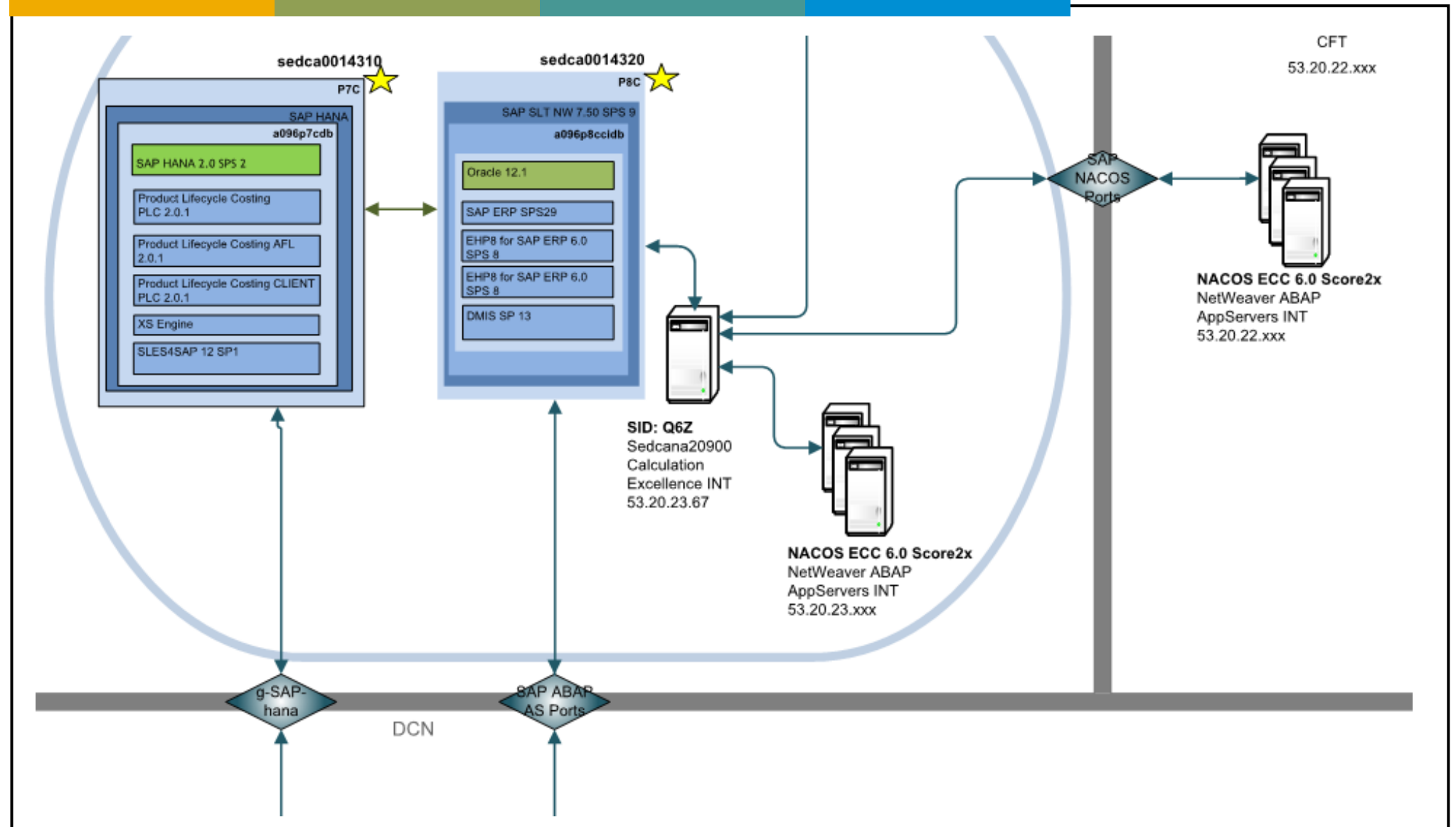
Decrease manual effort due to a highly grade of automation by > 70%

Increase the speed of the end-to-end process from the first cost estimation to the strategic EBIT Line significantly.

Improve collaboration model between all product costing experts due to highly connected valuation and reference models



Architecture





Deployment

Date of Deployment or POC: 17.09.2018

Number of live users: ~ 150

SAP Technologies Used:

SAP HANA	live
SAP PLC (xsengine)	live
SAP SLT	live
SAP Leonardo for ML (in HANA)	PoC

Server Processor: 96 Core / 4TB Ram

Linux Distribution: SLES4SAP 12 SP1



Emerging Technologies and Use Cases

The following Emerging Technologies and use-cases are part of the project and describe the contribution

	Technology or Use Case	Yes/No	Contribution to Project
1.	Machine Learning / Artificial Intelligence	yes	Use of ML capabilities to provide data in higher quality
2.	IoT		
3.	3D printing		
4.	Blockchain		
5.	API Economy / Integrate the Intelligent Enterprise	yes	
6.	Cloud Native / Event Based Architectures		
7.	Extending the digital core with SAP CP / ABAP in SAP CP	yes	Use flexible interfaces between PLC and ERP developed with SAP PLC and ABAP developers
8.	SAP Leonardo Application (extending SAP application, using Industry Innovation Kits or result of Design Thinking workshop)	yes	Design Thinking methodology used and implementation of ML components developed with SAP Leonardo resources