OPTISLANG AS PART OF DATA-CENTRIC ECO-SYSTEM

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WOST WORKSHOP 2022

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Timeline SPDM

2017/18: Automation

Professional ACT-based Automation of repetitive tasks in Reliability Design of ECUs

Democratization of CAE workflows with optiSLang at BOSCH

WOST 2019

2020: Democratization

Small Applications publishable by anyone centrally hosted to provide standard engineering workflows

Practical Application of SPM System for MOO of Power Electronics

WOST 2021

2022: Focus on Data

Automated Simulation Tasks embedded in a data-centric eco-system

Virtual Assembly of ECUs

2019: Provision

Setup of AE Concert Hall (optiSLang webservice) and Conversion of automated Solution to SPM System

Concert Hall- Future Core Element of SPDM systems?

WOST 2020

2021: Connectivity

Multi-Objective Optimization with focus on both cost and technical performance KPI

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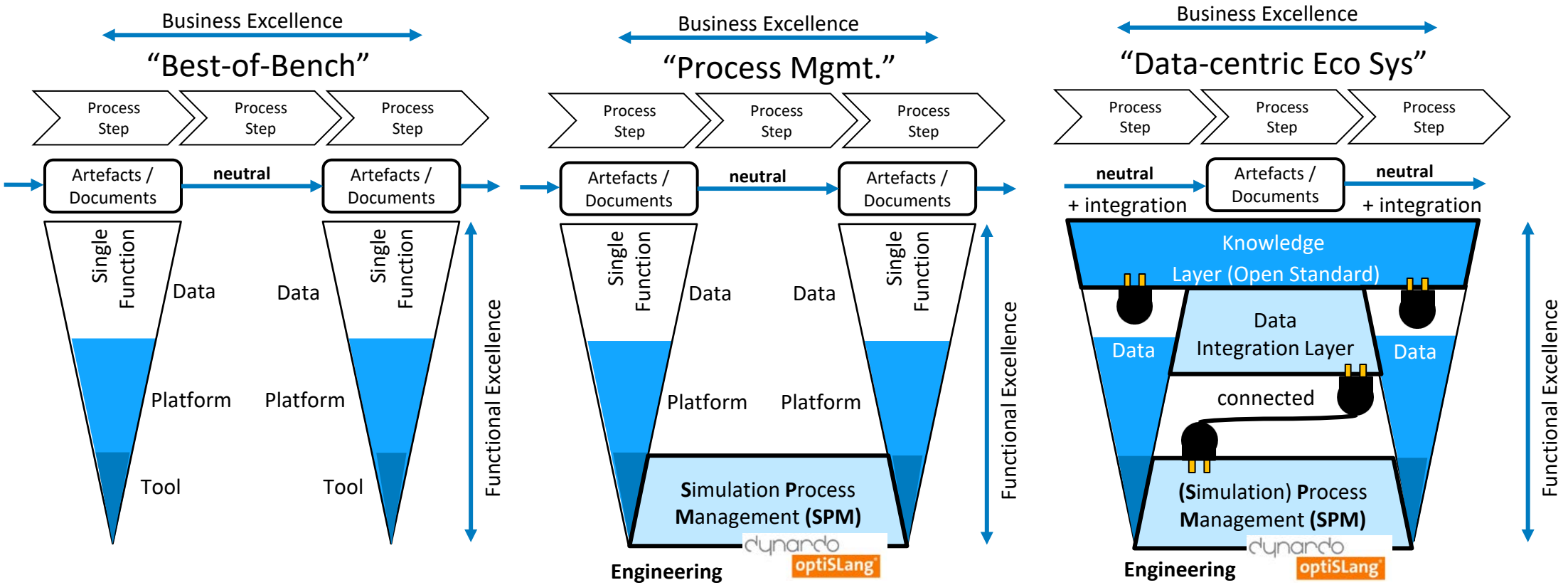
Data-Centricity as Target



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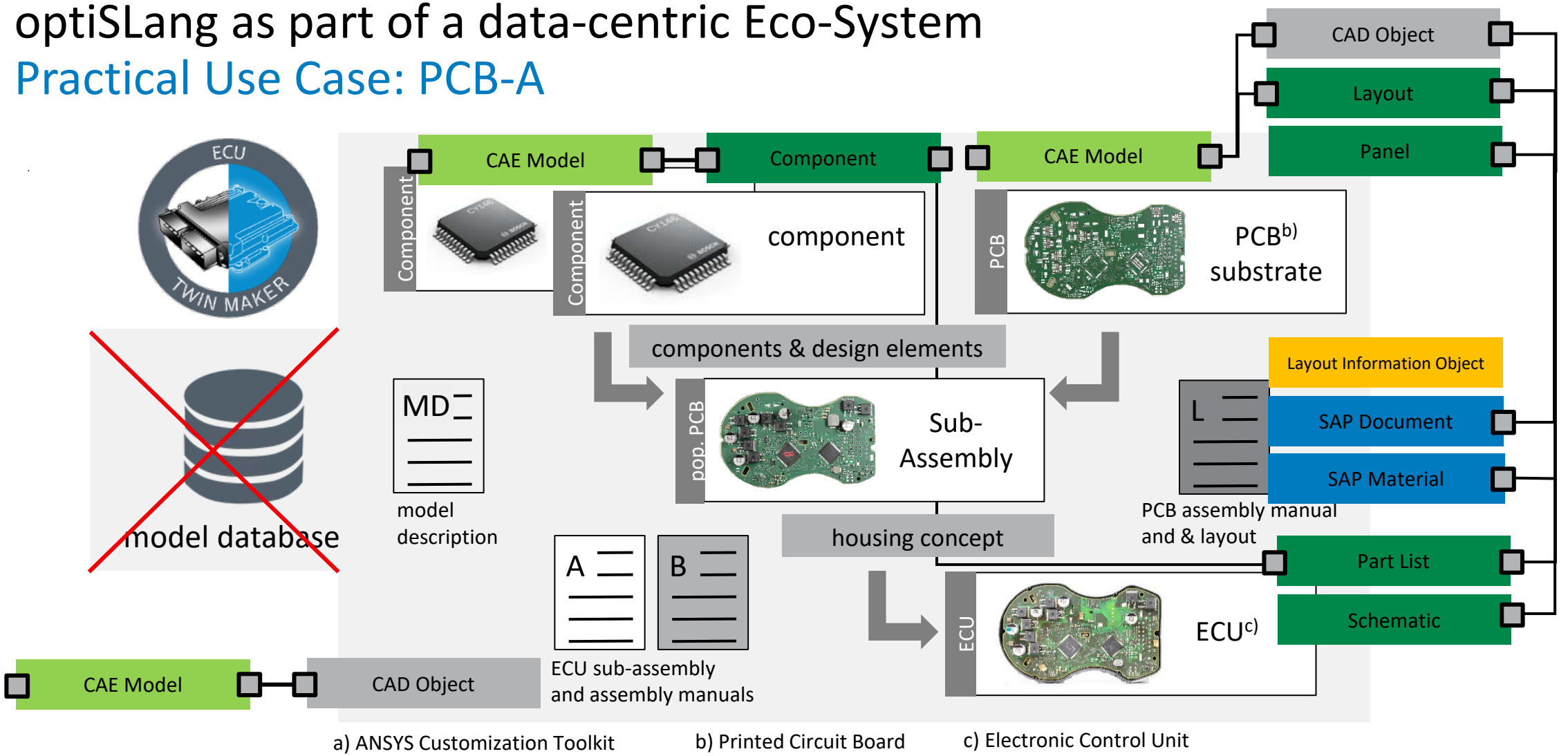
Practical Use Case: PCB-A



a) ANSYS Customization Toolkit b) Printed Circuit Board c) Electronic Control Unit

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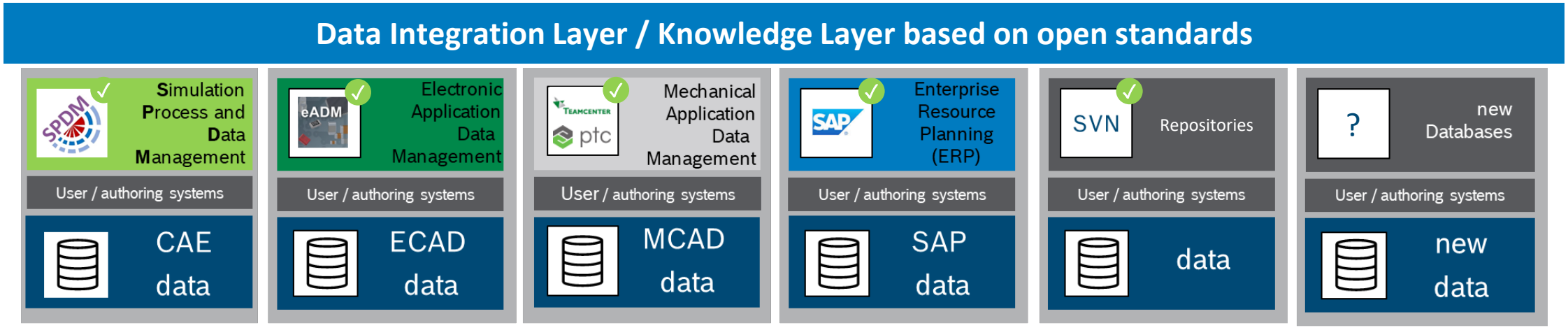
Focus on Data

Simulation **P**rocess **M**anagement **(SPM)**

- Integration of data and model artefacts from heterogeneous data sources in a common (Semantic) Data Layer to make connected data accessible for e.g., Design Automation
- Essential for ECU Design Support (Automation) is well-structured Data Integration to feed various use cases with needed information independent from data source



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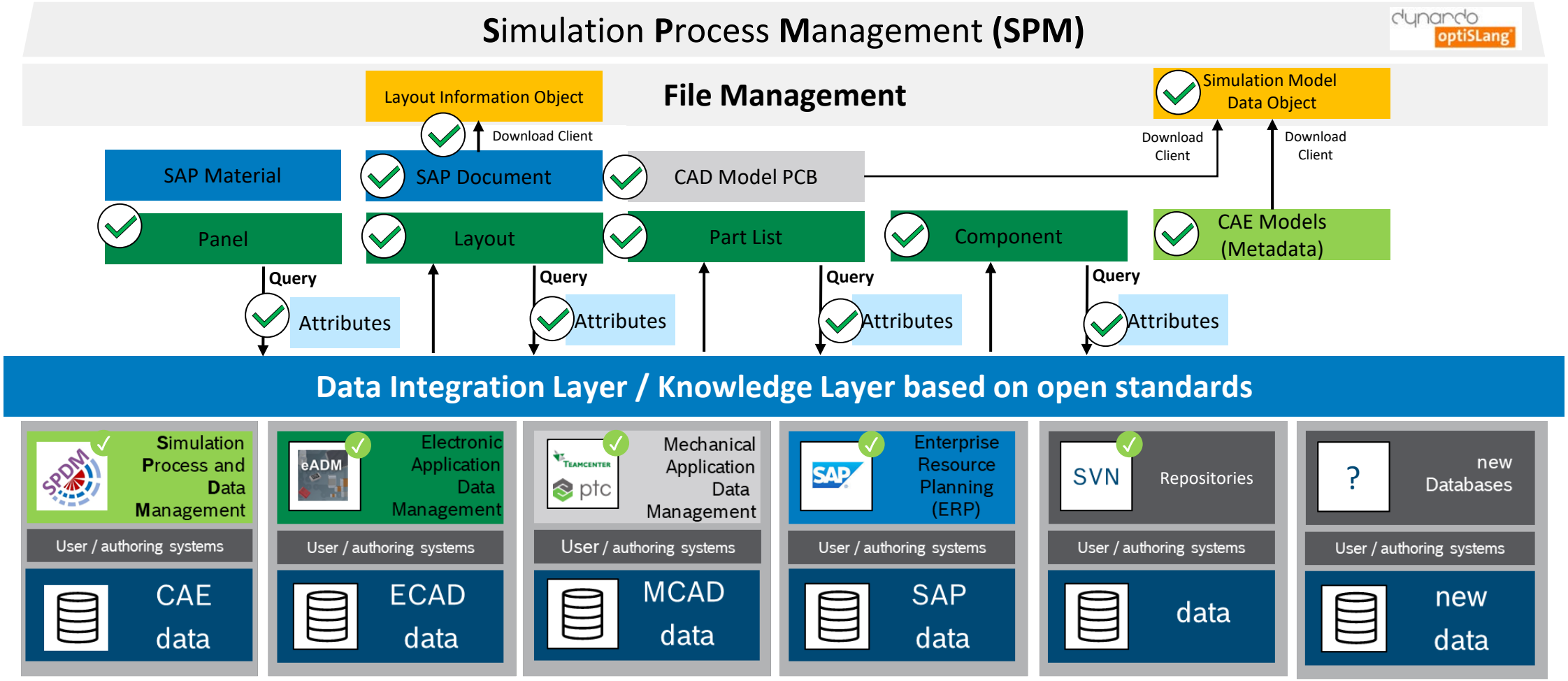

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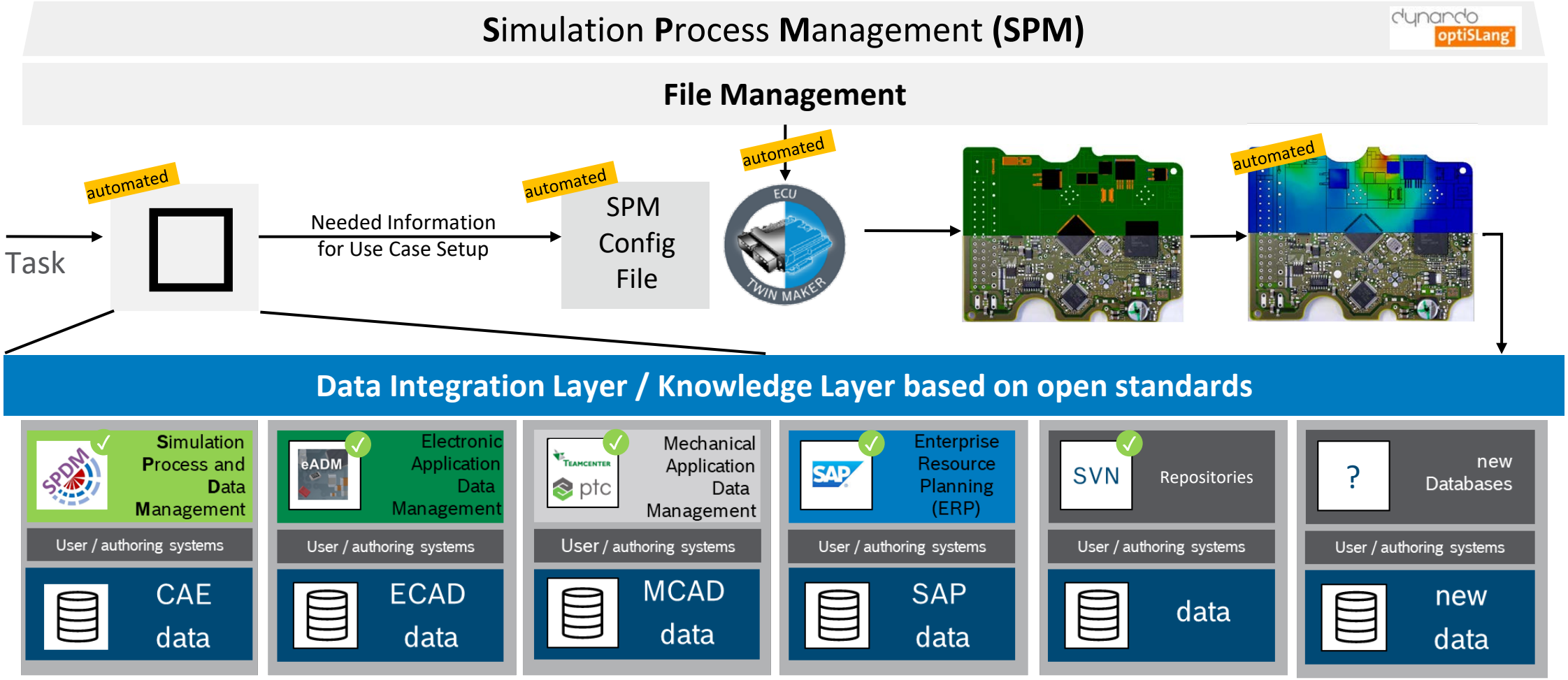

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Summary and Recommendations

- **optiSLang** and its Simulation Process Management (SPM) Framework **optiSLang webservice** are important pillars of our Digitalization & Virtualization Activities
- We successfully combine optiSLang as our **CAE Automation Engine** with Data Integration Activities
- Data-centricity requires well-defined access to Data Management and Process Management Frameworks: Reduce Dependencies on frameworks and UIs, provide tailorable **Application Programming Interfaces** (API) to allow general embedding of SPM in individual environments
- Target State: Modular Service-oriented Architecture
- For (Simulation) Data Management open standards to integrate and connect heterogeneous data sources already outperform existing and future PLM Solutions
- Our future focus is set on **optiSLang PIDO** capabilities, framework openness and interfaces

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