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Executive Summary:

- CPO is means for realizing Industrie 4.0 & Society 5.0*
- CPO will be published as DIN SPEC Standard in Q1/2018
- CPO accredited certificates available from Q2/2018 on

Industrie 4.0 & Society 5.0 Aims

- Seamless connectivity
- Future-readiness
- Reduction of Complexity
- Agility & Flexibility
- Cost-reduction

Openness is Enabler! Be Smart & Fast! CPO is the means!
30% of all costs are integration costs

The Code of PLM Openness (CPO) is the foundation for Daimler’s PDM strategy and serves as the basis for the externalization of business objects from all IT applications to a service-oriented middleware. This is a key driver for an IT system landscape with different development speeds and release cycles, whereby the implementation of the Digital Twin, the introduction of model-based Systems Engineering as well as the delivery of IT for Autonomous Driving will be enabled.

Dr. Siegmar Haasis,
CIO Research&Dev. Mercedes-Benz Cars

Volkswagen, like all other automotive OEM’s, has invested highly in its existing IT systems. The migration to new systems – especially for large monolithic systems – requires huge efforts and costs. Hence the extreme importance for Volkswagen for the assurance of interoperability, supportability, cost effective maintainability and scalability of the implemented systems.

Matthias Keller,
Head of PDM
Code of PLM Openness (CPO)

Means for realizing Industrie 4.0 & Society 5.0
- Seamless Integration Plug & Play
- Reducing Complexity & Costs
- Increasing Agility & Flexibility

Standard Criteria Catalogue for
- Interoperability, Infrastructure, Extensibility, Interfaces, Standards, Architecture, Partnership

Patronage of BMWi (Ministry for Economic Affairs)
- Standardized as DIN SPEC 91372 (as basis for ISO-Standardization)

Trust at the Market
- Accredited Certification Program

Open for Everybody: www.prostep.org/en/cpo
76 Committed CPO-Partners

**IT Customers**
- Adient
- Airbus
- Altran
- BMW
- Bosch
- Continental
- Daimler
- Dräxlmaier
- EDAG
- Ford
- Fuji Heavy Industries
- Hino Motors
- Honda R&D
- Isuzu Motors
- Küster
- Mazda Motor
- Mitsubishi Motors
- Nissan Motor
- Porsche
- Schaeffler
- Siemens
- SMP Group
- Suzuki Motor
- thyssenkrupp
- Toyota Motors
- Volkswagen
- Volvo AB
- Yamaha
- Yazaki
- ZF Friedrichshafen

**IT Vendors**
- Actano
- Aras
- Autodesk
- AVL List
- BETA CAE Systems
- BOS
- Cideon
- CONTACT Software
- CONWEAVER
- Dassault Systèmes
- dSPACE
- ECS
- Elysium
- ESI ITI
- Eurostep
- Gamma Technology
- HCL
- IBM
- IPG Automotive
- ISD
- Kronion
- MathWorks
- Mentor Graphics
- Modelon AB
- Müller-BBM
- Noesis Solutions
- PROSTEP
- PTC
- Rocket Software
- SAP
- Siemens PLM
- TechniaTranscat
- Theorem

**IT Service Provider**
- Atos
- CADFEM
- :em
- enso managers
- InMediasP
- iqs Software
- M.E.B.
- MetaRatio
- NTT Data
- Seeburger
- SSC-Services
- T-Systems
- xPLM
CPO: Roadmap toward Openness 2.0
Past – Today - Tomorrow

- Founding & Enhancement
  - 2012

- Internationalization
  - 2015
  - (10 Japanese OEM joined together)

- Functional Completeness (adoption of Cloud etc. proved CPO Flexibility)
  - 2015

- Accredited Certification DIN SPEC 91372
  - 2016

- BMWi Patronage & Certification
  - 2016

- Global Application & Services Product Certification
  - Next
Roadmap: DIN SPEC & Accredited Certification

CPO Development

Standardization

Certification

2011

2016

2017

2018

DIN Harvesting

DIN SPEC 91372

ISO Norming

CPO Certification Program

CPO Certification Accreditation

CPO Certification Globalization

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Theme: Code of Openness
CPO DIN SPEC Standardization
CPO DIN SPEC Standardization

DIN SPEC is a strategic instrument for establishing and disseminating specifications
- Fast way to assure national and international support /acceptance (standardization)
- Market players are used in relying on national and international standards
  - incl. certification bodies

DIN SPEC Standardization of CPO and Certification-relevant Documents:
- PSI 16 (CPO V1.4): DIN SPEC 91372-1 (public in 03/2018)

Team:  CPO Core Team + Certification Experts
CPO Certification
Status: Management Summary (Step 1)

Proceeding:
- Gaining support of German government (BMWi) and Accreditation Body (DAkkS)
- Developing a certification program (Step 1: Organization) for IT vendors, based on CPO
- Assuring high-quality and practicability of the program by conducting certification pilots
- Applying for accreditation of the program at the DAkkS
- Supporting certification on the market (same as with ISO 9000 etc.), from Symposium 2018 on

Review Piloting:
- Documents (certification ref. book, program, list of requirements) realized and communicated
- Pilot certification started
  - Pilot partners (incl. place of audit, size):
    - CONWEAVER (Germany, SME)
    - HCL (India, big group)
    - PROSTEP AG (Germany, SME)
    - PTC (US, big group)
    - SIEMENS PLM (UK, big group)
  - Pilot audits results very positive
  - Lessons learned incorporated into Certification Handbook
CPO Certification (Step 1) Roadmap

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ivip

Pilot Partners, Industry

TÜV
(Technical Inspection Association)

DAkkS
(Accreditation Body)

BMWi
(Federal Ministry for Economic Affairs & Energy)

Handbook Conformity Assessment V1
Initial Proposal Conformity Assessment Program
Conformity Assessment Program, V1
Conformity Assessment Program, V2
Pilot Certification
Examination Conformity Assessment Program, V2
Accreditation for Certification

Timeline is not scaled
Outlook: Product Certification

CPO Certification follows 2-steps-approach:

Step 1: Organizational Certificate (define method, gather experiences, open market)
⇒ Ensure readiness of organizations to realize IT Openness
   (equivalent to ISO 9001 for quality management)

Step 2: Product Certificate (enhance existing documents, add specific technological KPI)
⇒ Ensure IT Openness

Status:
Step 1 is operational in 04/2018 (see slides before)
Step 2:
• First discussions started in CPO Core Team in 03/2017
• Strong alignment with Japanese OEM desired
  • Meeting with Japanese OEM on 01.12.2017
• Concrete specification phase of technological KPI will start in 01/2018
  • Decided at CPO Core Team Meeting on 23.11.2017
CPO Public Relations
Latest Public Relation Activities

Events & Blogs:
Symposium 2017

http://blog.prostep.org/2017/05/17/it-openness-certification/

Press:
09/2017
DIN Mitteilungen
“Value of Openness”

https://www.beuth.de/de/publikation/it-systeme-fuer-plm/279072451

Internet:
CPO Homepage:
http://www.prostep.org/en/cpo

Wikipedia:

White Paper:
CPO and Cloud: Impact Analysis

Standization:
DIN SPEC 91372-1
Thank you for your Attention

www.prostep.org