OEM-OEM and OEM-Joint Venture Collaboration

Recommendation

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Abstract

In the course of market globalization, the strategic collaboration between OEMs as well as between OEMs and JVs is becoming increasingly important.
Against this background, these new forms of collaboration must be supported by effective system solutions, designed specifically for the underlying processes and work methods.
This recommendation contains a set of requirements based on best practice-scenarios of OEM/OEM as well as OEM/JV collaboration.
Furthermore, this document provides an overview of the usual forms of cooperation in the PDM-context and is additionally intended for being a basis for the implementation of suitable system solutions.
Even though this publication reflects the existing challenges for the automotive industry, these requirements are applicable in other areas of engineering industries as well.
From this point of view, the document represents a first compilation of scenarios and respective requirements with regard to collaboration in the specific case of OEMs-OEMs and OEMs-JVs.
However, further developments through scenarios of other industries are possible and also welcome.

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Abbreviations, Definitions, References

Term	Explanation
100 percent structure	Clearly configured structure for one specific vehicle/product version.
150 percent structure	Complete, non-configured product structure, i.e., including all vehicle and component versions.
Autonomous PDM hub	Implementation of a PDM hub as a stand-alone system solution. For a detailed definition, see: Appendix A.1
BOM	Bill of material
Bounding geometry	Derivative form of 3D data, produced by removing internal and geometric details.
CAD	Computer-aided design
Companies	Collective term for the companies (OEM) involved in this study.
COP	Carry-over parts used in the field of mechanical and vehicle engineering unchanged and as is in different products.
Data clearing	Method for removing information and/or details in order to generate data with a lower information content.
Delta supply	Mechanism for data provision between systems with the aim of keeping the volume of transmitted data to a minimum. Only modified/new data is exported to the target system.
DMU	Digital mock-up
Information content	Specifies how much information is contained in a data record or a file in relation to total content.
Initial loading	First data transfer
Integrated PDM hub	Implementation of a PDM hub as part of an existing PDM system. For a detailed definition, see: Appendix A.1
Integration architecture	IT architecture and infrastructure of the OEMs
IP protection	IP = intellectual property
IT security considerations	Requirements and measures with respect to IT systems for data processing and managing designed to meet the security objectives of confidentiality, availability, and integrity.
Joint venture	Form of partnership between two or more partner companies.
Modular system	Modular building block system used in vehicle development, consisting of parts, modules, or components, which are combined and can be connected via corresponding interfaces.
Native format	Original data format of a CAD system in which all design information (forms, features, materials, attributes, etc.) is saved.
OEM	Original equipment manufacturer

Term	Explanation
PDM	Product data management
PDM hub	Separate PDM system or logical domain within an existing PDM system for providing or distributing product data to a partner, with the possible option of providing assigned volumes backward.
Platform	Technical platform on which the outwardly different (vehicle) models are built.
Pull feed	Pull: active collecting of data by the target system from a source system.
Push feed	Push: active distribution of data from a source system to a target system.
Reference data	Drawing and geometry data
Standard solution	Commercial software solution from software providers.
Substitute format	Alternative data format for the original CAD geometry with a lower volume of data which is used, for instance, for visualization (cf. bounding geometry).
TDM	Team data management
Trigger for transfer	Trigger for data transfer
Visualization format	3D data format stripped down in a targeted manner that is designed especially for visualization (see JT format).