

Public SSB Fact Sheet: Functional Data Exchange (FDX)

Projects

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Table of Contents

1 Roadmap	5
2 What happens if the AK PLM does nothing:	7
3 Risks:	8

[General](#) [Details](#) [Positioning in V-Model](#) [Relevance and Benefit for MBSE](#) [Risks and Impediments](#)

Additional Resources

Short description/ Transmitted information	<ul style="list-style-type: none"> • Format for data exchange of functional (measured or simulated) data (characteristic value/curve/diagram) for mechanical parts, modules, assemblies between OEM and suppliers
Normative document	<ul style="list-style-type: none"> • PSI 20 - Functional Data Exchange (FDX)¹
Version / Release state	<ul style="list-style-type: none"> • Part 2; 3.1 & 3.2
Release date	<ul style="list-style-type: none"> • February 2021
Application scope	<ul style="list-style-type: none"> • Data Exchange • Collaboration
Goals	<ul style="list-style-type: none"> • Harmonize data exchange of functional data between OEMs and suppliers • Improve quality & availability of functional data for simulation/CAE • Reduce discrepancy between order and delivery of functional data between OEM and supplier • Increase automation of data generation, data exchange and data usage
Promoting bodies	<ul style="list-style-type: none"> • VDA • prostep ivip Association • ASAM
Type	<ul style="list-style-type: none"> • VDA Recommendation (VDA 5550), prostep ivip Recommendation
IT standard classification	<ul style="list-style-type: none"> • Interoperability Standard
Data format	<ul style="list-style-type: none"> • Text Format (ASCII/XML) Compressed (Container-Data)
Additional available resources	<ul style="list-style-type: none"> • none
Relevant prostep ivip project groups	<ul style="list-style-type: none"> • Functional Data Exchange (FDX) (prostep.org)²

¹ https://www.prostep.org/fileadmin/downloads/FDX-v2.0_1.zip

² <https://www.prostep.org/projekte/functional-data-exchange-fdx/>

General [Details](#) Positioning in V-Model Relevance and Benefit for MBSE Risks and Impediments

Additional Resources

- FDX ist a format for data exchange of functional (measured or simulated) data (characteristic value/ curve/diagram) for mechanical parts, modules, assemblies between OEM and suppliers. The FDX Format is based on the ASAM ODS standard and on the OpenMDM framework. It supports relevant processes at OEMs and suppliers with respect to the order and delivery processes for functional data for mechanical components. FDX is a generic format but has specific shapings for different component groups (e.g. bushings, dampers).

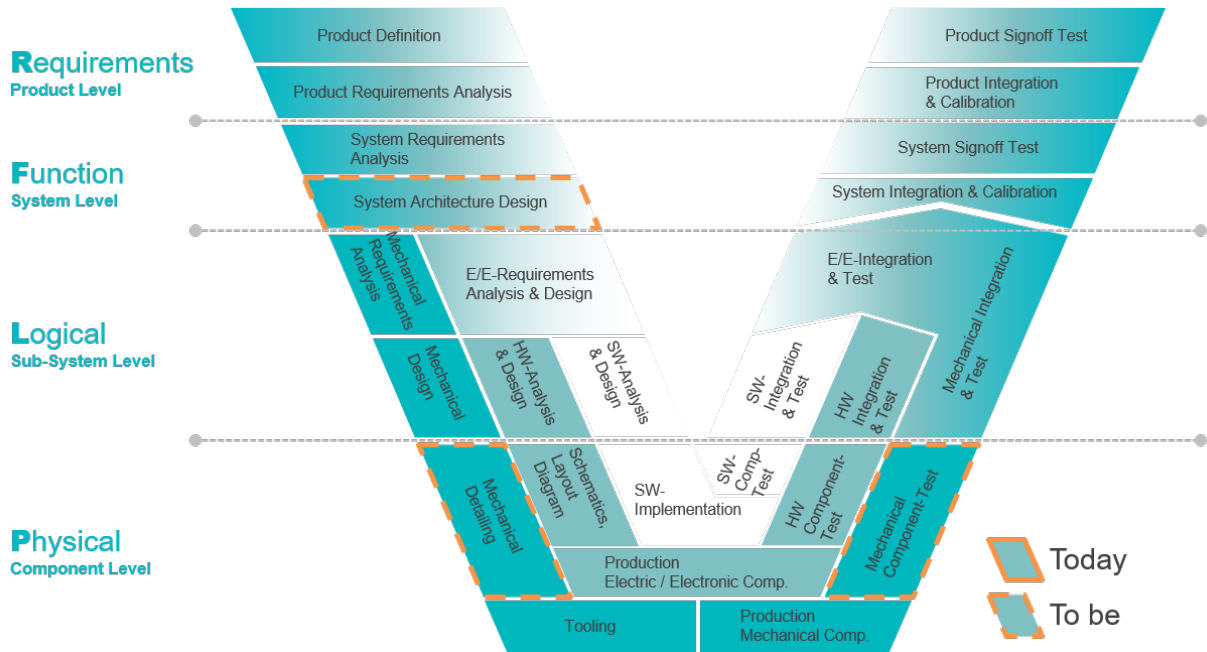
1 Roadmap

Date	Milestone
November 2019	Provision of a trial version of Exoknox Light for the members of the workgroup
December 2019	Release of the reviewed specification Part 1
February 2020	Provision of presentation and advertising material
March 2020	Release of reviewed specification Part 2, 3.1 and 3.2
May 2020	Presentation at prostep ivip Symposium (paper submitted), white paper
July 2020	Release of reviewed specification Part 3.3
October 2020	Release of reviewed specification Part 3.4
December 2020	Release of reviewed specification Part 3.5

[General](#)
[Details](#)
[Positioning in V-Model](#)
[Relevance and Benefit for MBSE](#)
[Risks and Impediments](#)

[Additional Resources](#)

Positioning of FDX in V-Model



General Details Positioning in V-Model [Relevance and Benefit for MBSE](#) Risks and Impediments

Additional Resources

System Engineering relies heavily on functional models of mechanical components and systems. These functional models of mechanical components require input data as parameter sets. The FDX-Format aims to standardize and establish an exchange format for this functional data.

Major Reasons from Industry:

- Harmonizing variety of different data exchange formats (non standards) for functional data of mechanical components and systems
- Improve efficiency through increased process automation with OEM and suppliers
- Achieve consistency between data requirements and data delivered
- Support cooperation OEM/Supplier

General Details Positioning in V-Model Relevance and Benefit for MBSE [Risks and Impediments](#)

Additional Resources

2 What happens if the AK PLM does nothing:

- Slow take off of implementation of VDA/prostep ivip recommendation

3 Risks:

- Efficient cross company/ cross domain data exchange of functional data cannot be achieved

General Details Positioning in V-Model Relevance and Benefit for MBSE Risks and Impediments

Additional Resources

Datei	Geändert
Fact Sheet_ Functional Data Exchange (FDX).pdf ³	Apr. 05, 2023 by Peter Tabbert ⁴
Positioning of FDX in V-Model.png ⁵	Apr. 05, 2023 by Peter Tabbert ⁶
image2019-10-1_10-47-7.png ⁷	Apr. 05, 2023 by Peter Tabbert ⁸

³ https://intranet.prostep.org/download/attachments/110329879/Fact%20Sheet_%20Functional%20Data%20Exchange%20%28FDX%29.pdf?api=v2

⁴ <https://intranet.prostep.org/display/~petertabbert>

⁵ <https://intranet.prostep.org/download/attachments/110329879/Positioning%20of%20FDX%20in%20V-Model.png?api=v2>

⁶ <https://intranet.prostep.org/display/~petertabbert>

⁷ https://intranet.prostep.org/download/attachments/110329879/image2019-10-1_10-47-7.png?api=v2

⁸ <https://intranet.prostep.org/display/~petertabbert>