prostep IVIP

30 years of excellence

Standardization of JT/STEP

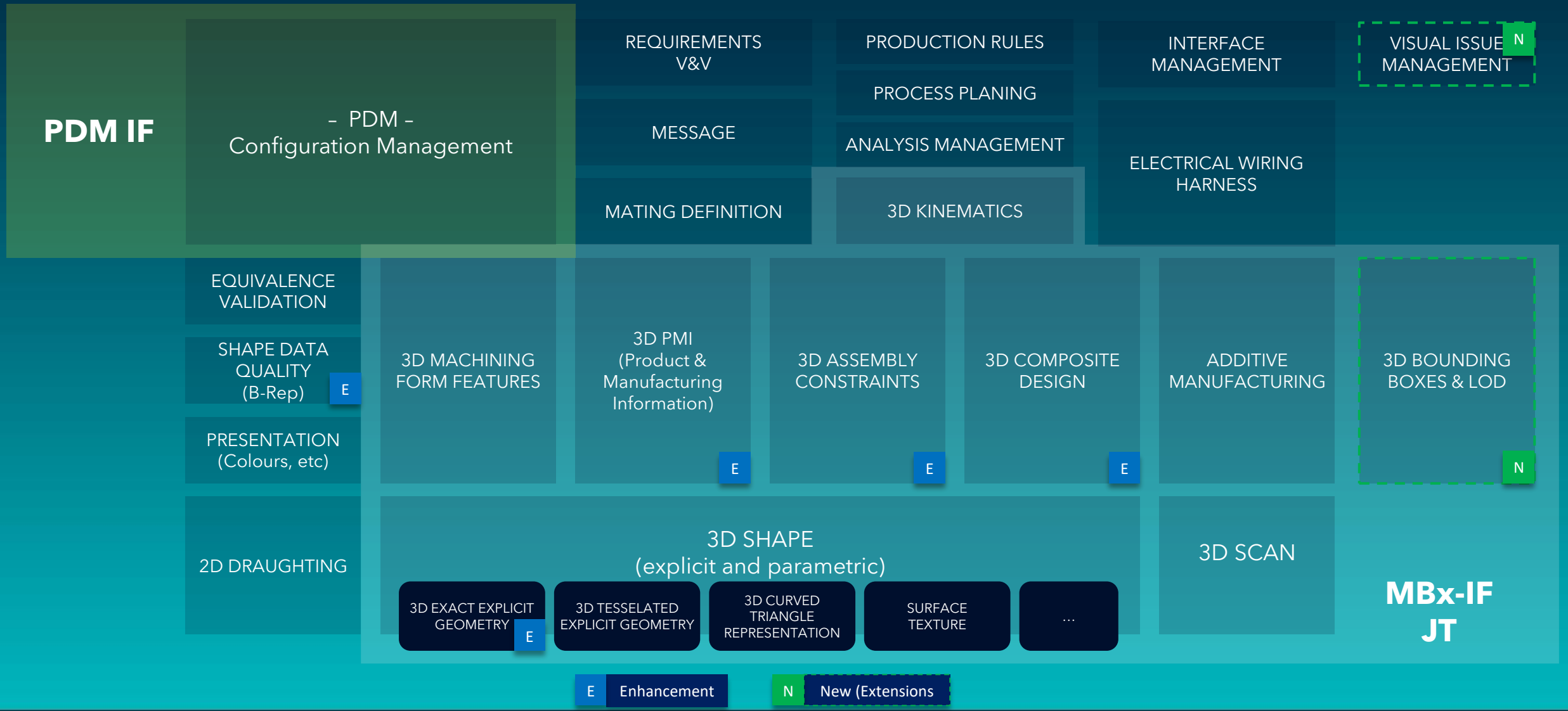
04 October 2023

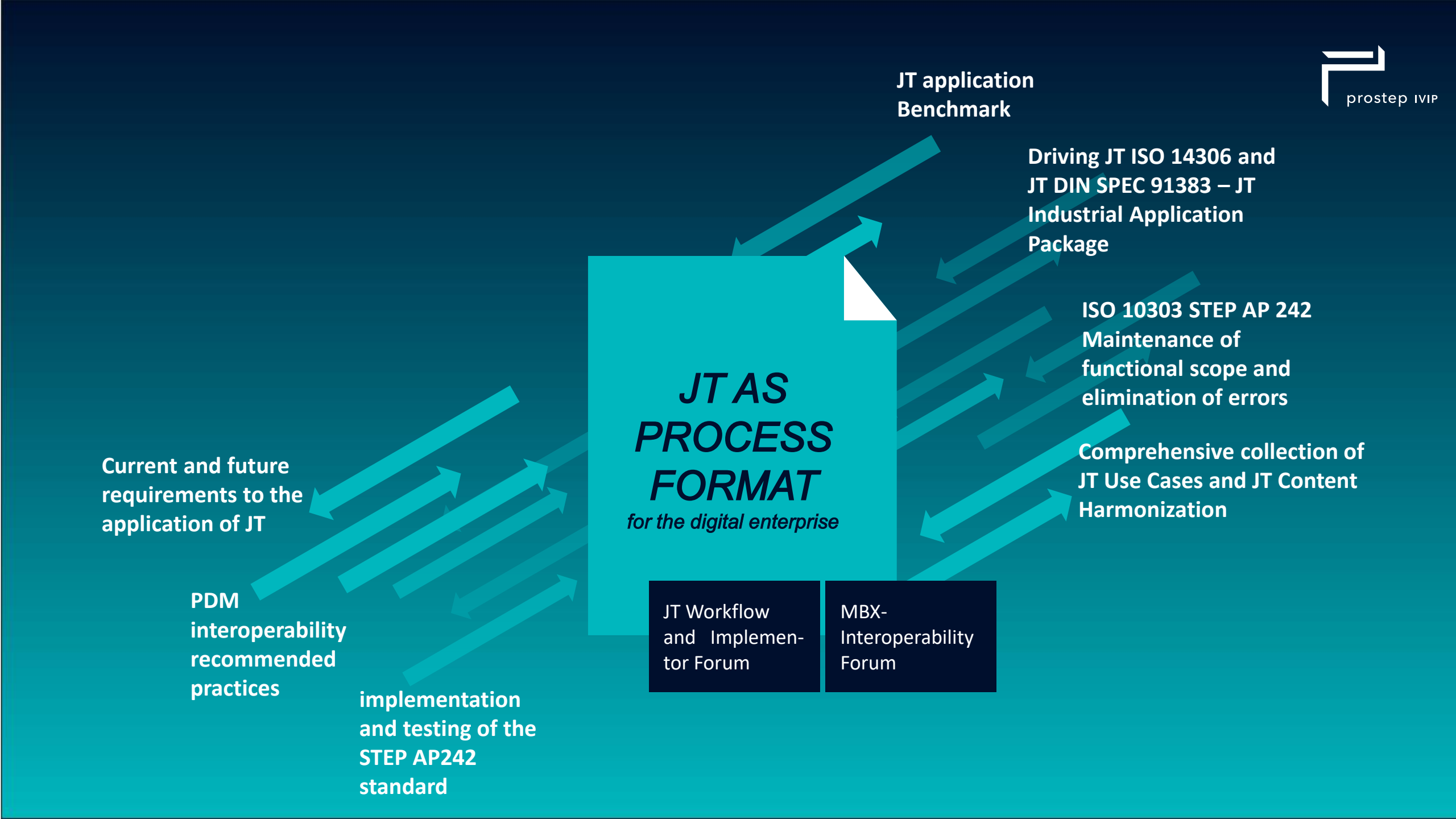
AGENDA

- 3D Model-Based Initiatives with prostep ivip Association
- Driving JT for the Digital Enterprise
- Standardization of JT and STEP AP 242
- Summary and Wrap-Up

Model-Based Representation with JT and AP242 Edition 4

Scope within prostep ivip technical program




JT application Benchmark
Driving JT ISO 14306 and JT DIN SPEC 91383 – JT Industrial Application Package
ISO 10303 STEP AP 242 Maintenance of functional scope and elimination of errors
Comprehensive collection of JT Use Cases and JT Content Harmonization
JT AS PROCESS FORMAT
for the digital enterprise
JT Workflow and Implementor Forum
MBX-Interoperability Forum
Current and future requirements to the application of JT
PDM interoperability recommended practices
implementation and testing of the STEP AP242 standard

AP242 Edition 4 Standardisation – Extensions and Enhancements

ISO 10303 STEP AP 242 Maintenance of functional scope and elimination of errors

Extensions for

Visual Issue Management (VIM)
Domain Model PMI
External Element References (EERs) and persistent Global UIDs (GUIDs) to support lifecycle traceability
Hybrid Modeling / Polyhedral B-Rep
Isogeometry

Enhancements for

Assembly PMI
Further PMI features
Part 59 (PDQ) ed3 incorporation
Composite Material
Wire harness (EWIS)
PDM-IF issues
Mappings to the core model
Bounding boxes and Level Of Details (LODs)

Requests from various stakeholders: prostep ivip, VDA, JAMA, NIST, CAx-IF, EWIS-IF, …

Status
1st Change Request under ballot with focus Visual Issue Management, (Assembly) PMI, PDM-IF issues

Roadmap
DIS ballot to start Mid of December 2023 and ISO publication planned for Q2/2024

ISO 14306 Standardisation – Multipart Standard

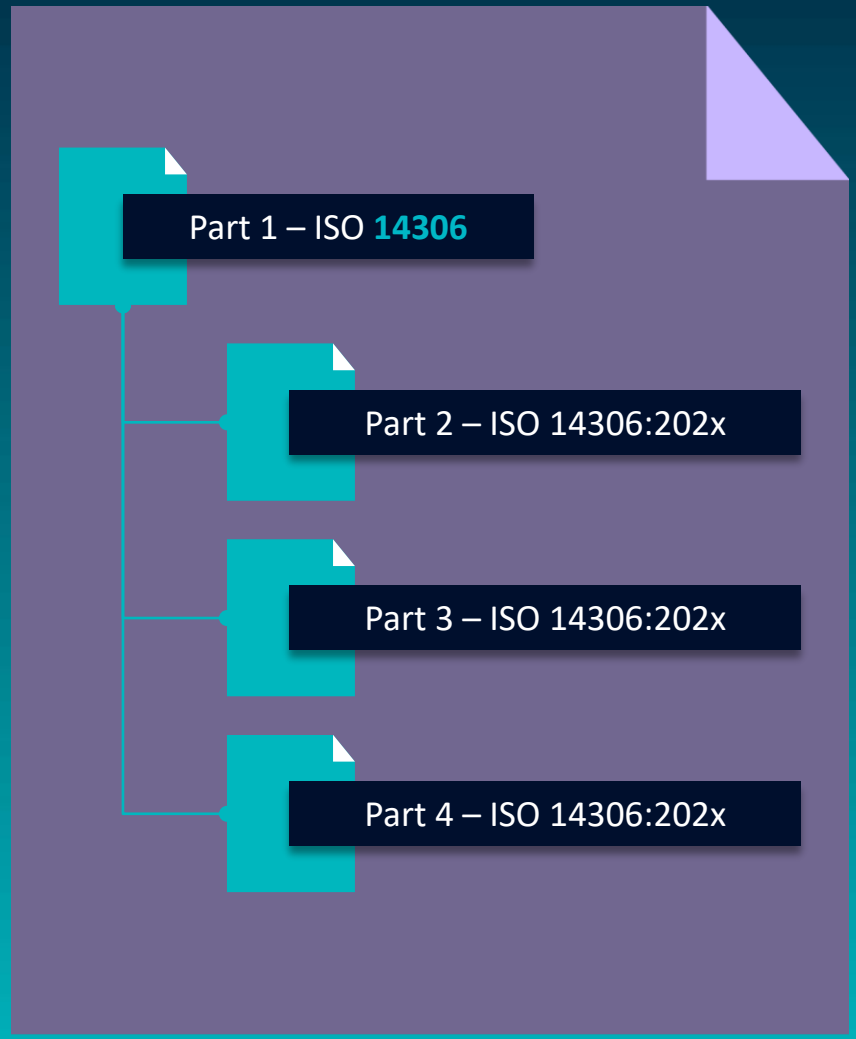
Driving JT ISO 14306 and JT DIN SPEC 91383 – JT Industrial Application Package

New document describing the ISO 14306 multipart standard overview and fundamental principles.

ISO 14306 Vocabulary – This document will be created in the future.

Existing ISO 14306:2017 standard, essentially a name change to Part 3 instead of Ed2. Content includes unchanged data descriptions and scope, remains consistent with the JT 9.5 format specification with no loss of ISO 14306:2017 Edition 2 content.

Improvements to the data description found in Part 3, including compression updates and additional data segments consistent with the JT 10.5 format specification. No change to scope of Edition 2 data with the exception of content superseded by updates and removal of deprecated features.



DIN SPEC 91383 Standardisation – Material Data Extensions

Use Case Digital PPAP for materials: Step 1 - Part information in JT

VDA recommendation 231-300:

Defined set of attributes for material and surface references.

MAT_00_VERSION_DATA
MAT_01_SPECIFICATION_IDENTIFIER
MAT_02_REGULATION_TYPE
MAT_03_REGULATION_NUMBER
MAT_04_LEGAL_AUTHORITY_REGULATION
MAT_05_ISSUE_DATE_REGUALTION
MAT_06_SHORT_NAME
MAT_07_FEATURES_ACCORDING_TO_REGULATION
MAT_08ADDITIONAL INFORMATION
MAT_09_DEVIATION_REGULATION
MAT_10_DEVIATION_REGULATION_CODE
MAT_11_FURTHER_REGULATIONS

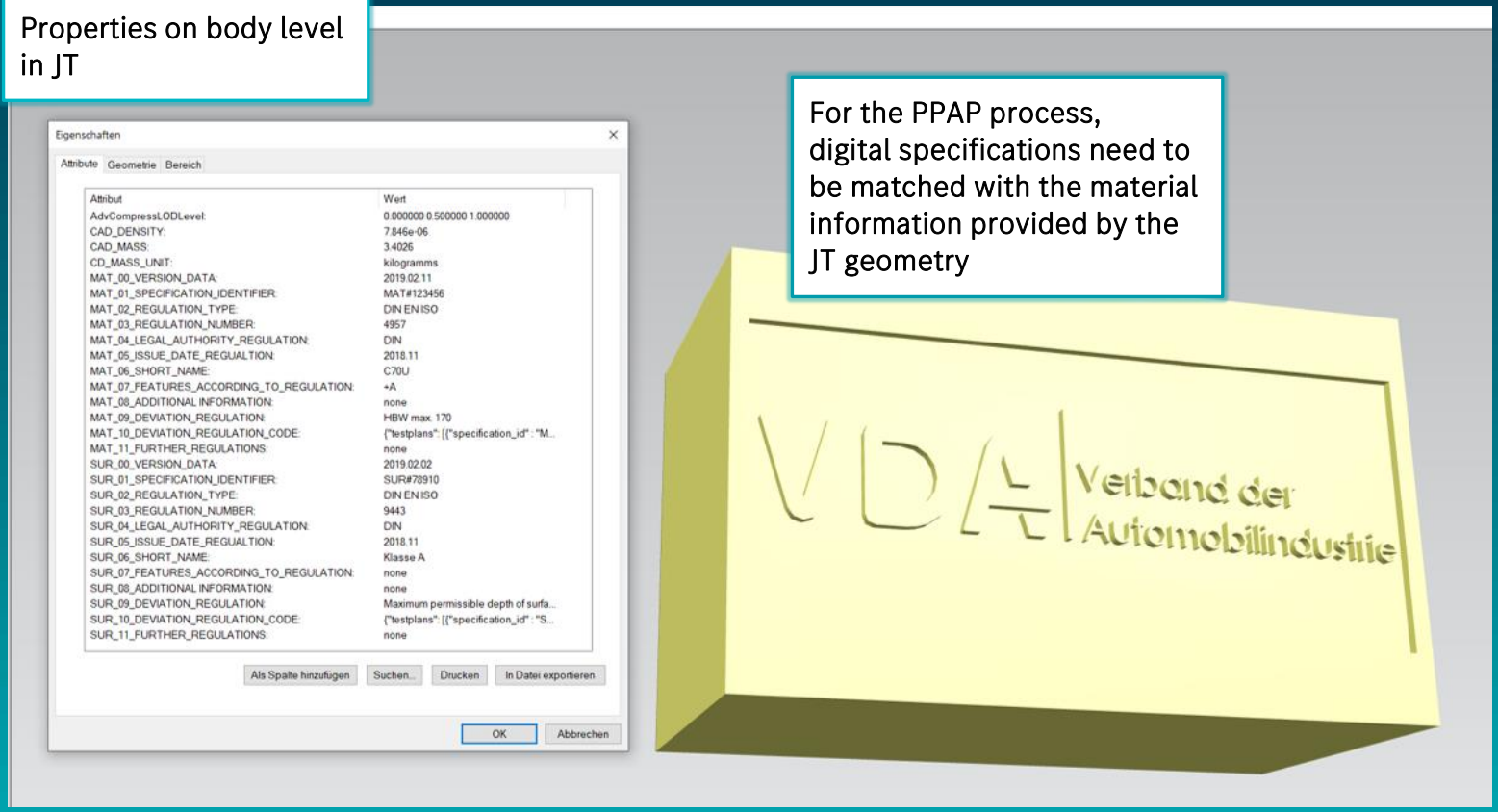
SUR_00_VERSION_DATA
SUR_01_SPECIFICATION_IDENTIFIER
SUR_02_REGULATION_TYPE
SUR_03_REGULATION_NUMBER
SUR_04_LEGAL_AUTHORITY_REGULATION
SUR_05_ISSUE_DATE_REGUALTION
SUR_06_SHORT_NAME
SUR_07_FEATURES_ACCORDING_TO_REGULATION
SUR_08_ADDITIONAL INFORMATION
SUR_09_DEVIATION_REGULATION
SUR_10_DEVIATION_REGULATION_CODE
SUR_11_FURTHER_REGULATIONS

CAD_DENSITY

VDA cuboid as visualization example:

Common language: Use attributes for material and surface references in 3D

Properties on body level in JT



For the PPAP process, digital specifications need to be matched with the material information provided by the JT geometry

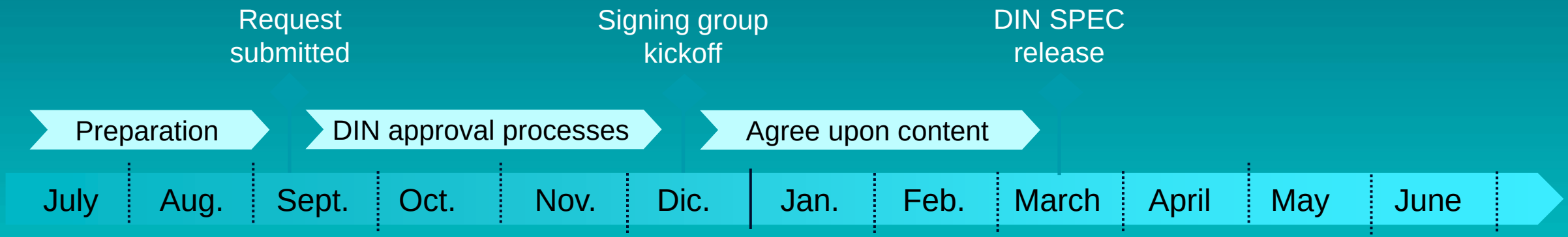
Digital PPAP driven by VDA project and „AK Werkstoffausschuss“ drives DIN SPEC Update

DIN SPEC 91383 Standardisation – Timeline and Status

Driving JT DIN SPEC 91383 – JT Industrial Application Package

- Material data extensions shall be standardized via DIN SPEC
- Request for DIN SPEC Update officially submitted by Prostep ivip on 12th of September
- Signging group staffed and supported by:
  - Prostep ivip association
  - Continental AG
  - Mercedes-Benz AG
  - BMW Group
  - Volkswagen AG
  - Brose

Good mixture of
- OEM and supplier
- JT WF and VDA project members



Management Summary

Getting JT and STEP AP242 standardised is important.

It requires a sustained effort at multiple points to add value for users and software houses by supporting the increasingly important issues of truly global collaboration.

This can only be achieved through appropriate container formats around the convergence of industries and topics (such as digitalization, software, autonomous systems and AR) and the associated interoperability interfaces.

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Networking
People

Join us!

Success
for you –
and your
company

PSI14-1 Update as part of DIN SPEC 91383 Update

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prostep ivip Recommendation — PSI 14, Part 1, V 3

JT Industrial Application Package
Edition 3
JT file format specification

Version 3.0, 10.06.2021
Status: Final

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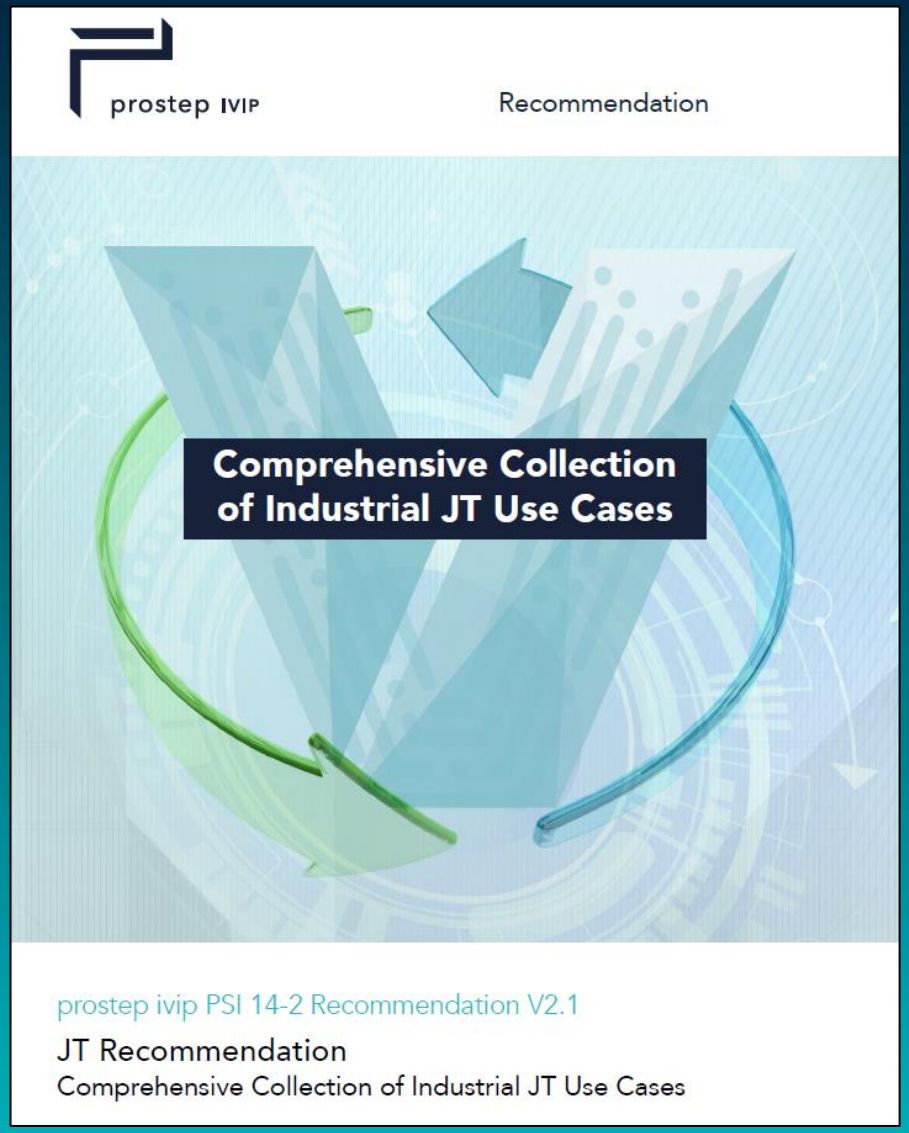
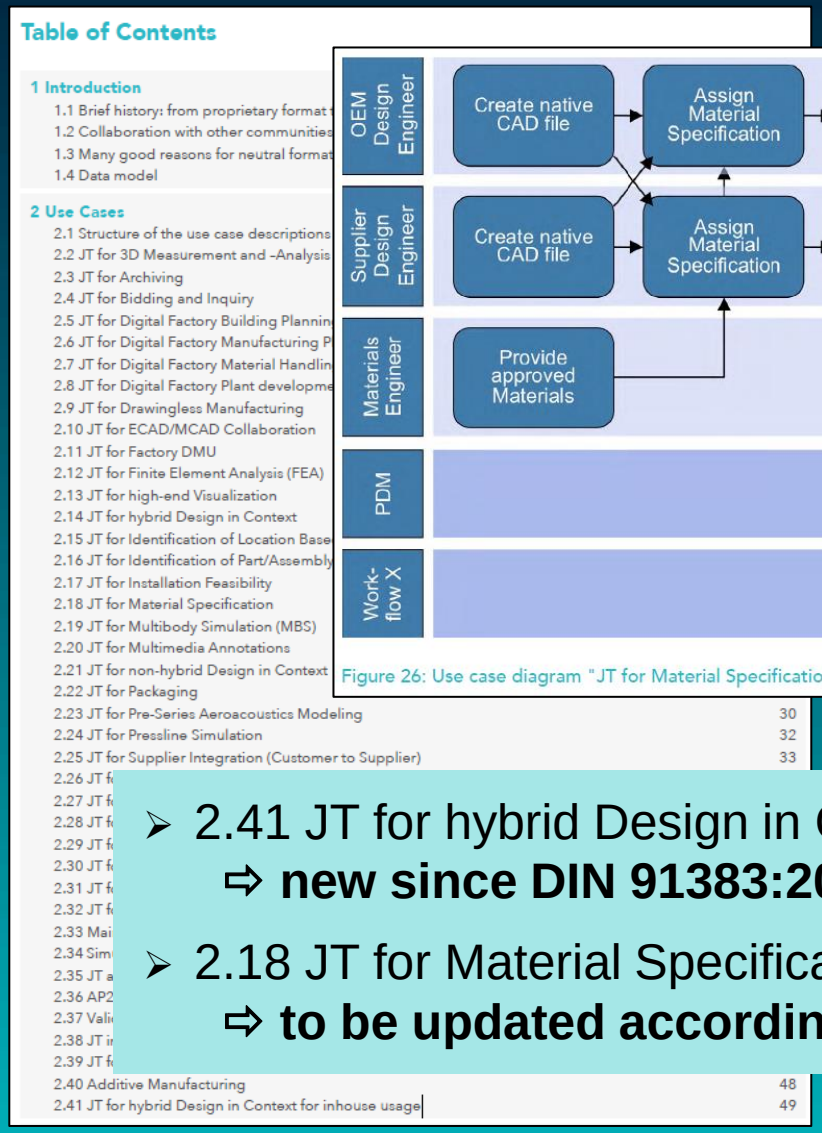
- Add reference to **MAT and SUR properties** due to VDA 231-300 recommendation to chap. 13, Medatada Conventions.

PSI14-2 Update as part of DIN SPEC 91383 Update





- 2.41 JT for hybrid Design in Context for inhouse usage
  - ⇨ **new since DIN 91383:2021**
- 2.18 JT for Material Specification
  - ⇨ **to be updated according to VDA 321-300**