



Real-life experience in productive use
of S1000D source data in the MRO-
business

Agenda

- Introduction
- Lufthansa Technik Group
- Lufthansa Technik internal DMS system
- Experience with S1000D data
- Import
- Presentation IETP value of standard

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Your Speakers in this session

Julia Peric

Lufthansa Technik
HAM T/TI-OD

Head of IT Document
Intelligence

Christian Eickhoff

Lufthansa Technik
HAM T/TI-OD

Senior Project Manager,
S1000D focal, RTE

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Some facts and figures

800+

customers worldwide



7,441

million euros revenue
in 2024



Over

24,000

employees worldwide



>30

subsidiaries
and affiliates worldwide

Around

4,800

aircraft under
long-term component contracts



Hamburg

headquarters



635

million euros Adjusted EBIT
in 2024



Lufthansa Technik at a glance

Aircraft Maintenance Services



Engine Service



Aircraft Component Services



Digital Fleet Services



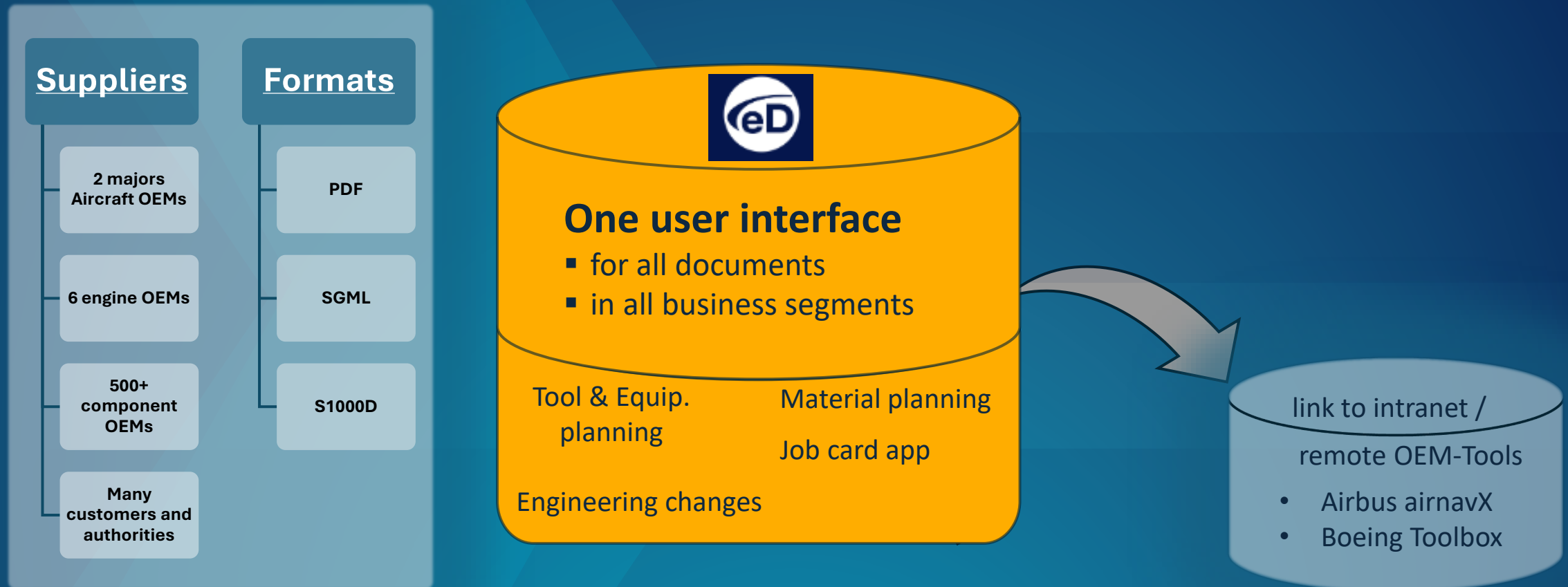
Orig. Equipment & Special A/C Services



Agenda

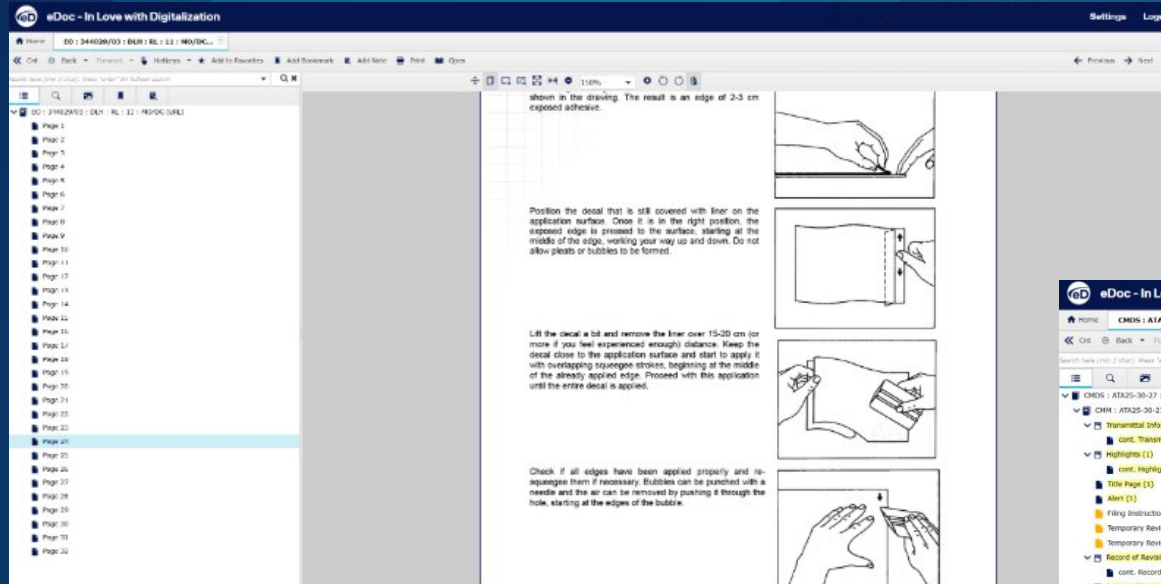
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One system to provide all documents from all suppliers

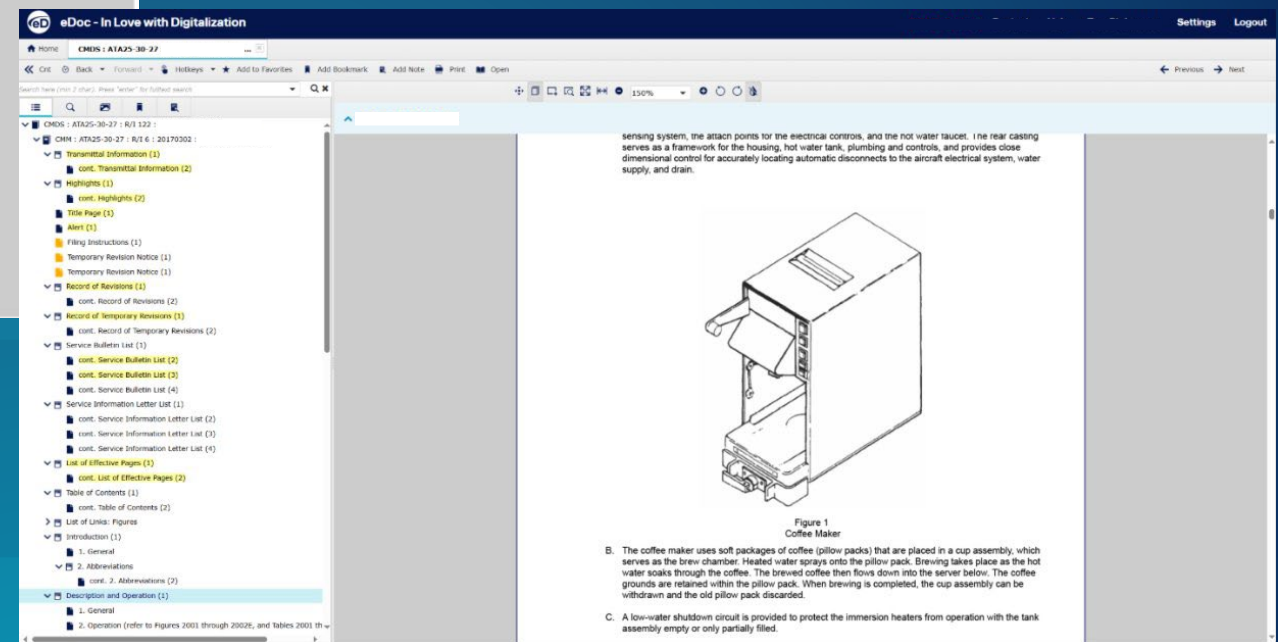


The same look and feel on all sources and formats

Our challenge in documentation handling



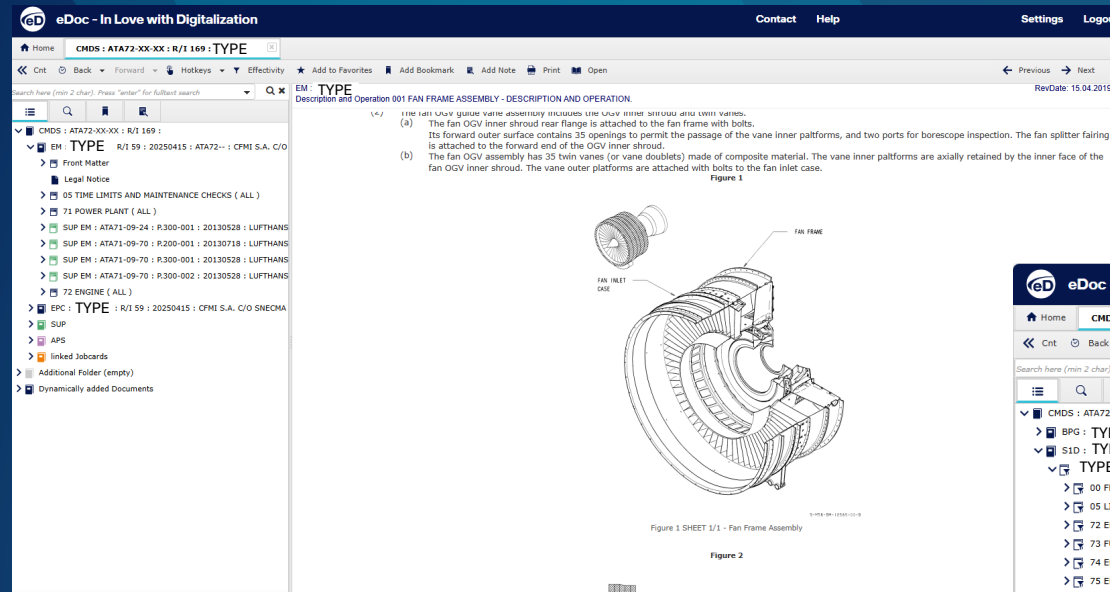
PDF document



PDF with links to
PDF per chapter

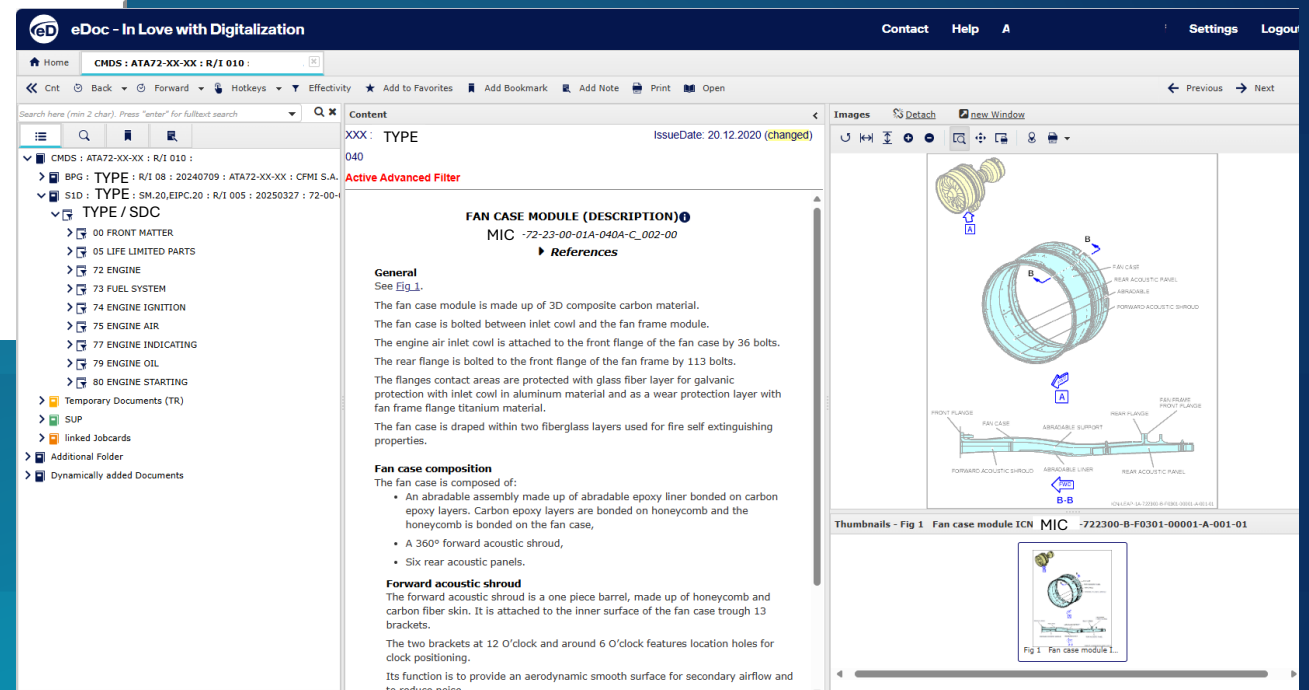
The same look and feel on all sources and formats

Our challenge in documentation handling



S1000D Structured Content

SGML Structured Content



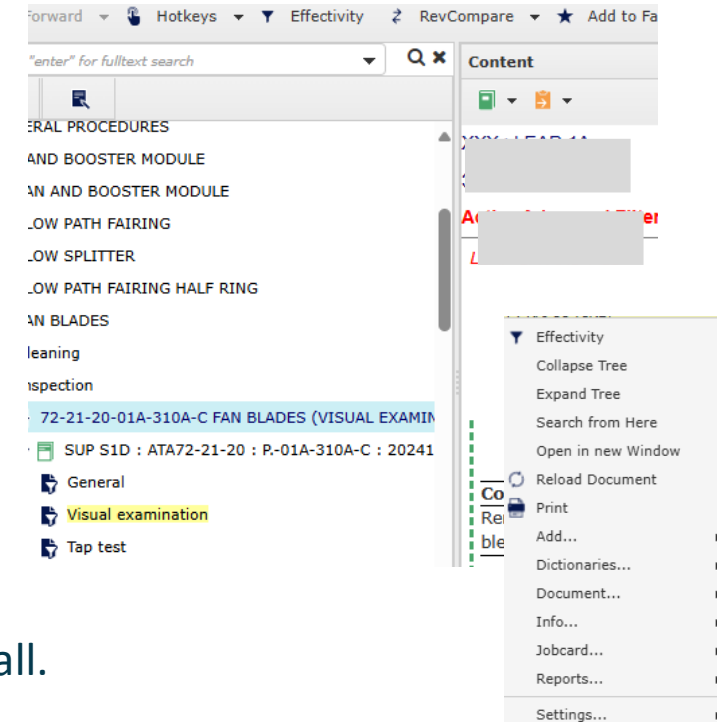
The same look and feel on all sources and formats

Our challenge in documentation handling

Same look and feel is

- user interface: naming conventions, colours,...
- table of content
- context menu
- functionality
- interfaces
- Links: **Supplemental** green, **Job Cards** orange, **Changes** yellow

and more. Some items are visible only if the function is available at all.

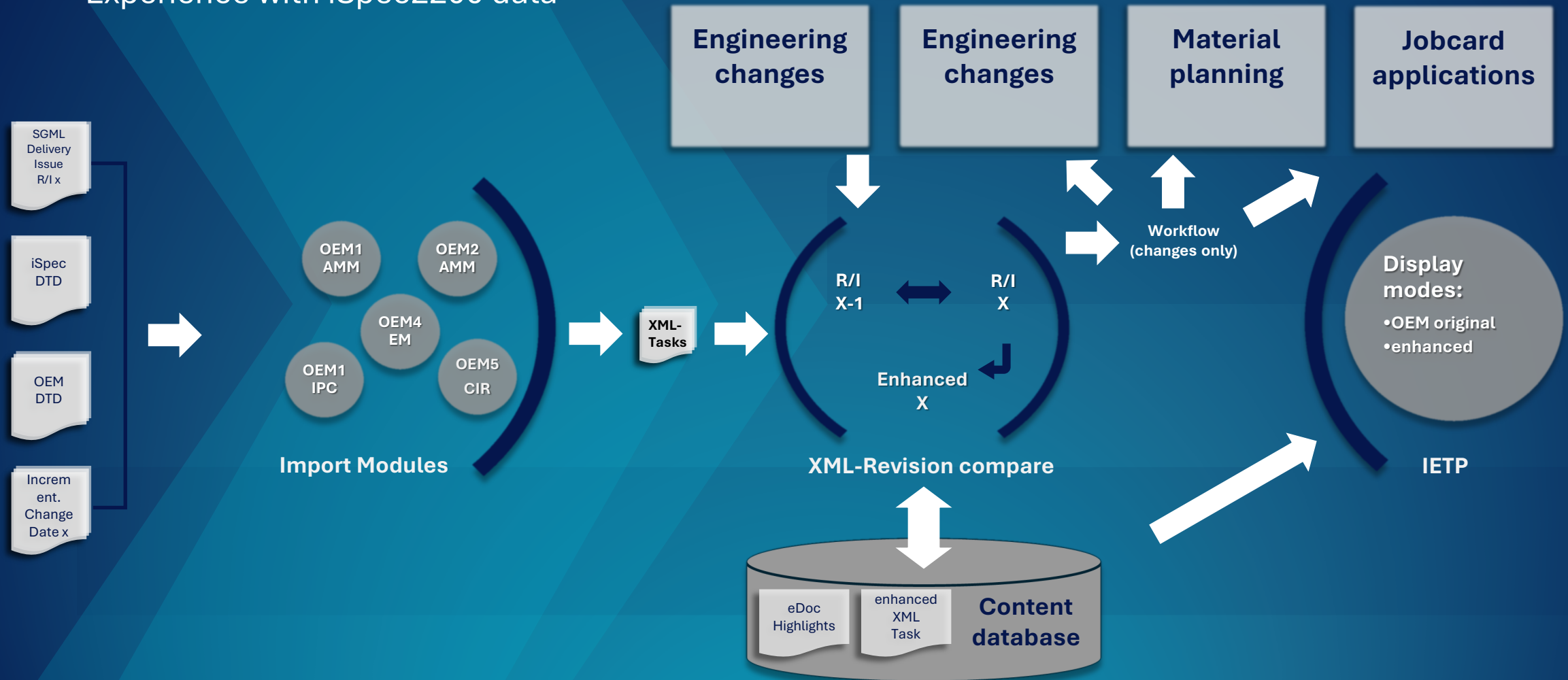


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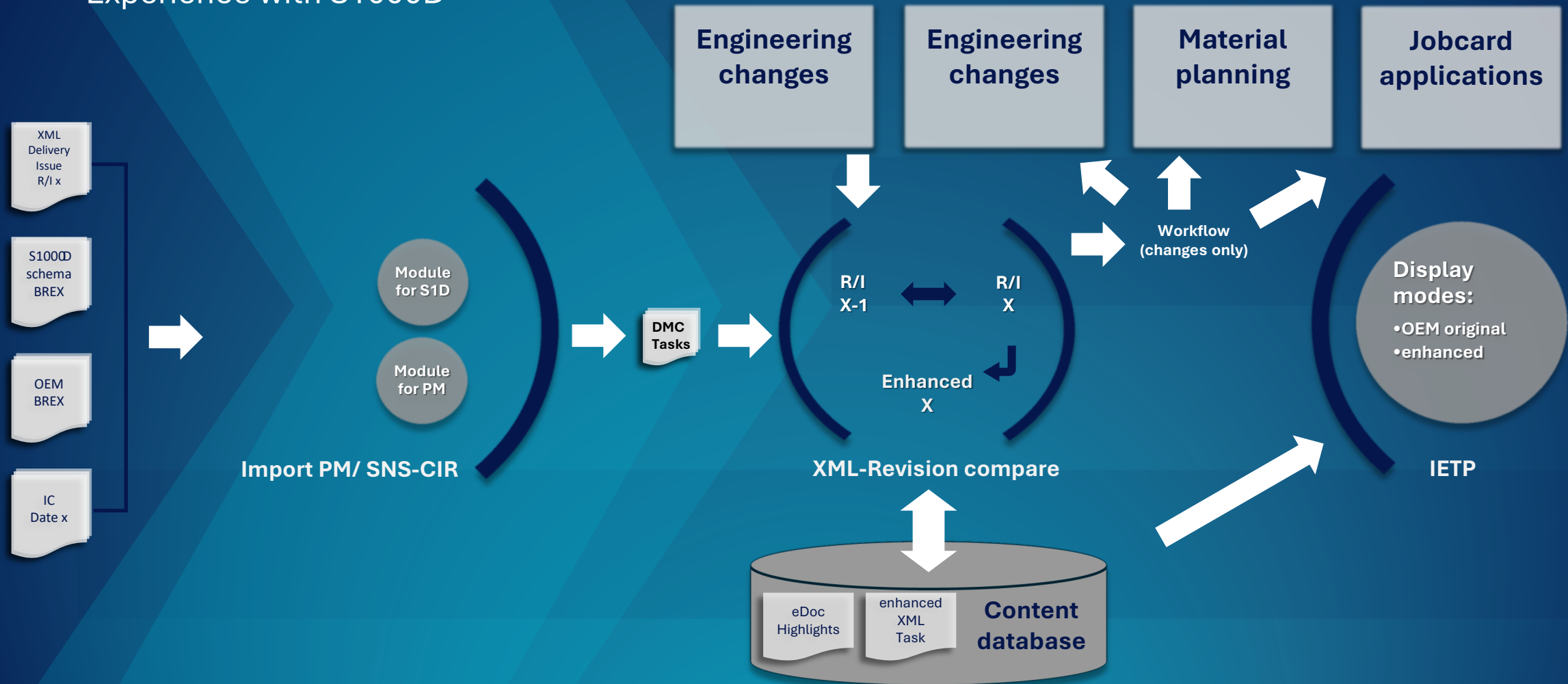
Complex SGML data lead to important benefits

Experience with iSpec2200 data



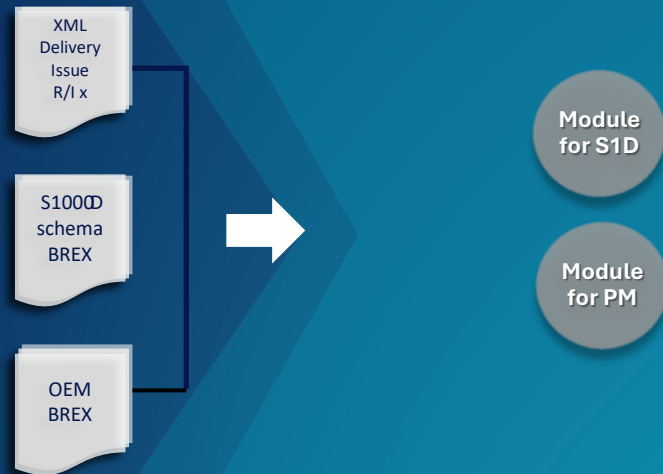
Functionality to handle iSpec 2200 modified to handle S1000D

Experience with S1000D



Import handler changed to accomodate S1000D data

Experience with S1000D data



Variants of data delivered as known yet:

- Breakdown using Publication Modules (V2500)
- Breakdown by SNS using CIR (A350)
- Breakdown by SNS using Publication Modules

Challenges seen in delivered data:

- Business Rule Decisions need to be communicated. Reference to S1000D BREX is not enough.
- Quality checks necessary
- Deviations from the standard lead to software changes
- Comparison with OEM website needed to align presentation
- Reduction of data delivered in standard format. These data is delivered in proprietary format instead

Data and presentation separated by Publication Modules

Presentation of S1000D data

Manual Publication:

Manual

EM: Engine Type; Issue 005 20150201 : ATA72: Manufacturer

Front Matter

Transmittal Letter

Title Page

Engine Type Series Engine Manual

71-00-00 Power Plant – General

72-00-00 Engine General

72-00-31 LPC Fan Module

72-31-10 No. 3 Bearing Internal Gearbox And Support Assembly

Task 72-32-10-10-040-001 No. 3 Bearing Internal Gearbox And Support Assembly Disassembly

Task 72-32-10-10-440-001 No. 3 Bearing Internal Gearbox And Support Assembly Assembly

72-32-16 Gearbox Driven Gearshaft And Housing Assembly

EPC: Engine Type

Dynamically added Documents

TR

SUP

APS

linked Job Cards

EM: Engine Type
Disassemble Procedure
Applicability: All

Issue Date: 20.03.2014

No. 3 Bearing Internal Gearbox And Support Assembly Disassembly Procedure

EngineType-EE-72-32-1000-00A-530A-B001-00

References

Common Information

1. **TASK 72-31-10-040-001:** No. 3 Bearing Internal Gearbox And Support Assembly Disassembly Procedure

a. **General**
General information on usage and references to other tasks and manual publications

b. **Note**
References to consumables, Note for tools

Preliminary Requirements

Required Conditions

None

Required Support Equipment

Designation	Identification	Qty
Hammer	ToolH1	1
Puller	ToolP2	1
Screwdriver	ToolS3	2

Parts Catalogue Publication:

Parts Catalogue

EM: Engine Type; Issue 005 20150201 : ATA72: Manufacturer

EPC: Engine Type

Front Matter

Transmittal Letter

Title Page

72-32 Engine – LP Compressor

72-32-07-01A Oil Feed Distribution Line And Related Parts (Illustrated Parts Data (IPD))

72-32-10-01A No. 3 Bearing, Internal Gearbox, And Support Assembly (Illustrated Parts Data (IPD))

72-32-16-01A Gearbox Driven Gearshaft And Housing Assembly (Illustrated Parts Data (IPD))

72-38 Engine - LPC

Dynamically added Documents

TR

SUP

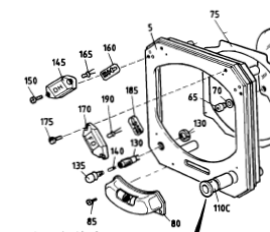
APS

linked Job Cards

EM: Engine Type
IPD
Applicability: Airbus only

Issue Date: 20.03.2014

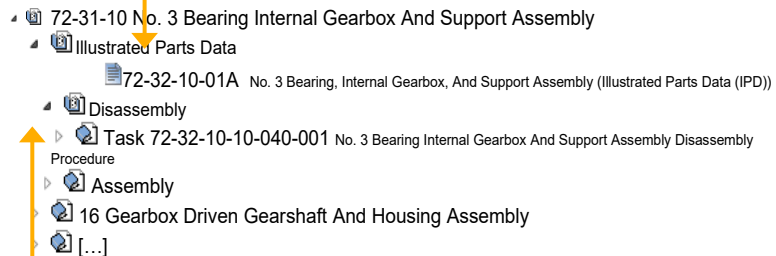
No. 3 Bearing Internal Gearbox And Support Assembly Illustrated Parts Catalogue

Figure No.: Image	Fig. No: Parts			
Item	PartNo/ CAGE	Description	Effect. show/hide	
	-000 AA	ABC001	Case PRE SBC70-00229	aa
	-000AB	ABC001-A	Case POST SBC70-00229	Ab
	-000C	ABC001-C	Case	Ac
	-140	Ju52-unkn	No engine part	none

Separation by enhanced S1000D standard breakdown

Presentation of S1000D data

Parts catalogue



Manual

EM: Engine Type

IPD

Applicability: Airbus only

Issue Date: 20.03.2014

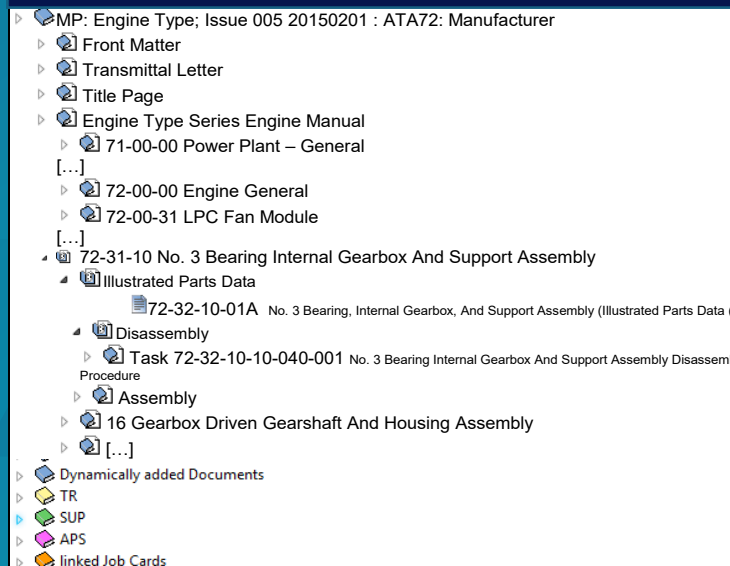
No. 3 Bearing Internal Gearbox And Support Assembly Illustrated Parts Catalogue

Figure No.: Image

Fig. No: Parts

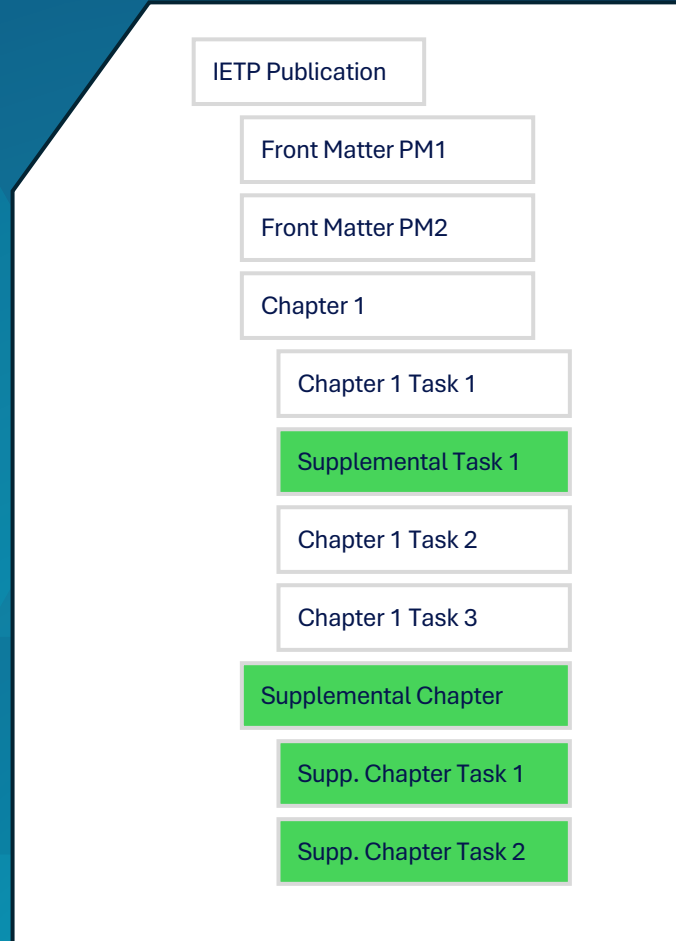
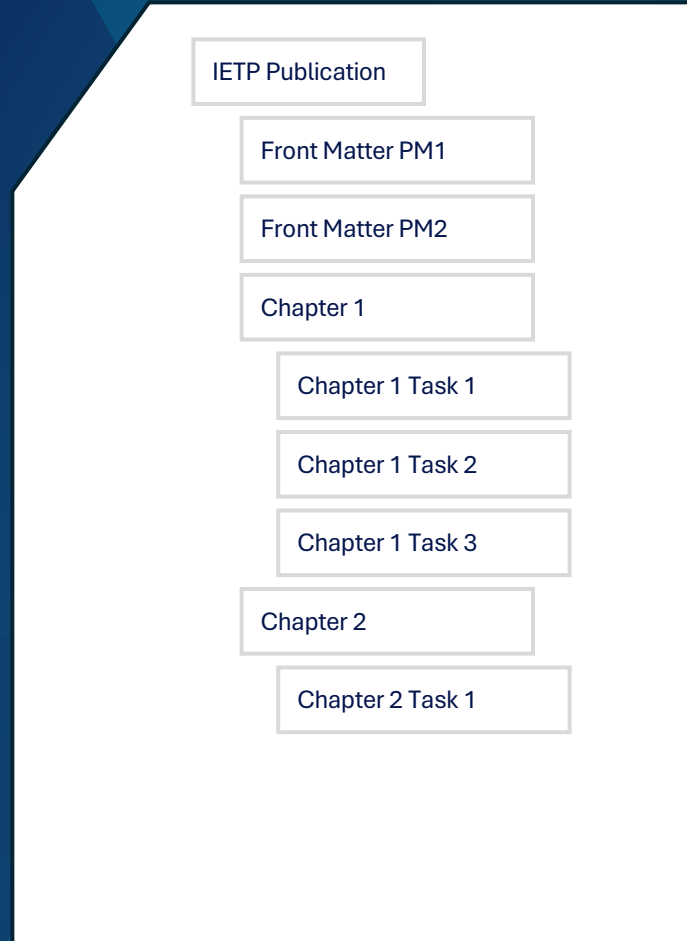
Item	PartNo/ CAGE	Descripti on	Effect. show/hide
-000 AA	ABC001	Case PRE SBC70- 00229	aa
-000AB	ABC001- A	Case POST SBC70- 00229	Ab
-000C	ABC001- C	Case	Ac
E2524/E2527/E2530/E2533/E2524E/AQ02/E2530S02/E2524M/E2524/E2527/E2530S02/E2524M/E2524/E2527/E2530/E2533/E2524EAQ02/E2530S02/E2524M			
-140	Lu52-	No	none

Structured Maintenance Publication



MP: Engine Type	Issue Date: 20.03.2014
Disassemble Procedure	
Applicability: All	

Integration of several publications



Integration of publications into one IETP is possible. The project structure needs to be similar in all publications.

Integration of supplemental publications needs to follow the structure of the publication that is supplemented.

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Cooperation is key

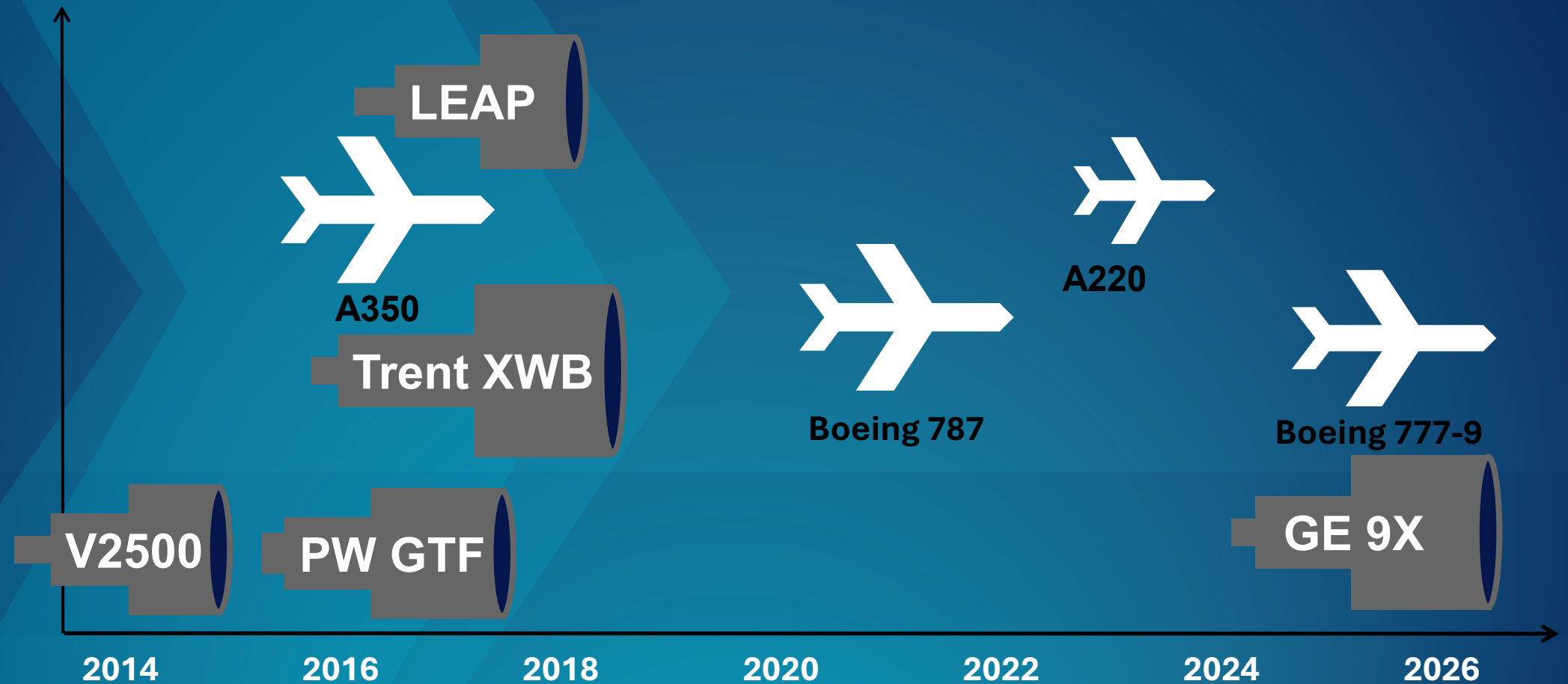
Experience with S1000D data modules



Requirements:

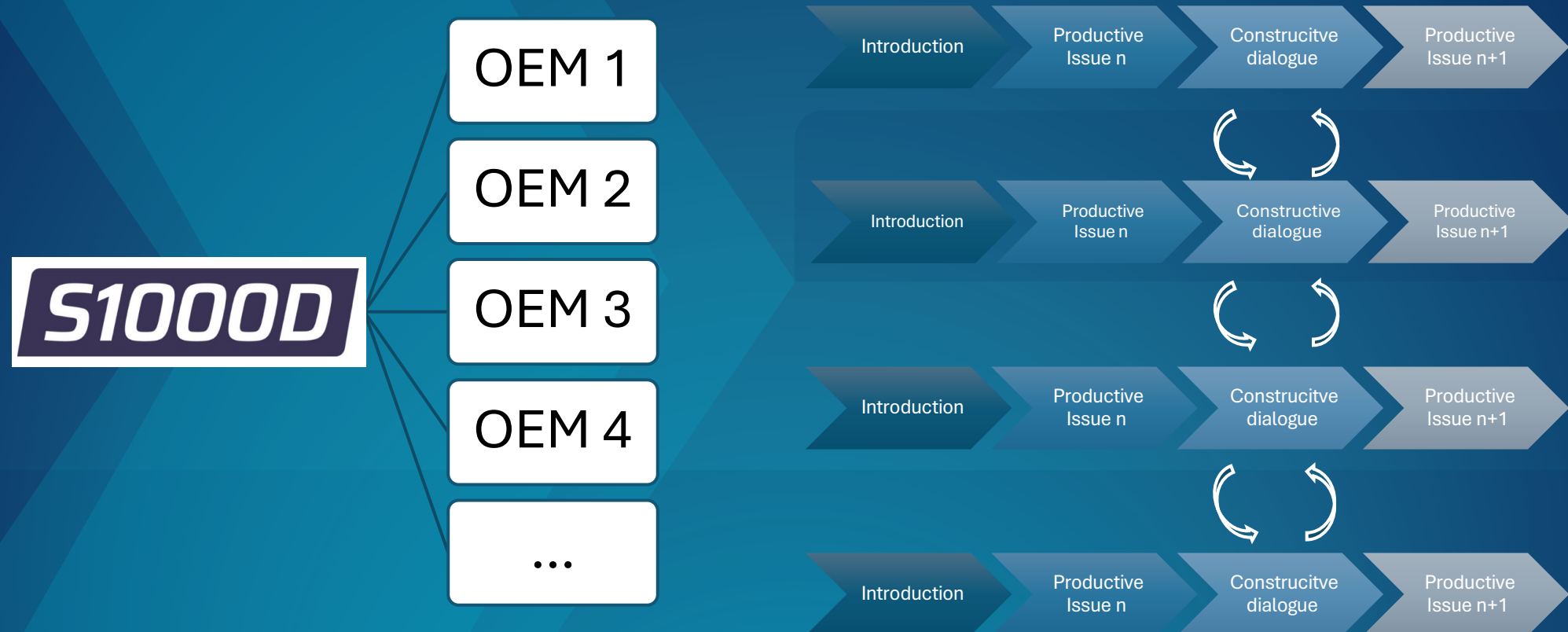
- Communicate all business rule decisions
- Deliver test data early in the process
- Adhere to S1000D specification and deliver valid data modules

S1000D products in Lufthansa Technik's DMS



Several OEMs talking to several customers

Value of standard



This cannot be our solution

One standard is the solutions

Value of a standard



One standard for all technical publications

We already have S1000D. It needs to be followed and enhanced by the industry.



One standard digital set of business rules for Civil Aviation, CMMs, ...

We can check all data against rules to ensure data integrity



One standard for all partners

Benefit is mutual: all partners can exploit standardized data



One standard group for development

The TDWG is the one forum to further develop our standard.





Questions?

Ideas?