

The joys of converting Word/PDF to S1000D

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Agenda

- Introduction
- Initial Situation and Vision
- Main Challenges
- Project Deliverables
- Lessons Learned

Introduction: The partners



- Worldwide presence
- Delivers Content Lifecycle Management (CLM) Solutions
- 300+ professionals with strong domain expertise
- Customers include 8 of the 10 largest airlines as well as leading engine and component OEMs
- Contributing to: ATA e-Business Forum, Flight Operations Interest Group, Technical Documentation Working Group, S1000D, iSpec2200 and Spec2300

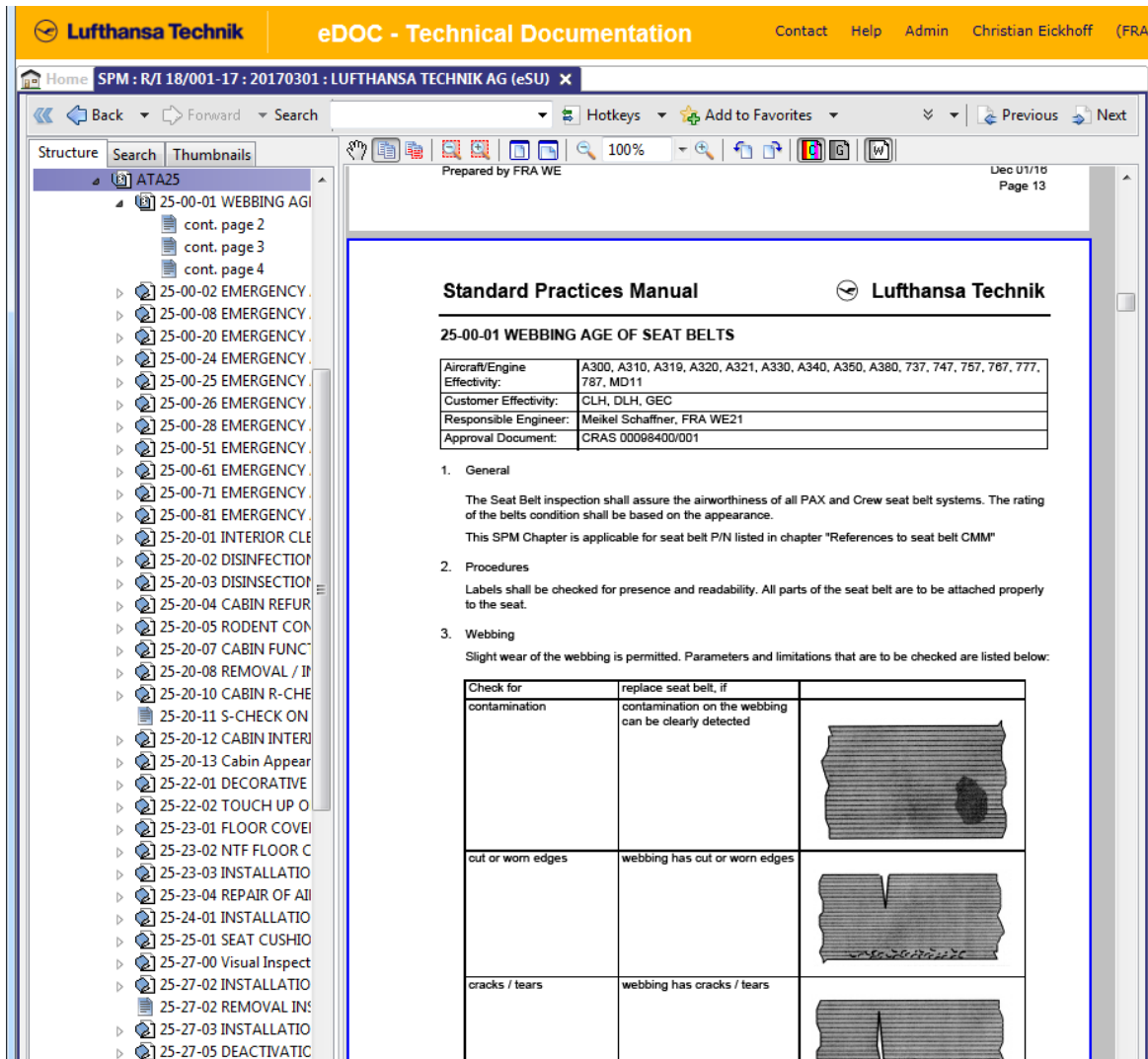


- Worldwide presence
- Aircraft services (line and base MRO), landing gear, component, engine services
- Completion of VIP and government aircraft
- More than 26.000 employees working on about 4.560 customer aircraft
- Contributing to: ATA e-business Forum, various ATA Working Groups

Initial Situation: Lufthansa Technik Standard Practices Manual

- Common tasks used in an innovative, more efficient way driven by experience
Examples: Standardization of consumables, cleaning procedures, cabin inspections
- Regulated by EASA Part 145 and Part 21J
- Used for customer DLH, growing interest by customers outside of Lufthansa Group

Initial Situation



- Word Document written by engineers, PDF used to concatenate and distribute files
- Excel file used to track customers and applicability to aircraft types
- Customers manually added to access groups when authorized by the excel file
- yearly revision, no content filtering
- Several similar documents in civil MRO possible

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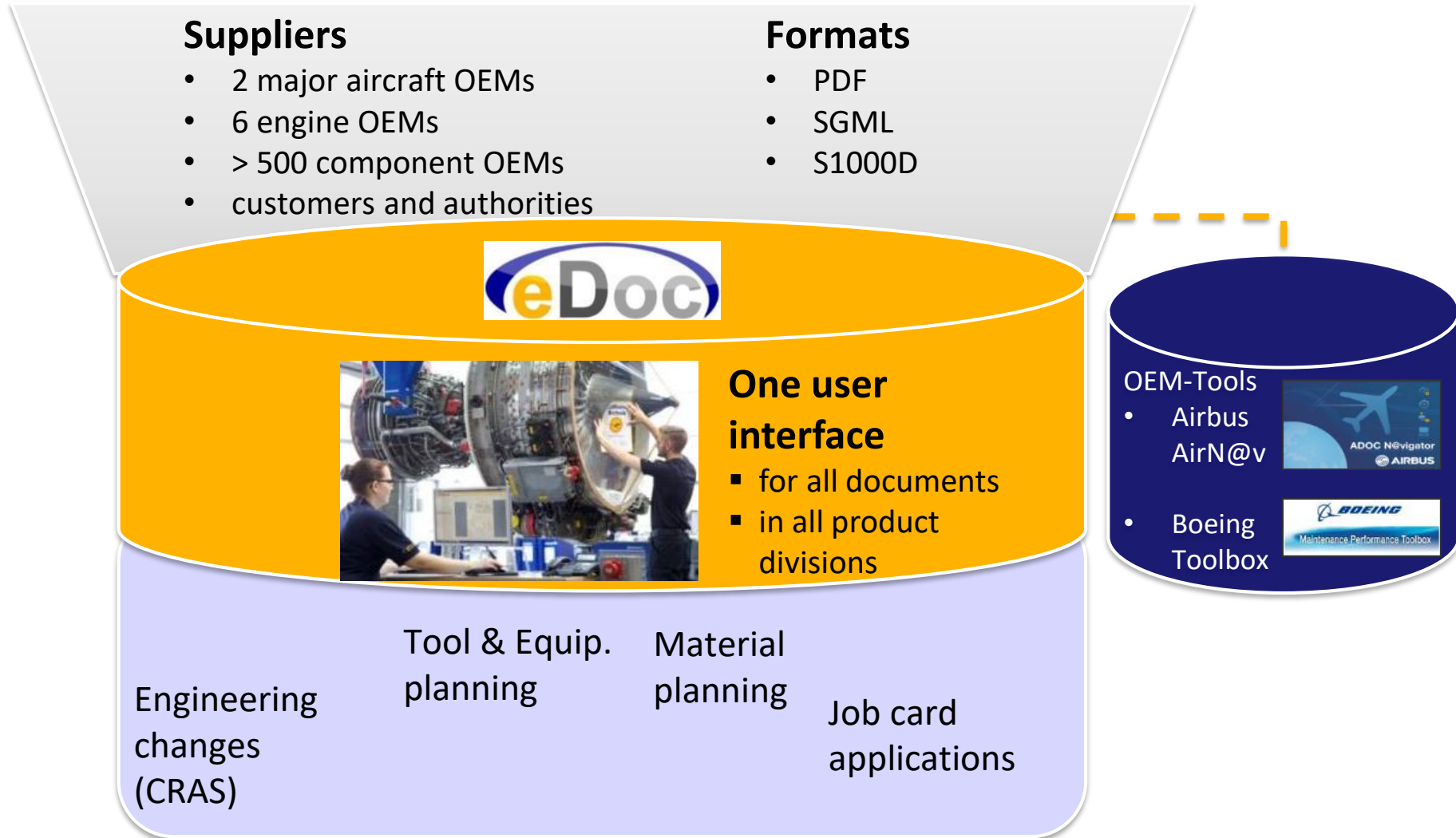
Vision of the conversion process

“daily” revision,
Customer can filter data to contracted content
Links to Task

yearly revision,
no content filtering
Links to document

The joys of converting Word/PDF to S1000D: The process side as seen from a civil aviation MRO

eDoc as basis for Lufthansa Technik's use of structured data



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Main Challenges

Process side:

- Mindset:
Engineers concentrate on technical aspects, not on data. They “need” Word.
- Authoring process without author
- Daily revisions expected

Technical side:

- Word
- Different authors
- Authors are engineers, not technical authors
- filtering by applicability needed



Image: Public Domain

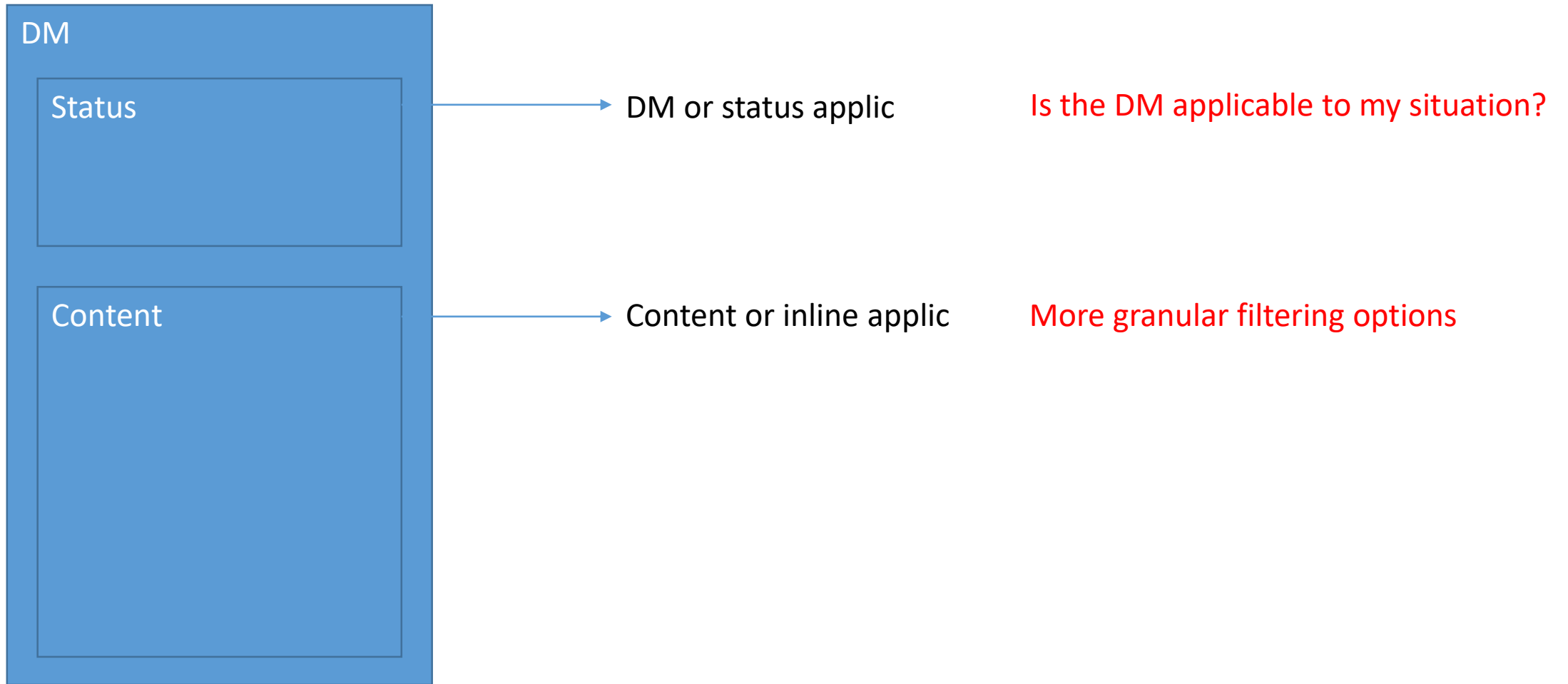
Challenges with source data created by engineers

- Placement of warnings and cautions
- Meaning of warning, caution and note
- Use of ATA numbering for simple lists
- Content of a section/step after sub-sections/sub-steps.
- Use of tabulators to mimic a table design
- Use of soft-returns and paragraphs to vertically align content inside of a table row

Project Deliverables

- Converted Data resulting in ca. 180 data modules
- Applicability mechanism
- eDoc changes to allow for customized filtering
- Training for newly hired technical author

Applicability



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S1000D issue 4.2, Chap 3.9.5.3.2.1.1

„Within the content section, however, it is often necessary to indicate applicability at a more granular level than the data module as a whole. This is known as the content applicability and is used to restrict the applicability for a substructure of the data module, compared to that of the whole data module.

... the following rules apply:

- content applicability must not conflict with or contradict the data module applicability “

Controlling applicability

Operator	Airbus A300	Airbus A310	Airbus A318	A318-111	A318-112	A318-121	A318-122	Boeing 777	777-200	777-200LR	777-300	777-300ER	777F	Boeing 787	787-8	787-9	MD-11	MD-11	MD-11F
Customer 1				X	X														
Customer 2						X	X											X	
Customer 3												X			X	X			
Customer 4		X																	

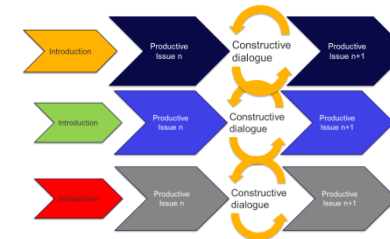
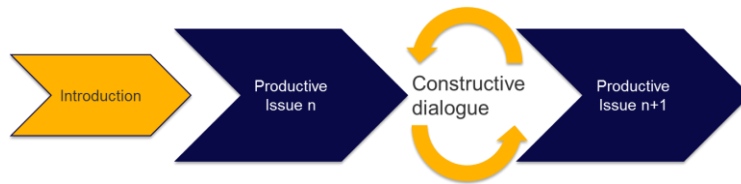
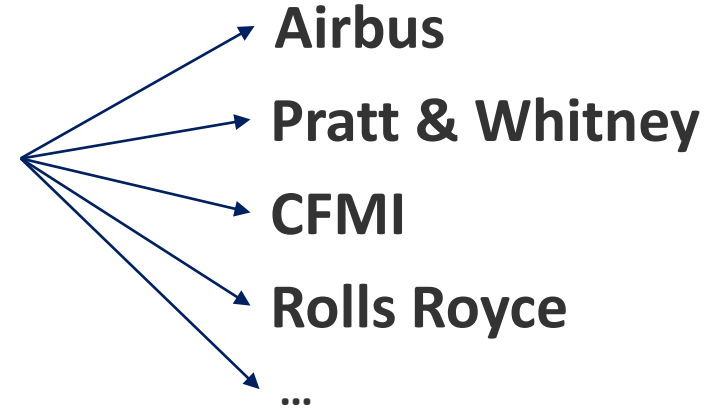
Change Type	ATA Chapter	CHAPTER	TITLE	APPROVAL DOCUMENT	LAST REV DATE	CUSTOMER				AIRCRAFT TYPE																			
						Customer 1	Customer 2	Customer 3	Customer 4	Airbus A300	Airbus A310	Airbus A318	A318-111	A318-112	A318-121	A318-122	Boeing 777	777-200	777-200LR	777-300	777-300ER	777F	Boeing 787	787-8	787-9	MD-11	MD-11	MD-11F	
R	25	25-20-01	INTERIOR CLEANING OF AIRCRAFT	Approval Doc1, Approval Doc2	Sep. 16			X	X	X	X							X	X	X	X	X	X				X	X	X

Lessons learned: S1000D is a good thing!

- Technical Author needed, Engineer does not write SPM tasks as part of his work and is not willing to change to a “special” system for one of many tasks.
- Recommendations for Engineers needed on how to write their data
- Incremental updates possible more frequently than before
- Technical change was quick, process and mindset changes take a lot more time

- Filtering achieved – most important deliverable for customers
- Links are possible now – navigation becomes a lot easier
- Data usable on iOS devices with responsive design – positive side effect

We shall still keep to the standard Deviations from S1000D add cost



Requirements:

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



1

Value of a standard

- **One** standard for all technical publications

We already **have** S1000D as one standard.
It needs to be followed by the industry.

- **One** standard digital set of rules

We can check all data against rules to ensure **data integrity**.

- **One** standard for all partners

Benefit has to be **mutual: extra fees** are not acceptable.

- **One** standard group for development

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

Thank you for your attention!

Questions?

