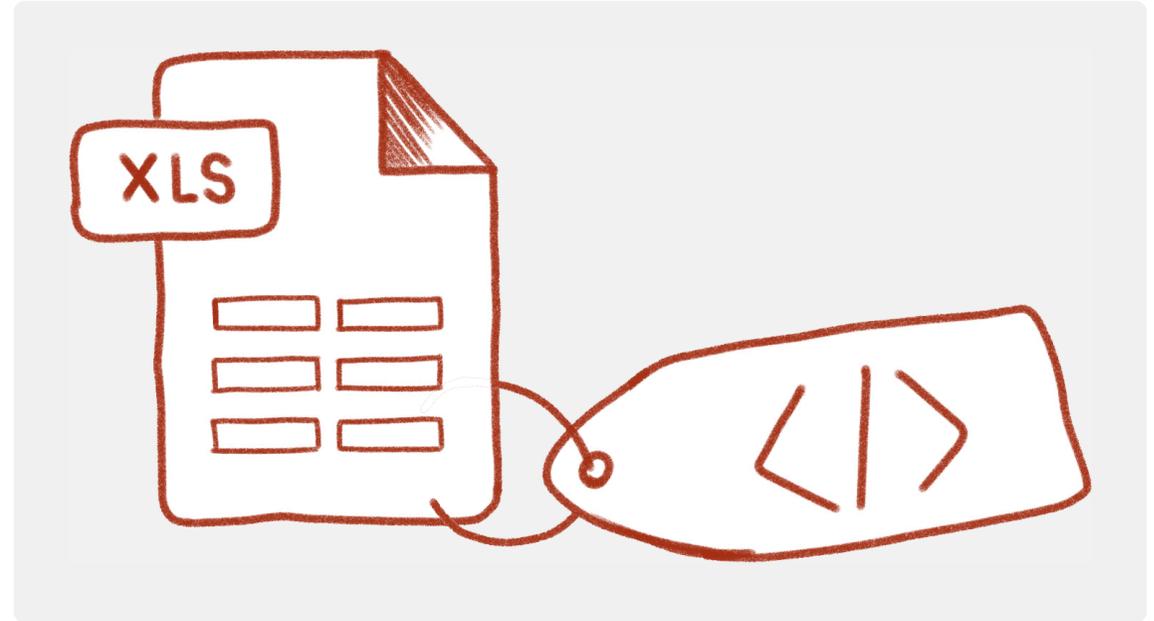
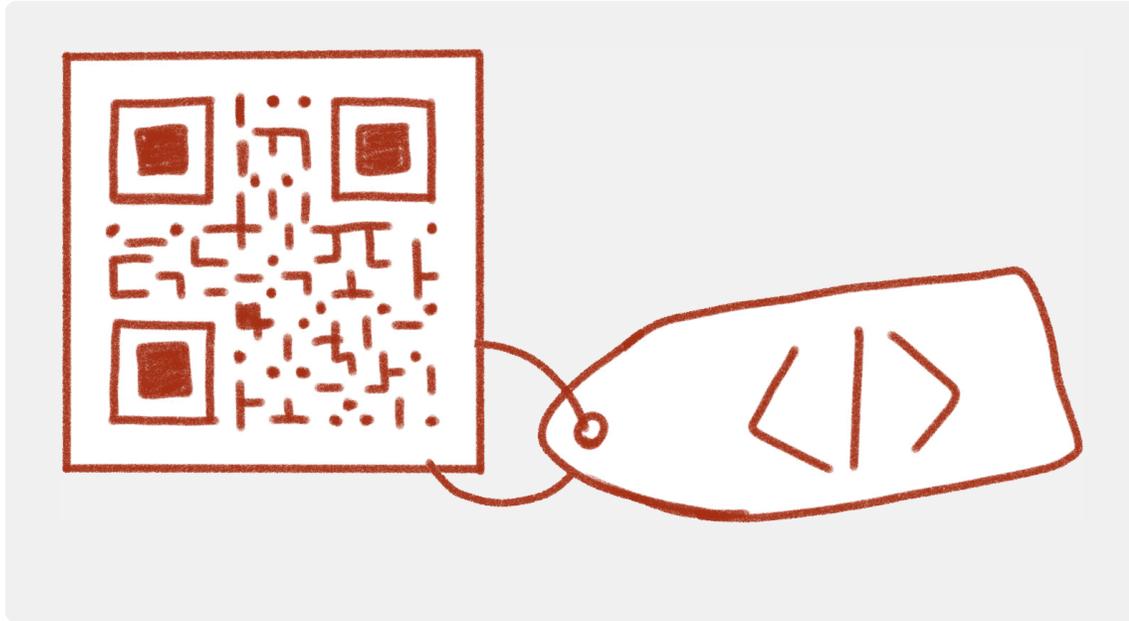


Fun & practical metadata plug-ins



DITA-OT Day - 01/02/2026

Pleased to meet you



Pieterjan Vandenweghe

- Information architect
- Working with DITA > 10 years
- Creating DITA-OT plug-ins:
 - PDF
 - HTML5



About Flow



- Belgium-based technical communication consulting company
- Technical writing
- Training:
 - Structured authoring and information modeling (DITA)
 - Technical writing
 - Tools: oXygen XML Author, Adobe FrameMaker...
- Content strategy
- Information architecture
- Template design



Fun with metadata after default project



- HTML
- PDF

What's next

- Add QR code to PDF with link to online version
- Generate reports in Excel from work instructions



It all starts with metadata

booktitle mainbooktitle **Replacing the doors** mainbooktitle booktitle

A →

bookmeta metadata **Metadata**

identifiers

id-task **ID:** WI-TR-DOOR-001 id-task

- sourcedocs **Source documents:** 
- sourcedoc TECH-000001 sourcedoc
- sourcedoc TECH-150401 sourcedoc

identifiers

applicabilities **Applicabilities**

traintypes **Train series:** M7

- subtraintype **Train type:** B  subtraintype

traintypes

installations **Installations**

- installation **Installation:** Outside installation

installations

systems **Systems:**

- system **Category:** Doors and Access system

systems

localisations **Localisation:**

- localisation **Localisation:** Side localisation

localisations applicabilities

 metadata

B →

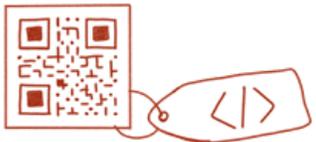
Add QR code to PDF with link to online version

- We wanted to go for online only
- On the floor, they like the paper version

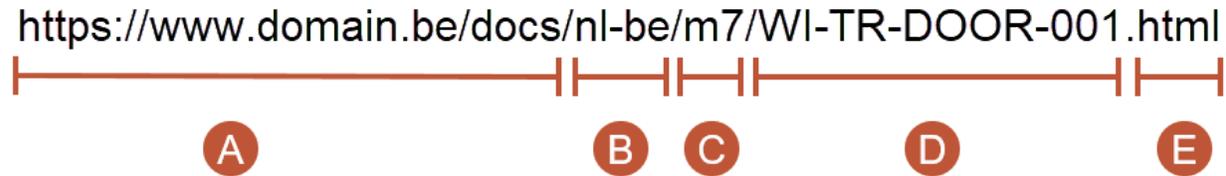
How can we make sure they can always find the latest, online version?

- 2000 work instructions
- Every work instruction (BOOKMAP) = 1 HTML page
- 2 languages
- 4000 QR codes

Manual process ? ❌

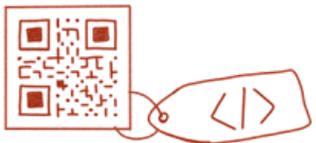


Let's get the metadata do the work



A	Main part of the url
B	Language
C	Train type
D	ID of the task
E	File format

A	Based on custom DITA-OT parameter
B	Based on <code>@xml:lang</code> attribute
C	Based on <code><traintypes></code> element
D	Based on <code><id-task></code> element
E	Fixed



How the DITA-OT plug-in works



1. Collect the information:

- `BaseUrl` parameter
- Xpath expressions

2. Construct the url:

3. Generate the QR code and save it

Use of the `QRCodeWriter` class

4. Allow the PDF stylesheet to detect the QR code and place it on the cover

PDF output

Replacing the doors

ID	WI-TR-DOOR-001
Chapter	
Train series	M7
Train	B
System	Doors and Access
Source documents	TECH-000001 , TECH-150401
Revision	10/06/2024
Description of change	Initial version for train door replacement



Replacing the doors

On this page:
[Preliminary works](#)
[Removing the door](#)
[Installing the door](#)

Scope

ID
WI-TR-DOOR-001

Overview changes

Revision	Description of change	KF-FO00030
10/06/2024	Initial version for train door replacement	

Source documents

- [TECH-000001](#)
- [TECH-150401](#)

Train	System	Lokalisatie	Installatie
B	Doors and Access	Side	Outside

Tools

Quantity	Description	ERP number	Reference supplier
	Torque wrench	T00000001	
	Screwdriver	T00000002	
	Final message	T00000003	

Generate reports in Excel from work instructions

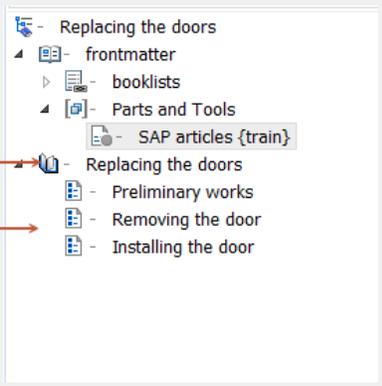
Retrieve SAP articles information per work instruction

- Various SAP articles per topic (added as @conkeyref)
- Extract this information with ditamap metadata to *.xlsx

Overview of links between work instruction

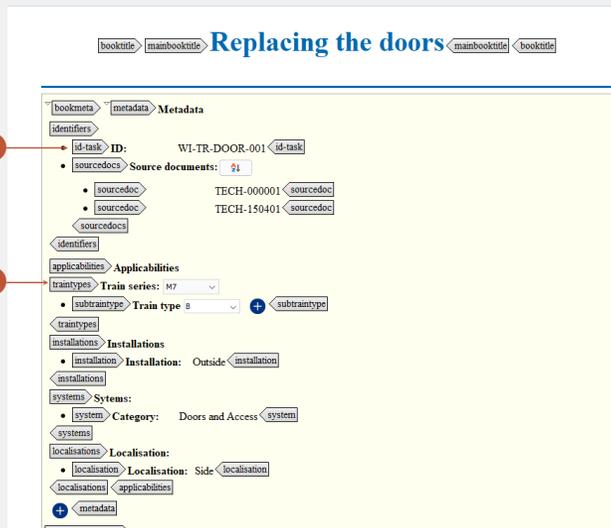
- Links between various work instructions
- Get an overview of these links in *.xlsx format

Information is saved in different locations



Replacing the doors

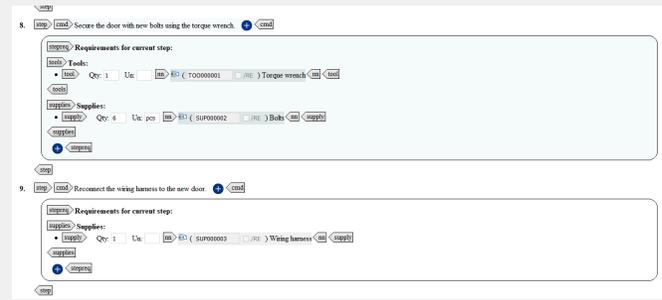
- frontmatter
 - booklists
 - Parts and Tools
 - SAP articles {train}
 - Replacing the doors
 - Preliminary works
 - Removing the door
 - Installing the door



Replacing the doors

bookmeta > metadata > Metadata

- identifiers
 - id-task ID: WI-TR-DOOR-001 <id-task>
 - sourcecodes Source documents: 01
 - sourcecod TECH-000001 <sourcecod>
 - sourcecod TECH-150401 <sourcecod>
- applicabilities
 - trainseries Train series: M7
 - subtraintype Train type B
- installations
 - installation Installation: Outside <installation>
- systems
 - system Category: Doors and Access <system>
- localisations
 - localisation Localisation: Side <localisation>
- metadata



8. Secure the door with new bolts using the torque wrench.

Requirements for current step:

- Tools:
 - Qty: 1 Use: (TOR000001) Torque wrench
- Supplies:
 - Qty: 6 Use: pos (SUR00002) Bolts

9. Reconnect the wiring harness to the new door.

Requirements for current step:

- Supplies:
 - Qty: 1 Use: (SUR00003) Wiring harness

How the DITA-OT plug-in works



1. DITA-OT preprocessing (exclude image processing for speed)
2. Collect information:
 - Bookmap metadata
 - Topic details:
 - `@id`
 - filename
 - SAP article (unique data)
3. Identify links between work instructions
4. Generate *.xslx with 3 tabs:
 - SAP articles overview per work instruction (summary)
 - SAP articles overview per topic with `@id` and filename
 - Links between work instructions

Excel output

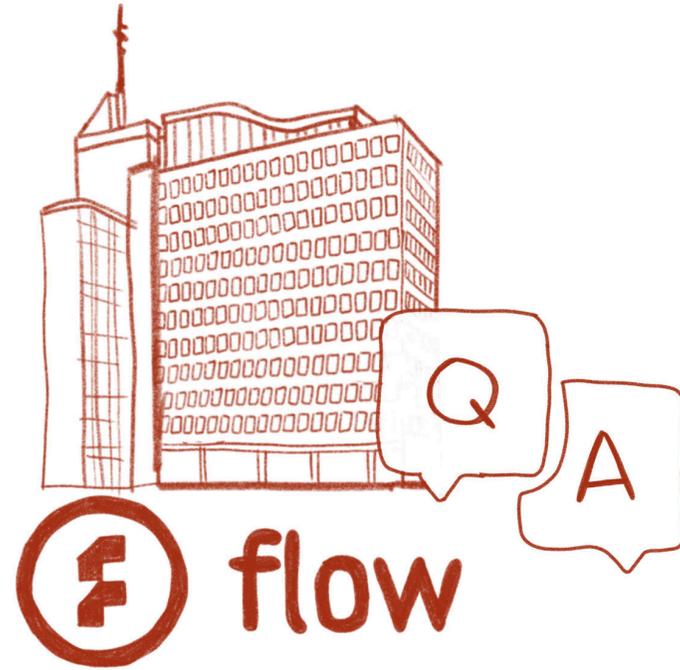


A	B	C	D	E	F	G	H	I
Overview of all used parts								
Task ID	Work instruction	Type	Resource	Quantity	UniqueID	Original element	Train type	Subtrain type
precautions-train-door	WI-TR-DOOR-001	tool	Panel remover	1	TOO000003	nn	M7	B
precautions-train-door	WI-TR-DOOR-001	tool	Screwdriver	1	TOO000002	nn	M7	B
precautions-train-door	WI-TR-DOOR-001	supply	Cleaning agent	10	SUP000005	nn	M7	B
precautions-train-door	WI-TR-DOOR-001	supply	Cleaning cloth	2	TOO000005	nn	M7	B
precautions-train-door	WI-TR-DOOR-001	supply	Wiring harness	1	SUP000003	nn	M7	B
precautions-train-door	WI-TR-DOOR-001	tool	Torque wrench	1	TOO000001	nn	M7	B
precautions-train-door	WI-TR-DOOR-001	tool	Lifting device	1	TOO000004	nn	M7	B
precautions-train-door	WI-TR-DOOR-001	supply	Bolts	6	SUP000002	nn	M7	B
precautions-train-door	WI-TR-DOOR-001	tool	Lifting device	1	TOO000004	nn	M7	B
precautions-train-door	WI-TR-DOOR-001	supply	Cleaning agent	60	SUP000005	nn	M7	B
precautions-train-door	WI-TR-DOOR-001	supply	Cleaning cloth	2	TOO000005	nn	M7	B
precautions-train-door	WI-TR-DOOR-001	supply	Replacement door	1	SUP000001	nn	M7	B
precautions-train-door	WI-TR-DOOR-001	supply	Lubricant	10	SUP000004	nn	M7	B
precautions-train-door	WI-TR-DOOR-001	tool	Lifting device	1	TOO000004	nn	M7	B
precautions-train-door	WI-TR-DOOR-001	tool	Torque wrench	1	TOO000001	nn	M7	B
precautions-train-door	WI-TR-DOOR-001	supply	Bolts	6	SUP000002	nn	M7	B
precautions-train-door	WI-TR-DOOR-001	supply	Wiring harness	1	SUP000003	nn	M7	B
precautions-train-door	WI-TR-DOOR-001	supply	Cleaning cloth	2	TOO000005	nn	M7	B

Overview of used parts							
Work instruction	Type	Resource	Quantity	UniqueID	Original element	Train type	Subtrain type
WI-TR-DOOR-001	Tool	Torque wrench	2	TOO000001	nn	M7	B
WI-TR-DOOR-001	Tool	Screwdriver	1	TOO000002	nn	M7	B
WI-TR-DOOR-001	Tool	Panel remover	1	TOO000003	nn	M7	B
WI-TR-DOOR-001	Tool	Lifting device	3	TOO000004	nn	M7	B
WI-TR-DOOR-001	Supply	Replacement door	1	SUP000001	nn	M7	B
WI-TR-DOOR-001	Supply	Bolts	12	SUP000002	nn	M7	B
WI-TR-DOOR-001	Supply	Wiring harness	2	SUP000003	nn	M7	B
WI-TR-DOOR-001	Supply	Lubricant	10	SUP000004	nn	M7	B
WI-TR-DOOR-001	Supply	Cleaning agent	60	SUP000005	nn	M7	B
WI-TR-DOOR-001	Supply	Cleaning cloth	6	TOO000005	nn	M7	B

A	B	C	D
Overview of linked tasks			
Work instruction	Linked task		
WI-TR-DOOR-001	M7.45638		

Questions? Comments?



Contact us



pieterjan.vandenweghe@flowtime.be

Flow bv

Martelaarslaan 21

9000 Gent

Belgium

info@flowtime.be

+32 9 336 41 31

