European Commission

16 May 2024

DG DIGIT

Development of SEMIC Registry

2nd workshop – Technical Requirements

DIGIT.B2 - Interoperability.

interoperable europe

Chapter 1:
Objectives of this workshop

Agenda

01

Objectives of the workshop

- Introduction
- Recap 1st workshop – Adoption Requirements

02

Metadata

- Adopted metadata models
- Minimum common metadata

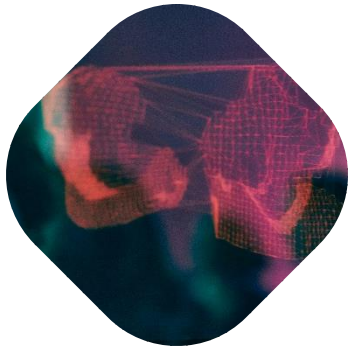
03

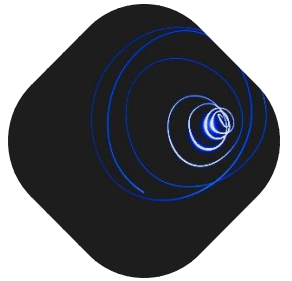
Architecture

- Architectural components
- Connection between the registry & repositories

04

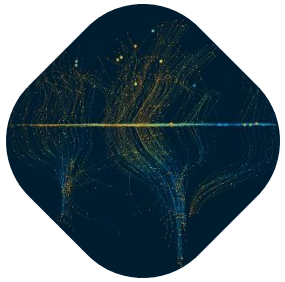
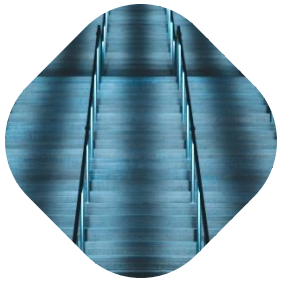
Summary & next steps



Objectives

Recap 1st workshop – Adoption Requirements


Recap 1st workshop

- Registry vs. repositories
- User categories
- Use cases

Captured requirements

1. Domain-specific filtering
2. European Commission models findability
3. Comparable with previous version(s)
4. Publishable in 2 ways
5. Prioritization on filtering & searching
6. Model creators' contact available
7. Possible to determine access rights

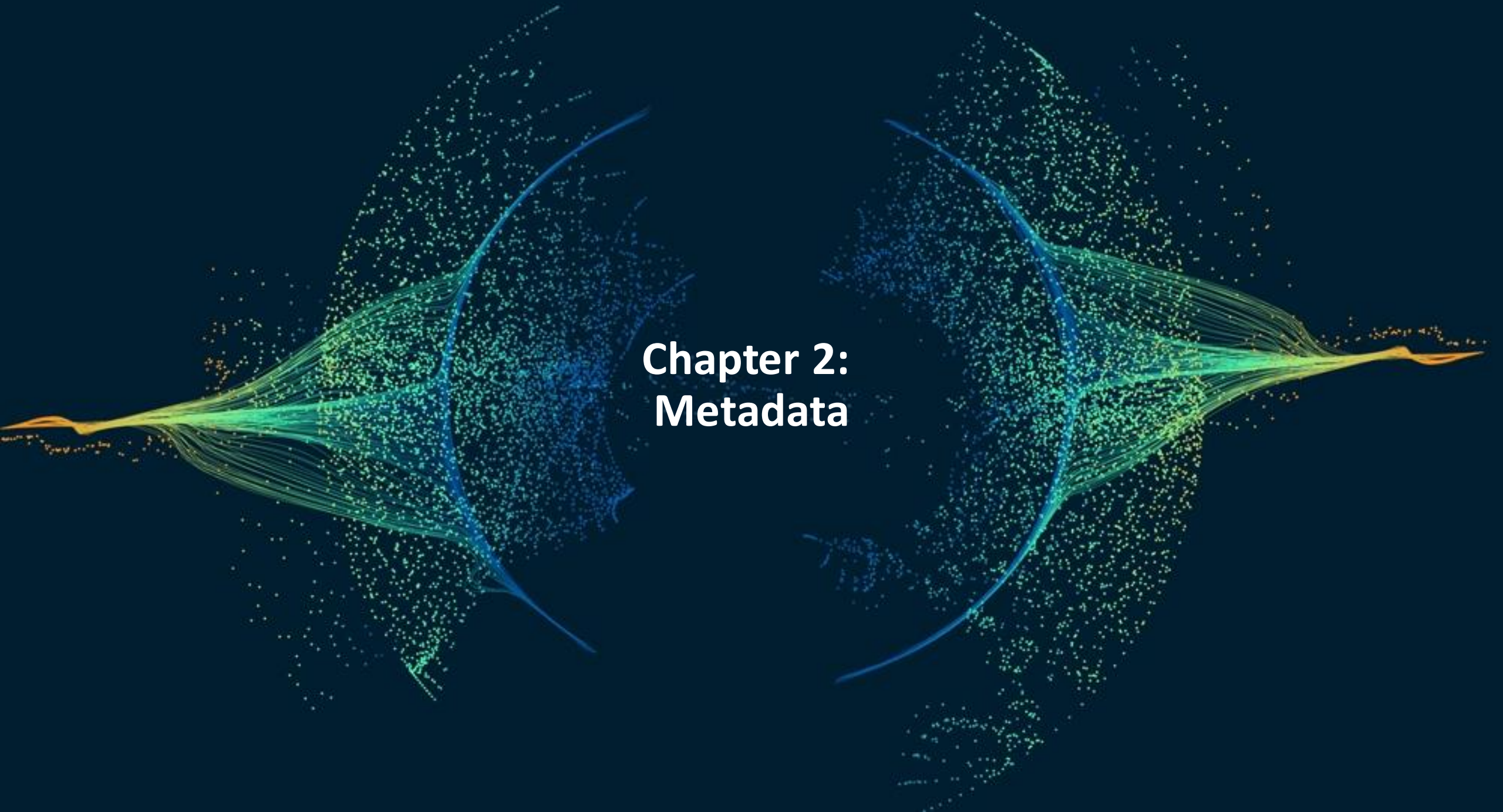
Future pilot participants

Already two Member States gave notice to participate in this future pilot:

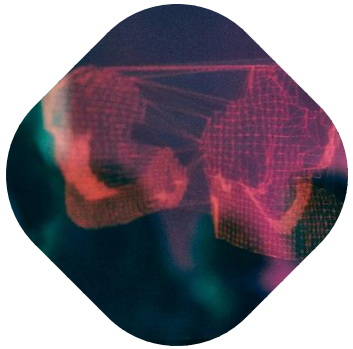
Lithuania

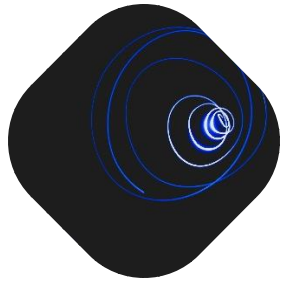
Germany

If you also want to participate in the pilot, please reach out to us.



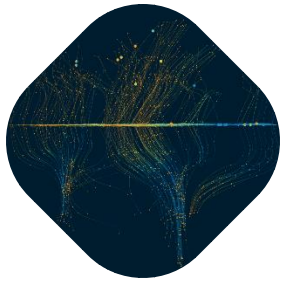
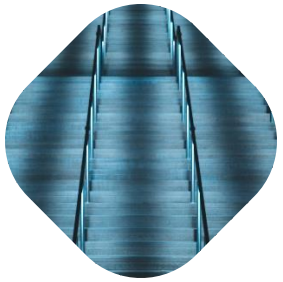
Chapter 2: Metadata



Metadata

Adopted metadata models

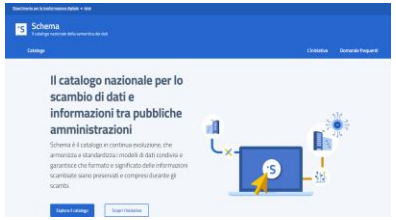




Analysis approach

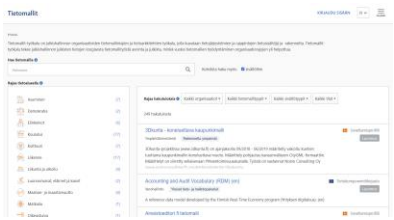
Six repositories were utilized to analyse elements such as model reuses, file formats, and metadata file formats

➡ This is done to facilitate the decision-making for the registry metadata during the future pilot phase

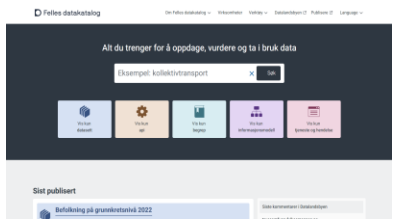
SGT (Italy)



DVT (Finland)



DNN (Norway)



SGF (France)

LOV

TNO

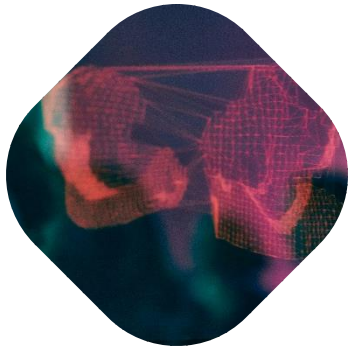
Adopted metadata models

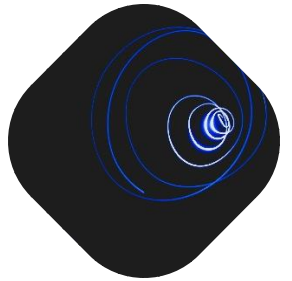
Portal	Metadata file format
SGT (Italy)	RDF
DNN (Norway)	RDF
DVT (Finland)	RDF
SGF (France)	YAML + metadata per file format
LOV	RDF + metadata per ontology
TNO (Netherlands)	RDF

There is some use of **DCAT**
RDF is the way to go

Question

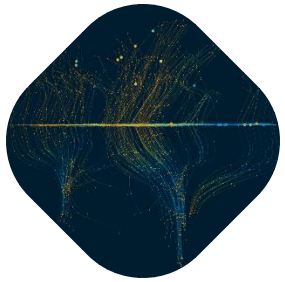
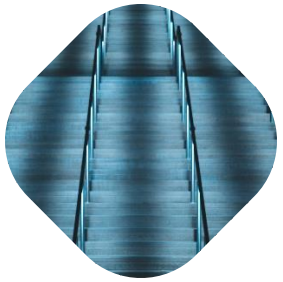
"Are there any questions or remarks about the repositories chosen for the analysis? "



Metadata

Minimum common metadata


Common & uncommon metadata

Some metadata is used by every repository analysed, while other components are only found in some.

Common	Less common		Suggested
• Name • Description	• Version_info • Creation date • Publication date • Modified date • Languages • URI identifier • Contributor	• Publisher • Theme • Main concepts • Status • Used by • Contact point	• License

Your opinion on the registry metadata

For every metadata component, are they mandatory or optional?
Are there metadata components that have been forgotten?

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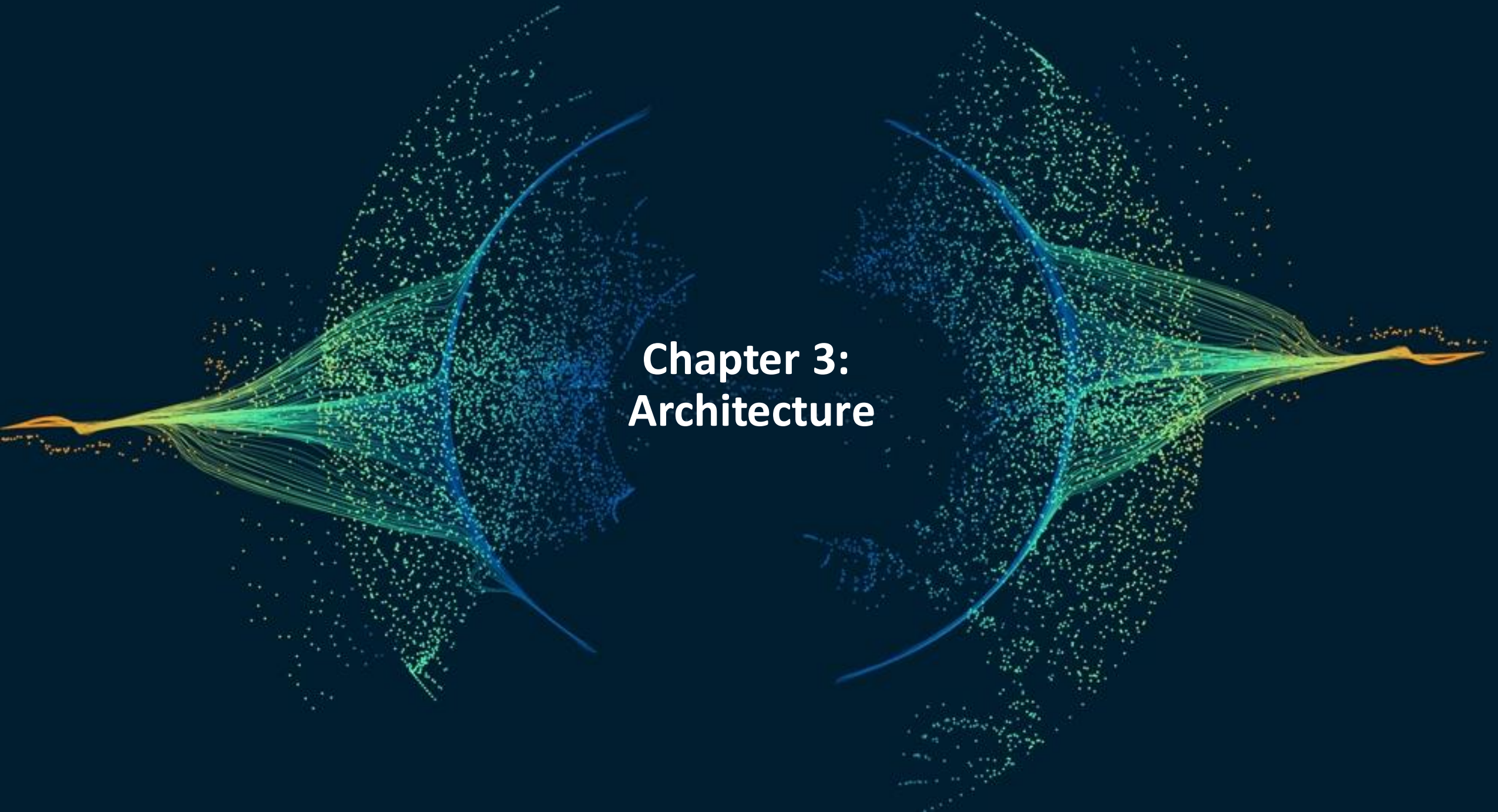
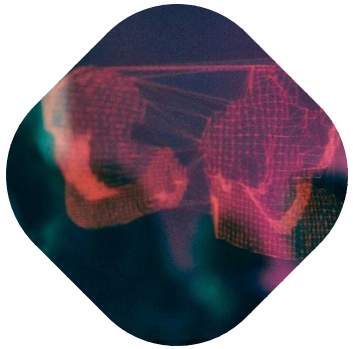
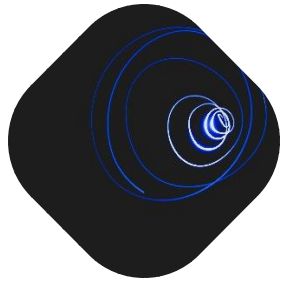


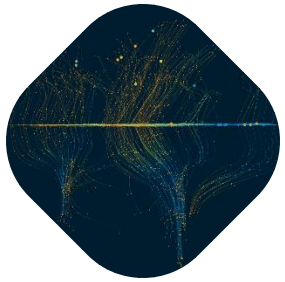
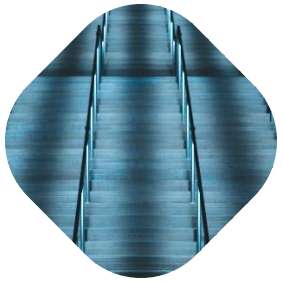
Chapter 3: Architecture



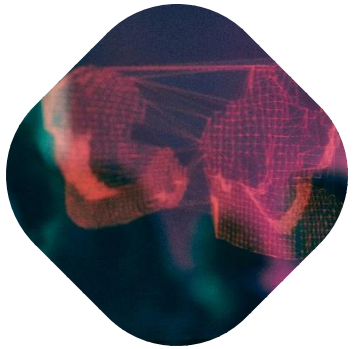
Architecture

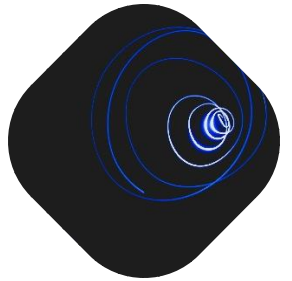
Architectural components


Components

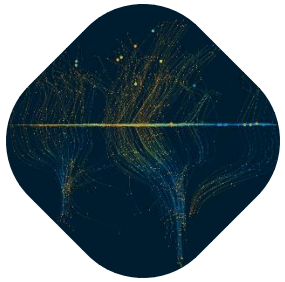
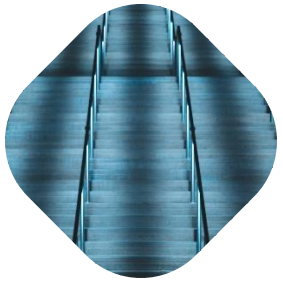
Repositories	Internal Database	SPARQL endpoint	API	Validation service
SGIT	MySQL (configuration only / optional)	**X** (*public, based on Virtuoso*)	**X** (*aggregated & REST based on OpenAPI*)	
NDD		**X** (*public, based on Fuseki*)		
DVT	PostgreSQL	**X** (*private, based on Fuseki, behind API)*	**X** (*REST based on OpenAPI)*	
LOV	MongoDB	**X** (*public, based on Fuseki*)	**X** (*REST*)	
SGF				**X** (*for the 3 supposed schemas*)
TNO	MySQL		**X** (*REST for validation*)	**X** (*for XML schema*)



Architecture

Connection between the registry & repositories


Upstream and downstream scenario's

In both scenario a transformation process is needed to homogenize the metadata !

Questions	Scenario 1: registry harvesting (upstream)	Scenario 2: repository uploading (downstream)
Where is the metadata stored and where can it be accessed?	• SPARQL • REST API	• SPARQL • REST API
Which format to extract ?	• RDF (Turtle / JSON-LD) • JSON • XML	• RDF (Turtle / JSON-LD) • JSON • XML
Are there security mechanisms in place?	• HTTPS • REST API key • OAuth	• HTTPS • REST API key • OAuth
Is traffic limited ?	• Request per minute • Availability time	• Request per minute • Availability time
Are operations limited ?	• GET / SELECT • POST / CONSTRUCT	• GET / SELECT • POST / CONSTRUCT

Chapter 4:
Summary & next steps

Roadmap until June 2024

	Meetings	Description
✓	**Kick-off meeting**	• Explanation of the **roadmap** during the trajectory • How the meetings explained in the roadmap will be executed
✓	**First workshop – March 2024**	• User profiles and use cases for a future registry • Determining the requirements for the **adoption** • Registry versus repositories
➡	**Second workshop – May 2024**	• **Validation** of **technical requirements** • **Recommendations** for **implementations** (i.e. which existing technology, etc)
	Closing meeting – June 2024	• **Summary** of the outcome of the working groups • Discussing potential **next steps**
	Results	• Validated proposal and working group to conduct a **future pilot** (Q3-Q4 2024)

Next meeting

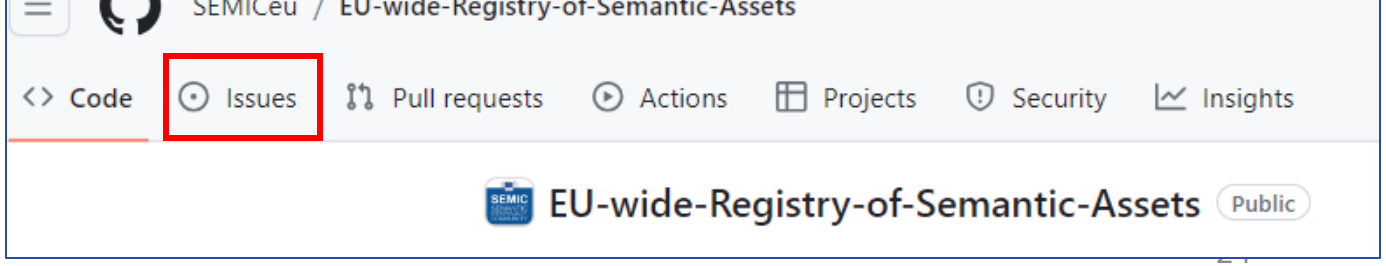
Which requirements, final remarks, … do you still have?

- Overview of requirements the registry should have
- General feedback
- Discussion on the future pilot and any other interested participant

Feedback

GitHub

- Overview of materials and proposition documents
- Feedback mechanism: 'GitHub issues' to submit feedback
- Open discussion by the working group




Thank
you

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