

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

The slide features several abstract, rounded shapes in the corners, each containing a different data visualization. Top-left: A green and blue network graph with many nodes and edges. Top-center: A red and orange network graph with a central cluster. Top-right: A blue and orange network graph with a central cluster. Middle-right: A blue concentric circle pattern. Bottom-left: A blue and orange network graph with a central cluster. Bottom-center: A blue and orange network graph with a central cluster. Bottom-right: A blue and orange network graph with a central cluster.

Metadata

Adopted metadata models

Analysis approach

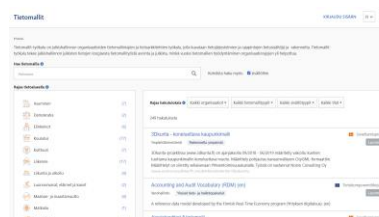
Six repositories were utilized to analyse elements such as model reuses, file formats, and metadata file formats

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

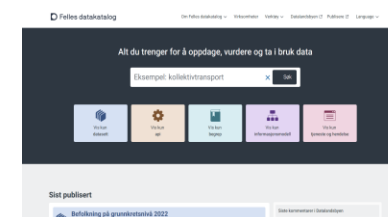
SGT (Italy)



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? "

The background features several abstract, rounded geometric shapes containing data visualizations. These include network graphs with green and blue nodes and edges, a red and orange 3D wireframe model, concentric blue circles, a blue and white striped pattern, and a blue and green network graph. The shapes are arranged around the central text.

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
<ul style="list-style-type: none">• Name• Description	<ul style="list-style-type: none">• Version_info• Creation date• Publication date• Modified date• Languages• URI identifier• Contributor	<ul style="list-style-type: none">• License

Your opinion on the registry metadata



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

[Slido](#)



Chapter 3: Architecture

The background features several abstract, rounded geometric shapes in dark blue and black. These shapes contain various digital and architectural motifs: glowing green and yellow lines, red and blue wireframe structures, concentric blue circles, and blue lines resembling a staircase or architectural plan.

Architecture

Architectural components

Components

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



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?	<ul style="list-style-type: none">• SPARQL• REST API	<ul style="list-style-type: none">• SPARQL• REST API
Which format to extract ?	<ul style="list-style-type: none">• RDF (Turtle / JSON-LD)• JSON• XML	<ul style="list-style-type: none">• RDF (Turtle / JSON-LD)• JSON• XML
Are there security mechanisms in place?	<ul style="list-style-type: none">• HTTPS• REST API key• OAuth	<ul style="list-style-type: none">• HTTPS• REST API key• OAuth
Is traffic limited ?	<ul style="list-style-type: none">• Request per minute• Availability time	<ul style="list-style-type: none">• Request per minute• Availability time
Are operations limited ?	<ul style="list-style-type: none">• GET / SELECT• POST / CONSTRUCT	<ul style="list-style-type: none">• GET / SELECT• POST / CONSTRUCT



Chapter 4: Summary & next steps

Roadmap until June 2024



Meetings

Description

- | | | |
|---|------------------------------------|---|
| ✓ | Kick-off meeting | <ul style="list-style-type: none">• Explanation of the roadmap during the trajectory• How the meetings explained in the roadmap will be executed |
| ✓ | First workshop – March 2024 | <ul style="list-style-type: none">• User profiles and use cases for a future registry• Determining the requirements for the adoption• Registry versus repositories |
| ➔ | Second workshop – May 2024 | <ul style="list-style-type: none">• Validation of technical requirements• Recommendations for implementations (i.e. which existing technology, etc) |
| | Closing meeting – June 2024 | <ul style="list-style-type: none">• Summary of the outcome of the working groups• Discussing potential next steps |
| | Results | <ul style="list-style-type: none">• 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

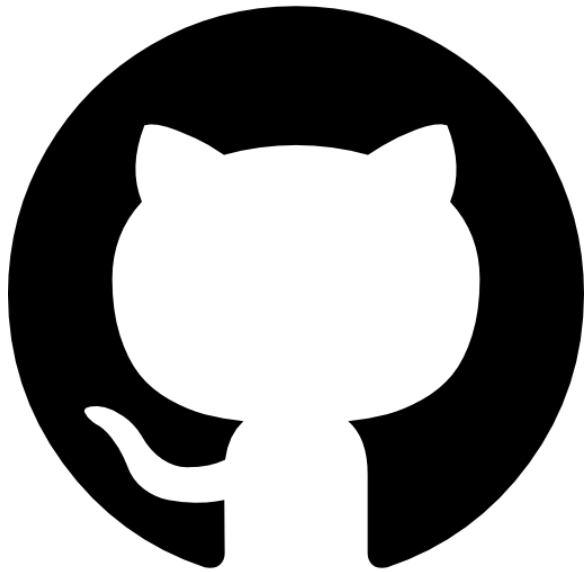


General feedback



Discussion on the future pilot and any other interested participant

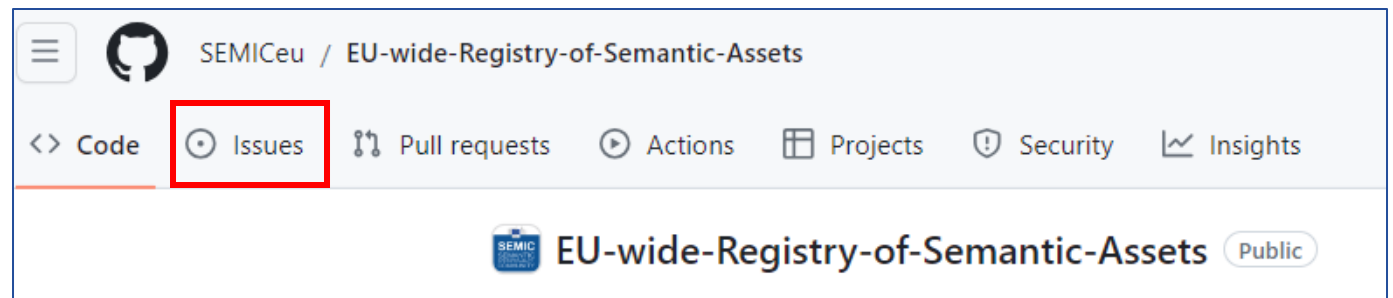
Feedback



GitHub



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



A complex network graph visualization on a dark blue background. A central node, colored orange, is the hub from which hundreds of lines radiate outwards. These lines are colored in a gradient from orange to yellow to green to blue. The lines connect to various other nodes, some of which are also colored in the same gradient. The overall shape is roughly circular, with the lines fanning out from the center. The text "Thank you" is overlaid in the center, in white.

**Thank
you**



interoperable europe

innovation ∞ govtech ∞ community

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