

Solid for company data sharing: The Onto-DESIDE use case

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15/11/2024 Gent

Solid lets *personal* data flow



Solid also lets *company* data flow



- **Onto-DESIDE use case**
- The Open Circularity Platform
- Demo
- Q&A



ONTO-DESIDE

*Ontology-based Decentralized Sharing of Industry Data
in the European Circular Economy*

<https://ontodeside.eu/>

Horizon Europe project

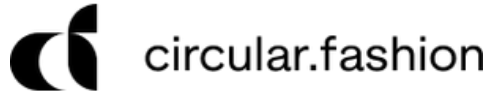


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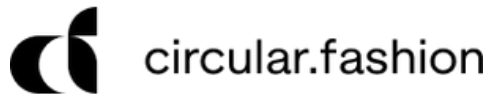
Horizon Europe project



*Ontology-based Decentralized Sharing of Industry Data
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Horizon Europe project



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Circular economy aims for resource flows

Circular economy aims to reuse resources before they become waste by establishing **Circular Value Networks** between all actors along the value chain



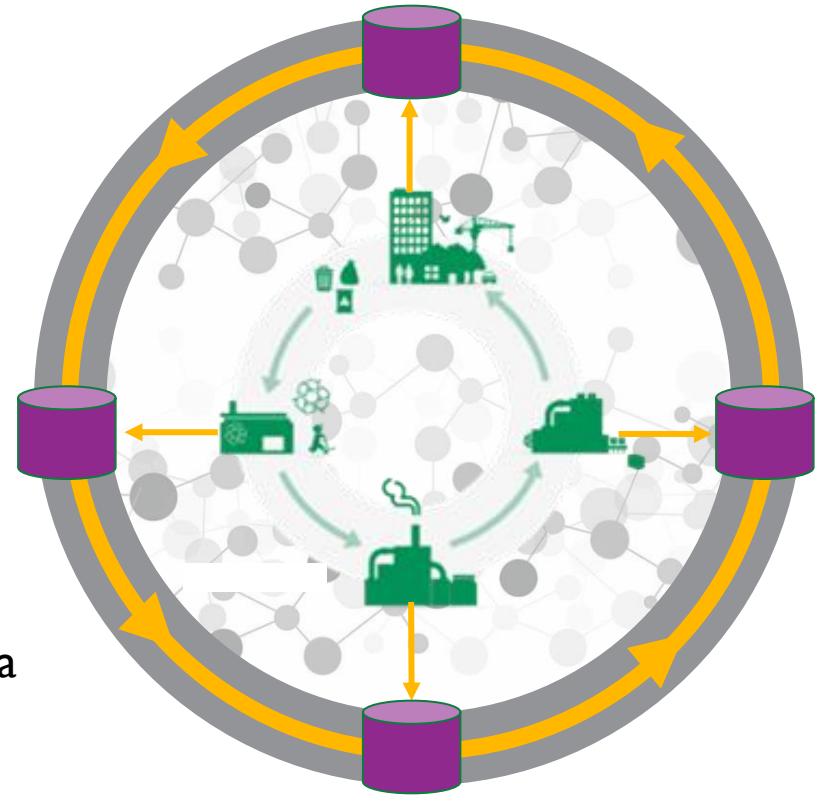
Circular Value Networks need data flows

Information needs to flow between actors

Regardless of the actors'

- Domain
(e.g., electronics, textile, construction)
- System infrastructure
(e.g., Microsoft SharePoint, SQL DB, CSV files)
- Data models
(e.g., product vs material vs resource, kg vs lbs)

While the actors remain in control of their data

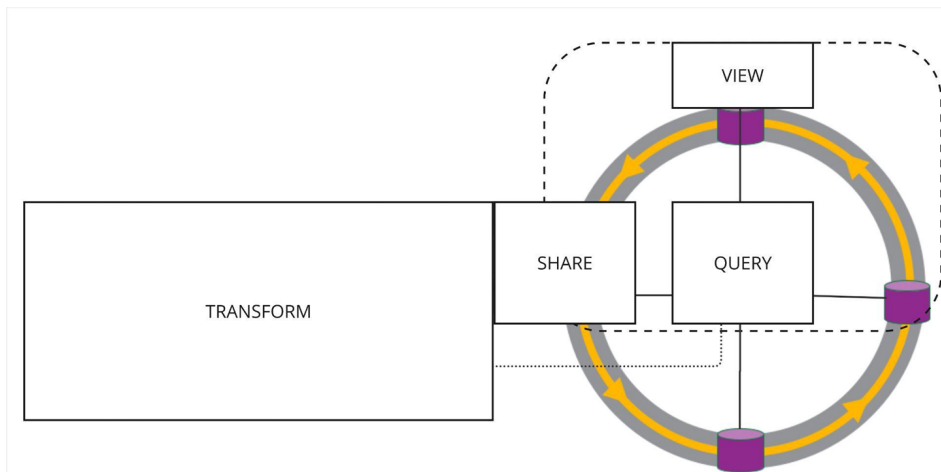


- Onto-DESIDE use case
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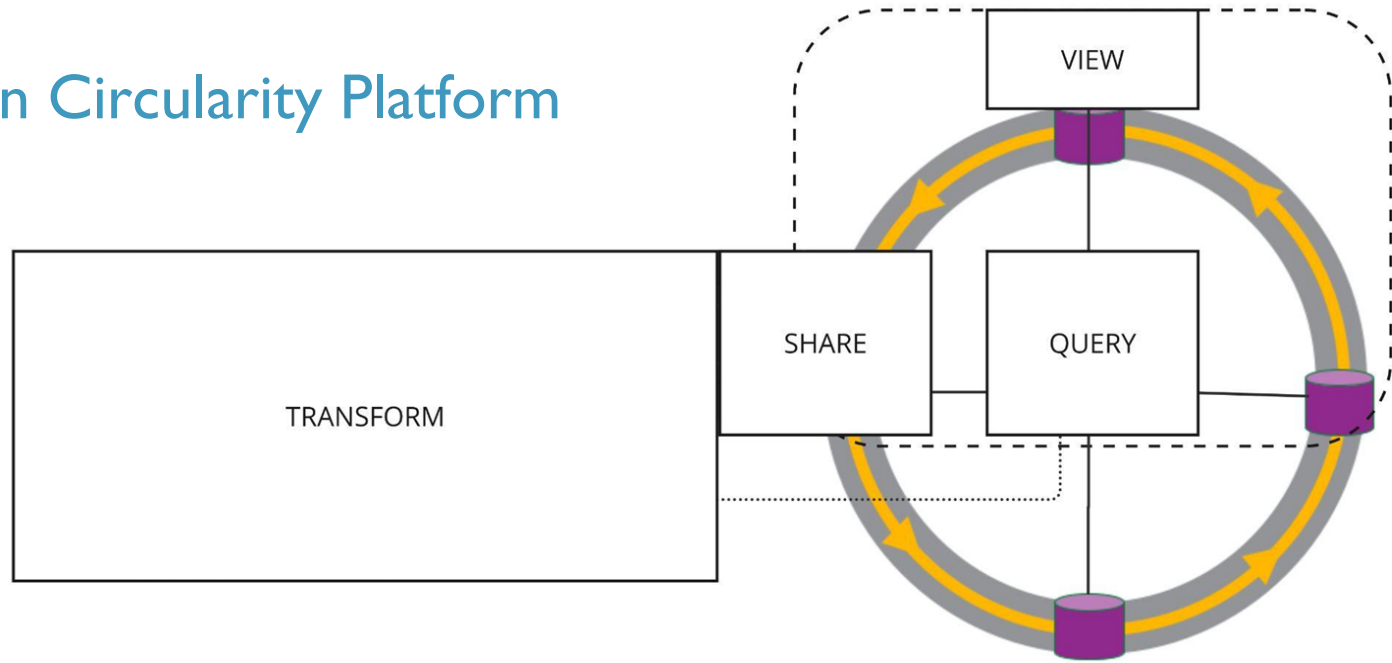
The Open Circularity Platform

Technical solution for permissioned data sharing

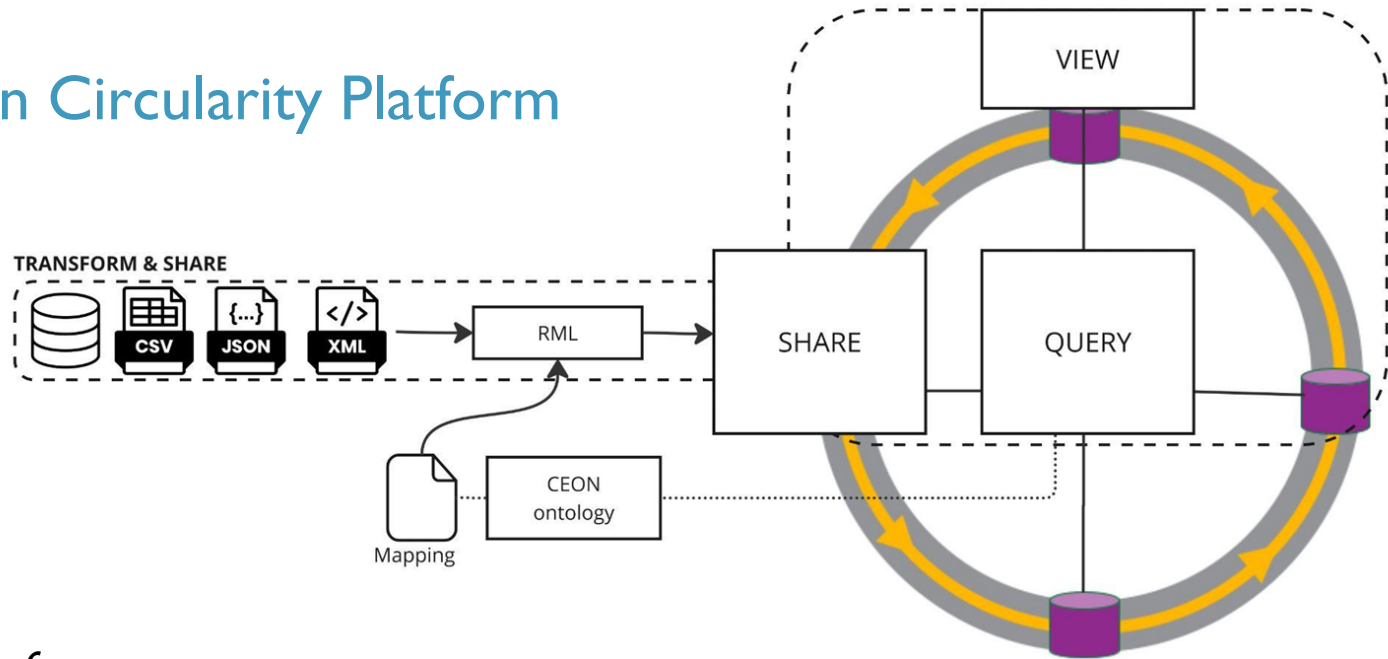
- Built on open Web standards
- Enables companies to participate and collaborate on the platform in four steps, i.e.:
 - **Transform** – To map source data to an interoperable representation
 - **Share** – To configure which data is shared with whom
 - **Query** – To retrieve the information spread across the actors' decentralized data stores
 - **View** – To conveniently obtain a comprehensible representation



The Open Circularity Platform



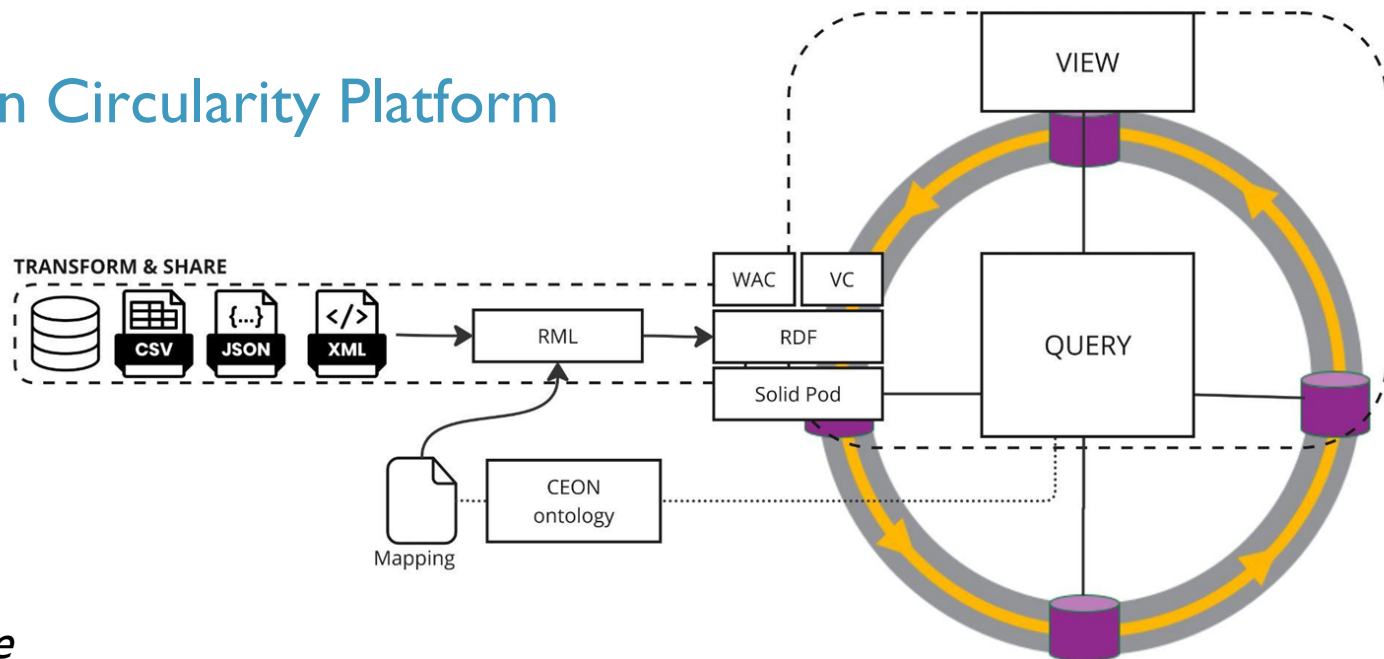
The Open Circularity Platform



Step 1 – Transform

The **mapping component** allows a company to transform its data to RDF according to an ontology that is understood by all actors of the platform. We use RML as this allows us to declare a performant mapping process relying on standards instead of hard-coded software.

The Open Circularity Platform



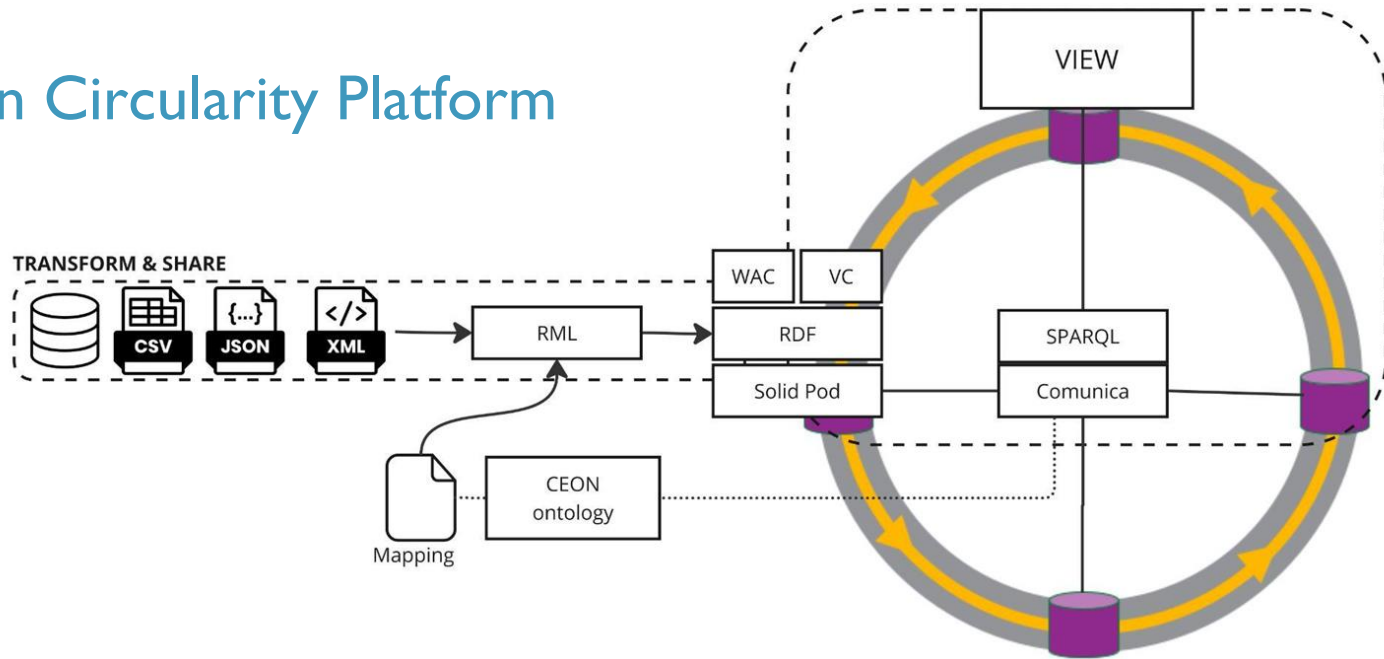
Step 2 – Share

For the sharing of the data, the RDF data is stored in Solid Pods.

The sharing step adds a secure layer that allows for:

- Access management (e.g., using WAC).
- Sharing the transformed RDF as a Verifiable Credential (VC).

The Open Circularity Platform

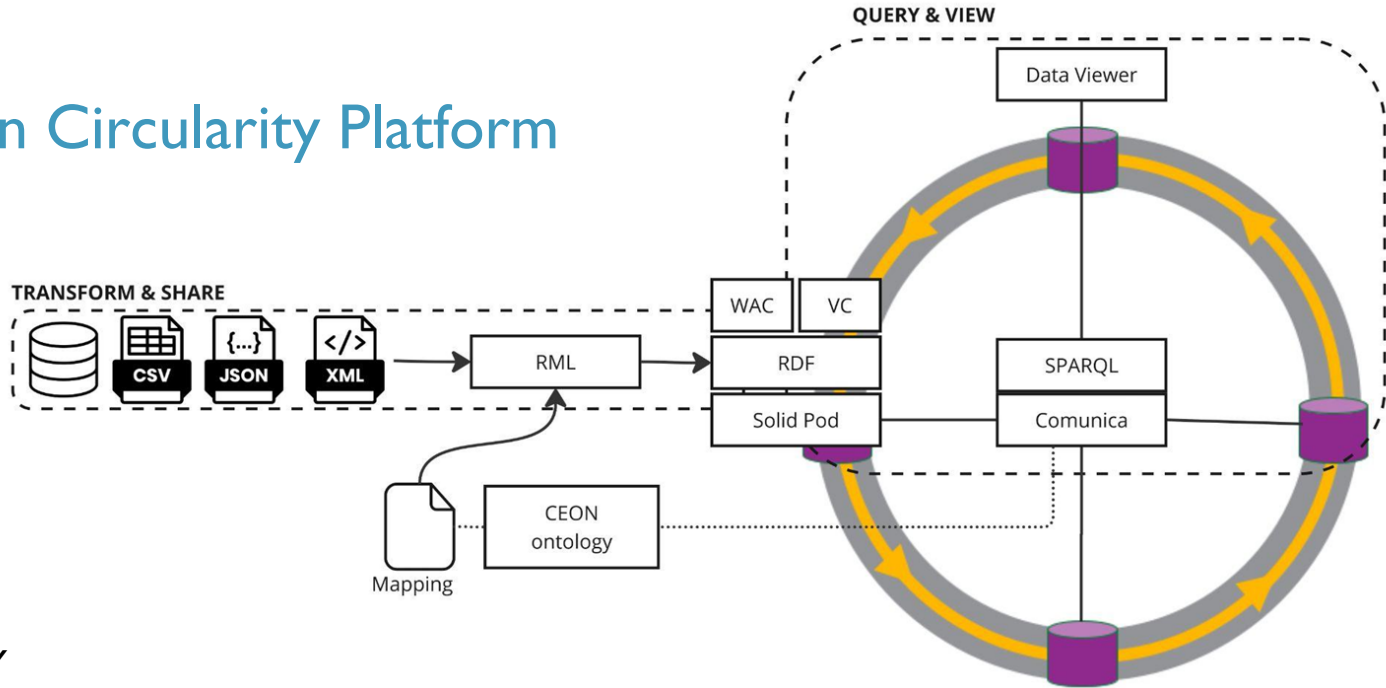


Step 3 – Query

To retrieve the information spread across the actors' decentralized data stores, we

- Define which information to retrieve using SPARQL.
- Leverage Comunica to take care of the federated querying.

The Open Circularity Platform



Step 4 – View

To conveniently obtain a comprehensible representation over all decentralized pods, we provide a data viewer that allows users to

- Select different views over the data flowing through the Open Circularity Platform.
- Verify the authenticity and integrity of the data sources that are part of a view.

The Open Circularity Platform: applied standards

RML to map an actor's data to RDF, regardless of the actor's existing infrastructure.

RDF to align the actors' data models.

Solid to provide a decentralized infrastructure, allowing users to share their data, while retaining access control.

SPARQL to define the queries.

Verifiable Credentials to allow users to verify the authenticity and integrity of the data sources.

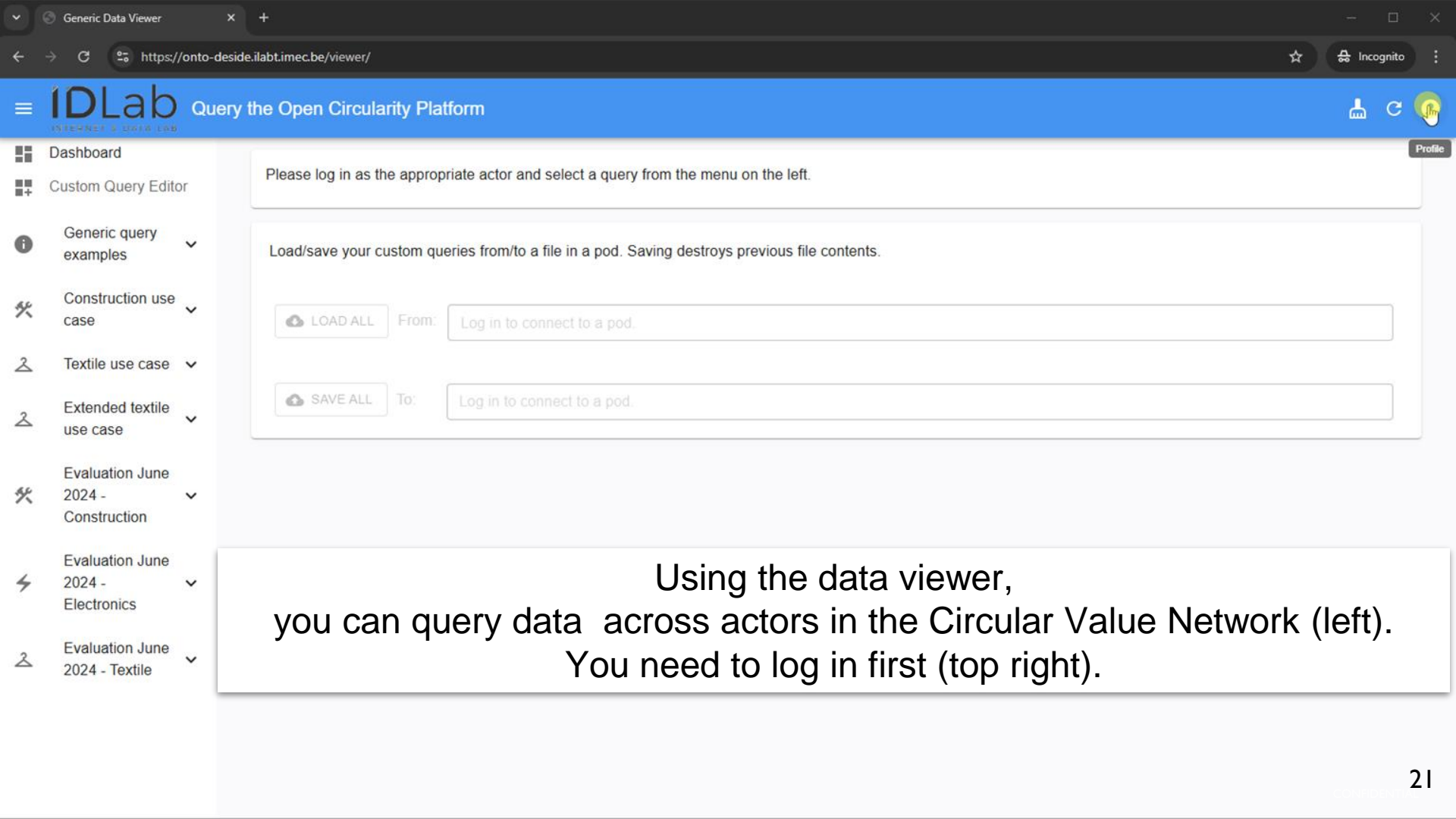
The Open Circularity Platform: developed solutions

CEON Ontology: a shared vocabulary for circular economy.

RML Extensions: to describe the end-to-end pipeline from heterogeneous data sources to fine-grained RDF resources on a Solid pod.

Data Viewer: Web app that allows users to easily execute any query over multiple data sources (including Solid pods) and inspect the corresponding results.

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Using the data viewer,
you can query data across actors in the Circular Value Network (left).
You need to log in first (top right).

login

- Dashboard
- Custom Query Editor
- Generic query examples
- Construction use case
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- Extended textile use case
- Evaluation June 2024 - Construction
- Evaluation June 2024 - Electronics
- Evaluation June 2024 - Textile

Please log in as the appropriate actor and select a query from the menu on the left.

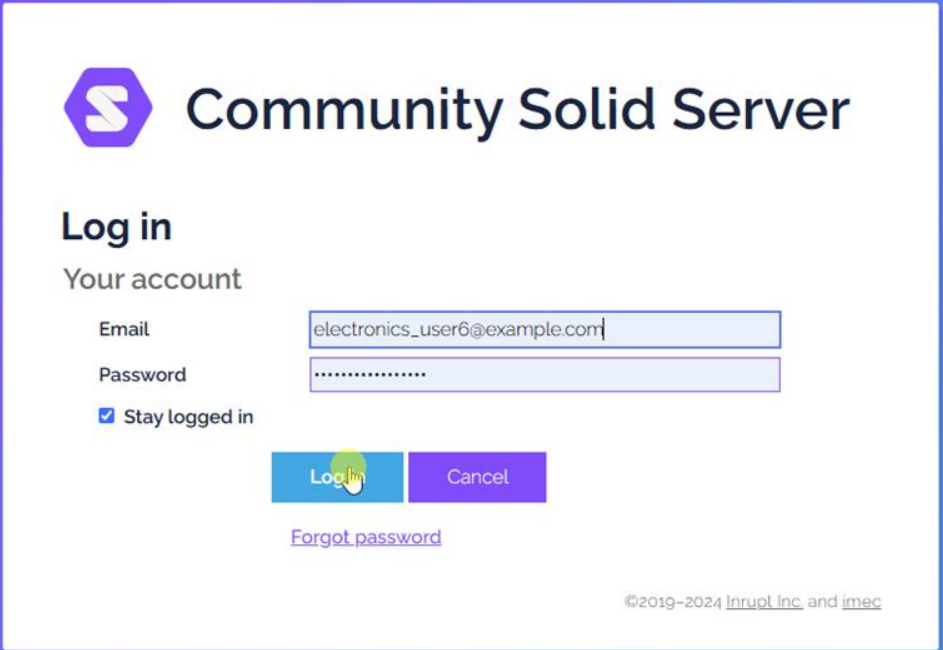
Load/save your custom queries from/to a file in a pod. Saving destroys previous file contents.

From:

To:

https://onto-deside.ilabt.imec

Login



The image shows a web browser window displaying the login page for 'Community Solid Server'. The page has a white background with a purple header area. At the top left is a purple hexagonal logo with a white 'S'. To its right is the text 'Community Solid Server' in a dark blue font. Below this is the heading 'Log in' in a bold, dark blue font, followed by the sub-heading 'Your account' in a smaller, grey font. There are two input fields: 'Email' containing 'electronics_user6@example.com' and 'Password' with masked characters. A checkbox labeled 'Stay logged in' is checked. Below the fields are two buttons: a blue 'Log in' button and a purple 'Cancel' button. A link for 'Forgot password' is located below the buttons. At the bottom right of the page, there is a copyright notice: '©2019-2024 Inrupt Inc. and imec'.

We log in as the manufacturer of a speaker.



Community Solid Server

An application is requesting access

Do you trust this application to read and write data on your behalf?

Name: Generic Data Viewer

ID: UtxO718-VcLf3zFxFzLzqCz

Choose your WebID to authorize

https://onto-deside.ilabt.imec.be/css11/electronics_user6/profile/card#me

Remember this client

[Authorize](#) [Cancel](#)

[Edit account](#)

[Use a different account](#)

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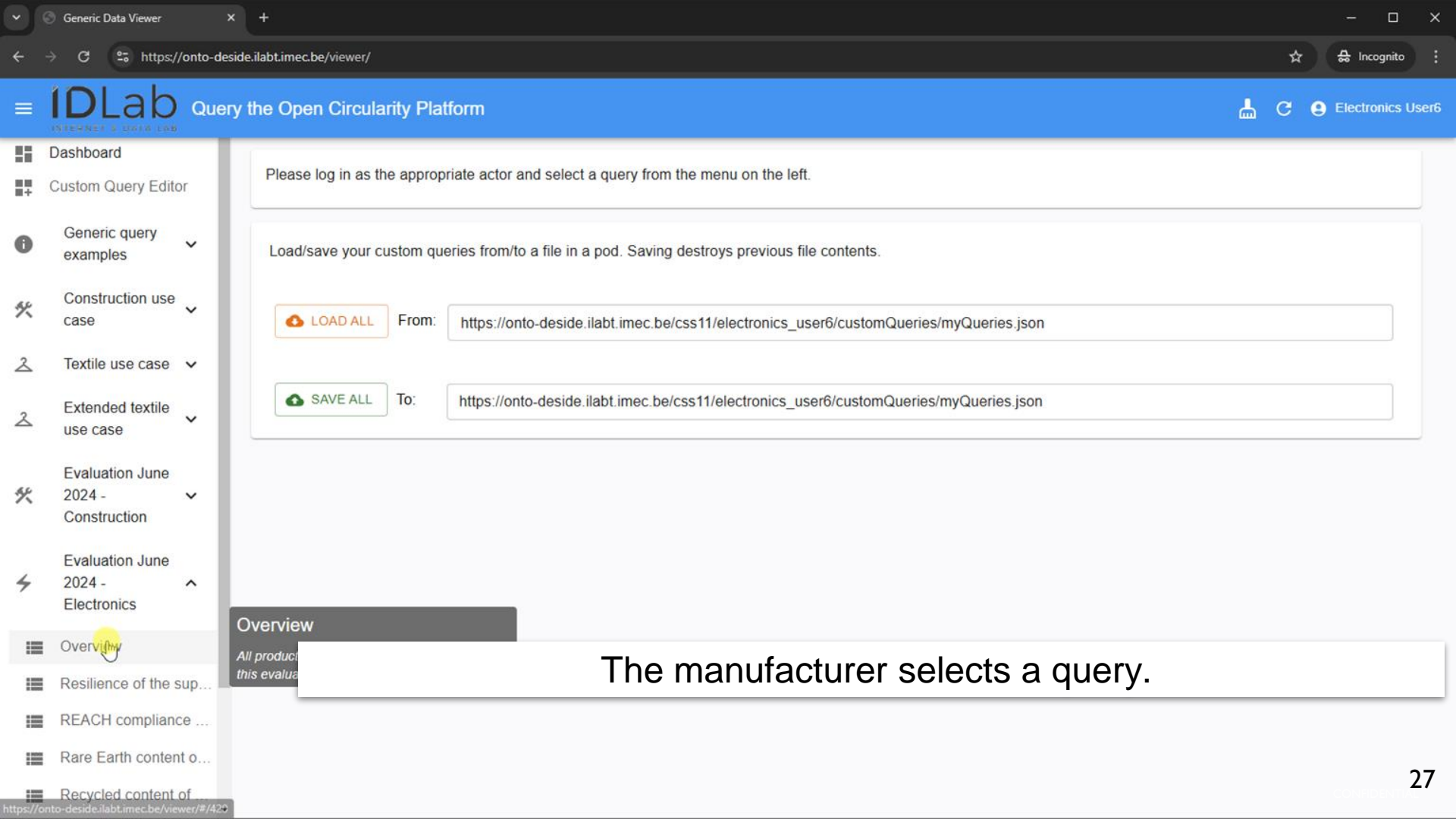
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Please log in as the appropriate actor and select a query from the menu on the left.

Load/save your custom queries from/to a file in a pod. Saving destroys previous file contents.

LOAD ALL From:

SAVE ALL To:



Please log in as the appropriate actor and select a query from the menu on the left.

Load/save your custom queries from/to a file in a pod. Saving destroys previous file contents.

LOAD ALL

From:

https://onto-deside.ilabt.imec.be/css11/electronics_user6/customQueries/myQueries.json

SAVE ALL

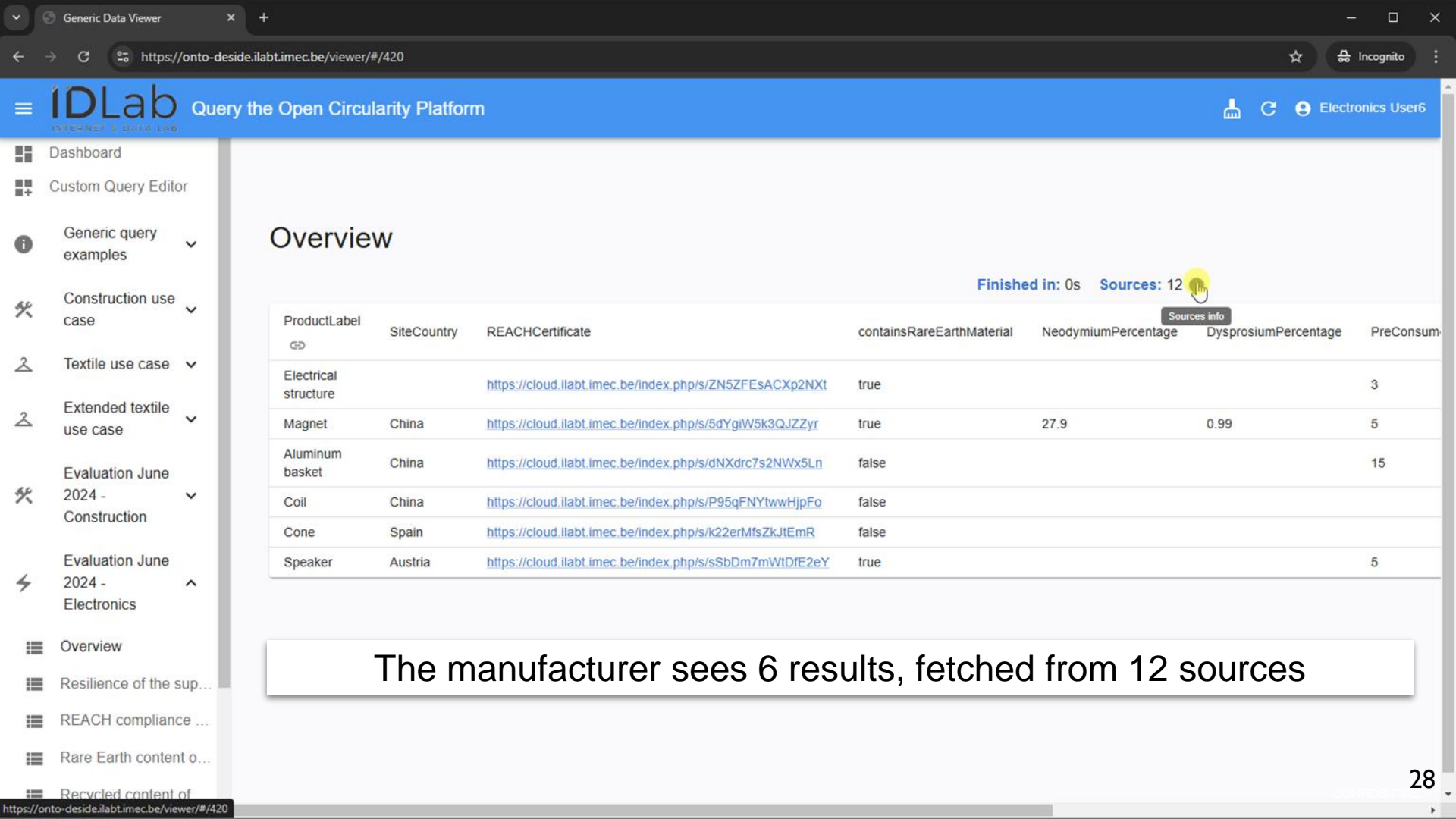
To:

https://onto-deside.ilabt.imec.be/css11/electronics_user6/customQueries/myQueries.json

Overview

All products
this evaluation

The manufacturer selects a query.



Overview

Finished in: 0s Sources: 12

ProductLabel	SiteCountry	REACHCertificate	containsRareEarthMaterial	NeodymiumPercentage	DysprosiumPercentage	PreConsumption
Electrical structure		https://cloud.ilabt.imec.be/index.php/s/ZN5ZFESACXp2NXt	true			3
Magnet	China	https://cloud.ilabt.imec.be/index.php/s/5dYgIW5k3QJZZyr	true	27.9	0.99	5
Aluminum basket	China	https://cloud.ilabt.imec.be/index.php/s/dNXdrc7s2NWX5Ln	false			15
Coil	China	https://cloud.ilabt.imec.be/index.php/s/P95qFNYtwwHjpFo	false			
Cone	Spain	https://cloud.ilabt.imec.be/index.php/s/k22erMfsZkJtEmR	false			
Speaker	Austria	https://cloud.ilabt.imec.be/index.php/s/sSbDm7mWtDfE2eY	true			5

The manufacturer sees 6 results, fetched from 12 sources

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Source	Authentication needed
https://onto-deside.ilabt.imec.be/css11/electronics_user1/ceon/index	🔒
https://onto-deside.ilabt.imec.be/css11/electronics_user2/ceon/index	🔒
https://onto-deside.ilabt.imec.be/css11/electronics_user3/ceon/index	🔒
https://onto-deside.ilabt.imec.be/css11/electronics_user4/ceon/index	🔒

ProductLabel	SiteCountry	REACHCertificate	containsRareEarthMaterial	NeodymiumPercentage	DysprosiumPercentage	PreConsum
<div style="border: 1px solid gray; padding: 10px; display: inline-block;"> <p>We can inspect the query sources.</p> </div>						
Magnet	China	https://cloud.ilabt.imec.be/index.php/s/5dYgiW5k3QJZZyr	true	27.9	0.99	5
Aluminum basket	China	https://cloud.ilabt.imec.be/index.php/s/dNXdrc7s2NWX5Ln	false			15
Coil	China	https://cloud.ilabt.imec.be/index.php/s/P95qFNYtwHjpFo	false			
Cone	Spain	https://cloud.ilabt.imec.be/index.php/s/k22erMfsZkJtEmR	false			
Speaker	Austria	https://cloud.ilabt.imec.be/index.php/s/sSbDm7mWtDfE2eY	true			5

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https://onto-deside.ilabt.imec.be/css11/electronics_user3/ceon/index							🔒
https://onto-deside.ilabt.imec.be/css11/electronics_user4/ceon/index							🔒
https://onto-deside.ilabt.imec.be/css11/electronics_user5/ceon/index							🔒
https://onto-deside.ilabt.imec.be/css11/electronics_user6/ceon/index							🔒
ProductLabel	SiteCountry	REACHCertificate	containsRareEarthMaterial	NeodymiumPercentage	DysprosiumPercentage	PreConsumption	
Electrical structure		https://cloud.ilabt.imec.be/index.php/s/ZN5ZFEsACXp2NXt	true			3	
Magnet	China	https://cloud.ilabt.imec.be/index.php/s/5dYgiW5k3QJZZyr	true	27.9	0.99	5	
Aluminum basket	China	https://cloud.ilabt.imec.be/index.php/s/dNXdrc7s2NWX5Ln	false			15	
Coil	China	https://cloud.ilabt.imec.be/index.php/s/P95qFNYtwHjpFo	false				
Cone	Spain	https://cloud.ilabt.imec.be/index.php/s/k22erMfsZkJtEmR	false				
Speaker	Austria	https://cloud.ilabt.imec.be/index.php/s/sSbDm7mWtDfE2eY	true			5	

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https://onto-deside.ilabt.imec.be/css11/electronics_user5/ceon/index							🔒
https://onto-deside.ilabt.imec.be/css11/electronics_user6/ceon/index							🔒
https://onto-deside.ilabt.imec.be/css11/electronics_user1/ceon/product-JUY9242							🔒
https://onto-deside.ilabt.imec.be/css11/electronics_user2/ceon/product-IUYT567							🔒
https://onto-deside.ilabt.imec.be/css11/electronics_user3/ceon/product-OIP8597							🔒
ProductLabel	SiteCountry	REACHCertificate	containsRareEarthMaterial	NeodymiumPercentage	DysprosiumPercentage	PreConsum	
Electrical structure		https://cloud.ilabt.imec.be/index.php/s/ZN5ZFEsACXp2NXt	true			3	
Magnet	China	https://cloud.ilabt.imec.be/index.php/s/5dYgiW5k3QJZZyr	true	27.9	0.99	5	
Aluminum basket	China	https://cloud.ilabt.imec.be/index.php/s/dNXdrc7s2NWX5Ln	false			15	
Coil	China	https://cloud.ilabt.imec.be/index.php/s/P95qFNYtwHjpFo	false				
Cone	Spain	https://cloud.ilabt.imec.be/index.php/s/k22erMfsZkJtEmR	false				
Speaker	Austria	https://cloud.ilabt.imec.be/index.php/s/sSbDm7mWtDfE2eY	true			5	

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https://onto-deside.ilabt.imec.be/css11/electronics_user1/ceon/product-JUY9242	🔒
https://onto-deside.ilabt.imec.be/css11/electronics_user2/ceon/product-IUYT567	🔒
https://onto-deside.ilabt.imec.be/css11/electronics_user3/ceon/product-OIP8597	🔒
https://onto-deside.ilabt.imec.be/css11/electronics_user4/ceon/product-VTE0953	🔒
https://onto-deside.ilabt.imec.be/css11/electronics_user5/ceon/product-XYU3987	🔒

ProductLabel	SiteCountry	REACHCertificate	containsRareEarthMaterial	NeodymiumPercentage	DysprosiumPercentage	PreConsum
Electrical structure		https://cloud.ilabt.imec.be/index.php/s/ZN5ZFEsACXp2NXt	true			3
Magnet	China	https://cloud.ilabt.imec.be/index.php/s/5dYgiW5k3QJZZyr	true	27.9	0.99	5
Aluminum basket	China	https://cloud.ilabt.imec.be/index.php/s/dNXdrc7s2NWX5Ln	false			15
Coil	China	https://cloud.ilabt.imec.be/index.php/s/P95qFNYtwHjpFo	false			
Cone	Spain	https://cloud.ilabt.imec.be/index.php/s/k22erMfsZkJtEmR	false			
Speaker	Austria	https://cloud.ilabt.imec.be/index.php/s/sSbDm7mWtDfE2eY	true			5

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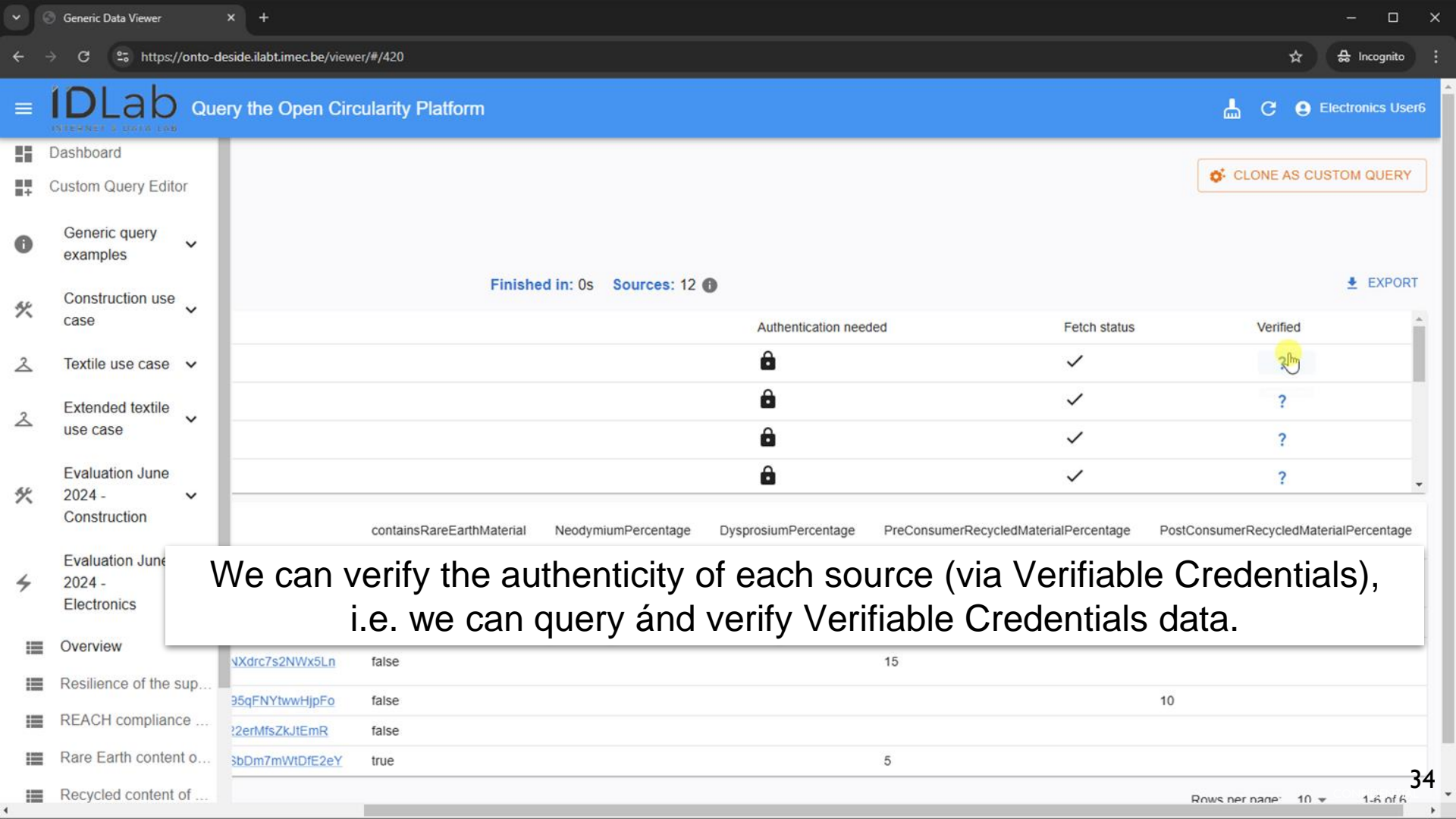
Overview

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Source	Authentication needed
https://onto-deside.ilabt.imec.be/css11/electronics_user1/ceon/index	🔒
https://onto-deside.ilabt.imec.be/css11/electronics_user2/ceon/index	🔒
https://onto-deside.ilabt.imec.be/css11/electronics_user3/ceon/index	🔒
https://onto-deside.ilabt.imec.be/css11/electronics_user4/ceon/index	🔒

ProductLabel	SiteCountry	REACHCertificate	containsRareEarthMaterial	NeodymiumPercentage	DysprosiumPercentage	PreConsum
Electrical structure						3
Magnet	China	https://cloud.ilabt.imec.be/index.php/s/5dYgiW5k3QJZZyr	true	27.9	0.99	5
Aluminum basket	China	https://cloud.ilabt.imec.be/index.php/s/dNXdrc7s2NWX5Ln	false			15
Coil	China	https://cloud.ilabt.imec.be/index.php/s/P95qFNYtwHjpFo	false			
Cone	Spain	https://cloud.ilabt.imec.be/index.php/s/k22erMfsZkJtEmR	false			
Speaker	Austria	https://cloud.ilabt.imec.be/index.php/s/sSbDm7mWtDfE2eY	true			5

In this case, all data is privately shared (🔒).



CLONE AS CUSTOM QUERY

Finished in: 0s Sources: 12

EXPORT

	Authentication needed	Fetch status	Verified
		✓	
		✓	?
		✓	?
		✓	?

containsRareEarthMaterial NeodymiumPercentage DysprosiumPercentage PreConsumerRecycledMaterialPercentage PostConsumerRecycledMaterialPercentage

We can verify the authenticity of each source (via Verifiable Credentials), i.e. we can query and verify Verifiable Credentials data.

\Xdrc7s2NWx5Ln	false	15	
95qFNYtwHjpFo	false		10
?2erMfsZkJtEmR	false		
3bDm7mWIDfE2eY	true	5	

CLONE AS CUSTOM QUERY

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	Authentication needed	Fetch status	Verified
		✓	
		✓	
		✓	?
		✓	?

	containsRareEarthMaterial	NeodymiumPercentage	DysprosiumPercentage	PreConsumerRecycledMaterialPercentage	PostConsumerRecycledMaterialPercentage
\5ZFESACXp2NXt	true			3	
fYgiW5k3QJZZyr	true	27.9	0.99	5	
\Xdrc7s2NWx5Ln	false			15	
95qFNYtwHjpFo	false				10
?2erMfsZkJtEmR	false				
3bDm7mWIDfE2eY	true			5	

⚙️ CLONE AS CUSTOM QUERY

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📄 EXPORT

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	Authentication needed	Fetch status	Verified
	🔒	✓	✓
	🔒	✓	✓
	🔒	✓	?
	🔒	✓	?

	containsRareEarthMaterial	NeodymiumPercentage	DysprosiumPercentage	PreConsumerRecycledMaterialPercentage	PostConsumerRecycledMaterialPercentage
\5ZFESACXp2NXt	true			3	
fYgiW5k3QJZZyr	true	27.9	0.99	5	
\Xdrc7s2NWx5Ln	false			15	
95qFNYtwHjpFo	false				10
?2erMfsZkJtEmR	false				
3bDm7mWIDfE2eY	true			5	

🔧 CLONE AS CUSTOM QUERY

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	Authentication needed	Fetch status	Verified		
	🔒	✓	✓		
	🔒	✓	✓		
	🔒	✓	✓		
	🔒	✓	?		
	containsRareEarthMaterial	NeodymiumPercentage	DysprosiumPercentage	PreConsumerRecycledMaterialPercentage	PostConsumerRecycledMaterialPercentage
\5ZFEsACXp2NXt	true			3	
fYgiW5k3QJZZyr	true	27.9	0.99	5	
\Xdrc7s2NWx5Ln	false			15	
95qFNYtwHjpFo	false				10
?2erMfsZkJtEmR	false				
3bDm7mWIDfE2eY	true			5	

[CLONE AS CUSTOM QUERY](#)

Finished in: 0s Sources: 12

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	Authentication needed	Fetch status	Verified		
		✓			
		✓			
		✓			
		✓	?		
	containsRareEarthMaterial	NeodymiumPercentage	DysprosiumPercentage	PreConsumerRecycledMaterialPercentage	PostConsumerRecycledMaterialPercentage
N5ZFEsACXp2NXt	true			3	
fYgiW5k3QJZZyr	true	27.9	0.99	5	
VXdrc7s2NWX5Ln	false			15	
95qFNYtwHjpFo	false				10
?2erMfsZkJtEmR	false				
3bDm7mWlDfE2eY	true			5	

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CLONE AS CUSTOM QUERY

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EXPORT

	Authentication needed	Fetch status	Verified
		✓	
		✓	
		✓	
		✓	?

	containsRareEarthMaterial	NeodymiumPercentage	DysprosiumPercentage	PreConsumerRecycledMaterialPercentage	PostConsumerRecycledMaterialPercentage
N5ZFEsACXp2NXt	true			3	
1YgiW					
1Xdrc					
95qFNYtwHjpFo	false				10
?2erMfsZkJtEmR	false				
3bDm7mWlDfE2eY	true			5	

Data results can be exported (to CSV)

Save As

This PC > Downloads

Search Downloads

Organize New folder

This PC

- 3D Objects
- Desktop
- Documents
- Downloads
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File name: 420.csv

Save as type: Microsoft Excel Comma Separated Values File (*.csv)

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Incognito

Electronics User6

CLONE AS CUSTOM QUERY

EXPORT

Verified

✓
✓
✓
?

Rows per page: 10 1-6 of 6

Extended textile use case			✓	✓	
Evaluation June 2024 - Construction			✓	?	
Evaluation June 2024 - Electronics			✓		
	containsRareEarthMaterial	NeodymiumPercentage	DysprosiumPercentage	PreConsumerRecycledMaterialPercentage	PostConsumerRecycledMaterialPercentage
	\5ZFEsACXp2NXt	true		3	
	\YgiW5k3QJZZyr	true	27.9	0.99	5
	\Xdrc7s2NWx5Ln	false		15	
	\95qFNYtwHjpFo	false			10
	\2erMfsZkJtEmR	false			
	\3bDm7mWlDfE2eY	true		5	

40

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📄 420.csv
1,802 KB Done

- Dashboard
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- Generic query examples
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- Extended textile use case
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- Resilience of the sup...
- REACH compliance ...
- Rare Earth content o...
- Recycled content of ...

Finished in: 0s Sources: 12 ⓘ

EXPORT

	Authentication needed	Fetch status	Verified
	🔒	✓	✓
	🔒	✓	✓
	🔒	✓	✓
	🔒	✓	?

	containsRareEarthMaterial	NeodymiumPercentage	DysprosiumPercentage	PreConsumerRecycledMaterialPercentage	PostConsumerRecycledMaterialPercentage
\5ZFESACXp2NXt	true			3	
fYgiW5k3QJZZyr	true	27.9	0.99	5	
\Xdrc7s2NWx5Ln	false			15	
95qFNYtwHjpFo	false				10
?2erMfsZkJtEmR	false				
\bDm7mWIDfE2eY	true			5	

AutoSave Off 420.csv - Saved to thi... Search

File Home Insert Page Layout Formulas Data Review View Automate Developer Help

Clipboard Font Alignment Number Styles

General Conditional Formatting Cells Editing Sensitivity Add-ins Analyze Data OASE

A1 ProductLabel.id

ProductLabel	SiteCount	REACHContainsR	REACHContainsR	REACHContainsR	REACHContainsR	Neodymium	Dysprosium	PreConsumer	PostConsumer	SiteCount	Neodymium	Dysprosium	PreConsumer	PostConsumer
"Electrical structure"	https://clcl	Literal	TRUE	NamedNc	http://www.w3.org/2001/XMLSchema#boolean	0								
"Magnet"	https://clcl	Literal	TRUE	NamedNc	http://www.w3.org/2001/XMLSchema#boolean	1	"China"	"27.9"	"0.99"					
"Aluminum basket"	https://clcl	Literal	FALSE	NamedNc	http://www.w3.org/2001/XMLSchema#boolean	2	"China"							
"Coil"	https://clcl	Literal	FALSE	NamedNc	http://www.w3.org/2001/XMLSchema#boolean	3	"China"							"1"
"Cone"	https://clcl	Literal	FALSE	NamedNc	http://www.w3.org/2001/XMLSchema#boolean	4	"Spain"							
"Speaker"	https://clcl	Literal	TRUE	NamedNc	http://www.w3.org/2001/XMLSchema#boolean	5	"Austria"							

Incognito Electronics User6

CLONE AS CUSTOM QUERY

EXPORT

Fetch status	Verified
✓	✓
✓	✓
✓	✓
✓	?

MaterialPercentage PostConsumerRecycledMaterialPercentage

Ready Accessibility: Unavailable Display Settings 100%

Evaluation June 2024 - Electronics

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- Recycled content of ...

\5ZFESACXp2NXt	true			3
\YgiW5k3QJZZyr	true	27.9	0.99	5
\XdrC7s2NWx5Ln	false			15
\95qFNYtwHjpFo	false			10
\2erMfsZkJtEmR	false			
\3bDm7mWIDfE2eY	true			5

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- REACH compliance ...
- Rare Earth content o...
- Recycled content of ...

Overview

Finished in: 0s Sources: 12

Sources info

Authentication needed

Source	Authentication needed
https://onto-deside.ilabt.imec.be/css11/electronics_user1/ceon/index	🔒
https://onto-deside.ilabt.imec.be/css11/electronics_user2/ceon/index	🔒
https://onto-deside.ilabt.imec.be/css11/electronics_user3/ceon/index	🔒
https://onto-deside.ilabt.imec.be/css11/electronics_user4/ceon/index	🔒

ProductLabel	SiteCountry	REACHCertificate	containsRareEarthMaterial	NeodymiumPercentage	DysprosiumPercentage	PreConsumption
Electrical structure		https://cloud.ilabt.imec.be/index.php/s/ZN5ZFEsACXp2NXt	true			3
Magnet	China	https://cloud.ilabt.imec.be/index.php/s/5dYgiW5k3QJZZyr	true	27.9	0.99	5
Aluminum basket	China	https://cloud.ilabt.imec.be/index.php/s/dNXdrc7s2NWX5Ln	false			15
Coil	China	https://cloud.ilabt.imec.be/index.php/s/P95qFNYtwHjpFo	false			
Cone	Spain	https://cloud.ilabt.imec.be/index.php/s/k22erMfsZkJtEmR	false			
Speaker	Austria	https://cloud.ilabt.imec.be/index.php/s/sSbDm7mWtDfE2eY	true			5

- Dashboard
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- REACH compliance ...
- Rare Earth content o...
- Recycled content of

Overview

Finished in: 0s Sources: 12

ProductLabel	SiteCountry	REACHCertificate	containsRareEarthMaterial	NeodymiumPercentage	DysprosiumPercentage	PreConsum
Electrical structure		https://cloud.ilabt.imec.be/index.php/s/ZN5ZFEsACXp2NXt	true			3
Magnet	China	https://cloud.ilabt.imec.be/index.php/s/5dYgiW5k3QJZZyr	true	27.9	0.99	5
Aluminum basket	China	https://cloud.ilabt.imec.be/index.php/s/dNXdrc7s2NWx5Ln	false			15
Coil	China	https://cloud.ilabt.imec.be/index.php/s/P95qFNYtwHjpFo	false			
Cone	Spain	https://cloud.ilabt.imec.be/index.php/s/k22erMfsZkJtEmR	false			
Speaker	Austria	https://cloud.ilabt.imec.be/index.php/s/sSbDm7mWtDfE2eY	true			5

Resilience of the supply chain of a product

How resilient is the supply chain of a product, based on the origin of the materials?

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Product label * ▾

✓ QUERY

You can set up query templates that the end-user can fill in.

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- REACH compliance ...
- Rare Earth content o...
- Recycled content of ...

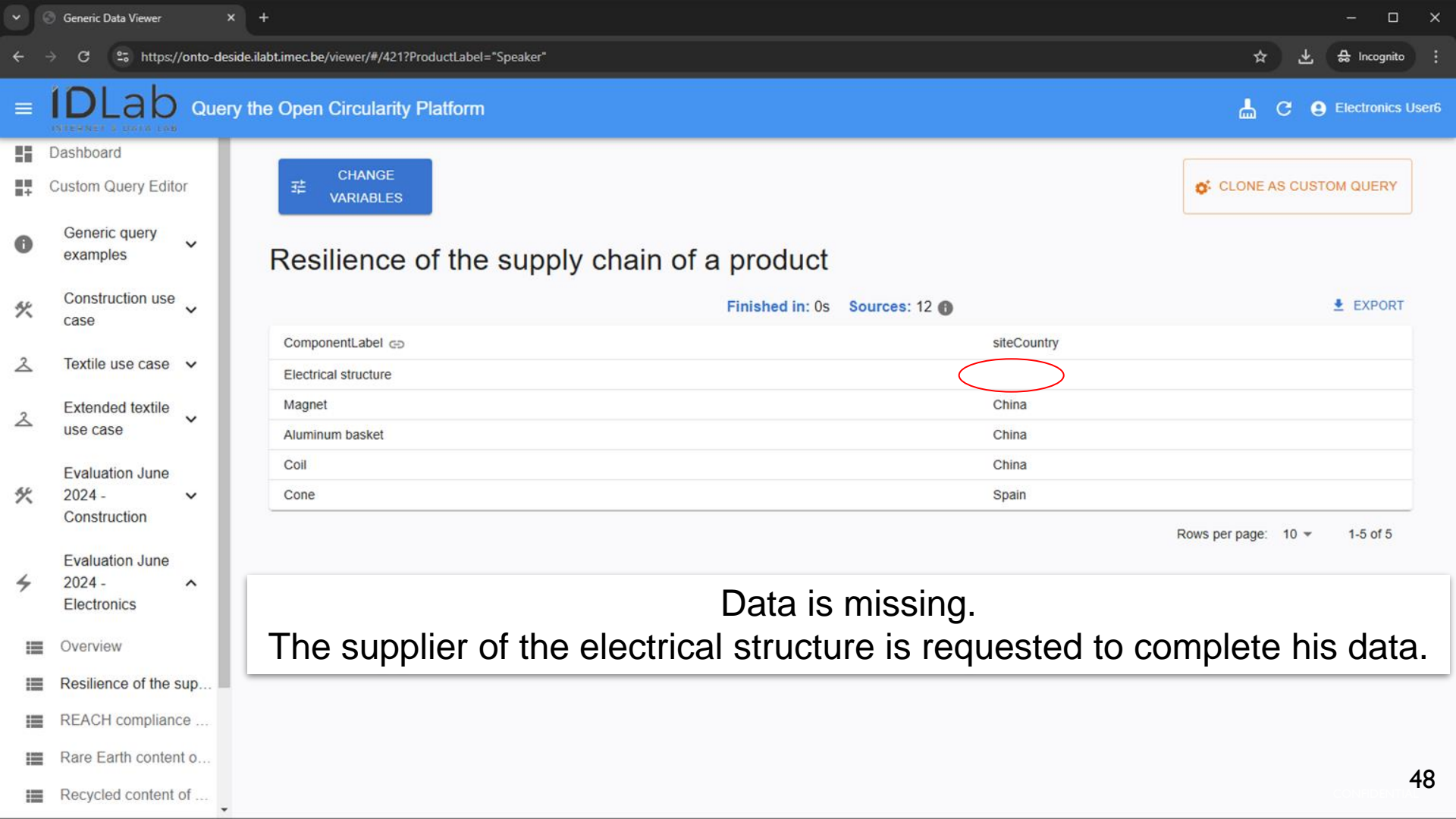
ProductLabel*

- "Aluminum basket"
- "Coil"
- "Cone"
- "Electrical structure"
- "Magnet"
- "Speaker"

- Dashboard
- Custom Query Editor
- Generic query examples
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- Textile use case
- Extended textile use case
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- Evaluation June 2024 - Electronics
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- Rare Earth content o...
- Recycled content of ...

ProductLabel*
"Speaker"

✓ QUERY



Resilience of the supply chain of a product

Finished in: 0s Sources: 12

EXPORT

ComponentLabel	siteCountry
Electrical structure	
Magnet	China
Aluminum basket	China
Coil	China
Cone	Spain

Rows per page: 10 1-5 of 5

Data is missing.
The supplier of the electrical structure is requested to complete his data.

Project

- ▼ Evaluation C:\Users\Administrator\Documents\O
 - > Construction
 - data
 - ▼ Electronics
 - > data
 - > input
 - user1
 - ▼ data
 - electronics_user1_acl.csv
 - electronics_user1_data.csv**
 - electronics_user1_mapping.yml
 - empty.csv
 - mapping.rml.ttl
 - > user2
 - > user3
 - > user4
 - > user5
 - > user6
 - > user9
 - execute_mappings.sh
 - README.md
 - > Screencast
 - > Textile

Search Everywhere Double Shift

Go to File Ctrl+Shift+N

Recent Files Ctrl+E

Navigation Bar Alt+Home

Drop files here to open them

```
Administrator@idlab299 MINGW64 ~/Documents/Onto-DESIDE/Evaluation/Electronics/user1 (main)
$
```

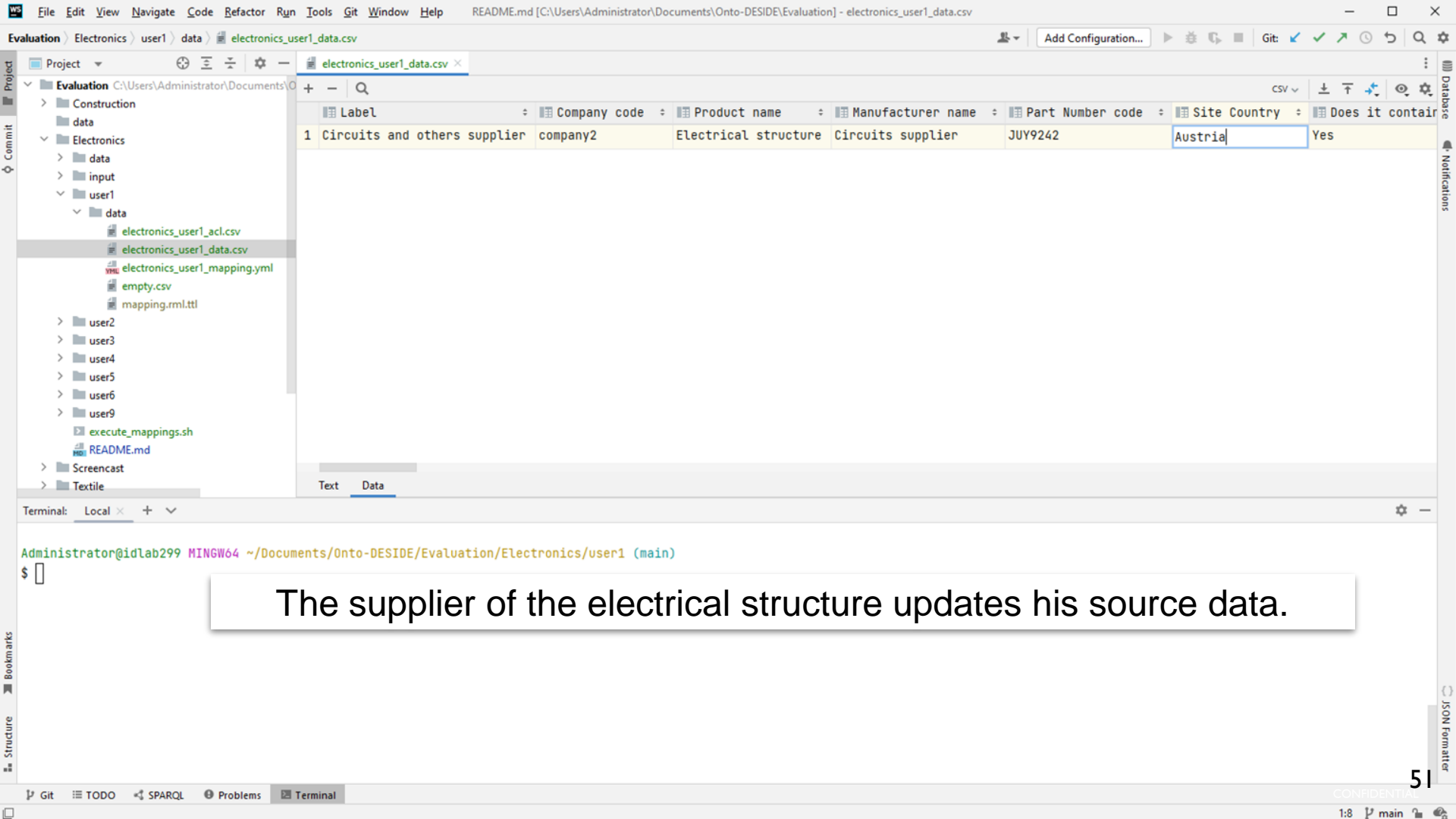
Evaluation > Electronics > user1 > data > electronics_user1_data.csv

Project: electronics_user1_data.csv

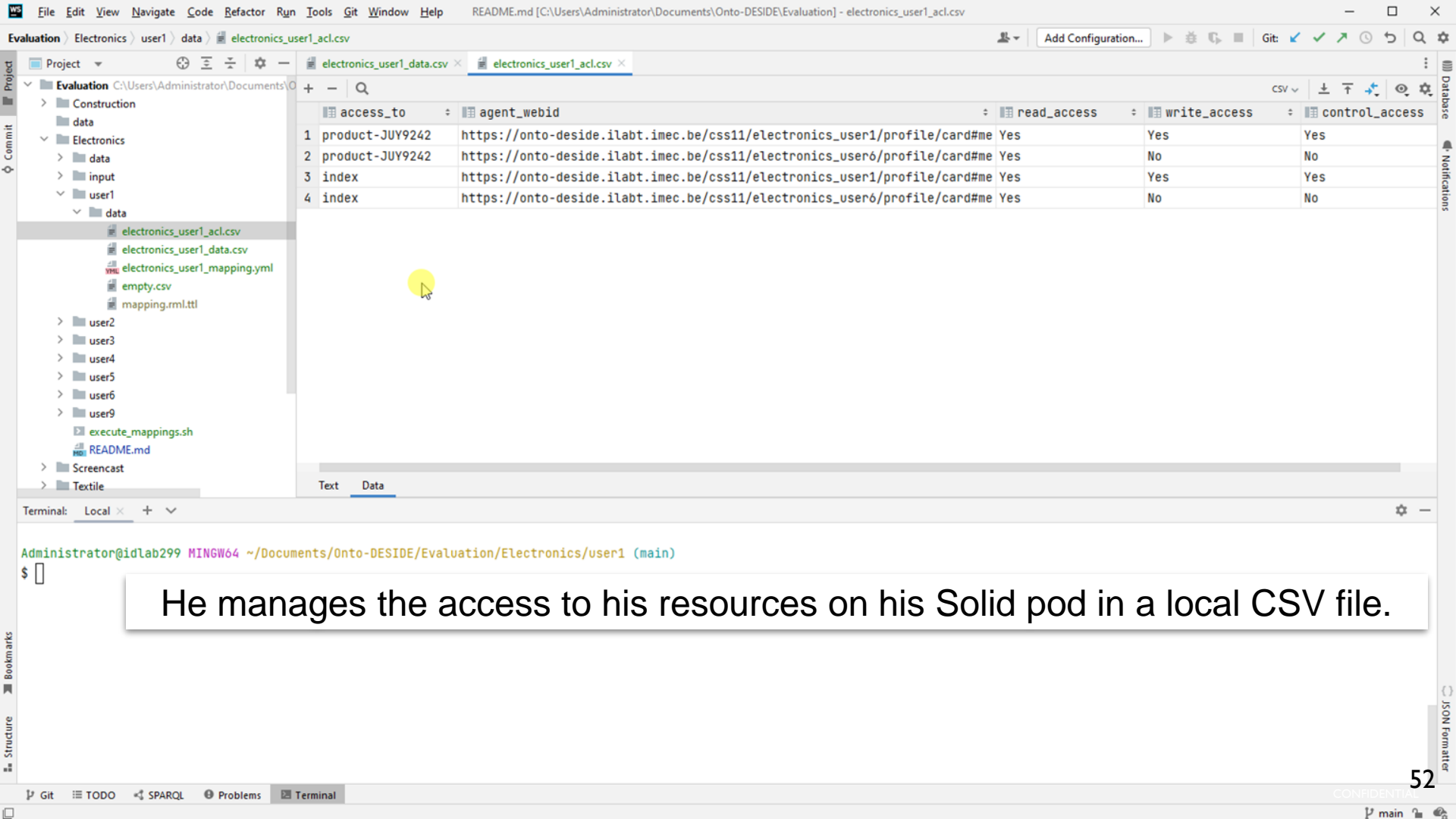
Label	Company code	Product name	Manufacturer name	Part Number code	Site Country	Does it contain
1	Circuits and others supplier	company2	Electrical structure	Circuits supplier	JUY9242	Yes

Terminal: Local x + v

```
Administrator@idlab299 MINGW64 ~/Documents/Onto-DESIDE/Evaluation/Electronics/user1 (main)
$
```



The supplier of the electrical structure updates his source data.



He manages the access to his resources on his Solid pod in a local CSV file.

```
File Edit View Navigate Code Refactor Run Tools Git Window Help
Evaluation > Electronics > user1 > data > electronics_user1_mapping.yml
Project > C:\Users\Administrator\Documents\0
  > Construction
  > data
  > Electronics
    > data
    > input
    > user1
      > data
        electronics_user1_acl.csv
        electronics_user1_data.csv
        electronics_user1_mapping.yml
        empty.csv
        mapping.rml.ttl
      > user2
      > user3
      > user4
      > user5
      > user6
      > user9
      execute_mappings.sh
      README.md
    > Screencast
    > Textile
  Document 1/1 > prefixes:
1 prefixes:
2 acl: http://www.w3.org/ns/auth/acl#
3 solid: http://www.w3.org/ns/solid/terms#
4 idsa: https://w3id.org/idsa/core/
5 idlab-fn: http://example.com/idlab/function/
6 grel: http://users.ugent.be/~bjdmeest/function/grel.ttl#
7 ex: http://example.com/
8 elec: http://w3id.org/CEON/demo/electronics/
9 ns1: http://w3id.org/CEON/ontology/actorODP/
10 ns2: http://qudt.org/schema/qudt/
11 ns3: http://w3id.org/CEON/ontology/resourceODP/
12 ns4: http://w3id.org/CEON/ontology/provenance/
13 ns5: http://w3id.org/CEON/ontology/product/
14 formats: http://www.w3.org/ns/formats/
15 rml: https://w3id.org/imec/rml/
16 LT: http://knows.base/logical_target/
17 T: http://knows.base/target/
18 rml: http://semweb.mmlab.be/ns/rml#
19 rmlt: http://semweb.mmlab.be/ns/rml-target#
20
```

Terminal: Local x + -

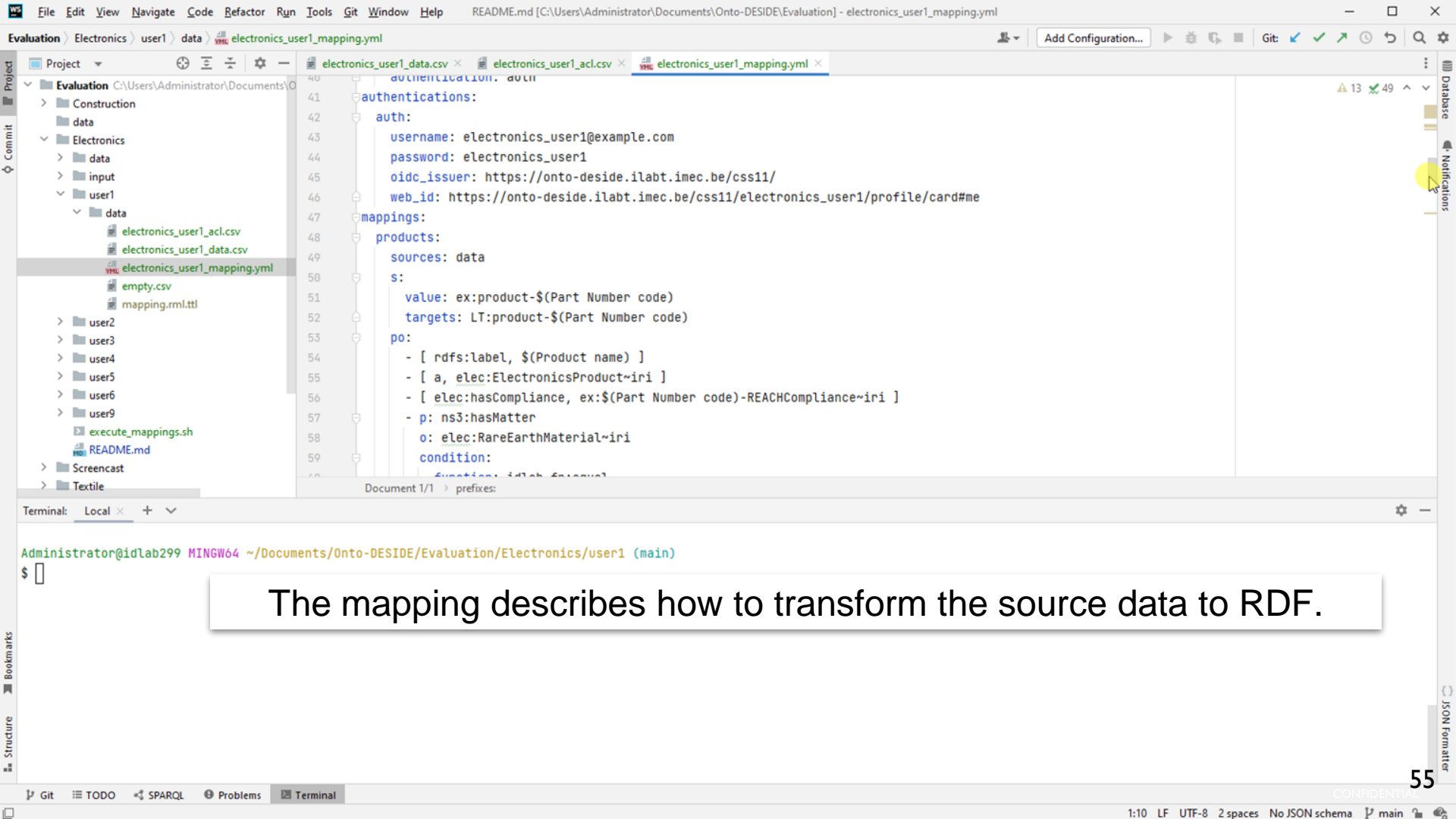
```
Administrator@idlab299 MINGW64 ~/Documents/Onto-DESIDE/Evaluation/Electronics/user1 (main)
$
```

A mapping configures the publication pipeline for his data.

```
File Edit View Navigate Code Refactor Run Tools Git Window Help README.md [C:\Users\Administrator\Documents\Onto-DESID\Evaluation] - electronics_user1_mapping.yml
Evaluation > Electronics > user1 > data > electronics_user1_mapping.yml
Project > Evaluation C:\Users\Administrator\Documents\0
  > Construction
  > data
  > Electronics
    > data
    > input
    > user1
      > data
        electronics_user1_acl.csv
        electronics_user1_data.csv
        electronics_user1_mapping.yml
        empty.csv
        mapping.rml.ttl
      > user2
      > user3
      > user4
      > user5
      > user6
      > user9
      execute_mappings.sh
      README.md
    > Screencast
    > Textile
Terminal: Local x + v
Administrator@idlab299 MINGW64 ~/Documents/Onto-DESID/Evaluation/Electronics/user1 (main)
$

base: http://knows.com/base/
sources:
  data:
    access: ./electronics_user1_data.csv
    referenceFormulation: csv
    delimiter: ','
    'null':
      - ''
  acl:
    access: ./electronics_user1_acl.csv
    referenceFormulation: csv
  empty:
    access: ./empty.csv
    referenceFormulation: csv
  targets:
    ceon_index:
      type: solid_resource
      access: https://onto-deside.ilabt.imec.be/css11/electronics_user1/ceon/index
      serialization: jsonld
```

The mapping describes how to access the source data and where in the Solid Pod the generated RDF should end up.



```
40 authentication: auth
41 authentications:
42   auth:
43     username: electronics_user1@example.com
44     password: electronics_user1
45     oidc_issuer: https://onto-deside.ilabt.imec.be/css11/
46     web_id: https://onto-deside.ilabt.imec.be/css11/electronics_user1/profile/card#me
47 mappings:
48   products:
49     sources: data
50     s:
51       value: ex:product-$(Part Number code)
52       targets: LT:product-$(Part Number code)
53   po:
54     - [ rdfs:label, $(Product name) ]
55     - [ a, elec:ElectronicsProduct~iri ]
56     - [ elec:hasCompliance, ex:$(Part Number code)-REACHCompliance~iri ]
57     - p: ns3:hasMatter
58     o: elec:RareEarthMaterial~iri
59   condition:
60     function: idlab_frontend
```

The mapping describes how to transform the source data to RDF.

Terminal: Local x + -
Administrator@idlab299 MINGW64 ~/Documents/Onto-DESIDE/Evaluation/Electronics/user1 (main)
\$

```
File Edit View Navigate Code Refactor Run Tools Git Window Help
README.md [C:\Users\Administrator\Documents\Onto-DESIDE\Evaluation] - electronics_user1_mapping.yml
Evaluation > Electronics > user1 > data > electronics_user1_mapping.yml
Project > Evaluation C:\Users\Administrator\Documents\0
  > Construction
  > data
  > Electronics
    > data
    > input
    > user1
      > data
        electronics_user1_acl.csv
        electronics_user1_data.csv
        electronics_user1_mapping.yml
        empty.csv
        mapping.rml.ttl
      > user2
      > user3
      > user4
      > user5
      > user6
      > user9
      execute_mappings.sh
      README.md
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    > Textile
Terminal: Local x + v
62 - [ grel:valueParameter, $(Does it contain any Rare Earth?) ]
63 - [ grel:valueParameter2, Yes ]
64 manufacturer:
65   sources: data
66   s:
67     value: ex:manufacturer-$(Company code)
68     targets: LT:product-$(Part Number code)
69   po:
70     - [ elec:siteCountry, $(Site Country) ]
71 producing:
72   sources: data
73   s:
74     value: ex:producing-$(Company code)-$(Part Number code)
75     targets: LT:product-$(Part Number code)
76   po:
77     - [ ns1:participantRole, http://w3id.org/CEON/ontology/actor/manufacturer~iri ]
78     - [ ns1:participatingActor, ex:manufacturer-$(Company code)~iri ]
79     - [ ns1:participatingResource, ex:product-$(Part Number code)~iri ]
80 reachcompliance:
81   sources: data
```

With the introduction of dynamic targets as an RML extension we enable flexible publication strategies.

```
Administrator@idlab299 MINGW64 ~/Documents/Onto-DESIDE/Evaluation/Electronics/user1 (main)
$
```

Git TODO SPARQL Problems Terminal

75:16 (30 chars) LF UTF-8 2 spaces No JSON schema main

CONFIDENTIAL 56

File Edit View Navigate Code Refactor Run Tools Git Window Help README.md [C:\Users\Administrator\Documents\Onto-DESIDE\Evaluation] - electronics_user1_mapping.yml

Project Evaluation C:\Users\Administrator\Documents\234
Construction 235
data 236
Electronics 237
data 238
input 239
user1 240
data 241
electronics_user1_acl.csv 242
electronics_user1_data.csv 243
electronics_user1_mapping.yml 244
empty.csv 245
mapping.rml.ttl 246
user2 247
user3 248
user4
user5
user6
user9
execute_mappings.sh
README.md
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Textile

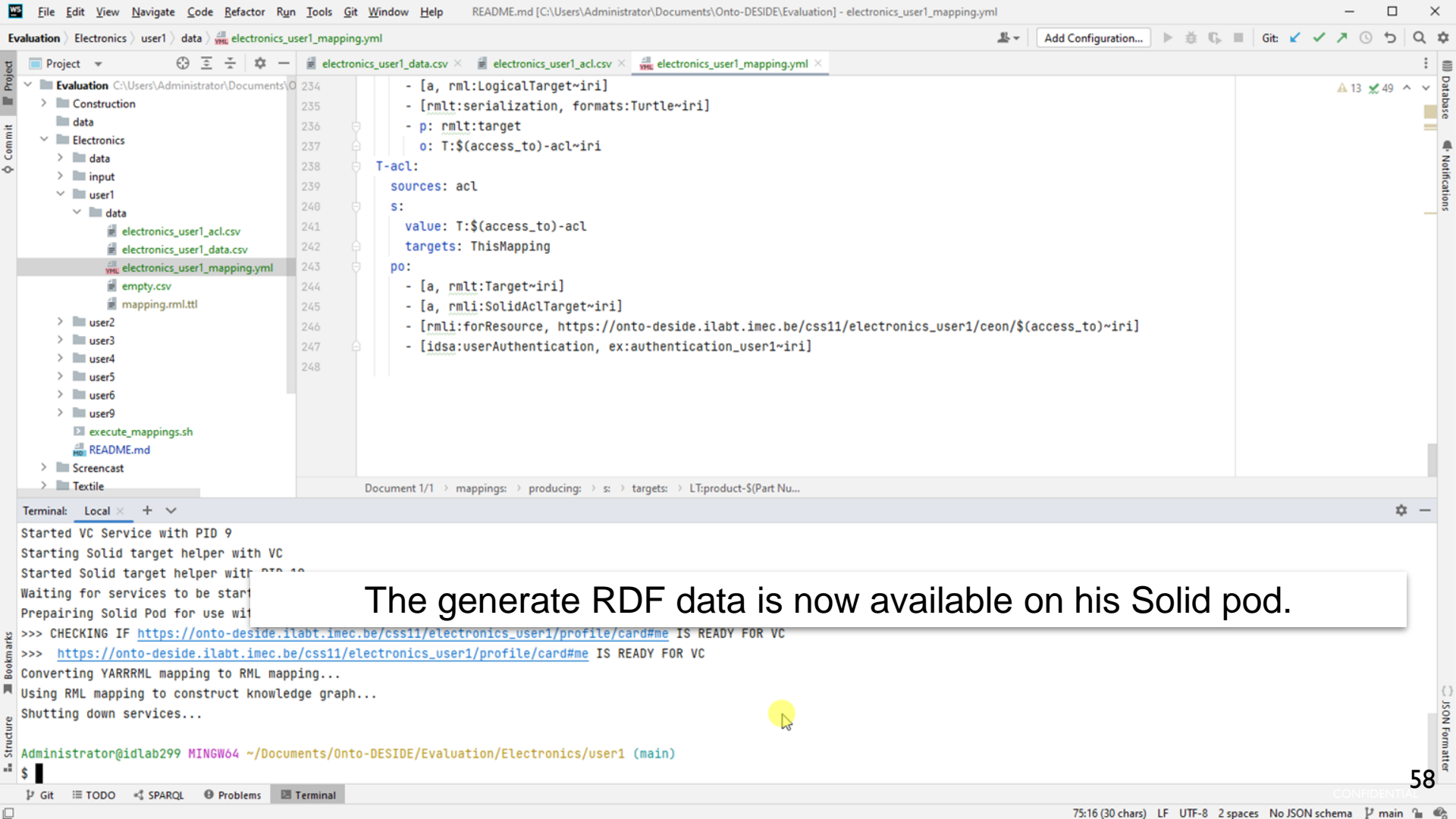
```
234 - [a, rml:LogicalTarget~iri]
235 - [rmlt:serialization, formats:Turtle~iri]
236 - p: rmlt:target
237 o: T:$(access_to)-acl~iri
238 T-acl:
239 sources: acl
240 s:
241 value: T:$(access_to)-acl
242 targets: ThisMapping
243 po:
244 - [a, rmlt:Target~iri]
245 - [a, rml:SolidAclTarget~iri]
246 - [rml:forResource, https://onto-deside.ilabt.imec.be/css11/electronics_user1/ceon/$(access_to)~iri]
247 - [idsa:userAuthentication, ex:authentication_user1~iri]
248
```

Document 1/1 > mappings: > producing: > s: > targets: > LT:product-\$(Part Nu...

Terminal: Local x + v

```
Administrator@idlab299 MINGW64 ~/Documents/Onto-DESIDE/Evaluation/Electronics/user1 (main)
$ docker run --rm -v /$(pwd)/data:/runtime/data demo -m electronics_user1_mapping.yml
```

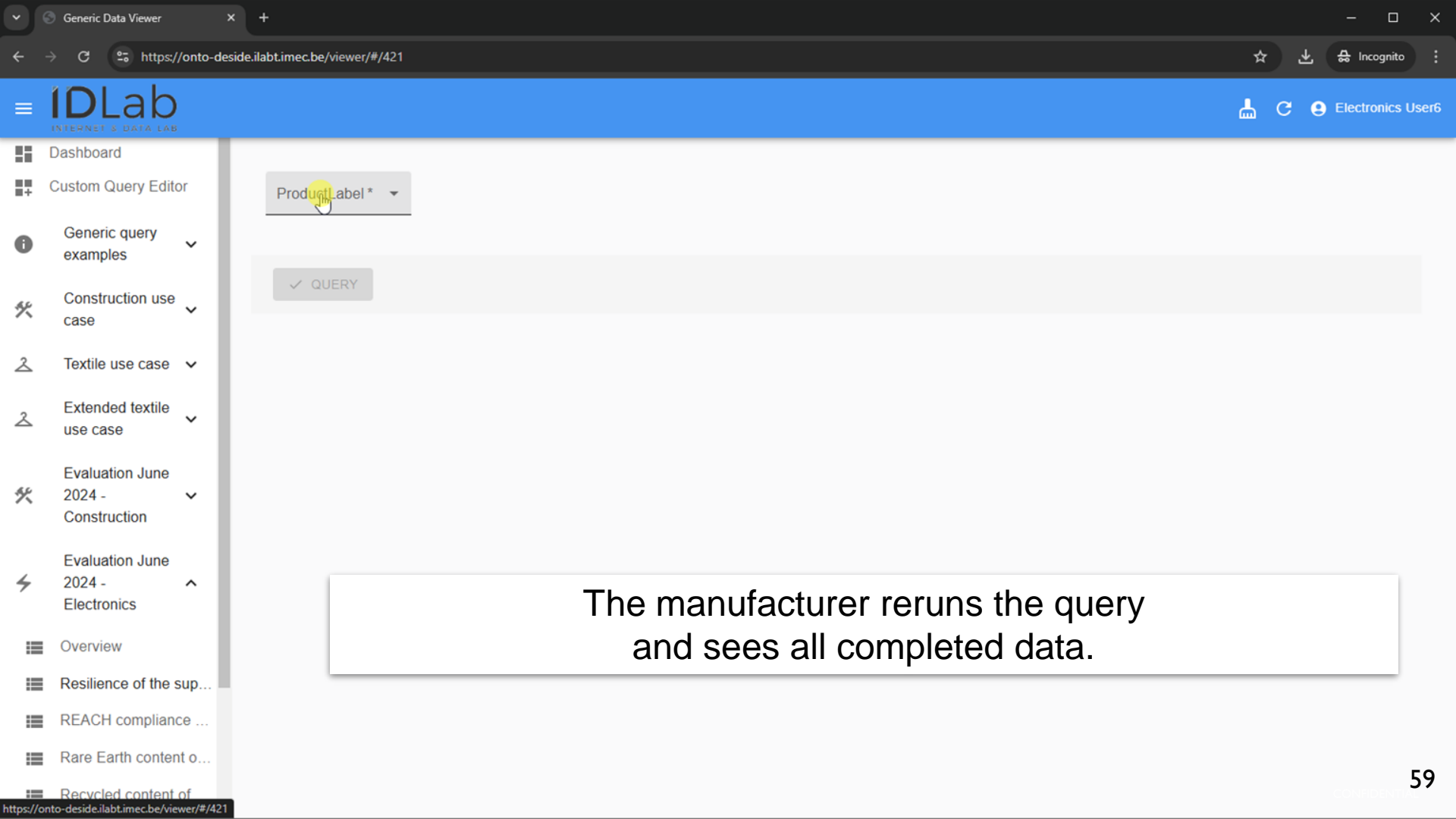
The supplier of the Electrical Structure reruns his mapping pipeline.



The generate RDF data is now available on his Solid pod.

```
Started VC Service with PID 9
Starting Solid target helper with VC
Started Solid target helper with PID 10
Waiting for services to be started
Preparing Solid Pod for use with VC
>>> CHECKING IF https://onto-deside.ilabt.imec.be/css11/electronics_user1/profile/card#me IS READY FOR VC
>>> https://onto-deside.ilabt.imec.be/css11/electronics_user1/profile/card#me IS READY FOR VC
Converting YARRRML mapping to RML mapping...
Using RML mapping to construct knowledge graph...
Shutting down services...

Administrator@idlab299 MINGW64 ~/Documents/Onto-DESIDE/Evaluation/Electronics/user1 (main)
$
```



The manufacturer reruns the query
and sees all completed data.

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- Rare Earth content o...
- Recycled content of ...

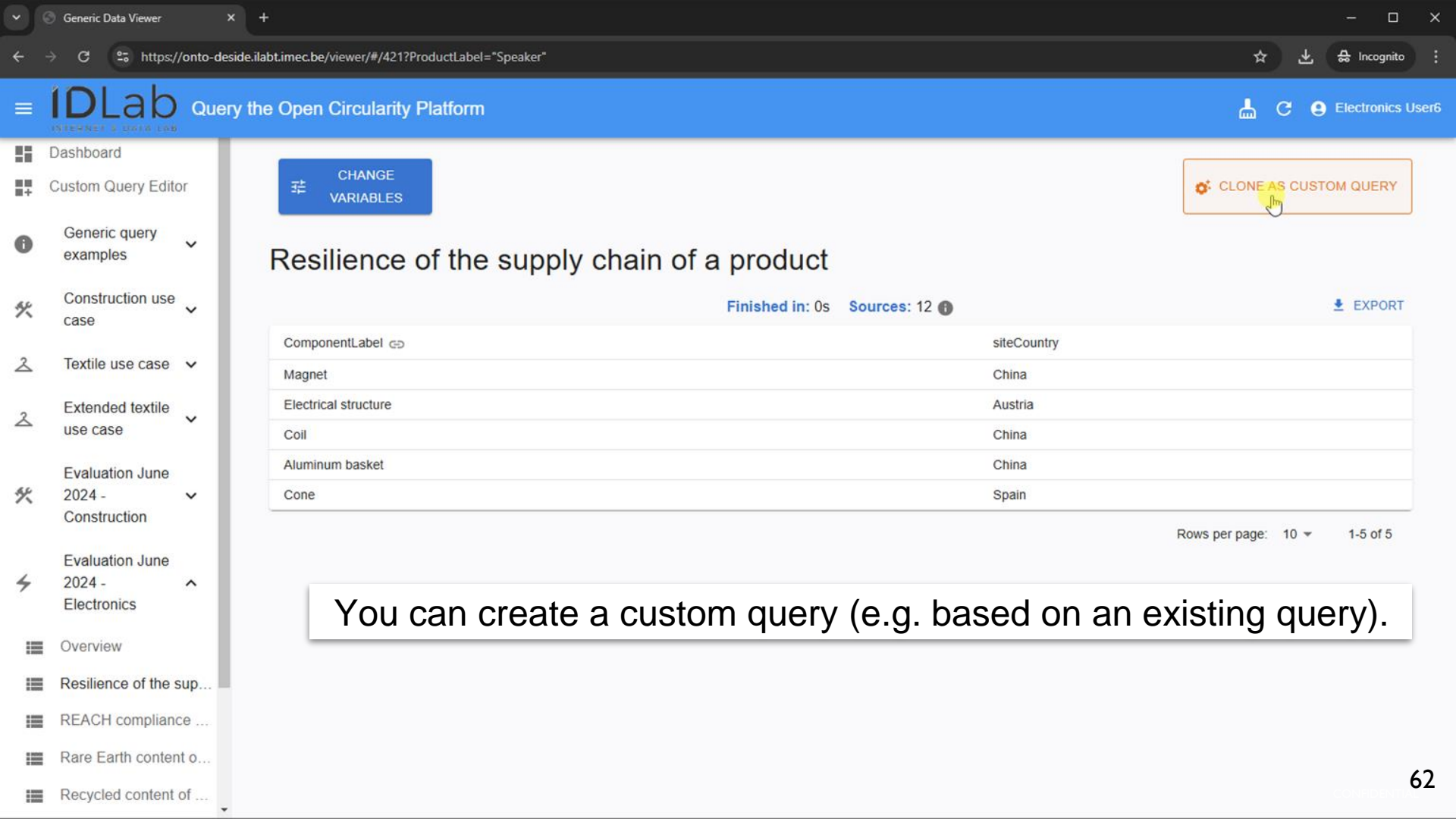
ProductLabel*

- "Aluminum basket"
- "Coil"
- "Cone"
- "Electrical structure"
- "Magnet"
- "Speaker"

- Dashboard
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- Recycled content of ...

ProductLabel*
"Speaker"

✓ QUERY



CHANGE VARIABLES

CLONE AS CUSTOM QUERY

Resilience of the supply chain of a product

Finished in: 0s Sources: 12

EXPORT

ComponentLabel	siteCountry
Magnet	China
Electrical structure	Austria
Coil	China
Aluminum basket	China
Cone	Spain

Rows per page: 10 1-5 of 5

You can create a custom query (e.g. based on an existing query).

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- REACH compliance ...
- Rare Earth content o...
- Recycled content of ...

Custom Query Editor

Basic Information

Query name *
 (Cloned from) Resilience of the supply chain of a product

Give this custom query a name.

Description *
 How resilient is the supply chain of a product, based on the origin of the materials?

Give a description for the query.

```
SPARQL query *
PREFIX schema: <http://schema.org/>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX ex: <http://example.com/>
PREFIX elec: <http://w3id.org/CEON/demo/electronics/>
PREFIX ns1: <http://w3id.org/CEON/ontology/actorODP/>
PREFIX ns2: <http://qudt.org/schema/qudt/>
PREFIX ns3: <http://w3id.org/CEON/ontology/resourceODP/>
PREFIX ns4: <http://w3id.org/CEON/ontology/provenance/>
PREFIX ns5: <http://w3id.org/CEON/ontology/product/>

SELECT ?ComponentLabel ?siteCountry
WHERE {
  ?product rdfs:label $ProductLabel ;
  ns5:hasProductComponent ?component .
  ?component rdfs:label ?ComponentLabel .
```

- Construction use case
- Textile use case
- Extended textile use case
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- Evaluation June 2024 - Electronics
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- REACH compliance ...
- Rare Earth content o...
- Recycled content of ...
- All accessible data
- Sources in electronic...
- Evaluation June 2024 - Textile

Custom Query Editor

Basic Information

Query name *
 (Cloned from) Resilience of the supply chain of a product

Give this custom query a name.

Description *
 How resilient is the supply chain of a product, based on the origin of the materials?

Give a description for the query.

SPARQL query *
 PREFIX schema: <http://schema.org/>
 PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
 PREFIX ex: <http://example.com/>
 PREFIX elec: <http://w3id.org/CEON/demo/electronics/>
 PREFIX ns1: <http://w3id.org/CEON/ontology/actorODP/>
 PREFIX ns2: <http://qudt.org/schema/qudt/>
 PREFIX ns3: <http://w3id.org/CEON/ontology/resourceODP/>
 PREFIX ns4: <http://w3id.org/CEON/ontology/provenance/>
 PREFIX ns5: <http://w3id.org/CEON/ontology/product/>

```

SELECT ?ComponentLabel ?siteCountry
WHERE {
  ?product rdfs:label $ProductLabel ;
  ns5:hasProductComponent ?component .
  ?component rdfs:label ?ComponentLabel .

```


- Construction use case
- Textile use case
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- Overview
- Resilience of the sup...
- REACH compliance ...
- Rare Earth content o...
- Recycled content of ...
- All accessible data
- Sources in electronic...
- Evaluation June 2024 - Textile

Custom Query Editor

Basic Information

Query name *
 Resilience and rare earth content of the supply chain of a product

Give this custom query a name.

Description *
 How resilient is the supply chain of a product, based on the origin of the materials

Give a description for the query.

SPARQL query *
 PREFIX schema: <http://schema.org/>
 PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
 PREFIX ex: <http://example.com/>
 PREFIX elec: <http://w3id.org/CEON/demo/electronics/>
 PREFIX ns1: <http://w3id.org/CEON/ontology/actorODP/>
 PREFIX ns2: <http://qudt.org/schema/qudt/>
 PREFIX ns3: <http://w3id.org/CEON/ontology/resourceODP/>
 PREFIX ns4: <http://w3id.org/CEON/ontology/provenance/>
 PREFIX ns5: <http://w3id.org/CEON/ontology/product/>

```

SELECT ?ComponentLabel ?siteCountry
WHERE {
  ?product rdfs:label $ProductLabel ;
  ns5:hasProductComponent ?component .
  ?component rdfs:label ?ComponentLabel .

```

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Custom Query Editor

Basic Information

Query name *
 Resilience and rare earth content of the supply chain of a product

Give this custom query a name.

Description *
 How resilient is the supply chain of a product, based on the origin of the materials?

Give a description for the query.

SPARQL query *
 PREFIX schema: <http://schema.org/>
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 PREFIX ex: <http://example.com/>
 PREFIX elec: <http://w3id.org/CEON/demo/electronics/>
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 PREFIX ns3: <http://w3id.org/CEON/ontology/resourceODP/>
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SELECT ?ComponentLabel ?siteCountry
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Custom Query Editor

Basic Information

Query name *
 Resilience and rare earth content of the supply chain of a product

Give this custom query a name.

Description *
 How resilient is the supply chain of a product, based on the origin of the materials, and does it container rare earth materials?

Give a description for the query.

SPARQL query *
 PREFIX schema: <http://schema.org/>
 PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
 PREFIX ex: <http://example.com/>
 PREFIX elec: <http://w3id.org/CEON/demo/electronics/>
 PREFIX ns1: <http://w3id.org/CEON/ontology/actorODP/>
 PREFIX ns2: <http://qudt.org/schema/qudt/>
 PREFIX ns3: <http://w3id.org/CEON/ontology/resourceODP/>
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 PREFIX ns5: <http://w3id.org/CEON/ontology/product/>

```

SELECT ?ComponentLabel ?siteCountry
WHERE {
  ?product rdfs:label $ProductLabel ;
  ns5:hasProductComponent ?component .
  ?component rdfs:label ?ComponentLabel .

```

The CEON Ontology is used to formulate SPARQL queries

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PREFIX ns1: <http://w3id.org/CEON/ontology/actorODP/>
PREFIX ns2: <http://qudt.org/schema/qudt/>
PREFIX ns3: <http://w3id.org/CEON/ontology/resourceODP/>
PREFIX ns4: <http://w3id.org/CEON/ontology/provenance/>
PREFIX ns5: <http://w3id.org/CEON/ontology/product/>

```
SELECT ?ComponentLabel ?siteCountry
WHERE {
  ?product rdfs:label $ProductLabel ;
  ns5:hasProductComponent ?component .
  ?component rdfs:label ?ComponentLabel .
  OPTIONAL {
    ?s1 ns1:participantRole <http://w3id.org/CEON/ontology/actor/manufacturer>;
    ns1:participatingActor ?company ;
    ns1:participatingResource ?component .
    ?company elec:siteCountry ?siteCountry.
  }
}
```

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SPARQL query *
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PREFIX ns3: <http://w3id.org/CEON/ontology/resourceODP/>
PREFIX ns4: <http://w3id.org/CEON/ontology/provenance/>
PREFIX ns5: <http://w3id.org/CEON/ontology/product/>

SELECT ?ComponentLabel ?siteCountry
WHERE {
  ?product rdfs:label $ProductLabel ;
  ns5:hasProductComponent ?component .
  ?component rdfs:label ?ComponentLabel .
  OPTIONAL {
    ?s1 ns1:participantRole <http://w3id.org/CEON/ontology/actor/manufacturer>;
    ns1:participatingActor ?company ;
    ns1:participatingResource ?component .
    ?company elec:siteCountry ?siteCountry.
  }
}
```

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Query name *
Resilience and rare earth content of the supply chain of a product

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Give a description for the query.

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SPARQL query *  
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PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>  
PREFIX ex: <http://example.com/>  
PREFIX elec: <http://w3id.org/CEON/demo/electronics/>  
PREFIX ns1: <http://w3id.org/CEON/ontology/actorODP/>  
PREFIX ns2: <http://qudt.org/schema/qudt/>  
PREFIX ns3: <http://w3id.org/CEON/ontology/resourceODP/>  
PREFIX ns4: <http://w3id.org/CEON/ontology/provenance/>  
PREFIX ns5: <http://w3id.org/CEON/ontology/product/>  
  
SELECT ?ComponentLabel ?siteCountry  
WHERE {  
  ?product rdfs:label $ProductLabel ;  
  ns5:hasProductComponent ?component .  
  ?component rdfs:label ?ComponentLabel .  
  OPTIONAL {  
    ?s1 ns1:participantRole <http://w3id.org/CEON/ontology/actor/manufacturer>;  
    ns1:participatingActor ?company ;  
    ns1:participatingResource ?component .  
    ?company elec:siteCountry ?siteCountry.  
  }  
  OPTIONAL {  
    ?component ns3:hasMatter elec:RareEarthMaterial.  
    BIND ( elec:RareEarthMaterial AS ?RareEarthMaterial).  
  }  
}
```

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Query name *
Resilience and rare earth content of the supply chain of a product

Description *
How resilient is the supply chain of a product, based on the origin of the materials, and does it container rare earth materials?

```
SPARQL query *
PREFIX schema: <http://schema.org/>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX ex: <http://example.com/>
PREFIX elec: <http://w3id.org/CEON/demo/electronics/>
PREFIX ns1: <http://w3id.org/CEON/ontology/actorODP/>
PREFIX ns2: <http://qudt.org/schema/qudt/>
PREFIX ns3: <http://w3id.org/CEON/ontology/resourceODP/>
PREFIX ns4: <http://w3id.org/CEON/ontology/provenance/>
PREFIX ns5: <http://w3id.org/CEON/ontology/product/>

SELECT ?ComponentLabel ?siteCountry (BOUND(?RareEarthMaterial) AS ?containsRareEarthMaterial)
WHERE {
  ?product rdfs:label $ProductLabel ;
  ns5:hasProductComponent ?component .
  ?component rdfs:label ?ComponentLabel .
  OPTIONAL {
    ?s1 ns1:participantRole <http://w3id.org/CEON/ontology/actor/manufacturer>;
    ns1:participatingActor ?company ;
    ns1:participatingResource ?component .
    ?company elec:siteCountry ?siteCountry.
  }
  OPTIONAL {
    ?component ns3:hasMatter elec:RareEarthMaterial.
    BIND ( elec:RareEarthMaterial AS ?RareEarthMaterial).
  }
}
```

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How resilient is the supply chain of a product, based on the origin of the materials, and does it contain rare earth materials?

Give a description for the query.

```

SPARQL query *
PREFIX schema: <http://schema.org/>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX ex: <http://example.com/>
PREFIX elec: <http://w3id.org/CEON/demo/electronics/>
PREFIX ns1: <http://w3id.org/CEON/ontology/actorODP/>
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PREFIX ns3: <http://w3id.org/CEON/ontology/resourceODP/>
PREFIX ns4: <http://w3id.org/CEON/ontology/provenance/>
PREFIX ns5: <http://w3id.org/CEON/ontology/product/>

SELECT ?ComponentLabel ?siteCountry (BOUND(?RareEarthMaterial) AS ?containsRareEarthMaterial)
WHERE {
  ?product rdfs:label $ProductLabel ;
  ns5:hasProductComponent ?component .
  ?component rdfs:label ?ComponentLabel .
  OPTIONAL {
    ?s1 ns1:participantRole <http://w3id.org/CEON/ontology/actor/manufacturer>;
    ns1:participatingActor ?company ;
    ns1:participatingResource ?component .
    ?company elec:siteCountry ?siteCountry .
  }
  OPTIONAL {
    ?component ns3:hasMatter elec:RareEarthMaterial .
    BIND ( elec:RareEarthMaterial AS ?RareEarthMaterial) .
  }
}

```

Enter your SPARQL query here.

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Comunica Context & Sources

Advanced Comunica Context Settings

Fixed data source(s)

Give the source URL(s) for the query. Separate URLs with ";". (These are the comunica context sources)

Indirect sources

Index file URL *

https://onto-deside.ilabt.imec.be/css11/electronics_user9/ceon/index

Give the URL of the index file.

SPARQL query *

```
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>

SELECT ?object
WHERE {
  ?s rdfs:seeAlso ?object .
}
```

Give the SPARQL query to get the sources from the index file.

Templated Query

Fixed Variables Indirect Variables

Give one or more queries to retrieve the variable(s) from the source(s).

Query 1 for indirect variable(s) *

```
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX elec: <http://w3id.org/CEON/demo/electronics/>
```

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```
SELECT ?object  
WHERE {  
  ?s rdfs:seeAlso ?object .  
}
```

Give the SPARQL query to get the sources from the index file.

Templated Query

- Fixed Variables
- Indirect Variables

Give one or more queries to retrieve the variable(s) from the source(s).

Query 1 for indirect variable(s)*

```
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>  
PREFIX elec: <http://w3id.org/CEON/demo/electronics/>  
  
SELECT DISTINCT ?ProductLabel  
WHERE {  
  ?Product a elec:ElectronicsProduct ;  
    rdfs:label ?ProductLabel  
}  
ORDER BY ?ProductLabel
```

Enter the 1st SPARQL query to retrieve the variables.

+ ADD ANOTHER QUERY

Extra Options

- ASK query

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Give the SPARQL query to get the sources from the index file.

Templated Query

- Fixed Variables
- Indirect Variables

Give one or more queries to retrieve the variable(s) from the source(s).

```
Query 1 for indirect variable(s)*
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX elec: <http://w3id.org/CEON/demo/electronics/>

SELECT DISTINCT ?ProductLabel
WHERE {
  ?Product a elec:ElectronicsProduct ;
    rdfs:label ?ProductLabel
}
ORDER BY ?ProductLabel
```

Enter the 1st SPARQL query to retrieve the variables.

+ ADD ANOTHER QUERY

Extra Options

- ASK query

+ CREATE QUERY

< GO BACK

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EDIT QUERY SHARE QUERY CLONE DELETE QUERY

ProductLabel *

✓ QUERY

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[EDIT QUERY](#)
[SHARE QUERY](#)
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ProductLabel *

✓ QUERY

Resilience and rare earth content of the supply chain of a product

How resilient is the supply chain of a product, based on the origin of the materials, and does it contain rare earth materials?

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EDIT QUERY SHARE QUERY CLONE DELETE QUERY

ProductLabel *

✓ QUERY

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EDIT QUERY SHARE QUERY CLONE DELETE QUERY

ProductLabel *

- "Aluminum basket"
- "Coil"
- "Cone"
- "Electrical structure"
- "Magnet"
- "Speaker"

- 👤 Extended textile use case ▾
- 🔧 Evaluation June 2024 - Construction ▾
- ⚡ Evaluation June 2024 - Electronics ▲
- ☰ Overview
- ☰ Resilience of the sup...
- ☰ REACH compliance ...
- ☰ Rare Earth content o...
- ☰ Recycled content of ...
- ☰ All accessible data
- ☰ Sources in electronic...
- 👤 Evaluation June 2024 - Textile ▾
- ☰ Custom queries ▲
- 🌟 Resilience and rare ...

[✎ EDIT QUERY](#) [📄 SHARE QUERY](#) [📄 CLONE](#) [🗑 DELETE QUERY](#)

ProductLabel*
"Speaker" ▾

✓ **QUERY**

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CHANGE VARIABLES

EDIT QUERY

SHARE QUERY

CLONE

DELETE QUERY

Resilience and rare earth content of the supply chain of a product

Finished in: 0s Sources: 12

EXPORT

ComponentLabel ↔	siteCountry	containsRareEarthMaterial
Electrical structure	Austria	true
Magnet	China	true
Aluminum basket	China	false
Coil	China	false
Cone	Spain	false

Rows per page: 10 1-5 of 5

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CHANGE VARIABLES

EDIT QUERY

SHARE QUERY

CLONE

DELETE QUERY

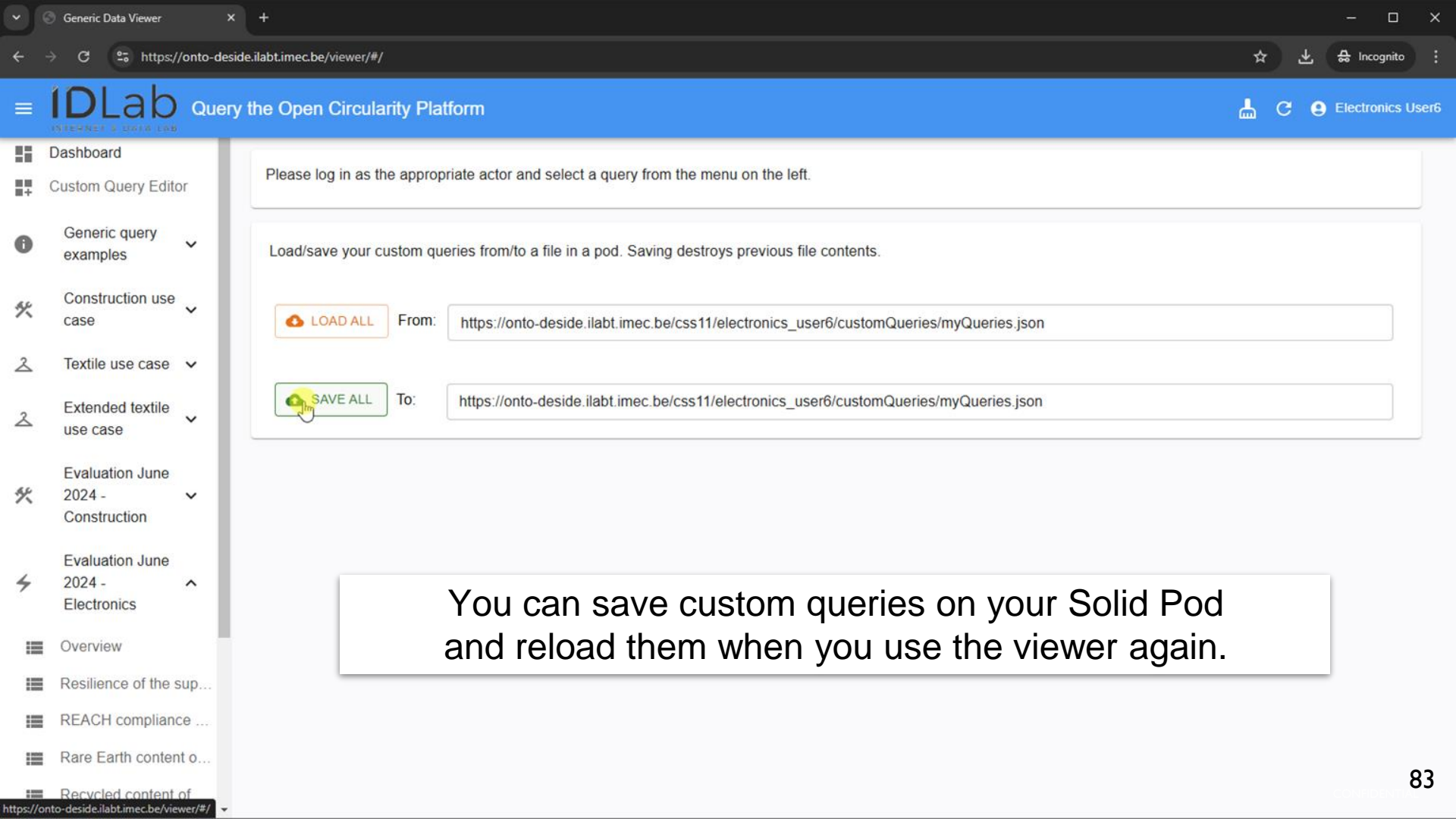
Resilience and rare earth content of the supply chain of a product

Finished in: 0s Sources: 12

EXPORT

ComponentLabel ↔	siteCountry	containsRareEarthMaterial
Electrical structure	Austria	true
Magnet	China	true
Aluminum basket	China	false
Coil	China	false
Cone	Spain	false

Rows per page: 10 1-5 of 5



Please log in as the appropriate actor and select a query from the menu on the left.

Load/save your custom queries from/to a file in a pod. Saving destroys previous file contents.

LOAD ALL

From:

https://onto-deside.ilabt.imec.be/css11/electronics_user6/customQueries/myQueries.json

SAVE ALL

To:

https://onto-deside.ilabt.imec.be/css11/electronics_user6/customQueries/myQueries.json

You can save custom queries on your Solid Pod and reload them when you use the viewer again.

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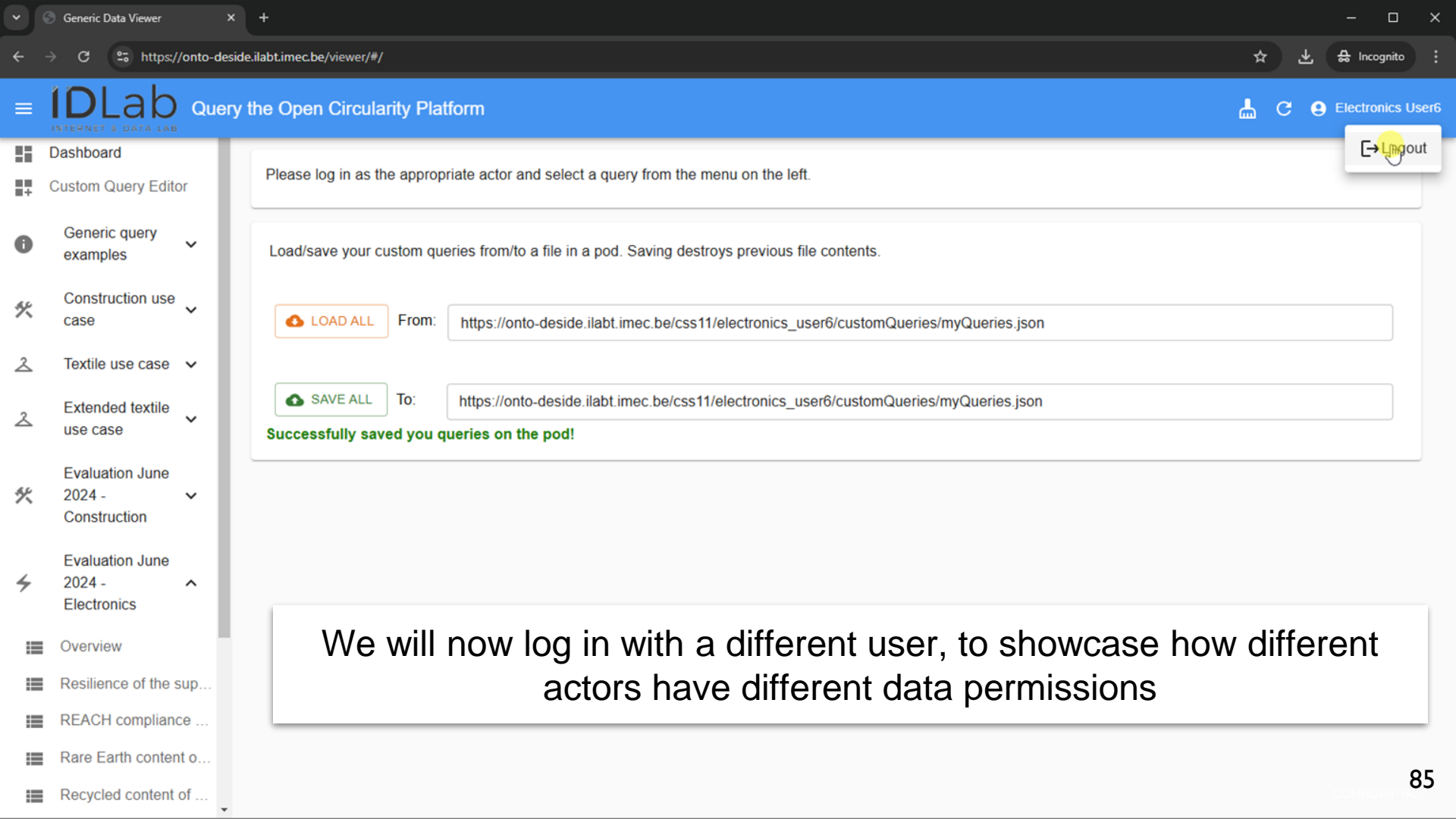
Please log in as the appropriate actor and select a query from the menu on the left.

Load/save your custom queries from/to a file in a pod. Saving destroys previous file contents.

LOAD ALL From:

SAVE ALL To:

Successfully saved you queries on the pod!



Please log in as the appropriate actor and select a query from the menu on the left.

Load/save your custom queries from/to a file in a pod. Saving destroys previous file contents.

LOAD ALL From:

SAVE ALL To:

Successfully saved you queries on the pod!

We will now log in with a different user, to showcase how different actors have different data permissions

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Please log in as the appropriate actor and select a query from the menu on the left.

Load/save your custom queries from/to a file in a pod. Saving destroys previous file contents.

From:

To:

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Please log in as the appropriate actor and select a query from the menu on the left.

Load/save your custom queries from/to a file in a pod. Saving destroys previous file contents.

From:

To:

https://onto-deside.ilabt.imec

Login



Community Solid Server

Log in

Your account

Email

Password

Stay logged in

[Forgot password](#)

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Community Solid Server

An application is requesting access

Do you trust this application to read and write data on your behalf?

Name: Generic Data Viewer

ID: Ql8al14dBLGh2go8PmCit

Choose your WebID to authorize

https://onto-deside.ilabt.imec.be/css11/electronics_user1/profile/card#me

Remember this client

[Authorize](#) [Cancel](#)

[Edit account](#)

[Use a different account](#)

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Please log in as the appropriate actor and select a query from the menu on the left.

Load/save your custom queries from/to a file in a pod. Saving destroys previous file contents.

LOAD ALL From:

SAVE ALL To:

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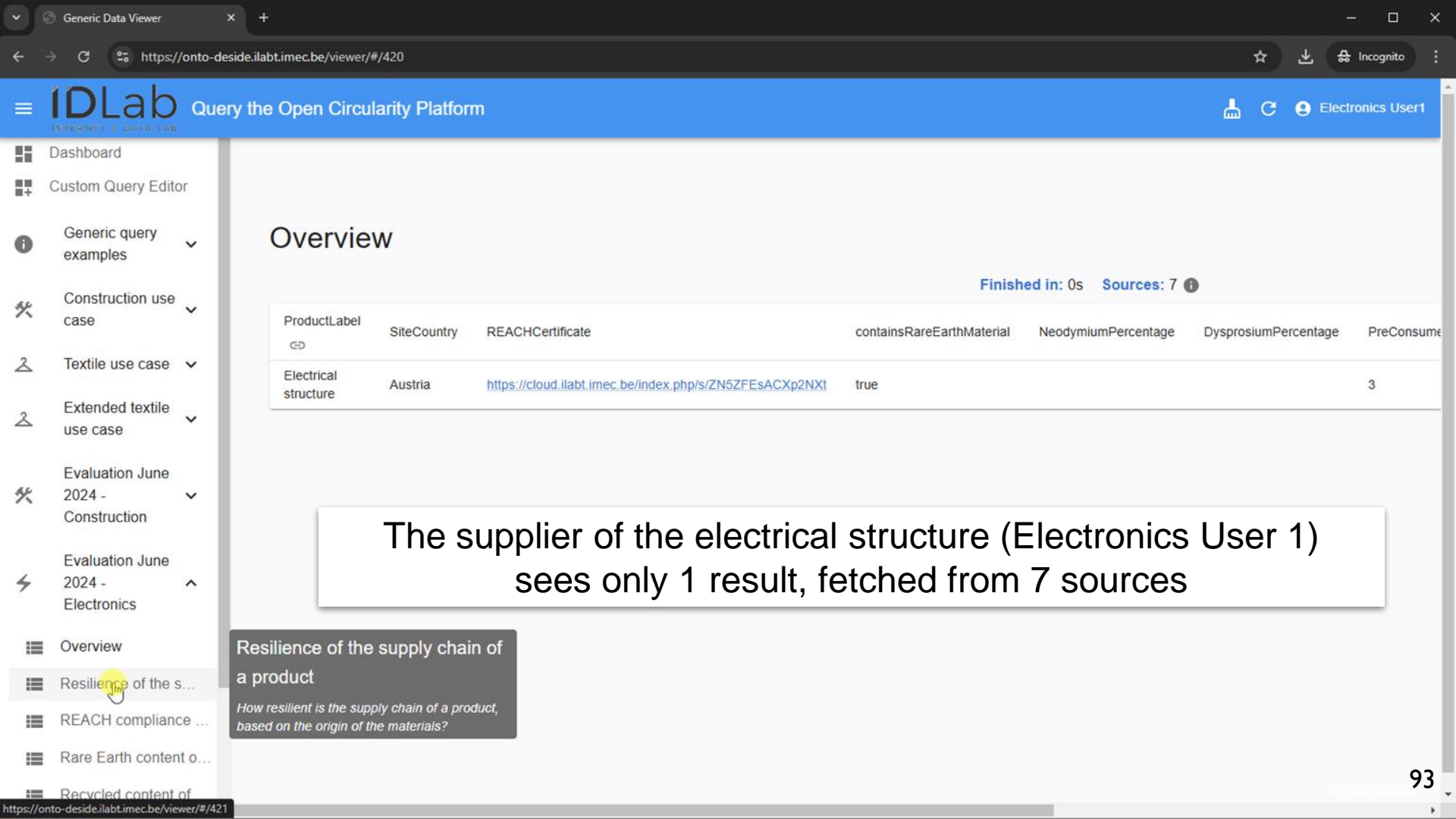
Please log in as the appropriate actor and select a query from the menu on the left.

Load/save your custom queries from/to a file in a pod. Saving destroys previous file contents.

LOAD ALL From:

SAVE ALL To:

Overview
All products with the data points selected for this evaluation



Overview

Finished in: 0s Sources: 7

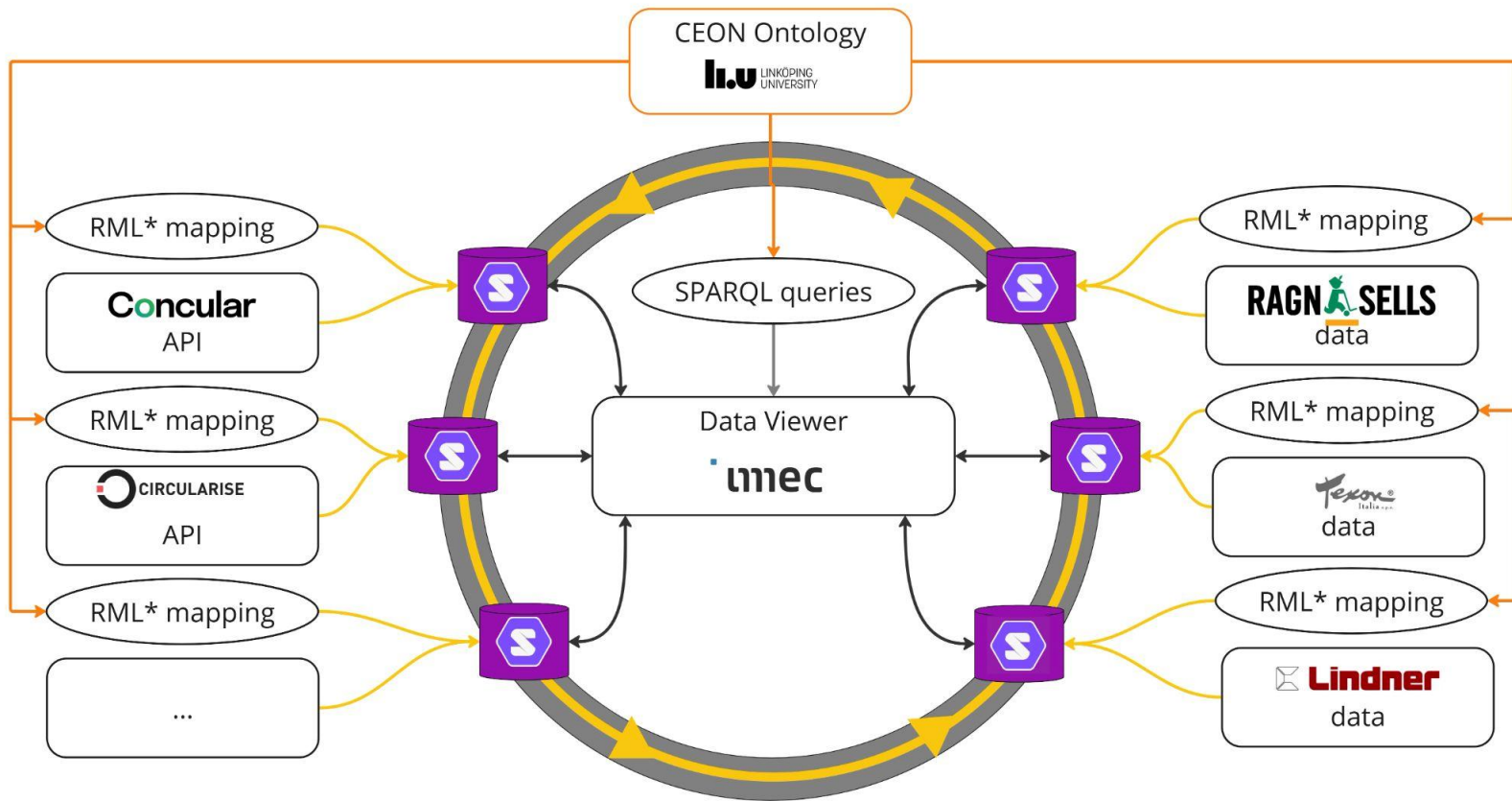
ProductLabel	SiteCountry	REACHCertificate	containsRareEarthMaterial	NeodymiumPercentage	DysprosiumPercentage	PreConsume
Electrical structure	Austria	https://cloud.ilabt.imec.be/index.php/s/ZN5ZFESACXp2NXt	true			3

The supplier of the electrical structure (Electronics User 1) sees only 1 result, fetched from 7 sources

Resilience of the supply chain of a product

How resilient is the supply chain of a product, based on the origin of the materials?

Vision



RML*: including RML extensions **imec**

- Onto-DESIDE use case
- The Open Circularity Platform
- CEON Ontology
- RML Extensions
- Data Viewer
- **Q&A**

Q&A

Onto-DESIDE project: <https://ontodeside.eu/>

OCP: <https://github.com/KnowledgeOnWebScale/open-circularity-platform>

Onto-DESIDE Data Viewer: <https://onto-deside.ilabt.imec.be/viewer/>

CEON ontology: <https://liusemweb.github.io/CEON/>

Data Viewer: <https://github.com/SolidLabResearch/generic-data-viewer-react-admin>



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