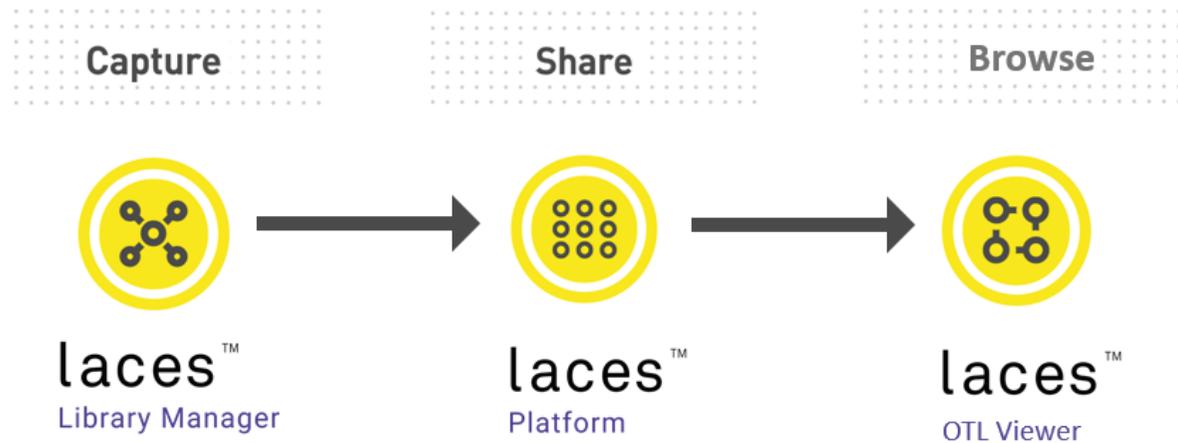


INTERLINK D6: Licensed software for the European Road OTL

For publishing the European Road OTL, a number of licensed software tools have been made available within the current project. These web-based tools, all part of the Semmtech LACES™ suite, provide the means to capture, share, and browse the object types of the European Road OTL.



The tooling for each of these steps is described in separate sections.

Capture: using the LACES Library Manager

Semtech has made one of their licensed products – the LACES™ Library Manager – available for capturing and maintaining the core of the European Road OTL. This web-based software allows OTLs (and other libraries) to be set up, maintained, and subsequently published as Linked Data on an associated platform. The Library Manager offers a user-friendly interface that assists in the workflow of managing library content to publishing it. Moreover, the software ensures that domain experts can easily capture their knowledge on object types and their aspects, without needing to possess intimate knowledge of the Semantic Web and RDF. This is different from most competitive products for OTL management, which require working on a rather technical level – with RDF triples and manipulating these – to capture domain knowledge.

The screenshot displays the LACES Library Manager interface for the 'Dutch Road OTL'. The top navigation bar includes 'Sources', 'Workspace', and 'Publications', along with user information for 'Administrator' and 'Sander Stolk'. The left sidebar shows a tree view of object types under the 'Kinds' tab, including 'Lane', 'Paving', 'Paving layer', 'Foundation layer', 'Intermediate layer', 'Top layer', 'Under layer', 'Road', and 'Paved road'. The 'Paving layer' object type is selected and expanded. The right pane shows the 'Details' view for the 'Paving layer' object type, including a table of attributes and a table of aspects.

Attribute	Value
Code	OB00796
Description	Construction part of a paving consisting of one material. A paving layer consists of one layer.
Name (NL)	Verhardingslaag

Aspect	Value	Unit
Date of surface treatment		date
External identifier		
Layer number		number
Material		
Registration year		dateYear
Width		meter

Figure 1. Screenshot of the LACES™ Library Manager, showing example content based on the RWS OTL by Rijkswaterstaat. The hierarchy on the left depicts object types and their specializations. On the right, attributes and aspects for the “Paving Layer” object type is shown.

A stylesheet mechanism in the LACES™ Library Manager allows captured and maintained knowledge to be published in RDF according to specific guidelines. Thus, the OTL can be expressed in RDF that adheres to the modelling and linking guide for RDF content (*cf. results of WPC*), and made available as Linked Data on a publication platform. By using this approach, a separation of concerns is facilitated for users: those with domain knowledge do not need to be encumbered with the modelling guide and other technical details on publishing the content. Instead, those more intimate with Semantic Web technologies can ensure the appropriate stylesheet is in place for the European Road OTL and its publications.

Share: using the LACES Platform

Each new version of the European Road OTL can be formally published by the LACES™ Library Manager to an online publication and deployment platform. This platform, known as the LACES™ Platform, allows published OTL content to be made available as Linked Data. The platform sports various features. These include a versioning mechanism, which supports versioning each release of the OTL; an authentication mechanism, which ensures only those parties that may have access to the content within can indeed do so; and access in the form of a SPARQL endpoint for queries and in the form of exports in RDF serializations such as Turtle.

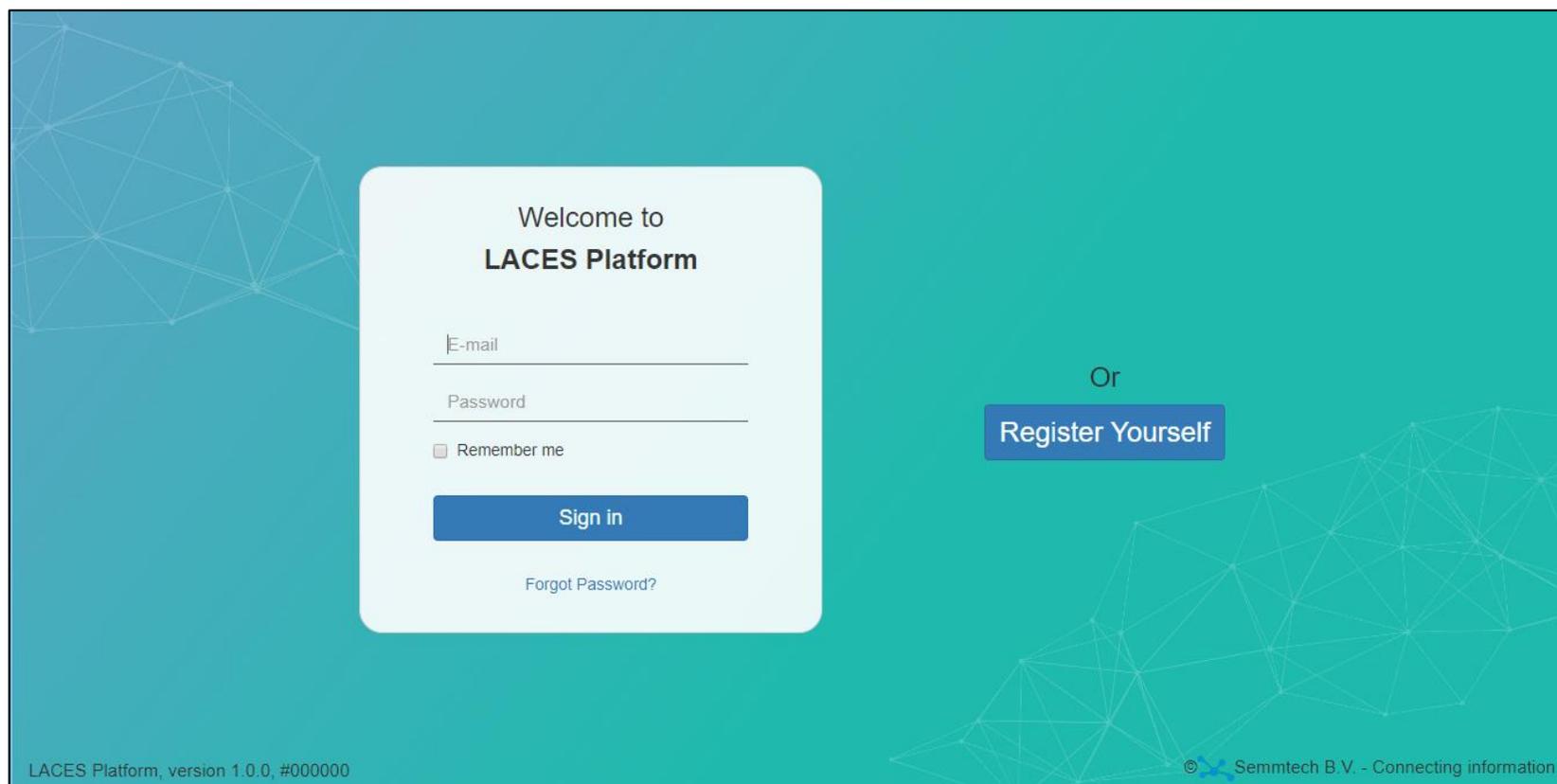


Figure 2. Screenshot of the LACES™ Platform, showing the login screen.

For uploading and working with existing ontologies and OTLs as modules for the European Road OTL framework, Dataroom Platforms of Semmtech have been set up for the three use cases and for WPD1. These platforms have an interface that makes it easy for data administrators to cache and view existing ontologies, add instance data on assets in a dataroom, and query the instance data according to the European Road OTL and other ontologies in use. Screenshots thereof are shown below.

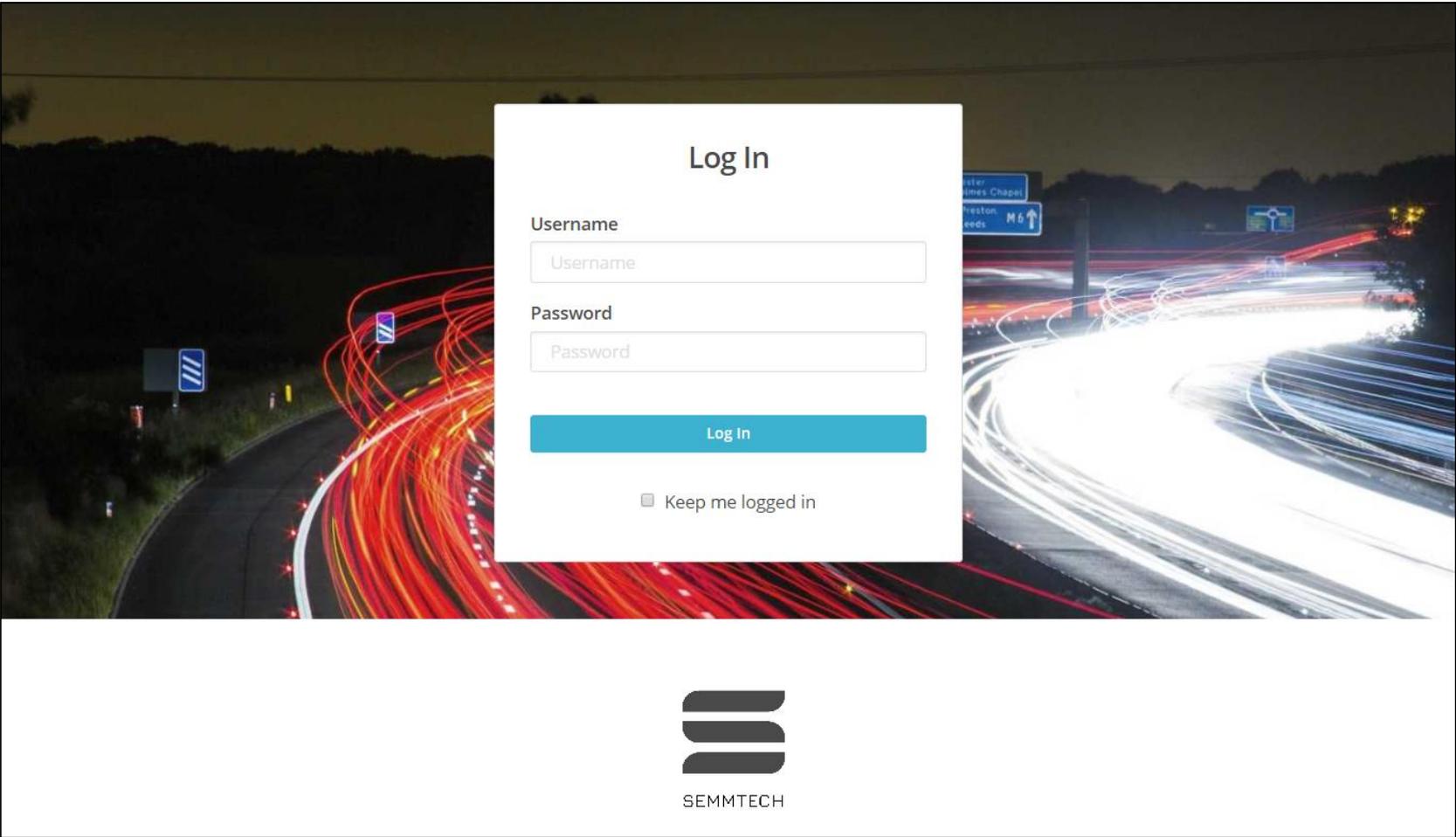


Figure 3. Screenshot of the Dataroom Platform, showing the login screen of the user interface.

View Dataset · Bestandsmodell_Demo_1.ttl Vocabulary: IFC2X3_TC1 View Exit

Class Taxonomy

IfcRoleEnum	23
IfcRoofTypeEnum	14
▲ IfcRoot	382
▲ IfcObjectDefinition	154
▲ IfcObject	79
▶ IfcActor	0
▶ IfcControl	0
▶ IfcGroup	0
▶ IfcProcess	0
▲ IfcProduct	78
IfcAnnotation	0
▶ IfcElement	75
IfcGrid	0
▶ IfcPort	0
IfcProxy	0

Details of instance IfcBuildingElementProxy_111

Class instances

IfcBuildingElementProxy_1
IfcBuildingElementProxy_11
IfcBuildingElementProxy_111
IfcBuildingElementProxy_126
IfcBuildingElementProxy_133
IfcBuildingElementProxy_135
IfcBuildingElementProxy_144
IfcBuildingElementProxy_153
IfcBuildingElementProxy_166
IfcBuildingElementProxy_172
IfcBuildingElementProxy_182
IfcBuildingElementProxy_194
IfcBuildingElementProxy_201
IfcBuildingElementProxy_207
IfcBuildingElementProxy_211

Properties

GlobalId	IfcGloballyUniqueId_807
Name	IfcLabel_808
OwnerHistory	IfcOwnerHistory_2
type	Beton-Pendelstütze mit Federgelenken oder Bleigelenken oben und unten
type	IfcBuildingElementProxy

Figure 4. Screenshot of the Dataroom Platform, showing instance data available in RDF according to the IFC2x3 ontology (taken from the German test case).

View: using the LACES OTL Viewer

Next to the LACES™ Platform, which provides a means to share the core of the European Road OTL, another tool has been made available from the LACES™ suite: the OTL Viewer. The OTL Viewer provides a user-friendly interface for parties to view and browse the OTL object types and their aspects. An example is shown in the figure below. The left side of the screen displays a hierarchy that can be configured as a specialization tree or a decomposition tree (the screenshot below shows a decomposition). On the right part of the screen, details are shown for the object type selected. Here, information on the selected object type is divided over several tabs for legibility.

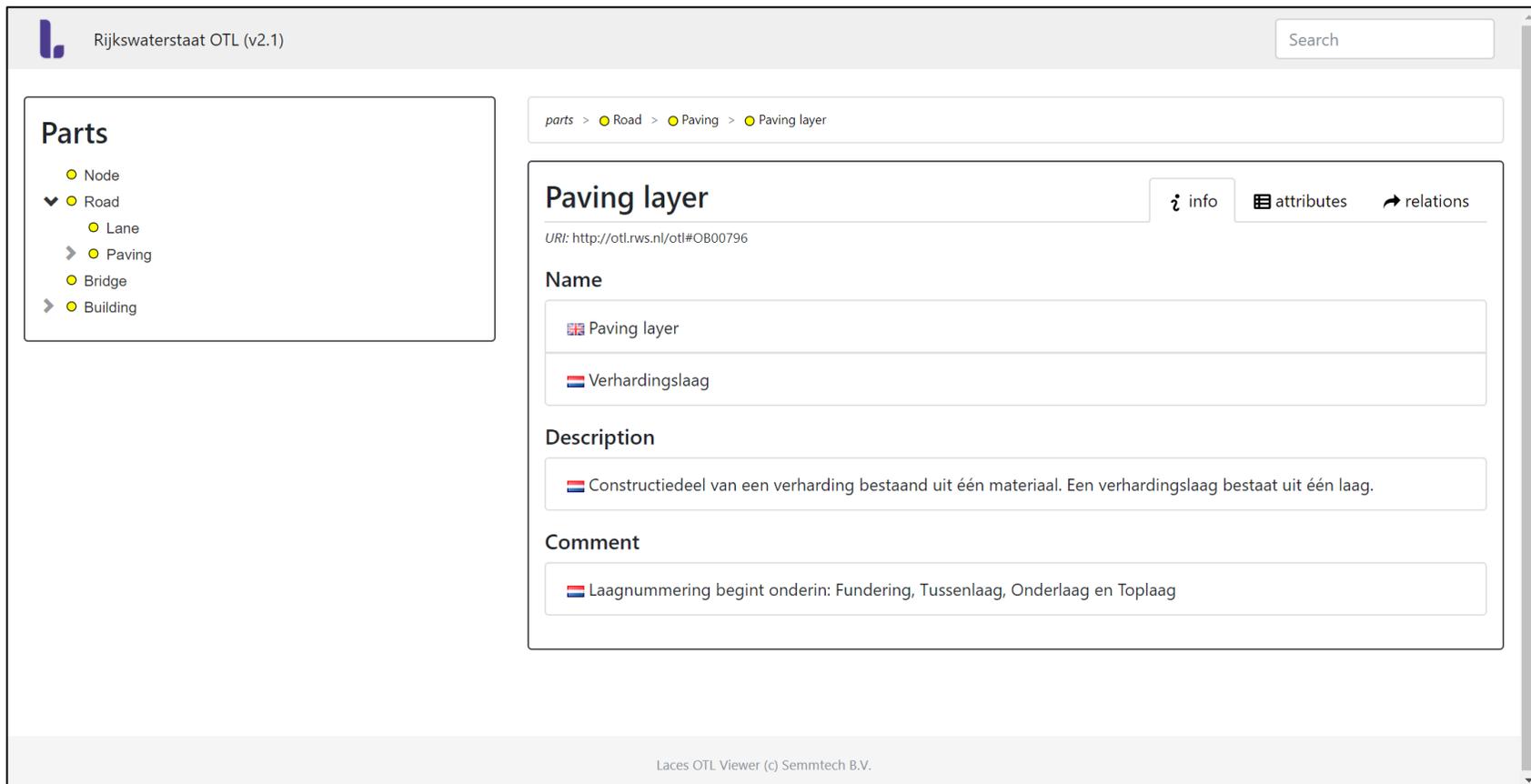


Figure 5. Screenshot of the LACES™ OTL Viewer, depicting example content based on the RWS OTL by Rijkswaterstaat.

Location of the licensed tooling made available

- LACES™ Library Manager:
<https://www.laces.tech/eurotl-manager>
- LACES™ Platform:
<https://www2.laces.tech/laces-publication>
- LACES™ Dataroom Platform (for WPD1):
<http://cedr.semmtech.com/applications/cedr-portal-otl/>
- LACES™ OTL Viewer:
<https://www.laces.tech/applications/eurotl-viewer/>

The majority of these tools require authorized access, with licenses provided per user. We therefore ask members of the NRAs interested in accessing and/or viewing these tools to contact Semmtech for (1) obtaining a licensed account and (2) scheduling a demonstration of the tools and their functionality as introduction into their use. To do so, please e-mail us at support@semmtech.com with the subject “[CEDR] Request access for OTL suite”. Please include your name and function within your organisation in the e-mail.