



Visualizing the information of a Linked Open Data enabled Research Information System

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Research Information Linked Open Data (RILOD)

Data source:

Flemish research institutions

Flemish Academic Bibliographic Database (VABB)



Research Information Linked Open Data
(RILOD) dataset



Research Information Linked Open Data dataset (RILOD)

Information for:

22.006 researchers

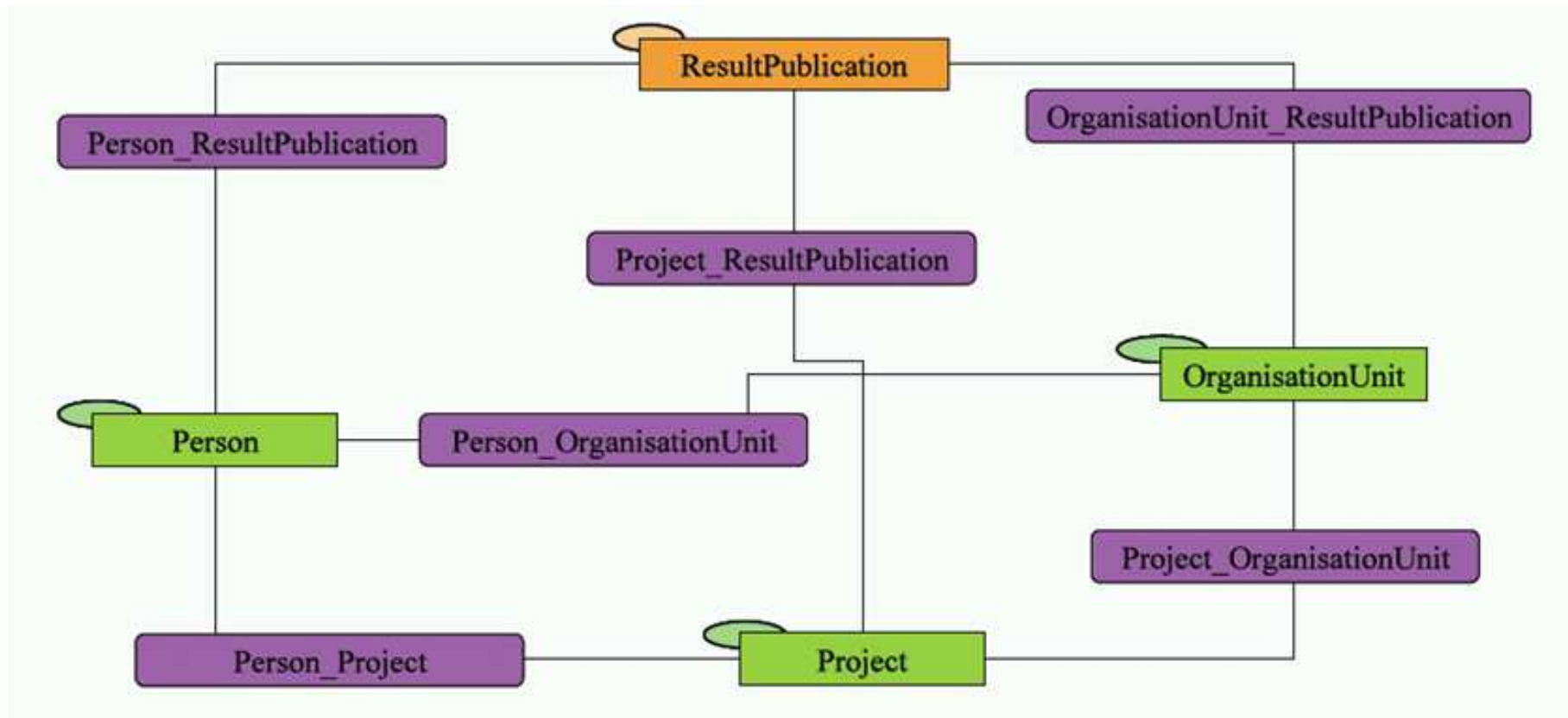
2.022 research groups

24.635 projects

608.729 publications

in total: **> 400.000.000 triples**

RILOD ontologies: CERIF + EWILOD + IWETO DISCIPLINES





Research Information Linked Open Data (RILOD) dataset

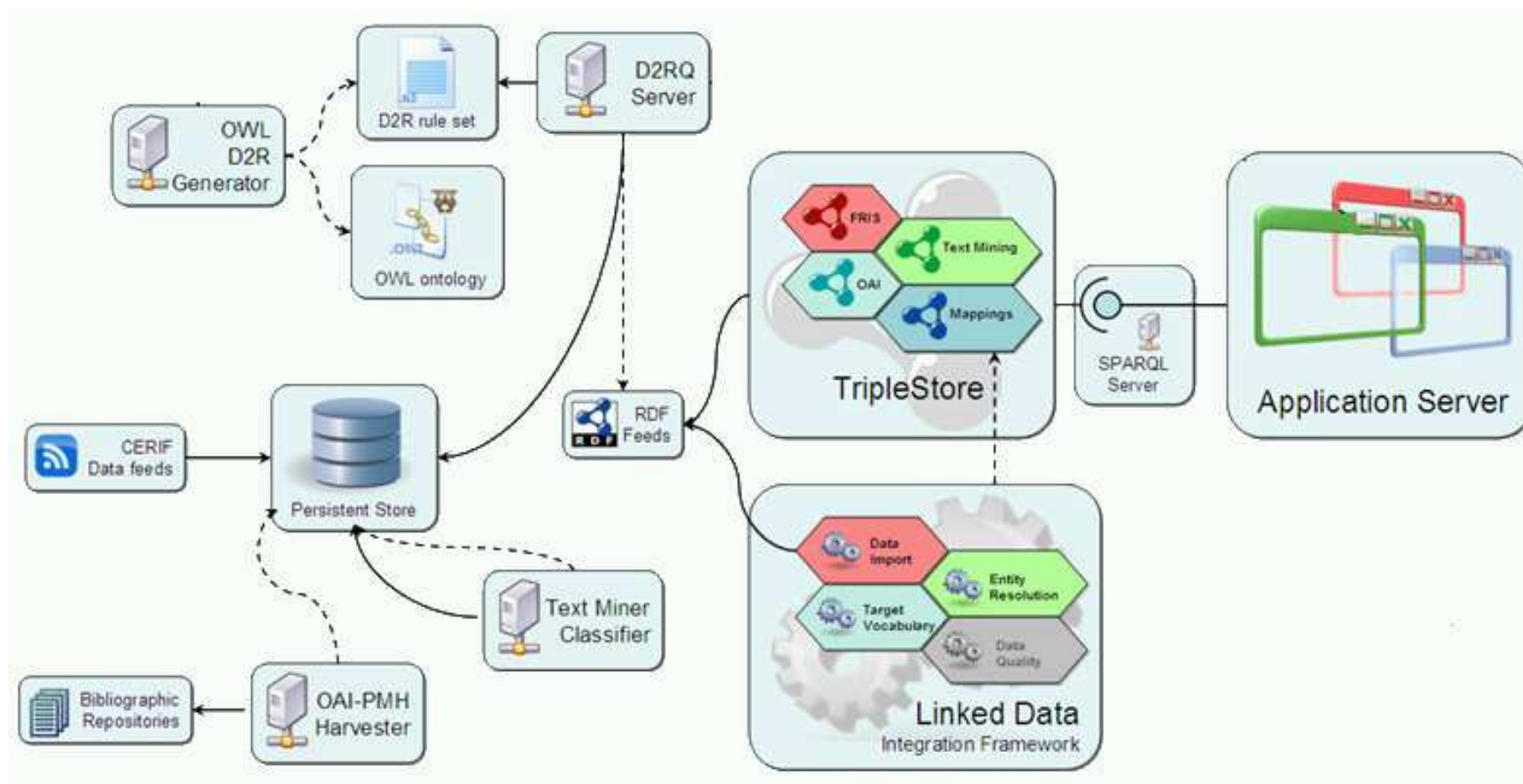
Graphs:

oai → information obtained from the OAI-PMH public repositories

fris → information obtained from the CERIF FRIS database (projects)

tm → information obtained from text mining of the publications

RILOD Architecture





RILOD triplestore

RILOD SPARQL pagina

Grafes

Opgelet: de standaard grafes bevat uitsluitend gegevens uit de FRIS databank.

Grafes URI	Beschrijving	Default
http://ewisclo3.vlaanderen.be/ewilod/1od/0.1/graphs#fris	Bevat de informatie uit de CERIF FRIS databank van EWI	Ja
http://ewisclo3.vlaanderen.be/ewilod/1od/0.1/graphs#oai	Bevat de informatie verkregen vanuit de OAI-PMH publieke repositories	
http://ewisclo3.vlaanderen.be/ewilod/1od/0.1/graphs#tm	Bevat de informatie verkregen via tekstontginning op de publicatie teksten	
http://ewisclo3.vlaanderen.be/ewilod/1od/0.1/graphs#ld	Bevat de informatie verkregen via LDIF integratie van de gegevensbronnen	
http://ewisclo3.vlaanderen.be/ewilod/1od/0.1/graphs#ontology_tr	Bevat de ontologie, met transitieve sluiting van <i>rdfs:subPropertyOf</i> en <i>rdfs:subClassOf</i>	
http://ewisclo3.vlaanderen.be/ewilod/1od/0.1/graphs#ontology_mr	Bevat de ontologie, met veel meer afgeleide informatie (bvb overerving van <i>rdfs:domain</i>)	

Query formulier

```
PREFIX cerif: <http://spi-fm.uca.es/neologism/cerif#>
PREFIX ewilod: <http://ewisclo3.vlaanderen.be/ewilod/1od/0.1/ontology#>
SELECT ?g ?p ?d
WHERE {
  GRAPH ?g {
    ?p a cerif:Publication ;
        ewilod:publicationDate ?d .
  }
}
LIMIT 100
```

Antwoordformaat: XML

☒ Toon het antwoord in een nieuw venster of tab (vink deze optie uit om het antwoord te downloaden als bestand)

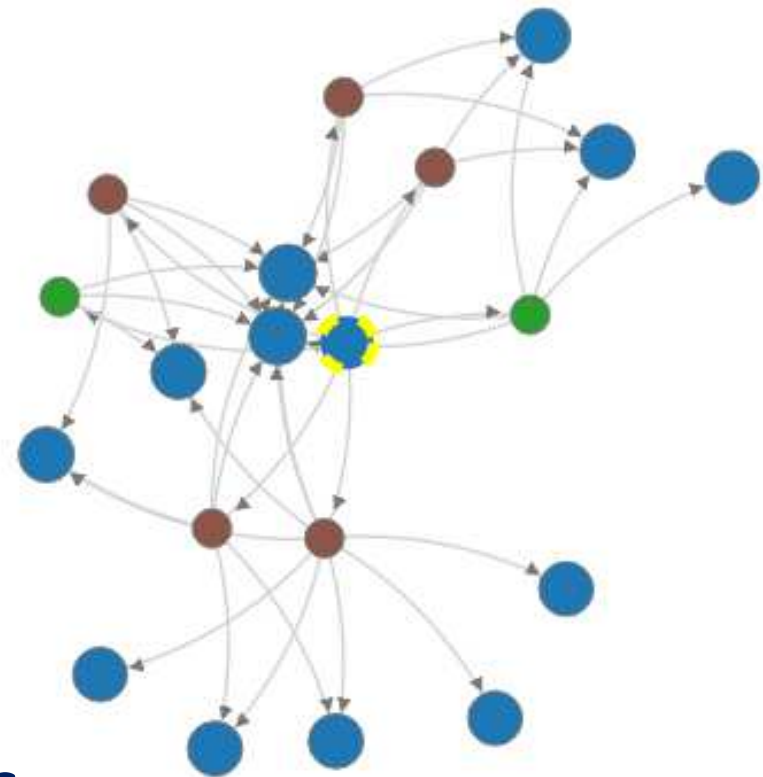
Voer query uit

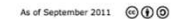
Begin opnieuw

Research Linked Open Data

Advantage

a substantial role
in the context of
research management,
digital libraries and archives
ideal to reveal **links between resources**





lack of understanding of the semantic technology

limits users to optimally interpret
and query the dataset

Exploring (Research) Linked Open Data

Demand for *means* to
discover, explore and analyze
the research data
published as Linked Open Data





A visual demonstration of the resources represented as Linked Open Data and their links

**to let users
explore, discover and analyze
the dataset's content**



Visual representations for Linked Open Data

The user gets familiar with the dataset

no explicit assumption regarding the dataset



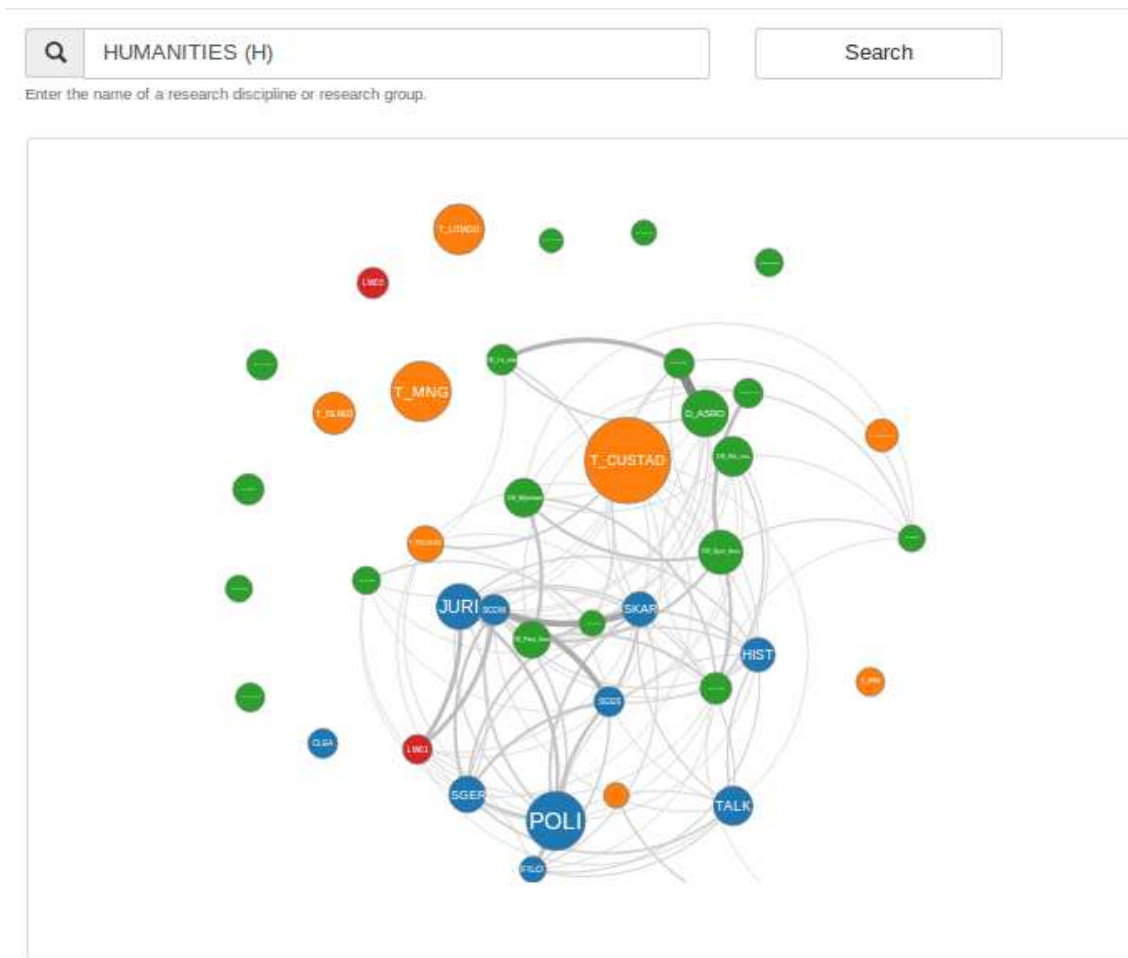
the dataset itself reveals its underlying model
and the relationships between its resources



LOD/VizSuite for RILOD

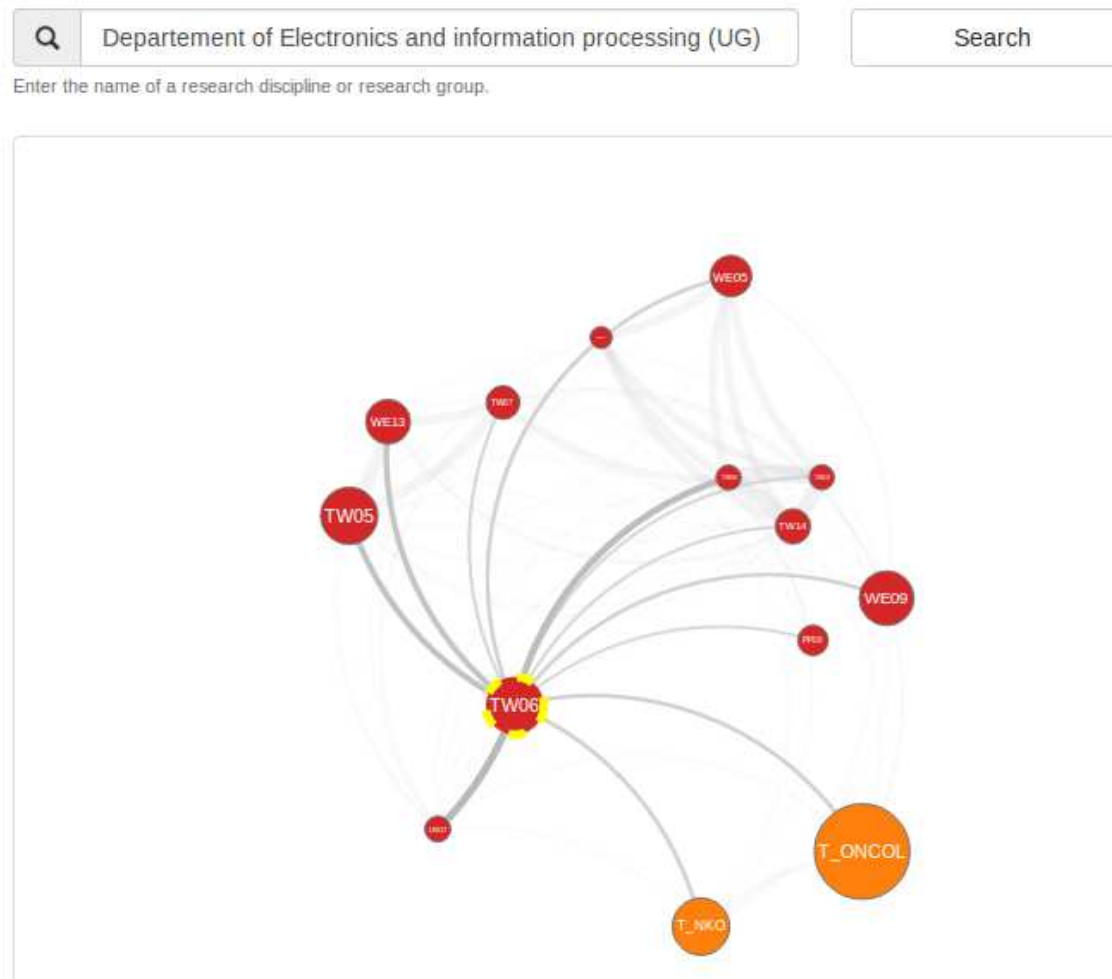


Visual representations for Linked Open Data Communities of practice in a discipline





Visual representations for Linked Open Data Research Groups

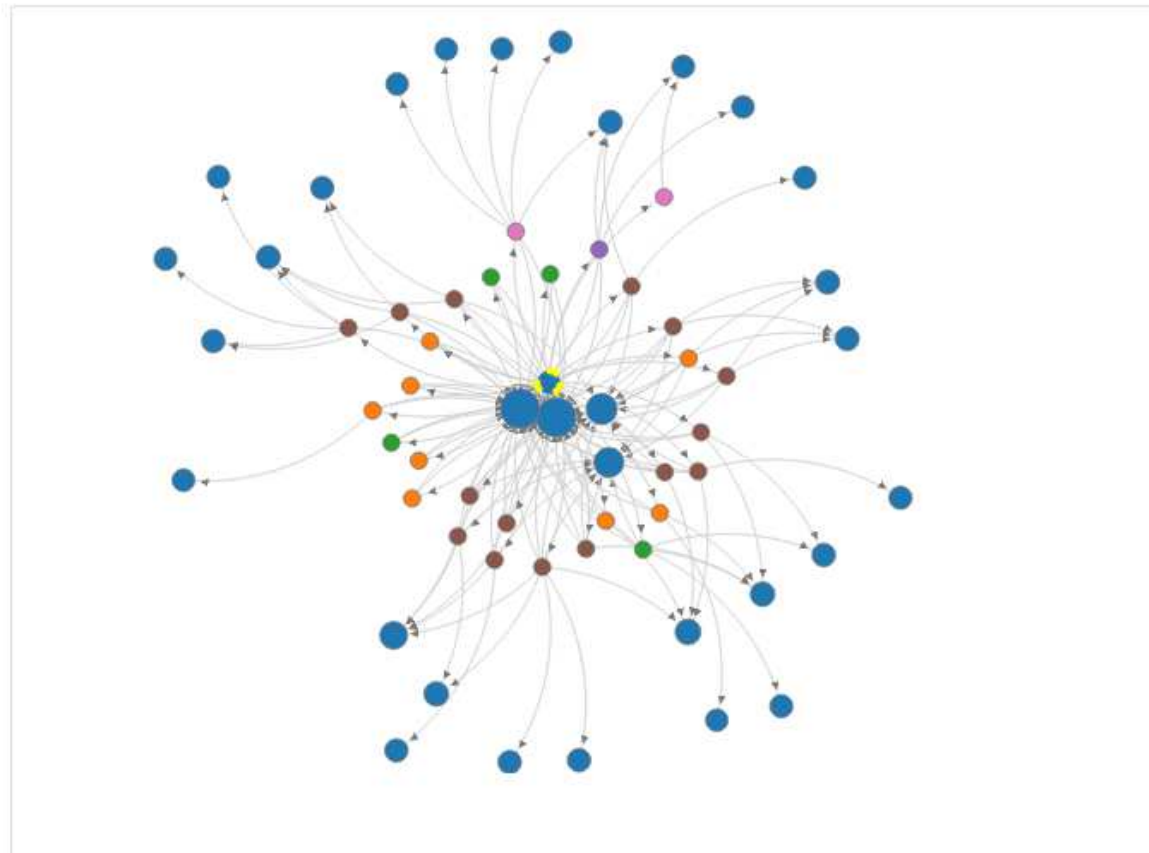




Visual representations for Linked Open Data Research Networks around a researcher

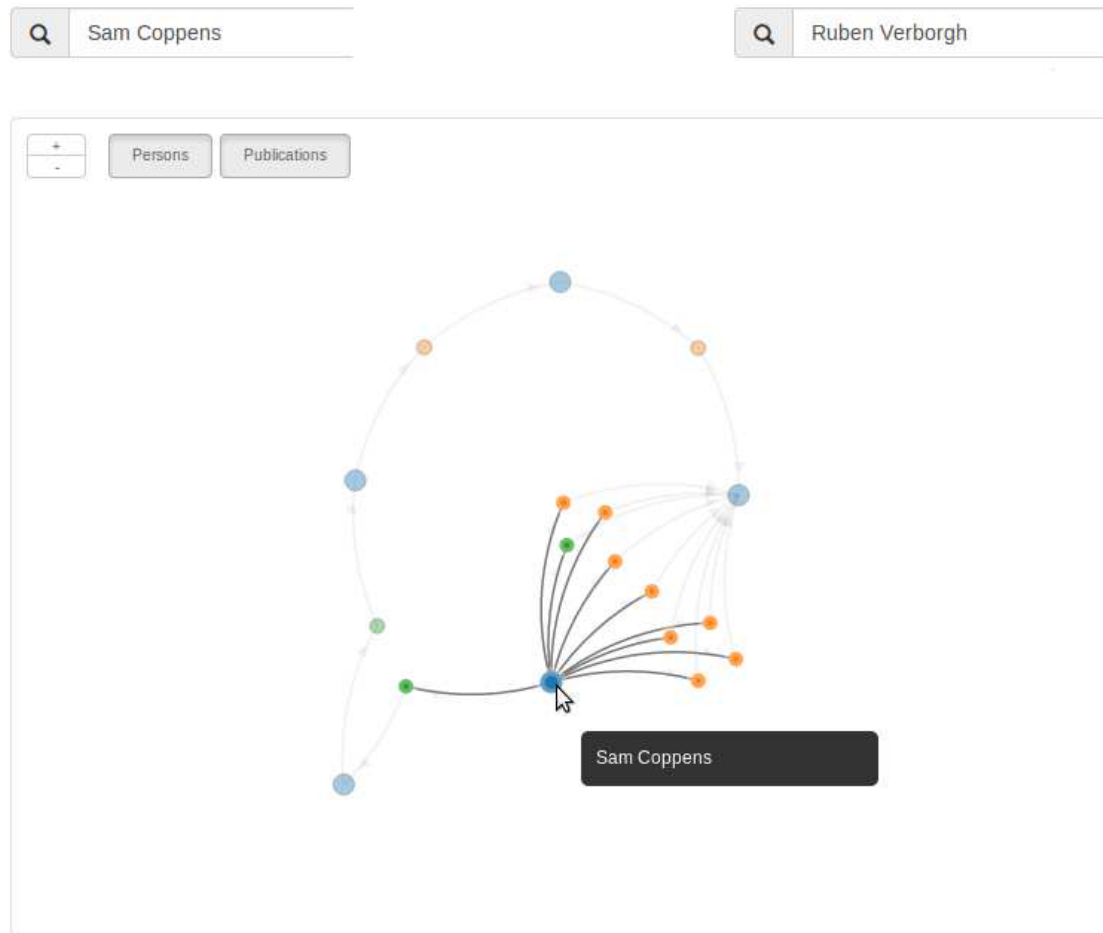
Q Sam Coppens

Use one search bar to visualize the entity's community of practice.



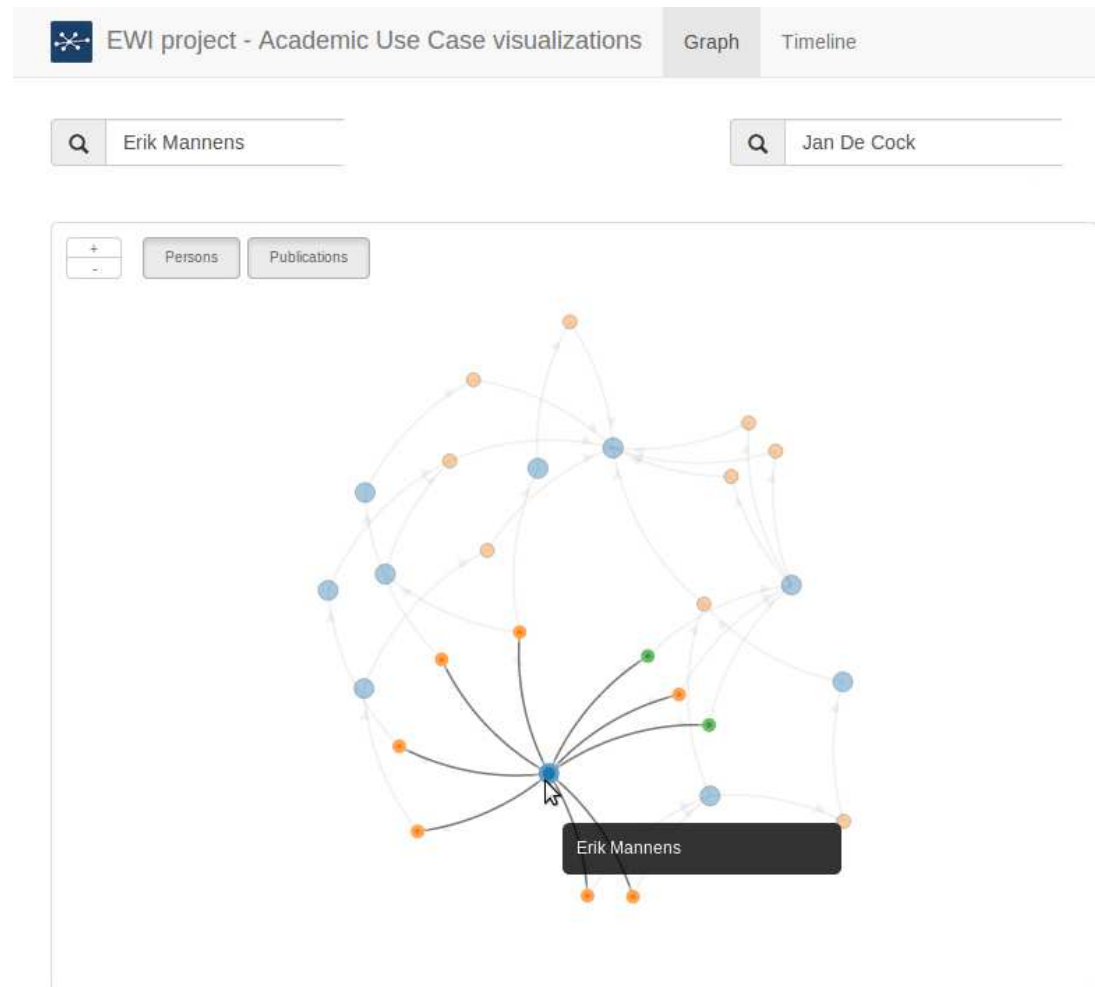


Visual representations for Linked Open Data Paths between Researchers

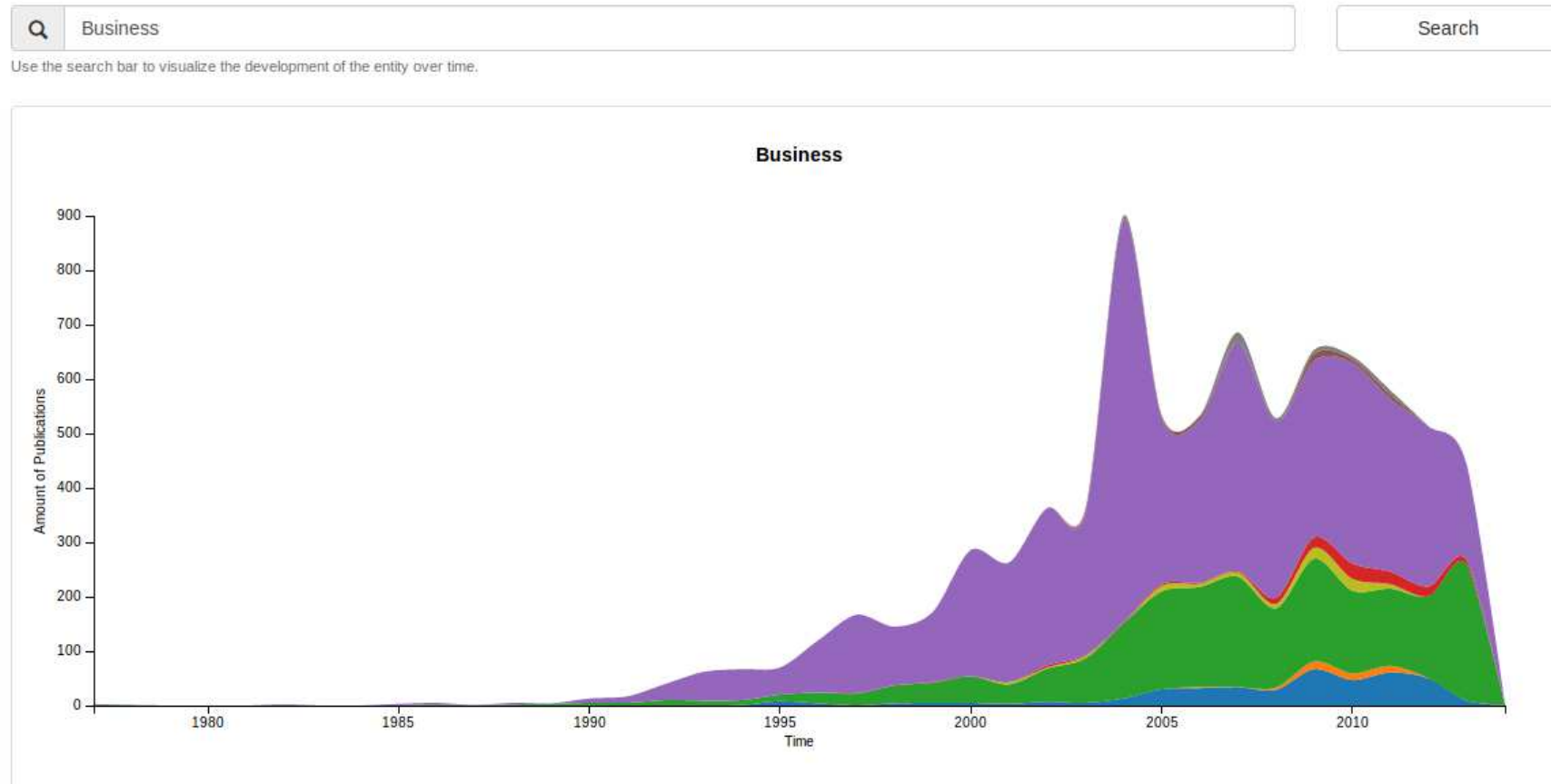




Visual representations for Linked Open Data Paths between Researchers

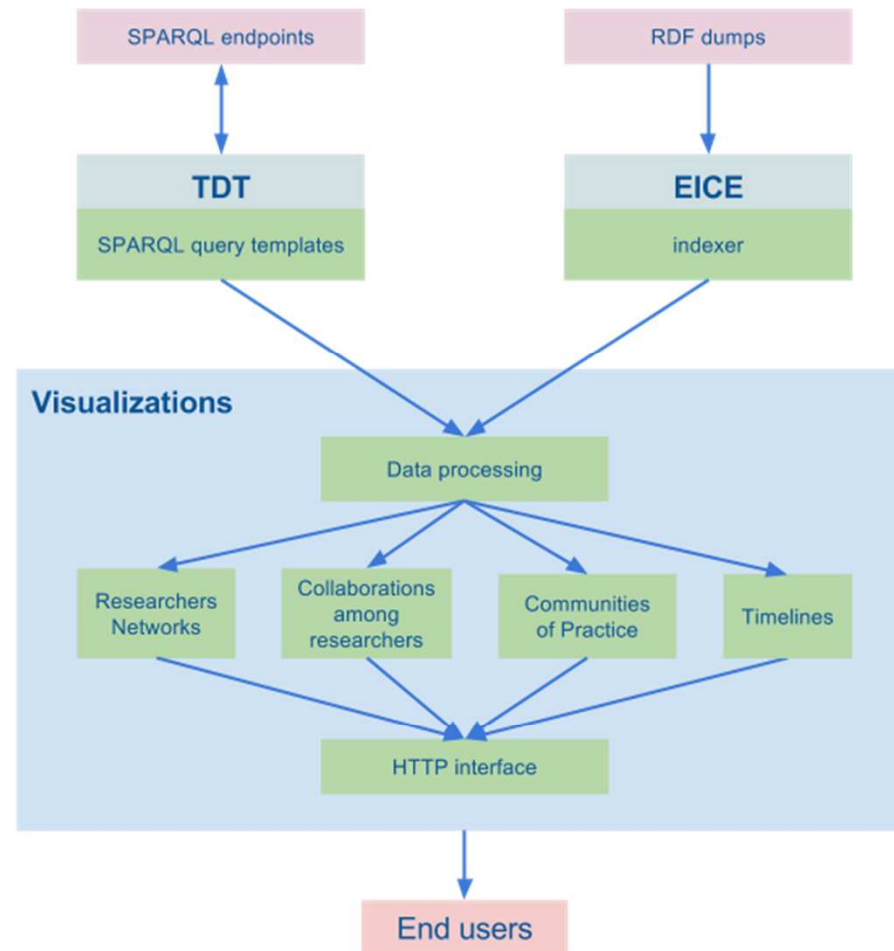


LOD/VizSuite Timelines





LOD/VizSuite architecture





LOD/VizSuite for RILOD

Monitoring...

the *research activity*

Research Networks

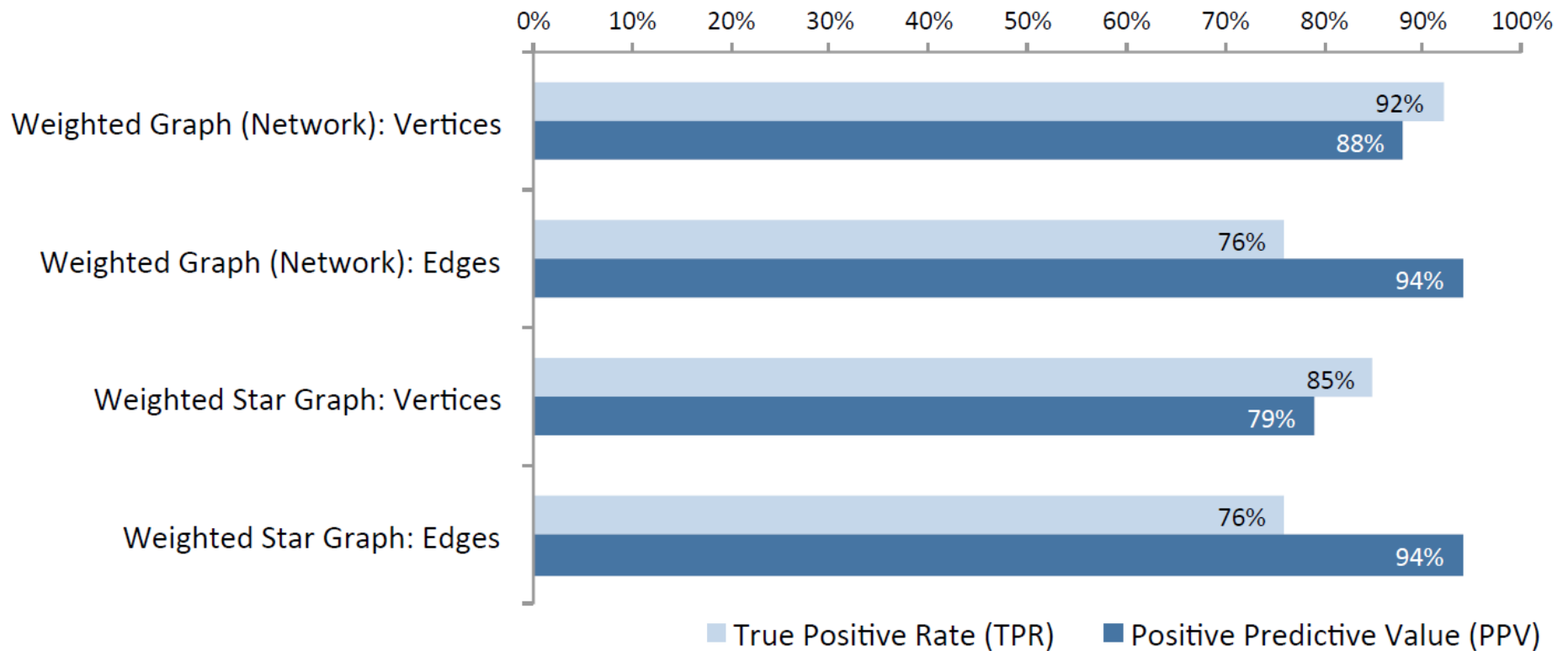
the *existence and the nature of collaborations* →

**Collaboration networks and
Communities of practice**

the *evolution over time* → **Timelines**

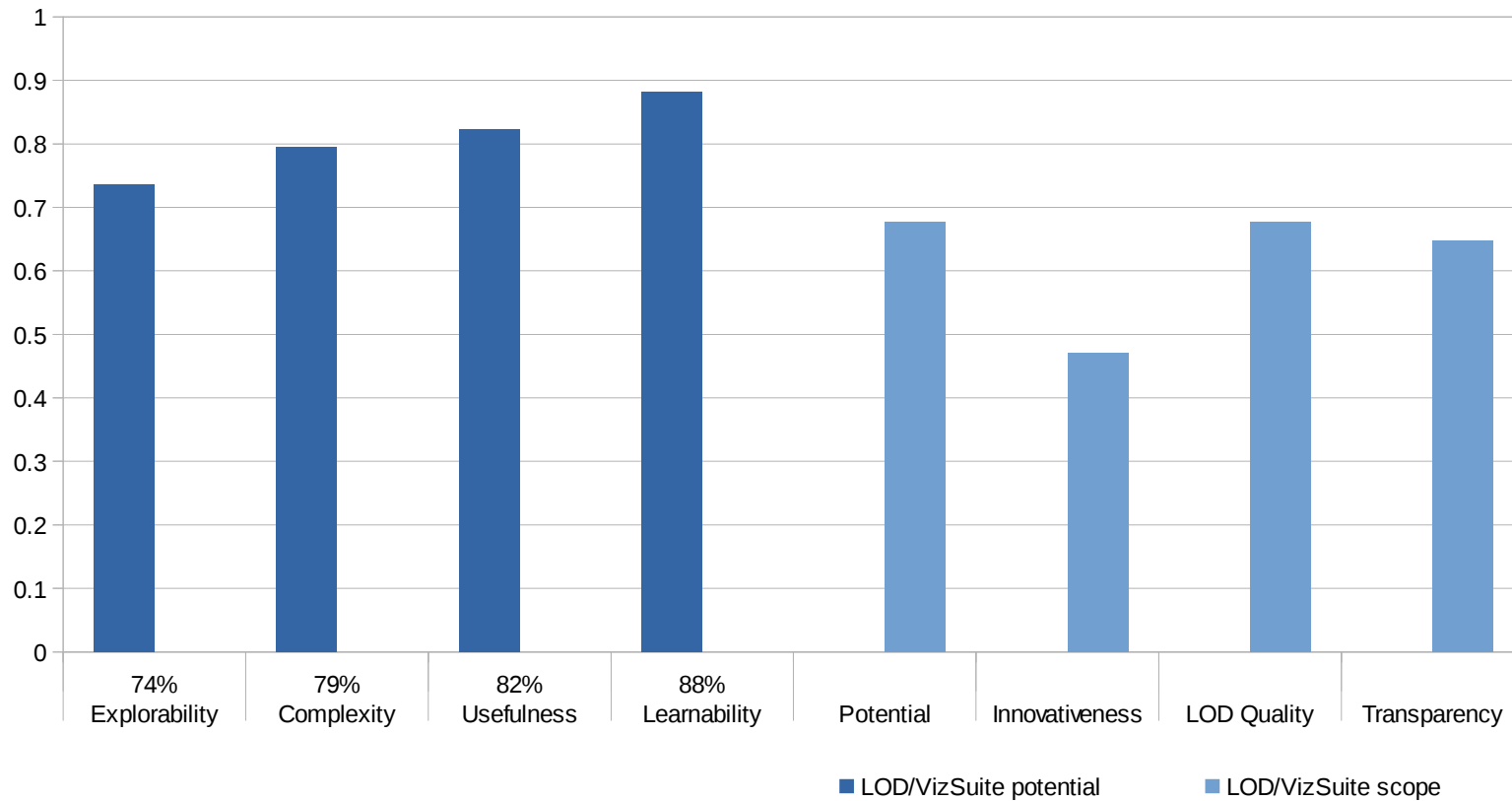
complementary information → **Charts**

LOD/VizSuite technical evaluation





LOD/VizSuite impact evaluation



Exploring (Research) Linked Open Data

Provide the *means* to
discover, explore and analyze
the research data
published as Linked Open Data



reuse and exploitation





Exploring (Research) Linked Open Data

Reveal the **value of Open Data**

in the field of academia/research

provide **valuable insights**

to government agencies, businesses, and general public.



Future Linked Open Data exploration workflow

follow up improvements on...

the **user interface**

improve the **user interaction** with the visualizations

the **exploration over the aggregated entities**

inline expansion of the aggregated entities

the **time aspect**

demonstrate visualizations considering the **time parameter**



Future Linked Open Data exploration workflow

Integrate

LOD/VizSuite + **ResXplorer**

offer a **graph-based interactive visual workflow**
for the exploration of Research Linked Open Data

<http://dl.acm.org/citation.cfm?id=2579039>

Conclusions

Novel visual representations for exploring research resources

User interfaces based on **graph visualizations**
and enhanced with **optimized search** in Linked Data.

Enables

to **view** and **navigate** through
combined aspects of research data

to come up spontaneously with **observations**
whose **reasoning** can be **directly investigated**



Visualizing the information of a Linked Open Data enabled Research Information System

LOD/VizSuite: <http://ewi.mmlab.be/academic>

EWI LOD: <http://ewilod.be/ewilod/html/spargl-test.html>

LOD Experimental platform project: <http://ewi.mmlab.be>

Contact us

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