Fiesole 2019

“ Our Shared Open Future: Building from Tradition ”

April 3-5, 2019
European University Institute
Villa Schifanoia - Via Boccaccio, 121
50133 - Florence, Italy

Share Virtual Discovery Environment in Linked Data (SHARE-VDE) State-of-the-art

Tiziana Possemato

The project and its goals

What is SHARE-VDE?

SHARE-VDE is a library-driven initiative to establish an **effective working environment** for the use of linked data by libraries within a global context.

Library data are **enriched** with additional information and relationships, and bibliographic and authority data are converted in linked data.

A **virtual discovery platform** with the three-layered structure of the **BIBFRAME** data model is created to simplify the way in which that data is consumed.

Who is responsible for it?

SHARE-VDE is a collaborative endeavour based on the needs of libraries, developed by:

Casalini Libri, provider of bibliographic and authority data as member of the Program for Cooperative Cataloguing;

@Cult, provider of ILS, Discovery tools and Semantic web solutions for the cultural heritage sector;

with initial input and active participation from **16 North American Research Libraries**.

SHARE-VDE is driven by the library community and influenced by the vision of the **LD4P** initiative.

SHARE-VDE overall goals

Enrichment of MARC record with URIs

Conversion from MARC to RDF using the BIBFRAME vocabulary
(and other additional ontologies as needed)

Data publication according to the **BIBFRAME** data model

Batch/automated **data updating** procedures

Batch/automated **data dissemination** to libraries

Progressive implementation of **use cases**,
with priorities defined by the SHARE-VDE participants

SHARE-VDE phases

Phase 1

October 2016 – January 2017

1985 and 2015 imprint titles;
2,249,397 bib-records and 3,601,327 auth-records.

Phase 2

March 2017 – May 2018

The entire catalogues for all resource types;
94,378,728 bib-records and 24,150,238 auth-records.

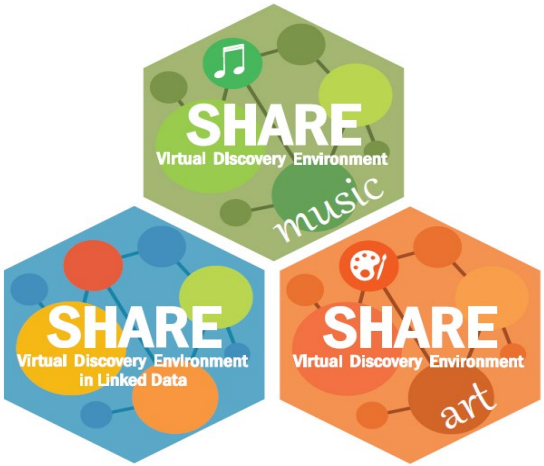
Phase 3

Production environment: January 2019-

In progress.

The Share-VDE family

The Share-VDE family



The projects of the Share-VDE family are promoted by the libraries to establish procedures for the identification and reconciliation of entities, the conversion of data in Linked Data and the creation of a virtual discovery environment based on the three-level structure of the BIBFRAME data model.

The Share-VDE family

SHARE-VDE (Virtual Discovery Environment) is a collaborative endeavour based upon the needs of libraries, formulated by Casalini Libri and @Cult, with initial input from 16 North American University Libraries. The initiative is governed by the library community.

The Share-VDE family

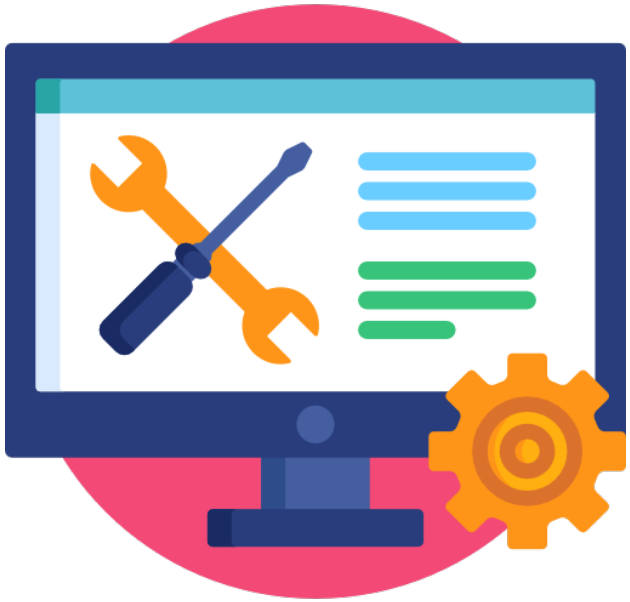
SHARE-Art is prototype for Kubikat group, the art history libraries of the Max Planck Institut (Zentralinstitut für Kunstgeschichte of Munich, Kunsthistorisches Institut of Florence, Hertziana Library in Rome and the Center Allemand d'Histoire de L'Art of Paris). One of the peculiarities of this project is to foresee the integration of the photo library and to build structure that will allow end-users the possibility of moving between the library and the museum collections.

The Share-VDE family

SHARE-Music, is an experimentation in the field of music with the participation of the Bayerische Staatsbibliothek of Munich, the Library of Congress and Stanford University. This project addresses very specific aspects such as the definition and management at various levels of the Work (Work) and the application of the PMO ontology (Performed Music Ontology).

SHARE-VDE core technology: the LOD Platform

The LOD Platform



The **LOD Platform** is a highly innovative technological system for handling bibliographic catalogues and transforming them in Linked Open Data.

The **LOD Platform** uses **BIBFRAME** as its ontology but is able to combine and add other ontologies and data models as required by each specific project.

The LOD Platform

The system allows:

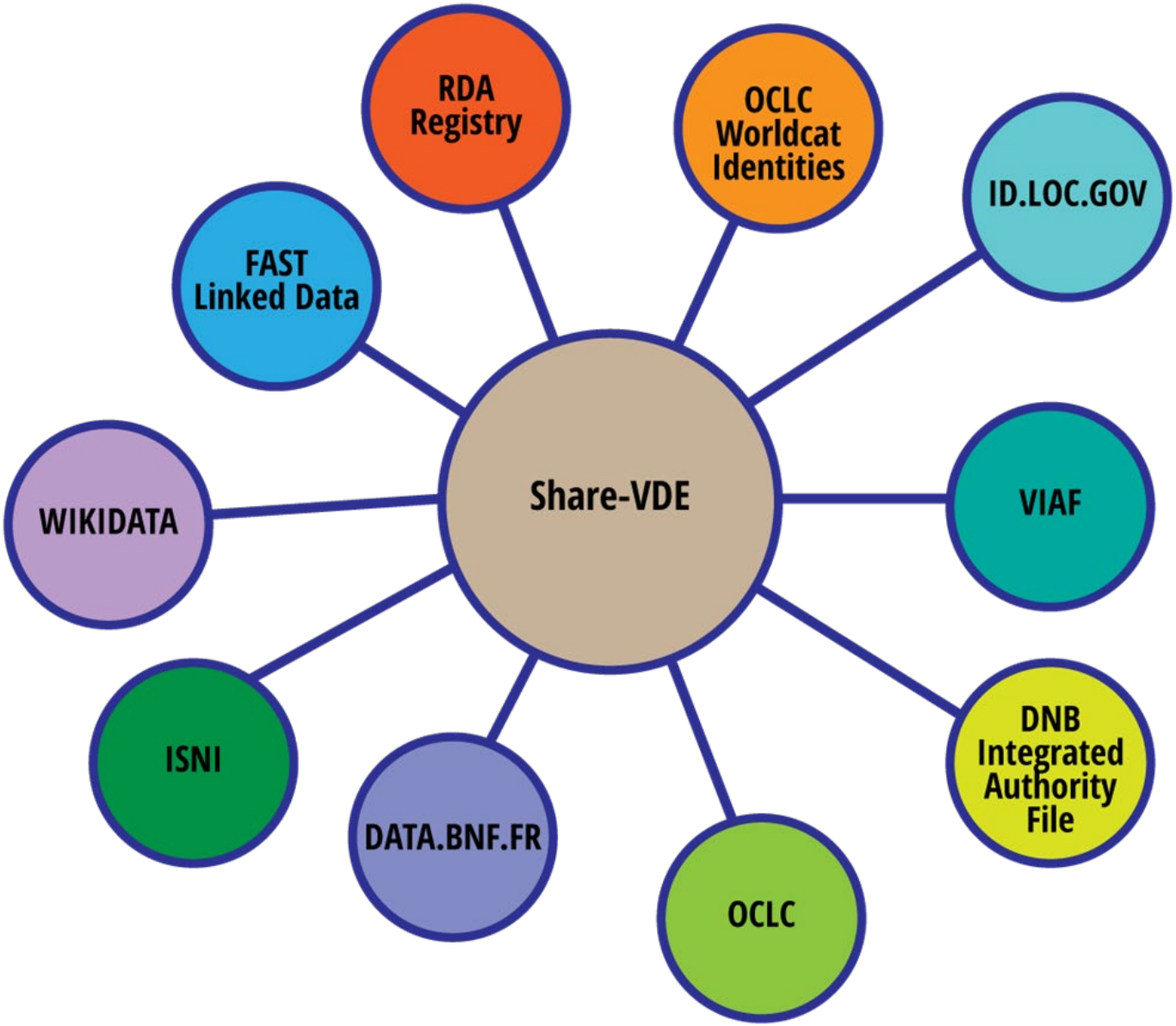
- data **analysis and management**, to identify and group the entities (clusterization process);
- data **enrichment** through links with external projects;
- bibliographical and authority data **conversion** in RDF (Resource Description Framework, the standard model by the W3C for LOD), using vocabularies and ontologies;
- **publication** of the dataset in LOD on triplestore (RDF);
- user-friendly ways of **finding** data, through a discovery portal with navigational tools based on BIBFRAME and other data models (FRBR/LRM…).

The LOD Platform

Components of the technological architecture:

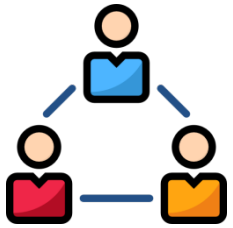
- **AUTHIFY**, RESTFul module that provides bibliographic and authority search services and full text of external datasets, mainly related to Authority files (VIAF, Library of Congress Name Authority file…) but also extendable to other types of datasets.
- **CLUSTER KNOWLEDGE BASE**, on PostgreSQL database, is the result of data identification, enrichment, and clusterization processes.
- **LODIFY**, RESTFul module that automates the entire process of data conversion in RDF format;
- **BLAZEGRAPH** and/or **STARDOG**, two triplestores (the first open source; the second commercial) for storing RDF files;
- **PORTAL SKIN**, the personalized portal on which data is published.

Some of the external sources



R&D in the SHARE-VDE project

SHARE-VDE Transformation Council

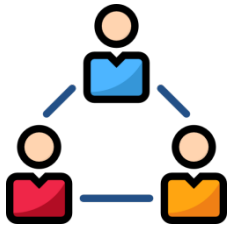


*«The SHARE-VDE Transformation Council's role is to provide insight and **analysis of the MARC to BIBFRAME** transformation to make recommendations for improvements based on member library data analysis, and project documentation. Initial recommendations are based on Phase 2 deliverables, but the work of the team will be ongoing into the foreseeable future.»*

There are 4 sub-committees focusing on specific areas:

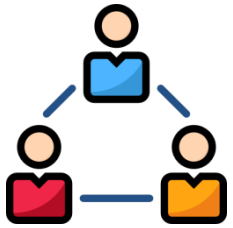
- **Work Identification Working Group**
- **Authority/Identifier Management Services Working Group**
- **Cluster Knowledge Base Interaction/Editor Working Group**
- **User experience/User Interface Working Group**

Work Identification Working Group



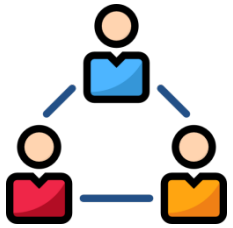
- Reviews the SHARE-VDE Work Clustering Outline and submits feedback on potential improvements or optimizations;
- reviews the use of primary resource identifiers in the SHARE-VDE data set and provides feedback as appropriate;
- engages with the PCC to identify and/or develop best practices for use of these identifiers in BIBFRAME and MARC data.

Authority/Identifier Management Services Working Group



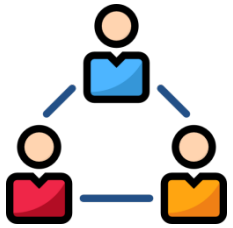
- Defines guidelines and best practices for Authority/Identifier management in the linked data environment;
- takes into consideration a variety of different workflows and use cases.

Cluster Knowledge Base Interaction/Editor Working Group



- An essential part of the MARC to RDF conversion process is the maintenance of metadata that have been produced and registered on the Cluster Knowledge Base (CKB);
- the group analyses how libraries interact with the CKB and their use of the tools for modifying (correcting / enriching), deleting, merging and separating clusters;
- the same approach will be applied on the data originally created in BIBFRAME.

User experience/User Interface Working Group



- Re-design Share-VDE user interface to respond to both patrons and library staff requirements and expectations;
- reflect the components of the Share-VDE data model infrastructure;
- provide an intuitive user experience.

Collaborations

For LD4P cohort members:

- conversion of library data in RDF
- data updating

Contribute data to the central ISNI database
used for enrichment and reconciliation

Share-VDE Author ID:
https://www.wikidata.org/wiki/Property:P6329

Close collaboration with FOLIO project: we are analysing how to take advantage of SHARE-VDE using FOLIO

APIs integration to create a bridge between SHARE-VDE and other collaborative projects, such as BorrowDirect, to share resources and services (ILL…)

What comes next?

SHARE-VDE next steps: new UI design

SHARE-VDE

Search all content...

Person

William Shakespeare

William Shakespeare (bapt. 26 April 1564 – 23 April 1616)[a] was an English poet, playwright and actor, widely regarded as the greatest writer in the English language and the world's greatest dramatist.[2][3][4] He is often called England's national poet and the "Bard of Avon".[5][b] His extant works, including collaborations, consist of approximately 39 plays,[c] 154 sonnets, two long narrative poems, and a few other verses, some of uncertain authorship. His plays have been translated into every ...— Wikipedia

More options

Original Works by Shakespeare | **Original Works about Shakespeare** | **Related people** | **Related Original Works**

10 results

Filter original works... | Format | Year of publication | All filters

Original Work title	Format	First published
Original Work title	Book	1602
Original Work title	Book	1602
Original Work title	Book	1602
Original Work title	Book	1602
Original Work title	Book	1602
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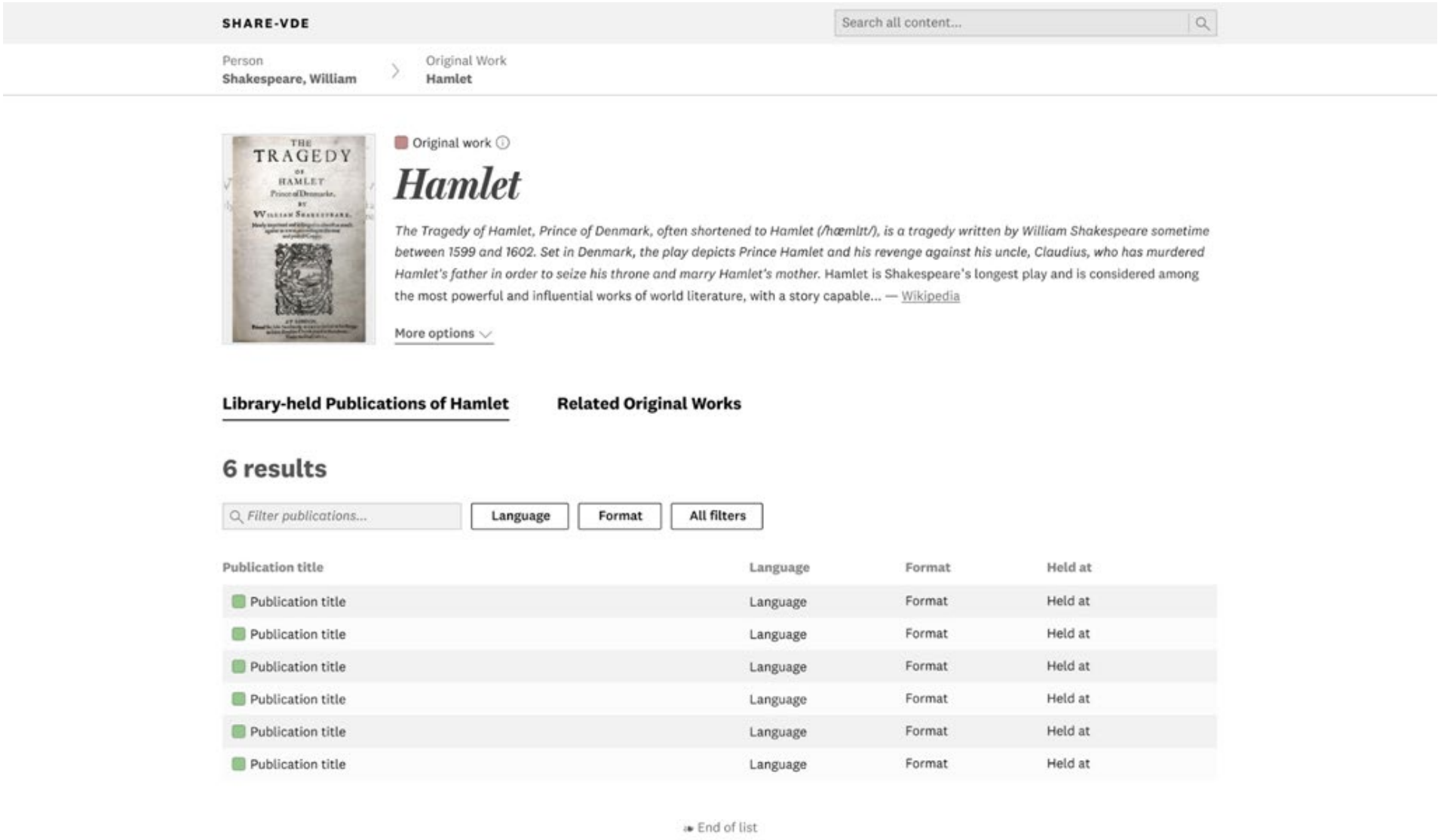
Original Work title	Book	1602

End of list

SHARE-VDE next steps: new UI design



SHARE-VDE next steps: new UI design

SHARE-VDE

Search all content...

Person
Shakespeare, William

Original Work
Hamlet

Original work

Hamlet

The Tragedy of Hamlet, Prince of Denmark, often shortened to Hamlet (/hæmlɪt/), is a tragedy written by William Shakespeare sometime between 1599 and 1602. Set in Denmark, the play depicts Prince Hamlet and his revenge against his uncle, Claudius, who has murdered Hamlet's father in order to seize his throne and marry Hamlet's mother. Hamlet is Shakespeare's longest play and is considered among the most powerful and influential works of world literature, with a story capable... — Wikipedia

More options

Library-held Publications of Hamlet **Related Original Works**

8 results

Filter original works... | Format | Year of publication | All filters

Original Work title	Format	First published
Original Work title	Book	1602
Original Work title	Book	1602
Original Work title	Book	1602
Original Work title	Book	1602
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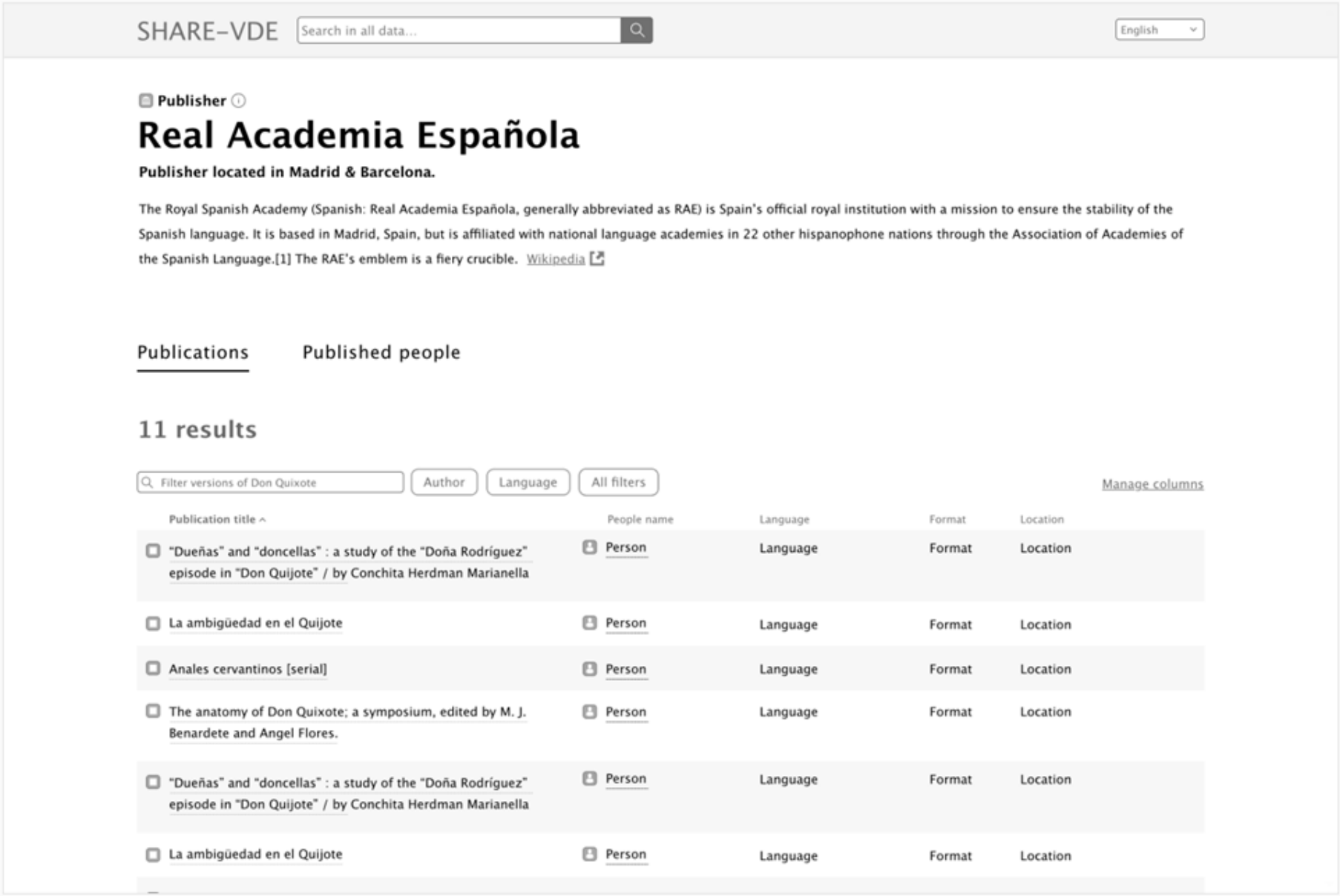
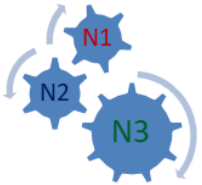
Original Work title	Book	1602

End of list

SHARE-VDE next steps: new UI design



SHARE-VDE next steps - Cluster Knowledge Base Editor: a new system to interact with the CKB

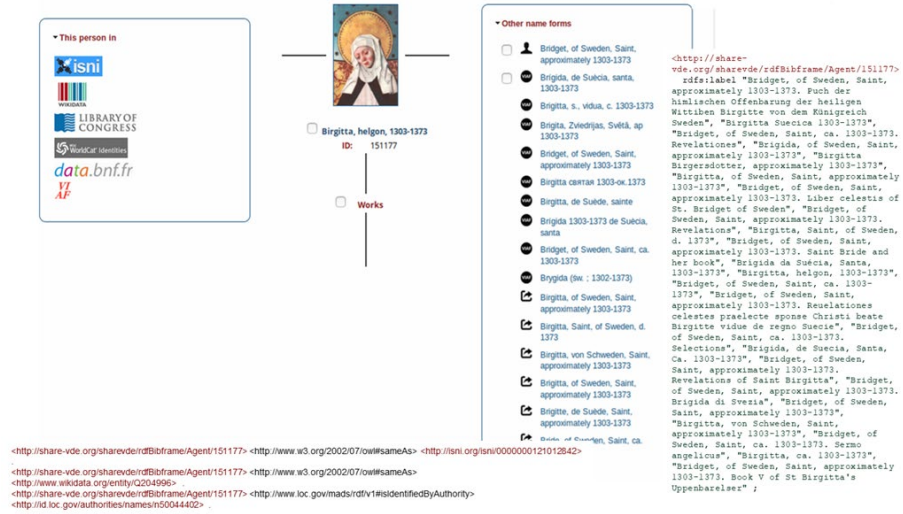


SHARE Cluster Knowledge Base

[The PostgreSQL version]

clstr_id integer	hdg_id text	name text	pref_frm boolean
151177	AN163420	Bridget, of Sweden, Saint, approximately 1303-1373	false
151177	AX1253673	Bridget, of Sweden, Saint, approximately 1303-1373. ...	false
151177	AX1253674	Bridget, of Sweden, Saint, approximately 1303-1373. ...	false
151177	AX1253675	Bridget, of Sweden, Saint, approximately 1303-1373. ...	false
151177	AX1253676	Bridget, of Sweden, Saint, ca. 1303-1373. Uppenbarel...	false
151177	AX1253677	Bridget, of Sweden, Saint, ca. 1303-1373. Reuelation...	false
151177	AX1326216	Bridget, of Sweden, Saint, approximately 1303-1373. ...	false
151177	AX1326217	Bridget, of Sweden, Saint, ca. 1303-1373. Revelationes	false
151177	AX186404	Birgit, of Sweden, Saint, approximately 1303-1373	false
151177	AX186405	Birgitta Birgersdotter, approximately 1303-1373	false
151177	AX186406	Birgitta, of Sweden, Saint, approximately 1303-1373	false
151177	AX186407	Birgitta, Saint, of Sweden, d. 1373	false
151177	AX186408	Birgitta, von Schweden, Saint, approximately 1303-13...	false
151177	AX186409	Bridget, of Sweden, Saint, ca. 1303-1373	false
151177	AX186410	Brigid, of Sweden, Saint, approximately 1303-1373	false
151177	AX186411	Brigida, di Svezia, approximately 1303-1373	false
151177	AX186412	Brigida, of Sweden, Saint, approximately 1303-1373	false
151177	AX186413	Brigitta, of Sweden, Saint, approximately 1303-1373	false
151177	AX186414	Brigitte, de Suède, Saint, approximately 1303-1373	false
151177	AX186415	Brigitte, of Sweden, Saint, approximately 1303-1373	false

[The RDF version]



SHARE-VDE
next steps

Authority Management and services

APIs layer for ILS, external applications and other LD systems (such as BF editors and triplestores)

Reporting to serve library needs

Internationalization of the **SHARE-VDE environment** in relationship with new projects

Strategies to make the SHARE-VDE environment a **trusted source of identifiers** and to facilitate interaction with international initiatives as Wikidata, VIAF, ISNI etc.

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Thanks!

Tiziana Possemato
tiziana.possemato@casalini.it
tiziana.possemato@atcult.it