

Share-VDE: linked data for libraries

Share-VDE (SVDE) **is a library-driven initiative** which brings together the bibliographic catalogues and authority files of a **community of libraries in a shared discovery environment** based on linked data. Share-VDE expanded its scope to embrace a wider community of over thirty institutions also from the art and music domains, building the **Share Family**.

Share-VDE is supported by an advanced Entity Discovery Portal and Linked Data Management System that can be explored at https://svde.org. Share-VDE, as well as all the initiatives part of the Share Family, implements the BIBFRAME ontology with specific extensions to facilitate the interoperability with IFLA LRM and other widely used ontologies. The load of Share-VDE libraries' data is being done progressively while we work towards the production workflow; currently https://svde.org hosts a subset of the data of members institutions. If you want to discover the advanced functions of Share-VDE 2.0, the web portal at https://svde.org is the place to go.

Additionally, an imminent development is the launch of JCricket, a manual entity editor designed to facilitate the management, editing and creation of entities for bibliographic and authority data within all Share Family portals. The **Executive Summary** detailing Share-VDE 2.0's role in linked open data for libraries is available, along with the previous Share-VDE Statement 2021, which includes Share-VDE's explanation of position. Furthermore, the **Share Family Executive Summary for Consortia** offers additional insights into how the Share Family can assist consortia in transitioning to linked open data, providing valuable strategies and support.

Additionally, Share-VDE adopts an **Open Metadata Policy**, approved by its Advisory Council.

The collaborative endeavour, based on the requirements and perceptions of libraries, is promoted by **Casalini Libri**, international bibliographic agency and member of the Program for Cooperative Cataloging; **@Cult**, provider of ILS, Discovery tools and Semantic Web solutions for the cultural heritage sector, with input and active participation from an international group of national and research libraries and influenced by the vision of the **LD4P project**.

After two successful research & development phases launched in 2016 and with the cooperation of the Library of Congress, Share-VDE and the Share Family are now going progressively into production connecting the catalogues of research and national libraries on various continents, including the US, Canada, Europe, and Asia. The collaborative initiative is potentially open to any library and is steered by the library community.



The Share Family technology is also adaptable to the specific needs of **library consortia**, allowing them to enter the linked open data environment. This integration provides consortium members with access to advanced functions such as collaborative cataloging, automated authority control, URI enrichment, and linked data conversion. Customized integrations are available to connect the bibliographic catalogs and authority files of different libraries, presenting their data in dynamic formats to enhance visibility and engagement with resources and collections.

Building on this global collaboration, the Share Family extends its reach to **Library Service Platforms (LSP)**, empowering them to seamlessly integrate into the linked open data environment, offering advanced functions like collaborative cataloging and automated authority control. This integration offers advanced functions such as collaborative cataloging and automated authority control, ensuring a smooth transition for libraries from legacy processes to cost-effective, collaborative cataloging models while retaining metadata control. Interoperability with the Share Family enhances the potential of LSP ecosystems and fosters new levels of international cooperation among libraries.

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How it works

For an overview of the entity discovery portal, see the demo of the Share-VDE entity discovery portal with an introduction on the Share-VDE user experience and user interface design process; supporting slides are also available.

The technological components underlying Share Family are powered by the **LOD Platform**, an innovative framework designed for managing bibliographic, archive, and museum catalogues and their conversion to linked data, extensible as needed for specific purposes. The LOD Platform is designed for creating **scalable** and configurable linked data management systems and discovery interfaces **able to adapt to ontologies from different institutions** from the GLAM domain. It also facilitates the creation and publication of linked open data, regardless of the source data format.

The Share Family infrastructure harnesses the potential of linked data to offer an **easy and intuitive user experience** and deliver ever more wide-ranging and detailed search results to library patrons.

Participating libraries' catalogues are converted from MARC (Machine-Readable Cataloging) to RDF (Resource Description Framework) using the BIBFRAME vocabulary and other ontologies. This conversion involves processes such as **entity identification**, **reconciliation**, **and data enrichment** from external sources, in order to form clusters of entities (such as Agent, Instance, Work and Opus). The resulting network of resources is published as linked data and **Cluster Knowledge Base named Sapientia** is compiled to create a common knowledge base of clusters accessible in RDF that still allows participating libraries to continue handling their own data as independently as possible. Members also receive their original records converted into linked data, which can be reused according to local requirements and with no restrictions.

Main areas of focus

Building upon previous SVDE project phases and continuous R&D activities carried on by ad hoc working groups, Share Family is now focused on implementing **production-level processes** and additional workflows determined by the Share Family community.

The main areas of focus include:

- enriching MARC records with URIs;
- converting MARC to RDF using the BIBFRAME vocabulary and additional ontologies as needed;
- creating a virtual discovery platform with a linked data discovery option based on the adapted BIBFRAME data model;
- establishing a database of relationships and clusters of entities (Sapientia Cluster Knowledge Base) accessible in RDF;
- implementing tools for **direct interaction with data**, including validation, updates, and long-term control and maintenance of clusters and URIs;
- batch/automated data updating procedures;
- batch/automated data dissemination to libraries;



progressive implementation of further use cases in the priority order defined by the community.

Benefits

The LOD Platform technology increases discoverability of resources in library catalogues, allowing end users to access a wealth of information that may be both imported and exported by participating institutions. This approach fully takes advantage of the potential of linked data, connecting library information to the benefit of scholars, patrons and all library users in a dynamic research environment that unlocks new ways of accessing knowledge.

Among the main benefits: **enriched library data with URIs** and additional information previously unexpressed under MARC21; allowing librarians a **wider and direct interaction with and editing of bibliographic data** expressed in linked data through **JCricket** (Cluster Knowledge Base Editor); delivering **richer and enhanced search results to library patrons** thanks to the potential of linked data and advanced discovery interfaces; engaging in a **vibrant community of experienced librarians** from around the globe, pooling together their diverse skills and know-how; staying **up-to-date with the latest developments** and advancements Semantic Web applications; **collaborating with the Linked Data for Production (LD4P) initiative and the Program for Cooperative Cataloging (PCC)** on the application and understanding of linked data; **following developments related to** the original production of data in **BIBFRAME** format and workflows based on linked data.

The **expansion of branches within the Share Family** has been driven by the necessity to unite institutions with similar objectives or from related domains into cohesive groups. These branches consist of members who share a common focus on specific types of bibliographic information found within their library catalogues. For instance, libraries that specialize in cataloging visual materials such as paintings, art works, and photos can be grouped under the Share-Art branch. This organizational approach is ingrained in the Share software architecture, which is built upon a **tenants infrastructure**, and in the management of library data, which is handled based on similar requirements and characteristics.

From the technical perspective this allows **more efficient data management and technological sustainability**. From the service perspective this means that dedicated applications that are out of scope for certain branches can be developed for other groups of institutions. From the users perspective this enables richer and specialized sets of resources to be consulted.

Info and contacts

For more information about Share Family - Linked Data Ecosystem please refer to:

- Share Family website
- Share Family map
- Share Family brochure
- Presentation of the Share Family at ALA annual Conference 2023
- Demo of the Share-VDE entity discovery portal



- Share-VDE Executive Summary
- Share Family Executive Summary for Consortia
- Share-VDE Open Metadata Policy

For more information on **how to join** the Share Family, **contact us at info@svde.org.** (info@svde.org)