The Share Family initiative: bringing Linked Open Data into practice

Michele Casalini

Casalini Libri

Nina Servizzi

New York University

Roberto Delle Donne

Università degli Studi di Napoli Federico II

Sebastian Hammer

Index Data

Share FAMILY Linked Data Ecosystem

Bangkok, 28 January 2026

Charleston Conference™
ISSUES IN BOOK AND SERIAL ACQUISITION

Highlights of the Share Family

Michele Casalini - Casalini Libri

Shared goals

- Build a linked data ecosystem where BIBFRAME and IFLA LRM entities fully benefit from the rich data heritage of MARC catalogues.
- Serve as a trusted linked data hub, providing authoritative, high-quality metadata for the global community.
- Unify and enrich records from different libraries into a shared entity-based catalogue, integrating data from LC, VIAF, ISNI, Wikidata, and other trusted sources.

Shared goals

- Offer a user experience that’s both rich and intuitive, enabling seamless discovery and exploration.
- Open the data on multiple levels — through APIs, triple stores, and the discovery portal — to support diverse uses, from research to innovation.
- Contribute bringing into pratice a distributed data management environment.
- Define long-term sustainable policies, in terms of governance and development models.

A decade of developments

2015-2016

- **ALIADA**
- **BIBFRAME update Forum** at ALA Midwinter in Boston
- **Share catalogue** online (universities from southern Italy)
- **Share-VDE** prototype

2017-2019

- **Share-VDE** and **LD4P** members' data converted from MARC21 to BIBFRAME

2019-2021

- **Share-VDE** – virtual discovery environment for library linked open data
- **Share Family** embraces all LOD Platform initiatives

2021-2023

- Ongoing **PCC** data pool
- **Share-VDE** 2.0
- Ongoing **NatBib** working group and shared discovery environment
- **Share Family** towards production

2023-2025

- **British National Bibliography** in linked open data (beta version)
- **Parsifal** and **LILLIT** shared discovery environments launch
- **JCricket** collaborative cataloguing editor
- **LOD Platform** version 3

A thriving Linked Data Ecosystem

The Share Family is…

Co-operative : Shared tools for collaborative data management

Sustainable : Optimisation of efforts for the benefit of all members

Open : Interoperability for increased discovery of collections

Inclusive : Diversity for enhancement and equality of access to knowledge

Dynamic : Flexibility and interaction are central

http://bit.ly/44rnqpA

Open means…

Free Availability

Data is accessible to everyone with no financial, technical, or legal barriers.

Interoperability

Conformity with widely accepted standards for seamless integration and linking with other datasets.

Transparency and Reusability

Publication in machine-readable formats (e.g., JSON-LD, Turtle) ensures data can be easily reused.

Open means…

Discoverability and Accessibility

Each data point is uniquely identified by a URI and can be accessed directly on the web.

Inclusivity and Innovation

Broader diffusion of data facilitates reuse for diverse purposes and encourages innovation by enabling novel applications, data mashups, and the development of new tools and services.

Open means…

FAIR by Design

Staying aligned with the FAIR principles - Findable, Accessible, Interoperable, Reusable guaranteeing long-term integration with cultural heritage LAM infrastructures worldwide.

Datasets are open in all stages of transformation. Data is open also in aggregated form.

Entity URIs can be used without constraints.

LOD Platform infrastructure components

Cluster Knowledge Base (or Entity Knowledge Base)

A collaborative, trustworthy source of quality bibliographic and authority information in linked open data.

Multi-layered entity discovery portal system

This can be configured for individual institutions, for a single consortium / group of institution, for a network of consortia.

LOD Platform infrastructure components

JCricket Entity Editor

Tool designed for collaboratively creating and curating linked data entities stored in the Cluster Knowledge Base.

APIs backbone for seamless interaction with external systems.

Integration with third parties

Interoperability with ILS/LSP (eg. FOLIO, Alma), BIBFRAME editors (eg. Sinopia, Marva), authority sources (eg. Wikidata, ISNI, QA).

Advisory Council and NYU Perspective

Nina Servizzi - New York University

How to achieve these goals

These goals can be achieved applying the the emerging bibliographic ecosystem based on BIBFRAME and on the Linked Open Data principles.

Governance and long-term sustainability are, among others, crucial aspects addressed by the community that since 2016 progressively takes steps in this direction.

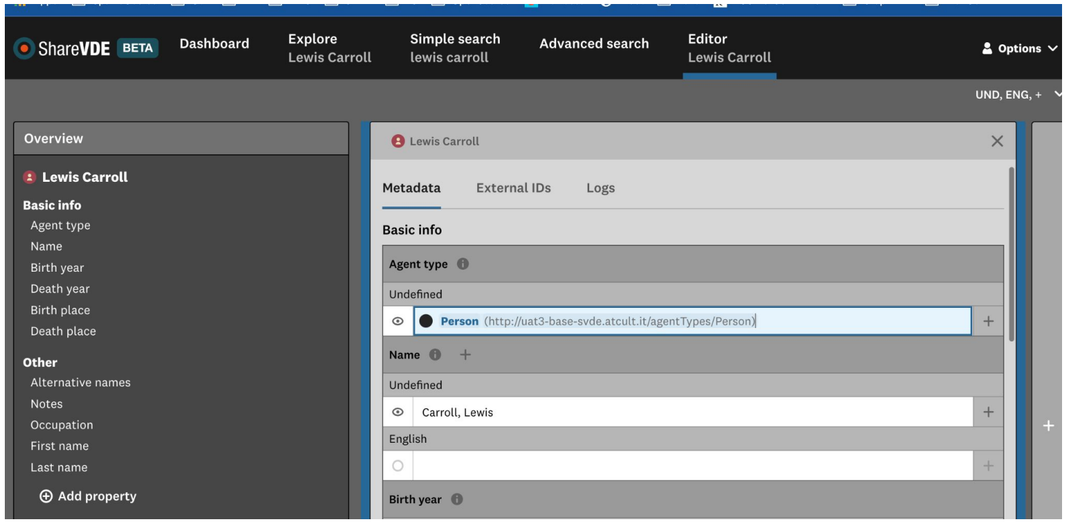
Member-driven governance model

- Governed and steered by the Share Family Advisory Council, made up of representatives from member institutions.
- Members and working groups actively participate in policy-making and tool development, as well as defining goals.
- Expertise, responsibilities and costs are shared across the community for the benefit of all.

https://bit.ly/SF-Executive-Summary-Consortia

*Governance: **by libraries, for libraries***

Community policies for shared tools



Best practices for cataloguers

Piloting JCricket Entity Editor for shared cataloguing

Governance: ***open data policies***

Each institution receives the entity-based datasets corresponding to its own catalogue in linked open data; this may be re-used according to local policies and requirements, with no restrictions.

This topic strongly resonates within Share Family and SVDE communities → ongoing discussion to revise the SVDE Open Metadata Policy and state the option for open data more explicitly.

https://bit.ly/ShareFamily-Open-Metadata-Policy

Use cases for open data policies

- Build new applications, services, and aggregations to meet new and evolving needs
- Analyze metadata and library resource use to optimize preservation, collection development, collection analysis, resource sharing, and discovery
- Enhance resource sharing that reduce costs, improve researcher experience and efficiency

Use cases for open data policies

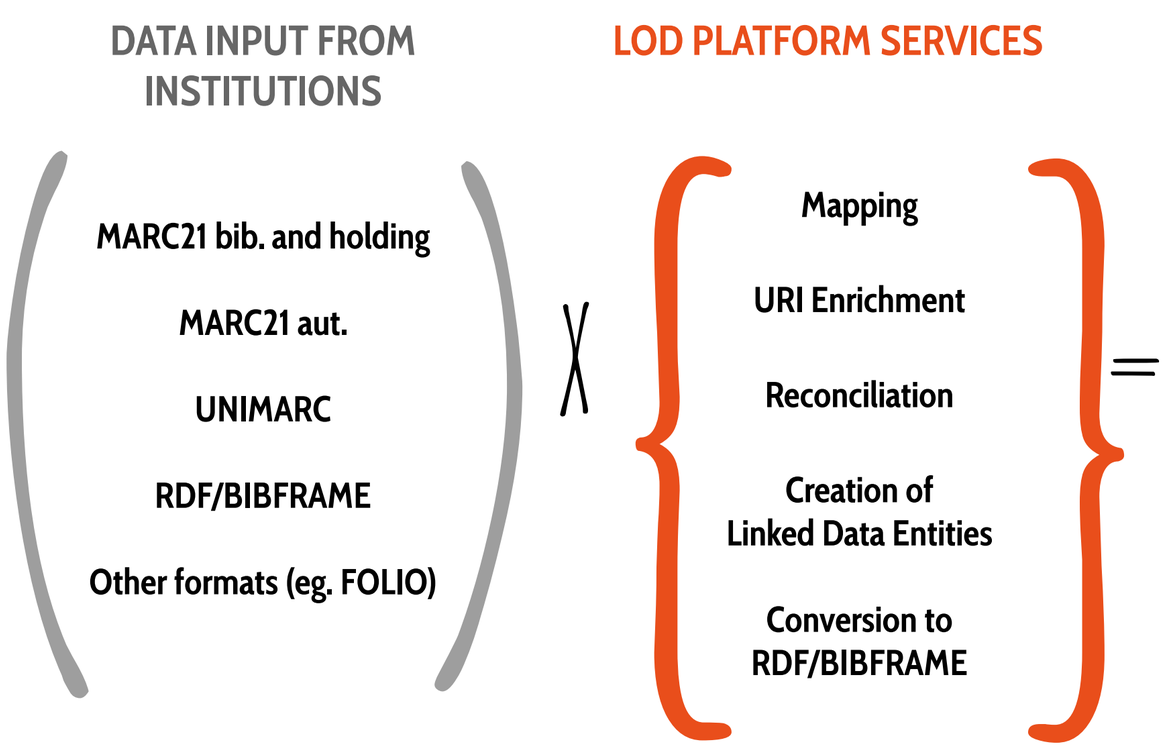
- Manage collaborative collection lifecycle
- Partnering to build, manage, transform, and enhance metadata across libraries. archives, museums and repositories
- Improve collaborative resource description and expand authoritative data across disciplinary silos

Share Family - An Institutional Perspective

NYU Linked Open Data Strategy

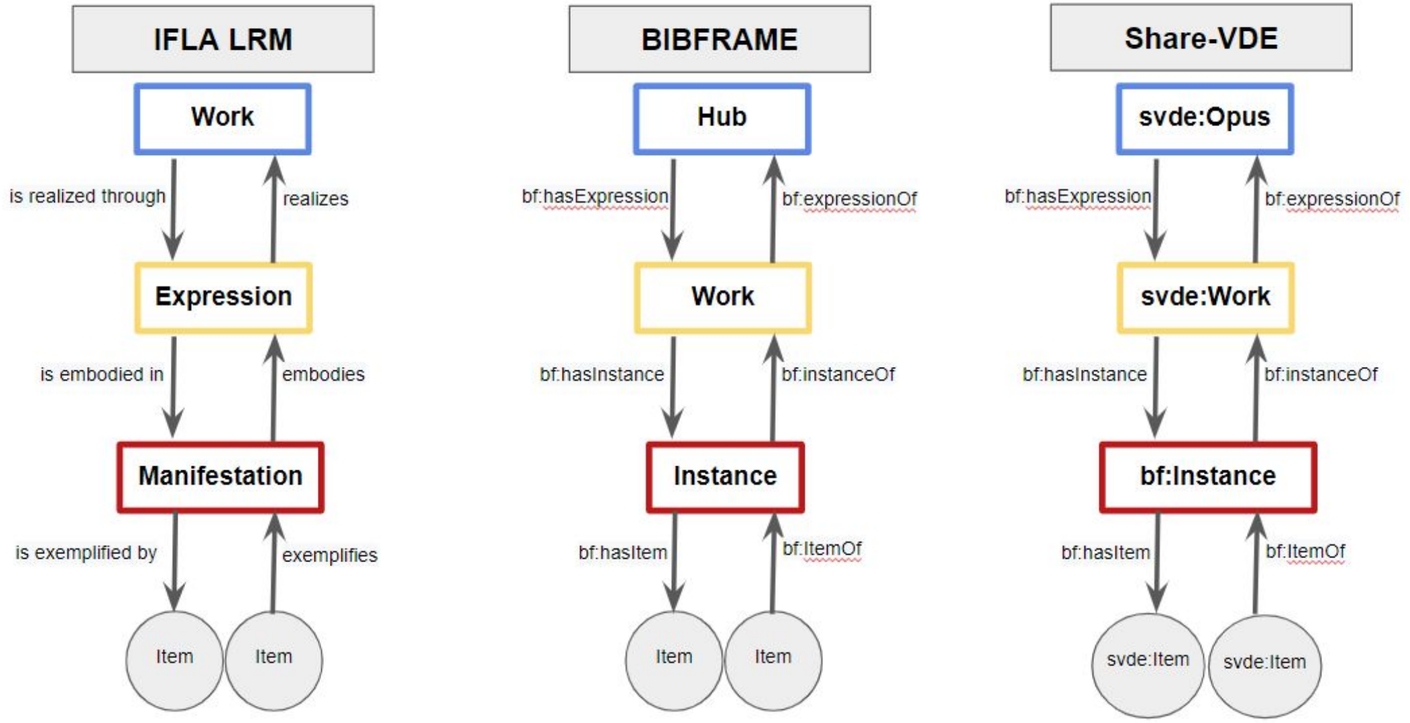
- Enhance collection visibility and access via linked data standards.
- Improve structured data exchange and interoperability across systems.
- Reduce dependence on closed or proprietary systems and services.
- Prioritize investment in shared infrastructure through collective design and development.
- Leverage BIBFRAME without changing cataloging workflow or LSP.

Share Family processes and output



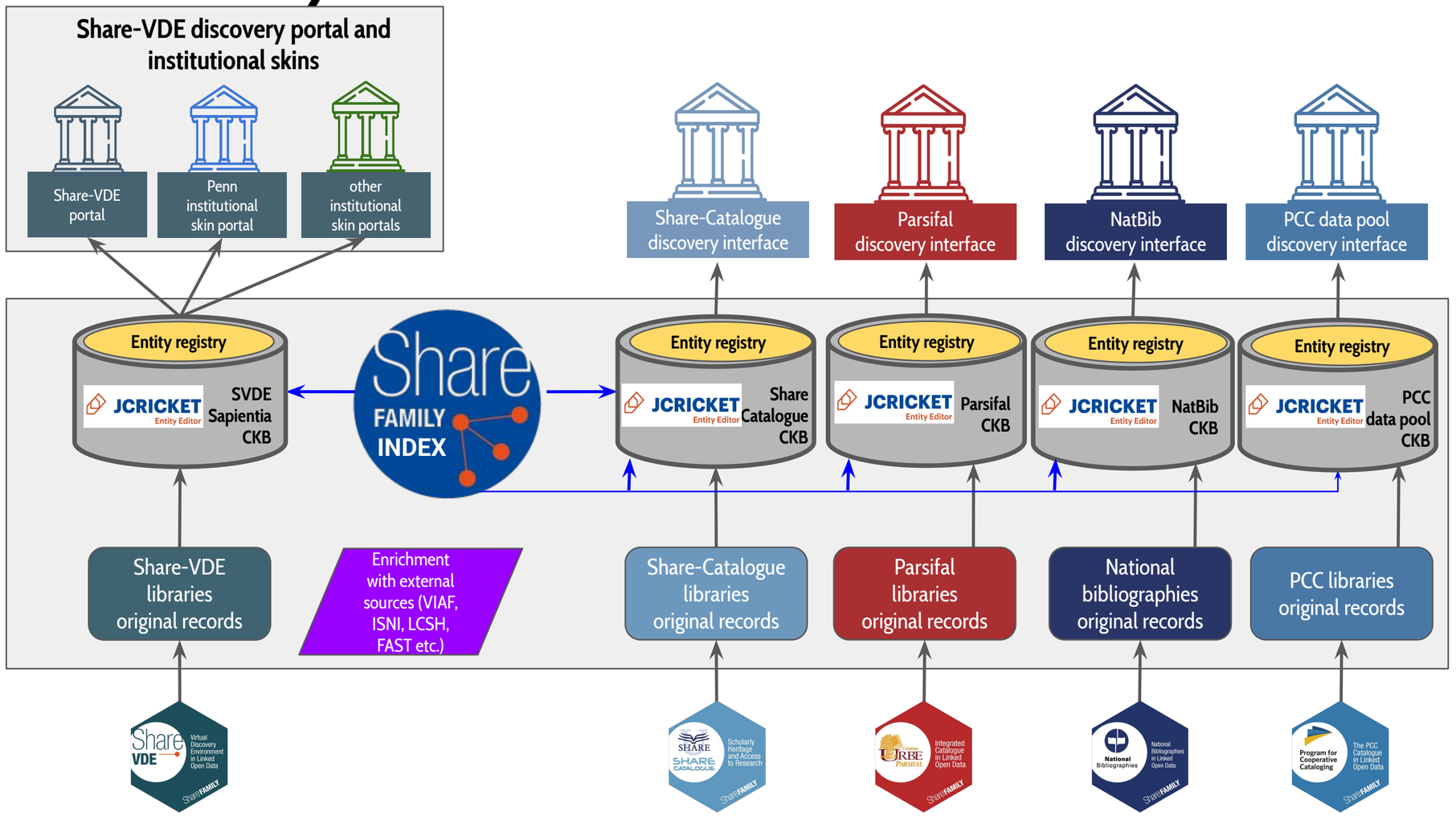
Interoperable entity model

The SVDE Ontology supports the discovery functionality of the Share Family search systems and may be re-used in any system requiring a bridge among BIBFRAME, IFLA LRM and RDA.



[Presentation] and [preliminary version] available

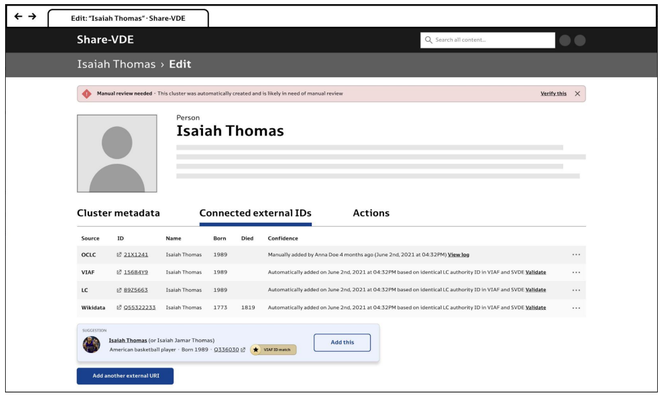
Share Family tenant infrastructure

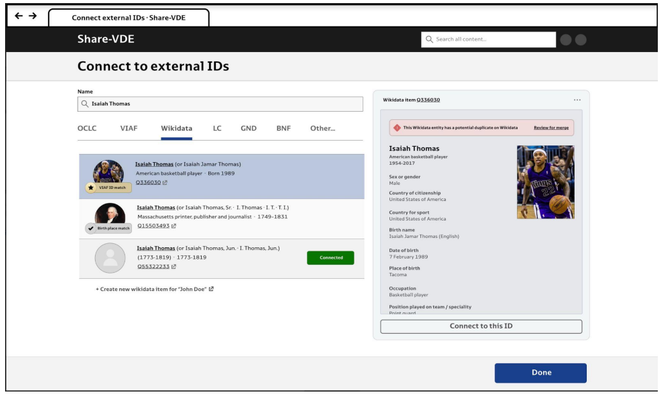


Share FAMILY Linked Data Ecosystem

Charleston Conference™
ISSUES IN BOOK AND SERIAL ACQUISITION

JCricket Editor - Entity Management System





- Carries out the transition from MARC to a real Entity Management System.
- Acts on the entity database (CKB) created through Entity Resolution and clustering processes.
- Collaborative tool that takes into account and supports local needs and practices.

Outputs for consortia or single libraries

Linked Data Descriptions and Enriched MARC Records

- The Library catalogue is converted in linked data entities according to BIBFRAME 2.0. The entities are then enriched both with native and persistent SVDE URIs and URIs from external sources.
- MARC records from the original library catalogue are enriched both with native SVDE URIs and URIs from external sources.

Discovery Portal

- Advanced entity discovery system based on BIBFRAME
- Customised UI (skin)
- Integration with local APIs
- Site mapping with additional meta-tagging
- Data conversion to Schema.org

JCricket Entity Editor

- A manual collaborative tool designed to manage properties (attributes, relations, and links) of entities in the Cluster Knowledge Base, improving data quality through tasks like creation, merging, and splitting.
- Data can always be traced back to each Institution through the Provenance.
- It can potentially support other workflows and connections with systems external to the Share Family

Authoritative Services

- Innovative solutions that facilitate and improve authority control through automatic and manual procedures.
- Libraries to receive constantly updates on their bibliographic and authority records from authoritative sources.
- Authority Services currently available for MARC-based workflows offer automated URI enrichment, reconciliation and validation of library data.

A live example: SHARE Catalogue

Roberto Delle Donne - Università degli Studi di Napoli Federico II

*SHARE Catalogue: **who***

Universities of

- Napoli Federico II
- Napoli L'Orientale
- Napoli Parthenope
- Salerno
- Sannio
- Basilicata
- Campania Luigi Vanvitelli
- Suor Orsola Benincasa
- Salento
- Cassino e Lazio Meridionale
- Scuola Superiore Meridionale

https://www.sharecampus.unina.it/
https://www.sharecatalogue-lod.org/

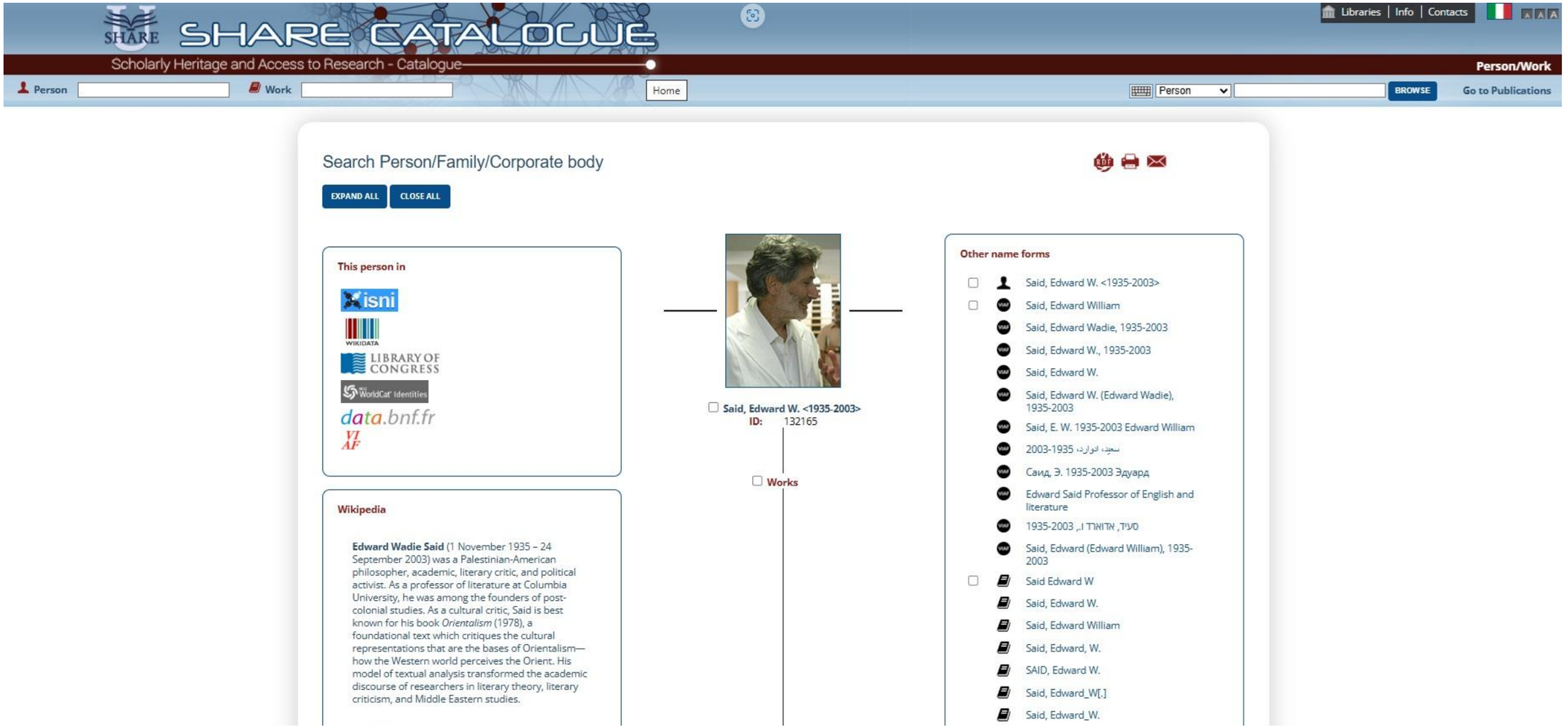
*SHARE Catalogue: **why***

- Build a single integrated catalogue, leaving complete local autonomy to participating libraries
- Support and pursue the philosophy of open data and open science, to ensure maximum dissemination and access to library catalogues and available resources
- Introduce the concept of active cooperation by supporting the creation and growth of a community of librarians and users

SHARE Catalogue as a Replicable Cooperative Model

- Inter-institutional cooperation grounded in shared governance
- Entity-based collaboration instead of record aggregation
- Semantic interoperability as an organizational choice, not just a technical one
- Designed to be replicated in other regional or national contexts
- Built to coexist with existing national systems, not to replace them

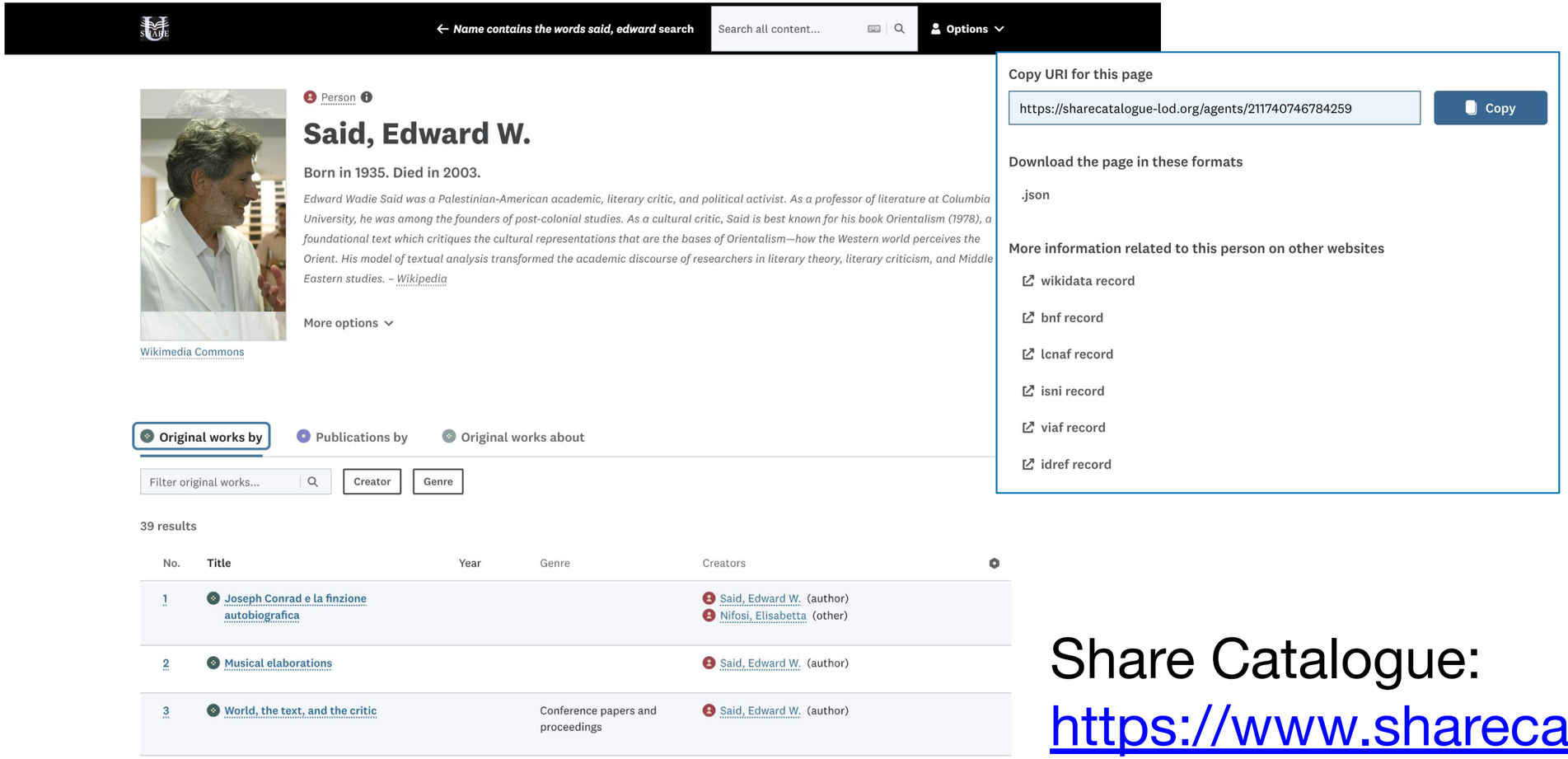
From SHARE Catalogue 1.0 …



Share FAMILY Linked Data Ecosystem

Charleston Conference™
ISSUES IN BOOK AND SERIAL ACQUISITION

… to SHARE Catalogue 3.0



Share Catalogue:
https://www.sharecatalogue-lod.org/

Share FAMILY Linked Data Ecosystem

Charleston Conference™
ISSUES IN BOOK AND SERIAL ACQUISITION

From Linked Data to Open Science Infrastructures

- Bibliographic data as a foundation of scholarly communication
- Linked Data enabling FAIR discovery and reuse of knowledge
- Libraries acting as semantic mediators in Open Science ecosystems
- SHARE Catalogue bridging library metadata and research infrastructures

BFWE held in Naples in September 2025

9th BIBFRAME Workshop in Europe

Hosted by the Università degli Studi di Napoli Federico II

Over 580 participants, 100 of which in-person, from over 50 countries

Session themes included

- Implementations and Workflows
- Analysis and Alignments
- Integration and Infrastructure

All presentations and recordings are online at www.bfwe.eu

SHARE Catalogue & Wikidata: from Reconciliation to Co-curation

- Wikidata as a shared semantic space, not just an external source
- Bidirectional alignment between institutional and collaborative data
- SHARE identifiers reused in Wikidata (P3987)
- Federated SPARQL queries enabling real interoperability
- Librarians as active contributors to the global knowledge graph

Why Entity Modelling Matters (Beyond MARC Migration)

- Moving from static records to dynamic semantic entities
- Explicit relationships instead of implicit textual descriptions
- Better clustering, reuse, and long-term sustainability
- BIBFRAME as an enabler, not an end point
- SHARE as a laboratory for advanced entity modelling

Semantic Cataloguing as a Cultural Responsibility

- Ontologies are not neutral: they reflect interpretative choices
- Interoperability implies shared semantic responsibility
- AI needs transparent, curated semantic foundations
- Libraries as guarantors of accountable knowledge infrastructures
- SHARE as a community of practice, not just a platform

Integrations and Interoperability

Sebastian Hammer - Index Data

Towards a collective bibliographic infrastracture

- Collaborative community projects
- FOLIO
- Project ReShare
- The Collaborative Collections Lifecycle Platform (CCLP)
- Importance of actionable and persistent identifiers of open metadata
- Moving from data in “local silos” to data curated together that has a shared permanence

Remove obstacles

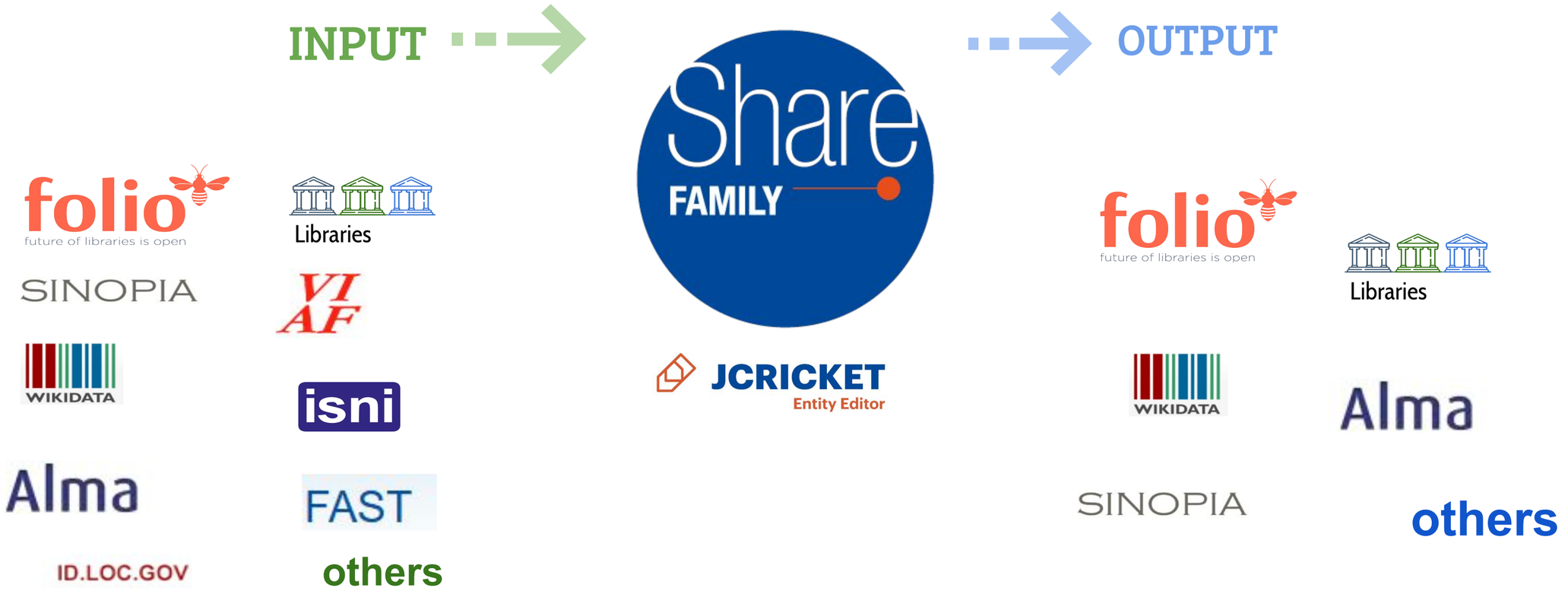
- MARC is around for long time, and is very granular
- Many differences in local practices
- Crosswalks and ability to map, link, and syncronize BIBFRAME
- Key role of APIs
- Entity Metadata Management Protocol to sync multiple linked data truth

Third party integration

Outbound Connectors Architecture

- Data flows into Share-VDE from libraries, institutions and third-party sources (e.g. VIAF, ISNI, FAST)
- The Share-VDE knowledge base (Sapientia) contains the integrated/clustered/enriched entities
- Data is mainly edited through JCricket, the Share-VDE Entity Editor

Integration with third parties



AI for Discovery and Metadata Enrichment

The Share Family initiative is a collaborative ecosystem of libraries, archives, museums, consortia, and system providers working together to publish and share bibliographic data as Linked Open Data. This collaborative spirit also guides our experimentation with artificial intelligence and machine learning in cataloging and discovery. Experimentations in this area include:

- Machine Learning for Entity Resolution
- Role Detection
- Learning to Rank (LTR)
- Generative AI for Discovery

Share Family for AI

“BIBFRAME Discovery Using Generative AI” (Jim Hahn)
How RAG methods can bridge symbolic AI with modern generative AI to improve discovery services, surfacing interconnections among bibliographic entities while maintaining ties to authoritative sources.

“Quel che fa e quel che farà l’Intelligenza artificiale nei processi di pubblicazione dei dati bibliografici dell’iniziativa Share” (Andrea Gazzarini, Tiziana Possemato)
Overview of clustering, role detection, and LTR within the Share Family pipeline, showing how AI techniques can be applied to concrete bibliographic workflows.

Libraries as Co-Producer of Knowledge

Creativity and innovation flourish through cooperation, not competition.
A *Framework Agreement for the Distributed Development Community* enables the Share Family developments to be shared, transparent, and sustainable.
Shifting the approach from records to relationships transforms library metadata into Linked Open Data, connecting knowledge across borders and systems.

Get involved!

info@share-family.org
https://share-family.org
https://wiki.share-family.org

Share FAMILY Linked Data Ecosystem

Thank you, please reach out with any questions.

Michele Casalini michele@casalini.it

Nina Servizzi nina.servizzi@nyu.edu

Roberto Delle Donne roberto.delledonne@unina.it

Sebastian Hammer quinn@indexdata.com