

Using RiC As Aggregation Format For Cultural Heritage Data In Switzerland

ICA Conference Rome, 22.9.2022

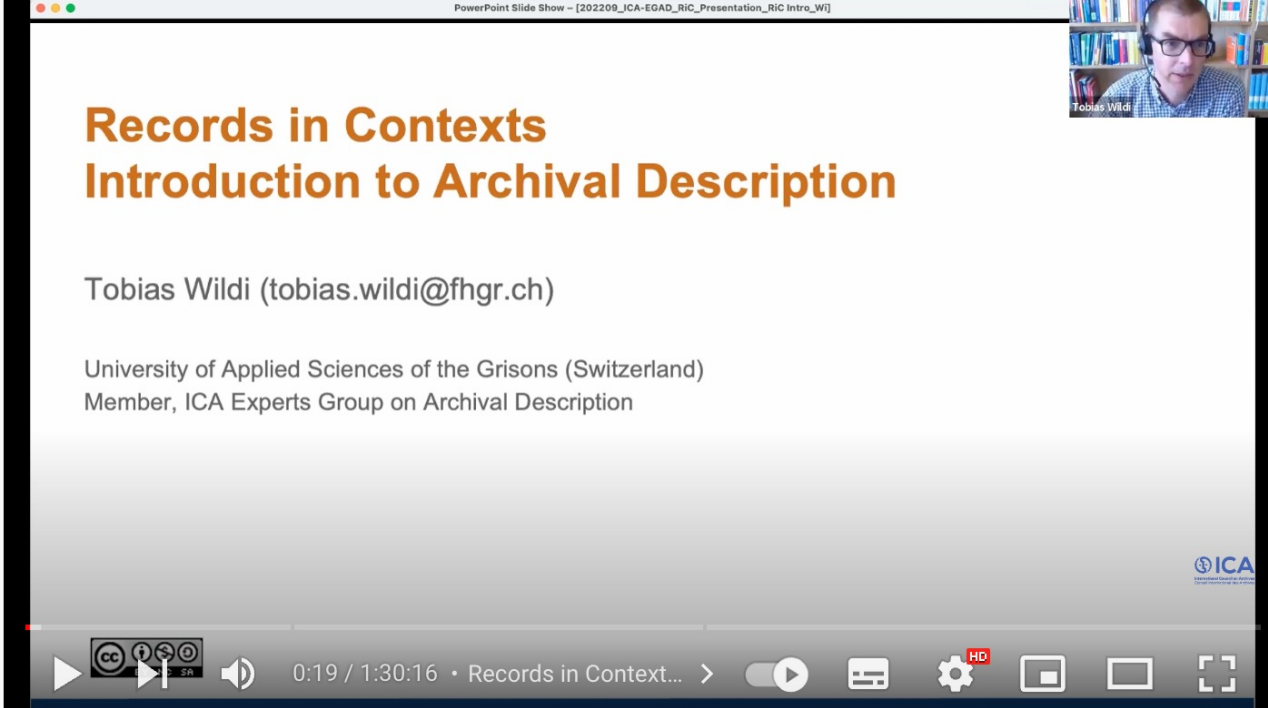
Tobias Wildi, tobias.wildi@fhgr.ch

This talk is not an introduction to RiC...

...but you can find a new introduction to RiC on the ICA Youtube channel

Tobias Wildi	Introduction
Bill Stocking	RiC-CM
Florence Clavaud	RiC-O

https://www.youtube.com/watch?v=oHG_pupre8w



The screenshot shows a video player interface. The main content is a presentation slide with the following text:

Records in Contexts
Introduction to Archival Description

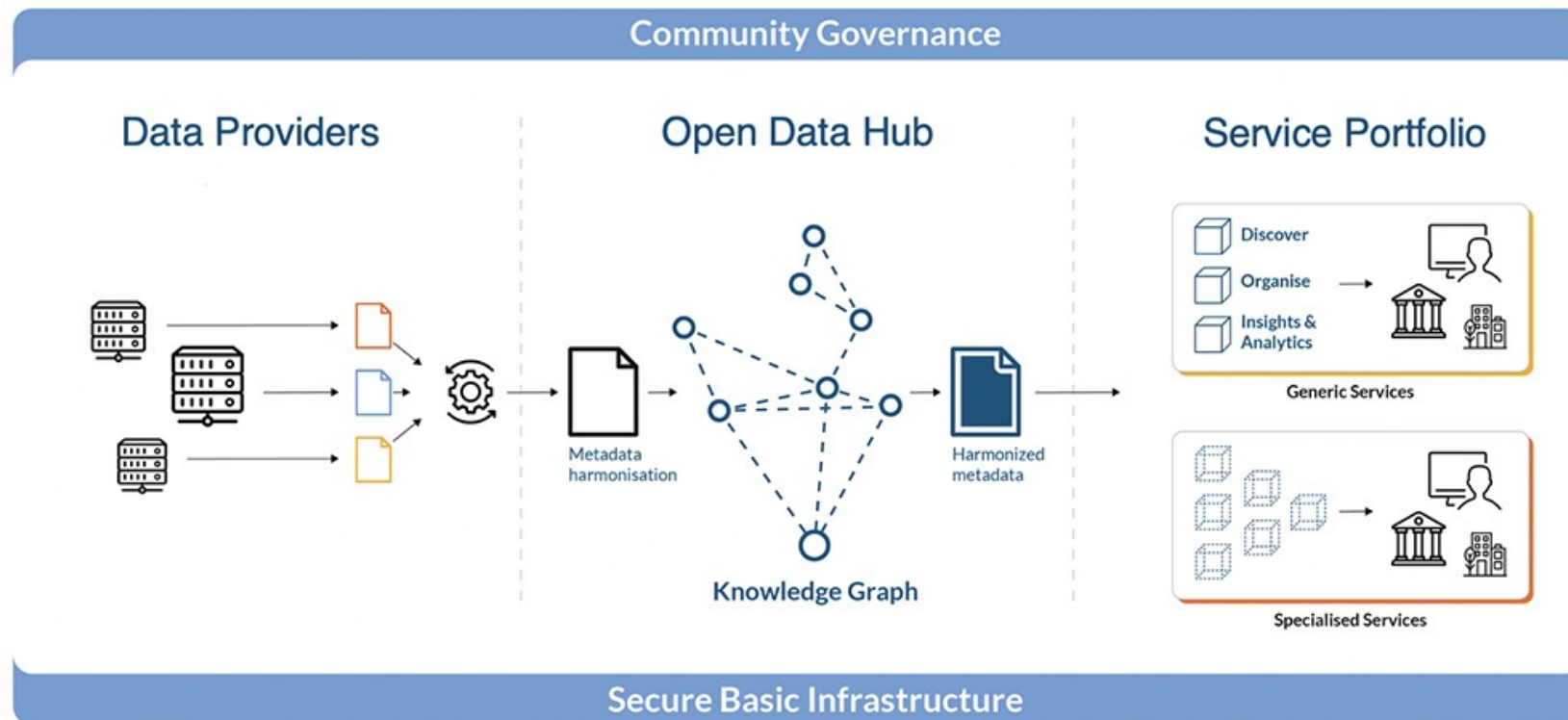
Tobias Wildi (tobias.wildi@fhgr.ch)

University of Applied Sciences of the Grisons (Switzerland)
Member, ICA Experts Group on Archival Description

The slide also features the ICA logo in the bottom right corner. The video player controls at the bottom show a progress bar at 0:19 / 1:30:16, a play button, a volume icon, and various settings icons. A small video inset in the top right corner shows the presenter, Tobias Wildi, wearing glasses and a headset.

The Swiss Research Data aggregator: Connectome

- An ecosystem of open linked research data (ORD) in Switzerland following the FAIR-principles (FAIR = Findable, Accessible, Identifiable, Reusable)
- Aggregation of metadata from heterogeneous environments
- Run by SWITCH (www.switch.ch) with partners in cultural heritage and research institutions all over Switzerland



The Use Case: Bringing Patrinum to Connectome

Patrinum from the canton de Vaud (CH)

- Digital Legal Deposit
- Manuscript Collection
- Institutional Repository

- Both library and archival collections
- Internally based on MARC, where as ISAD(G) is encoded in MARC
- Metadata can be harvested via OAI-PMH (Open Archives Initiative – Protocol for Metadata Harvesting)



<https://patrinum.ch/>

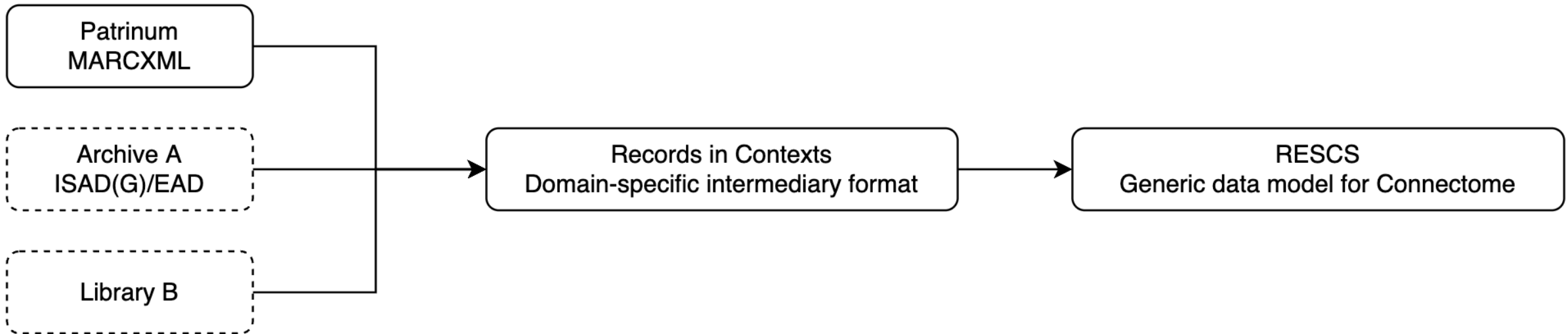
The screenshot shows the Patrinum website interface. At the top, there is a navigation bar with "English", "Search", "About", and "Contact" links, and a "login" button. The main header features the "renouvaud" logo (Réseau vaudois des bibliothèques) and the "Patrinum" logo. Below the header is a search bar containing the text "Search 17,933 records for:" and a red "Search" button. Underneath the search bar is a "Narrow by collection:" section with a list of collections, each with a checked checkbox and a count of records. The collections listed are:

- Bibliothèque cantonale et universitaire - Lausanne (7,840)
 - Digital legal deposit (6,473)
 - Documents vaudois numériques (473)
 - Collections particulières (894)
- Haute école pédagogique du Canton de Vaud (2,190)
- Bibliothèque du Musée et jardins botaniques cantonaux (563)
- Confrérie des Vignerons (58)
- Bibliothèque cantonale et universitaire - Lausanne - Archives (6,052)
 - Archives musicales (4,394)
 - Iconopôle (1,056)
 - Service des Manuscrits (602)
- Hautes écoles vaudoises (1,058)
 - Haute école de santé Vaud - HESAV (571)
 - Institut et Haute Ecole de la Santé La Source (459)
 - Haute école de travail social et de la santé Lausanne (HETSL) (28)
- Université de Lausanne (230)

At the bottom of the page, there are links for "Search Tips :: Advanced Search :: Search Authorities :: Terms of use". The footer includes the "canton de Vaud" logo and the text "Powered by TIND".

Records in Contexts as intermediary format for aggregating cultural heritage data

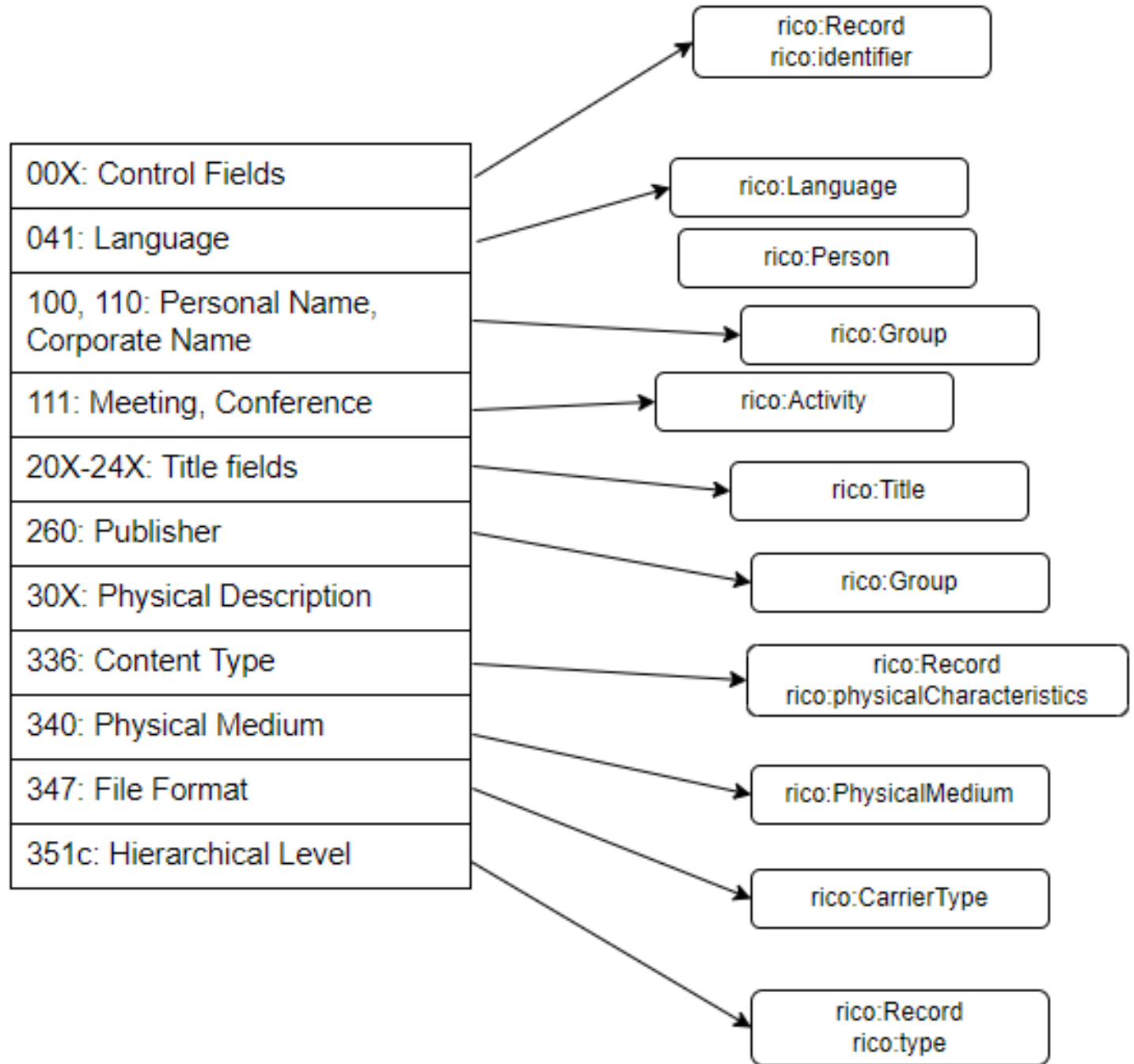
- For cultural heritage data from archives, museums and libraries, RiC is used as intermediate format
- Resources from different repositories are semantically enriched and linked together in the Connectome Knowledge Graph so that service providers can leverage open research data.



The Mapping Definition

MARC-fields are mapped to RiC-Entities and Attributes (conceptually)

Mapping-definition is written in a declarative language: RML.io



The mapping pipeline based on RDF Mapping language (RML)

Declarative RML mapping definition

<https://rml.io/>



Input: MARCXML is harvested via OAI-PMH

Mapping is performed based on the mapping definition with the help of a mapping-processor

Output: RDF-files in RiC that can be further processed or directly be used

Input: MARCXML harvested via OAI-PMH

```
1 <Records xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
2
3 <record xmlns="http://www.openarchives.org/OAI/2.0/"><header status=""><identifier>o
4 | <marc:leader>\\ \\ \\ nam\a22\\ \\ \\ 7\\ 4500</marc:leader>
5 | <marc:controlfield tag="001">303337</marc:controlfield>
6 | <marc:controlfield tag="005">20220312004203.0</marc:controlfield>
7 | <marc:datafield tag="037" ind1=" " ind2=" ">
8 | | <marc:subfield code="a">ISADG</marc:subfield>
9 | </marc:datafield>
10 | <marc:datafield tag="084" ind1=" " ind2=" ">
11 | | <marc:subfield code="a">ASM-0-7-1quinquies</marc:subfield>
12 | </marc:datafield>
13 | <marc:datafield tag="245" ind1="0" ind2=" ">
14 | | <marc:subfield code="a">Kantonal Chor Aufführungen LA 1939 diverse Anmeldungen f
15 | | <marc:subfield code="b">1939</marc:subfield>
16 | </marc:datafield>
```


Output: RiC in TTL-Format

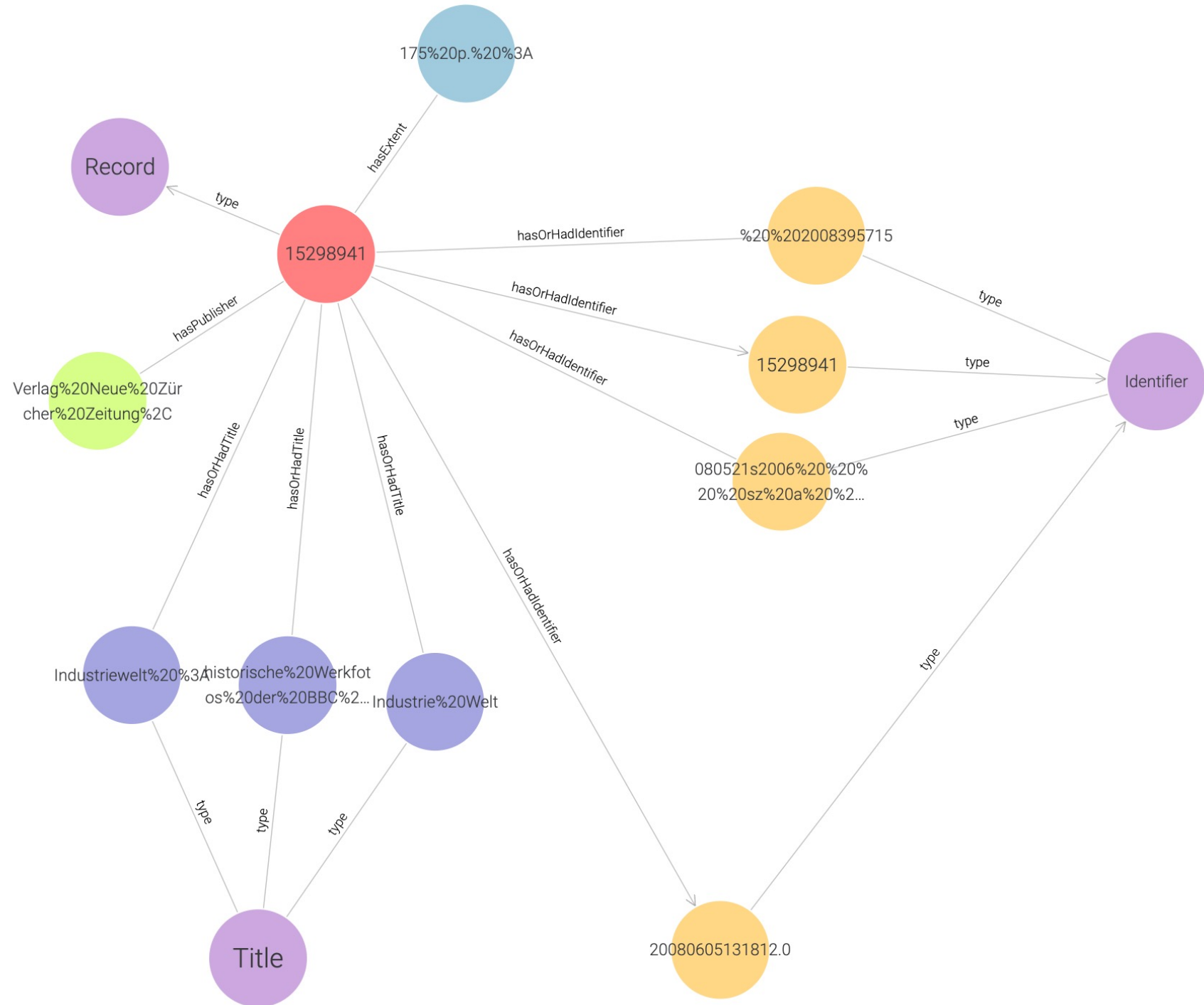
MARXML:

```
<record>  
  <controlfield tag="001">173427</controlfield>  
  <controlfield tag="005">20211007005827.0</controlfield>
```

RiC in TTL:

```
<https://data.connectome.ch/Record/173427>  
  <https://www.ica.org/standards/RiC/ontology#identifier>  
    "173427" .  
<https://data.connectome.ch/Record/173427>  
  <https://www.ica.org/standards/RiC/ontology#identifier>  
    "20211007005827.0" .
```

MARCXML in RiC – visualized



Data reuse in Social Science and Humanities

The Research Data Connectome will facilitate and accelerate data reuse in the social sciences and humanities. To find out more about current data research practices in these communities we commissioned the SWITCH Innovation Lab "Repositories & Data Quality". We asked Nicolai Hauf, ZHAW and Martin Jaekel, ZHAW, about their findings and what they could mean for the next steps of building the Research Data Connectome.

Published on 30.04.2021

SWITCH: What was the aim of this SWITCH Innovation Lab?

Nicolai Hauf: We wanted to analyse the reuse of existing research data in the disciplines of Social Sciences and Humanities (SSH). Our main aim was to identify the relevant data sources for researchers in Switzerland. For this reason, we developed a survey investigating the location of existing valuable data, the purpose for reusing this material and the selection criteria researchers use when deciding on data for their own use.

SWITCH: Which data providers are the most frequently named sources?

Nicolai Hauf: Many participants named FORSbase, the digital research information and data access portal for social science studies in Switzerland. The Federal Statistical Office (FSO) is another very important source for data on many different research topics. Other important mentions are the European Social Survey (ESS) and the GESIS data archive. Interesting is also the wide variety of small data providers that were mentioned.



Dr Martin Jaekel

Dr Martin Jaekel is the Head of R&D Unit at the Zurich University of Applied Sciences and has been co-leading the swissuniversities working group developing the Swiss ORD-Strategy and Action Plan (the [analysis report](#) providing a

Findings

- The goal of the Connectome aggregator is to build a sustainable platform to make cultural heritage data, among others, reusable for the humanities and social sciences.
- In this context, RiC is a powerful format that can aggregate metadata from heterogeneous cultural heritage environments
- Source metadata formats often evolve over time. Thus, metadata mappings must be flexible
- Implementing the mappings with declarative, configurable technologies like RML makes refactoring of mapping much easier than having to change hard coded scripts and software.

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Thank you for your attention.

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