Linking normative data in Converis

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I. Introduction

This poster presents our approach to mapping the FAU's research output (starting with projects) using the German National Library's Integrated Authority File (GND: Gemeinsame Normdatei). Using the ontological data available there, we create a controlled vocabulary. Keywords provided by project PIs, funding sources, authors and publishers rarely follow a common ontology, but use non-structured, non-standardized, subject specific terms instead.

The number of enquiries from the university's management and faculties, from the government and other institutions is increasing. By cross-referencing our available terms with the GND data, we are able to respond quicker and more precisely to these requests without having to rely on non-standardized terms.

II. What is the GND?

"The Integrated Authority File (GND: Gemeinsame Normdatei) is a service facilitating the collaborative use and administration of authority data. These authority data represent and describe entities, i.e. persons, corporate bodies, conferences and events, geographic entities, topics and works relating to cultural and academic collections." [1]

- More than 15m entries, consisting of generic name entries, personalized name entries, events, geographical entries, publication entries, subject specific terms and organizations.
- Linked with Library of Congress Subject Headings (LCSH)[2], Répertoire d'autorité-matière encyclopédique et alphabétique unifié (RAMEAU)[3], Virtual International Authority File (VIAF)[4], Wikipedia[5] and Geonames[6].
- Accessible via Linked data service (RDF)[7], WebGND[8] (Fig. 1).

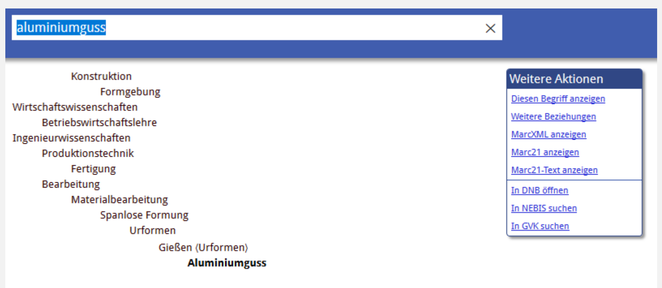

Fig. 1: WebGND example search

III. Workflow

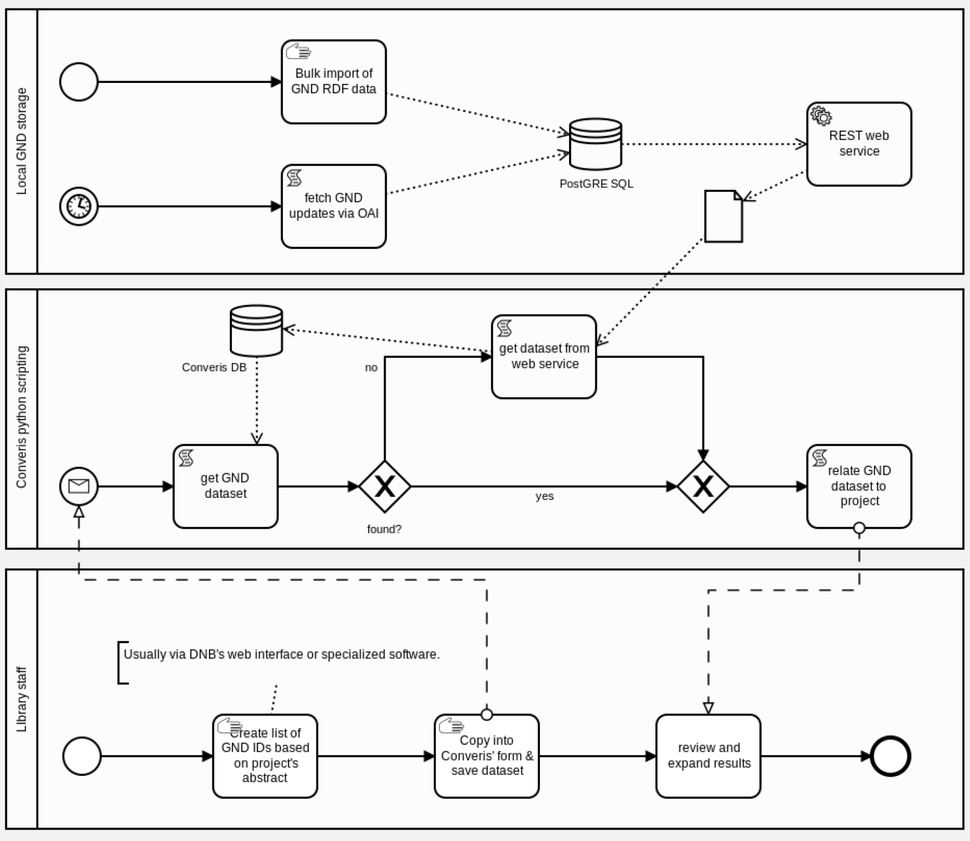

Fig. 2: BPMN model

IV. Using Converis

- Converis is a configurable, commercial software for research information systems available from Clarivate Analytics[9].
- We store the available GND data for organizations, subject terms and geographical terms in a separate local Postgres DB. Download & update service via OAI protocol[10] keeps this local copy up to date (Fig 2).
- Based on abstract and project title, library personnel identifies applicable GND IDs.
- When GND IDs are entered in the Converis mask, we load the appropriate terms from the local GND copy via REST API into Converis. These datasets are then related to the project data set (Fig. 3).

	Name / Code	Synonyms & Categories	Relation mode	Go deeper
1	Aluminiumguss 4219529-9	31.1d	Select GND relation mode	☐
2	Gießen [Urformen] 4124997-5	Guss , Casting , Gießverfahren, Gießereitechnik 13.2, 31.8a	Broader	☐
3	Aluminiumlegierung 4001586-5	31.1d	Select GND relation mode	☐
4	Leichtmetalllegierung 105000647X	Leichtmetallegierung, Leichtmetall / Legierung 31.1d (Werkstoffkunde, Werkstoffprüfung)	Broader	☐
5	Metallmatrix-Verbundwerkstoff 1060780534	Metal matrix composites, MMC , Metall-Matrix-Verbundwerkstoff, Metallischer Verbundwerkstoff 31.1d (Werkstoffkunde, Werkstoffprüfung)	Select GND relation mode	☐
6	Verbundwerkstoff 4062670-2	Composite, Kompositwerkstoff, Verbundstoff 31.1d (Werkstoffkunde, Werkstoffprüfung)	Broader	☐
7	Benetzung 4005493-7	Benetzbarkeit 21.2, 31.10	Select GND relation mode	☐
8	Oberflächenphysik 4134881-3	21.5	Broader	☐

Fig. 3: Relation display in Converis and editing

- Functions are available to add finer, broader and related terms.

V. Future consideration

- Automatically check for available GND entries if non-standardized keywords are supplied by users or publishers.
- Apply the available structure to publication entries and research fields.
- Create a complete landscape of our university's research output.

VI. Additional ressources

[1] https://www.dnb.de/EN/gnd
[2] http://id.loc.gov/authorities/subjects.html
[3] http://rameau.bnf.fr/
[4] http://www.viaf.org/
[5] https://www.wikipedia.org/
[6] https://www.geonames.org/
[7] https://www.dnb.de/lds/
[8] http://gnd.eurospider.com/
[9] https://clarivate.com/
[10] https://www.openarchives.org/pmh/