



Sum of all Swiss GLAMs Onboarding Project Final Report

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1. Introduction

Sum of all GLAMs is an initiative to improve the information about heritage institutions on Wikidata and to promote the use of this information on Wikipedia and in other projects. The goal is to achieve a complete and high-quality inventory of heritage institutions and make this information available on an international level.

Sum of all Swiss GLAMs is a spin-off of a first "Sum of all GLAMs" project, carried through by Wiki Movimento Brazil in 2019 in collaboration with OpenGLAM CH. The Brazilian project, which was kindly supported by the MY-D Foundation, focussed on the creation of templates enabling the automated use of data from Wikidata in Wikipedia (infobox and M-Babel templates in different languages). In parallel, the project "Sum of all Swiss GLAMs" analysed the current state of data quality, data modelling and data completeness related to Swiss GLAMs on Wikidata.

Between January 2021 and March 2022, OpenGLAM CH carried out a follow-up project, entitled "Sum of all Swiss GLAMs Onboarding Project", the main aim of which was to enable Swiss heritage institutions and their umbrella organizations to actively participate in data maintenance on Wikidata alongside volunteer contributors. This was to be achieved through the organization of introductory workshops, the provision of online tutorials, as well as communication measures targeted at GLAM professionals. In parallel, the work on Wikidata-powered Infoboxes in languages of particular relevance to Switzerland (German, French, Italian, English) was continued in order to promote the wider use of the data in the context of Wikipedia.

The project consisted of four work packages:

- WP 1 Project Management
- WP 2 Workshops / Tutorials
- WP 3 Infobox Templates
- WP 4 Communication Campaign

The project was originally scheduled to be carried out between January and December 2021. However, due to longer absences of key staff members, WP 1, WP 2, and WP 4 were mainly carried out between July 2021 and March 2022, while work on WP 3 was carried out between January and March 2021. Some tasks of WP 2 were sub-contracted to the Bern University of Applied Sciences (BFH). Activities in WP 2 and WP 4 were complemented by two students' projects of the same university and a hackathon project at GLAMhack 2021.

The project was carried out by the following team members:

 Andrea Allemann acted as project manager (WP 1), was responsible for communications (WP 4), and had a supporting role with regard to the creation of tutorials and the organization of workshops (WP 2).

- **Dominik Sievi** carried out the work in the area of infobox creation (WP 3).
- **Nicolai Wenger (BFH)** was responsible for the creation of tutorials and the conduction of introductory workshops during the second half of 2021.

It furthermore benefitted from the following volunteer contributions:

- In the first half of 2021, as part of a student project at BFH, Sarah Fuchs, Loïc Freiburghaus and Annina Engel carried out first experiments in view of the creation of Wikidata tutorials and designed a first version of the tutorial website (WP 2). This work was partly carried out and reflected during the GLAMhack 2021, where they received further support from Alicia Fagerving, Valérie Hashimoto, Oliver Waddell, and Nicolai Wenger in the context of the hackathon project "Wikidata Tutorial Factory"1.
- In the second half of 2021 and beginning of 2022, as part of another student project at BFH, Gaston Wey assisted Nicolai Wenger (BFH) with the creation of tutorials and the conduction of introductory workshops. To ensure the quality of the tutorials and to identify further topics to cover, he carried out user interviews. He furthermore recorded testimonials of several representatives of the Wikidata-GLAM community as a contribution to the communication campaign (WP 4).

The present report is structured as follows: Sections 2 to 4 contain the detailed reports of the work carried out in WP 2, WP 3, and WP 4, putting the project output in perspective with the original project plan and indicating the key learnings. Section 5 gives an overview of the project resources, and section 6 contains some concluding remarks and an outlook on the next project phase.

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¹ https://hack.glam.opendata.ch/project/61

2. Workshops / Tutorials (WP 2)

WP 2 comprised the creation of instruction material in English, French and German, the creation of online tutorials in each of these languages and the organization of online and offline workshops. The content of the tutorials and workshops was coordinated with the Wikidata and GLAM communities (especially as regards data modelling issues).

To complement the online tutorials and the workshops, feedback from GLAM staff members was solicited during the workshops.

2.1. Tutorials

The tutorial creation process had to be set up from scratch, starting with an experimental phase following a design-science approach. In later phases, the tutorial creation process was standardized, learnings from earlier phases were integrated, and the process documented in a way that it can easily be reproduced in view of the creation of additional tutorials as well as in view of their translation into further languages.

The process for the tutorial production was as follows:

Step 1: Prepare a PowerPoint presentation with the script in English as notes and the screenshots of the process.

Step 2: Convert the script into audio files with spoken word; for this, a Python script was used which converts the text into MP3-format using Google-Text-to-Speech.

Step 3: Insert the audio files into the PowerPoint slides and adjust the animation according to the spoken word.

Step 4: Translate the script into another language and replicate the screenshots in the new language.

Step 5: Repeat steps 2 and 3.

Due to the experimental character of the project, the number and length of the tutorials to be produced was not defined in advance. During the "Wikidata Tutorial Factory" at the GLAMhack 2021, 15 relevant topics were identified and brought into a logical order for users to proceed from basic to more complex activities on Wikidata. This list was further extended throughout the remainder of the project, based on inputs obtained from users.

Tutorials were typically produced in German and then in English; furthermore, in order to set up the translation process involving external contributors and reviewers, a small number of tutorials were also translated into French and Italian. During the final review, some quality issues were found with some tutorials, which had to be fixed before publishing them; as a result, some tutorials were made available only after the official end of the project.

Table 1 contains an overview of the tutorial topics identified and the tutorials produced and published on Youtube and integrated into the tutorial website². The tutorials published by the

² tutorials.schoolofopendata.ch

end of June 2022, comprise:

- 7 tutorials in German
- 3 tutorials in English
- 2 tutorials in French
- 2 tutorials in Italian

Table 1: Overview of Tutorials (end of June 2022)

TUT	Topic	DE	EN	FR	IT
TUT_01	Create an account	Х	Х	Х	Х
TUT_02	Simple edit: add website	Х	Х	Х	Х
TUT_03	Add street address	Х	Х		
TUT_04	Add coordinates	Х			
TUT_05	Create and add director				
TUT_06	Add number of visitors	Х			
TUT_07	Useful gadgets				
TUT_08	Image upload (Commons)				
TUT_09	Short intro video				
TUT_10	Easy query: museum without website	Х			
TUT_11	Easy query: ways to show results				
TUT_12	Link wikipedia with wikidata				
TUT_13	Organisation / venue / collection				
TUT_14	FR: how to introduce a WD-driven infobox in a Wikipedia articel				
TUT_15	Archives at	х			
TUT_16	Show institution on map				
TUT_17	Create an Item				
TUT_18	subscribe to item				
TUT_19	Query: art museums with women as directors				
	Total	7	3	2	2

2.2. Introductory Workshops

During fall/winter 2021-2022, five Wikidata introductory workshops were carried out, three in German and two in English (see table 2 for an overview below). After participation in the first four workshops had been lower than expected (approx. 4 participants on average), communication activities around the workshops were intensified. Furthermore, the workshop format was adapted based on the experiences gathered during the first series of workshops: the workshops in English held online in the evening had attracted more participants than the workshops in German held onsite during the day. The increased communication efforts and the changes to the format resulted in significantly higher participation in the last workshop

(15 participants), bringing the total number of participants to 32 (compared to the target of 40).

Table 2: Overview of Workshops

Title of the Workshop	Language	Date, Time	Number of Registrations	Number of Participants
Einführung in Wikidata für GLAM - Teil 1 (onsite)	DE	20.10.2021 13:30 - 15:15	3	3
Introduction to Wikidata for GLAM - Part 1 (online)	EN	27.10.2021 17:30 - 19:15	9	5
Einführung in Wikidata für GLAM - Teil 2 (onsite)	DE	10.11.2021 13:30 - 15:15	3	3
Introduction to Wikidata for GLAM - Part 2 (online)	EN	17.11.2021 17:30 - 19:15	9	6
Einführung in Wikidata für GLAM - Teil 1 (online)	DE	15.02.2022 19:00 - 20:30	22	15
Total			46	32

In order to complement the offer, the workshops in German language were recorded and made available on Youtube at the beginning of 2022; figure 1 shows the usage statistics as of the end of June 2022: The first section of the beginner's workshop has been viewed by 134 people, the remaining sections by about 30 people.

Video	Average percentage viewed 🛕	Views ↓ 🛕
☐ Total	26.8%	430
Wikidata Einführungskurs Deutsch Block1	32.0%	134 31.2%
Wikidata Fortgeschrittenen Kurs Block1	18.5%	46 10.7%
Wikidata Einführungskurs Deutsch Block4	25.0%	39 9.1%
Wikidata Fortgeschrittenen Kurs Block 4: Automatisierter Datenimp	15.0%	32 7.4%
Wikidata Tutorial: Benutzerkonto Erstellen	40.0%	31 7.2%
Wikidata Einführungskurs Deutsch Block2	22.1%	30 7.0%
Wikidata Einführungskurs Deutsch Block3	31.4%	28 6.5%
Wikidata Fortgeschrittenen Kurs Block 2: Linked Open Data	32.1%	25 5.8%
Wikidata Fortgeschrittenen Kurs Block 3: SPARQL-Queries	38.7%	22 5.1%

Figure 1: Usage statistics of the workshop recordings on Youtube (as of end of June 2022)

In addition to guiding first-time contributors through their first steps on Wikidata, the workshops have been a valuable source for the project team to identify difficulties and obstacles encountered by first-time contributors and to take these experiences into account for the further development of tutorials.

2.3. Key Learnings and Remaining Challenges

Finding a good approach to create the tutorials took some time and experimentation. In the case of errors in earlier phases, later phases have to be repeated, which has turned out to be a time-consuming exercise at times. It is therefore crucial to carry out quality checks at several points of the process.

The time it took to produce a tutorial varied widely over the course of the project. As there were still many question marks at the beginning, the production process was rather slow at the outset and could be accelerated over time after figuring out how to work more efficiently. The most notable increase in efficiency was achieved by submitting the text to a rigorous quality check before generating the audio file.

Currently, the production of a tutorial takes on average 2 working days: 1 day is needed to research all the content, create screenshots and send the tutorials to quality assurance. About 2 hours are required to correct the tutorials. Once the tutorial has passed quality assurance, the audio file can be created. The audio files are then incorporated into the slides. Then, the tutorial is finalized and has to go through quality assurance again for a final check. Eventually, the tutorial needs to be uploaded to Youtube and integrated into the website. These latter steps, including some back and forth if further corrections are required, take about 6 hours.

These times apply when data modelling practices are clear from the outset. Whenever data modelling practices have to be investigated or even harmonized on Wikidata before creating the tutorial, as is the case for example with the usage of the "archives at" property, time requirements are considerably higher and need to be assessed on a case by case basis. If this step is skipped, there is a risk that the tutorials produced promote practices that are not endorsed by a rough community consensus, which may lead to the rejection of the tutorial and/or generate extra work in the future if tutorials need to be corrected.

Unfortunately, despite experiments with several software solutions, the project team has not found a good approach yet to implement the entire tutorial production process exclusively on free/open source software.

In view of the internationalization of the Tutorial Factory using a crowdsourcing approach, there is yet another challenge that needs to be overcome: The text-to-speech module currently requires the use of a credit card. However, the credit card is only charged for a very high number of characters. This limit of characters should not be reached in the normal course of production. Some controls are however required when giving third parties access to the user account that is backed by the association's credit card (credit card details are accessible from the user account).

As regards the introductory workshop, it turned out to be useful to experiment with different formats (online vs. onsite) and times, before settling for a format. Also, communication is key; it is important to advertise the workshops broadly on a variety of mailing lists, cooperating where possible also with professional organizations so they can share the information among their members. Given the fact that the acceptance of online formats has been very good, workshops can be offered on an international level.

3. Infobox Templates (WP 3)

3.1. Wikidata-powered Infoboxes

Infoboxes are the boxes that can be found in Wikipedia articles that provide basic facts about the subject of the article (see figure 2 for an example). They are inserted into a Wikipedia article with the help of a template. The structured data contained in these infoboxes may be stored locally on a given Wikipedia or be transcluded from Wikidata. We refer to the latter type of infoboxes as Wikidata-powered infoboxes. Transcluding data from Wikidata has the advantage that the same data needs to be stored only in one place and can be used across all the different language versions of Wikipedia and beyond. Since the advent of Wikidata, the various Wikipedia communities have embraced different approaches to implement such Wikidata-powered infoboxes, some strongly encouraging their widespread use, others being more hesitant about them.

Building on the Brazilian project "Sum of all GLAMs", the implementation and widespread adoption of Wikidata-driven infoboxes in the Wikipedias of the three national languages French, Italian and German was to be promoted in the present project³. As several Swiss institutions have more than one Wikipedia article, the use of Wikidata as a centralized place to gather information makes a lot of sense. A new director, for example, only has to be added in Wikidata and it will automatically appear in the corresponding infobox on the various language versions of Wikipedia – to the extent that the respective Wikipedias use automated infoboxes.

The state of implementation of Wikidata-powered infoboxes at the outset of this project was resumed in the "Sum of all Swiss GLAMs" (2019) project report: "As of today in the Italian speaking Wikipedia, all infobox templates for GLAMs retrieve most of the information from Wikidata. In the French speaking Wikipedia, only the template for museums does so. A template for archives has been programmed, though not yet implemented. In the German speaking Wikipedia, only a small amount of information is taken from Wikidata." It is a well-known fact among the Wikimedia movement that the use of Wikidata-powered infoboxes among the German Wikipedia community has always been controversial.

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³ On the English Wikipedia, which is also of interest to the Swiss GLAM community, such infoboxes have already been implemented.



Figure 2: Infobox about the Swiss National Library in the German Wikipedia

In the present project, the focus was on the creation of a Wikidata-powered infobox for museums on the French Wikipedia. Improving the infoboxes on the German Wikipedia was explored, but then abandoned due to the complexity of the code and the critical attitude of the community. For demonstration purposes, Wikidata-powered infoboxes for archives were created on the Alemannic Sandbox Wikipedia. The code is inspired by the structure of the already existing infobox for libraries and is built in such a way that it could easily be adapted to other use cases if desired, e.g.: museums or other cultural institutions in the Allemanic Wikipedia. Unfortunately, the sample code could not be transferred directly to other language versions, as it only works with the *Template* namespace. Other wikis separate more clearly between *Templates* and *Modules* and therefore require a totally different approach in code structure.

Table 3 gives an overview of the infoboxes for libraries, archives, and museums and their usage in the different Wikipedias (German, French, Italian, and Alemannic).

Table 3: Overview of Infoboxes for Libraries, Archives, and Museums

Lan-	Туре	Link	Number of Transclu- sions	Develop- ment since 2019	Wikidata powered data fields	Status
de	Library	https://de.wikipedia.org/wiki/Vorlage :Infobox Bibliothek	622		2	working
de	Archive	https://de.wikipedia.org/wiki/Vorlage :Infobox_Archiv	248		1	working
de	Museum	https://de.wikipedia.org/wiki/Vorlage :Infobox Museum in der Schweiz	32		0	n/a
de	Museum	https://de.wikipedia.org/wiki/Vorlage :Infobox_Museum	1868		0	n/a
fr	Library	https://fr.wikipedia.org/wiki/Mod%C3 %A8le:Infobox_Biblioth%C3%A8qu e	341		0	n/a
fr	Archive	https://fr.wikipedia.org/wiki/Mod%C3 %A8le:Infobox_Archives	177		0	n/a
fr	Museum	https://fr.wikipedia.org/wiki/Mod%C3 %A8le:Infobox_Mus%C3%A9e	5656	+142	17	working
it	Library	https://it.wikipedia.org/wiki/Template :Biblioteca	511	+199	8	working
it	Archive	https://it.wikipedia.org/wiki/Template :Archivio_documentale	128	+3003	19	working
it	Museum	https://it.wikipedia.org/wiki/Template :Museo	4447	+522	21	working
al	Library	https://als.wikipedia.org/wiki/Vorlage :Infobox_Bibliothek	14		8	working
al	Archive	https://als.wikipedia.org/wiki/Vorlage:Infobox Archiv	12		n/a	working sandbox
al	Museum	https://als.wikipedia.org/wiki/Vorlage :Infobox_Museum	15		0	n/a

3.3. Key Learnings and Remaining Challenges

The project has once more shown that the creation of Wikidata-powered infoboxes requires buy-in from the respective Wikipedia communities – in some cases, this is relatively easy, in others, this needs a lot of time and persuasive skills. Each language community has its own rules and habits when it comes to working with Wikidata-powered infoboxes. In the case of the German Wikipedia, it would take someone who has a long-standing reputation within the community and the willingness to learn how to extend the respective templates using Lua code.

In addition to the different ways of handling on the part of the article authors, the wikis differ in the way the namespaces Template & Module are used and in the existing "basic modules" that can be used as a basis for new functions. This makes it difficult to create a universal code that could subsequently be used in all languages.

4. Communication Campaign (WP 4)

4.1. Communication Measures

WP 4 comprised the development and implementation of a website⁴ (see figure 3) and an outreach campaign to encourage Swiss GLAMs to edit their own Wikidata entry and to provide information about holdings. Thus, the introductory workshops and the tutorials were promoted through the various communication channels of OpenGLAM CH as well as through distribution lists of the Swiss Archivists Association and the Swiss Information and Documentation Specialists (Swiss-Lib).

The website is available in four languages (English, German, French, Italian) and contains short project descriptions as well as the tutorials and testimonials. Recordings of the tutorials as well as the testimonials have also been uploaded to the OpenGLAM CH Youtube channel⁵.

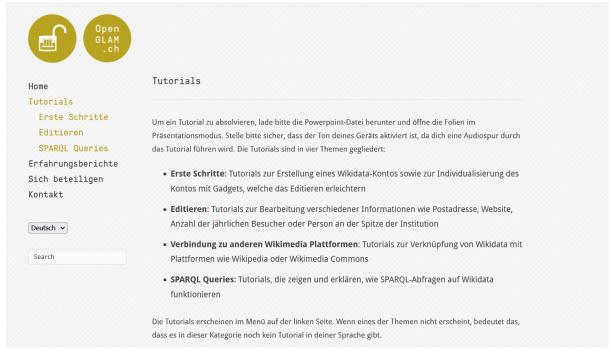


Figure 3: Screenshot of the Tutorial Website

4.2. Testimonials

Not foreseen in the original project plan, testimonials were added to the mix in order to illustrate how different people from the GLAM-Wiki universe already familiar with Wikidata

⁴ https://tutorials.schoolofdata.ch/

⁵ https://www.youtube.com/channel/UCskbB0XJmJ4wG2cTB-uR6Bw/

perceive the platform and how they use it. The testimonials are intended as an additional motivational element, complementing the offer of online tutorials.

In order to reach as many people as possible, the testimonials were produced in different languages: two in French, one in German and one in English. They feature the following people:

- Frédéric Julien (Director of Research and Development at the Canadian Association for the Performing Arts, CAPACOA, Ottawa)⁶ in French
- Michael Gasser (Head of Archives at ETH Library, Zürich)⁷ German
- Nathalie Thibault (Curator at the Musée national des beaux-arts du Québec MNBAQ, Montreal)⁸ - in French
- Giovanna Fontenelle (Program Officer for GLAM at the Wikimedia Foundation, Sao Paulo)⁹ in English

⁶ https://youtu.be/3PgG9UI4Zr0

⁷ https://voutu.be/E6mOeAAUBA8

⁸ https://youtu.be/JuNBcuLtw9I

⁹ https://voutu.be/Pp1kRiRlBag

5. Resources

5.1. Financial Resources

Table 3 below gives an overview of the financial resources of the project.

Table 3: Overview of financial resources

	Budget	Effective Costs / Revenues
Expenses		
Project Management (WP 1)	3'400 CHF	3'400 CHF
Workshops / Tutorials (WP 2)	13'600 CHF	12'940 CHF
Infobox Templates (WP 3)	5'100 CHF	2'890 CHF
Communication Campaign (WP 4)	6'800 CHF	6'800 CHF
Total, excl. VAT	28'900 CHF	26'030 CHF
VAT (7.7%)	2'225 CHF	2'004 CHF
Total, incl. VAT	31'125 CHF	28'034 CHF
Revenues		
OpenGLAM CH / Friends of OpenGLAM Network	10'000 CHF	13'140 CHF
Wikimedia CH (contribution to WP 2)	10'000 CHF	10'000 CHF
MY-D Foundation (Infoboxes)	6'000 CHF	2'890 CHF
missing	2'900 CHF	0 CHF
Total, excl. VAT	28'900 CHF	26'030 CHF
VAT (7.7 %)	2'225 CHF	2'004 CHF
Total, incl. VAT	31'125 CHF	28'034 CHF

The project was kindly supported by the following sponsors:

- Wikimedia CH
- MY-D Foundation

and the Members of the Friends of OpenGLAM Network:

- Bern University of Applied Sciences
- ETH Library
- Infoclio.ch
- Museum of Communication and PTT Archives

- Swiss National Library
- Swiss National Museum
- Swiss Social Archives
- Wikimedia CH

5.2. In-kind Contributions

The project has strongly benefitted from the substantial in-kind contributions made by several individuals and organizations, most notably by contributing their volunteer and/or staff time or by working on students' assignments related to the project. We are particularly thankful to:

- Annina Engel (student at Bern University of Applied Sciences)
- Beat Estermann (Bern University of Applied Sciences)
- Alicia Fagerving (Wikimedia Sweden)
- Loïc Freiburghaus (student at Bern University of Applied Sciences)
- Sarah Fuchs (student at Bern University of Applied Sciences)
- Valérie Hashimoto
- Oliver Waddell
- Nicolai Wenger (Bern University of Applied Sciences)
- Gaston Wey (student at Bern University of Applied Sciences)

6. Concluding Remarks and Outlook

The Sum of all GLAMs Onboarding Project has been largely successful: While WP 1, 2 and 4 have been successfully completed, WP 3 has only been partly completed, due to the critical attitude among the German Wikipedia with regard to (Wikidata-powered) Infoboxes.

Unfortunately, the lack of interest in expanded use of infoboxes in the German Wikipedia community is difficult to change. Also, finding dedicated individuals with a track record of community involvement and with the necessary Lua skills has proven difficult. For this reason, we have adapted our strategy regarding infobox creation: We no longer aim to have own staff members create or improve Wikidata-powered infoboxes, but will continue to sensitize both the Wikipedia and the GLAM communities for the purpose and usefulness of such infoboxes that rely on centrally managed data.

The project received positive responses from many institutions. Through participation in workshops, 32 people from over 25 institutions have gained new access to Wikidata. During the workshops we noticed that the initial interest in Wikidata is very high, but that more workshops and datathons are needed to maintain this interest, as a one-time course usually does not lead to a lasting engagement with Wikidata. Follow-up workshops or other learning formats are needed. For this purpose, it is advisable to collaborate with international partners to exchange best practices, to commonly evaluate different learning formats, to pool resources when it comes to developing new content or formats, and to advertise learning opportunities on an international level to make the best use of resources. Natural partners for the creation of an international community of practice include the Canadian Association for the Performing Arts CAPACOA, Wikimedia Sweden, and Wiki Movimento Brasil.

Broad, sustained communication and promotion of workshops and tutorials is key. Following the initial creation of a first set of tutorials, there should now be a stronger focus on the promotion of existing materials. To intensify and sustain these efforts, closer cooperation with the associations of the Swiss GLAM institutions as well as a thematic extension to the field of the performing arts should be aimed for. The Association of Swiss Archivists, the Swiss Archive of the Performing Arts SAPA, Bibliosuisse, as well as the Swiss Museums Association are among the potential partners in Switzerland.

At the same time, it seems advisable to continue with the open approach, involving volunteers and students, and making use of hackathons and other co-creative settings. One important next step consists in facilitating third party participation in the Tutorial Factory in order to add further languages and to create additional tutorials. This needs to be accompanied by measures to optimize the tutorial production process and to ensure the quality of tutorials. The transition to a fully open source infrastructure should be re-examined and could be the object of a hackathon challenge.

Our Project Sponsors

MY-D.ORG

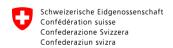
Museum für Kommunikation











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