

# Social Sciences and Humanities Open Cluster Switzerland: SSHOC-CH

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## 1. Introduction

Addressing societal and cultural challenges is pivotal for the development and well-being of communities around the globe. These challenges, ranging from social inequality and cultural conflicts to environmental sustainability and digital transformation, have profound implications for the fabric of society. The importance of tackling these issues lies not only in resolving immediate problems but also in shaping a future that is inclusive, resilient, and informed by a deep understanding of human behaviour and culture, history, and values. In this context, social sciences and humanities (SSH) infrastructures play a crucial role in facilitating research that can guide policy, foster social cohesion, and promote cultural understanding.

In this context, the digital transformation has posed a significant infrastructure challenge in the SSH area. It has necessitated the development of many new research infrastructures that provide tools and data to scholars, alongside long-established institutions such as galleries, libraries, archives, and museums (GLAM). Many GLAM institutions now host emerging digital infrastructures, while numerous new infrastructures outside the GLAM sector — at universities and federal institutes of technology — rely on traditional services like digital facsimiles of archival documents. Research infrastructures (RIs) are facilities, resources, and services that are used by the scientific community to conduct research and foster innovation. These infrastructures can include large-scale equipment, such as particle accelerators and telescopes, as well as distributed networks that collect or preserve data. They operate at different scales — ranging from international to national and regional levels — and cater to various disciplinary needs. Some infrastructures serve specialists within a narrow subdiscipline, while others operate across multiple domains.

Many of these infrastructures are developed as projects with limited funding and continue to operate on this basis, facing substantial risks of knowledge and expertise loss. In such a precarious setting, the sharing of knowledge is limited, leading to the duplication of work and tools. In Switzerland, several infrastructures established in recent years are stand-alone institutions that attempt to mitigate some of these risks by offering long-term data preservation and service solutions.

In the SSH, national and international research infrastructures focus on facilitating access to data, collecting information across time and space, and promoting interdisciplinary collaboration. They play

a crucial role in facilitating research that guides policy, fosters social cohesion, and promotes cultural understanding. Every scholar in the SSH domain relies on these infrastructures to enhance their work and generate new insights that would otherwise be unattainable.

## 2. The European Context

The *Social Sciences and Humanities Open Cloud*, short SSHOC,<sup>1</sup> was initiated as part of the European Union's Horizon 2020 program aimed at forming clusters of research infrastructures in all domains. Funders and policymakers have driven a greater emphasis on coordination due to the growing importance and number of research infrastructures. The formation of these clusters is intended to ensure that existing resources and tools are interconnected, and that infrastructures identify and create synergies to avoid costly, parallel, and uncoordinated developments.

Recognising the fragmented nature of data and research tools across SSH disciplines, the Horizon 2020 program aimed to create a more cohesive and accessible digital research infrastructure environment. Launched in 2019, SSHOC was designed to unite existing and new research infrastructures into a cloud-based, open-access environment for researchers. The initial consortium behind SSHOC includes a wide range of European research infrastructures, libraries, archives, and data centers. The project sought to integrate these disparate resources, ensuring that they are interoperable, user-friendly, and aligned with the FAIR principles (Findability, Accessibility, Interoperability, and Reusability) (Wilkinson et al. 2016<sup>2</sup>).

After the end of the project in 2022, SSHOC was transformed into a permanent organisation primarily centered around the ESFRI Landmarks and ESFRI Projects, with a new governing board, known as the *SSH Open Cluster*. The main objective of this collaboration is to ensure the sustainability of the SSH Open Marketplace developed under SSHOC, as well as the broader SSH research infrastructure network. SSHOC, along with the clusters from other domains, is also expected to play a pivotal role in the EOSC governance framework. Recognizing the relevance of these clusters, the OSCARS project<sup>3</sup> has been launched within Horizon Europe to consolidate past achievements of the Science Clusters into lasting interdisciplinary FAIR data services and working practices.

However, research infrastructures do not exist only at the European or international level. Many are national and many of the European infrastructures have national nodes. Therefore, the need for greater coordination and for making existing resources interoperable and reusable has also been identified at the national level. Leading the way is the Netherlands, where SSHOC-NL was established in 2023 as an umbrella organisation for existing SSH infrastructures within the country. Substantial funds are provided for this cluster project to “increase interoperability across the domain and allow services, data and tools to be shared, linked, and combined [...]. SSHOC-NL will elevate existing services, data and tools through technological and stakeholder readiness levels and ensure that they are mature, stable and widely accessible to the research community at large.”<sup>4</sup>

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<sup>1</sup> <https://sshopencloud.eu/>

<sup>2</sup> Wilkinson, M., Dumontier, M., Aalbersberg, I. et al. The FAIR Guiding Principles for scientific data management and stewardship. *Sci Data* 3, 160018 (2016). <https://doi.org/10.1038/sdata.2016.18>

<sup>3</sup> <https://oscars-project.eu/>

<sup>4</sup> <https://zenodo.org/records/7645356>

### 3. The Swiss Context

Switzerland also hosts several distinct SSH infrastructures, some are funded through the Swiss Academy for Humanities and Social Sciences (SAHSS).<sup>5</sup> For instance, the *Diplomatic Documents of Switzerland* research centre (Dodis) is an institute of the SAHSS, known as a centre of excellence for studies in the history of Swiss foreign policy. It conducts basic research on the contemporary history of Switzerland since 1848. Others are funded through the Swiss National Science Foundation<sup>6</sup>. For example larger facilities are the *Swiss Center for Expertise in Social Sciences* (FORS), which was founded in 2008 as a social science “infrastructure for infrastructures” aiming to unite several long-term projects under one roof. FORS hosts various national survey data collections, the Swiss nodes of European projects as well as the national social science data archive. The *Swiss National Data and Service Center for the Humanities* (DaSCH) was established in 2017 as a national facility with the mission to develop and operate a FAIR-enabling trusted digital repository for open research data in the humanities. It provides long-term direct access to data, enables their continuous editing, and allows for the citation of single objects within a dataset. Also in 2017, the *Swiss Art Research Infrastructure* (SARI) was founded as part of the Swiss Roadmap for Research Infrastructures (2017-2020). SARI provides mutual access to research and collection data in the cultural heritage domain and the digital humanities at large, with the mission to connect otherwise unavailable cultural heritage data from specialised institutions according to the latest ORD standards. Finally, the *Linguistic Research Infrastructure* (LiRI) was established by the University of Zürich in 2018 as a technology platform to support research in linguistics, language science, and related disciplines at the University of Zurich and beyond.

In addition, the more “traditional” infrastructures of the SSH domain, such as archives, libraries, and GLAM institutions, are an integral part of the evolving infrastructure landscape. Many of these institutions are developing data services that either make data from their collections available to researchers, or archive research data, or both. Libraries, with their extensive expertise in the long-term management of information and services, are crucial players in the development of national SSH infrastructures.

#### 3.1. The Swiss Roadmap Process

Switzerland has established a centralised national roadmap process for infrastructures, modeled after the European-wide ESFRI<sup>7</sup> roadmap process for strategic prioritization. The Swiss Roadmap is designed to plan, prioritise, and coordinate the benefits of maintaining or developing existing national infrastructures, creating new ones, and enabling Switzerland's participation in international research infrastructures. SERI coordinates the Roadmap process in accordance with the Federal Act on the Promotion of Research and Innovation (RIPA).

The roadmap has two main components:

1. the development of new national infrastructures
2. the Swiss participation in international RIs

While DaSCH, FORS and SARI were included in the 2015 Roadmap and LiRI in the 2019

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<sup>5</sup> <https://www.sagw.ch/sagw/forschungsinfrastrukturen>

<sup>6</sup> See under “Infrastructure” in the SNF grants database: <https://data.snf.ch/grants>

<sup>7</sup> <https://www.esfri.eu/esfri-roadmap>

Roadmap, no new SSH research infrastructure was listed in the 2023 roadmap. Despite a call for both national and Swiss participation in international RIs published in 2021, no new SSH project made it to the evaluation phase. This may be due to the requirement that proposals for new national infrastructures must come from higher education institutions; organizations such as FORS or DaSCH were only allowed to submit projects in partnership with higher education institutions. Moreover, in contrast to other countries, such as Germany<sup>8</sup>, there is no specific funding scheme for information services and infrastructures provided by GLAM institutions in Switzerland.

Regarding Swiss participation in international RIs, Swiss national infrastructures play a significant role as nodes of the European ESFRI Landmarks, namely CESSDA ERIC, CLARIN ERIC, DARIAH ERIC, ESS ERIC and SHARE ERIC. Three of these nodes are attached to FORS (CESSDA and ESS) and the University of Lausanne (SHARE), the coordination of DARIAH is attached to DaSCH and that of CLARIN to LiRI. DARIAH-CH was included in the 2019 Roadmap, and CLARIN-CH in the 2023 Roadmap. From the outset, questions arose about how the existing nodes would be funded and governed. Furthermore, at that time, Switzerland only held observer status in the ERICs, as it had not yet allowed for full membership, limiting its involvement. Initial discussions also focused on how to contribute to the process of creating the legal basis for Switzerland to become a full member of the ERICs. This goal was achieved in 2022 when the Swiss parliament approved Switzerland's membership in six ERICs (including CESSDA ERIC and DARIAH ERIC) and simultaneously created the legal framework for Switzerland to attain full membership in other ERICs in the future.

### 3.2. The Swiss National Open Research Data Strategy

A more recent development in the Swiss research infrastructure landscape is the Swiss National Open Research Data (ORD) Strategy, launched in July 2021 under the mandate of the State Secretariat for Education, Research, and Innovation (SERI). This strategy represents a centralized approach to planning and prioritizing research infrastructures, aiming to promote open research data practices across Switzerland. The collaborative effort involves four key national actors in education, research, and innovation (ERI): the ETH Domain, the Swiss Academies of Arts and Sciences, the Swiss National Science Foundation, and swissuniversities. The strategy seeks to enhance the sharing and accessibility of research data across disciplines and institutions through strategic coordination, consolidation of the ORD landscape, and collaboration among key stakeholders.

To effectively implement this strategy, an Action Plan was developed in January 2022, outlining specific actions and focus areas related to (i) supporting researchers and research communities in envisioning and adopting ORD practices, (ii) developing, promoting, and maintaining financially sustainable basic infrastructures and services for all researchers, (iii) equipping researchers for ORD skills development and exchange of best practices, (iv) building up systemic and supportive conditions for institutions and research communities. The Action Plan also established the National ORD Strategy Council (StraCo) – as a central governing body responsible for coordinating ORD efforts among ERI actors and representing their collective interests – supported by the Sounding Board Researchers and the Sounding Board Service Providers<sup>9</sup>.

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<sup>8</sup> <https://www.dfg.de/en/research-funding/funding-opportunities/programmes>

<sup>9</sup> <https://openresearchdata.swiss/>

A core component of the strategy is the Blueprint Process, developed by StraCo. This process involves identifying disciplinary clusters within the ORD ecosystem that require targeted action. Task Forces are then formed to conduct detailed analyses of each cluster, leading to the development of strategic options for integration into the Blueprint. The Blueprint serves as a guiding framework for long-term planning and informs funding decisions.

Clusters are defined as data- or discipline-specific areas where dynamic ORD development is taking place, involving multiple national and international actors, requiring strategic coordination, and hosting infrastructures of national importance. Initial clusters identified for investigation include health and life sciences, social sciences and humanities, and data sciences. For each cluster, Task Forces will be assigned to conduct in-depth analyses, explore strategic options, and formulate a blueprint for further coordination and consolidation. Regular updates and extensions to these cluster analyses ensure they remain accurate and reflect evolving developments.

### 3.3. The “SSH RIs in Switzerland” initiative

In the last Swiss roadmaps published in 2019 and 2023, the research infrastructure needs of the SSH community were hardly recognised and SSH projects were in a weak position throughout the entire process. This led to two conferences in 2022 and 2023 with representatives of SSH projects and infrastructures as well as other stakeholders coming together in 2022 and 2023 and the publication of a “Position Paper: Social sciences and humanities research infrastructures in Switzerland”, which was signed by about 150 researchers and submitted to Swiss ERI actors.<sup>10</sup> The paper aimed to raise awareness and stimulate discussion on the current state of SSH research infrastructures in Switzerland, the Swiss roadmap process, and potential improvements in how research infrastructures are prioritized and funded in the future.

One of the outcomes of this discussion, as well as a key conclusion of the position paper, was that "existing and future SSH infrastructure projects in Switzerland should demonstrate how they collaborate and create synergies within the SSH domain, as well as with RIs in other fields. Similar to the cluster projects at the European level, SSH RIs should form clusters and establish coordination mechanisms through initiatives like the SSHOC project. While RIs often play a unique role in advancing research within a specific community, they must collaborate, particularly in the development of digital and technical tools for data creation, preservation, and analytical exploration. Additionally, RIs should coordinate in training and education, which are essential activities for SSH infrastructures. Newly proposed projects and RIs must ensure they have adapted governance and funding models and are well connected with existing RIs to foster synergies and prevent duplication of efforts."

At a follow-up meeting in the fall of 2023, a group of representatives from national infrastructures and the Swiss nodes of ERIC agreed to move forward with the creation of SSHOC Switzerland. A coordination group was formed with the task of preparing for the establishment of the Swiss SSH Open Cluster.

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<sup>10</sup> <https://sshoc.ch/history>

## 4. The Swiss SSH Open Cluster - SSHOC-CH

The Swiss SSH Open Cluster, or SSHOC-CH, is a cluster of existing national infrastructures and the national nodes of ESFRI roadmap projects that are interested in Swiss participation. SSHOC-CH aims to include all RIs funded by the Swiss National Science Foundation (SNF) infrastructure funding line<sup>11</sup>, the projects funded by the SAHSS<sup>12</sup>, and also projects listed in the national RI roadmaps<sup>13</sup>, along with other emerging projects, services and infrastructures that wish to join. Beyond this list of projects, the cluster is open to all scholars who align with the general mission of SSHOC-CH:

### Mission

*The mission of SSHOC-CH is to create a cluster of social science and humanities research infrastructures in Switzerland, encompassing both national infrastructures and the national nodes of international infrastructures. The goal is to ensure the exchange and cooperation of research infrastructures to support research projects and researchers, identify and foster synergies, and, where possible, develop joint platforms and services or enhance the interoperability of existing ones. SSHOC-CH provides a framework for the establishment of new research infrastructures and establishes connections with SSHOC at the European level and with other national clusters. By facilitating cooperation and support, SSHOC-CH complements existing infrastructures and their activities, which are represented by a member of the SSHOC-CH association. (Translation from [SSHOC-CH Statutes](#))*

Such openness is feasible because the current definition of “infrastructure” is broad and allows for dynamic development that can adapt to the evolving needs of researchers.

SSHOC-CH has two main objectives: to **identify synergies** and **promote cooperation** among social science and humanities infrastructures, and to **ensure the coordination and representation** of national infrastructures and research networks. Regarding the first objective, SSHOC-CH adds value through expertise and willingness of its members to cooperate. As such, SSHOC-CH does not establish a singular SSH infrastructure or channel infrastructure funding through a new organisation. Instead, SSHOC-CH supports existing infrastructures and provides a formal framework for cooperation and the development of new infrastructures to address the needs of the entire SSH community. For the second objective, SSHOC-CH serves as a framework for representing existing SSH infrastructures to key ERI stakeholders, including SAHSS, swissuniversities, SNSF, SERI, as well as other national and European relevant initiatives, such as EOSC and its future Swiss node. In this capacity, SSHOC-CH ensures that national and local infrastructures have a voice and are heard across disciplinary and national boundaries.

More specifically SSHOC-CH aims, through a bottom-up approach, to:

- *Contribute in a coordinated manner to the national policy dialogue on key topics relevant to the SSH research infrastructure community.* This includes: (i) organising a science-policy cycle to identify key topics and urgent needs of the community, (ii) developing and consolidating policy positions

<sup>11</sup> “Infrastructures” in the SNF grants database: <https://data.snf.ch/grants>

<sup>12</sup> <https://www.sagw.ch/sagw/forschungsinfrastrukturen>

<sup>13</sup> <https://www.sbf.admin.ch/sbf/de/home/forschung-und-innovation/forschung-und-innovation-in-der-schweiz/schweizer-roadmap-fuer-forschungsinfrastrukturen.html>

on ongoing debates from an SSH perspective on infrastructure prioritisation processes through the national research infrastructure roadmap process, as well as on ongoing discussions on funding and governance of research infrastructures and on ORD strategy in general. Joint positions and collaborative participation in these dialogues are intended to enhance the recognition of SSH research infrastructure needs within Switzerland.

- *Develop joint policies from an SSH perspective, in particularly focusing on data management and sharing.* This includes developing and promoting best practices for data management and sharing, in line with the FAIR principles, as well as creating, updating and disseminating guidelines on ethical issues and data protection standards relevant to SSH research. Future efforts within SSHOC-CH may also address challenges related to sensitive data, copyright-protected data, and compliance with national and international regulations.
- *Contribute to creating an overview of existing projects, resources, and facilities* available to the SSH community, identifying gaps, and monitoring new developments that may need to be addressed in the future. Such a landscape analysis, as termed by ESFRI, is currently being initiated by the ORD Strategy Council for data infrastructures for the SSH. However, this top-down approach can be complemented by a bottom-up approach from the community itself, which encompasses a broader focus on research infrastructures beyond just data infrastructures. In this context, the members of the SSHOC-CH Board are committed to participating in the consultation of the SSH Task Force of the ORD Strategy Council and are open to cooperating with the Task Force to provide a comprehensive overview of the SSH research infrastructure landscape.
- *Identify and create synergies between existing research infrastructures.* Developing tools, platforms and services is costly. While existing research infrastructures already provide a range of resources to the SSH community, identifying and fostering synergies among SSH infrastructures is essential for enhancing the quality, efficiency, and impact of research. By leveraging shared resources, methods, and data, SSH infrastructures can break down disciplinary silos, foster interdisciplinary collaboration, and drive innovation. Creating interoperability between existing data and information sources enables researchers to address complex societal challenges from multiple perspectives, integrating insights from sociology, history, economics, and other fields. This collaborative approach maximizes the use of limited resources, avoids duplication of efforts, and ensures a more cost-effective allocation of funding. It also enriches the research environment by providing scholars with access to a broader array of tools, datasets, and expertise. Developing synergies among SSH infrastructures is a strategic imperative for advancing the social sciences and humanities.
- *Achieve Critical Mass.* Many SSH infrastructures are relatively small, which presents challenges for sustainability and for managing larger developments that require substantial resources and diverse skills. Pooling resources can address these challenges. By fostering the aggregation of infrastructure projects, SSH infrastructures can overcome the barrier of having sufficient financial volume to be eligible in the national roadmap process. For instance, the 2023 roadmap process required a minimum of CHF 4 million for recognition. Pooling resources helps meet these financial thresholds and supports the development of larger, more sustainable projects.
- *Participate in funding calls.* There are various calls dedicated to research infrastructures, such as those through the ORD Action Plan of swissuniversities. SSHOC-CH aims to serve as a platform for

exchanging information about these calls and participating in them in a more coordinated and strategic manner. Typically, SSHOC-CH itself is not a direct partner in these calls; instead, it is the individual participating infrastructures that engage. Identifying and creating synergies among existing research infrastructures, as well as fostering an enabling environment for sustainable SEED funding and short-term funding integration, is essential for advancing the SSH domain. Developing tools, platforms, and services is costly, and while existing research infrastructures offer valuable resources, ensuring their sustainability is crucial. By creating synergies and effectively utilizing SEED and short-term funding, the quality, efficiency, and impact of research can be enhanced. This approach allows smaller, innovative projects to be scaled up and integrated into larger research infrastructures over time, thereby maximizing their potential.

- *Coordinate training and support.* In collaboration with its participating institutions and individual members, SSHOC-CH provides training programs, workshops, and support services for researchers, librarians, and data managers. These initiatives cover topics such as data management, open science practices, and the use of digital tools in SSH research.
- *Carry out community engagement and outreach activities.* Engage with the broader SSH community to gather input on their needs and promote the adoption of SSHOC services and resources. This includes organizing events and symposia, participating in conferences, and conducting outreach activities to academic institutions and research groups.

The growing importance and number of research infrastructures make the coordination effort outlined above relevant and urgent. It is essential to ensure that existing resources and tools are interconnected and that existing infrastructures identify and create synergies to avoid costly parallel and uncoordinated developments. It is also key to ensure that existing and new infrastructures are interoperable, user-friendly and aligned with the FAIR principles (Findability, Accessibility, Interoperability, and Reusability). By encouraging the SSH community to contribute to identifying and developing research infrastructures that address these pressing global themes, SSHOC-CH members aim to create a more comprehensive and responsive research ecosystem. This approach will facilitate the integration of diverse perspectives and expertise and ensure that infrastructures remain relevant and adaptable to emerging societal, technical, and scholarly challenges.