Assessment Information

[CoreTrustSeal Requirements 2020–2023](#)

Repository:	FORS
Website:	https://forscenter.ch/
Certification period:	05 September 2023 - 04 September 2026
Requirements version:	CoreTrustSeal Requirements 2020-2022

This repository is owned by: **University Lausanne**

CORE TRUSTWORTHY DATA REPOSITORIES REQUIREMENTS

Background Information

Repository Type

Please provide context for your repository. You can select one or multiple options.

Compliance level:

Not Applicable - 0

Response:

- Domain or subject-based repository

Links:

Reviews

Reviewer 1:

Compliance level:

Not Applicable - 0

Comments:

Reviewer 2:

Compliance level:

Not Applicable - 0

Comments:

Description of Repository

Provide a short overview of the repository.

Compliance level:

Not Applicable - 0

Response:

FORS, the Swiss Centre of Expertise in the Social Sciences, is a national research infrastructure mandated and financed by the Swiss National Science Foundation (SNSF) while hosted in-kind by the University of Lausanne. FORS integrates infrastructures and research projects, like among others the Swiss Household Panel, the Swiss Electoral Studies, and the FORS Data Service.

FORS is mandated by the SNSF to solicit research data in the social sciences, to preserve these, and make them accessible and usable for the long term. To do so, FORS developed the online platform SWISSUbase on the basis of our previous tool FORSbase (link below).

SWISSUbase is a non-commercial, national, public, multi-disciplinary repository and archiving solution, offering controlled access to research data, ranging from open to restricted. SWISSUbase is OAIS and FAIR compliant and functions as a web-based platform for researchers to document and publish their research projects and related data.

Within SWISSUbase, partner institutions manage individual data service units (DSUs), which are independently responsible for discipline- and/or institutional-specific data, including supporting researchers in depositing and finding data and helping with regard to data curation and archiving (link below: SWISSUbase-Institutional-Framework).

The FORS Data Service is the DSU responsible for the social sciences data in Switzerland. The Core Trust Seal certification is sought for the FORS Data Service specifically.

The scope of collection handled by the FORS Data Service includes quantitative and qualitative projects and datasets with a connection to Switzerland (content, researchers, financial participation). All types of data that are commonly used in the social sciences are accepted. Specifications are provided in

our Acquisition Policy (link below).

https://forscenter.ch/
https://forscenter.ch/data-services/
https://forscenter.ch/wp-content/uploads/2021/01/organisational-chart.pdf
https://twitter.com/FORSresearch
https://www.facebook.com/forsresearch
https://www.swissubase.ch/
https://www.snf.ch/en/FKhU9kAtfXx7w9AI/page/home
https://forscenter.ch/wp-content/uploads/2022/07/acquisition-policy_2022.pdf
https://resources.swissubase.ch/wp-content/uploads/2022/06/SWISSUbase-Institutional-Framework-2022.pdf
https://unil.ch/index.html

Links:

Reviews

Reviewer 1:

Compliance level:

Not Applicable - 0

Comments:

Reviewer 2:

Compliance level:

Not Applicable - 0

Comments:

Designated Community

Provide a clear definition of the Designated Community

Compliance level:

Not Applicable - 0

Response:

The Designated Community of the FORS Data Service consists of all social science researchers and students in general affiliated with a Swiss institution of higher learning, government offices.

Our direct Designated Community speaks one of the main national languages of Switzerland (German, French, or Italian), as well as English, and is familiar with methods of the social sciences, knows the domain terminology, and is able to work with common programs. The majority of our data users have a university degree in the social sciences or are in the process of obtaining such a degree. About half of our users are students.

Communication with our Designated Community is carried out through different channels, such as promotional activities, training courses (on topics such as data management), electronic bulletins, targeted presentations, and social networking on Twitter and Facebook. We are also available to our users for specific questions via email or telephone.

We also have an indirect Designated Community. The datasets received from researchers, which are then curated and made available by the FORS Data Service, are accessible to the entire scientific community, therefore also to non-social science circles in Switzerland, as well as international researchers who are interested in accessing data available in SWISSUbase.

To get access to SWISSUbase, users need to either have a Swiss edu-address, a persistent identity for accessing Swiss academic services provided by SWITCH, which allows direct access to the platform, or an (international) institutional affiliation, which must first be verified through the Swiss edu-id authenticator service or treated manually.

https://www.switch.ch/edu-id/
https://resources.swissubase.ch/help/user-guide/
https://forscenter.ch/data-services/

Links:

Reviews

Reviewer 1:

Compliance level:

Not Applicable - 0

Comments:

Reviewer 2:

Compliance level:

Not Applicable - 0

Comments:

Level of Curation

Select all relevant types of curation.
- Content distributed as deposited
- Basic curation – e.g., brief checking, addition of basic metadata or documentation
- Enhanced curation – e.g., conversion to new formats, enhancement of documentation
- Data-level curation – as above, but with additional editing of deposited data for accuracy

Compliance level:

Not Applicable - 0

Response:

• C. Enhanced curation – e.g. conversion to new formats; enhancement of documentation

Links:

Reviews

Reviewer 1:

Compliance level:

Not Applicable - 0

Comments:

Reviewer 2:

Compliance level:

Not Applicable - 0

Comments:

Level of Curation - explanation

Please add the description for your Level(s) of Curation.

Compliance level:

Not Applicable - 0

Response:

Though SWISSUbase is geared towards self-archiving, the FORS Data Service adds value to the content of the repository by performing routine quality assurance checks on the deposited data (SIP), by the creation of new formats, and the addition of basic metadata and documentation, if applicable.

Data-level curation (editing for accuracy) only takes place in consultation with the depositors. Important communications and decisions taken by an FORS Data Service archivist and the depositor during the process are documented and made available for other FORS Data Service team members to guarantee a smooth handover in case of unexpected absence. At this point it is not yet decided if the communications will be stored within the system or externally.

Any curation of the data within the archive is performed by a trained FORS Data Service staff member. Some minor changes in the metadata might be done by a civilist (civilian substitute service to military service in Switzerland) or student worker, under the supervision of a FORS Data Service staff member.

The FORS Data Service Preservation Policy outlines our long-term commitment to the preservation, management, and dissemination of research data. Our Preservation Policy describes strategies and principles, as well as the responsibilities and procedures involved in ensuring adequate preservation of and access to the data held within the repository (link below).

https://forscenter.ch/about-fors/staff/
https://forscenter.ch/wp-content/uploads/2023/03/preservation-policy-4.2_.pdf

Links:

Reviews

Reviewer 1:

Compliance level:

Not Applicable - 0

Comments:

Reviewer 2:

Compliance level:

Not Applicable - 0

Comments:

Insource/Outsource Partners

If applicable, please list them.

Compliance level:

Not Applicable - 0

Response:

The FORS Infrastructure and Development unit (INDEV) acts as an in-sourced partner and is responsible for all development and maintenance work of the SWISSUbase platform. The FORS Data Service is closely involved in the development and testing of the platform as related to the social sciences.

SWITCH - the IT infrastructure for education, research and innovation community in Switzerland - is an out-sourced partner and responsible for the setup and support for the SWITCHengines environment, support for SWITCH edu-ID authentication, support for SWITCHdrive usage, support for the storage solution and billing for storage to SWISSUbase. SWITCH provides infrastructure and storage for OAIS-based archival packages.
A detailed SLA between SWISSUbase and SWITCH is in place (see also R3 Continuity of access, R9. Documented storage procedures, and R15. Technical infrastructure.)
https://www.switch.ch/

Links:

Reviews

Reviewer 1:

Compliance level:

Not Applicable - 0

Comments:

Reviewer 2:

Compliance level:

Not Applicable - 0

Comments:

Significant Changes

Summary of Significant Changes Since Last Application if applicable.

Compliance level:

Not Applicable - 0

Response:

1) In our last CoreTrustSeal application (2018) we used the acronym "DARIS" as the name of our service. As a clearer designation, in this application we now refer to our service as FORS Data Service.
2) At the time of our last application, the FORS Data Service was funded by the Swiss Secretariat for Education, Research and Innovation. Currently the FORS Data Service is funded almost entirely by the Swiss National Science Foundation.
3) In the years 2017 - 2021 we were using the FORSbase web application to archive and distribute data exclusively from the social science community. FORS was the only organisation using the platform. Now we work with SWISSUbase - a new platform based on the technology and functions of FORSbase. FORS is one of several partners who use the new platform. The FORS Data Service is the DSU responsible for all social science data and research information.

Links:

Reviews

Reviewer 1:

Compliance level:

Not Applicable - 0

Comments:

Reviewer 2:

Compliance level:

Not Applicable - 0

Comments:

Other Relevant Information

You may provide other relevant information that is not covered by the requirements.

Compliance level:

Not Applicable - 0

Response:

SWISSUbase went live in a first version in December 2021, with new features added during 2022. The current CTS application refers to the situation as it presents itself in June 2022. Whenever possible, we indicate which features will be added in the near future. A general technical documentation is planned and should be available later this year.

We'd like to bring to your attention that certain public documents have undergone complete revision and abbreviation (e.g. deposit guides). While some of these documents are still under construction, we aim to ensure that they're accessible to the public as soon as possible. Currently, we're in the process of revising the deposit and user contracts, and we're not entirely satisfied with the current solution. As a result, we've decided not to make them available under "resources" until we're confident that they're up to our standards. But they are of course accessible in the system and we can forward a pdf version to the reviewes upon request. Also available on request is our internal workflow document, which is not intended for publication.

We also recognize that Chapter 16 is exceptionally detailed. This is because we've primarily gathered this information upon request, as the available public information on this topic is limited.

Our Preservation Policy was updated following the initial feedback from CTS reviewers in March 2023.

Glossary
AIP: archival information package
DIP: dissemination information package
DSU: data service unit
FORS: Swiss Centre of Expertise in the Social Sciences
OAIS: Open Archival Information System
SIP: submission information package
SNSF: Swiss National Science Foundation

Links:

Reviews

Reviewer 1:

Compliance level:

Not Applicable - 0

Comments:

Reviewer 2:

Compliance level:

Not Applicable - 0

Comments:

Organizational Infrastructure

R1 Mission/Scope

The repository has an explicit mission to provide access to and preserve data in its domain.

Compliance level:

The guideline has been fully implemented in the repository - 4

Response:

The FORS Data Service is tasked with the preservation and dissemination of research data for all social sciences in Switzerland.

The FORS Mission Statement has been approved and released by the FORS Executive Board and includes the work for the FORS Data Service:
"We acquire, document, preserve and disseminate high quality quantitative and qualitative data and research information in conformity with national and international standards.

We also make these data and services known and promote a research culture of data sharing and secondary analysis for the social sciences in Switzerland.
SWISSUbase, our interactive tool and platform facilitates research data management and data archiving for all social science disciplines. SWISSUbase also allows for the registration of projects and the deposit, preservation and exchange of research data in a secure and controlled environment. SWISSUbase, was developed in close collaboration with institutional partners and individual researchers, and provides training and guidance to researchers in research data management."

Links:

FORS

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Reviews

Reviewer 1:

Compliance level:

The guideline has been fully implemented in the repository - 4

Comments:

Reviewer 2:

Compliance level:

The guideline has been fully implemented in the repository - 4

Comments:

R2 Licenses

The repository maintains all applicable licenses covering data access and use and monitors compliance.

Compliance level:

The guideline has been fully implemented in the repository - 4

Response:

The default deposit contract, an agreement between the repository and the data owner, defines the rights and obligations of the parties to the contract. It grants the non-exclusive right to the repository to archive and disseminate the data while the data owner maintains the copyright of the data and is entitled to being regularly informed of the reuse of the data by third parties.

The contract specifies conditions of legal access to the data and confirms that the data have been collected and treated in conformity with existing legal and ethical criteria in Switzerland (Federal Act on Data Protection and Federal Act on the Promotion of Research and Innovation, Links below). It is the responsibility of researchers to anonymize their data before deposit, so that no individual can be identified without "disproportionate effort" (as explicitly required by the law). If it is not possible to anonymize the data, explicit consent from the participants is required for the storage and sharing of the data. Data depositors learn about the deposit contract as they create a dataset; the deposit contract is a separate subcategory within the dataset. It is not possible to submit a dataset without explicitly accepting the deposit contract by clicking.

The current deposit contract does not explicitly stipulate that it is possible to withdraw from the agreement. In practice, however, we allow this on request. This point will be taken into account in the next version of the deposit contract.

The standard user contract is based upon principles of FAIR and relevant national legislation. It limits the use of the data to scientific research and/or academic teaching; commits the data user to use the data with respect to Swiss federal law and standard norms of data protection; to not identify any individual cases; to respect confidentiality and scientific ethical rules; to store data without third party access; to destroy the data after the expiration of the contract; and to inform the repository of all publications based on the data. In their request for a dataset, data users must indicate what they intend to use the data for in a short text of minimum 150 characters (e.g. short project description).

Special deposit and user contracts are possible upon request of the data producer; e.g. for additional restrictions or requirements for data users (e.g. a complete project description must be provided in order to access the data).

Some datasets require the prior agreement of the data producer for data access, while other datasets, in particular with more sensitive data, are precluded from teaching purposes. Any restrictions on data access are indicated in the SWISSUbase catalogue on the dataset level. Data producers can decide independently on these access restrictions. However, we will advise and intervene if the choice seems inappropriate (e.g. if sensitive data are involved).

For datasets with a prior agreement condition, we expect the data producer to respond to the request within a few days. Active approval is required - it is not merely a veto right. In cases the decision takes longer (e.g. because the decision has to be made by a committee that only meets every 2 months), this is explicitly noted in the dataset so that data users can plan accordingly. For now, any reminders have to be sent manually. In the future, this could be automated; i.e. after X days of no response, a reminder will be sent by the system.

There are currently no data accessible without a user account and accepting the data use contract. However, SWISSUbase also offers the possibility to provide data under the CC (Creative Commons) licence. We have not yet decided whether and in what form we would like to use this for the social sciences.

The stipulations of the data use contract (e.g. the destruction of the data after the expiration of the contract, the compliance with the confidentiality and ethics regulations, and to cite the data correctly) are monitored, and in cases of non-compliance the account of the user is blocked. Thus, for example, if the data user does not confirm that the data have been destroyed upon expiry of the contract, his/her SWISSUbase user account is blocked systemwide until we receive confirmation of the compliance with the agreed upon terms of the contract.

The specific contract attributed to each dataset is visible in the catalogue, so that data users are aware before requesting access - the contract is publicly accessible.

Links:

- [Swiss Federal Act on the Promotion of Research and Innovation](#)
- [SWISSUbase](#)
- [SWISSUbase User Guide](#)
- [Swiss Federal Act on Data Protection](#)

Reviews

Reviewer 1:

Compliance level:

The guideline has been fully implemented in the repository - 4

Comments:

Reviewer 2:

Compliance level:

The guideline has been fully implemented in the repository - 4

Comments:

R3 Continuity of access

The repository has a continuity plan to ensure ongoing access to and preservation of its holdings.

Compliance level:

The repository is in the implementation phase - 3

Response:

The Swiss National Science Foundation (SNSF), the main funding institution for research in Switzerland, has recognized FORS as the national data archive for social sciences in Switzerland. In addition to other units at FORS, its data archive is funded by the SNSF, beginning in January 2021. FORS is currently funded by the SNSF for the period 2021-2024, and the SNSF is committed to long-term funding of FORS as a national research infrastructure. Open Research Data is a priority within the SNSF policy:

"The Swiss National Science Foundation agrees with this principle. Since October 2017, researchers have to include a data management plan (DMP) in their funding application for most of the funding schemes. At the same time, the Swiss National Science Foundation expects that data generated by funded projects are publicly accessible in digital databases provided there are no legal, ethical, copyright or other issues." https://www.snf.ch/en/dMILj9t4LNk8NwyR/topic/open-research-data

We understand the importance of ensuring continuity of service and access to our data for our users. In order to achieve this goal, it is crucial to take into account the possibility of unforeseen circumstances that may affect the future existence of our organisation, e.g. due to a cessation of funding.
While there is currently no indication of any issues that may threaten the sustainability of our organisation, we recognize that our dependence on external funding sources, such as the SNSF, creates a level of uncertainty. This is why we have decided to take a proactive approach to this issue by developing a concrete plan to address this threat.
As part of this plan, we will be reaching out to our funder to discuss potential solutions and evaluate different scenarios with the aim to have a clearer answer by the end of 2024. One possible solution could be to establish a temporary data storage guarantee as well as a commitment to find another data service, which would ensure that the data remain available even if FORS is no longer able to finance its operations. While this may not be a perfect solution, it would provide a measure of security for our users and help to mitigate the impact of any unforeseen events.
We also plan to revise our deposit contracts in 2023 to include a clause that facilitates the transfer of data to another institution in the event that this would become necessary. This will help to ensure that our users continue to have access to the data they need, even if FORS is no longer able to provide that service.

The framework of SWISSUbase with multiple partners provides some additional security, as the principle of solidarity is generally assumed. This implies that if one partner were unable to continue their participation, the remaining partners would strive to ensure uninterrupted access to the metadata and data. The SWISSUbase consortium contract currently contains a general provision addressing this aspect without specifying the specific actions to be taken. It is of course advisable to further elaborate on this point in future revisions of the contract. While the contract itself is not publicly available, it can be provided to CTS reviewers upon their request. The contract was originally written in German, and there is a French translation.

Overall, our goal is to ensure that our data preservation and access policies are robust and adaptable to changing circumstances. We will continue to monitor this issue closely and work to find the best possible solutions for our users.

In the event of short-term changes in circumstances (for example, in the event of a global pandemic), we are able to maintain our service via decentralised remote work. All employees can access their work computer via VPN, and the internal coordination within the team is already tried and tested during several lockdowns due to COVID-19 (2020 - 2022) and has proven itself as functional.

Links:

- [Preservation policy](#)
- [Mission statement](#)
- [Annual reports](#)
- [Swiss National Science Foundation](#)
- [SWISSUbase about](#)
- [SNSF funding 2021-2024: New opportunities for Swiss research](#)
- [SNSF: Open Research Data (Commitment)](#)

Reviews

Reviewer 1:

Compliance level:

The repository is in the implementation phase - 3

Comments:

Thank you for providing more details about succession planning, including your concrete plans to discuss with your funder and provide a clearer answer by the end of 2024, as well as your plan to revise deposit contracts to include a clause that facilitates the transfer of data to another institution in case of institutional failure.

Reviewer 2:

Compliance level:

The repository is in the implementation phase - 3

Comments:

R4 Confidentiality/Ethics

The repository ensures, to the extent possible, that data are created, curated, accessed, and used in compliance with disciplinary and ethical norms.

Compliance level:

The guideline has been fully implemented in the repository - 4

Response:

While providing easy access to data, the FORS Data Service is at the same time committed to protecting the confidentiality of research participants and the rights of the data depositors. As a way of ensuring confidentiality, the FORS Data Service relies on a combination of anonymization, access eligibility criteria, informed consent among study participants, and user contract conditions which bar users from identifying cases (see also R2. Licences).

Our practices are in accordance with Swiss federal data protection laws (link below). The deposit contract stipulates that the depositor has collected and treated the data in conformity with existing national legislation on data protection, and confirms that the data have been anonymized, so that no individual can be identified without "disproportionate" effort. If it is not possible to anonymize the data, explicit consent from the participants is required for the storage and sharing of the data. If there is no consent and we cannot find a solution with the researcher on how to anonymize the data in accordance with the law, we may refuse data in accordance with our Acquisition Policy (link below).

FORS

The FORS Data Service provides guidance on the responsible deposit of data with disclosure risk (consultancy in the pre-ingest phase and guidelines on our website, link below). The deposited data are screened by staff for disclosure risk and, where appropriate, returned to the depositor with the request to further anonymize the data. However, the ultimate responsibility for compliance with data protection law lies with the data depositors.

The stipulations of the user contract (e.g. the destruction of the data after the expiration of the contract, the compliance with the confidentiality and ethics regulations, and the obligation to inform the repository of all publications based on the disseminated data, etc.) are monitored, and in cases of non-compliance the SWISSUbase account of the user will be blocked until the user complies with the contract. (see also R2. Licences).

Links:

- [Swiss Federal Act on Data Protection](#)
- [Swiss Federal Act on the Promotion of Research and Innovation](#)
- [FORS guides](#)
- [Acquisition policy](#)
- [SWISSUbase about](#)

Reviews

Reviewer 1:

Compliance level:

The guideline has been fully implemented in the repository - 4

Comments:

Reviewer 2:

Compliance level:

The guideline has been fully implemented in the repository - 4

Comments:

R5 Organizational infrastructure

The repository has adequate funding and sufficient numbers of qualified staff managed through a clear system of governance to effectively carry out the mission.

Compliance level:

The guideline has been fully implemented in the repository - 4

Response:

FORS is a national foundation, established on 1.1.2008 in the terms of the Swiss Civil Code. It is a research infrastructure in the social sciences - serving researchers in Switzerland. The charter of FORS (link below) describes its mission, structure, and key governance bodies and processes. The organisational chart (link below) depicts the structure of FORS.

The Foundation Board is the supreme governing body of the Foundation. It is chaired by a representative of the host university, currently the Vice-Rector of Research at the University of Lausanne. In keeping with the FORS Articles, the Foundation Board is composed of: three members, including the chair, appointed by the University of Lausanne; three members appointed by the Rectors' Conference of Swiss Higher Education Institutions (swissuniversities); one member appointed by the Swiss Federal Statistical Office (SFSO); and the member appointed by the Swiss Academies of Arts and Sciences.

The FORS Executive Board is chaired by the FORS Director. It comprises the Head of the unit Surveys, Head of the unit Data and research information for the social sciences (DARISS), Head of the unit Infrastructure & development (INDEV), and Head of the group Support & Administration. The Scientific Board supports both the Foundation Board and the Executive Board (comprising the Heads of the units of FORS and the Director) on all scientific matters connected with the activities of FORS, as well as overseeing its research activities.

The FORS Data Service is part of the Data and Research Information for the Social Sciences unit of FORS and is mandated to collect research data in the social sciences, to preserve these, and make them accessible and usable for the long term.

FORS is hosted by the University of Lausanne, the university of the Canton of Vaud. Its contribution to FORS – both financial and material (administration, HR applications and salaries, infrastructure, some computer/network maintenance, etc.) – is substantial. It also provides an academic environment that helps guarantee scientific excellence. FORS maintains close ties with the host institution, and has established academic contacts and institutional partnerships with other Swiss universities and the Swiss Federal Statistical Office. FORS is involved in projects and collaborations within Switzerland and on an international scale, guaranteeing professional development. FORS staff members are members or have mandates in the following

international bodies: European Social Survey (ESS), European Value Survey (EVS), International Social Survey Program (ISSP), Comparative Candidate Survey (CCS), Comparative Study of Electoral Systems (CSES), European Strategy Forum on Research Infrastructures (ESFRI), International Federation of Data Organizations (IFDO), and Survey of Health Aging and Retirement in Europe (SHARE).

FORS is funded by the SNSF on a four-year basis, and receives significant in-kind support from the University of Lausanne.

With currently five mostly part-time staff members employed in the archive (4,2 FTE) and another four mostly part-time staff members (3 FTE) within the Data Management Support group, there are sufficient staff resources to provide for our basic services. Nevertheless, we have been increasingly at capacity levels and were not able to meet all requests or expand our activities over the last years. In order to be able to guarantee high quality in the mid-term, an expansion of resources is needed. Possibilities for obtaining additional resources are under evaluation.

The FORS Data Service consists of data experts with professional backgrounds in various social science disciplines and appropriate advanced training. The FORS Data Service staff members attend conferences, workshops, and seminars, and participate in training on data management, metadata, long-term preservation, and other relevant domains to stay informed in this ever-evolving environment. The Head of the unit DARISS, which includes the FORS Data Service, represents Switzerland in the CESSDA Service Providers Forum.

Links:

- [FORS Charter of the foundation](#)
- [FORS Organisation Chart](#)
- [FORS Governance](#)

Reviews

Reviewer 1:

Compliance level:

The guideline has been fully implemented in the repository - 4

Comments:

Reviewer 2:

Compliance level:

The guideline has been fully implemented in the repository - 4

Comments:

R6 Expert guidance

The repository adopts mechanism(s) to secure ongoing expert guidance and feedback (either in-house, or external, including scientific guidance, if relevant).

Compliance level:

The guideline has been fully implemented in the repository - 4

Response:

Our technical in-house advisers consist of staff from the Infrastructure and Development Unit within FORS, with whom we closely collaborate and who remain responsible for all developments related to SWISSUbase (see R9, Documented storage procedures).

The Scientific Advisory Board provides expertise to both the Foundation Board and the Executive Board on all scientific and disciplinary matters connected with the activities of FORS and its data archive as well as overseeing its research activities. Regular assessment of the scientific quality of the products and services that FORS offers are also incumbent on this body. Also, beginning in 2022, members of the Scientific Advisory Board conduct each year on-site evaluations of different domains of FORS activities (e.g., the data archive in fall 2022).

In 2014 FORS was evaluated by the Swiss Science and Innovation Council. The internal report concluded that FORS has fully met the objectives set by the Secretariat for Education, Research and Innovation at the inception of FORS and that FORS and its data archive rendered invaluable service to the scientific community. It recommended to the Swiss Confederation that the sustainability of FORS and its data archive be guaranteed, since the principal tasks of FORS, among them the archiving of data, are in the public interest.

FORS releases regular bulletins to the designated community containing general news as well as lists of the new datasets in the repository. We also invite feedback within SWISSUbase, on our website, and by e-mail or telephone. This year we will conduct qualitative interviews with three types of populations as part of a 2022 user assessment among: non-depositors (researchers who submitted a project but did not share their data), data depositors (researchers who recently deposited data), and key stakeholders (representatives of disciplinary associations, heads of institutes, and other important

stakeholders).

With the transition to SWISSUbase, new structures are being established to optimise the exchange between different groups within FORS. Regular exchanges take place between the FORS Data Service and the Infrastructure and Development Unit. Regular exchange is also established with other DSU partners that work with SWISSUbase (including training, best practices, system improvements).

A support group within SWISSUbase provides training to DSUs in general on how to work with SWISSUbase, (e.g. archiving data and how to help researchers with the system). In the future, the support group will also create and publish written guidelines and recommendations on how to set up a DSU and other aspects of research data management that are not discipline-specific.

On the European level, the FORS Data Service is involved in different CESSDA projects to ensure regular exchange with regard to new technical solutions, training, widening activities, and specific needs (e.g. replication materials). The FORS Data Service thus benefits considerably from the expertise of CESSDA partner service providers.

Links:

- [Annual reports](#)

Reviews

Reviewer 1:

Compliance level:

The guideline has been fully implemented in the repository - 4

Comments:

Reviewer 2:

Compliance level:

The guideline has been fully implemented in the repository - 4

Comments:

Response Text: Accept FORS DS is well placed to receive guidance from its user community and the wider CESSDA network

Digital Object Management

R7 Data integrity and authenticity

The repository guarantees the integrity and authenticity of the data.

Compliance level:

The guideline has been fully implemented in the repository - 4

Response:

Datasets that are deposited in SWISSUbase are checked during the upload by the ClamAV anti-virus program. ClamAV performs an automatic, daily update.
Once an SIP is uploaded to SWISSUbase, a FORS Data Service team member performs routine quality assurance checks for completeness, integrity, and validation of the data files, the submitted documentation and metadata. If there are objections, the SIP goes back to the data depositor, who can then modify the SIP and re-submit. If everything is complete, we ingest and curate the dataset. The SIP contents, including metadata, are not modified by us at any time. We therefore always have the option of returning to the SIP state if something goes wrong during curation or if the colleague who does the final proofreading discovers an error that escaped the attention of the main person responsible.

In order to ensure the integrity of our digital holdings, checksums (SHA-1) are generated and integrated manually during the archiving process and distributed to the data users via the DIP. Automatic checks of the checksums in archival storage are included in the SWISSUbase development plan.

Our versioning strategy implemented in SWISSUbase automatically triggers new versions when the data, the documentation or metadata are changed. We distinguish between system versions, which change depending on whether a dataset is updated by a researcher or a curator. However, the official versioning is set manually. The latter consists of 3 digits and follows the general standards for the social sciences: The first digit changes when new data are added, the second digit changes when data are corrected, and the third digit changes when documentation or metadata are changed. Changes are documented in the field "version notes" and data users get a notification via email whenever a new version of a dataset they are currently working with is published.

SWISSUbase has implemented a system of persistent identifiers (DOIs) on dataset level, provided by DataCite (see also R13. Data discovery and identification).

SWISSUbase is geared towards self-archiving, hence the FORS Data Service rarely undertakes changes to the data files, but returns the dataset, where changes are indicated, to the data depositor (see R8. Appraisal and R12. Workflow). The communication with data depositors is documented. At this point it is not yet decided if the communication will be stored within the system or externally.

Data producers are interlinked with their respective institutions (in the metadata of the SIP). We maintain a record of where data originate (provenance) by assigning a reference number to each study/research project and dataset, which are both permanent and unique. Each data depositor has to be a registered and validated user within SWISSUbase (have an edu-address or validated manually for researchers from a foreign university) (see also R2. Licences).

Guidance and instructions on data integrity and authenticity are gathered in an internal document (workflow). (See also R12. Workflow)

The link below is expected to be released to the public in late 2023 / early 2024 and will describe the various integrity and authenticity measures implemented on the SWISSUbase infrastructure.

Links:

- [SWISSUbase infrastrucutre (integrity and authenticity)](#)

Reviews

Reviewer 1:

Compliance level:

The guideline has been fully implemented in the repository - 4

Comments:

Reviewer 2:

Compliance level:

The guideline has been fully implemented in the repository - 4

Comments:

R8 Appraisal

The repository accepts data and metadata based on defined criteria to ensure relevance and understandability for data users.

Compliance level:

The guideline has been fully implemented in the repository - 4

Response:

The principles and criteria by which the repository develops its data collection are indicated in our Acquisition Policy. It details the purpose and scope of the collection, the selection and appraisal criteria, formats, eligible depositors, and acquisition strategies. The Acquisition Policy is flexible and responds to future developments and shifting requirements (technology, scientific standards, thematic focus, etc.) that will influence the FORS Data Service data collections. Exceptions (deviations) to the policy are possible if they serve the overall goals of the organisation.

Data that would be a better fit at another institution (e.g. more suitable designated community, better access probabilities on a national or international level) as well as data with insufficient or poor-quality documentation, metadata, or data files can be refused or referred to another archive (if applicable).

SWISSUbase has a number of automatic checks for the metadata. Thus, a number of fields are mandatory, and it is not possible to submit a dataset if these are incomplete (the system generates an error message and lists the missing metadata).

Once submitted, we perform routine quality assurance checks on the data files, metadata, and documentation files of the SIP. The extensive metadata record created by depositors is checked for completeness and comprehensibility (see R7. Data integrity and authenticity and R11. Data quality). If our screening reveals major problems (disclosure risk, completeness, plausibility, etc.), the SIP is returned to the depositor with instructions on how to fulfil the standards and to deposit the SIP again. In case of minor problems, the metadata, and more rarely the data, are modified by the responsible archivist - in agreement with the data producer. We keep track of any decisions taken (see R7. Data integrity and authenticity).

Our preferred formats are communicated transparently in the Acquisition Policy as well as in our Guide "Preparing your data for deposit in SWISSUbase" (links below). We ask data depositors specifically to convert the data and documentation files into the formats listed, to ensure we can perform quality checks. Also, it is the responsibility of the depositors to check any transformations for defects. We can produce additional formats, but do not assume any responsibility.

Currently the formats for data files that we receive most commonly are SPSS, STATA, and MS Excel. These are also the dissemination formats most commonly requested by users (see R14. Data reuse).

There are no volume limitations at deposit-level. Social science data most rarely reach astronomical proportions - nevertheless, in order to have a provision for safety, we mention in our Acquisition Policy the possibility that volumes could theoretically exceed our processing capacity and that this could be a reason why we have to reject data. To the current date, however, this has never happened.

It is not part of our core tasks to archive non-distributable data; therefore - for now - we cannot accept them. If in the future we have sufficient resources available and there is an interest (because some parts of the data may be distributed), we might want to make such a commitment in individual cases. Since the topic of non-distributable data raises many general questions, we intend to form a workgroup to address this topic.

Links:

- [Deposit Guide: Long](#)
- [Overview resources for social sciences in SWISSUbase](#)
- [Acquisition policy](#)
- [Deposit Guide: Short](#)

Reviews

Reviewer 1:

Compliance level:

The guideline has been fully implemented in the repository - 4

Comments:

Reviewer 2:

Compliance level:

The guideline has been fully implemented in the repository - 4

Comments:

Response Text: Accept Really like the depositor guide

R9 Documented storage procedures

The repository applies documented processes and procedures in managing archival storage of the data.

Compliance level:

The guideline has been fully implemented in the repository - 4

Response:

The main principles of long-term preservation and storage facilities are outlined in our Preservation Policy (link below). Additionally, the workflow procedures are laid out in an internal guide that describes data management processes covering each step of the archiving of data from the submission of the data (SIP) by the researchers to its distribution (DIP).

We can provide insight into the current status to reviewers upon request. The workflow is currently only available in French (see also R12. Workflow).

The workflow, as it stands, is continuously updated, as SWISSUbase is still under constant development, and individual elements may change from one version to another. Additionally, hotfixes are often implemented between versions, which can also affect our workflow.Going forward, we plan to have a more static workflow document that will be updated at regular intervals.

Regarding the policy documents, they are fundamentally revised with the next CoreTrustSeal certification in mind, so every 3 years. Minor updates in between are possible as needed.

The SWISSUbase operational system and backups are located in separate data centres in different cities, and the data centres individually follow standard physical safety protocols based on its security management system (ISMS) in accordance with ISO/IEC 27001. The separate locations allow for the recovery of the holdings in case of an incident. Daily backups are stored for 30 days, and monthly backups are stored for 1 year (see also R15. Technical infrastructure and R16. Security).

A MD5 hash is automatically calculated for every file, and it is stored in the database; however, we do not have an automation process yet that executes integrity checks on the backups or a clear process what would happen in the case of a corrupt file. This is something that is considered for the 2023 roadmap.

Links:

- [Preservation policy](#)
- [SWITCH engines](#)

Reviews

Reviewer 1:

Compliance level:

The guideline has been fully implemented in the repository - 4

Comments:

Reviewer 2:

Compliance level:

The guideline has been fully implemented in the repository - 4

Comments:

R10 Preservation plan

The repository assumes responsibility for long-term preservation and manages this function in a planned and documented way.

Compliance level:

The guideline has been fully implemented in the repository - 4

Response:

The deposit contract highlights the responsibilities and the rights of the FORS Data Service and the data producer (see R2. Licences). The transfer of custody of data is clearly marked in the system since the data can only be deposited if the deposit and user contracts are accepted by the data depositor. The institution (represented by the researcher/data depositor) maintains the copyright on the deposited data as well as on the corresponding documentation. FORS has the rights to copy, transform, and store the items, as well as to provide access as indicated in the deposit contract (see R2. Licences).

Our approach to preservation is outlined in detail in our Preservation Policy.

The FORS Data Service has adopted a migration-based approach to digital preservation. We migrate file formats that have come close to obsolescence to new file formats that are more sustainable and guarantee future usability. We do not currently have an automated process to regularly check formats, but we have plans to move in this direction. Currently, we rely on user feedback to identify any issues and we also monitor developments in common formats.

The potential risk of information loss is mitigated by testing of migration pathways and validation of migrated files. This process has been successfully tested during the migration of all FORSbase data into SWISSUbase.

The FORS Data Service migrates files where needed, but will always maintain the original manifestation of the data and all subsequently generated manifestations of the original files. In this case, we adhere to the principle of reversibility: being able to revert to an earlier version of a digital file after migration. We also fully document the migration process in the form of a detailed migration history as part of the metadata associated with the data file. Currently we do not generate additional preservation formats. We are in the process of developing a new tool which will allow us to create .csv files. At the time of writing, it is not possible to say when this solution will be deployed. In general we store data without limit in preservation time.

Links:

- [Preservation policy](#)

Reviews

Reviewer 1:

Compliance level:

The guideline has been fully implemented in the repository - 4

Comments:

Reviewer 2:

Compliance level:

The guideline has been fully implemented in the repository - 4

Comments:

R11 Data quality

The repository has appropriate expertise to address technical data and metadata quality and ensures that sufficient information is available for end users to make quality- related evaluations.

Compliance level:

The guideline has been fully implemented in the repository - 4

Response:

Data depositors are instructed on how to document and prepare their data before submitting them. Completeness and quality of data and metadata are assessed in the pre-ingest phase if possible, as well as in the ingest phase to guarantee that the data are fully interpretable. We perform routine checks for completeness and quality (see R8. Appraisal, R7. Data Integrity and authenticity and R12. Workflows).

There are a number of mandatory metadata fields in SWISSUbase (title, language, authors, principal investigator,data type, time method, media, access conditions, begin/end date of data collection, period concerned, mode of data collection, collection instruments, universe, analysis unit, available documentation, anonymization, etc.) and a field for remarks about the documentation to ensure metadata completeness. In the course of cataloguing and indexing (including CESSDA topic classification) we enhance the metadata, if necessary. Our metadata standard is DDI Codebook 2.5 compliant.

Researchers are required to only deposit data that meet the legal requirements for Switzerland in which the confidentiality of respondents is adequately protected.

Currently only the depositors of data and the staff of the FORS Data Service have the option of commenting on the quality of the metadata or data in SWISSUbase, but not other members of the designated community.

SWISSUbase also provides fields for citing publications, unpublished documents, and secondary analyses based on the specific data to be archived and published.

Links:

- [Deposit Guide: Long](#)
- [Overview resources for social sciences in SWISSUbase](#)
- [SWISSUbase](#)
- [SWISSUbase User Guide](#)
- [Deposit Guide: Short](#)

Reviews

Reviewer 1:

Compliance level:

The guideline has been fully implemented in the repository - 4

Comments:

Reviewer 2:

Compliance level:

The guideline has been fully implemented in the repository - 4

Comments:

R12 Workflows

Archiving takes place according to defined workflows from ingest to dissemination.

Compliance level:

The guideline has been fully implemented in the repository - 4

Response:

The workflow for the FORS Data Service is generally described in our Preservation Policy (link below), which is publicly available on our website and is described in more detail in an internal document with each step of archival data transformation throughout the process. It is oriented towards the OAIS reference model. The FORS Data Service has added the content and activities of the pre-ingest function to the original OAIS framework in order to ensure the quality of the data and determine problematic issues, such as confidentiality, prior to the official deposit. The pre-ingest function includes solicitation of data as well as guidance and technical support for data producers wishing to deposit data.

For now, we do not have any technical/automatic controls in place with regard to guarding the privacy of subjects. We do spot checks; however, we explicitly decline any responsibility for the compliance of the data to Swiss law. Researchers accept responsibility by accepting the deposit agreement that the data are collected in compliance with the law and are sufficiently treated to protect participants, or that there is explicit consent to share the data in non-anonymized form. In case of the latter, we ask for a copy of the consent form used.

For the time being, we do not have a different treatment in our workflow based on anonymisation status. For sensitive data in general, we recommend restricting access; e.g. using the option of prior agreement (see also R2. Licenses).

The workflow document is also an important aspect to guarantee successful training of new employees. Other training materials include the new Data Archiving Guide by CESSDA, and staff sometimes participate in events for Service Providers provided by the CESSDA Training Program.

Considering many changes over the last months, our workflow is a very "living document", and adjustments are continuously made while SWISSUbase is implementing new features. It is planned to implement a more standardised versioning process and to keep track of changing workflows.

We can provide insight into the current status to CTS reviewers upon request.

The workflow is currently only available in French.

Links:

- [Preservation policy](#)
- [Acquisition policy](#)

Reviews

Reviewer 1:

Compliance level:

The guideline has been fully implemented in the repository - 4

Comments:

Reviewer 2:

Compliance level:

The guideline has been fully implemented in the repository - 4

Comments:

R13 Data discovery and identification

The repository enables users to discover the data and refer to them in a persistent way through proper citation.

Compliance level:

The guideline has been fully implemented in the repository - 4

Response:

The FORS Data Service provides its main search facilities for the discovery and download of research information and data through the SWISSUbase online platform and catalogue, which combines a research inventory with the actual data catalogue. French, German, and English searches are supported by the system. Search is performed on Study title, Study reference number, Dataset title, Dataset reference number, Institution name, and Study abstract. Additionally there are filters in place for Scientific domain, Study language, Discipline, Country, and Funding institution. It is possible to

filter for studies with dataset(s). More filters and improvement of the search functions will be added during 2022.

SWISSUbase is also listed in the Registry of Research Data Repositories re3data.

Harvesting options are a high priority in the development for SWISSUbase; harvesting for the CESSDA catalogue is expected to be implemented during 2022 (OAI-PMH technology, which is used by CESSDA harvester). CESSDA is a common European social science data archive catalogue that is also harvested by others.

The default data citations are generated automatically by SWISSUbase based on the metadata record. Depositors can modify the standard citation as to title, authors (sequence, etc.), and institutions. The data citations are created on the level of the dataset, and are recorded in the catalogue and the user contract. The user contract commits users to cite the data as recommended. However, it is currently not possible to export citations - we are aware that users might wish to have this option and intend to implement it in the future.

Each study, dataset, and file is assigned a reference number that is permanent and unique in SWISSUbase.

SWISSUbase provides persistent identifiers (DOIs) for all datasets following best practices by DataCite. Each time a version of a dataset is published, a new DOI is assigned to facilitate long-term traceability. Each DOI assigned to a version of a dataset remains active, meaning that the page is accessible and the metadata are visible, but only the data from the latest published version can be downloaded directly via the catalogue. Access to old versions is guaranteed via the FORS Data Service.

A tombstone page is expected to be implemented during 2022: When a dataset has been withdrawn from the catalogue, the DOI remains active, but points to a tombstone page indicating that the dataset has been withdrawn.

Links:

- [CESSDA datacatalogue](#)
- [SWISSUbase](#)
- [Example for citation](#)

Reviews

Reviewer 1:

Compliance level:

The guideline has been fully implemented in the repository - 4

Comments:

Response Text: Accept I would actually give a higher ranking for this one You have some things to implement but those are not the base requirements For this category you need to have data that is discoverable through PIDs and citations both of which you have Exportable metadata and improved search functions are great but not part of that requirement

Reviewer 2:

Compliance level:

The guideline has been fully implemented in the repository - 4

Comments:

R14 Data reuse

The repository enables reuse of the data over time, ensuring that appropriate metadata are available to support the understanding and use of the data.

Compliance level:

The guideline has been fully implemented in the repository - 4

Response:

Data depositors create an extensive metadata record in SWISSUbase while establishing an entry; this information is visible to final users. The current metadata standard is DDI Codebook 2.5 compliant, and exceeds the Dublin core metadata. In addition, we use the CESSDA topic classification, a typology of main themes or subjects of data, part of the CESSDA Controlled Vocabulary. Currently, it is not possible for users to download the metadata themselves, and we might implement this function in the future (see also R11. Data quality and R15. Technical infrastructure).

The most commonly used formats for quantitative tabular data which are the de facto standard for our designated community are SPSS, STATA, and MS Excel. The most commonly used formats for documentation are PDF and MS Excel. Currently we do not have a standardised process to add additional

formats. When we get feedback that users request different formats for a specific dataset, we can provide these via email (SWITCH file sender with password) and/or update the dataset and add additional formats to the DIP (see also R8. Appraisal and R10. Preservation Plan).

We additionally use De Visu (based on Nada - Open Source) to showcase particular datasets, which allows researchers to search for specific variables. De Visu primarily fulfils the function of a showcase - unlike its predecessor (Nesstar), it is not possible to perform analysis functions.

Links:

- [Devisu](#)
- [Nada](#)
- [Metadata example](#)
- [CESSDA topic classification](#)

Reviews

Reviewer 1:

Compliance level:

The guideline has been fully implemented in the repository - 4

Comments:

Reviewer 2:

Compliance level:

The guideline has been fully implemented in the repository - 4

Comments:

Technology

R15 Technical infrastructure

The repository functions on well-supported operating systems and other core infrastructural software and is using hardware and software technologies appropriate to the services it provides to its Designated Community.

Compliance level:

The repository is in the implementation phase - 3

Response:

The FORS Data Service's most important tool is SWISSUbase, an OAIS compliant web application with functional DDI imports and exports. In order to guarantee all major services, SWISSUbase relies on SWITCHengines, which assures a stable, secure and efficient functioning of the platform. SWITCH assures that the e-infrastructure, networking resources and services are carefully managed in accordance with best practices and technological standards.

SWITCH is well-established in Switzerland. SWITCH was founded in 1987 under private law by the Swiss Confederation and the eight university cantons that existed at the time.

SWISSUbase is running on a Windows server hosted by SWITCH datacenter located in Zürich. Backups are stored in a different SWITCH datacenter in Lausanne, more than 200 km apart to protect against different worst case scenarios (see also R16. Security).

Storage:
At the start of SWISSUbase, it had a 150 TB flatrate with the option to upscale. SWITCH currently has a maximum spare capacity of 2PB (2 Petabytes), with a daily upload-limit of 100TB; an increase would be possible if needed.

Bandwidth:
SWITCHengines is connected at 100 Gbps, with individual hypervisors at minimum 10 Gbps. However, it is a shared infrastructure and virtualized so the customer should not expect line speed. For our current designated community the bandwidth is adequate - we do not have very large data files, and social sciences in general use simple formats. Users might be limited by the network they are using.
There are no special preferences to cater to at this point, but we monitor the trends carefully and will react if the needs change.

Service Monitoring:
SWITCH is working towards "zero downtime" and currently achieves 99.95% accessibility. Details for accessibility, maintenance windows, and response

times in general are defined in the service level agreement.

Worst case:

SWISSUbase has no failover/replication system. However, in case of a total system failure, SWISSUbase can be restored by using a backup-copy (see also R9. Documented storage procedures).

Transfer:

In case of an emergency situation (e.g. end of funding), we are technically able to export the entire archive and hand it over to another institution without loss of data.

Future Plans:

SWISSUbase is continuously evolving, with new features and improvements planned for 2022 and beyond. Further developments, in addition to those in the current roadmap, will depend on the evolving needs of the partner organisations.

Future improvements are planned for security, compliance with GDPR regulations, knowledge graphs for data discovery, machine actionable data management plans, and artificial intelligence.

A central aspect for SWISSUbase in the short-term will be the link to other tools and infrastructures (e.g. CESSDA catalogue) to ensure data harvesting and interoperability on the national and international levels.

The technical documentation for SWISSUbase is expected by the end of 2022.

Links:

- [CESSDA working groups](#)
- [SWITCH engines](#)
- [SWISSUbase](#)

Reviews

Reviewer 1:

Compliance level:

The repository is in the implementation phase - 3

Comments:

Reviewer 2:

Compliance level:

The repository is in the implementation phase - 3

Comments:

R16 Security

The technical infrastructure of the repository provides for protection of the facility and its data, products, services, and users.

Compliance level:

The guideline has been fully implemented in the repository - 4

Response:

SWITCH ensures that the e-infrastructure, networking resources, and services are carefully managed in accordance with best practices and technological standards. A Foundation Council of 40 members consisting of authorities from the federal government, the cantons, universities and education policy authorities guarantee stability and innovative services. SWITCH complies with all the relevant provisions of the GDPR as a data processor. In particular, section 7 of the service regulations contains the essential components of a data processing addendum in accordance with the GDPR. Supplementary provisions can be found in the relevant "service regulations".

An ISMS in accordance with ISO 27001 is currently being established and applied to SWITCHengines, but is not yet certified.

Role based access control:

- Different roles and organisational aspects involved in the operation of SWITCHengines and their responsibilities are defined. Based on these responsibilities, basic access is granted to systems. Users are onboarded based on their eduID (WebSSO) and their Lightweight Directory Access Protocol information provisioned centrally in SWITCH. Privileged access is granted via a further approvals process by the team leader operating the infrastructure.

Encryption at rest and in transit.
- All interfaces within SWITCHengines are https REST APIs. Encrypted data storage is not offered by SWITCHengines. This is the responsibility of the user. Secrets (e.g., access credentials, passwords) are encrypted.

Data backup schedule:
- Three daily backups of SWITCHengines configurations are retained, and the historical backups are automatically trimmed nightly. All components of OpenStack are stateless. State is maintained in the MariaDB Galera cluster. The first node of the cluster is backed up automatically daily using automysqlbackup to one of the two other servers in the cluster to allow for a rapid rebuild.
- SWISSUbase is responsible for backing up the data for long-term storage. Remote region storage and snapshotting mechanisms are available to enable this. SWISSUbase stores backups daily for 30 days and one monthly for one year.

Additional security provided by SWICH:
- Vulnerability management (regular penetration testing)
- Self-assessment, workshops and port scanning
- SWITCHengines is supported by SWITCHcert: SWITCHcert carries out the systematic collection of information on threats and advises SWITCHengines of live operational security issues and general mitigation.

Physical security (data centre access, surveillance):
- Access to SWITCH offices and the datacentres is restricted to authorised persons.
- Access rights are reviewed when roles change.
- Additionally, in Lausanne and for object storage in Zurich, equipment placed in individual SWITCH racks in shared areas requires a key to access.

Data breach policy and incident response:
Infrastructure security ensures that action is taken on SWITCHengines based on identified incidents. An incident response procedure has been defined. The SWITCHengines terms of use allow for a compromised or infected host of a customer to be immediately suspended.

Natural disaster & datacenter building protection for ZHDK (Server location in Zurich) and UNIL (Server location in Lausanne):
Relevant procedures are in place in cases of fire or heat in general (e.g. smoke detectors, fire suppression system, temperature monitoring, cooling units, measurements against water entry/damage etc). SWITCH is responsible for maintaining these measurements and taking adequate action in case of an incidence.

Water:
- The server room in ZHDK is in the basement of a building, with entries at street level. Should the area around the building flood, then the server room would presumably flood as well. Directly upriver from Zurich, the Sihl has limited buffering capacity. Furthermore, there is a large dammed lake further upriver along the Sihl, next to Einsiedeln. Should that dam be breached, large parts of Zurich would experience catastrophic flooding.
- The datacenter in Lausanne is located in the basement of the building. There are no direct entries from outside at street level to the area where SWITCHengines racks are located. Should the area around the building flood, then the server room would presumably flood as well. However there is no specific natural flood risk identified for this location.

Earthquake:
- According to the Swiss Seismological Service, Zurich has a lower earthquake risk than other population centres in Switzerland. However the part of Zurich where ZHDK is located sits on a floodplain. In the SSS's effects map, this area is marked as having elevated risk of damage to buildings due to the subsoil. The building was completed in the last decade. We do not have specific information on its earthquake resistance.
- According to the Swiss Seismological Service, Lausanne has a higher earthquake risk than other population centres in Switzerland, but much lower than high risk areas like Basel and Wallis. We do not have specific information on the building's earthquake resistance. However it was opened in 2013, which indicates that it would have been completed according to the appropriate building codes for this level of risk.

In order to level out any possible constraints regarding the locations, the operational system and the backups are located at a distance of 200 km.

Safety measures at the workplace:
- The work computers of the FORS Data Service are located in offices with electronic access control (UNIL Campus Card, Link below). The access code must be updated weekly. Only FORS employees and cleaning staff of the university have access to the offices.
- The computers are secured with a personal password, which needs to be changed regularly. The FORS Data Service employees have individual access accounts for SWISSUbase, also based on the edu-ID system. Basic recommendations on security for remote access are subject of the FORS HomeOffice contracts for all staff members who work remotely for part of their time.

Links:

- [SWITCH service regulations](#)
- [SWITCH Dienstleistungsbeschrieb](#)
- [SWITCH security report](#)
- [Earthquake situation Switzerland](#)
- [UNIL campuscard](#)

Reviews

Reviewer 1:

Compliance level:

The guideline has been fully implemented in the repository - 4

Comments:

Reviewer 2:

Compliance level:

The guideline has been fully implemented in the repository - 4

Comments:

Applicant Feedback

R17 Applicant Feedback

We welcome feedback on the CoreTrustSeal Requirements and the Certification procedure.

Compliance level:

The guideline has been fully implemented in the repository - 4

Response:

1) Common formatting options, along with the ability to view changes in the text, would be highly beneficial.
2) The ability to reply directly to comments made by reviewers could prove quite useful.
3) It would be convenient to have the option to modify links at a later time, including their names.
4) Organizing already entered links alphabetically by name would be a helpful feature.

Links:

Reviews

Reviewer 1:

Compliance level:

The guideline has been fully implemented in the repository - 4

Comments:

Excellent application!

Reviewer 2:

Compliance level:

The guideline has been fully implemented in the repository - 4

Comments:

I recommend recertification. Thank you for providing additional links to public documentation supporting each section.