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Program 2017-2020 P-5
"Scientific information:
Access, processing and safeguarding"

Implementation strategy 2017 to 2020

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Impressum

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1. Foreword

In April 2014, what was then the Swiss University Conference (SUC) approved our funding program's national strategy at the request of the Rectors' Conference of the Swiss Universities (CRUS). This strategy focuses on the objective of "Combining efforts to manage scientific information". To supplement this, the "White Paper for a Swiss Information Provisioning and Processing Infrastructure 2020" formed the basis for submitting and evaluating project applications. The "Scientific information: Access, processing and safeguarding" program set up a wide range of services on this strategic basis by mid-2016, laying the foundations for a new approach to the IT and libraries service landscape at Swiss universities.

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A further CHF 30 million will be available to the program in the funding period from 2017 to 2020 in the form of project-related contributions. Over the next four years, the funded services available at a national level aim to create a service network that is coordinated from a central location. With this objective in mind, the Steering Committee and Program Management has reviewed and updated the White Paper's implementation actions for the funding period from 2017 to 2020. The main concern over the next few years is to enhance the program's impact and to demonstrate its benefits in a quantifiable way. New general implementation actions for targeted development of service components are therefore being recommended. The implementation actions in the four key areas of focus – publications, eScience, basis, and services – were adapted to reflect the latest developments and feedback from various stakeholder groups. In the follow-up phase, the funding is intended to

1. enhance the established services;
2. facilitate new projects to expand the service network;
3. form a stable organization for coordinating the service network.

This document records the results of the decision on where to coordinate services. In addition to the project application for 2017 to 2020, it also forms the substantive basis for funding applications and thus supersedes the White Paper in this regard. The "Project application guidelines" and "Project application form" have been adjusted accordingly. [1]

In its second funding period, the program finds itself in a changed university policy landscape: The SUC no longer exists, as the Swiss University Conference has become the highest-ranking body for higher education policy since the new Higher Education Act (HEdA) came into force in January 2015. At the same time, the CRUS became a part of the joint rectors' conference of all universities, "swissuniversities". All provisions of the HEdA shall apply from January 2017 onwards.

The program's systemic importance was confirmed by a preliminary evaluation in early 2015 and accepted across the board due to the competitive edge it brings at an international level, the additional control information it generates, and the increased social need. The program was deemed to play a significant role in terms of higher education policy across Switzerland in accordance with Art. 59 of the HEdA. It is intended to promote the establishment of competence centers and to enable portfolio streamlining in the medium term. We hope that the new overarching policy guidelines will support the program's impact-oriented approach and contribute to its success.

The Steering Committee

1 All documents are available on the program websites: http://www.swissuniversities.ch/isci.

2. Background

In the funding period from 2013 to 2016, the "Scientific information: Access, processing and safeguarding" program (SUC P-2) created an initial portfolio of services that will make up the core of a future service network. The service network aims to combine library, IT, and scientific IT services to form the basis for Science 2.0 and Open Science, which will be available to all Swiss universities.

In the first funding period, the White Paper and package of implementation actions in the four key areas of focus – publications, eScience, basis, and services – defined the basis for project applications.[2] The following diagram summarizes the contents of the key areas of focus and lists the funded services that will form the core of the future service network:

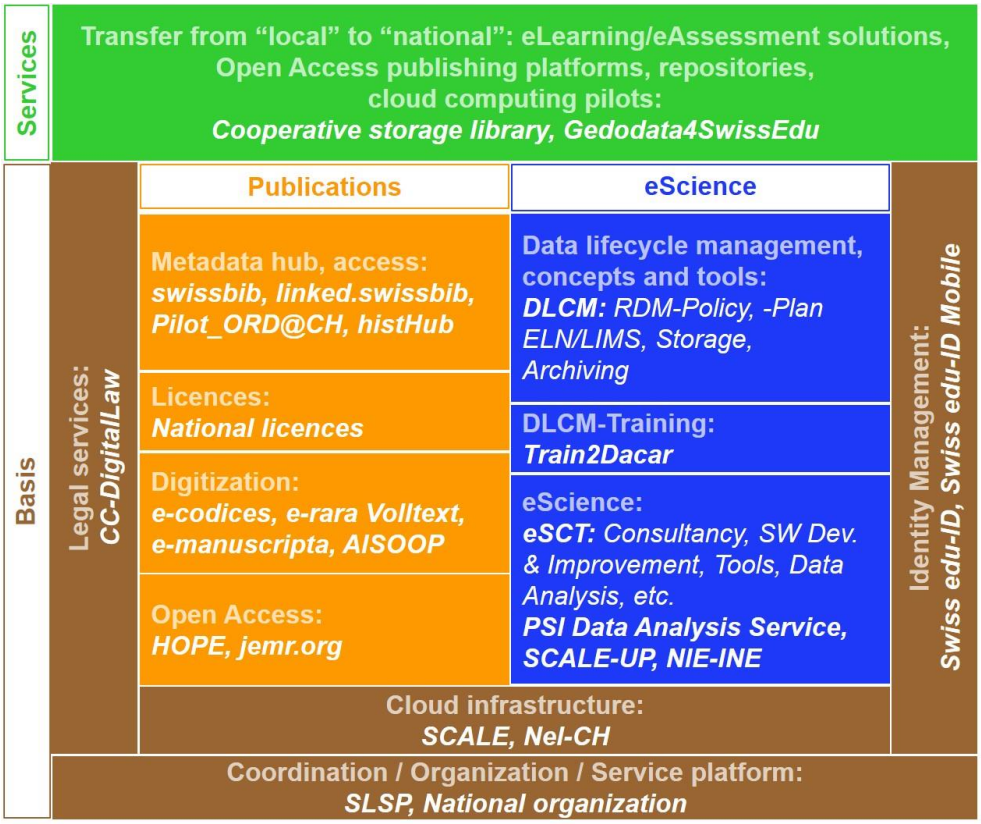

Figure: Key areas of focus, contents, and services set up

The graphic shows that there is a broad range of services that are currently being or have already been set up within the strategic framework. The gaps have been identified and are minor, although the depth of implementation varies between the different areas. For example, very little money was initially requested for Open Access. Nor has it so far been possible to produce successful projects for the development of joint eLearning infrastructures. Developing viable business models has also proved a major challenge. Among other things, this requires increased awareness of the services available at universities and proof of the benefits that the funded projects bring in concrete terms.

For the second phase of the program from 2017 to 2020, the implementation actions were analyzed and adapted against the backdrop of the services that had already been set up and against current developments. The four key areas of focus remain the substantive

2 White Paper for a Swiss Information Provisioning and Processing Infrastructure 2020 (2014), chapter 5, Implementation.

framework for the funding. General actions that are defined in addition to these are intended to ensure that services pursue the program's guiding principles as described in the national strategy.[3] They aim to contribute to creating a service strategy and to devising performance indicators. At the same time, the Program Management will be stepping up its efforts to professionalize and market the services at program level.

The Steering Committee can also issue specific briefs to bridge any gaps in the portfolio and enhance the service network.

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3. Limitations to content

3.1. Introductory note

The "Scientific information" program provides start-up funding for cooperative services across different universities from providers of library, IT, and scientific IT services. Furthermore, the service providers are willing and able to develop sustainable business models and to support the services in the longer term after the project comes to an end.

3.2. Expanding and enhancing services

In 2014, the program's national strategy defined the following general principles for the services that were to be set up:[4]

- The services **can be used throughout Switzerland**. They are available to all organizations thanks to interfaces and common standards. (…).
- Shared services will enable **cost optimization**. Existing services will be used wherever possible. If necessary, these services will be expanded in order to provide a national service.
- Services can be provided centrally or using a decentralized system. A **central governance** defines the interfaces and standards and guarantees compliance with legal constraints.
- The services align with national and international **standards** and best practices. (…)
- Services cover the whole **life cycle** of scientific information – from when it is first generated to the moment it is archived.
- The **sustainability** of services is of vital importance.

Several implementation actions already aimed to fulfill these principles during the funding period from 2013 to 2016, for instance improving the interoperability of repositories and digitization platforms and opening up eLearning platforms to other participants, and bearing the additional costs that these incur.[5] This approach was pursued further in the "Adapted digitization strategy".[6] Chapter 4 suggests universally applicable actions for enhancing services, for which applications can be submitted in the funding period from 2017 to 2020.

3.3. Four key areas of focus

The technical framework for the funding is made up of the program's key areas of focus, which stem from the logical architecture of the intended information and service infrastructure:[7]

1. **Publications:** Extending licenses and funding digitization and open access aim to create a basic range of scientific publications in electronic form.

3 National strategy (2014), chapter 2.2, Vision and Mission.
4 National strategy (2014), chapter 2.2, Vision and Mission.
5 White Paper, chapter 5.3, implementation actions EP-6/EL-2 and EL-3.
6 The key area of focus: publications, implementation action EP-10; digitization: adapted strategy and implementation actions (2014).
7 National strategy (2014), chapter 1.2, Four key areas of focus.

2. **eScience:** Standardized processes for accessing research data and standards for processing and archiving are to be established across institutional borders.
3. **Basis:** Basic technical and organizational measures are required to implement the program. Cloud infrastructures and a service platform are required among other things.
4. **Services:** Existing local services such as repositories, publication platforms, and eLearning tools are to be expanded into national services.

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Chapters 5 to 8 list the revised implementation actions for which applications can be submitted in the funding period from 2017 to 2020. At the same time, the actions in the 2014 White Paper have been adapted in line with the current state of the program. Any actions implemented in the meantime have been omitted; other actions have been revised in line with the current level of service development and with changes to the program as a whole.

Applications that relate to a specific specialist discipline can only receive funding if they also add value to other disciplines, e.g.:

- Results are transferable to other disciplines / environments;
- Generally valid findings may be derived from them;
- The project can help form structures for other disciplines;
- The project is exemplary in character.

3.4. New areas of development

The "Scientific information" program is rooted in a dynamic area of development. This requires a continuous dialog about the suitability of the recommended implementation actions. The Program Management and members of the Steering Committee are on hand as points of contact to discuss additional suggestions for implementation actions.

4. Implementation actions for expanding and enhancing services

Providers of existing services that form part of the program's technical framework can put in requests for projects that address the following, universally applicable implementation actions.

These services do not have to have been funded by the program already in order to be eligible to apply.

No.	Implementation action
G-1	Opening up an existing service to other participants (including international participants): Service provider investment costs For instance, funding is available for: • Needs analyses or market analyses • Devising a business plan • Developing a business model • Creating technical conditions for launching the service • Clarifying the legal bases • Implementing a billing process • Marketing • (This list is not exhaustive)
G-2	Introduction as a participant in a service available nationally (and internationally) New participant investment costs
G-3	Combining existing services into a joint solution that is open to participants
G-4	Developing or expanding organizations that run a national service

	For instance, funding is available for: • Branching into other areas of activity • Administrative support • (This list is not exhaustive)
G-5	Testing the quality of a service (e.g. by means of user analyses or an investigation into usability) or improving a service based on a quality inspection (also by third parties)
G-6	Further developing and expanding a service For instance, funding is available for: • Adding on new functions • Introducing national or international standards or best practices • Introducing technical interfaces to improve interoperability • (This list is not exhaustive)
G-7	Pilot projects that make use of the services that have been set up
G-8	Pilot projects for solutions open to participants in new requirements areas
G-9	Expanding training modules (by third parties too)

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5. Implementation actions in the key area of focus: Publications

5.1. Joint purchase of content by means of licenses and open access

The national licensing program has gained permission to make use of the 2014 contribution allocated to purchasing licenses in 2016 and beyond. This should boost the negotiating powers of the Consortium of Swiss Academic Libraries. The actions for the new funding period are intended to further consolidate the Consortium's position and help develop open access business models.

No.	Implementation action
P-1	Stabilize the Consortium of Swiss Academic Libraries: Strengthening the organization for jointly purchasing content (e.g. licenses with regard to open access and open access memberships)
P-2	Developing joint funds for contributions to publishing costs, memberships of OA publishers, and participation in disciplinary OA consortia or similar

5.2. Funding open access publication models and infrastructures

Swissuniversities plans to adopt a national strategy for open access across Swiss universities in 2017. The actions are intended to support the implementation of this strategy.

No.	Implementation action
P-3	Data provision and collection for monitoring open access
P-4	Converting publications owned by universities, scientific societies, etc. to an open access model
P-5	Improving the quality of open access publications (e.g. compatibility with the DOAJ or being listed in indexing services) (The contributions are only awarded once. The publications must propose a convincing business model.)

P-6	Start-up contributions to open access journals or platforms. (The contributions are only awarded once. The publications must propose a convincing business model.)
P-7	Opening up and improving the quality of repositories (e.g. interoperability, usability)
P-8	Developing joint open access publishing platforms (e.g. based on an open journal system) as a national service
P-9	Collective participation in international open access infrastructures (e.g. ORCID, SHERPA/RoMEO, or DOAJ)
P-10	Drawing up an action plan for the swissuniversities open access strategy under the aegis of swissuniversities
P-11	Projects that help propel the swissuniversities national open access strategy in the agreed direction.

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5.3. Digitization

The "Adapted strategy" of 2015 remains the basis for submitting applications relating to digitization. Applications take the strategy paper's basic principles into account.[8]

No.	Implementation action
EP-10a	Projects to enable the technology for opening up or developing existing platforms, e.g.: • Opening them up to include different types of digital objects; • Decoupling IT components; • Expanding a multi-client-capable infrastructure; • Uniting existing platforms; • Ensuring long-term operation • (This list is not exhaustive)
EP-10b	Projects for quality assurance and to promote interoperability: • Safeguarding technical standards in the digitization process; • The provision of standardized, complete metadata; • A stable addressing system; • Ensuring long-term preservation and archiving; • Clarification of user rights; • Providing open, standardized user interfaces.
EP-10c	Projects to integrate further partners in an existing platform or to expand the client base, e.g.: • Developing business models • Project costs to set up digitization projects for new partners or clients (the costs for retro-digitization and data preservation must be brought by the applicant as own resources). • (This list is not exhaustive.)
EP-10d	Preliminary project (feasibility study) for a competence center to offer advice, coordination, and initial support for digitization
EP-10e	Study to set up a fund for retro-digitization: proposal for how to proceed

8 See also: the key area of focus: Publications, implementation action EP-10, digitization: adapted strategy and implementation actions (the document can be found on the program website).

5.4. Search solutions/metadata hubs

No.	Implementation action
P-12	Cooperative projects for providing and improving the quality of standardized metadata and authority data
P-13	Metadata hubs/search solutions for scientific publications and research data

6. Implementation actions in the key area of focus: eScience

No.	Implementation action
R-1	Expanding established, local solutions in research data management, data analysis, and data evaluation that fulfill the concepts previously devised as part of the Data Life-Cycle Management project (DLCM)
R-2	Developing and expanding advice and support centers for research data management and eScience
R-3	Providing training modules for research data management and eScience
R-4	Providing research data as open data

7. Implementation actions in the key area of focus: Basis

7.1. Identity Management

No.	Implementation action
B-1	Universities' implementation projects for connecting the local IAM to the Swiss edu-ID
B-2	The development of systems that allow for the authentication and authorization of non-web resources via the interface to the Swiss edu-ID
B-3	Applications for linking community identifiers (such as ORCID) with identity management

7.2. Copyright and data law

Projects must be coordinated with the CCDigitalLaw project.

No.	Implementation action
B-4	The establishment of competence centers for copyright and authors' rights, as well as rights to data and open access

7.3. Cloud Infrastructure

No.	Implementation action
B-5	The development of cloud services on a national level (service description, SLA, Marketing, advisory board). However, the infrastructure costs must be paid by the service users (business case).

B-6	Cooperative integration projects that involve aspects of cloud computing and propose or implement solutions. The subject areas include access management, reporting, charging, legal solutions, hybrid cloud, and integration into international e-infrastructures.

8. Implementation actions in the key area of focus: Services

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No.	Implementation action
S-1	Services that support cooperation (collaborative functions) and the reuse of research data
S-2	The ongoing development (investment costs) of cooperative, interoperable eLearning solutions that will not be subject to competition from commercial solutions in the foreseeable future
S-3	The expansion of local e-learning services to create services open to participants
S-4	Additional costs (investment costs) of solutions of this kind

9. National Organization

The proposed permanent organization should be a streamlined coordination center. It keeps a service catalog, monitors compliance with agreements, defines guidelines and interfaces, and coordinates how funding is used.

The structures currently available are not sufficient to include decentralized services in a joint service network (which brings cost benefits but also raises difficulties in differentiating services). There needs to be a place where the resulting difficulties can be bundled and solved. Establishing a national organization will play a key role in streamlining the portfolio in the long term.

The basic characteristics of a national organization were drawn up in the 2013 White Paper and further developed in the project application for 2017 to 2020.[9] An external service provider was brought in in the fourth quarter of 2016 to help develop the operating model. It supports the Program Management in drafting a participatory process on behalf of the Steering Committee and moderates the process. It also aims to take into account any legal constraints, the position of the new organization in relation to the funding organizations and the relevant service landscape at Swiss universities. The needs of the various stakeholders must be assessed and the options discussed. A well-founded implementation plan for the ERI dispatch for 2021 to 2024 should be available by late 2018.

Setting up the national organization comes hand in hand with developing a service platform containing the service catalog and offering access to the services being supported. The Program Management is responsible for implementation.

9 See also: the White Paper (2014), chapter 4.7, and the project application (2016), chapter 7.2.6.