

Project applications of the seventh call for proposals (February 2017)

Total number of applications: 9, list sorted by key area of focus, project ID.

Key area of focus	Main implementation action	Project ID	Project short title	Project full title Link to the abstract further below	Leading institution	Partner institution(s)	Contact (linked to e-mail address)	Total cost, funding [kCHF]
-	G-6	172-002	Swiss PLN	Swiss Private LOCKSS Network → Abstract	ETH-Bibliothek	UNIBAS, UniGE, UZH	Pascalia Boutsiouci	1'831.98 896.62 48.94% Rejected
Publications	P-6	171-009	Science Matters	A journal Platform for Publishing Single Observations in Science → Abstract	UZH	ScienceMatters AG	Beth Krasna	1'424 712 50% Rejected
Publications	P-7	171-008	SONAR	SONAR – Swiss Open Access Repository → Abstract	RERO	HES-SO, HTW Chur, USI	Miguel Moreira	987 543.73 55.1% Rejected
Publications	P-13	171-007	Swissbib	Swissbib – Schweizer Metakatalog → Abstract	UNIBAS	-	André Gollietz	654.39 599.39 91.6% Approved (reduction = 100.00)
Publications	P-13	171-004	CH Kunst online	Schweizer Kunst online: Neues SIKART Lexikon und Recherchenportal → Abstract	SIK-ISEA	-	Matthias Oberli	209 100 48% Rejected

Key area of focus	Main implementation action	Project ID	Project short title	Project full title Link to the abstract further below	Leading institution	Partner institution(s)	Contact (linked to e-mail address)	Total cost, funding [kCHF]
eScience	R-1	171-001	Universe's Big Data	Scrutinizing the Universe through big data → Abstract	UniGE	ETHZ, UniGE, EPFL, IBM research	Roland Walter	3'020.92 1'114.79 37% Rejected
eScience	R-1	171-006	CDCl+	Common Data Centre Infrastructure as a Service → Abstract	UniGE	EPFL, UZH	Stephane Paltani	4'870.5 1'775.5 36% Rejected
Basis	B-4	171-005	CCDigitalLaw – Phase II	Competence Center in Digital Law – Phase II → Abstract	USI, UNIBAS	UniGE, UNINE, KUB, UNISG	Stefano Tardini	1'534.38 789.5 51.5% Rejected (operational allowance = 200.00)
Services	S-3	171-003	Swiss MOOC Service	Swiss MOOC Service → Abstract	EPFL	ETHZ, HES-SO, USI, SUPSI	Patrick Jermann	1'544.39 760.29 49.3% Approved

Abstracts

Swiss PLN (171-002)

Swiss Private LOCKSS Network

Wissenschaftliches Arbeiten und Forschung kann nur dann verlässlich erfolgen, wenn auch der Zugriff auf elektronische Publikationen auf lange Sicht gesehen, jederzeit einwandfrei und ohne Unterbrechungen funktioniert. Im Projekt Nationallizenzen wurden verschiedene Backfile-Archive namhafter internationaler Verlage erworben, die der gesamten wissenschaftlichen Community der Schweiz und interessierten Privatpersonen mit ständigem Wohnsitz in der Schweiz kostenlos und dauerhaft zur Verfügung stehen.

Um die langfristige und kontinuierliche Verfügbarkeit bei Unterbrechungen des normalen Betriebs oder im Falle von Abonnementskündigungen (post cancellation access) sicherzustellen, ist die Unabhängigkeit von den Verlagsservern, ihrer technischen Infrastrukturen und auch von weiteren Diensten erforderlich. Eine erste Absicherung ist durch die Nationallizenz mit Portico für die nächsten 10 Jahre bis zum Jahr 2026 erfolgt.

Der Aufbau eines Swiss Private LOCKSS Networks (Swiss PLN) ermöglicht aber darüber hinaus die lokale Archivierung der Daten mit einer geographisch redundanten Verteilung an sechs bis sieben Schweizer Standorten. Dies bietet den Vorteil einer nationalen und nachhaltigen Infrastruktur mit voller Kontrolle über alle vorhandenen Inhalte, die über 10, 20 oder noch mehr Jahre hinaus erhalten bleiben kann. In Ergänzung zu Portico kann gleichzeitig die Abdeckung lizenzierter Titel durch mindestens eines der Systeme, Portico oder LOCKSS, erhöht werden. Zusätzliche Vorteile eines Swiss Private LOCKSS Networks liegen in der erweiterten Nutzung der Infrastruktur und des Systems, die sich nicht allein auf Verlagsinhalte, wie E-Journals und E-Books, beschränkt.

Ein wichtiges Ziel innerhalb des Projektes ist die Erarbeitung einer nationalen Hosting-Strategie und gemeinsamer Standards für digitale Inhalte der Schweizer Hochschulbibliotheken.

Nicht zuletzt nimmt die Schweiz mit dem Aufbau und Betrieb eines Swiss Private LOCKSS Networks auf dem Gebiet der digitalen Langzeitarchivierung und Verfügbarkeit von Daten eine Vorreiterrolle auf europäischer Ebene ein.

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ScienceMatters (171-009)

A journal Platform for Publishing Single Observations in Science

There is a serious crisis in current models of science publishing: **Irreproducibility, non-communication and blocked access** of scientific data. One of the important reasons for this crisis is the pressure and demand for full story-based, positive scientific studies to be considered for publication in most of the journals. The agony and the anxiety to get the studies in limited space in these journals combined with the unfair incentives of a "Publish or Perish" culture breed dishonesty that gives rise to irreproducibility in science. During this tortuous process, many scientific observations remain unpublished either because of the inability to develop them into the "stories" including negative data, confirmatory data or observations that are not "sexy" enough. Estimates are that less than 1% of researchers publish more than one paper a year. This suggests that most of the scientific observations made with taxpayers' funds are never communicated to find place in scholarly space. We would like to change this fundamentally.

We have created **ScienceMatters**, a radically innovative way of allowing scientists to publish single observations and develop their scientific observations into full narratives in real time. Scientists can publish single and robustly validated observations, be it orphan, negative, confirmatory, contradicting after the observations are vetted through triple-blind peer-review. Also by engaging the society, the platform has the possibility a one-stop source for rapid dissemination of honest and scientifically valid observations. In this framework of Swissuniversities' SUK-P2, we are seeking support a) to **expand our platform** beyond the natural sciences that is currently used for, for example to social sciences and humanities and b) to **establish**

a **“Reproducibility Matters” platform** to publish data that either confirm or contradict previously published findings thereby providing a platform exclusively for research that addresses reproducibility. All observations are linked and can be visualized to enable an internet of peer-reviewed science stemming from single observations as nodes with linked edges that mark, either the extensions, contradictions or confirmations of data thereby enabling the natural emergence of the honest scientific narrative.

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SONAR (171-008)

SONAR – Swiss Open Access Repository

This project proposes to set up a Swiss Open Access Repository "SONAR", whose primary goal is to collect, promote and preserve open access scholarly publications by authors affiliated with Swiss public research institutions. This central repository operates as an aggregator, drawing content and metadata from existing platforms and institutional repositories (IR). In parallel, direct depositing of content by authors, or their representatives, is also possible.

Alongside the national repository, SONAR also offers autonomous IR solutions as outsourced service for interested Swiss institutions of higher education ("Institutional Repository as a Service").

The project intends to lay the groundwork for maximizing the coverage rate of open access publications by Swiss institutional repositories, with an exploratory approach. This is done by exploring the use of automated procedures for tracking down and collecting from external sources, such as international subject repositories, the largest possible number of publications that, while possessing an open access status, are either not registered as such in existing institutional repositories, or their full-text has not been deposited. SONAR can then feed those publications back to the corresponding institutions, complementing and reinforcing existing Swiss repositories.

Content dissemination is also an important component of the proposed solution. Given that institutional repositories, where publications are deposited, are not the only location for searching publications, the creation of a national open access repository should concentrate its effort on interoperability, data import/export and content exposure with regard to external platforms and global search engines. It is expected that through an interaction between SONAR and other scholarly content sources, researchers should be able to make their publications highly visible, citable and openly accessible in the long term, with the least possible effort.

Another focus of the project is data normalization and analysis, with the planned creation of a database of entities such as authors, publishers, journals, research institutions, funding agencies, research projects/grants and patents (the "SONAR data hub"). Text mining procedures should be investigated for extracting relevant information from the content of publications. By collecting and normalizing such data in a central database, it will be possible to later develop value-added services based on data analysis techniques, such as monitoring the implementation of open access, or other aspects of Swiss research activity in general.

SONAR builds on an existing service: RERO DOC, which is a multi-institutional repository operated since 2004 by RERO, the Library Network of Western Switzerland. This new development is meant to extend its range of services and its institutional coverage.

The proposed project is strongly in line with the action items included in the recent Swiss open access strategy commissioned by the Confederation through swissuniversities and the Swiss National Science Foundation, namely in the areas of resource coordination and pooling, as well as national monitoring. It also presents a high potential of collaboration with both existing services and ongoing projects in the framework of the program "Scientific information: Access, processing and safeguarding".

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Swissbib (171-007)

Swissbib – Schweizer Metakatalog

swissbib ist die Metadatenplattform der Schweizer Bibliotheken und seit 2010 in Betrieb. Sie umfasst 25 Millionen Titel aus mehr als 960 Institutionen und wird pro Monat von über 90'000 Benutzern besucht. swissbib ist eine Dienstleistung der Universitätsbibliothek Basel und wurde von 2008 bis 2013 im Rahmen des Projektes e-lib.ch entwickelt. Seit 2014 werden der Betrieb und die Weiterentwicklung von swissbib im Rahmen des Programms SUK-P2 von swissuniversities gefördert. Diese Förderung endet Mitte 2017.

Im Januar 2017 haben die Verantwortlichen der Projekte Swiss Library Service Platform (SLSP) und swissbib vereinbart, dass das Projekt swissbib ab Beginn der Umsetzungsphase von SLSP (voraussichtlich ab März 2018) organisatorisch, personell und finanziell in den Betrieb von SLSP integriert wird. Die hierfür notwendigen finanziellen und personellen Ressourcen werden im Rahmen des im Jahr 2017 einzureichenden Projektantrages für die Umsetzungsphase von SLSP (2018-20) beim Programm P-5 (als Nachfolgeprogramm zu SUK P-2) zur Förderung eingereicht (siehe Kooperationsvereinbarung SLSP – swissbib vom 3. Januar 2017, Punkt 5).

Der vorliegende Projektantrag dient dem Zweck, den Betrieb und weiteren Ausbaus der Metadatenplattform swissbib ab Ende der bisherigen Förderung durch das Programm P-5 (30. Juni 2017) bis zur organisatorischen, personellen und finanzielle Integration in SLSP im März 2018 zu finanzieren.

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CH Kunst online (171-004)

Schweizer Kunst online: Neues SIKART Lexikon und Rechenportal

Das Schweizerische Institut für Kunstwissenschaft (SIK-ISEA) ist ein kunstwissenschaftliches und kunsttechnologisches Kompetenzzentrum, das gemäss Art 16 des Forschungsgesetzes in den Bereichen Forschung, Dokumentation und Wissensvermittlung zum historischen und aktuellen Kunstschaffen in der Schweiz tätig ist. Dazu gehören auch diverse Onlineangebote von SIK-ISEA wie SIKART Lexikon, elektronische Werkverzeichnisse und online publizierte Archivalien etc. Diese im Lauf der Zeit gewachsenen Online-Inhalte und -Strukturen von SIK-ISEA sollen modernisiert und vereinheitlicht werden. Hauptziel ist eine optimierte Suche in sämtlichen Online-Beständen von SIK-ISEA durch ein Rechercheportal und ein Neuauftritt von SIKART. Mit „My SIK-ISEA“ wird das Institut zudem eine Infrastruktur für die Bearbeitung und Speicherung von Dokumenten und Resultaten (Portfolio- und Sharing-Funktionen, Annotationsmöglichkeiten in Dokumenten etc.) etablieren. Dadurch wird ein nachhaltiges und gemeinsames Arbeiten mit digitalen Inhalten möglich (z.B. für Bereiche wie e-learning, kollaborative Forschung oder virtuelle Ausstellungen) und es wird eine langfristige Nutzerbindung an die Online-Inhalte von SIK-ISEA erreicht.

In seiner Funktion als Dokumentationszentrum und Informationsdrehscheibe zur Schweizer Kunst wird SIK-ISEA zudem seine Online-Inhalte als wissenschaftlich fundierte Normdaten anderen Anbietern wie Museen, Archiven, Bibliotheken, Universitäten und Online-Nachschlagewerken als Linked Open Data (LOD) zur Verfügung stellen. Gleichzeitig sollen in den Suchabfragen bei SIK-ISEA externe Daten aus Online-Sammlungen und –Katalogen miteinbezogen werden. Dadurch erhalten die Nutzer ein Optimum an Informationen und die einzelnen Institutionen weitere Visibilität ihrer Bestände.

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Universe's Big Data (171-001)

Scrutinizing the Universe through big data

The data volume and computing power necessary to operate the upcoming astrophysics projects will increase by a factor of 100 in the next decade. When Moore's law is taken into account, the data handling complexity will increase by a factor of 10. Astrophysicists are entering in the big data era and their needs will exceed these of the Large Hadron Collider by 2025. Swiss scientists involved in these new endeavors

need to change their business model from using computing facilities available locally to big data and High Performance Computing (HPC) infrastructures to be developed and operated at the national and international scale.

The primary objective of this project is to move the data and the processing of current and future experiments requiring big data in the field of astrophysics and astro-particle physics to the Swiss National Supercomputing Centre (CSCS) and to further adapt/develop its infrastructure beyond the usual HPC requirements, to match the needs of a community driven by big data analysis. As many astrophysics projects have similar requirements in term of infrastructure, operating a centralized solution at national level, which can be federated with international partners, is realistic and cost effective. CSCS is already working with other scientific communities delivering and analyzing large amount of data, like the NCCR Marvel for the design and discovery of novel materials, CHIPP for the analysis of the data from the LHC or PSI to manage the data from the Swiss X-ray Free-Electron source.

Astronomy has a long tradition in data preservation and archiving. The OAIS standard (see P-2's DLCM) was invented for astronomy space mission at NASA and has been used in Switzerland since 1995 in the frame of the INTEGRAL gamma-ray astrophysics mission. Starting from the immediate needs of current experiments and the upcoming Cherenkov Telescope Array (CTA), this project will create a framework that will support additional major astronomical projects with important Swiss involvements such as the Square Kilometer Array (SKA).

The project is pragmatic and will have an immediate impact on the DAMPE, POLAR and FACT experiments, which are in operation and on CTA, which will start generating data in 2018. The project will further develop the environment deployed at CSCS to better support scientific experiments in astronomy. This generic project is expected to leverage synergies across all user communities. The project also aims at facilitating the transfer of responsibility for long-term storage of the data from experiments to archive centers. It will eventually help to profile Switzerland as a safe haven for the data and knowledge of worldwide scientific experiments. These goals are of direct interest to Swiss scientists. Finally, it will consolidate and further develop the collaboration on scientific computing between the Swiss academic institutions.

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CDCI+ (171-006)

Common Data Center Infrastructure as a service

We propose to set up a Swiss-wide Common Data Centre Infrastructure as a Service (CDCI+) for storage, processing, dissemination and long-term preservation of research data in a range of science domains related to space / sky and Earth observations (and extendable to further branches of science). The infrastructure will combine the expertise of the University of Geneva in the management of space data (currently operational science data centers for INTEGRAL and GAIA space missions, Data and Analysis Centre for Exoplanets DACE), the expertise of the University of Zurich in the the Earth Observations data (ARES project) with the ICT expertise of EPFL and of previous SUC P-2 program projects to address the challenge of data life cycle management for on-going and future projects carried by researchers from different universities across Switzerland. The primary focus at the first stage of the project will be to federate the existing data lifecycle management activities for a range of projects in space and Earth observations domains with the goal to set up a scalable common IaaS for all projects (project goal #1). The multi-project data management infrastructure will create added value to the data by favoring its massive reuse through the tools for combination of data of different instruments in the context of multimessenger data analysis (project goal #2). It will also provide a coherent framework for the long-term preservation of research data and (most importantly) of the full data analysis software systems (project goal #3), of advancing the culture of open data and reproducible research by linking data sets and data analysis pipelines to publications and adding publication-based semantic layer for the data sets and data analysis pipelines (project goal #4). The long-term goal of the CDCI+ will be to evolve into a more general "Science" Common Data Centre IaaS to serve research communities, which face the challenges of longterm preservations of research data together with complex data analysis software systems, of providing open access to the data and of assuring reproducibility of research results.

The CDCI+ will provide open access to research data within the implementation action R-5. The computing model of CDCI+ will incorporate on-demand increase of computing power through the cloud infrastructure managed by SWITCH (SUC P-2 SCALE-UP project) using the dedicated middleware platform, the implementation action G-7. The project will extend local solution for data management at UNIGE to create Swiss wide and world-wide service implementing the SUC P-2 DLCM project concepts for particular use cases, within the implementation action R-1. It will enable re-use of research data, implementing the action S-1.

The proposal is based on the project "Common Data Centre Infrastructure (CDCI) for astronomy, astroparticle, physics and cosmology" which was proposed and included to the 2017-2020 revision of the Swiss Roadmap for Research Infrastructures and has obtained the highest ranking in the review process.

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CCDigitalLaw – Phase II (171-005)

Competence Center in Digital Law – Phase II

This project is the extension of the project "Competence Center in Digital Law". The 1st project phase focused on the setup of the Center, that is on defining its legal entity, developing a suitable business plan/model, designing the centers services, implementing a digital platform as main access point to all services, and creating a network of legal experts. Content-wise, the first project phase concentrated on copyright: different kind of materials have been developed in order to guide users in finding the correct answer to their questions about copyright issues (FAQs), to deepen relevant aspects (knowledge base), and to train themselves (Case Studies).

The center needs now an extensive test phase in order to evaluate the business plan, the online platform and the operational activities. Furthermore, additional resources and training activities have to be developed to extend the already existing offer to new topics, namely privacy & data protection, transparency, license agreements including terms and conditions, and to some topics within copyright law, that have not yet been covered (e.g. Open Access, Creative Commons, etc.).

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Swiss MOOC Service (171-003)

Swiss MOOC Service

We propose the creation of a Swiss MOOC Service that supports Swiss institutions of higher education in addressing the challenges posed by the "digital revolution" in the field of education. The challenges include the globalisation of the campus (distributing courses to high numbers of participants from all over the world), the abstraction of the computing infrastructure through cloud-based services, the increasing use of data to adapt the learning environment (learning analytics, etc.) and the use of video-based material to transform in-class experience. Besides that, integration of MOOCs and especially SPOCs in regular curricula is a matter of time in Swiss higher educational institutions. Therefore, it is obvious that online exams up to the level of high-stake exams need to be supported by the Swiss MOOC Service as well.

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