

## Project applications of the second call for proposals (August 2014)

Total number of applications: 15; list sorted by key area of focus, main implementation action (sequence corresponding to the White Paper), 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)	Decision
Publications	EP-1	142-005	National-lizenzen	Nationallizenzen → <a href="#">Abstract</a>	ETH-Bib	Consortium of Swiss Academic Libraries	<a href="#">Rafael Ball</a> (since 01.03.2015)	Approved
Publications	EP-2	142-008	SYMPHONY	Swiss System for Monitoring bibliographic data and Holistic publication behavior analysis: Requirements Analysis → <a href="#">Abstract</a>	HTW Chur	--	<a href="#">Urs Dahinden</a>	Approved
Publications	EP-8	142-001	Swiss-SCOAP3	Participation de la Suisse au projet international de publication en accès libre en physique des particules (SCOAP3) → <a href="#">Abstract</a>	UniGE	Consortium of Swiss Academic Libraries	<a href="#">Jean-Blaise Claivaz</a>	Rejected
Publications	EP-12	142-015	SLOAT	Swiss Linked Open Art Thesaurus → <a href="#">Abstract</a>	UniZH, Institute of Art History	UniZH-S3IT; ETHZ-gta; SIK-ISEA	<a href="#">Tristan Weddigen</a>	Rejected
eScience	DM-2	142-004	Data Analysis Service	Data analysis infrastructure for the multi-disciplinary users of PSI large scale facilities → <a href="#">Abstract</a>	PSI	ETHZ	<a href="#">Stephan Egli</a>	Approved
eScience	DM-4	142-011	eSCT	eScience Coordination Team → <a href="#">Abstract</a>	UniZH	EPFL; ETHZ; UniBS; SIB; FMI; HES-SO/GE	<a href="#">Sergio Maffioletti</a>	Approved
eScience	DM-5	142-002	Train 2 Dacar	Train the Trainer for Data Curation in Advanced Research → <a href="#">Abstract</a>	HES-SO/ GE	HTW Chur	<a href="#">René Schneider</a>	Approved
Basis	EP-3	142-009	DICE+	Network of Competence & Training in Legal Issues for Digital Contents → <a href="#">Abstract</a>	USI	UniGE; HES-SO/ GE; FFHS; UniNE; UniL; UniBS-UB	<a href="#">Stefano Tardini</a>	Rejected, pre-project

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)	Decision
Basis	CC-2	142-013	Nel-CH	National e-Infrastructure link for Switzerland → <a href="#">Abstract</a>	UniBE	CSCS; PSI; UniBE; UniGE; UniZH; SwiNG	<a href="#">Sigve Haug</a>	Approved
Services	WE-6	142-003	S5	Swiss Scientific Software Suite and Service → <a href="#">Abstract</a>	SIB	UniBS; ETHZ; UniZH; SIB-Vital-IT	<a href="#">Heinz Stockinger</a>	Rejected
Services	EP-5	142-006	AV Medien für R&E	Virtuelle Arbeits- und Lernräume für die wissenschaftliche Forschung und Lehre mit audiovisuellen Informationsressourcen → <a href="#">Abstract</a>	HTW Chur	Memoriav; SWITCH	<a href="#">Edzard Schade</a>	Rejected
Services	EL-2	142-007	Geodata 4SwissEDU	Geodata for Swiss Education: nutzerfokussierter Service für das Auffinden, den Zugriff, die Präsentation, den Download und die Verarbeitung von Geoinformationen für Ausbildung und Forschung an den Schweizer Hochschulen und Fachhochschulen → <a href="#">Abstract</a>	ETH-Bib	ETH-IKG; HSR	<a href="#">Arlette Piguet</a>	Approved
Services	EL-2	142-012	BeAXi Service	BeAXi E-Assessment Service, Exam on iPad → <a href="#">Abstract</a>	UniBS	--	<a href="#">David Böhler</a>	Rejected
Services	n/a	142-010	MOOCIS	Swiss MOOC INFRASTRUCTURE → <a href="#">Abstract</a>	HES-SO e-learning center Cyberlearn	FFHS; UniZH	<a href="#">Anne-Dominique Salamin</a>	Rejected
Services	n/a	142-014	IRIS	IRIS: resource sharing for core facilities and labs → <a href="#">Abstract</a>	UniZH	ETHZ; EPFL; FMI; UniBS; UniBE	<a href="#">Peter Kunszt</a>	Rejected

## Abstracts

### Nationallizenzen (142-005)

Eine Grundvoraussetzung für erfolgreiche Forschung und Lehre ist die Versorgung der wissenschaftlichen Community mit digitalen Informationsinhalten. Dies trägt massgeblich zur Sicherung des internationalen Spitzenplatzes der Schweiz als Wissenschaftsstandort bei<sup>1</sup>. Das landesweite und nationale Angebot eines breiten Portfolios an frei zugänglicher wissenschaftlicher Literatur in elektronischer Form unterstützt die Ziele des Bundesrates und der BFI-Förderpolitik insofern, als ein nennenswerter Beitrag zur Stärkung der Wissensgesellschaft in der Schweiz geleistet wird.

Ziel des Projekts ist die landesweite Versorgung des Hochschul- und Forschungsplatzes Schweiz mit elektronischen Ressourcen anhand abgeschlossener Backfile-Archive von E-Journals, Datenbanken und E-Books. Ferner werden die beantragten Mittel eingesetzt, um die mit dem Kauf der Informationsinhalte gekoppelten Arbeitsbereiche Langzeitarchivierung, Öffentlichkeitsarbeit sowie Verwaltung und Statistik abzudecken. Mit dem Projekt wird ein breiter Nutzen gestiftet, der zum einen die gesamte wissenschaftliche Community der Schweiz umfasst und zum anderen positive Auswirkungen auf die Lizenzierung aktueller Inhalte (Current Content), die unmittelbare Verfügbarkeit der Dokumente, die Open Access-Regelungen sowie nationale und internationale Kooperationsvorhaben zeitigen wird.

### SYMPHONY Requirements Analysis (142-008)

#### *Swiss System for Monitoring bibliographic data and Holistic publication behavior analysis*

Open Access is widely regarded as a cornerstone of a modern, transparent, and effective scientific system. National scientific systems which foster and promote Open Access in the everyday scientific practice will increase the quality of scientific output, the dissemination of scientific knowledge into the society and promote interdisciplinary research. However, conventional systems and tools used to measure the quantity and quality of scientific output are biased against Open Access publications and other new forms of publication. They enforce a view on scientific communication which seems more and more antiquated and has become increasingly counterproductive because grants and careers in science are bound to those systems.

The study described in this application will pave the way for resolving this challenging and contradictory situation. It will address the need for new approaches in monitoring Swiss scientific publications by proposing several realistic and consistent solutions (scenarios) for a "Swiss System for Monitoring bibliographic data and Holistic publication behavior analysis" (SYMPHONY) that are able to solve the problems mentioned above.

These scenarios have to take into account the considerable heterogeneity of the Swiss science system. Therefore, the study starts with a stakeholder dialog (interviews) which involves 45 key players (research organizations and universities, funding agencies, policy makers etc.) on their current practice of measuring the quantity and quality of scientific output with a focus on publication monitoring (technical infrastructure, financial resources, organizational guidelines and processes) and their needs and requirements for a new and/or adapted infrastructure. Based on these interview findings, the project team will develop a limited number (3-5) of scenarios for an improved infrastructure with cost estimations and an assessment of their match with the stakeholders needs. The stakeholders can comment on these scenarios in the second phase of the stakeholder dialog (workshop). The feedback will then be integrated in a revised version of the scenarios that is complemented with recommendations for the next steps.

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<sup>1</sup> vgl. <http://www.admin.ch/opc/de/federal-gazette/2012/3099.pdf>, s. 3115

The project SYMPHONY: Requirements Analysis will provide the necessary, but currently lacking information on requirements for the current and future monitoring of scientific publications in Switzerland. Another positive side effect of the project will be an increase of bibliometric knowledge and competence that can be considered as a first step towards a Swiss Center for Bibliometrics at the HTW Chur. The results of SYMPHONY are vital for increasing the international visibility of Swiss research, removing the current bias in the evaluation of publication behavior and for supporting research organizations and policy makers in their efforts to analyze and evaluate research behavior as well as to measure the effects of new policies (e.g. the promotion of Open Access).

### Swiss-SCOAP3 (142-001)

*Participation de la Suisse au projet international de publication en accès libre en physique des particules (SCOAP3)*

Le projet international SCOAP3, lancé par le CERN, est une initiative extrêmement novatrice dans le domaine de l'Open Access qui vise à rendre l'accès libre et gratuit à tous les articles nouvellement publiés en physique des particules dans les revues scientifiques existantes et reconnues. Le principe est de payer aux éditeurs les frais d'édition des articles afin qu'ils les diffusent ensuite en accès libre. Démarré le 1er janvier 2014 avec une dizaine de titres de périodiques chez plusieurs éditeurs (Elsevier, Springer, IOP...), plus de 2000 articles sont déjà gratuitement disponibles sur le serveur du projet (<http://repo.scoap3.org>).

La Suisse a initialement manifesté son intérêt pour SCOAP3 via le *Swiss Institute of Particle Physics* (CHIPP), mais c'est la Commission des bibliothèques universitaires (CBU) qui s'est engagé pour la période 2014-2016 auprès du CERN. La participation financière de la Suisse s'élève à € 71'500, montant calculé pour chaque pays en fonction du nombre d'articles publiés en physique des particules par les auteurs des institutions du pays en question.

Actuellement, les bibliothèques universitaires suisses se répartissent ce montant en proportion du nombre d'abonnements aux revues de physique qu'elles disposaient en 2012. Cette méthode de répartition des coûts est pragmatique mais utilise des critères qui n'ont pas de rapports entre eux, à savoir les abonnements possédés par la bibliothèque d'une institution et les articles publiés par les physiciens.

Le projet Swiss-SCOAP3 se propose de définir une nouvelle clé plus cohérente de répartition des coûts entre les institutions universitaires et en établissant des conditions propices à son acceptation par tous les partenaires, même ceux pour qui cette clé serait moins favorable que la clé actuelle.

### SLOAT (142-015)

*Swiss Linked Open Art Thesaurus*

One of the great societal and scientific trends of the last decades consists in network-based storage and publishing and sharing of digital information. Accordingly, open access policies are increasingly sustained and demanded by universities, funding agencies and governments. Art history, as a discipline based on the study of visual artefacts, is heavily dependent on accessing, processing and safeguarding digital reproductions and the related metadata and is confronted with great methodological and technological challenges today. In the past two decades, not only the amount of visual and textual data related to art history has increased immensely in Switzerland, but equally the number of metadata vocabularies to describe visual artefacts. Several institutions have established similar metadata for key-wording art historical information. In this process, it has become clear to the major institutions involved in digital humanities that specific metadata vocabularies for art historical purposes are crucial for the sharing and online publishing of digital sources and research data. Recently, the leading institution in the field, The Getty Research Institute (GRI), started publishing its Vocabularies under open-access conditions and providing them as Linked Open Data (LOD). The GRI has been followed by the second most relevant vocabulary in the field, the Gemeinsame Normdatei (GND) of the German National Library. However, existing, open access vocabularies, including the above mentioned, either do not provide multilingual terms, or do not allow seamless integration of own content. Thus, they do not match the specific needs of Switzerland's multilingual

and decentralized research institutions and collections. The present proposal aims at developing a sustainable solution: the Swiss Linked Open Art Thesaurus (SLOAT). It will provide a multilingual, state-of-the-art vocabulary service based on LOD, specifically tailored to the needs of Switzerland's art-related research institutions and collections. It will include art historical terms, works of art, places, persons and corporate bodies and contribute to new international standards of metadata description in the field of art history. The service will be based on the vocabulary service of the existing Digitale Diathek and provide access to the most relevant vocabularies in the field, the Getty Vocabularies (AAT, CONA, TGN, ULAN) and the Gemeinsame Normdatei (GND) of the German National Library, which comprise several hundreds of thousands of subjects and terms. Likewise, it will allow own additions by local institutions (such as SIKART, the gta Archives and the GS-ETHZ) as well as translations of existing subjects in English, German, French, Italian or any language needed. A industry-grade, redundant server application providing the SLOAT services as LOD will be the outcome of the present project as well as the respective client application. Thus, any potential data repository will have open access to the SLOAT vocabulary service. In this way, Switzerland's art historical research infrastructure will reach an urgently needed new informational basis and contribute to the latest developments in the digital humanities. SLOAT will achieve these goals with a budget of CHF 466'000 (including subsidy funding of CHF 217'750) in 16 months, starting January 1, 2015.

### **Data Analysis Service (142-004)**

#### *Data analysis infrastructure for the multi-disciplinary users of PSI large scale facilities*

PSI develops, constructs and operates complex large-scale facilities, and every year more than 2000 guest scientists from Switzerland, as well as from around the world, come to PSI. PSI's large scale facilities support fields as varied as physics, chemistry, biology, material sciences, energy technology, environmental science, medical technology and cultural heritage. Applications are numerous, for example, crystallography can reveal the structures of viruses and proteins important for the development of new drugs; neutron scattering can identify stresses within engineering components such as turbine blades, and X-ray phase-contrast tomography can image microscopic details of the 3D-structure of the brain. Commercial users include the pharmaceutical, petrochemical and microelectronic industries. Beam time is allocated based on a peer-reviewed process with scientific excellence being the selection criterion. Recent developments, particularly in the field of X-ray detectors, yield unprecedented data quality, speed and sample throughput, thus allowing for new type of experiments including e.g. in-situ time-resolved applications.

Today, data are taken at PSI and then transferred to the users' home institutions for further analysis. With the new generation of detectors, producing data volumes in the Petabyte range, this model has severe limitations.

Therefore PSI aims to provide a new service to the scientists in form of a *data analysis center*.

The online analysis, providing an immediate feedback to users while data are recorded, is provided by PSI and regularly expanded. The proposed new infrastructure covers the following analysis steps. It allows storage and analysis of the experimental data directly after data taking and will allow to pursue subsequent offline data analysis on site and remotely from anywhere within Switzerland. This will result in more efficiently pursued scientific projects and reduces thereby the time to the publication of the data or will in some cases even be the factor that enables analysis and publication at all.

This infrastructure can be combined with other national or international services, particularly in the area of identity management, meta-data handling and generic e-science services. It can therefore be a crystallization point for a network of similar services at other institutes.

In a second phase of the present project, a co-location of storage and compute resources in an IT infrastructure commonly used within Switzerland will be evaluated, provided such services emerge within this program. In any case PSI is committed to provide this service in a sustainable manner.

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## eScience Coordination Team (142-011)

This proposal seeks to form a national coordination service that provided support for research computing in Switzerland. This will unite and enrich current expertise in support for computing in the scientific and research sector, and make this expertise available to a larger community through a sustainable operational model. Almost all scientific domains produce an increasingly large and complex amount of digital data. The term 'eScience' refers to activities in science that are related to the computation and storage, analysis and publication of data or to the simulation of scientific processes. The need to professionally support eScience is growing and scientists require access to professionally supported information technology (IT) platforms in order to be competitive.

Several research institutions in Switzerland have created dedicated eScience support units to provide expert support and access to competitive infrastructure for eScience research on topics including complex data management and flexible cloud computing resources. However, the support levels and services provided vary from institution to institution and many research institutions have no dedicated eScience support at all. This poses significant challenges on national collaborative research projects where data needs to be shared and exchanged across institutional boundaries.

The aim of this project is to create a sustainable national coordination layer on top of existing local eScience support units: the eScience Support Coordination Team (eSCT). The eSCT will become a national service to support computing in the research sector, coordinating and increasing the knowledge-base, quality, reach and impact of the already established local Swiss eScience support staff and motivating the creation of units at institutions that still lag behind. The project aims to increase and harmonise the quality of eScience support across the country, raising the overall national level of excellence and helping to ensure the continued competitiveness of Swiss science. The eSCT project develops a coordinated national network of experts.

## Train 2 Dacar (142-002)

### *Train the Trainer for Data Curation in Advanced Research*

Im Projekt sollen Trainingsmodule zum Forschungsdatenmanagement erstellt und an das entsprechende Zielpublikum vermittelt werden. Schwerpunkte sollen dabei der Gebrauch von Infrastrukturen und Repositorien, das Verwalten, Teilen und die Nachnutzung von Forschungsdaten, deren Publikation und Zitation, sowie die dadurch entstehenden Mehrwerte und schliesslich der Gebrauch von Infrastrukturen und Repositorien sein.

Konkret sollen zwei besondere Zielgruppen bedient werden: zum einen Studierende und Forscher, von denen aktuell oder in absehbarer Zukunft ein effizientes Datenmanagement verlangt wird, zum anderen Bibliothekare, die zukünftig als Datenkuratoren bzw. Datenbibliothekare agieren wollen. Für erstere sollen entsprechende Lernmodule, für letztere soll auch Lehrmodule im Sinne eines „Train the Trainer“ Programms bereitgestellt werden, das sie dazu befähigen, der ersten Zielgruppe (Studierende und Forscher) die Kernkompetenzen der Datenmodellierung, -publikation und -nachnutzung zu vermitteln.

Die Trainingsmodule sollen dabei über zwei verschiedene Instrumente vermittelt werden: einerseits über klassische Workshops, die theoretisches und praktisches Wissen an beide Zielgruppen weitergeben, andererseits über Module zum e-learning und ggfs. MOOC, die dem breiten Publikum der ersten Zielgruppe für ein Selbststudium sowie den Datenbibliothekaren als Lehrmodule für eine Weitergabe im Rahmen von institutionsinternen Kursen und Weiterbildungen zur Verfügung stehen.

Durch die Beschreitung dieser beiden unterschiedlichen Wege zur Wissensvermittlung soll gewährleistet werden, dass über die erste Zielgruppe ein möglichst breites Publikum erreicht wird und dieses auf unterschiedliche Möglichkeiten der Wissensaneignung zugreifen kann und darüber hinaus – über die zweite Zielgruppe – die entsprechenden Multiplikatoren für eine dauerhafte Weitergabe und ein Coaching im Bereich des Forschungsdatenmanagements geschult werden.

## **DICE+ (142-009)**

### *Network of Competence & Training in Legal Issues for Digital Contents*

The aim of the DICE+ project is to create a Network of Competence & Training that supports the Swiss HEIs community (teachers, researchers, librarians, IT staff, and others) in dealing with the most relevant legal issues they have to face in their professional activities. DICE+ will cover three legal domains, which are considered to be particularly relevant for academic and non-academic staff of Swiss HEIs: 1) Copyright and Legal Licenses in the digital domain; 2) Privacy & Data Protection and 3) Terms & Conditions. These legal topics will be applied to five different application areas: 1) eTeaching / eLearning; 2) MOOCs; 3) Cloud Computing / Social Media; 4) eScience (Research & Publication) and 5) Information Access, Digitalization & Archiving. Experts of each application area will define their legal needs and legal experts will then create materials. All materials will be created with the aim to make laws, rules and jurisdictions easily understandable and quickly applicable to people without legal background knowledge. Materials might be methodologies, guidelines, use cases or others.

The DICE+ Network of Competence & Training will then offer two main kinds of services: 1) a Helpdesk, both virtual and physical, from where all requests will be forwarded either to the physical helpdesks that are already available in some universities or to the experts that are part of the DICE+ Network; 2) Training activities, to be offered both online (webinars, online course, use cases, handbooks and other documentation, best practices, etc.) and offline (workshops in different Swiss HEIs). All the DICE+ services will be available through an Online Platform, which will thus serve as a unique access point to all materials, information, and tools of the Network.

The DICE+ project will build on the results gained from the DICE project (2009-2011; see: [www.diceproject.ch](http://www.diceproject.ch)), which created resources and offered training activities to teachers of Swiss HEIs in the field of copyright in education. DICE+ will expand the range of legal topics covered (not only copyright) and the range of fields to which they will be applied (not only eLearning). Furthermore the range of publics addressed will be extended to include not only teachers. 7 Swiss HEIs compose the DICE+ consortium. They bundle together two main areas of expertise: legal issues and eLearning services.

The DICE+ project involves the following activities: 1) development of contents and creation of resources and materials: materials regarding the 3 legal topics will be elaborated and applied to the 5 application fields; 2) Service Design & Business Plan: this includes the design of various support and training activities and the detailed elaboration of a Business Plan; 3) Design & Development of an Online Service Platform which will serve as single access point to all services offered by the network; 4) Networking & Promotion activities to create a network of legal experts and promote the DICE+ services 5) Launch, evaluation and fine-tuning of the Service.

## **Nel-CH (142-013)**

### *National e-Infrastructure link for Switzerland*

Nel-CH seeks to connect Swiss e-Infrastructure efforts to the EU-sponsored, Pan-European computing e-Infrastructures, EGI. The EU seeks to form a common European Research Area (ERA) to facilitate international research and increase European research competitiveness. EGI is an important element of this, a large-scale computational infrastructure and set of supporting technical and coordination services. Originally built out of the grid computing efforts connected to the LHC (Large Hadron Collider), EGI has expanded in scope, serving numerous communities from life sciences to digital cultural heritage. It also moved beyond 'grid' to focus on new technologies such as cloud computing and data management. EGI now offers a technology-neutral management, coordination and support platform to which different technologies can be connected. EGI provides the commodity-computing layer of the EU e-Infrastructure, working with other layers such as GEANT for networks and PRACE for supercomputing, and offering services to groups such as EUDAT and ESFRI clusters.

As Swiss researchers rely on these EU e-Infrastructures, SwiNG (Swiss National Grid Association) was founded with the support of the directors and rectors of its 18 member institutions in 2007 to represent Swiss

in this field and to be the required national partner for EGI. SwiNG has been supported by SERI, which provided funds to support SwiNG in 2010-2012 and directed funds to SUC for 2013-2016 according to the roadmap for research infrastructures.

EGI has evolved to support nearly all scientific domains but the physics community in Switzerland has still largely carried the burden of supporting EGI interaction. This puts the other research domains at disadvantage as their interests may not be represented and the physics community in Switzerland cannot sustain supporting other communities. In order to support this essential EU e-Infrastructure interaction for all research domains for truly national representation it is essential for national support as recognized in the SERI Roadmap for Research Infrastructures.

## S5 (142-003)

### *Swiss Scientific Software Suite and Service*

Scientists in Switzerland and beyond rely increasingly on computational tools and software in their scientific work. Taking the example of life and medical sciences, the analysis of the many types of complex data needs a large variety of software, which is provided by software developers all over the world. These expert software tools are often not easy to deploy and to configure, and specialized expertise is needed to make the software available to the scientists. Even if the software is “easy” to install and the data to be analysed are manageable, the scientist might have trouble to do the analysis on his or her local computer - because of missing dependencies, wrong versions, etc. Sharing data and processing with collaborators beyond or even inside the local research group can be an insurmountable task without expert support. Therefore, dedicated competence centres exist in Switzerland that independently maintain professional software distributions and have the necessary expertise, mandate and funding to support scientists and collaborate with them on research projects, enabling their competitive research.

The aim of the proposed project is to *establish a national service* that creates and maintains a *scientific software suite* (a set of well-managed scientific software packages) *and operates a software service* (i.e. deployment of the software suite, operation of the build and distribution service, scientific support incl. exchange with user communities and resource providers). In more detail, the goal is to combine the efforts of several Swiss competence centres to *standardise on the working environment for scientific software* serving researchers in Switzerland. The project also focuses on *making it easy for the individual resource providers to enable specific software for their users*. For example, researchers will then receive the same software environment at all partner sites in Switzerland, not only enabling collaborative research, but also providing access to a bigger selection of high-quality software in a well-tested and standardised environment. Such an environment is an essential prerequisite to provide Switzerland with a competitive advantage for scientific projects that require access to scientific software tools and data. Additionally, the project will provide the groundwork for the concept of “Software as a Service” that is used in various cloud efforts.

Many research projects have built complex workflows for data analysis, modelling and simulation based on then current heterogeneous local set-ups, on which they rely in their on-going research. *The project therefore has to address the challenge of implementing a seamless migration process and continuous operation of the scientific computing environments* while harmonising the scientific computing environments at Swiss universities.

Procedures and definitions established in this project will be valid for scientific software (e.g. in life sciences, chemistry, pharmacology, physics (molecular dynamics etc.), statistics etc.) used in a research computing centre in general. Additionally, a *specific software service* (incl. user support) will originally be operated for life science-related domains.

## **AV Medien für R&E (142-006)**

*Virtuelle Arbeits- und Lernräume für die wissenschaftliche Forschung und Lehre mit audiovisuellen Informationsressourcen*

Audiovisuelle Dokumente wie Videos, Ton, Fotos und andere Formen der Visualisierung und Vertonung (z.B. interaktive Grafiken) weisen ein hohes Informationspotenzial auf und gewinnen zunehmende Bedeutung in der Forschung. Bisher haben neun Forschungsinstitutionen einen grossen Bedarf für ein Informationssystem angemeldet, das den Zugriff auf audiovisuelle Ressourcen erleichtert und es erlaubt, mit diesen in Lehre und Forschung zu arbeiten.

Das Ziel des Projektes ist es, einen nationalen Dienst aufzubauen, der diesem Bedürfnis entgegen kommt. Das zu realisierende Informationssystem soll insbesondere: a) Das Auffinden von audiovisuellen Materialien unterschiedlicher Provenienz ermöglichen; b) Lehre und Forschung den Zugriff auch auf Materialien, die nicht öffentlich zugänglich sind, gewähren; c) virtuelle Arbeitsräume zur Verfügung stellen, in denen mit den Medien gearbeitet werden kann und schliesslich d) die Produkte dieser Lehr- und Forschungstätigkeit als educational resources zur Verfügung stellen.

Projektvorgehen: Vorgeschlagen wird ein zweistufiges Vorgehen: in einer ersten Phase (der vorliegende Antrag) wird die Bedarfsanalyse noch verfeinert und mögliche Systemarchitekturen abgeklärt. Das Produkt dieses Vorprojektes ist ein Detailkonzept für den Aufbau des angestrebten Dienstes ‚virtuelle Arbeits- und Lernräume für die wissenschaftliche Forschung und Lehre mit audiovisuellen Informationsressourcen‘. Die Realisierung derselben ist im Hauptprojekt vorgesehen, das im Sommer 2015 eingereicht werden soll.

## **Geodata4SwissEDU (142-007)**

*Geodata for Swiss Education: nutzerfokussierter Service für das Auffinden, den Zugriff, die Präsentation, den Download und die Verarbeitung von Geoinformationen für Ausbildung und Forschung an den Schweizer Hochschulen und Fachhochschulen*

Geodat4SwissEDU ist ein nutzerfokussierter Service für das Auffinden, den Zugriff, die Präsentation, den Download und die Verarbeitung von Geoinformationen für Ausbildung und Forschung an den Schweizer Hochschulen und Fachhochschulen. Aufbauend auf zwei bereits bestehenden Angeboten, GeoVITe des Instituts für Kartografie und Geoinformation (IKG) an der ETH Zürich und dem Kompetenzzentrum Geoinformation der Hochschule für Technik Rapperswil (HSR) schliesst der Service eine bisherige Lücke auf dem Gebiet der Geodaten-Forschung.

Im Rahmen des vorliegenden Projektes wird ein landesweites Angebot entwickelt, das nicht nur von Vertretern der Kartografie genutzt werden kann, sondern auch weitere Nutzerkreise Architektur, Bau, Umwelt und Geomatik oder Umwelt- und Erdwissenschaften anspricht. Zielgruppen sind Allgemeine Nutzer sowie GIS-Spezialisten (Power User).

Das Vorhaben wird in Zusammenarbeit des IKG, der HSR und der ETH-Bibliothek durchgeführt. Die Fachkompetenzen der drei Kooperationspartner ergänzen sich ideal.

Zentrale Aspekte und zu erreichende Projektziele sind hierbei ein erweitertes Geodatenangebot (nebst Daten der swisstopo werden auch ausgewählte kantonale und projektspezifische Geodaten integriert), die Implementierung einer skalierbaren technischen Infrastruktur sowie die Entwicklung von nutzerorientierten Geodatenmanagementfunktionalitäten. Ein adäquates im Rahmen des Projektes noch zu entwickelndes Betriebskonzept garantiert die Nachhaltigkeit von Geodat4SwissEDU.

## BeAXi Service (142-012)

### *BeAXi E-Assessment Service, Exam on iPad*

In der Schweiz ist vor allem eine Ressource knapp: Der Platz. Um einen PC-Raum nur für Prüfungen aufzubauen, sind grosse Investitionen nötig. Unsere Lösung baut auf Tablets auf, genauer gesagt auf dem iPad. Anfangs 2014 haben wir eine Applikation entwickelt und in den Sommerprüfungen erfolgreich eingesetzt. Hinter der Applikation steht eine Item-Datenbank mit Fragen-LifeCycle und Review-Prozess. Am Schluss kann die ganze Prüfung ausgewertet werden. Hierbei handelt es sich um eine professionelle Entwicklung mit einem Ressourceneinsatz von mehr als 20'000 Arbeitsstunden.

Der Einsatz der Tablets erlaubt die Durchführung der Prüfungen ohne Strom und ohne WLAN. Die Software ist innovativ und kann durch einfache Prozesse von jeder Institution eingesetzt werden. Die technologische Hürde, wie bei der Wartung von PC's und Windows-Deployment, entfällt.

Die Anschaffungskosten für ein iPad sind mit rund Fr. 400.- günstig. Bei einer Berechnung von 10 Rp. Pro Kopie, einem Prüfungsheft mit 20 Blättern und 50 Prüfungen (5 Studienjahre, 2x5 Module durch je eine Prüfung geprüft) pro Jahr ist das iPad nach 4 Jahren amortisiert.

Als Institution im öffentlichen Recht ist der Handlungsfreiraum im Marketing und Verkauf eingeschränkt. Aus diesem Grund wird die Lizenz an ein neu gegründetes Unternehmen übertragen, welches das Marketing und die Services rund um die Software übernimmt. Durch den externen Support wird die Kontinuität des Service gewährleistet.

In unserem Antrag geht es um das *Marketing* und die *Unterstützung von Schweizer Hochschulinstituten bei der Integration* der Software in ihre Prozesse. Die Software ist fertig entwickelt und voll einsatzfähig.

## MOOCIS (142-010)

### *Swiss MOOC INFRASTRUCTURE*

The Massive Open Online Courses (quoted in this document as MOOCs) constitute the new tendency in the e-learning field. Aiming at delivering free online courses massively, sometimes even awarding credits, by taking advantage of rich media resources and new assessment methods, this type of course offers global access to academic knowledge to a world-wide range of students, during given periods.

Well-known universities such as Stanford, Harvard, EPFL, University of Geneva, French universities, etc.

have published with much success their own MOOCs on various platforms (Coursera, edX, Udacity, etc.). In the future, it is expected that this tendency will become more important, not only because MOOCs offer a new opportunity for both universities and students, but also because the standard LMS (Learning Management System) currently used by universities to teach in a blended learning approach (Moodle, Ilias etc.) are not yet designed to host and manage the innovative aspects of MOOCs (automation, peer grading, etc.).

This fragmentation undermines the consistency of the Swiss educational offer and makes it difficult to disseminate interesting MOOCs within our students' community (in Switzerland or abroad).

*The project MOOCIS proposes to develop a multilingual Swiss Portal, providing a unique Swiss MOOCs showcase, by aggregating and displaying MOOCs developed by Swiss universities. Additionally, the project will develop a quality system to evaluate MOOCs before their acceptance on MOOCIS, to ensure a high-quality level pedagogy for the MOOCs.*

Currently, increasingly more MOOCs versions are provided against a fee in order to acquire course credits, on condition that the tests are passed successfully and delivered by the actual university who launched the class. *MOOCIS therefore will provide a method for quantifying its MOOCs with credits, as part of the ETCS grading system.*

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**IRIS: resource mgmt. (142-014)**

*IRIS: resource sharing for core facilities and labs*

With the technologies (instrumentation, expertise, etc.) required to perform and support all aspects of research becoming increasingly sophisticated and subsequently more resource intensive, it becomes increasingly important to share these resources. In addition, the trend is that research is increasingly interdisciplinary and interconnected and often spanning multiple research groups as well as institutions, further necessitating the need to share resources. These trends lead towards a more open science and research process involving, among other, trends towards the use of open data, open code, annotation, data-intensive science, Open Access, and new forms of collaboration. Therefore, the sharing of technical resources and expertise at the institutional and national level is of strategic importance to all researchers. The primary impediment to this is the lack of effective tools to do so, which we address in the current proposal, that intends to establish a SaaS (Software as a Service) solution to simplify this task and to facilitate resource sharing. The proposed solution, IRIS, will allow for effective resource discovery and sharing in order to ensure the long term competitiveness of Swiss research, which is of benefit to academia as well to the wider research community in Switzerland.