SPHN Short Report (2021)

Yearly update and overview of activities

1   Editorial

2021 marked the start of the second funding phase of SPHN (2021-2024), concluding activities from SPHN Phase I (2017-2020) and launching important new funding programs. Most notably, SPHN and the ETH Domain strategic focus area Personalized Health and Related Technologies (PHRT) launched a joint call for proposals for National Data Streams (NDS), to support the development of scalable, sustainable and reusable health-related data infrastructures in conjunction with high-end research.

Important achievements of the SPHN Data Coordination Center (DCC) in close collaboration with the university hospitals (UHs) and experts working groups and task forces brought SPHN a big step closer to the realization of a FAIR Swiss personalized health data ecosystem. A new release and implementation of the SPHN Semantic Interoperability Framework marked an important milestone for health research data interoperability in Switzerland. Furthermore, the SPHN Federated Query System (FQS) was opened to researchers, realizing a vision of SPHN: The ability to query data on a nationwide scale, across institutions, without requiring data to leave their place of origin and in full compliance with data protection and data security regulations. Also, as part of its commitment towards a FAIR and sustainable use of health data, the DCC engaged in a collaboration to enable Swiss cohort studies to integrate their metadata in the internationally renowned Maelstrom catalogue.

The collaboration between SPHN and the UHs was further intensified in 2021: A dedicated Hospital IT Strategy Alignment Group (HIT-STAG) was established to align the IT strategies of the five UHs and ensure the implementation of agreed strategies. Together with an unimedsuisse-SPHN working group, the HIT-STAG was paramount for the seamless renewal of the collaboration agreements with SPHN until the year 2024. These renewed agreements will be embedded in a sustainable, service-oriented overarching IT architecture framework. The alignment with national partners was further strengthened throughout the year, to now involve also private partners: The ELSI Advisory Group issued a guidance document to support the negotiation of ethically robust and fair conditions for SPHN-funded grantees and private sector entities who intend to establish public-private partnerships.

Finally, questions regarding the continuity and sustainability of the developed SPHN infrastructures beyond 2024 were addressed by a dedicated SPHN-PHRT "Future DCC" working group, as mandated by the State Secretariat for Research and Innovation (SERI) involving all the SPHN stakeholder groups. The working group identified several options for the continuation and governance of the SPHN data infrastructures after 2024, which will be submitted to SERI in a report in 2022.

Yours sincerely,

Prof. Dr. Urs Frey	Prof. Dr. Beatrice Beck Schimmer	Dr. Thomas Geiger
Chairperson of the National Steering Board	Vice-Chairperson of the National Steering Board	Managing Director

2   Activities and achievements in 2021

SPHN's activities are outlined according to four main categories:

– Funding activities;
– Data Coordination Center & BioMedIT;
– National and international collaboration;
– Events & communication.

2.1   Funding activities

The year 2021 marked the start of the second funding phase of SPHN (2021-2024) and was therefore rich with respect to initiating new funding activities and concluding activities from the previous funding phase.

Most notably, on the road towards establishing a Swiss personalized health ecosystem, SPHN and the ETH Domain strategic focus area Personalized Health and Related Technologies (PHRT) launched a joint call for proposals for National Data Streams (NDS) in June 2021. This new format provides funding to multidisciplinary consortia that invest in sustainable and reusable health-related data infrastructures in conjunction with high-end research. NDS can be funded for up to 36 months with a maximum total amount of CHF 5 million. The call was open to applicants from all disciplines of data-driven health research. Patient and public involvement (PPI) elements were integrated as requirement and evaluation criterion for submitted proposals and PPI experts were closely involved in the evaluation procedure. Following a two-step selection process, selected NDS are envisaged to start their activities in summer 2022.

As part of its commitment towards a FAIR and sustainable use of health data, SPHN started a collaboration with Maelstrom Research to enable Swiss cohort studies to integrate their metadata in the internationally renowned Maelstrom catalogue. After a successful pilot phase that saw the integration of five Swiss cohorts into the Maelstrom catalogue, SPHN launched an open call in June 2021, addressed to Swiss cohorts interested in joining in this endeavor. Five additional cohorts were selected after a careful evaluation and joined the SPHN Cohort Consortium network on the Maelstrom catalogue. The network currently comprises 10 cohorts with over 120'000 variables from more than 80'000 cohort participants. The cohorts are accompanied by the SPHN Data Coordination Center (DCC) during the entire process of metadata integration. A second call for cohorts to join the SPHN network on Maelstrom will be launched by SPHN in 2022.

The collaboration agreements 2017-2020 between SPHN and the five university hospitals (UH) achieved that all hospitals set up dedicated internal clinical data management systems for research (clinical data warehouses). Now, more work is needed with regard to the interoperability and sustainability of the established infrastructure. To seamlessly continue the successful collaboration, SPHN and the UH in 2021 renewed the agreements until 2024. An SPHN-unimedsuisse working group and the newly launched Hospital IT Strategy Alignment Group (HIT-STAG) have been paramount for the elaboration and pragmatic implementation of the new collaboration agreements. These are now formulated in a more concrete and binding way, with annual milestones, joint monitoring and a regular update of the objectives. Furthermore, a common understanding about the framework conditions for sharing data between hospitals and research consortia was established in the course of the negotiations.

The annual and final reports of ongoing or completed SPHN projects were reviewed by the different boards of SPHN, similarly as in previous years, and recommendations concerning the continuation of funding were made

to the NSB by the NSB-Ausschuss. For several projects, an in-depth evaluation of the project progress or output was organized with external domain experts. Twelve of the 13 funded Infrastructure Development projects were completed in 2021. For the 11 Driver projects supported by SPHN, 2 were concluded in 2021, while the others are still ongoing. All completed projects were asked to present the developed and reusable infrastructure components and resources, including access information, on the SPHN website. This information and the lay summary of each project are available on: https://sphn.ch/network/projects/.

One of the Infrastructure Development projects jointly funded by SPHN and PHRT, "MedCo", developed a platform for distributed and privacy-preserving cohort exploration and analytics relying on state-of-the-art technologies for information security. After a careful evaluation process, the NSB decided at the end of 2021 to fund two pilot/proof-of-concept projects with the platform in the context of two ongoing SPHN projects SPO and SwissBioRef (see below).

2.2   Data Coordination Center & BioMedIT Network

Within SPHN, the Personalized Health Informatics Group (PHI) of the SIB Swiss Institute of Bioinformatics is responsible for running the SPHN Data Coordination Center and the management of the BioMedIT Network.

2.2.1 DCC activities and achievements in 2021

The first year of the new funding period was probably the most productive one so far at the DCC and brought SPHN a big step closer to the realization of a FAIR Swiss ecosystem of linked health data. With a new release of the SPHN Semantic Interoperability Framework, an important milestone was reached in supporting data interoperability in Switzerland. The SPHN Dataset, semantically defining over 60 variables and their related meta-data, was enriched with several new items, with meaning binding (to SNOMED CT and/or LOINC) as well as with value set binding to standard terminologies. The SPHN RDF schema providing an interoperable framework for the data transport and storage format has been professionalized, standard terminologies have been integrated and referenced, and a web visualization of the schema has been published. Following the FAIR principles, several tools and services developed by the DCC now facilitate data provision at Swiss hospitals (and other data providers) in an interoperable and scalable way, including a quality control framework. A newly introduced terminology service provides researchers with external standard terminologies through the BioMedIT portal.

At the end of 2021, the testing phase of the SPHN Federated Query System was successfully completed and the system was finally opened to researchers. With consented, fully anonymized health data from over 470,000 patients of all five university hospitals, over 75 million data elements can be queried in the system and used by researchers to assess the feasibility of their planned projects. With the achievement of this milestone, an important vision of the SPHN finally became a reality: The ability to query data on a Swiss-wide scale, across institutions, without requiring data to leave their place of origin and in full compliance with data protection and data security.

In 2021, the ELSI Helpdesk of the DCC in close cooperation with SIB legal advised 19 projects (14 SPHN and PHRT-funded projects, 3 external research projects, and 2 SPHN-internal infrastructure projects) and supported them in drafting the required legal contracts on the basis of the SPHN templates for multicenter research projects. The development of hands-on guidance for de-identifying data and of a template to document and justify the approach of de-identification was completed last year as a joint effort between DCC,

USZ and CHUV in collaboration with other UH representatives. The documents were submitted for broad consultation at the end of the year and will be published in 2022.

In December 2021, the DCC has released a first version of an SPHN guide to help researchers create a data management plan (DMP), as required by most funding agencies. The guidelines are particularly directed at researchers working with sensitive health-related data and are aligned with the guidelines issued by the SNSF. The document offers general recommendations for the use of sensitive data to help researchers to plan the entire life cycle of their data, with particular focus on SPHN-funded projects using health-related data for research purposes and data processing on the BioMedIT infrastructure.

Mandated by the SPHN National Steering Board, the DCC managed the setup of two pilot projects, implementing secure, federated data collaborations in oncology (in the realm of the SPHN SPO Driver project) and in the generation of accurate laboratory reference values (in the realm of the SwissBioRef Infrastructure Development project) for personalized medicine, using the MedCo platform (now managed by Tune Insight). The two pilot projects run until end of 2022 and aim at investigating and documenting the deployment and use of the new Tune Insight platform in a real-world setting, as well as at eliciting the added value of such a platform for the SPHN data ecosystem.

In addition, the DCC provided active support to running projects from SPHN Phase 1, particularly with regard to quality control of data deliveries.

2.2.2 BioMedIT Network activities and achievements in 2021

Connecting researchers from across Switzerland with biomedical data to foster personalized health: this is the aim of the national secure computing network BioMedIT, set up by the SIB Swiss Institute of Bioinformatics in collaboration with ETH Zurich and the University of Basel. Launched in 2017 as part of the SPHN initiative, the network became fully operational in 2021. This represents a major step forward in empowering personalized health research in Switzerland.

The main focus of the work on the central BioMedIT level in the past year was on the further development of the central services, such as the BioMedIT portal, where projects manage users, access their datasets and administrate their project, and with regards to the tool for the secure transfer of data (sett). In addition, a number of new services, interfaces to new applications and background functionalities were developed, such as a container registry, a terminology server for the DCC terminology services, the portal registration for the Federated Query System, and a central monitoring system. Furthermore, substantial progress has been made regarding the technical documentation, process definition, and the production of SOPs, work instructions and user guides. With the implementation of a professional service management system (FitSM), started in fall 2021, it is ensured that nationally funded IT services for data-driven, biomedical research projects from the BioMedIT Network is being professionally delivered to SPHN/PHRT projects as well as to other interested clients and research consortia in Switzerland.

The technical core infrastructure has been further developed to provide users with a flexible compute/data platform, configured to meet the researcher's computational needs. A selected interoperable software and analysis tools portfolio has been implemented as well as workflow systems that can be directly used and applied, allowing researchers to independently manage their projects and carry out their scientific tasks. In addition to the technical and operational support, BioMedIT further developed the portfolio of scientific user support to help projects with regards to active and FAIR data management, Semantic Web Technology, and

the amendment of their data model according to the project needs. With the help of the newly recruited IT Security Officers in all three BioMedIT nodes, BioMedIT's "Security by Design" concept could be extended to the new services to ensure that IT security is inherently implemented and the platform complies with regulatory and information security requirements.

In collaboration with the University Hospital Basel (USB), the University Hospital Zurich (USZ) and sciCORE (of the University of Basel), BioMedIT forms the Swiss hub of the international Personal Health Train project "ARGOS" since mid-2021. As part of this project, a deep learning neural network is being trained at over 20 sites worldwide to automatically segment CTs of lung cancer. The Personal Health Train is designed to enable healthcare innovators and researchers to work with distributed health data from multiple sources using federated learning techniques.

At the end of 2021, over 60 national and international health-related research projects were running on the platform – from infection prediction to precision oncology – with over 264 active users registered in the portal. In addition, a total of 20 Swiss data providers have been onboarded to the network. PHI answered over 243 helpdesk tickets 2021 and signed over 85 keys for data en- and decryption. Moreover, international collaborations, especially in the area of privacy preserving computation (e.g., Personal Health Train, ELIXIR, EOSC, 1+MG, GA4GH, etc.) have been strengthened.

A detailed annual report of the BioMedIT Network will be available in April 2022 on www.biomedit.ch.

2.3 National and international collaborations

The SPHN Management Office (MO) underwent further personnel changes in 2021, most notably with a new Managing Director. In March 2021, Dr. Thomas Geiger, scientific coordinator in the MO since October 2020 took over the ad interim lead from Dr. Myriam Tapernoux and further ensured the smooth transition from the first to the second funding period of SPHN as well as the successful launch of the many new activities. In addition, Dr. Sarah Vermij, who was previously recruited within the SAMS Department of Science to support the elaboration of the White Paper Clinical Research, joined the MO team as scientific coordinator in March 2021.

2.3.1 National collaboration

In 2021, SPHN continued to strengthen the collaboration with relevant national partners such as PHRT, Swiss Biobanking Platform (SBP), Swiss Clinical Trial Organisation (SCTO), Swiss National Science Foundation (SNSF), unimedsuisse, swissuniversities, Federal Office of Public Health (FOPH), and the Schweizerische Arbeitsgemeinschaft für Klinische Krebsforschung (SAKK) at several levels. In September 2021, the Swiss Public School of Health (SSPH+) joined the SPHN network as permanent guest to the National Steering Board.

In order to ensure health research in Switzerland in a long-term sustainable manner, a national strategy to advance clinical and translational research in Switzerland was needed. On a national level, in 2021 SPHN helped to initiate the creation of a SERI mandated national SAMW-'white paper', a shared comprehensive strategy paper involving all research organisations to advance clinical research in Switzerland in a concerted manner (ref white paper).

Within the SPHN organization, a most notable change in the organizational structure of SPHN was the establishment of the new Hospital IT Strategy Alignment Group (HIT-STAG) in 2021, to address the need for closer alignment between the university hospitals' individual IT strategies during SPHN phase 2. Each UH

delegated a high-level representative from its ICT department with influence on IT strategy, to enable the alignment of strategies and to ensure implementation within the institutions. The HIT-STAG has since worked tirelessly on the successful completion of the collaboration agreements of the first phase as well as on elaborating a roadmap for SPHN IT infrastructures at the UH. It furthermore supervises the SPHN IT Architecture Working Group in developing a concept for a sustainable, service-oriented IT architecture for data providers and a roadmap for the implementation of such an overarching framework.

In the National Advisory Board (NAB), Prof. Antoine Geissbühler succeeded Prof. Torsten Schwede as chairperson and two additional members, Prof. Jacques Fellay and Dr. Marija Buljan, were appointed to the NAB to strengthen the expertise of the board in the field of -omics and data analytics. Besides providing advice on the SPHN infrastructure roadmap and funding programs, the NAB supervised the SPHN task forces addressing issues of a cohort and registry strategy, data lifecycle management, and federated genomics network.

The ELSI Advisory Group (ELSIag) issued in 2021 the guideline Ethical health data sharing in public-private partnerships (PPPs), which addresses SPHN-funded grantees and private sector entities who intend to negotiate and establish PPPs, primarily for the purpose of accessing data generated, collected, or curated in the context of an SPHN-funded project. Developed in deliberation with diverse stakeholders, the document supports the negotiation of ethically robust and fair conditions for such PPPs. The ELSIag further embarked on a mandate to identify and clarify obstacles and conditions for data sharing and reuse. The respective clarifications are made in close collaboration with SCTO, SBP, the PHI group and local initiatives of the universities of Bern and Zurich.

In line with the mandate from the State Secretariat for Education, Research, and Innovation (SERI), the SPHN-PHRT Future DCC Working Group addressed the continuity and sustainability of the developed SPHN infrastructures. A report outlining options for the continuation of the SPHN data infrastructures after 2024 will be submitted in 2022.

2.3.2 International collaboration

SPHN is a member of the International Consortium for Personalized Medicine (ICPerMed) since July 2017 and participates in the Executive Committee meetings that take place twice per year. In 2021, SPHN further participated the ICPerMed Conference entitled 'Personalized Medicine – From Vision to Practice' (25-26 February, online), the ICPerMed Family Meeting (9-10 November, online), and in the working group on personalized medicine in healthcare.

In 2021, the SPHN DCC continued its collaboration with the Global Alliance for Genomics and Health (GA4GH). GA4GH is an international, nonprofit alliance to accelerate the potential of research and medicine to advance human health. While the participation in ICPerMed allows SPHN to coordinate its efforts with other funding bodies, this additional collaboration allows SPHN to align with GA4GH's global efforts, contributing to the development of international frameworks and standards. In 2021, SPHN also participated in regular meetings of the Dutch-Swiss Collaboration on Health Data, took part in the National Initiatives Network organized by the Finnish Innovation Fund, and had exchange meetings with the European Health Data Space (EHDS). International collaborations represent a small but important part of SPHN's work. Exchanges of knowledge, experiences and best practices are beneficial to the SPHN initiative, as well as its partners and the research location Switzerland in general.

2.4 Events & Communications

In 2021, the DCC, together with the MO, further developed the professional appearance of the SPHN initiative, with the roll-out of new templates for use across SPHN and a refreshed appearance for published items. SPHN communicates continuously via its website (www.sphn.ch; available in English, French, and German), Twitter, LinkedIn, and punctual newsletters. The DCC, together with the MO, continues to develop SPHN's social media presence, where collective posts have gained over 55'000 impressions in 2021. SPHN articles have also appeared in several SAMS newsletters and the SAMS Bulletin. Notably, the first 2021 issue of the SAMS Bulletin (Download) featured a focus article on the achievements of SPHN phase I (2017-2020) and the Bulletin des Médecins suisses (Schweizerische Ärztezeitung) featured SPHN in edition 102(4) in German (Download) and French (Download). By the end of 2021, the SIB Personalized Health Informatics Group further launched an SPHN Technical Newsletter addressed to the community. This newsletter periodically updates on news, developments and technical details in SPHN, the Data Coordination Center (DCC) and BioMedIT. The launch of this newsletter helped increase the DCC's community mailing list size by over 50% during 2021.

SPHN has continuously made a mapping and gap analysis of their efforts and openly presents the degree of implementation of the various projects in the Swiss landscape. Interested citizens and patients, researchers and clinicians can find these overviews on www.sphn.ch and in the SAMS report (www.samw.ch/en/Publications/Proceedings).

In 2021, SPHN (co-)organized or supported the following events:

- [BC]2 Basel Computational Biology Conference (13-15 September 2021, Congress Center Basel): Harnessing biological data: from molecular processes to human health.
- Digital Brownbag event (21 September 2021, online): How knowledge graphs shape the future.
- 2021 DQBM Founding Symposium: Frontiers in Biomedical Research (29 November 2021, University of Zurich)
- BioData World Congress (2-4 November 2021, Basel)
- Workshop Share without Sharing (3 December 2021, Basel)

Over the course of 2021, the DCC hosted 9 Webinars and International Expert talks in the SPHN Webinar series, with a total of 570 registrations. The Webinars are available on the SPHN YouTube channel, which amassed 4505 unique views in 2021, with a total of 502 hours of content viewed. The most watched Webinar on the channel in 2020 was "Linked Data in SPHN", delivered by PHI's Data Interoperability team, with 423 views.

In addition, the DCC produced a variety of new training modules, also available on the SPHN YouTube channel:

- SPHN Data Ecosystem for FAIR Data
- Semantic Standards
- Training Primer (RDF and SPARQL)
- Expanding the SPHN RDF Schema
- RDF Schema and Data Visualization
- Querying Data with SPARQL
- How to use Python and R with RDF Data
- Validate Graph Data with SHACL

- SPHN Federated Query System (FQS)
- Legal Agreements for using health-related data in multi-center projects
- Responsible Health Data Usage (developed by the ETH Health Ethics and Policy Lab)

Recordings and resources from the Training events can also be found on the DCC Training page.

Representatives of SPHN furthermore presented SPHN at numerous national and international conferences and meetings: the Science after Noon panel of the Swiss Academies of Arts and Sciences (online, 27/05/2021), the Fondation Brocher Workshop on Health Data Governance (online, 14/06/2021), the Dutch-Swiss Collaboration on Health Data Infrastructures (online, 22/06/2021), the general meeting of the Network Health Economics Winterthur in Winterthur (08/09/2021), the Symposium "La pandémie de covid-19 - un accélérateur de la digitalisation de la santé" (online, 14/09/2021), the Training event for members of Swiss Ethics Committees in Zurich (14/09/2021), the BC2 conference in Basel (15/09/2021), the Trivadis Brown Bag meeting (online, 21/09/2021), the GA4GH, Clin/Pheno Driver Project Roundtable (online, 14/10/2021), the 2nd joint workshop of Interpharma and University of Basel in Basel (29/10/2021), the BioDataWorld Congress in Basel (03/11/2021), the Center for Precision Medicine symposium in Bern (24/11/2021), the Scientific Advisory Board Meeting of the Swiss Institute of Bioinformatics (online, 02/12/2021).

3   Finance

Table 1 provides a summary of how the funds allocated by the SERI were used. During the year 2021, the final payments related to the 2017-2020 collaboration agreements with the university hospitals were released and the first instalment related to the new collaboration agreements 2021-2024 was paid. In addition, funds allocated to project grants in the frame of the 2017 and 2018 calls for proposal were released according to the planned payment schedule. All payments released in 2021 to projects approved during the first phase of SPHN were deducted from provisions created in 2020 and approved by the SERI. The first payments for the HospFAIR project were shifted to 2022 due to delays in finalizing the contractual agreements. Negative interest rates on the SPHN bank accounts continue to have an impact. By the end of 2021 a total amount of approximately CHF 169k has been paid for negative interests.

With the new Zusatzprotokoll 2021-2024, the funding of the Data Coordination Center is no longer reported under infrastructure implementation projects, but separately (Table 2).

Table 1: 2017-2021 SERI funds usage

2017-2021 SERI funds usage

All amounts in kCHF

Accounts description	Cash flow		TOTAL
	2017-2020	2021	
INCOMES			
SERI Contribution - SAMS	30'000	7'332	**37'332**
SERI Contribution - SIB	19'702	2'907	**22'609**
TOTAL INCOMES	**49'702**	**10'238**	**59'940**
EXPENSES			
Infrastructure implementation projects			
ELSI support staff	260	100	**360**
Data Coordination Center	2'822		**2'822**
Collaboration agreements with University Hospitals HospFAIR	12'750	4'850	**17'600**
Projects : call 2017			
Infrastructure development projects	2'290	14	**2'308**
Driver projects	11'000	871	**11'871**
Refund finished projects	-150	-4	**-153**
Projects : call 2018			
Infrastructure development projects	1'842	231	**2'072**
Driver projects	5'213	471	**5'684**
National Data Streams		75	**75**
Cash flow Management Office and Bodies	2'354	731	**3'085**
TOTAL EXPENSES	**38'382**	**7'339**	**45'721**
Cash available end of year	**11'321**	**14'219**	**14'219**

Table 2: Data Coordination Center cash-flow statement 2017-2021

Data Coordination Center : Cash flow 2017-2021

All amounts in kCHF

Accounts description	Cash flow		TOTAL
	2017-2020	2021	
INCOMES			
SPHN contributions	2'822		**2'822**
SERI contributions		1'715	**1'715**
Various incomes	28	3	**32**
TOTAL INCOMES	**2'850**	**1'718**	**4'569**
EXPENSES			
PHI Projects portofolio			
Federated Query System	112	262	**375**
Implementation RDF	31	158	**189**
De-Identification project	32	41	**73**
Consultancy costs			
SPHN IT Architecture		43	**43**
other consultancy costs	144	43	**187**
Personnel costs	1'903	831	**2'733**
Operating costs	463	131	**594**
TOTAL EXPENSES	**2'685**	**1'508**	**4'193**
Cash available end of year	**166**	**375**	**375**

Table **3** shows an overview of the usage of funds allocated to the BioMedIT Network during the 2017-2021 period. Not all funds provided by the SERI for phase I were spent during the first four years. The remaining funds have been transferred to phase II as provisions with specific allocation.

Table 3: BioMedIT Network SERI funds usage 2017-2021

BioMedIT Network project: SERI funds usage

All amounts in kCHF

Accounts description	Cash flow		TOTAL
	2017-2020	2021	
INCOMES			
SERI Contribution - SIB BioMedIT Network	17'732	4'592	**22'324**
Other incomes		20	**20**
TOTAL INCOMES	**17'732**	**4'612**	**22'345**
EXPENSES			
Node funding			
SIB / Core-IT/SENSA	1'400	606	**2'006**
ETHZ / SIS	700	300	**1'000**
Unibas /sciCORE	700	307	**1'007**
Addition support node security MS	340	71	**411**
Node security officers		382	**382**
Interoperability WG			
SIB / Vital-IT	450	-34	**416**
ETHZ / SIS	450	69	**519**
Unibas /sciCORE	450	100	**550**
PHRT Platforms			
Mass Spectrometric P. in Zurich	900		**900**
Genome Center in Geneva	525	375	**900**
Projects funded			
SVIP O	949		**949**
Driver project GA4CH - M.Baudis	125		**125**
RDF / Data management		142	**142**
Methodology Development		5	**5**
IDEAL project	500		**500**
Personnel, consultancy and operating costs	2'678	1'555	**4'232**
TOTAL EXPENSES	**10'167**	**3'879**	**14'045**
Cash available end of year	**7'566**	**8'299**	**8'299**

Table 4 shows the cash flow statement 2021 of the Management Office compared with 2020. The main costs of the Management Office were salaries and working groups (remuneration of board members). The reported reduced total contributions from the SERI to the Management Office in 2021 compared with 2020 reflect the change in the Zusatzprotokoll 2021-2024, the funding for the Data Coordination Center is now provided by SERI directly to SIB.

Table 4: Cash flow statement 2021 compared to 2020

Cash flow statement (direct method)	2021 in CHF	2020 in CHF
+ Cash received from SERI contribution - SAMS	7 331 500	7 598 500
+ Cash received from SERI contribution - SIB	2 906 580	4 852 150
Total cash received from SERI contributions	**10 238 080**	**12 450 650**
- Cash paid for Collaboration agreements	-4 850 000	-2 750 000
- Cash paid to Data Coordination Center	0	0
- Cash paid to Infrastructure dev. & Driver projects	-1 586 980	-5 052 986
+ Refund unused funds from finished Infrastructure dev. & Driver projects	3 573	150 609
- Cash paid to National Data Streams applicants (application allowance)	-75 000	
- Cash paid for ELSI support staff	-100 000	-100 000
Total cash paid for funding activities	**-6 608 407**	**-7 752 377**
- Cash paid for personnel expenses	-469 147	-387 515
- Cash paid for operating expenses	-184 532	-137 060
- Cash paid related to activities of bodies and experts	-105 072	-67 190
+ Cash received miscellaneous	27 659	14 800
Total cash paid related to management expenses	**-731 092**	**-576 965**
Cash flow from operating activities	**2 898 581**	**4 121 308**
Net increase/decrease in cash	2 898 581	4 121 308
Cash on 1.1	11 321 390	7 200 082
Cash on 31.12	**14 219 971**	**11 321 390**

4   Board Members

National Steering Board

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Prof. Falko Schlottig, Muttenz

Dr. Irène Knüsel, Bern
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Prof. Jürg Steiger, Basel

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Prof. Roger von Moos, Chur
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