
National Centres of Competence in Research NCCR

Extended call document 2017

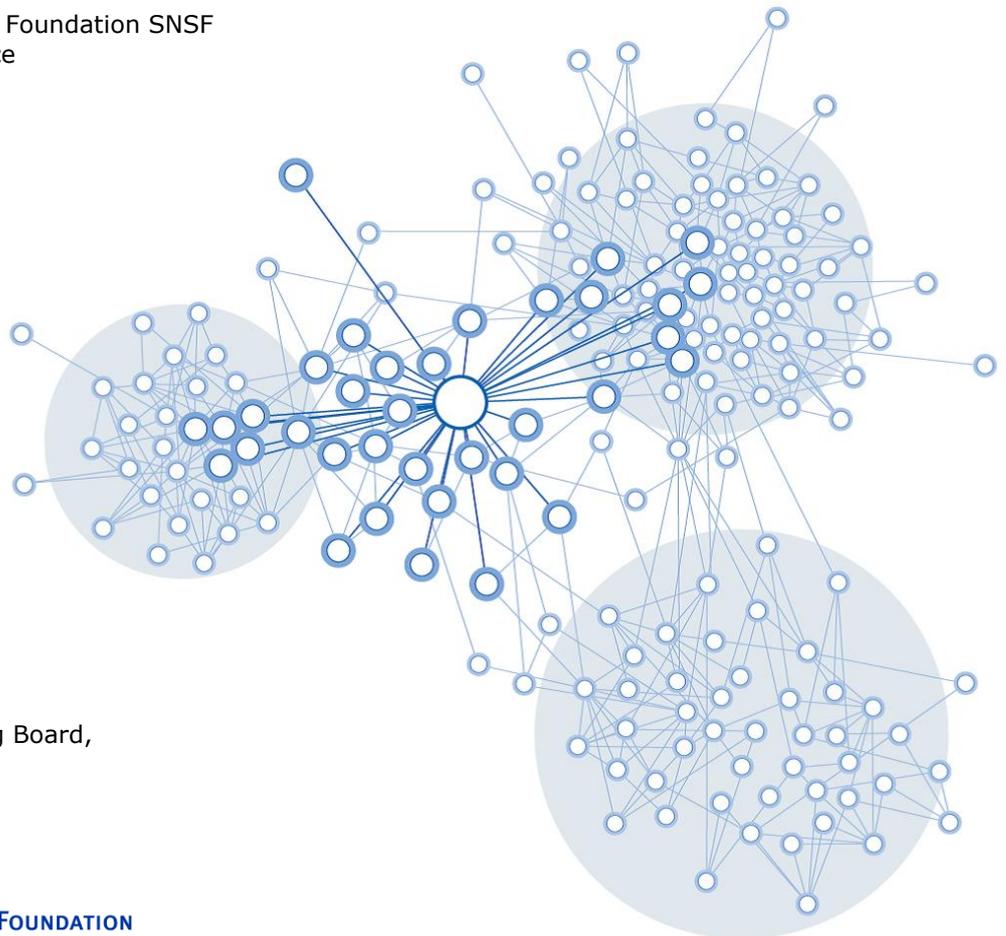
Deadlines

Letter of intent: 1 December 2017
Outline proposals: 1 February 2018
Full proposals: 3 December 2018
Start of research: early 2020

Contact

Swiss National Science Foundation SNSF
NCCR Programme Office
P.O. Box
3001 Bern
Tel. + 031 308 23 34
E-mail nccr@snf.ch

www.snf.ch/nccr-call



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1. National Centres of Competence in Research: Aims and concept

National Centres of Competence in Research (NCCRs) are research networks conducting innovative and outstanding research. The NCCR programme aims to sustainably strengthen Swiss research in strategically important fields. It seeks to promote innovative, top-tier research initiatives with a long-term perspective. NCCRs may run for up to twelve years, and their duration is divided into four-year-long phases.

Pursuant to the Research and Innovation Promotion Ordinance (RIPO),¹ the NCCR programme has the following aims:

- *the maintenance and sustainable strengthening of Switzerland's position in research fields of strategic importance through the promotion of research of the highest quality;*
- *the sustainable renewal and optimisation of innovative research structures through the development of additional capacity for teaching and research, the promotion of division of work and coordination between research institutes as well as international networking;*
- *the implementation of a coherent strategy for research and the transfer of knowledge and technology, the education of promising young researchers, and scientific communication.*

Every NCCR requires the explicit support of one or more recognised Swiss higher education research institutions, which host the initiatives as home institutions. In line with the aims stipulated above, home institutions support structural developments and supplement the funding provided by the Swiss National Science Foundation (SNSF) with their own contributions.

Moreover, each NCCR is led by a single director or by a director and a co-director. Directors are internationally renowned researchers with proven experience in managing large and ambitious research environments. The directors lead a team of experienced project leaders and excellent researchers.

36 NCCRs have been set up since 2001. The 14 NCCRs of the first series were completed in 2013; the five NCCRs of the second series will run until 2017. Information on current NCCRs as well as on their output and funding can be found in the current NCCR Guide.²

Figure 1 gives an overview of the 21 ongoing NCCRs in 2017.

¹ See Art. 10 (4) of the RIPO, available at: https://www.admin.ch/ch/d/sr/c420_11.html (German) or https://www.admin.ch/ch/f/sr/c420_11.html (French).

² http://www.snf.ch/SiteCollectionDocuments/nfs/nccr_guide_2017.pdf

2nd series – Start 2005
NCCR Affective Sciences
 Emotion in Individual Behaviour and Social Processes
NCCR Democracy
 Challenges to Democracy in the 21st Century
NCCR Iconic Criticism
 The Power and Meaning of Images
NCCR Mediality
 Historical Perspectives
NCCR International Trade Regulation
 From Fragmentation to Coherence

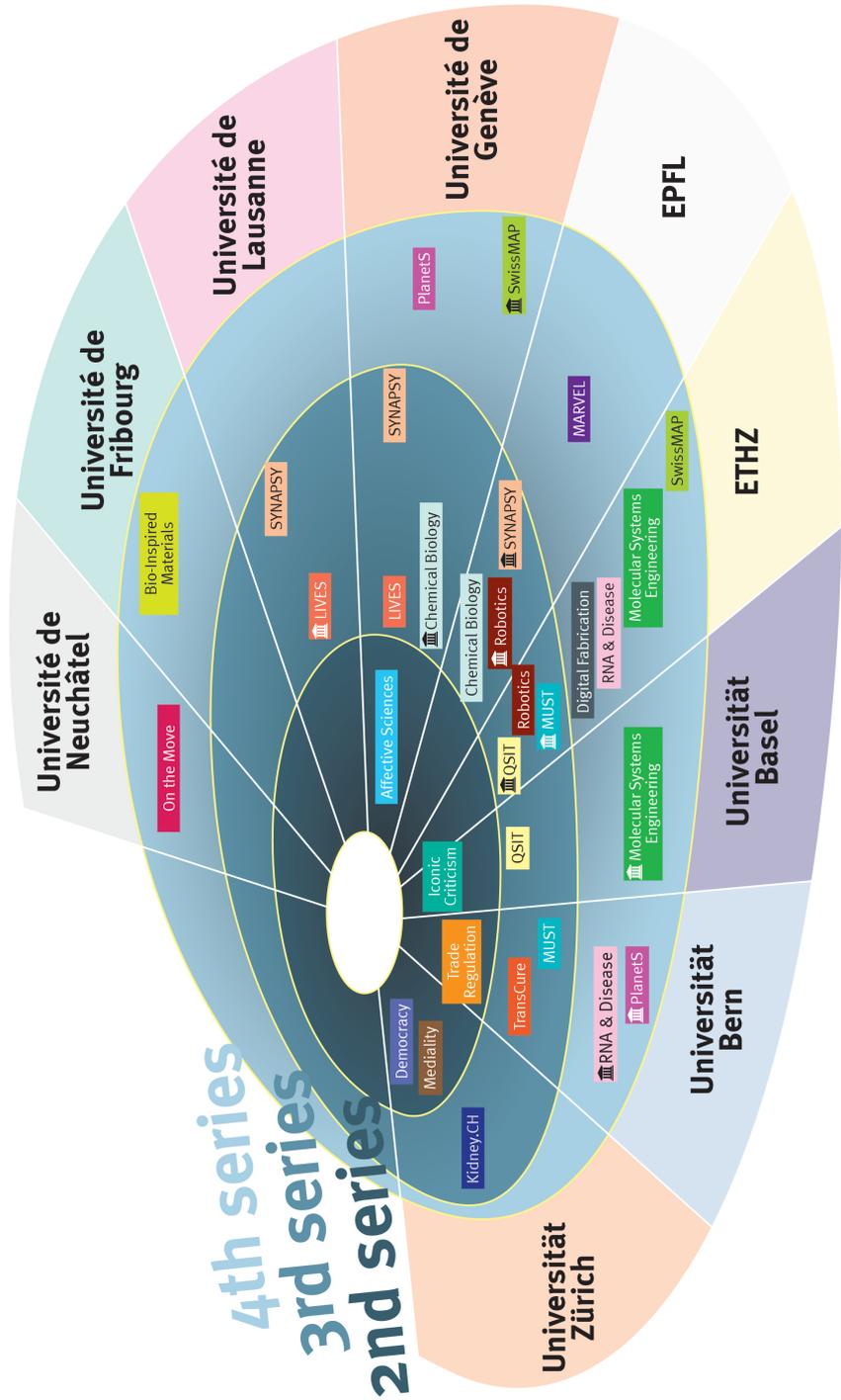


Figure 1: Overview 2017 of the 21 running NCCRs and their home institutions

3rd series – Start 2010
NCCR Chemical Biology
 Visualisation and Control of Biological Processes Using Chemistry
NCCR Kidney.CH
 Kidney Control of Homeostasis
NCCR LIVES
 Overcoming vulnerability: life course perspectives
NCCR MUST
 Molecular Ultrafast Science and Technology
NCCR QSIT
 Quantum Science and Technology
NCCR Robotics
 Intelligent Robots for Improving the Quality of Life
NCCR SYNAPSY
 The synaptic bases of mental diseases
NCCR TransCure
 From transport physiology to identification of therapeutic targets

4th series – Start 2014
NCCR Bio-Inspired Materials
 Using Concepts from Nature to Create “Smart” Materials
NCCR Digital Fabrication
 Innovative Building Processes in Architecture
NCCR MARVEL
 Materials’ Revolution: Computational Design and Discovery of Novel Materials
NCCR MSE
 Molecular Systems Engineering
NCCR On the Move
 The Migration-Mobility Nexus
NCCR Planets
 Origin, Evolution and Characterisation of Planets
NCCR RNA & Disease
 The Role of RNA Biology in Disease Mechanisms
NCCR SwissMAP
 The Mathematics of Physics

2. Key information about the Call

The fifth call for NCCRs is thematically open to initiatives across all scientific areas. Proposed initiatives must focus on a clearly designated and thematically defined research topic of national interest.³

Scope of the call

The available funding will permit the establishment of presumably 5 to 6 new NCCRs, which can expect to receive an SNSF contribution of up to maximal 20 million Swiss francs each for the first four-year phase. The new NCCRs can commence their activity in early 2020.

Overview of the selection procedure

The selection process comprises four steps (see overview in figure 2 and section 5.1 for details):

1. The applicants send a *Letter of Intent* (LoI) via e-mail. The LoI is not subject to any scientific assessments, rather it serves to facilitate the subsequent stages.
2. In an *outline proposal*, they present the visions and potential of the envisaged initiative. Each outline proposal must be accompanied by a letter of support from the home institution(s). The SNSF assesses these proposals on the basis of an international peer-review process and an interdisciplinary panel.
3. Initiatives that the corresponding home institution(s) continue to support after assessment of the outline proposal are elaborated into detailed research programmes and submitted as *full proposals*. The latter are peer-reviewed externally and discussed by an expert panel. At this stage, applicants are invited for an interview with the expert panel. Based on the panel's recommendations, the SNSF proposes a list of highly rated proposals to the State Secretariat for Education, Research and Innovation (SERI) for implementation (shortlist).
4. The SERI evaluates the shortlisted proposals with regard to research and higher education policies and formulates a recommendation for the attention of the Federal Department of Economic Affairs, Education and Research (EAER). The EAER makes the final selection and launches the new NCCR.

2.1 Deadlines for the 2017 call

1 December 2017	submission of letters of intent; to be sent by e-mail to nccr@snf.ch
1 February 2018, 5 p.m.⁴	submission deadline for outline proposals; to be submitted via mySNF.ch
3 December 2018, 5 p.m.	submission deadline for full proposals; to be submitted via mySNF.ch

For further details see sections 4 and 5.

³ See Art. 10 (1) of RIPO.

⁴ All times are Swiss local time.

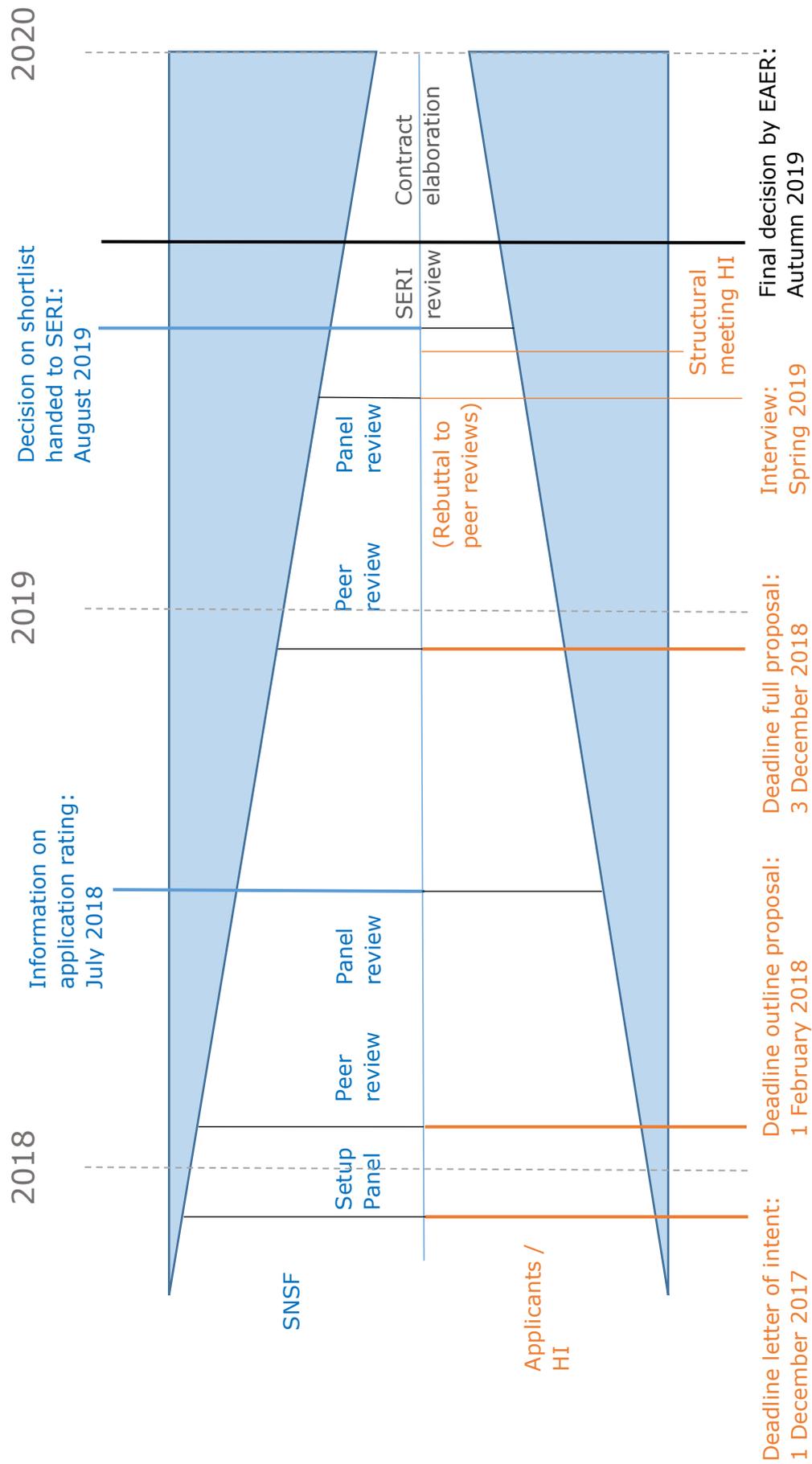


Figure 2. Schematic illustration of the submission and assessment procedure

2.2 General legal framework

The following legislation is relevant in the context of NCCRs:

- Federal Research and Innovation Promotion Act (RIPA)⁵
- Research and Innovation Promotion Ordinance (RIPO)⁶
- Federal Department of Economic Affairs, Education and Research (EAER) Ordinance on the RIPO⁷
- The call document ([D](#), [F](#), [E](#))
- The present extended call document
- General SNSF regulations⁸

3. Requirements set for NCCRs

3.1 Eligibility requirements for NCCR applicants

An NCCR proposal is submitted by

- the designated director (responsible applicant);
- the co-director (if applicable), deputy director(s) and the project leaders (further applicants).

Together, they form the team of applicants.

The director, the co-director and the deputy directors form the NCCR team of directors.

Team of directors

An NCCR is led by a director or jointly by a director and a co-director. Two directors are meaningful if the scientific and managerial leadership of the NCCR initiative shall be jointly assumed by both.

The designated NCCR director submits letter of intent, outline proposal and full proposal for the establishment of an NCCR as responsible applicant. He or she represents the NCCR vis-à-vis the SNSF.

Decisions are made by the director in agreement with the co-director.

All designated directors must hold a permanent position at a recognised home institution (see section 3.2). An NCCR directorship is a long-term role, and designated directors must commit themselves to this responsibility. Therefore, directors commit to leading the initiative for at least the first four years. In cases where the director retires shortly after phase I, a successor must already be designated in the initial proposal.

Every director has a deputy (directors cannot replace each other). Each home institution of the NCCR must be represented in the team of directors.

⁵ https://www.admin.ch/ch/d/sr/c420_1.html (German); https://www.admin.ch/ch/f/sr/c420_1.html (French); <https://www.admin.ch/opc/en/classified-compilation/20091419/index.html> (English). Note: English is not an official language of the Swiss Confederation. All English legislation translations are provided for information purposes only and have no legal force.

⁶ https://www.admin.ch/ch/d/sr/c420_11.html (German) or https://www.admin.ch/ch/f/sr/c420_11.html (French).

⁷ https://www.admin.ch/ch/d/sr/c420_111.html (German) or https://www.admin.ch/ch/f/sr/c420_111.html (French).

⁸ See: <http://www.snf.ch/en/funding/documents-downloads/Pages/default.aspx#Regulations>

Team of applicants / project leaders

Researchers are eligible to apply if they assume responsibility within the initiative, and make a significant contribution to the NCCR (see also section 5.2; suitability of the team of applicants).

In general, applicants must meet the eligibility criteria set out in the SNSF Funding Regulations⁹. They must have a proven scientific track record as researchers and work at a Swiss research institution (higher education institution, university of applied sciences, private research institution).

The NCCR may include and fund research groups (and applicants) from outside Switzerland if their expertise is necessary for the success of the NCCR and if it is not possible to find a researcher in Switzerland with the same expertise. In such cases, the NCCR will have to ensure that this expertise and the necessary capacities are built up in Switzerland in the course of the NCCR.

3.2 Requirements for home institutions

An NCCR can be hosted by more than one home institution, provided that all home institutions involved make a significant contribution in financial and structural terms. In case of several home institutions, the employing institution of the NCCR director hosts the NCCR management and assumes the central administration of the funds.

All recognised Swiss higher education research centres pursuant to RIPA Art. 4c¹⁰ are eligible as home institutions:

1. the Federal Institutes of Technology and the research centres of the ETH Domain;
2. universities and other institutions in the higher education sector that are accredited under the Higher Education Act (HEdA);
3. research centres of national importance which receive funding from the Confederation (RIPA, Art. 15)

Home institutions pre-select NCCR proposals that are compatible with their long-term strategic planning. Therefore, each NCCR outline proposal and full proposal must be accompanied by a letter of support from the home institution(s). Therein, home institutions stipulate their financial and structural commitments to the initiative. Home institutions pledge to support the NCCR throughout its entire duration in terms of both funding and personnel and to participate in implementing the joint structural measures. Financial contributions by the home institutions to the NCCR can be cash or in-kind.¹¹ To ensure adequate management of the NCCR, the home institutions have to commit themselves to

⁹ http://www.snf.ch/SiteCollectionDocuments/allg_reglement_16_e.pdf

¹⁰ https://www.admin.ch/ch/d/sr/c420_1.html (German); https://www.admin.ch/ch/f/sr/c420_1.html (French); <https://www.admin.ch/opc/en/classified-compilation/20091419/index.html> (English). Note: English is not an official language of the Swiss Confederation. All English legislation translations are provided for information purposes only and have no legal force.

¹¹ Cash: Financial resources that the NCCR management has at its own disposal.

In-kind: Resources and funds that the NCCR management does not have at its own disposal. These include payments in kind as well as work and services made available to the NCCR, e.g. the creation and supply of professorships by the home institution, equipment for the NCCR paid by the home institution etc.

See NCCR Budget Guidelines for more information:

http://www.snf.ch/SiteCollectionDocuments/nfs/NCCR_Budgetrichtlinien_e.pdf

releasing an NCCR director from other duties by 30% of an FTE¹². The co-director is relieved by his/her institution to an extent that is adequate to his/her organisational role.

3.3 Timescale and scope of funding

While the proposal's vision must be of a long-term nature, its financial and research work plan must focus on the first four years of the NCCR (to be described in detail in the full proposal).

The NCCR proposal must develop a long-term vision for the initiative that goes beyond the period of SNSF funding. At the same time, it must provide a well-founded estimate of the number of years for which it will require SNSF funding and of how the financial needs would develop over time. Funding level and duration have to correspond with the scientific and structural goals of the initiative. The maximum funding duration for an NCCR is 12 years (3 funding periods).

In principle, the financial requirement is guided by the needs of the relevant NCCR. For the fifth call, SNSF funding of up to 20 million Swiss francs per NCCR is envisaged for the first four-year period (see figure 3). The NCCR [Budget Guidelines](#)¹³ must be followed when creating the budget.

No specific funding level is defined with regard to the contributions by home institutions and third-party funding. The amount of these contributions depends on the scope of the initiative. An overview of the various NCCR contributions to ongoing NCCRs is given in Figure 3 below, as well as in the current [NCCR Guide](#)¹⁴.

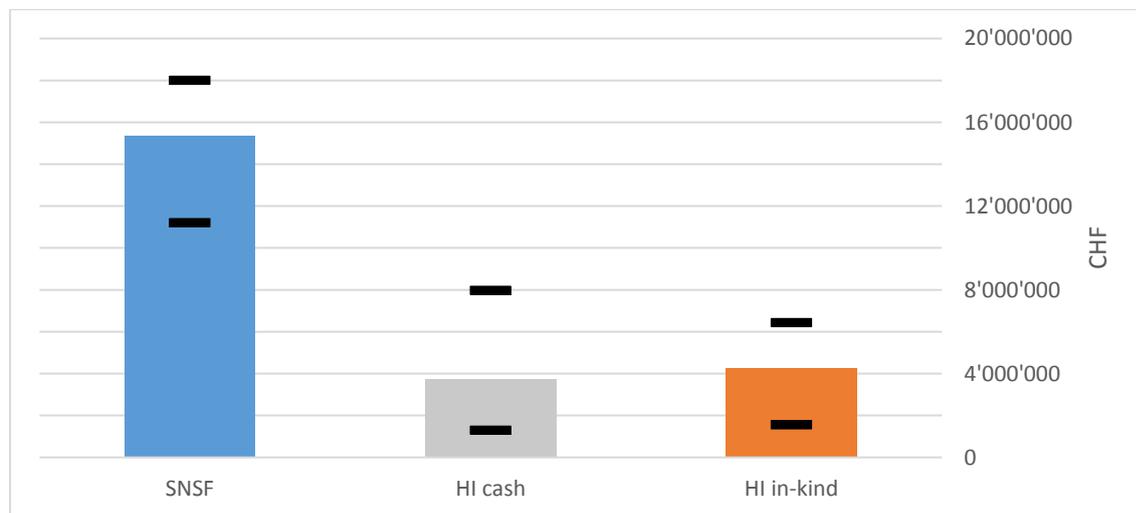


Figure 3: Overview of the 4-year financial contributions by the SNSF and the home institutions (HI) to the NCCR of the 4th series. Sums (CHF) indicate mean, maximum and minimum funding per NCCR.

¹² Full time equivalent

¹³ http://www.snf.ch/SiteCollectionDocuments/nfs/NCCR_Budgetrichtlinien_e.pdf

¹⁴ http://www.snf.ch/SiteCollectionDocuments/nfs/nccr_guide_2017.pdf.

4. Stages in the submission process

4.1 Communication

Applicants

The designated NCCR director (responsible applicant) represents the NCCR vis-à-vis the SNSF. The SNSF communicates exclusively with the responsible applicant during the selection procedure.

Designated NCCR directors are encouraged to contact the SNSF Administrative Offices by phone or e-mail to clarify any open points in relation to the call and its procedures prior to and during the submission phase for applications. When checking submitted applications, the Administrative Offices may contact applicants in order to clarify matters related to the application. Before, during and after the evaluation, the applicants are obliged to:

- provide any information requested by the SNSF;
- cooperate in clarifying facts;
- inform the SNSF about any new facts that may have a bearing on the funding decision.

Home institutions

The SNSF addresses its communications related to the NCCR call and the submitted applications to the rectorate/presidency/directorate/leadership of the concerned home institution.

4.2 Submission of letters of intent

Applicants must submit a letter of intent via e-mail to nccr@snf.ch by **1 December 2017**. The letter must contain:

- Title and executive summary of the project (max. 1 page)
Applicants must indicate their research topic in the title. The title may be changed at a later stage in the process.
The summary presents the background and rationale of the initiative, lists its overall objectives and aims, mentions central concepts, methods and theories to be used and briefly discusses the envisaged results and their impact on the fields addressed by the initiative;
- A tentative list of applicants;
- A tentative list of home institutions;
- Optionally, a list of experts (names and affiliations) not to be asked to review the outline proposal (exclusion list).
The SNSF may follow the exclusion list if the applicants provide valid reasons for excluding a particular expert, and if a sufficient number of other experts are available.

A [template](#) for letters of intent is available both on *mySNF* and on the SNSF website¹⁵. The letters of intent are not subject to a scientific assessment. The SNSF uses them to find suitable reviewers and to organise its selection process.

The SNSF directly informs all the institutions named as tentative home institutions in the submitted letters of intent concerning planned projects under their auspices.

4.3 Creating an application

Submissions (outline proposals, full proposals) must comply with SNSF guidelines set out in this document and must be submitted electronically via the *mySNF* portal by the stipulated deadlines. As the submissions are evaluated by international experts, all information relevant to the assessment of the application must be provided in English.

Please read carefully the guidelines set out in the extended call document, the document templates and the help texts available online in *mySNF*. The upload documents (see sections below) complete the submission.

4.3.1 Compiling an outline proposal

Outline proposals must be structured according to the [outline proposal template](#). They must be submitted electronically via the *mySNF* portal (<https://www.mysnf.ch>) by **1 February 2018, 5 p.m.**

The outline proposal sets out an initiative's long-term vision and its first four years (phase I). The programme must be lucid and show what the individual projects contribute to the overall questions and how they interact. Furthermore, it should describe the expected added value created by the NCCR cooperation. The outline proposal includes an estimate and justification of the number of years of SNSF support required, and of how the financial needs are expected to develop over time.

The outline proposal is restricted to 15 pages, not including the bibliography.

The SNSF requests a standardised set of information from all applicants, the "CV and major scientific achievements" and the "Research output list" (guidelines available on *mySNF*). For directors and co-directors the CV and major achievements document contains an additional section of a maximum of 1 page on management-related skills and experience. This section highlights the designated director's leadership skills and ability to organise an NCCR.

The letter of support from the home institution must provide information on the conformity of the NCCR with the strategic planning of the home institution, and on the intended structural measures. As an annexe, it includes the NCCR form "[Self-funding by the Home Institution](#)" providing details of the financial support and an overview of the planned structural measures.

¹⁵ www.snf.ch/nccr-call

Documents included in the outline proposal (see [template](#) for further instructions)

- Outline proposal

A presentation that includes a well-founded vision of the proposed NCCR as a whole and makes a convincing argument for supporting the initiative, while also addressing the criteria elaborated in section 5.1. Outline proposals must be structured as follows (the page numbers indicated in brackets are merely suggestions):

1. Executive summary (1 page)
2. Presentation of the background and ambitions of the NCCR (4 pages) including:
 - main research questions and their significance for science and society
 - analysis of the present research landscape (existing structures, networks, etc.) and elucidation of the critical mass, the strategic fit and the planned structural development within the home institution(s) and within Switzerland
 - mid- and long-term vision for the initiative (beyond phase I and beyond SNSF funding)
 - planning and justification of the overall duration of the NCCR and the level of SNSF funding
 - justification of the need for an NCCR to reach the goals
3. Coherent research programme for the first four years (6 pages) including:
 - state of the art, intended contributions to the state of the art, added value created by the NCCR, the innovative and interdisciplinary potential, international embeddedness
 - sketches of the individual projects: research question, state of the art, intended contributions to the state of the art, contributions to the overall questions of the NCCR
 - If applicable: comment on potential ethical / legal issues
4. Goals and strategy in the fields of knowledge and technology transfer, science communication, promotion of young researchers and equal opportunities (2 pages)
5. Concept for the organisation, management and leadership of the NCCR (2 pages)
6. Bibliography of the research programme
List the sources of all concluded and/or ongoing work referred to in the research plan. Give the full reference, especially the title, source and full author list.

- Annexe:

- a) CV and major achievements as well as research output list of director and co-director, including an additional section on management-related principles, skills and experience
- b) CV and major achievements as well as research output list of further applicants (see instructions on *mySNF*)
- c) Budget for phase I (see template on *mySNF*)
- d) Letter(s) of support from the home institution(s), including NCCR form "Self-funding by the home institution" (see template on *mySNF*)

4.3.2 Compiling a full proposal

Together with the information on the outcome of the outline proposal evaluation you will be requested to inform the SNSF within 1 month, if you intend to submit a full proposal.

The proposals must be submitted via the *mySNF* web portal (<https://www.mynsf.ch>) by **3 December 2018, 5 p.m.**

The template documents for the full proposal and its annexes will be provided in time for the full proposal preparation phase.

The full proposal presents the overall project idea, including scientific, structural and managerial arguments for supporting the proposed initiative, always with respect to the binding NCCR assessment criteria. By comparison with the outline proposals, full proposals

are distinguished by a stronger focus on the scientific content of the individual research projects, which may be elaborated in a detailed research programme (max. 40 pages). Moreover, the presentation of the overall project idea from the outline proposal may be extended up to max. 20 pages in the full proposal.

As for the content of the letter of support: see outline proposal stage (section 4.3.1, above).

Documents of the full proposal

- Full proposal

- I) Presentation of the NCCR's background and ambitions, including the overall idea for the initiative, the scientific, structural and managerial arguments in its favour, and its fulfilment of the assessment criteria set out in section 5.1 (max. 20 pages).
- II) Research programme (max. 40 pages) with respect to the criteria elaborated in section 5.1.
- III) Bibliography of the research programme
List the sources of all concluded and/or ongoing work referred to in the research plan. Give the full reference, especially the title, source and full author list.

- Annexes:

- a) CV and major achievements and research output list of director and co-director, including an additional section on management-related skills and experience
- b) CV and major achievements and research output list of further applicants (see instructions on *mySNF*)
- c) Budget including justification, (see template on *mySNF*)
- d) Letter(s) of support from the home institution(s), including NCCR form "Self-funding by the home institution" (see template on *mySNF*)

5. NCCR selection procedure

The submitted applications are assessed on the basis of expert reviews, and each application is rated comparatively to the other applications. Different panels evaluate the scientific and structural aspects of the proposals in two stages (outline proposals, full proposals).

Potential conflicts of interest

The SNSF will carefully check for potential conflicts of interest when selecting external reviewers and panel members.

Members of Division IV of the Research Council are not allowed to submit an NCCR application as a member of the NCCR's team of directors. Furthermore, they shall recuse themselves from any pre-selection procedures at their institutions. Any member of Division IV of the Research Council with close links to an NCCR director or an NCCR co-director shall disclose these links and recuse themselves from the entire assessment procedure. Potential conflicts of interest may also arise if a member of Division IV of the Research Council is envisaged as a principle investigator in a proposal, if he/she works in or in close proximity of an academic unit designated to become an NCCR office or if he/she is dean of the corresponding faculty. Division IV may recruit ad-hoc members, if recusals due to potential conflicts of interest result in a lack of expertise in a specific area.

Members of the evaluation bodies

The panels are appointed by Division IV and approved by the Presiding Board of the SNSF Research Council. The members of the SNSF bodies are listed on the SNSF website. The names of the members of the outline and full proposal panels will be published on the SNSF website once the new NCCRs have been launched.

5.1 Assessment criteria and specifications: Overview

In both proposal stages, the outline and the full proposals respectively, the SNSF applies the following assessment criteria and specifications (see bullet points):¹⁶

<p>Scientific quality, including topicality, innovation potential and interdisciplinary nature</p> <ul style="list-style-type: none">• Quality of the planned research• Redefinition of research in the field• Potential for breakthroughs / new insights• Potential for synergies and interdisciplinary research• Strengthening of international position and embeddedness <p>Critical mass and added value of the NCCR (potential impact)</p> <ul style="list-style-type: none">• Value added by the NCCR initiative as compared to the sum of individual projects• Scientific basis and critical mass of the research in Switzerland <p>Plausibility of the goals/measures with respect to KTT, promotion of young researchers, gender equality and science communication</p> <p>and</p> <p>Quality of management of the NCCR and qualifications of the NCCR leadership</p> <ul style="list-style-type: none">• Qualifications of the leaders• Leadership and management concept / proposed organisation• Potential to guide long-term development, including incentives and instruments to implement structural and scientific visions• Suitability and innovation potential of strategies in KTT, science communication, equal opportunities and education issues <p>Scientific achievements and suitability of applicants</p> <ul style="list-style-type: none">• Qualifications and suitability of the team of applicants for the project <p>Appropriateness of the requested budget and commitment from home institution(s) and third parties</p> <p>and</p> <p>Suitability of the home institution(s) / structural development</p> <ul style="list-style-type: none">• Structuring effect of the centre at the home institution(s) and in Switzerland as a whole• Compatibility of the proposal with the strategic priorities and planning of the home institutions• Structural development at the home institution(s)• Appropriateness of budget and commitments by the home institution(s) and third parties <p>Significance of the research topic for research in Switzerland and around the world</p>

¹⁶ The criteria are based on the Federal Department of Economic Affairs, Education and Research's (EAER's) Ordinance on the Research Act Ordinance of 9 December 2013 (as at 1 November 2016) Art. 8 (1).

5.2 Assessment criteria and specifications: Explanations

Scientific quality, including topicality, innovation potential and interdisciplinary nature

The proposed research must be innovative with respect to the state of the art in the field and of outstanding quality. It offers the prospect of stimulating interdisciplinary research, but also new approaches and methods within disciplines, or of collaboration within new research fields.

The research plan for the first four years should present a coordinated and coherent set of projects and should show how the individual projects contribute to the overall questions and how they interact.

Research activities that have legal and ethical implications or deal with socially controversial issues need to be declared and addressed both in the outline and in the full proposal.

Critical mass and added value of the NCCR

The critical mass needed to have a considerable impact on the scientific community is indicated by the proposed extent of suitable projects and researchers, their national and international embeddedness and by the support from the home institution(s). Moreover, the proposed initiative should offer a clear added value in comparison with the sum total of the individual projects and envisage innovative, new structural elements.

Plausibility of the goals/measures with respect to KTT, promotion of young researchers, equal opportunities and science communication

The structural aspects of an initiative include the promotion of knowledge and technology transfer (KTT), young researchers, equal opportunities and science communication. The NCCR proposal must analyse the situation in the field, identify potential areas of intervention, declare the goals the NCCR would pursue in these structure-related areas and explain how they are linked to existing activities at the home institutions. NCCRs are expected to develop strategies that meet their specific needs, that are innovative and that go beyond current standards.

Quality of management of the NCCR and qualifications of the NCCR leadership

NCCRs are characterised by a high degree of scientific, organisational and financial autonomy. According to each NCCR's specific needs, its organisational set-up should enable it to function effectively. The application must set out an organisational structure and a leadership/management concept that is appropriate to the relevant environment. The application should also elaborate on integration and exchange measures within the NCCR, such as a series of workshops, seminars, etc. (partial overlap with communication strategy). For examples of organisational structures in the context of ongoing NCCRs, please refer to the websites of the individual NCCRs.

NCCR directors and co-directors must have an excellent scientific reputation in their field of research. Additionally, they must have proven experience in heading and co-ordinating a large research network, or equivalent qualifications. For this reason the "CV and major achievements" document of directors and co-directors contains an additional section of a maximum of 1 page on management-related principles, skills and experiences (leadership, management, decision-making). This section highlights the director's ability to lead, motivate and organise an NCCR.

Suitability of the team of applicants

The team of applicants individually provide evidence of their excellent track record by citing proven scientific achievements and output.

Scientific sub-units (e.g. work packages) are to be led by experts of the respective fields. Furthermore, the NCCR needs leaders who are also dedicated to promoting knowledge and technology transfer, education/training, equal opportunities and communication. The team of applicants is considered the core team of the NCCR. As such, it will be evaluated with regard to its suitability for achieving the scientific and structural goals of the NCCR project.

The SNSF strives to improve the gender balance in science and encourages NCCRs to take concrete steps to promote equal opportunities at every stage, including the initial stage of forming the consortium. The promotion of equal opportunities in science is an important evaluation criterion.

Appropriateness of the requested budget and the commitments by home institution(s) and third parties

Guidelines on how to prepare the budget are detailed in the [budget template](#).

The budget must be appropriate for the submitted proposal. While the budget for the outline proposals is a rough estimate based on current planning, the requirements for full proposals go into greater detail. Budgets include SNSF funds as well as funds provided by the home institutions and by third parties¹⁷.

The commitments by the home institution(s) must fit the scope of the initiative and the NCCR scheme.

Suitability of the home institution(s) / Structural development

NCCR leaders, in collaboration with their home institution(s) (and with other contributing institutions in the network), have to develop a vision of how they plan to renew, optimise and strengthen the research structures within the institutions and in Switzerland during the NCCR's funding period. It is important that proposed initiatives are in line with the strategic priorities and plans of the home institution(s). Furthermore, NCCRs promote sustainable national and international networks.

Plans for large new structures must include taking implementation measures at an early stage while the NCCR is still ongoing. At the end of an NCCR, its structures and newly

Structural developments in NCCRs may include:

- Creating and extending research and service units, such as new research centres, national institutes, interfaculty structures, technical platforms, research networks, etc.;
- Safeguarding, re-orienting or creating new professorships within the NCCR's research domain;
- Defining foci in education and research for the NCCR (e.g. course offerings at undergraduate level or continuous PhD programmes);
- Improving infrastructures, such as research infrastructures, databases, equipment, workspace, etc.;
- Creating and extending cooperation with leading international universities in the relevant research domain.

¹⁷ Third party funds will only be integrated at the full proposal stage

created networks in the field must be sufficiently strengthened and financially secured to ensure sustainable positive effects.

Significance of the research topic for Swiss research

This synoptic criterion addresses an initiative's strategic potential to strengthen Swiss research in an international context. NCCRs are expected to contribute towards strengthening Switzerland's position in strategically important areas of research.

Applicants proposing a topic that is very close to an ongoing NCCR or another large national research initiative need to take account of the achievements of this initiative. They must propose clearly distinguishable scientific questions and substantially new structural goals.

5.3 Formal check

The scientific evaluation of the outline proposals and full proposals is preceded by a formal check by the SNSF Administrative Offices. The SNSF may contact the applicants within two weeks after the submission deadline and ask them to correct formal points related to the application. The successful submission of the application is confirmed to the applicants by e-mail.

The SNSF Administrative Offices may check whether applications respect the rules of scientific integrity (see Regulations of the National Research Council on the treatment of scientific misconduct by applicants and grantees¹⁸).

5.4 Assessment of the outline proposals

The assessment of outline proposals has the aim of determining their suitability for the NCCR funding scheme, the quality of the scientific ideas they contain, their potential for restructuring the chosen research fields and their expected impact on science, knowledge and technology transfer, science communication, education/training, and equal opportunities.

Each proposal is reviewed by external experts. A single interdisciplinary panel then discusses the applications on the basis of the peer reviews and rates them. The programmes division (Division IV) of the SNSF approves the panel's ratings.

External peer review

Each outline proposal is externally reviewed by at least three international (not Swiss-based) experts. Suitable reviewers are identified based on the content of the letter of intent (abstract, names of applicants and negative list). Fewer than three reviews are acceptable, if – despite the efforts of the SNSF – only one or two reviews are received.

Assessment of outline proposals by the panel

A multidisciplinary and international panel of up to 20 experts assesses the outline proposals based on the external reviews. The panel is set up by Division IV of the Research Council and approved by the SNSF Presiding Board. It is chaired by an experienced and renowned scientist, whose main role is to monitor and chair the assessment. He or she may not be a member of the Research Council and must be based outside Switzerland.

¹⁸ http://www.snf.ch/SiteCollectionDocuments/ueb_org_fehlverh_gesuchstellende_e.pdf

Each outline proposal will be assessed by three panel members, one of them being a non-expert in the research domain of the outline proposal.

Based on the results of the assessment, the multidisciplinary panel rates the outline proposals and assigns them to one of the following four categories:

- A: excellent; most or all criteria have been met
- B: very good; some addressable flaws
- C: middling; not competitive overall
- D: insufficient in relation to one or several programme-relevant criteria

Six members of the Research Council sit on the panel as observers. Their role is to ask the panel for clarifications and to provide input related to the NCCR funding scheme or research conditions in Switzerland as needed. Division IV delegates the observers.

Programmes division of the SNSF

The observers present the outcomes of the evaluation by the panel to the programmes division (IV). Division IV of the Research Council approves the ratings by the panel. In case of new evidence that had not been available to the panel or clear misinterpretation of facts in the evaluation, the Research Council has the right to change the rating of an application. The permanent representative of the SERI in the programmes division is accompanying the evaluation steps in Division IV as an observer.

Outcome of the assessment and communication of the decisions

The outcome of the assessment will be conveyed in a letter to the applicants and their respective home institution(s) after the SNSF has concluded its evaluation. These letters are due to be dispatched in July 2018.

The letters shall contain:

- A general note on the assessment and the outcome (number of applications, distribution of ratings, etc.)
- An overall appraisal of the proposal's strengths and weaknesses
- The rating of the outline proposal
- The anonymised external reviews

The SNSF recommends that only applicants whose outline proposals were rated A or B submit a full proposal. No selection will be made, however; all applicants whose outline proposals were assessed by the SNSF are in principle eligible to submit a full proposal, provided that their home institution continues to support the initiative. Comments on the external reviews or the appraisal by the Research Council are to be addressed in the full proposal.

5.5 Assessment of the full proposals

Each full proposal is again reviewed by external experts. Subsequently, it is assessed by thematic panels. The applicants receive the external reviews and can comment on them for the attention of the assessment panels. The applicants then orally present their project to the panel. After considering all the information placed at their disposal, the panels submit a rating, a ranking and a list of applications recommended for further consideration to Division IV. The SNSF compiles a shortlist of proposals that are recommended for funding.

External peer-review

Each full proposal is externally reviewed by at least three international (not Swiss-based) experts. Fewer than three reviews are acceptable, if – despite the SNSF's efforts – only one or two reviews are received. The SNSF Administrative Offices identify experts based on the content of the outline proposal; they may re-contact the same experts that reviewed the outline proposals. The anonymised reviews are made available to the applicants prior to the interview.

Rebuttal / comment on the reviews

Based on the anonymised reviews, the applicants may draw up a rebuttal to resolve any misunderstandings or to propose potential solutions for specific criticisms (2 pages max.). The rebuttal will be available to the full proposal panels and the Research Council. Simply disputing experts' comments or competences to defend one's application is not acceptable.

Interview

The SNSF Administrative Offices invite the directors for an interview, which is conducted by the full proposal panel of the relevant science area. In this interview, the directors present their initiative with respect to all the assessment criteria listed in section 5.10. From among their team of applicants, the directors may choose further presenters for the interview. The interview is chaired by the panel chair. Together with the interview invitation, the SNSF sends the applicants detailed information about the interview procedure.

Assessment of full proposals by panels

The SNSF establishes at least three disciplinary panels composed of 8-10 international experts, all of them chaired by a highly experienced researcher. He or she may not be a member of the Research Council or a Swiss-based scientist. The panels cover the following areas:

1. Humanities and social sciences;
2. Mathematics, natural and engineering sciences;
3. Biology and medicine

Depending on the number of applications and the topics they address, the SNSF may set up more thematic panels.

The assessment panels are chosen by Division IV of the Research Council and approved by the SNSF Presiding Board. Division IV delegates six members of the Research Council to the assessment panels as observers. Their task is to represent the three aforementioned research areas in a balanced way. To each panel, a further observer is delegated from the specialised Divisions I-III of the Research Council. All observers have the right to ask the panel to clarify certain points, and they may give input related to the NCCR funding scheme or research conditions in Switzerland. Furthermore, observers from Division IV ensure that the assessment complies with the regulations.

Internal rating by the assessment panels

The panel conducts the interview with the applicants and evaluates the applications in accordance with the criteria set out in section 5.1. The applications are graded based on the full proposal, the peer review, the rebuttals and the interview. The panel then creates a ranking, for which it proposes a cut-off as regards the applications to be forwarded for further consideration.

Shortlist by Division IV of the Research Council

The observers of the Research Council present the results of the panel assessment to Division IV. Division IV also considers the ratings, the minutes of the panel discussion and the rankings, including the cut-off recommended by each assessment panel.

Division IV discusses all recommended applications and eventually establishes a shortlist of excellent applications to be recommended for funding. The Research Council generally respects the rankings established by the panels. In the event of new evidence coming to light that had previously not been available to the panel, or a clear misinterpretation of facts in the assessment, the Research Council has the right to alter the ranking of an application. The Presiding Board of the Research Council approves the decisions made by Division IV.

Applicants whose proposals have not been recommended for funding are informed of this outcome by means of an official notification from the SNSF. The respective home institutions receive a copy of the letter. The letter comprises:

- A general note on the assessment and the outcome (number of submitted full proposals, distribution of ratings, number of proposals shortlisted for the final assessment by the SERI, etc.)
- An overall appraisal of the full proposal's strengths and weaknesses by the panel and a summary of the discussion in the Research Council
- The rating of the full proposal

At the same time, the applicants whose proposals have been shortlisted and their respective home institution(s) are informed accordingly by the SNSF.

The permanent representative of the SERI in the programmes division takes account of the different stages in the evaluation process as an observer. The president of the Research Council and the director of the SNSF Administrative Office are observing the discussions in Division IV.

Meeting with the home institutions

After the communication of the shortlist decisions, bilateral meetings shall take place between delegates of the SNSF and each home institution (rectors' offices) that is represented on the shortlist. The meetings allow to clarify any remaining questions regarding the structural developments and commitments as well as the compatibility of the initiative with the strategic priorities and long-term planning of the home institutions.

Ranking of the shortlist

Finally, the Research Council ranks the applications on the shortlist. For this step, the Research Council integrates the outcome of the panel assessments and the discussions with the home institutions. The Presiding Board approves the ranked shortlist.

For the attention of the SERI, the ranked shortlist is complemented with individual appraisals by the Research Council of all proposals. These statements also comment on the structural aspects of the initiatives. Furthermore, the panel reports are forwarded to the SERI.

5.6 Assessment of the full proposals by SERI / Decision by EAER

In accordance with Article 8 (2) of the SERI Ordinance on the Research Ordinance, the SERI is responsible for assessment in terms of research and higher education policies. There is no scientific assessment at this stage. Pursuant to the aforementioned SERI Ordinance on the Research Ordinance, the examination is based on the following structural sustainability criteria:

- *Compatibility of the NCCR with the home institution's strategic planning*
- *Division of work and co-ordination in the higher education sector*
- *Incorporation into the regional and national overall distribution of competence centres in accordance with the goals of the National Centres of Competence in Research programme*
- *Agreement with the federal government's research policy goals*
- *Embeddedness in Switzerland's international scientific cooperation agreements and cooperation endeavours at an institutional level*

The president of the Research Council, the president of Division IV and the director of the SNSF Administrative Office are present during the assessment meeting of the SERI. Their role is to provide information collected in the course of the preceding evaluation by the SNSF. Based on its assessment, the SERI formulates a recommendation for the attention of the Federal Department of Economic Affairs, Education and Research (EAER).

In its final selection, the EAER / SERI will prioritise applications that are in line with federal research policies. The Swiss government included the fifth call for NCCRs in its "Aktionsplan Digitalisierung" / "Plan d'action pour le numérique".¹⁹ The call is expected to result in initiatives that will strengthen basic research in the area of digitalisation and use the potential of digitalisation technologies in various fields of application. Consequently, in the final selection among the applications that the SNSF has deemed to be excellent in both scientific and structural terms, the Swiss Confederation (EAER / SERI) will give a high priority to applications that are in line with the goals formulated in the action plan.

The EAER shall conclusively decide which National Centres of Competence in Research are to be established and define the financial framework for each NCCR. The EAER will inform the applicants about its decisions, presumably in autumn 2019.

6. Start of the selected NCCRs

According to current planning, the approved NCCRs will likely start in early 2020. After the EAER's positive decision, the SNSF shall sign a contract with each party responsible for an NCCR (home institution(s), NCCR director, the leaders of the individual projects). In particular, the NCCR's goals for the first four years of the contract, the contracting parties' rights and obligations, and the provisions with respect to the progress review and the application procedure for the second phase shall be set out in this contract. Requirements set by the EAER / SERI or the SNSF may also be stipulated herein.

¹⁹ Available at: <https://biblio.parlament.ch/e-docs/390767.pdf> (German); <https://biblio.parlament.ch/e-docs/390768.pdf> (French)