Spark Pilot Evaluation

Invitation to tender

1.   Context

1.1   Description of Spark

Spark is a pilot funding instrument of the SNSF that aims to fund the **rapid testing or development of new scientific approaches, methods, theories, standards, ideas for application**. It is designed for projects that demonstrate unconventional thinking and introduce a unique approach. The focus is on promising ideas of high originality: preliminary data are not required and applicants are encouraged to take risks. The focus lies on projects or ideas that are unlikely to be funded under other funding schemes (see www.snf.ch/spark).

Spark is open to any applicant with a doctorate or equivalent qualifications. Applicants can request between CHF 50,000 and CHF 100,000 for a project duration of 6 to 12 months (24 months if scientifically justified). The project must start within three to four months after the decision.

The focus of the funding decision lies on the originality and unconventionality of the research idea as well as the scientific quality and the potential impact of the project, but explicitly not on the track record of the applicant. Therefore, all Spark projects are evaluated in a double-blind evaluation procedure, in which the evaluators know neither the identity nor the previous, current or future position(s) or affiliation(s) of the applicant. For this reason, the proposals need to be fully anonymised by the applicants. The proposals are evaluated by members of a dedicated international pool of experts. The experts only evaluate the submitted project descriptions.

The relevant criteria for the award of Spark grants are:
- originality, novelty of the idea
- unconventionality of the proposed research project
- scientific quality of the project
- potential for significant impact

1.1   History and overview

Spark was introduced as a pilot funding instrument in 2019. Since its introduction, 2 calls were organised and carried out.[1] In both calls, record numbers of proposals were submitted to the SNSF, which indicates a strong interest of the target group for the new funding scheme. With a budget of 27 million CHF, 284 of the 757 projects submitted in the first call could be funded (success rate

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[1] Submission deadlines were 17 July 2019 and 11 March 2020.

38%). The reduced budget in 2020[2] allowed for funding of 101 out of 891 submitted projects in the second call (success rate 11%).[3]

With the termination of the pilot phase 2019-2020, the funding instrument will be evaluated in 2021. Depending on the outcome of the evaluation, the funding instrument may be integrated into the SNSF funding portfolio. The primary purpose of the evaluation is to understand to what extent Spark has reached its goal of funding the rapid testing or development of new scientific approaches, methods, theories, standards or ideas for application, to identify the strengths and weaknesses of the funding scheme and to develop concrete recommendations for improvement in light of a future implementation.

2.   Goals and focus of the evaluation

The overall goal of the evaluation is to answer the two following questions:

1. To what extent did Spark manage to attract and fund the best suited applicants and the intended projects? Were the right goals defined for the instrument?
2. How should the funding instrument be set up in the SNSF funding portfolio to best serve its goal with a manageable administrative effort?

In order to answer these questions, the evaluation of the Spark instrument will analyse four distinct – but strongly interrelated – focus areas, that will jointly reveal the required insight. Priorities among the focus areas may be discussed and defined together with the evaluation partner. The SNSF reserves the right to mandate the evaluation of the different focus areas to different partners.

Focus area 1: Target projects
- What type of projects did Spark attract with regard to the goals of the instrument?
- Were the processes (e.g. the double-blind evaluation) conducive to select the intended projects?

Focus area 2: Target group
- Which target group did Spark attract?
- Were the elgibility criteria and other requirements adequate?

Focus area 3: Processes and framework
- Was the selection process suited to identify the best suited projects? What were the strengths and weaknesses of the applied methods?
- Is the selection process and the lifetime management of Spark efficient, taking into account the scope of the instrument, the number of applications and the necessary recources for the management of the instrument?
- Are the framework conditions of the grants (funding, eligible costs, duration etc.) promoting the goals of the instrument?

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[2] The available budget differed between the two calls, as additional resources from the SNSF could be freed in 2019, which were not available in 2020.
[3] In the second call, 272 projects were originally not considered due to insufficient anonymization of the project description. The SNSF later revised this decision and allowed the concerned applicants to resubmit the corrected project descriptions in June 2020.

Focus area 4: Policy and strategy
- How does the instrument integrate into the research and funding landscape and the overall SNSF strategy?
- Were the right goals defined for the instrument?

Beyond the scope of the pilot evaluation:
- Impact evaluation
- Evaluation of the scientific and structural performance of the individual Spark projects
- Evaluation of the career implications for Spark grantees

Annex 1 lists a collection of possible evaluation questions in relation to the focus areas and the different addressees, which may serve as orientation for the elaboration of a tender. Furthermore, the SNSF Administrative Offices will be able to contribute to data collection and analysis. The distribution of tasks will be agreed with the evaluation partner, but you may include a proposition in your application.

2.   Methods and available data

The evaluation shall be carried out on the basis of analyses of qualitative and quantitative data. Possible methods include (but are not limited to) interviews with stakeholders, analysis of project plans and review reports, analysis of the effectiveness and efficiency of the SNSF processes.

2.1   Quantitative data

- SNSF Data Team analysis of the 2019 call (Exploratory Figures, Spark Text Analysis and Spark Gender Effect and Interactions)
- Project statistics (Calls, applications, funded projects, number of complaints)
- PI statistics (applicants, grantees)
- Comparison of both calls with differing success rates
- Data on double-blind evaluation and reviewer attribution

2.2   Qualitative data

2.2.1 Documents

- Spark regulations 2019 and 2020
- SNSF preparatory documents for the 1st and 2nd call

2.2.2 Stakeholder interviews

The following stakeholders may be involved and can be contacted for interviews and surveys:
- Grantees
- Host labs and host institutions of Spark grantees
- Grant offices at host Universities
- Reviewers
- Project collaborators and employees within Spark grants
- SNSF collaborators involved in the Spark programme

2.2.3 Other qualitative data

- Project plans
- Review reports

- Scientific reports of completed projects[4]
- Complaints by applicants

3. Deliverables, timeline and costs

The evaluation will produce the following items:
- A detailed concept for the evaluation by the evaluators (spring 2021)
- An evaluation report along the defined questions including recommendations for the future of Spark (fall 2021)
- A presentation of results and findings of the evaluation in the Presiding Board of the SNSF Research Council (fall 2021).

The total costs should not exceed CHF 70'000.-.

4. Project organisation

- The evaluation is mandated by the InterCo Division of the SNSF.
- A Sounding Board composed of 2-4 members will comment the results and recommendations of the evaluation for the attention of the SNSF.
- The Spark Team of the Administrative Offices of the SNSF will coordinate the project and will support the evaluation team. It will serve as partner for the daily business and all questions related to the procedures or data.

5. Tender

Tenders must be submitted in writing within 30 days after the invitation, and shall not exceed 10 pages (excluding annex). They should include:

- Approaches and methods proposed to answer the evaluation questions and to develop the recommendations for the future of Spark including a comment on the evaluation questions.
- Project team, references, project portfolio.
- A timeline and a budget for the implementation of the evaluation.
- Information and resources required from the SNSF in the course of the evaluation, and the preferred organisation of the collaboration between the evaluation team and the SNSF.

The criteria for selection are:
- The clarity and soundness of the proposed methodology;
- The orientation of the proposal with regard to the overarching questions;
- The practical usefulness of the expected output in view of the further development of Spark;
- The experience and competences of the evaluation team in the evaluation of research policies, research programmes, peer-review or expert-review processes in academic decision making;
- Project organisation and timing;
- Resource- and cost-efficiency.

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[4] Data from the projects are only beginning to become available (January-March 2021: End of the 284 projects from the 2019 call – expected delays due to COVID situation; Oct-Nov 2021: End of ca. 75 Spark projects from the March 2020 call; Jan-Mar 2022: End of ca. 30 Spark projects from the June 2020 call) and the whole set of data will only be available by March 2022 at the earliest. For this reason, the evaluation cannot include an assessment of the scientific and structural performance of the Spark projects.

The best rated project teams will be invited to present their concepts to the selection committee. Presentations will be followed by an interview and will take place between 15 and 27 March 2021.

Decisions will be communicated by 9 April 2021.

6. Contact

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Annex:
- Background Information
- List of possible evaluation questions

SNSF, 05.02.2021

1.   Annex 1: Background Information

1.1   About the SNSF in General

> ➢ SNSF Website
> http://www.snf.ch/en/Pages/default.aspx

> ➢ SNSF Profile
> http://www.snf.ch/SiteCollectionDocuments/inb_por_e.pdf

> ➢ Mission Statement of the SNSF
> http://www.snf.ch/en/theSNSF/profile/mission-statement/Pages/default.aspx

> ➢ Multi-Year Programme 2021-2024
> http://www.snf.ch/SiteCollectionDocuments/mehrjahresprogramm_2021_2024_e.pdf

> ➢ Annual Report "Profile" 2019-2020
> http://www.snf.ch/SiteCollectionDocuments/profil/2019/SNF-Profil-2019-2020-en.pdf

> ➢ Facts and figures on the SNSF
> https://data.snf.ch/?lang=en

> ➢ Research Database P3
> http://p3.snf.ch/

1.2   Funding Instruments, Regulations and Guidelines

> ➢ Overview of SNSF Funding Schemes
> http://www.snf.ch/en/funding/Pages/default.aspx

> ➢ General Funding Regulations
> http://www.snf.ch/SiteCollectionDocuments/allg_reglement_16_e.pdf

> ➢ General implementation regulations for the Funding Regulations
> http://www.snf.ch/SiteCollectionDocuments/snsf-general-implementation-regulations-for-the-funding-regulations-e.pdf

> ➢ An evaluation of the transparency and overall quality of Evaluation at the Swiss National Science Foundation
> http://www.snf.ch/SiteCollectionDocuments/Web-News/news-130221-auswahlverfahren-snf-evaluationsbericht.pdf

> ➢ Statement of the SNSF on the evaluation report 'Transparency and overall quality of evaluation at SNSF'
> http://www.snf.ch/SiteCollectionDocuments/Web-News/news-130517-snf-stellungnahme-evaluation-auswahlverfahren_e.pdf

1.3   The Spark funding instrument

> ➢ Spark – General information
> http://www.snf.ch/en/funding/programmes/spark/Pages/default.aspx

> ➢ Spark Regulations 2019 and 2020
> http://www.snf.ch/SiteCollectionDocuments/snf-regulations-spark.pdf
> http://www.snf.ch/SiteCollectionDocuments/Spark-Reglement-E.pdf

> ➢ Evaluation form for Spark referees
> http://www.snf.ch/SiteCollectionDocuments/Spark-Evaluation-form-2020.pdf

2.   Annex 2: Possible evaluations questions

2.1   Q1: To what extent did Spark manage to attract and fund the best suited applicants and the intended projects? Were the right goals defined for the instrument?

2.1.1   Target projects

1. What type of projects did Spark attract with regard to the goals of the instrument?
   - Did Spark fund truly new/unconventional research projects or also incremental ones?
   - Did the SNSF fund (truly) risky projects?
   - Did Spark finance projects that had to be done fast (independently of who the PI is)?
   - What was the diversity among funded vs. submitted proposals?
   - How are Spark projects set up?
   - How did the projects progress so far?
     - o Could the (completed) projects be carried out as planned?
     - o Is there a correlation between awarded grades in the evaluation and a timely completion of the project/submission of final reports?
     - o Did Corona impact the scheme? If yes, how?
2. Were the processes (e.g. the double-blind evaluation, evaluation criteria) conducive to find and select the intended projects?
   - Is anonymity really required, adequate and effective to achieve the goals?
   - Is it true that projects with contradictory peer reviews are the most unconventional ones?

2.1.2   Target group

1. Which target group did Spark attract?
   - How does the target group differ from the general SNSF target group?
   - Was the instrument relevant for the target group?
   - What did the science community make of the instrument?
2. Were the eligibility criteria and other requirements (e.g. no co-applicants in the second call, etc.) adequate?

2.1.3   Processes and Framework

1. Are the framework conditions of the grants (funding, eligible costs, duration etc.) promoting the goals of the instrument?
2. Was the selection process suited to identify the best-suited projects? What were the strengths and weaknesses of the applied methods?
   - To what extent does the general set-up of the evaluation procedure promote an excellent evaluation?
     - o Did the preliminary check and evaluation processes safeguard IP and confidentiality of data and documents, as well as the ethical and integrity standards of the SNSF?
     - o Did the quality of the reviews differ between the two calls and across applications? Did the refinements on the regulations and the supporting documents for the second call have a positive impact on the quality of the submitted proposals?
     - o Did contradictory reviews correlate with the "disciplinary distance" of the reviewers to the project? Does the "disciplinary distance" of a reviewer impact the outcome of the evaluation?

- Does the Spark expert pool represent the right format of an evaluation panel?
  - Did it promote comparative evaluation?
  - To what extent do the selected external experts and panel members meet the standards by the SNSF in terms of standing, internationality, gender balance, CoI)?
  - Was the strategy for expert attribution adequate? Was the attribution of the projects to the different experts using an algorithm useful and efficient?
- Was the selection/ communication procedure adequate? Were the funding decisions and the way they were communicated transparent, fair and adequate?
  - How were the results received and accepted by the applicants?
  - Did the funding decisions differ between applications reviewed by experts that performed multiple reviews and applications that were reviewed by experts that performed single reviews?
  - Was the ratio between the costs of the selection process and the funds awarded per application reasonable? Were the resources used in an efficient way?
3. Was the selection process and the lifetime management of Spark efficient, taking into account the scope of the instrument, the number of applications and the necessary recources for the management of the instrument?
   - Were technical solutions for the preliminary check, evaluation processes and expert payment adequate? Was the evaluation process really faster?
   - Were the resources for the evaluation and lifetime management used in an efficient way?
   - What was the quality of the lifetime management so far?
   - How did the introduction and piloting of Spark impact on the dynamics and procedures of the SNSF Adaminstrative Offices?

2.1.4 Policy and strategy

1. How does the instrument integrate into the research and funding landscape and the overall SNSF strategy?
2. Were the right goals defined for the instrument?

2.2 Q2: How should the funding instrument be set up to best serve its goal with a manageable administrative effort?

2.2.1 Target projects

1. What type of projects should Spark attract?
2. What processes (e.g. the double-blind evaluation, evaluation criteria) should be utilised to find and select the intended projects?

2.2.2 Target group

1. What target group should Spark attract?
2. What should be the eligibility criteria?

2.2.3 Processes and Framework

1. How should the framework conditions (funding, eligible costs, duration etc.) be defined?
2. How can the Spark selection process best balance diverging interests (general quality standard of the SNSF vs. high application numbers)?
   - What is the best-suited and most efficient selection process?
   - Could a lottery component in the decision process increase the acceptance of the decision, despite the shortened, one-step evaluation procedure?

- How should resubmissions (same project - same PI; same project - new PI) in 2022 be dealt with: Should applications with bad ratings be blocked from resubmission? How can this be operationalised?

3. In case of future use of a Spark expert pool: How can the best-suited experts be motivated to participate in the evaluation and how can the attribution of the experts to the projects be improved? How can loyalty be built among experts? How should the expert pool be managed and rewarded?

4. How can the quality of reviews be further improved and how can differing quality of review reports be managed without any oversight from a scientific panel that could help to unify these disparities?

5. How should the "disciplinary distance" of experts to the projects be taken into account?

6. How can the efficiency of lifetime management of Spark be improved?

7. How should the Spark outputs be managed?
- How should the template for scientific reports be structured in order for the AO to conclude whether the project was not only successful but also truly the type of project that Spark was seeking (e.g. innovative, unconventional, risky, etc.)?
- How should the Spark outputs be analysed and valorised?

2.2.4 Policy and strategy

1. How should Spark be integrated in the research and funding landscape and the overall SNSF strategy?

2. What goals should be defined for the instrument?