BRIDGE

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# BRIDGE Quantum Call 2025: Call Document

## 0 Preface

The BRIDGE Quantum Call 2025 aims at supporting (early stage) innovation in the fields of quantum technologies. The call targets experienced researchers in Switzerland who, together with partners, have the primary goal of implementing scientific achievements into practical applications.

The BRIDGE Quantum Call 2025 is based on the strategic considerations of the Swiss Quantum Commission (SQC) of 17 March 2025[1] and forms one part of the ongoing Swiss Quantum Initiative (SQI).

This call is jointly launched by the Swiss Innovation Agency (Innosuisse) and the Swiss National Science Foundation (SNSF) as part of the BRIDGE funding programme. A total maximum budget of 20 million francs is available to fund projects and is provided in equal parts by Innosuisse and SNSF.

The BRIDGE Quantum Call 2025 will be carried out as a thematic call according to the rules of the BRIDGE Discovery funding line. Unless otherwise specified below, the regulations on BRIDGE Discovery grants (Discovery regulations) of 10 January 2025[2] apply.

## 1 Principles

### 1.1 Purpose and scope

[1] The purpose of this call for BRIDGE Quantum proposals is to support qualified researchers who carry out application-oriented work on the following topics:

a) **Quantum communication** (including but not limited to quantum key distribution, quantum repeaters and communication between quantum computers)
b) **Quantum computation** (including but not limited to quantum processors and architecture, error correction and algorithms)
c) **Quantum simulation** (including but not limited to algorithms, quantum simulators incl. atomic and solid-state systems and synthetic quantum materials exhibiting entanglement)
d) **Quantum sensing and quantum metrology** (including but not limited to sensing platforms and approaches, algorithms, entanglement-enhanced sensing, quantum metrology standards and clocks)

Furthermore, applications in the following fields are welcome if they are key to the emerging applications or engineering technologies within one of the topics listed above (a to d):

- Materials for quantum devices
- Quantum control hardware
- Quantum theory

[1] New Call for Quantum Innovation Projects: Considerations by the Swiss Quantum Commission
[2] Version of: 23 May 2025

- Computer sciences
- Quantum ethics

[2] The call for BRIDGE Quantum proposals is announced in 2025. The BRIDGE office publishes the relevant submission deadline on its website.

### 1.2 Duration of grants and maximum grants

[1] BRIDGE Quantum grants are awarded for a maximum of 4 years.

[2] The maximum amount of eligible costs depends on the number of applicants involved:

- 1 applicant: The maximum amount of eligible costs is CHF 850,000 for 4 years
- 2 applicants: The maximum amount of eligible costs is CHF 850,000 for 4 years per applicant, namely CHF 1.7 million for 4 years.
- 3 applicants: The maximum amount of eligible costs is CHF 850,000 for 4 years per applicant, namely CHF 2.55 million for 4 years.
- 4-5 applicants: The maximum amount of eligible costs remains the same as for 3 applicants, namely CHF 2.55 million for 4 years. Each applicant cannot request more than CHF 850,000 for 4 years.

[3] For projects shorter than 4 years, the maximum amount is reduced proportionally.

## 2 Requirements for applicants and for application submission

### 2.1 General requirements for applicants

[1] BRIDGE Quantum proposals can be either submitted by a single applicant or a consortium consisting of a maximum of 5 applicants. If the number of applicants in the consortium exceeds 3, the maximum amount of eligible costs per year will remain the same as for 3 applicants (see section 1.2). Each applicant must meet the eligibility criteria set out in this call document as well as the Discovery regulations[3].

[2] Members of the BRIDGE Quantum evaluation panel are not eligible to submit a proposal to the BRIDGE Quantum Call 2025.

### 2.2 Further personal requirements for applicants

Regarding further personal requirements[4], the applicants must demonstrate in particular that they are in a position to carry out research projects with a clear application-orientation under their own responsibility and to lead scientific and non-scientific project staff employed in this project. Furthermore, they must be able to show that they have the necessary quantum research infrastructure at their disposal or how they plan to access it.

[3] Article 6, paragraphs 2-6 of the Discovery regulations
[4] Article 6, paragraph 5 of the Discovery regulations

## 2.3 Specifications for consortia with 3 to 5 applicants

[1] Collaboration in the field of quantum technologies is essential and is encouraged. Access to existing and relevant quantum infrastructure may be facilitated if more applicants are involved.

[2] For applications with 3 to 5 applicants, one of them may be based at a higher education research centre outside of Switzerland if their expertise and contribution as a qualified researcher is essential for the project. The applicants need to demonstrate that the relevant expertise/contribution is not available in Switzerland. The results of the project have to be implemented in Switzerland and the anticipated value created for the Swiss economy and/or society. The role of principal investigator must be assumed by an applicant from a Swiss research institution[5]. There is an upper limit for the project budget that can be allocated to applicants outside of Switzerland (see section 3.3).

## 2.4 Project and implementation partners

[1] **Project partners** are researchers who contribute to a research project through cooperation without being responsible for the project as a whole[6].

[2] Applicants may choose to involve **implementation partners** (e.g. industry partners) who contribute to the project, typically with non-research tasks, specific industry expertise or access to infrastructure. However, implementation partners are not eligible to receive financial support within the scope of BRIDGE.

## 2.5 Formal requirements for applications

[1] The formal requirements of the Discovery Regulations[7] apply. The maximum 20-page project description can be exceeded by one page (for a total of 21 pages) if the following applies:

- If project partners or implementation partners are involved, their contribution must be documented in the project plan.
- If infrastructure is purchased for ≥ CHF 50,000, it must be justified, and how the host institution of the applicant will guarantee the operation and maintenance of the acquired infrastructure must be outlined.

[2] Regarding the project description[8], applicants must demonstrate in particular the steps they plan to take to implement scientific achievements for practical or commercial use.

## 2.6 Resubmission

The call for BRIDGE Quantum proposals is planned as a one-time measure. An application that has been rejected may be revised and resubmitted once to the periodically announced BRIDGE Discovery calls, provided that the requirements of the Discovery Regulations and the regular Discovery call are met.

[5] In accordance with Article 6, paragraph 4 of the Discovery regulations
[6] The Discovery Regulations apply, unless otherwise specified in this call document.
[7] Article 8 of the Discovery regulations
[8] Article 8, paragraph 3 of the Discovery regulations

### 2.7 BRIDGE Quantum grants in relation to other funding

BRIDGE Discovery grantees with ongoing Discovery projects can take part in the thematic BRIDGE Quantum Call 2025.

## 3 Eligible costs

### 3.1 General principle

For eligible costs, the Discovery Regulations[9] apply, unless otherwise specified below.

### 3.2 Upper limits for costs of infrastructure (use and purchase)

[1] Work in applied quantum research and innovation is often highly technical and benefits from state-of-the-art equipment. Costs can incur through:

- the purchase of infrastructure
- the use of infrastructure
- infrastructure-related services

Within the BRIDGE Quantum Call, such infrastructure-related costs can be covered up to a maximum of 40% of the overall project budget. These costs need to be directly linked to the project and necessary to pursue the project's goals. For the definition of non-eligible infrastructure costs, the Discovery Regulations[10] apply.

[2] If infrastructure is purchased for ≥ CHF 50,000, the host institution of the applicant must guarantee the operation and maintenance of the acquired infrastructure. This must be outlined in the project application and will be evaluated by the evaluation panel. The evaluation criterion "feasibility" (see section 4.3) is used to assess whether the project is feasible. This also includes an assessment of the project budget and whether the costs for the submitted project are justified and appropriate. In deviation from the Discovery Regulations[11], matching funds from the host institution are not required, but they will be positively assessed.

[3] For cost items ≥ CHF 50,000, appropriate evidence must be attached (e.g. current offer/quote, cost calculation backed up by estimates or current price lists).

### 3.3 Upper limits for contributions to applicants from outside of Switzerland

The costs allocated to applicants abroad cannot exceed 20% of the overall budget for the project.

### 3.4 Upper limits of costs of services provided by project and third parties

[1] To facilitate access to specific industry expertise or access to infrastructure from relevant industry partners, in deviation from the Discovery Regulations[12], up to 20% of the overall project budget can be allocated to cover the cost of third-party services.

[9] Article 11-15 of the Discovery regulations
[10] Article 11, paragraph 6 a) of the Discovery regulations
[11] Article 11, paragraph 2 d) of the Discovery regulations
[12] Article 11, paragraph 2 i) of the Discovery regulations

[2] If the costs of services provided by project partners and/or third parties relate to quantum infrastructure, these costs can be covered up to a maximum of 40% of the overall project budget. This is in line with the upper limit for infrastructure-related costs (see section 3.2).

[3] The costs of services must be justified by demonstrating that they are essential for advancing the project and implementing the results in Switzerland.

# 4 Proposal evaluation procedure and evaluation criteria

## 4.1 Non-consideration

BRIDGE does not consider applications that are manifestly out of the scope of the BRIDGE Quantum Call 2025 (see section 1.1).

## 4.2 Evaluation procedure

[1] A specific evaluation panel will be appointed for this BRIDGE Quantum Call 2025 and will take on the tasks involved in the evaluation process[13]. A panel comprising experts from industry, research centres and universities will be appointed for this purpose.

[2] The BRIDGE Steering Committee[14] makes the final decisions.

## 4.3 Evaluation criteria

The following criteria are applied in the evaluation of BRIDGE Quantum Call 2025 proposal[15]:

**a) Quality of the project**

i. *Innovative potential:* The project must present a credible vision of the potential impact of the innovation, including its potential impact for Swiss industries. Specifically, the project must demonstrate tangible technological progress and specific innovation pathways, which are relevant for at least one emerging or existing industry player within Switzerland.

ii. *Scientific content:*

- The project's scientific objectives must be of high quality and must address relevant needs (e.g. technological, societal, environmental, economic).
- The objectives should be related to the intended innovation and not just represent a continuation of the basic research. The proposed methods must be suitable, clearly defined and relevant to the objectives.

iii. *Feasibility:* The project must be feasible and goal-oriented based on its work plan and defined milestones (including valorisation of a process where applicable) and must include a realistic budget.

[13] As outlined in article 18 of the Discovery regulations
[14] Organisation – Members of the BRIDGE Steering Committee
[15] The evaluation criteria are largely based on article 19 of the Discovery Regulations. Specifications for the BRIDGE Quantum Call 2025 were made to a) Quality of the project, namely *i. Innovation potential* and *iv. Implemention* as well as to c) Additional criteria, namely *i. cooperation between relevant players in applied quantum research and innovation*

iv. *Implementation:* The project must contain a convincing roadmap towards (technological) innovation, including the involvement of the necessary stakeholders, and a strategy outlining the envisaged steps for implementing research outcomes into economical and/or societal value.

**b) Applicant qualifications**

i. The applicants demonstrate an appropriate level of both scientific and innovation-based competences, including the relevant skills needed to successfully complete the project (e.g. managerial and entrepreneurial skills as well as in-depth understanding of the topic).
ii. In projects with more than one applicant, their competences must be complementary, and their collaboration must clearly generate added value. Moreover, the applicants must be able to show that they are capable of organising the consortium and establishing appropriate project-internal communication and decision processes. Cooperation between universities, the Swiss federal institutes of technology and research institutions on the one hand, and universities of applied sciences (UAS) and universities of teacher education (UTE) on the other, is considered a positive asset in the evaluation process.

c) **Additional criteria** (used for prioritisation in the case that two or more projects are evaluated equally)

i. Proposals that strengthen cooperation and networking between relevant players of applied quantum research and innovation, especially between industry and academia, will be given priority.
ii. Proposals that contribute to a sustainable economic, societal or environmental impact will be given priority.
iii. Proposals that increase diversity will be given priority in order to mitigate imbalances in the success rate for categories such as proposals by female applicants, variety of institutions, variety of disciplines, variety of institutions from various language regions, etc.

## 5 Final provisions

This call document was adopted by the BRIDGE Steering Committee on 23 May 2025.