Swiss Data Science Center (SDSC)

2025 Call for Collaborative Research Data Science Projects

# **Pre-Proposal Submission**

|  |  |
| --- | --- |
| **Project Title** | Full project title |
| **Acronym** | Acronym of the project |
| **Main applicant** | Title, First Name, Surname |
| **Project abstract** | Provide a 200 words abstract (same as for CMT) |
| **Free Keywords** | List at least 5 keywords in relation with the project |

This is a submission to the following track:

⬜ Health & Biomedical Sciences (HBMS)

⬜ Climate & Environment (CE)

⬜ Energy & Sustainability (ES)

⬜ Data Science for Large Scale Infrastructures (LSI)

⬜ Digital Society (DS)

⬜ General (G)

The applicant hereby confirms that all the information provided in this proposal, as well as the attached budget and additional attachments (if any), is true and correct. They were prepared with the consent of the persons involved.

Place, date Signature

**List of Partnering Teams**

|  |  |
| --- | --- |
| **Team 1 (Project lead)** | **Team name / acronym** |
| Main applicant /  Principal Investigator | Title, First Name, Surname |
|  | Position |
|  | email |
| Affiliation | Laboratory, Faculty, School / Research Institute |
| Full Postal Address | Street, number  Postal Code, City |
| Phone number |  |
| Deputy Principal Investigator | Title, First Name, Surname |
| (if any) | Position |
|  | email |
|  |  |
| **Team 2 (if any)** | **Team name / acronym** |
| Co-Principal Investigator | Title, First Name, Surname |
|  | Position |
|  | email |
| Affiliation | Unit, Institution, Country |
| Deputy co-PI | Title, First Name, Surname |
| (if any) | Position |
|  | email |
|  |  |
| **Team 3 (if any)** | **Team name / acronym** |
| Co-Principal Investigator | Title, First Name, Surname |
|  | Position |
|  | email |
| Affiliation | Unit, Institution, Country |
| Deputy co-PI | Title, First Name, Surname |
| (if any) | Position |
|  | email |

# **Proposal**

(5 pages, excluding references)

# **Summary**

*State the goals and significance of the project (max 1 page).*

# **Overview**

## Motivation, context, and objectives

*Position the scientific problem and the general objectives of the project with respect to the existing literature. Highlight the alignment to the call’s objectives.*

## Scientific and societal Impact

*Describe the impact of the project, at a scientific and/or societal level. If relevant, describe how the community will benefit from the project legacy and how it will address open problems in the field. If relevant, describe the contribution of the project to open science.*

## Alignment between project and call

*Describe how the project benefits from the call for projects and from what the SDSC offers. Describe as well why the project fits well the selected call and how the mutual collaboration will achieve goals described.*

*For the LSI track, explain how the project is relevant to the operation and exploitation of large scale infrastructures, mention if the project addresses some of the technical challenges and scientific opportunities associated with the growth in data volumes and data acquisition rates, and if so explain how.*

# **Project description**

## Detailed research plan

*Provide a description of the different parts of the project and of the expected results. Highlight the expected contribution of data science, provide a description of the key data science questions, together with the general data science approaches that will be used to solve these questions. Please discuss feasibility whenever appropriate.*

## Data

*Provide an overview of the data and justify why the data is adequate and contains sufficient information (appropriate features, sufficient quantity and quality) to achieve the scientific goals of the project.*

*If either a specific data transfer user agreement (DTUA) and/or the approval of the project by an ethical committee is required to access some of the data used in the proposed project, please provide information supporting the feasibility of having access to this data by April 2026 (support letters are not expected in the pre-proposal phase).*

*Please summarize in this section the characteristics of the data that potentially represent challenges that will need to be overcome to achieve the goals of the project, and why / how you think these challenges can be overcome.*

*Please refer throughout this section to the datasets that you have listed and described in the data form (updated if needed from the pre-proposal phase). There is no need to provide again in this section data descriptions that are already provided in the data form.*

*You also have the possibility of uploading on CMT a data sample and/or a metadata file to illustrate some of the characteristics or the structure of some datasets.*

## Collaboration and contribution

*Describe the expected scientific and technical contributions of the different project partners. Highlight the complementary expertise, synergies and responsibilities that are essential to the success of the project. Describe how you envision the collaboration with the SDSC, what role the data scientist from the SDSC will play in the project and how this is complementary to the roles of other partners.*

## 3.4 Risk assessment and mitigation

*Discuss potential risks and outline appropriate mitigation strategies to address them*.

1. **Resources**

## SDSC staff

*Specify tentatively the expertise and competence that should be provided by the SDSC data scientist. Indicate also the number of FTEs requested.*

## Compute and storage resources

*Please provide an estimate of the computational resources needed for the project.*

* *CPU Cores and RAM (through virtual machines or compute time on HPC clusters),*
* *Data storage*
* *GPU boards*

*The SDSC will not cover the cost of resources (storage and compute) other than those provided for the data analyses, the development, and the testing of data science algorithms, via our partnership with SWITCH and CSCS.*

*The amount of resources can be increased for short period of times (eg. to obtain results for a submission of a paper or conference)*

## Contributed resources

*List the members of the partnering teams, their involvement, and the type of expertise that they will be contributing to the project. List as well if relevant, computational and data resources.*

# **References**