CITIZEN SCIENCE CENTER ZURICH

A joint initiative by Universität Zürich[UZH] | ETH zürich

Citizen Science Center Zurich

Checklist for the preparation of projects

The Citizen Science Center Zurich aims at engaging academic scientists and the public in next-generation citizen science projects (or Citizen Science projects "Zurich Style"). These are research collaborations that produce excellent science and maximize the engagement of citizens, while providing knowledge and data that, if possible, support the Sustainable Development Goals (SDGs) of the UN 2030 Agenda.

The aim of the roadmap is to facilitate an **agreed and transparent** functioning of the Center. It lays down **the key milestones that define the ideal process to propose a set up a Citizen Science project in collaboration with the Center.**

This roadmap is the results of a series of open discussions between the Center's management and team, and representatives of the UZ and ETHZ research community.

Check Point 1
You have an idea for a citizen science project – what's first?

You (scientist or citizen) have an idea for a Citizen Science project and wish to collaborate with the Center to receive support. First thing you should do is **check if your project fits the "Criteria for project support".**

Criteria for Project Support

1. The project is designed around a well-defined scientific question (in any field of natural or social sciences) and the aim of the project can be phrased as testable hypothesis.
2. The project definition, objectives and outcomes are open and can be communicated in an accessible and comprehensible manner.
3. The goal of the project is research, i.e. the project cannot have only educational and social goals.
4. The objectives of the project are impossible – or very hard - to achieve without the contribution of the citizens.
5. The project involves citizens in multiple stages of the research process. Projects with high level of involvement (co-creation) have priority for support.
6. The project has wide general appeal for different kinds of stakeholders (scientists, citizens, civil society, policy makers ...) and is not restricted to a specific interest group.

7. The project's topic and goals cover issues of proven importance and social interest that can facilitate the recruitment of participants.
8. The project maximizes the values offered to participants by touching on multiple value propositions (personal development, new knowledge and skills, personal satisfaction, social networking, fun …).
9. The project's goals are possible to achieve with a clear and easy protocol. The proponents have evaluated and reduced all risks related to participation.
10. The project's protocol guarantees that the data collected by citizen be of sufficient quality to answer the scientific question (generate a scientific publication) or be used to derive indicators for policies.
11. The assignment of tasks and roles in the project (from the project leader to the citizen scientists) is clear and transparent.
12. The technology necessary to perform the tasks is easily available or provided at no or little cost for participants.
13. The project's goals (quantity of necessary data, coverage, required number of participants) is achievable within a reasonable timeframe.
14. The proponents demonstrate the availability of sufficient resources to achieve the desired goals, and a long-term commitment to fully engage with volunteers.
15. The proponents are aware and have considered all ethical aspects related to the project (e.g. diversity, inclusion, gender equality, reflection on in- or exclusion of specific groups).
16. The projects' data and metadata are made publicly available, provided there are no legal or ethical arguments against doing so.
17. If data are not hosted within the Center infrastructure, the project has a data management plan which conforms to standard data protection regulations (CH and EU).
18. The results of the project are published in an open-access format, provided there are no legal or ethical arguments against doing so.

Check Point 2 – The Citizen Science Center Zurich supports the Sustainable Development Goals: do you?

The Sustainable Development Goals (SDGs) are a set of global goals developed in 2015 by the 193 UN member states and partners to set an agenda for sustainable development until 2030. They address the global challenges we face, including poverty, inequality, climate, environmental degradation, prosperity, peace, and justice.

The role of science in supporting this global effort is evident, as success depends largely on the availability of data for assessments and monitoring of progresses (i.e. environmental changes, health, and more). However, scientists alone cannot provide information at the necessary scale and resolution and the collaboration with citizens is considered a must.

The Center asks you to reflect on your project: is your research going to generate knowledge and data that can help assessing, monitoring and in general achieving the Sustainable Development Goals (SDGs)?

> *Example:*
> *CrowdWater aims at crowdsourcing hydrological data and developing a cheap and easy method of data collection that can be used to predict floods and low flow.*
> *This research contributes to Goal 6 (Ensure availability and sustainable management of water and sanitation for all), 13 (Take urgent action to*

combat climate change and its impact), 15 (Protect, restore and promote sustainable use of terrestrial ecosystems).

Note that project at the Center should reflect on the SDGs but are *not* required to address these challenges.

Check Point 3 – You are ready for action: which kind of support do you need from the Center?

You may have done citizen science projects before, or you may only have heard about it, and are just exploring the opportunity. In all cases, the Center is available to investigate with you all aspect of your project and make sure that CS is an appropriate solution, and that your project will produce excellent scientific results while maximizing the involvement of citizens at all possible stages (Citizen Science "Zurich style").

In particular, the Center is available to support you in the following key areas:

- ➔ knowledge of the methodology
- ➔ platform and tools for implementation
- ➔ community building and management

Knowledge support

- Existing knowledge on the Citizen Science methodology, including standards and guidelines
- Past experiences and references to similar projects
- Resources requirements, including the ones for the proposer team (time and people)
- Foreseeable implications of setting up a running your project.

You can also access services of the Participatory Science Academy (PWA), including small grants to help you start your project.

Platform & Tools

- Overview of possible technical solutions
- Definition of functional requirements
- Estimate of resource requirements (time, people, finance)
- Planning, including timeline and resources
- Implementation

NOTE: The platform is in constant development, with functionalities being continually developed depending on the needs of the projects. The amount of resources needed for your implementation will depend on whether your project need functionalities already existing on the platform, or the development of new ones.

Community management

- Development of the community building strategy
- Identification of target groups within and beyond the existing community
- Support on planning of community engagement, including ways to foster dialogue and collaboration, listen, attract, inform, and engage citizens
- Opportunities for visibility

Check Point 4 – Access support

Before reaching out to the Citizen Science Center Zurich, please prepare the following:

- Description of the project (few sentences, 4 max.)
- What is the scientific hypothesis to be tested (1 sentence)?
- Is there any relations to the SDGs?
- To which extent will citizens be involved?
- Which kind of tasks are you asking citizens to perform? (For example collection of images, collection of personal health data, analysis of images, transcription of text, survey answers, etc.)
- What is the minimal number of participants/performed-tasks to obtain statistical significance?
- Which type of data will be obtained?
- Will these data imply privacy issues?
- In your opinion, does this type of data acquisition require an ethical assessment?
- Which IT-based infrastructure does your project require?
- Which additional infrastructure is required (not necessarily provided by the Center)?
- What is your preferred timeline?

The easy way to get in touch with the Center's team is by contacting info@citizenscience.ch or calling the Center's office at +41 44 634 21 97.

Check Point 5 – Need additional resources? Consider partnerships

Once the resources required for your project are clear, you may decide that you need additional skills, people, or financial resources. If so, it may be interesting to explore more formal and longer-term partnerships with the Center or its network.

The Center is available to consider strategic partnerships when based on shared values and clear purpose. In particular, possible partnerships will be evaluated on the base of the following criteria:

- Shared values
    - Scientific excellence
    - Favouring high level of collaboration citizens-scientists and citizen participation in all stages of the research cycle (co-creation of projects)
    - Giving back to society (Sustainable development)
- Clear purpose
    - Joint proposals for grants
    - Joint projects
    - Co-organization of events or other outreach activities
- Mutual Benefits
    - Visibility (logos and more)
    - Shared resources (i.e. research, communication, finance, etc.)

Check Point 6 – Have you thought about ethics?

When setting up a project that involves the participation of citizens, researchers need to be aware of possible ethical and social issues. The Center has partnered with the Health Ethics and Policy Lab at ETH and with the Digital Society Initiative at UZH to build and provide the necessary knowledge in the field. The Center is developing a framework/guidelines* that will help researchers identify and tackle potential issues (for example, choices related to anonymity vs. acknowledgement, involvement vs. exploitation, ownership, etc.) and suggest solutions.

**Please note that this development is work in progress.*