



Co-designing Citizen Social Science for Collective Action

#D2.4

Open Citizen Social Science Toolkit



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1. Executive Summary

This report presents the research, design and collaboration actions towards the programming and implementation of an open web-based Citizen Social Science Toolkit, D2.4 of the CoAct consortium. CoAct represents a new understanding Citizen Social Science (CSS) and implements new or improved science policy and action. CoAct's research and innovation (R&I) activities respond to issues related to Mental Health Care, Youth Employment, Environmental Justice and Gender Equality in Barcelona, Vienna, Berlin, Buenos Aires and in European Eastern countries. The building of the CSS toolkit is led by researchers based at the University of Applied Sciences Potsdam (Fachhochschule Potsdam/FHP), Germany. The report first introduces the foundational CSS approaches that guided the multidisciplinary research approaches and methodologies represented by CoAct partners (Sections 1 and 2). It then proceeds into section 3 explaining the context for building the toolkit, namely by situating it in relation to other tool and project generator platforms within the existing citizen science and citizen social science resources. Section 4, the Development of the CSS Toolkit, is exclusively on the CoAct toolkit and explains its aim, users, structure, and envisioned use as a public knowledge platform. Here, we explain the postponement of the launch of the website on December 10 because of change of FHP staff and contractor issues. Section 5 presents concluding remarks on the overall D2.4 process.

The toolkit website has five major components. These are the landing page, the research cycle, the “key points” and “meet the experts” pages, and the plug-in as the actual toolkit presenting CSS methods applied by CoActs' Research and Innovation actions as the “main method platform”.

The toolkit landing page is integrated in the CoAct website and accessible through its main menu. The landing page welcomes users and introduces the main function of the toolkit. It then presents short textual and visual information on the research cycle that is specific for CSS research and provides a link to its dedicated webpage. It also provides a link to the main method platform.

As a core element of the CoAct research process, the toolkit has a dedicated page for the research cycle. The research cycle is presented in a condensed form as an infographic that visually depicts the ethical, epistemic, and methodological core of CoAct with descriptions and explanations of every step

of the cycle. On this page, users can interact with the infographic and access concise information on CoAct's individual research steps and transversal topics (i.e. ethics and co-evaluation).

The "Explore the toolkit" page is a second element of the toolkit menu and home of the main method platform. This main component was designed and implemented as a plug-in to the main CoAct website by the Berlin-based contractor firm "Produktivbüro". After multiple phases of delivery-date negotiations with them, the plug-in was launched and integrated as part of the main project website on December 10, 2022.

The method platform allows users to navigate across steps and topics to access individual methods that are assigned to steps and transversal topics. Methods are also organized and can be filtered according to resources such as duration, group size and materials-needed. Finally, toolkit users can also access to methods clustered by thematic keywords. The plug-in offers document and image upload functionalities as well as providing space for contributors to customize their entries via "open field" sections.

The toolkit is live now with active users from the CoAct consortium uploading, revising, and editing tools applied in their research and innovation actions. The toolkit is available at <https://coactproject.eu/resources/toolkits/tk-landing/>.

2. Introduction – Foundation of the Citizen Social Science Toolkit

CoAct! (Co-designing Citizen Social Science for Collective Action) proposes a radically new approach to face four "wicked" social global issues by engaging vulnerable citizens acting as in-the field competent co-researchers. The approach represents a new understanding of the underexplored field of Citizen Social Science (CSS) and aims to implement new or improved science-related policies. CoAct's ambitious Research and Innovation (R&I) activities have responded to issues related to Mental Health Care, Youth Employment, Environmental Justice and Gender Equality in Barcelona, Vienna, Berlin, Buenos Aires and in European Eastern countries. CoAct has defined and developed a general framework for CSS as a participatory research method co-designed and directly driven by citizen

groups sharing a social concern. The methodological framework has been incubated in a consortium of international Research Organizations, NGOs and global networks of Open Science and Open Data activism. Expertise from Computational Social Science, Participatory Action Research, Citizen Science evaluation or Citizen-generated Data have been incorporated to conceive of a transdisciplinary CSS that places vulnerable citizens at the centre of R&I cycles, as co-designers and co-researchers. In these mission-oriented Research Actions and three Research Pilots we experimented with new tools and methods in which vulnerable citizen groups participated. This includes a wider circle of support by building Knowledge Coalitions formed by public bodies, CSOs and social innovators. The common effort has harnessed novel, simultaneously global and local, socially robust knowledge, and scientifically reasoned measures to promote social change.

One main result of the research and innovation actions is the development of an Open Citizen Social Science toolkit. Guiding principles that proved useful for Citizen Social Science projects are the following:

- CSS considers *citizens' participation / engagement* as a key feature of all stages of the research process;
- CSS draws from *social science theories and methods*;
- CSS focuses – beyond the objective givenness – on the social construction of social reality that requires *interpretation and understanding of socio-cultural meaning, sense-making practices, communication and social action*;
- CSS takes *citizens' social concerns and issues* as its main thematic focal point;
- CSS aims at *practical relevance* of the produced knowledge that have *social impact* and envisions *social change*;
- CSS sets up *communicative spaces* for mutual exchange and understanding in the knowledge coalitions;
- CSS is particularly aware of the *ethical responsibility to reflect* and to *prevent power imbalances* and to include the diversity of perspectives, local knowledges, world views.

These points of consideration and reflection attempt to ensure that CSS produces not only socially robust knowledge (Maasen & Lieven, 2006) but also guarantees that citizen scientists' concerns are taken seriously when included as equals in the substantive development of the research process. In this way, it is possible to achieve closeness to the real world and practical relevance, a focus on solutions to problems, and concrete answers – in other words, an orientation toward citizens' lived realities and their need for practical action. CSS must take a self-reflective stance in the interpretive process of discovering and examining the diversity of perspectives, local knowledges, world views and interests.

Based on new knowledge and approaches created during the course of the CoAct-project, especially practical learnings extracted from the R&I Actions (WP3-5), a web-based toolkit has now been prepared in order to transfer and publicize the knowledge and best practices derived from the project. The set of methodologies, methods and tools being presented in the Open Citizen Social Science Toolkit will enable CoAct and the Citizen Science Community to enhance innovation capacity and will be made accessible to researchers in all disciplines as well as citizens acting as co-researchers, policy makers, public bodies, CSOs, and SMEs. It has been developed as a web-based tool, detailing how to put Citizen Social Science into practice, to choose appropriate research and evaluation designs, to implement participatory research elements, to apply criteria for selection and application of the best fitting methods, and how to assess the impact of specific Citizen Social Science methodologies.

In the following we start with the presentation and discussion of toolkits with similar ambitions to foster the methodical competency of Citizen Science to initiate meaningful research by integrating citizens into the research and innovation cycle. The ambition of CoAct's toolkit can be delineated from already developed ones. We particularly focus on methods and tools that have been proved useful and valuable in Citizen Science projects with a clear dedication to Social Sciences, participatory research projects, and community-driven research topics (chap. 3). After this we reconstruct the developing process of CoAct's Citizen *Social* Science Toolkit. Reflecting on the ambitions to promote a participatory and citizen-centred research approach, we clarify the aim, the target groups, status and structure of the toolkit as a sediment of the converging experiences as a whole that the different CoAct members have gathered when applying Citizen Social Science.

3. Context: Toolkits in Citizen Science

Citizen Science has existed for decades now and, as such, various CS toolkits have been already developed but not with as clear a focus on Social Science projects as part of the Citizen Science mission. Particularly abundant among already existing tools are examples of ecosystem assessment CS and biodiversity monitoring CS where citizens observe and record instances of pollution or the presence of important species and report their findings to a central organizing body. These toolkits may be as minimal as a set of written instructions and an email address, or as comprehensive as to be

accompanied by a lengthy training session and scientific equipment. Clearly, CSS is an extension of the CS tradition and as a result, there are several specific overlaps of the different disciplines.

In particular, there is the expectation that the work of both CS and CSS will improve, not just the quantity and quality of academic knowledge in a given subject, but also the general knowledge and understanding of a specific topic in the general public. Furthermore, CS and CSS could serve to motivate and mobilize the public to action.

3.1 Examples of Existing CS Toolkits in the EU

The European Citizen Science Association (ESCA), another project funded by the European Union, lists several CS toolkits on its website www.eu-citizen.science. Below is a selection of them are introduced and discussed in terms of how they relate to Citizen Social Science.

3.1.1 Participatory science toolkit against pollution

The ACTION Project brought together expertise from six European countries “in citizen science, participatory design, social innovation, socio-economic studies, pollution, open science, social computing, open data and software development” (European Citizen Science Association, 2022). The collaborators describe their project as “a three-year programme dedicated to transforming the way citizen science (CS) is conducted today: from a mostly scientist-led process to a more participatory, inclusive, citizen-led one, which acknowledges the diversity of the CS landscape and of the challenges CS teams have to meet” (Gefion Thuermer, 2022). The 78-page toolkit offers a comprehensive array of options for researchers of all kinds. The collaborators note that their toolkit would be suitable for “small-scale, localised social issues” (Gefion Thuermer, 2022), but they also note that the toolkit’s focus on pollution may require some extra considerations to account for the particular nuances of non-pollution-oriented projects.

3.1.2 Citizen Science Project Builder

The toolkit offered by Citizen Science Center Zurich is called the Citizen Science Project Builder. It, too, is a web-based tool aimed at researchers and members of the public but has been designed specifically for those interested in creating data-analysis CS projects. The project builder “supports the creation of projects where contributors can perform complex data classification tasks such as analyse or enrich existing data, typically large sets of images or texts [...], as well as other media formats such as videos, audios, and scanned documents” (European Citizen Science Association, 2021). While the toolkit clearly explains the requirements for its application, and its user interface is succinctly explained in five steps, it does not demonstrate obviously how it could apply to researchers or community members seeking to investigate social issues.

3.1.3 Citizen Science for everyone: A guide for teachers and support providers

The Conservation Volunteers have put together a toolkit that supports their efforts to care for and improve green spaces of all kinds, from community owned green spaces like school and hospital grounds to nature reserves like wetlands and forests. It is a brief summary of resources from other organisations aimed at empowering schoolteachers, in the context of their curricula, to get their students outdoors and engaged in hands-on scientific exercises while contributing to their learning more broadly (TCV - The Conservation Volunteers). These kinds of toolkits are doubtlessly valuable for inspiring future generations of natural scientists but offer little insight into social science methodologies.

3.1.4 Co-Creation Toolkit

Another EU funded project, GoNano, has produced a CS toolkit aimed at accelerating the outcomes from nanotechnology research through the engagement of every aspect of civil society. The project team focused specifically on three areas: food, energy, and health (Involving Societal Stakeholders as a Source of Creativity in Research, No Date). The GoNano team hope that their six-step process will leverage the creative thinking offered by a broad set of stakeholders. They have made available an

array of resources to help communicate and organize collaborative research efforts but, likely due to the highly specific nature of their field, have not indicated how social sciences could benefit from their work.

4. The Development of the CSS Toolkit

4.1 Introduction

This Deliverable D2.4: “Open Citizen Social Science Toolkit” is a web-based platform, presenting CoAct’s approach and Research and Innovation Actions on how to put Citizen Social Science into practice, to choose appropriate research and evaluation designs, to implement participatory research elements, to apply criteria for selection and application of methods, and to assess the impact of specific Citizen Social Science methodologies. The production of the plugin was contracted to the Berlin-based media production company *Produktivbüro* on 14.02.2022.

Throughout the complex process of internal discussions of content and design and the communication with the media company, the work plan of the project was revised multiple times. The period around the replacement of project personnel at FHP was the initial cause of change in the toolkit project execution. A second major impact resulted in changes of the delivery date brought about by the programmer company. As a result, the toolkit was launched on 10.12.2022 as part of CoAct’s main website.

4.2 Aim

As a key result of CoAct, the toolkit opens up CoAct’s research methods and methodologies to a wider audience including both scientific and non-scientific users. Therefore, accessibility and usability are inbuilt toolkit objectives. When it comes to presenting the evidence-based outcomes and tools from the R&I practices implemented in other work packages, the toolkit is built to achieve the following specific goals: to expand the Citizen Social Science community of practice, to help policy services for data-driven decision making, and to reinforce CoAct as a key reference for Citizen Social Science.

4.3 Target Groups/Users

The toolkit platform is built for a variety of end-users providing methods for diverse knowledge practices. As part of the project's dissemination strategy, the technical aspects and interface design of the toolkit prioritize accessibility to present CoAct's scientific approach to an expert and non-expert community. Target groups are besides academic scientists, citizen scientists, practitioners in social fields, decision-makers, civil society organizations.

4.4 Status of the Toolkit

FHP as having the lead of the D2.4 Open Citizen Social Science Toolkit went through two sudden and unexpected staffing changes at critical junctures in the project. The loss of momentum had negative effects eventually led to further revision of the original submission date by the contracted programming company. The toolkit is now live and accessible at

<https://coactproject.eu/resources/toolkits/tk-landing/>

The change of schedule in the official live launch of the toolkit has been addressed by recruiting two new project personnel (postdoctoral researcher and student assistant) in July 2022. A further remedy action was to organize a two-staged launch for the toolkit. The test phase preceded the pre-launch on October 15 when the toolkit introduction page and basic public functionalities such as website registration became available. In the meantime, FHP continued to collaborate with partners to finalize their tool contributions for the toolkit. The fully functional version was live on 10 December 2022 including 16 tools together with the introductory pages and material on the research cycle and key research topics.

Within the CoAct ecosystem, the toolkit also reflects the development of a common methodological framework in the consortium. As a living knowledge platform of the project, the toolkit will be further monitored for maintenance and optimal usability.

4.5 Structure of the Toolkit

The process of building the toolkit has involved stages of extensively and comprehensively reviewing the state of the art of the existing Citizen Social Science projects as well as detecting new methodologies, dissemination formats and modalities in order to strengthen the usability of the toolkit and transferability of the citizen social methods.

The Citizen Social Science Toolkit concentrate in four interrelated fields: 1) the concept and drafting of toolkit introduction (i.e. the landing page), 2) concept, design, and production of the main toolkit body (i.e. the plug-in)3) the concept and design of the CoAct research cycle, and 4) the concept, production and post-production of co-researcher videos. As such, the current toolkit website has the following structure:

The landing page

Page 1: CoAct research cycle

Page 2: Explore the toolkit

Page 3: Key points

Page 4: Meet the CSS experts

In this section we document and further explain the development of each of the D2.4 components beginning with the landing page, later moving into the research cycle, and the plug-in including information on its evolution through the wireframes, click-dummy, and live version visuals. Finally, we introduce and present a selection of the “meet the expert” videos as part of the toolkit.

4.5.1 The Landing Page

The landing page directs from the main CoAct website. It presents a public-oriented, accessible, and user-friendly narrative introduction to the Toolkit, also providing a conceptual and actual intuitive bridge between the main website and its D2.4 Open Citizen Social Science Toolkit component.

The landing page introduces CoAct, CSS and the online Citizen Social Science Toolkit using easy to understand, everyday language, thus inviting users to take the next steps to explore, learn more about and assess the applicability of CoAct methodologies in their lifeworlds. The landing page also provides access to the toolkit page where users can engage with tools, steps, topics through the use of filters

and keywords. A final component of the landing page is the registration functionality which allows contributors to register and/or login to the website to upload and customise their methods and tools.

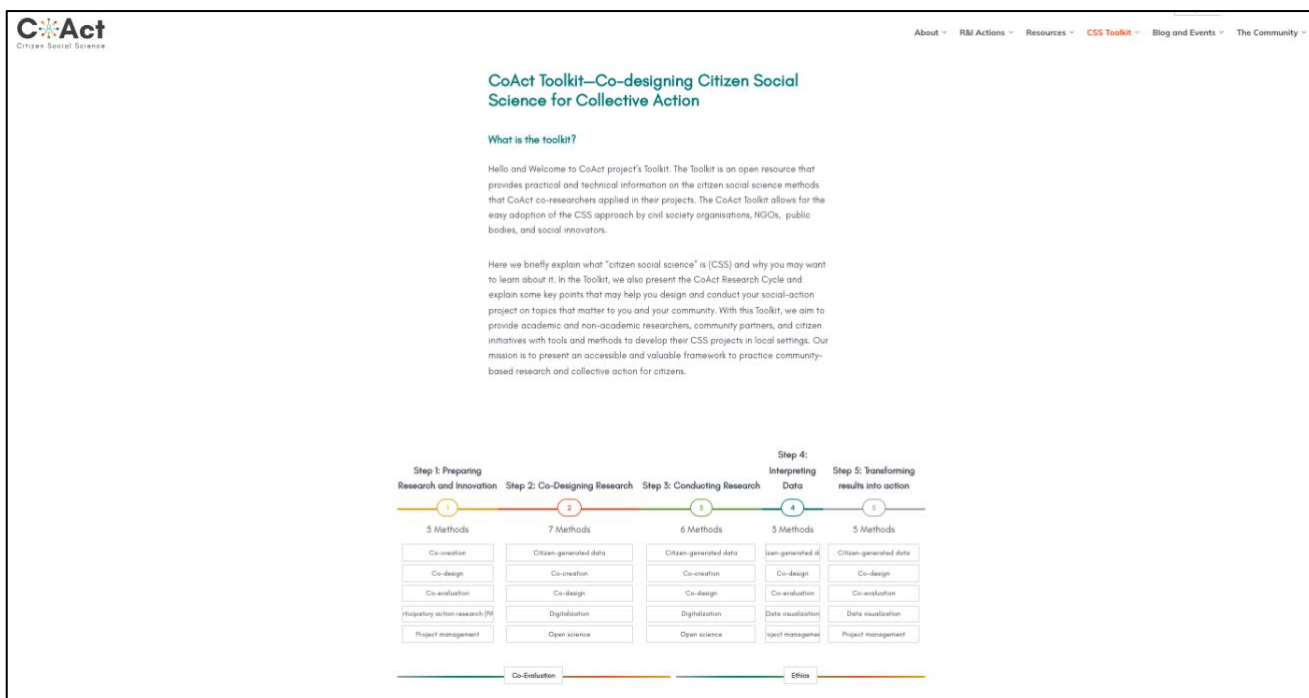


Figure 1 - Screenshot of Landing Page



English

About
R&I Actions
Resources
CSS Toolkit
Blog and Events
The Community

CoAct Toolkit—Co-designing Citizen Social Science for Collective Action

What is the toolkit?

Hello and Welcome to CoAct project’s Toolkit. The Toolkit is an open resource that provides practical and technical information on the citizen social science methods that CoAct co-researchers applied in their projects. The CoAct Toolkit allows for the easy adoption of the CSS approach by civil society organisations, NGOs, public bodies, and social innovators.

Here we briefly explain what “citizen social science” is (CSS) and why you may want to learn about it. In the Toolkit, we also present the CoAct Research Cycle and explain some key points that may help you design and conduct your social-action project on topics that matter to you and your community. With this Toolkit, we aim to provide academic and non-academic researchers, community partners, and citizen initiatives with tools and methods to develop their CSS projects in local settings. Our mission is to present an accessible and valuable framework to practice community-based research and collective action for citizens.

Manage cookies

The infographic shows a five-step process:

- Step 1: Preparing Research and Innovation** (5 Methods): Co-creation, Co-design, Co-evaluation, Participatory action research (PAI), Project management.
- Step 2: Co-Designing Research** (7 Methods): Citizen-generated data, Co-creation, Co-design, Digitalization, Open science.
- Step 3: Conducting Research** (6 Methods): Citizen-generated data, Co-creation, Co-design, Digitalization, Open science.
- Step 4: Interpreting Data** (3 Methods): Citizen-generated data, Co-design, Co-evaluation, Data visualization, Project management.
- Step 5: Transforming results into action** (5 Methods): Citizen-generated data, Co-design, Co-evaluation, Data visualization, Project management.

Additional elements: Co-Evaluation (spanning Steps 2-3), Ethics (spanning Steps 4-5).

What is Citizen Social Science? Citizen Social Science (CSS) is a research approach that aims to devise practical solutions to societal problems by examining and learning from citizens’ knowledge and day-to-day experience of these challenging issues. In other terms, a CSS project collects citizen-generated data, develops data literacy, and improves “open science” objectives. In practical terms, this translates into engaging citizens as co-researchers as, co-designers and co-interpreters of social data. This innovative and underutilized research approach aims to be participatory and directly driven by citizen groups sharing a social concern.

Figure 2 - Toolkit landing page text, toolkit infographic, and access to navigation

4.5.2 The Research Cycle

The research cycle is a visual, infographic representation of CoAct’s epistemic, methodological and ethical implementation of citizen social science. It has been finalized after various iterations that have provided careful re- and re-examination and refining of key research concepts, steps, and dissemination strategies.

The following images visually represent the conceptual and design evolution of the research cycle. The process is a strong indicator of how the research cycle is a key epistemic field to negotiate and refine the existing and emergent disciplinary outlooks, methodological concerns, ethical standards and citizen social science approaches within the consortium.

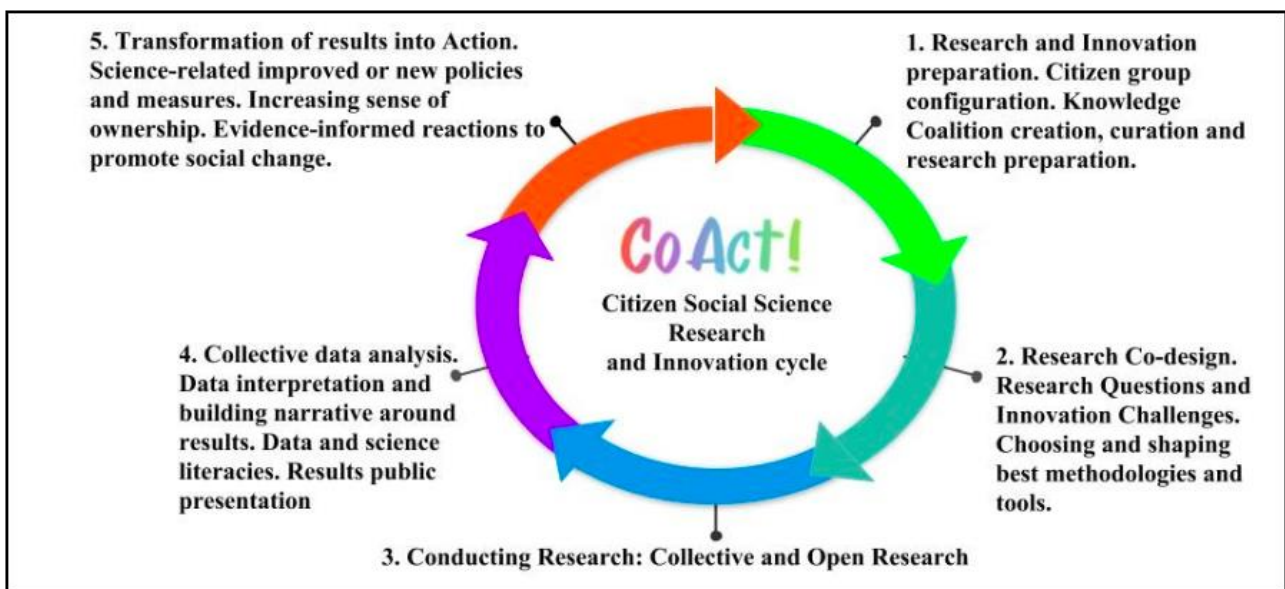


Figure 3 - Research cycle design draft from the Task Force meetings in February-March 2021

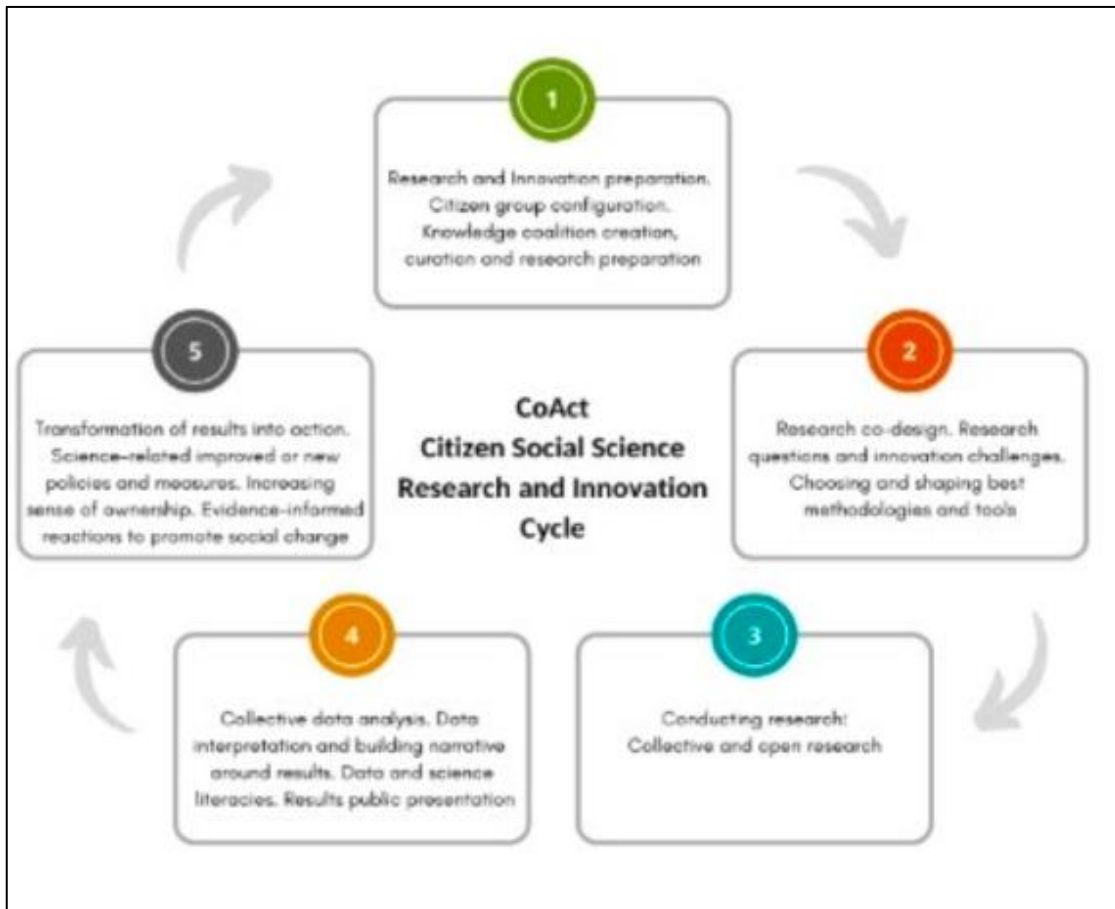


Figure 4 - June 2021 Results Workshop update on design and representation



Figure 5 - Variations on the original CSS Toolkit Task Force idea

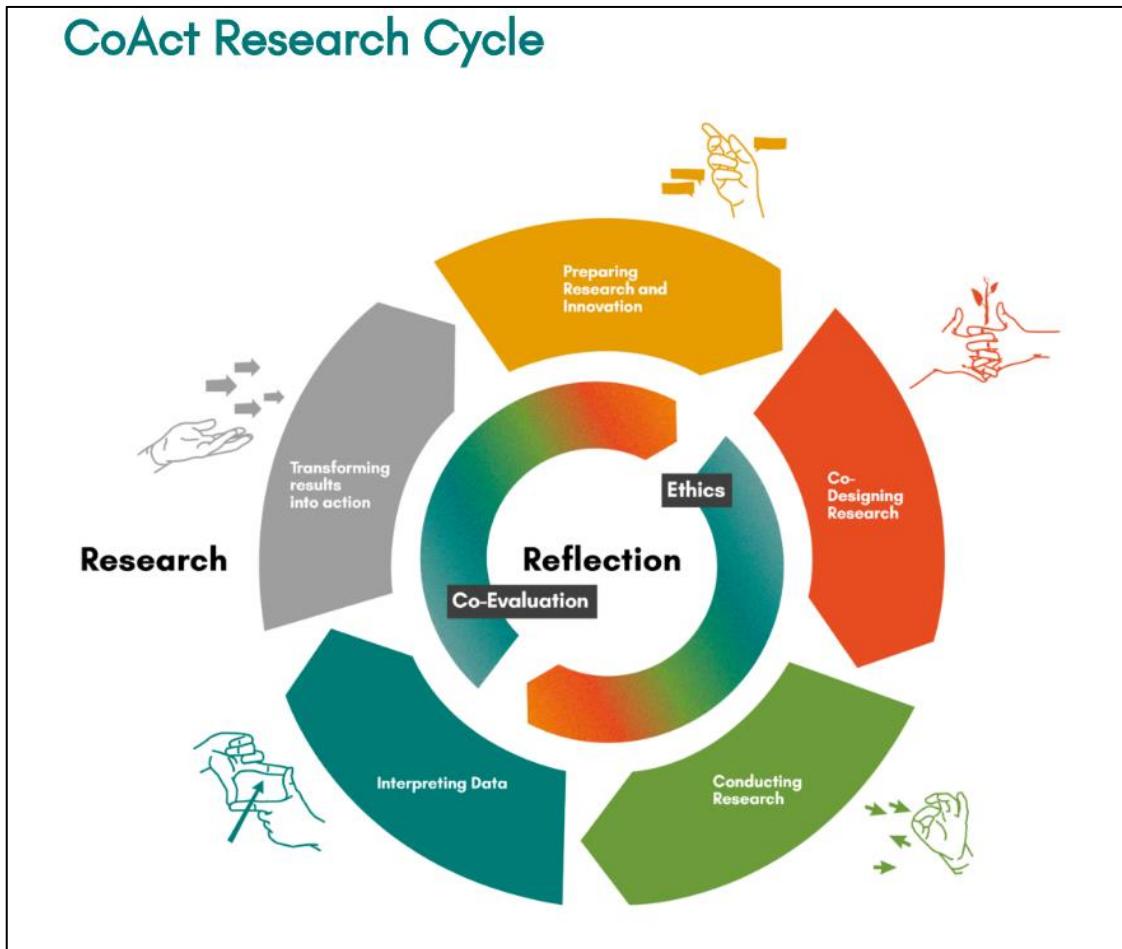


Figure 6 - Final infographic implemented on the toolkit website

CoAct Research Cycle

CoAct promotes and further develops methods and tools for citizen social science. Tools were developed, tested and applied in four research fields: mental healthcare, youth employment, environmental justice and gender equality. The Research Cycle presents the different steps and principles that guide the research process. These tools proved as helpful and valuable for the knowledge production and development of innovations in citizen social science projects.

The research cycle comprises five research steps: 1. Preparing research and innovation, 2. Co-designing research, 3. Conducting research, 4. Interpreting data, and 5. Transforming results into action.

The research cycle is further guided by two “transversal” concepts: Ethics and Co-evaluation. Transversal concepts are guiding principles for each step and the overall research and innovation process. In CoAct, ethics and co-evaluation provide conceptual and operational direction for each research step and the overall research cycle. In this part of the toolkit, we explain the CoAct research cycle steps and transversal concepts and present practical information on how to integrate them in citizen social science projects.

- STEP 1: Preparing research and innovation
- STEP 2: Co-designing research
- STEP 3: Conducting research
- STEP 4: Interpreting data
- STEP 5: Transforming results into action
- Co-Evaluation
- Ethics

SUGGEST TRANSLATION

The CoAct project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement number 873342

Figure 7 - Final Research Cycle page implemented on the toolkit website including descriptions of the steps

4.5.3 The Plug-in

The method platform is accessible both through the landing page and the toolkit menu linked to the dedicated “Explore the toolkit” page. The toolkit platform provides users with information to learn from and be inspired by CoAct projects and their approaches. The toolkit content and design shall also invite users to experiment with and adapt these tools in their own communities. One emphasis, here, is on accessibility and usability in order to expand the base of non-expert CSS practitioners to address social challenges.

4.5.3.1 Wireframe and Click-Dummy

The evolution of the toolkit platform’s main body involved multiple iterations that resulted from phases of collaboration among various consortium partners in dedicated online and in-person toolkit consultation meetings as well as in informal hangouts, general CoAct meetings and workshops throughout the process. Specific milestones for the project are the following. We started with two CSS Toolkit Task Force meetings that took place in February and March 2021. Then the wireframe images of the website were sketched by the contracting company.

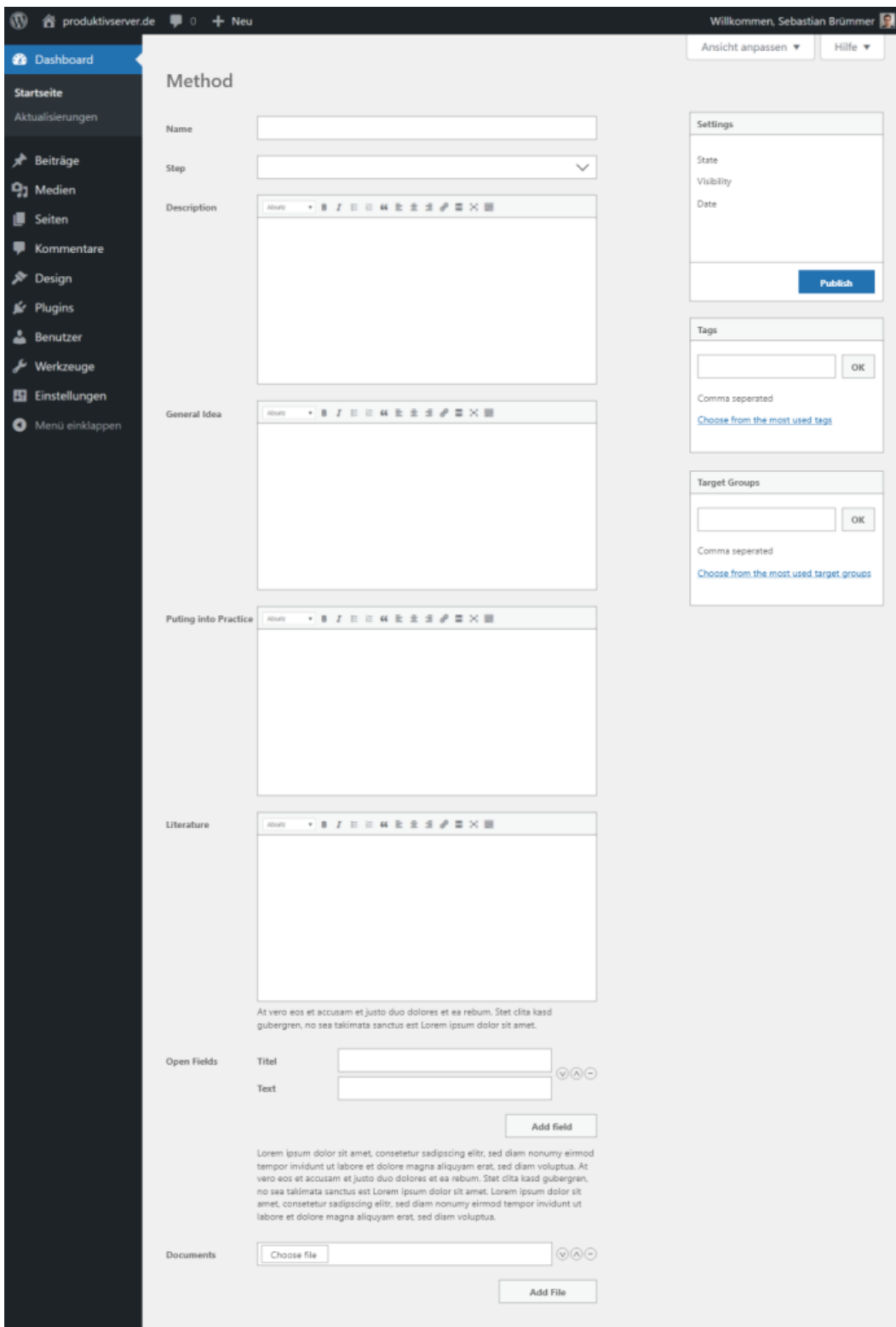


Figure 8 - Method

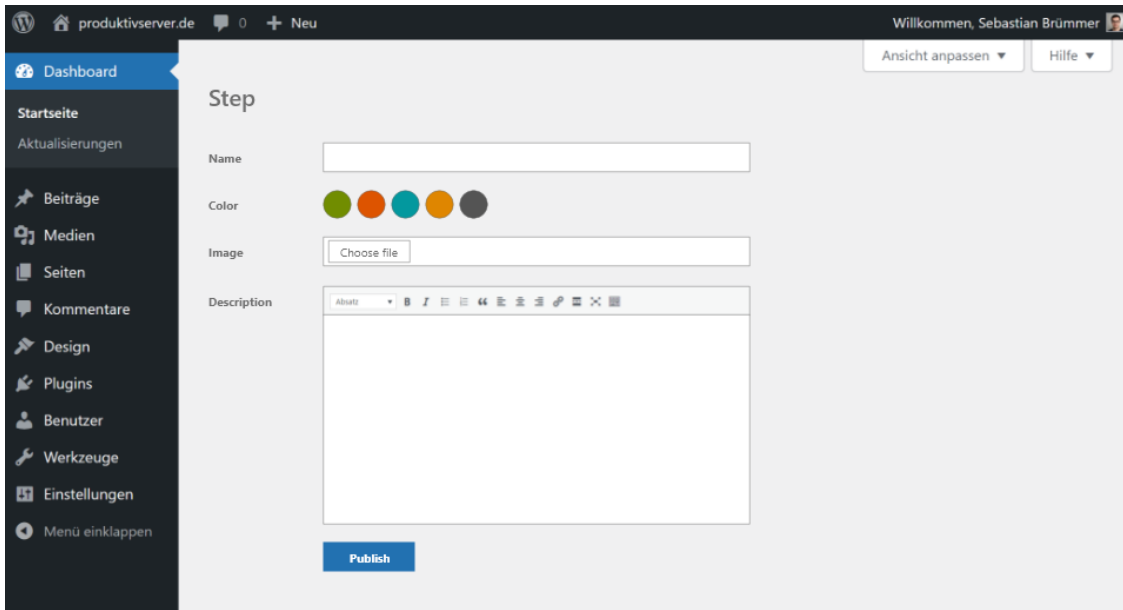


Figure 9 - Step


After iterative phases of collaboratively editing the wireframes, the next phase involved the construction of a dummy-website. This dummy version, too, was carefully and collaboratively introduced, discussed, and edited collectively with members of the consortium and the programmer to finalise its look, internal logic and functionality, and user experience.



Figure 10 - Toolkit entry

Title of Step

[Toolkit](#) · [Title of Step](#)

 Lorem ipsum dolor sit amet, consectetur adipiscing elit. Proin ornare magna eros, eu pellentesque tortor vestibulum ut. Maecenas non massa sem. Etiam finibus odio quis feugiat facilisis.


Methods

Name of Method	Name of Method
Name of Method	Name of Methodmweoruvbreweobfweigubwreiguwribwekvfweirgvwrizv
Name of Method	Name of Method

Figure 11 - Step of the Research Cycle

Title of Topic

[Toolkit](#) · [Title of Topic](#)

 Lorem ipsum dolor sit amet, consectetur adipiscing elit. Proin ornare magna eros, eu pellentesque tortor vestibulum ut. Maecenas non massa sem. Etiam finibus odio quis feugiat facilisis.

Methods

<input type="checkbox"/> Name of Method	<input type="checkbox"/> Name of Method
<input type="checkbox"/> Name of Method	<input type="checkbox"/> Name of Methodmweoruvbreweobfweigubwreiguwribwekvfweirgvwrizv
<input type="checkbox"/> Name of Method	<input type="checkbox"/> Name of Method

Figure 12 - Topic equivalent to steps

Method

[Toolkit](#) · [Method](#)

Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet. Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet.

Author Title Prenom Name
Organization

Process Title of Step Title of Step Title of Topic

Relations Time B Group Size C Material A Material C

Aim ▾

Who to involve ▾

Further materials ▾

Step-by-Step ▾

Figure 13 - Access to a single method, i.e. tool

Registration

Name

Organization

The informations above will be published with each method you add.

E-Mail

We are going to send you an email to verify your registration.

Password

I agree to the [terms and conditions](#).

I do agree to publish my contents licensed under [CC Attribution-ShareAlike 4.0 International](#).

Figure 14 - Registration function

These dummy images represent the approved version of the toolkit website that was launched on 10.12. 2022.

4.5.3.2 Live Plug-in

Here, we present screenshots from the back- and frontend of the live plug-in sections. Please see below.

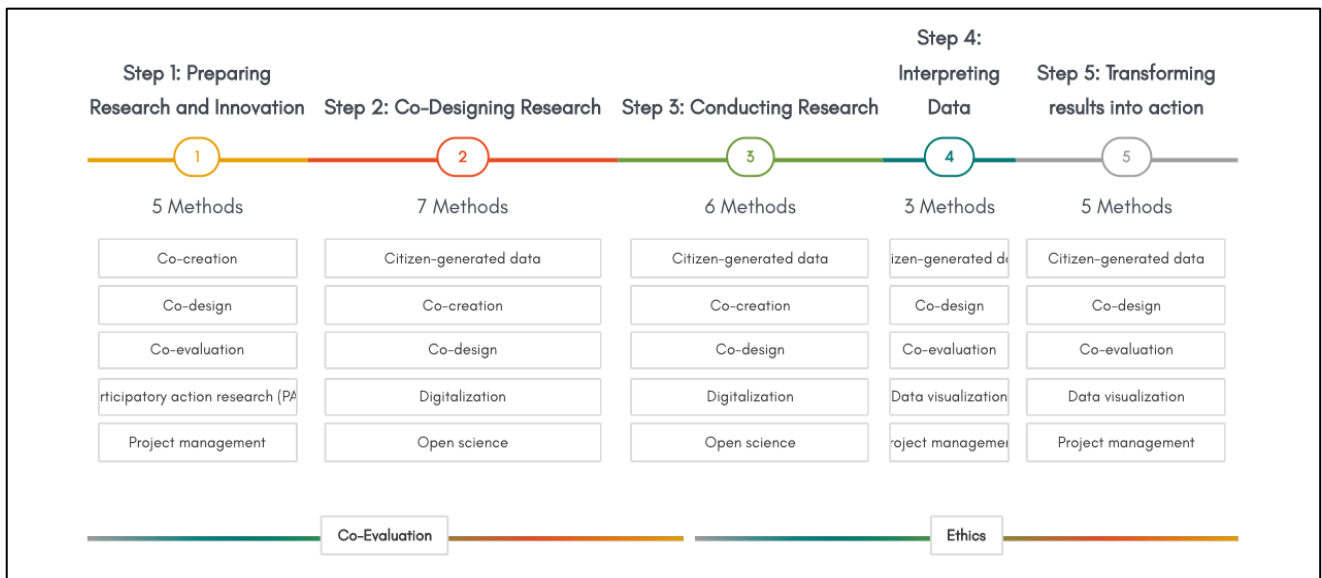


Figure 15 - Final plug-in structure implemented on the toolkit website

Co-Evaluation

Methods

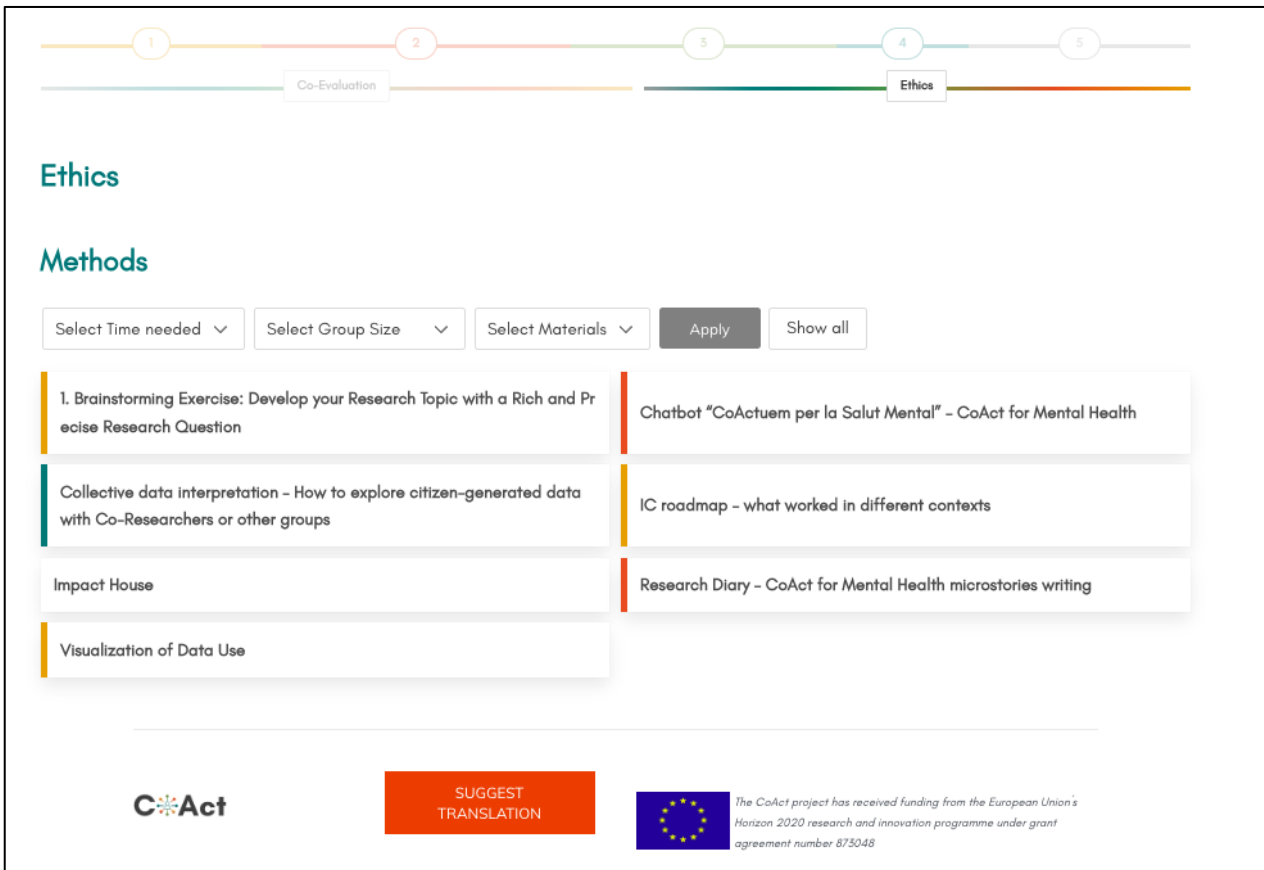
Select Time needed | Select Group Size | Select Materials | Apply | Show all

- 1. Brainstorming Exercise: Develop your Research Topic with a Rich and Precise Research Question
- Citizen Social Science Project Roadmap
- Impact House
- Self-Assessment Survey for Citizen Social Science Projects
- Chatbot "CoActuem per la Salut Mental" - CoAct for Mental Health
- Collective data interpretation - How to explore citizen-generated data with Co-Researchers or other groups
- Research Diary - CoAct for Mental Health microstories writing

SUGGEST TRANSLATION

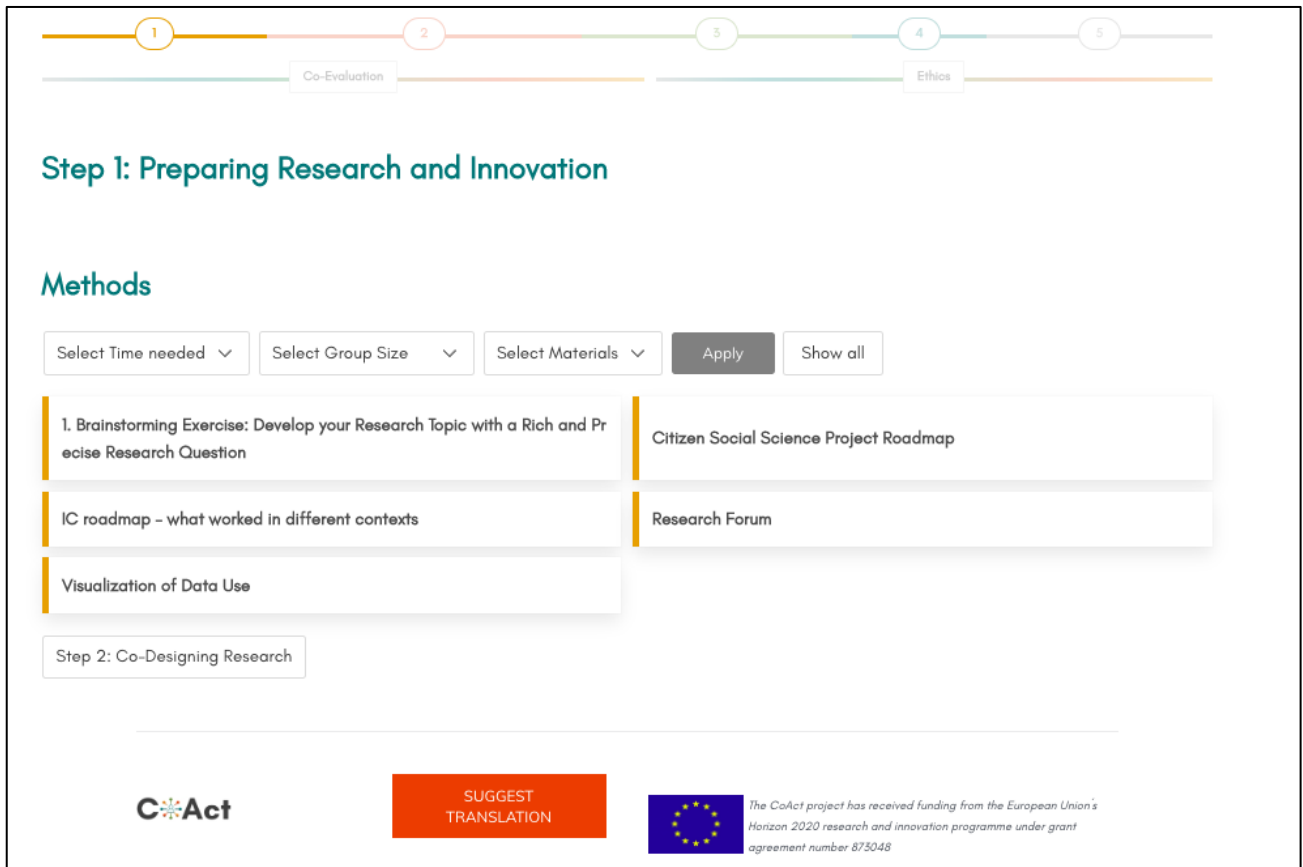
The CoAct project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement number 875048

Figure 16 - Final plug-in frontend screenshot of Co-evaluation tools



The screenshot shows a web interface for the CoAct toolkit. At the top, a horizontal timeline with five numbered steps (1-5) is visible, with 'Co-Evaluation' under step 2 and 'Ethics' under step 4. Below the timeline, the word 'Ethics' is displayed in a teal font. Underneath, the word 'Methods' is also in teal. A filter section contains three dropdown menus: 'Select Time needed', 'Select Group Size', and 'Select Materials', followed by 'Apply' and 'Show all' buttons. The main content area displays a grid of tool cards. The first card on the left is titled '1. Brainstorming Exercise: Develop your Research Topic with a Rich and Precise Research Question'. The first card on the right is titled 'Chatbot "CoActuem per la Salut Mental" - CoAct for Mental Health'. Other visible cards include 'Collective data interpretation - How to explore citizen-generated data with Co-Researchers or other groups', 'IC roadmap - what worked in different contexts', 'Impact House', and 'Research Diary - CoAct for Mental Health microstories writing'. At the bottom left is the CoAct logo. In the center is an orange button labeled 'SUGGEST TRANSLATION'. At the bottom right is the European Union flag logo with the text: 'The CoAct project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement number 875048'.

Figure 17 - Plug-in frontend screenshot of Ethics tools



1 2 3 4 5

Co-Evaluation Ethics

Step 1: Preparing Research and Innovation

Methods

Select Time needed ▾ Select Group Size ▾ Select Materials ▾ Apply Show all

- 1. Brainstorming Exercise: Develop your Research Topic with a Rich and Precise Research Question
- IC roadmap - what worked in different contexts
- Visualization of Data Use
- Citizen Social Science Project Roadmap
- Research Forum

Step 2: Co-Designing Research




   The CoAct project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement number 873048

Figure 18 - Plug-in frontend screenshot of Step 1: Preparing Research and Innovation tools

1 2 3 4 5

Co-Evaluation Ethics

Step 2: Co-Designing Research

Methods

Select Time needed ▾ Select Group Size ▾ Select Materials ▾ Apply Show all

- Chatbot "CoActuem per la Salut Mental" - CoAct for Mental Health
- Citizen Social Science Project Roadmap
- IC roadmap - what worked in different contexts
- Platform co-design workshops
- Research Diary
- Research Diary - CoAct for Mental Health microstories writing
- Research Forum

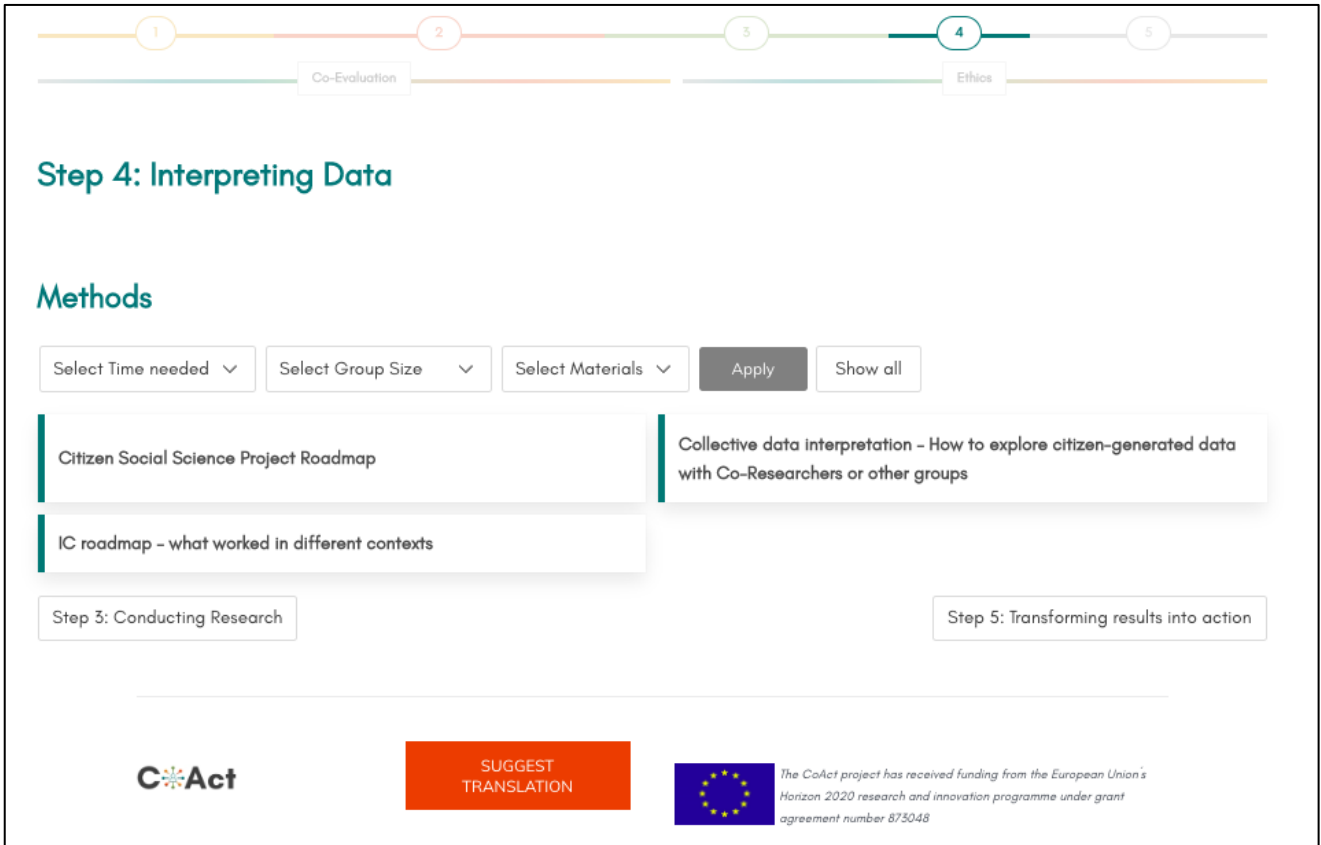
Step 1: Preparing Research and Innovation Step 3: Conducting Research

The CoAct project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement number 873048

Figure 19 - Plug-in frontend screenshot of Step 2: Co-designing Research tools

The screenshot shows a web interface for Step 3: Conducting Research. At the top, a progress bar has five steps, with step 3 highlighted in green. Below the progress bar, the text 'Co-Evaluation' and 'Ethics' is visible. The main heading is 'Step 3: Conducting Research'. Underneath is a 'Methods' section with three dropdown menus: 'Select Time needed', 'Select Group Size', and 'Select Materials'. To the right of these are 'Apply' and 'Show all' buttons. Below the filters is a grid of six method cards: 'Chatbot "CoActuem per la Salut Mental" - CoAct for Mental Health', 'IC roadmap - what worked in different contexts', 'QPR: digital platform to collect citizen driven data in a collaborative ma P', 'Citizen Social Science Project Roadmap', 'Platform co-design workshops', and 'Video to disseminate the idea of platform co-design'. At the bottom of the grid are two buttons: 'Step 2: Co-Designing Research' and 'Step 4: Interpreting Data'. The footer contains the CoAct logo, an orange 'SUGGEST TRANSLATION' button, and the European Union logo with text: 'The CoAct project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement number 875048'.

Figure 20 - Plug-in frontend screenshot of Step 3: Conducting Research tools



The screenshot shows a web interface for 'Step 4: Interpreting Data'. At the top, a progress bar has five steps, with step 4 highlighted. Below the progress bar, the title 'Step 4: Interpreting Data' is displayed. Underneath, the 'Methods' section contains three dropdown menus: 'Select Time needed', 'Select Group Size', and 'Select Materials', followed by 'Apply' and 'Show all' buttons. A list of search results is shown, including 'Citizen Social Science Project Roadmap' and 'Collective data interpretation - How to explore citizen-generated data with Co-Researchers or other groups'. Navigation buttons for 'Step 3: Conducting Research' and 'Step 5: Transforming results into action' are also visible. The footer includes the CoAct logo, a 'SUGGEST TRANSLATION' button, the European Union flag, and a text block stating: 'The CoAct project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement number 875048'.

Figure 21 - Plug-in frontend screenshot of Step 4: Interpreting data tools

1 2 3 4 5

Co-Evaluation Ethics

Step 5: Transforming results into action

Methods

Select Time needed ▾ Select Group Size ▾ Select Materials ▾ Apply Show all

Citizen Social Science Project Roadmap	Collective data interpretation - How to explore citizen-generated data with Co-Researchers or other groups
Exhibition	IC roadmap - what worked in different contexts
Q-methodology to identify perspectives regarding policy update of CSS knowledge	

Step 4: Interpreting Data

The CoAct project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement number 873048

Figure 22 - Plug-in frontend screenshot of Step 5: Transforming results into action tools

Title	Steps	Topics	Keywords	Materials	Date
Research Forum	Step 1: Preparing Research and Innovation, Step 2: Co-Designing Research	—	Citizen-generated data, Co-design, Democracy, Open science	Basic, Technical	Published 2022/12/1 at 15:48
Research Diary	Step 2: Co-Designing Research	—	—	—	Published 2022/12/1 at 15:48
Impact House	—	Co-Evaluation, Ethics	Co-design, Co-evaluation, Impact assessment, Stakeholder mapping	Basic, Technical	Published 2022/12/1 at 15:48
Platform co-design workshops	Step 2: Co-Designing Research, Step 3: Conducting Research	—	Citizen-generated data, Co-creation, Co-design, Knowledge co-creation, Open science	Basic, Technical	Published 2022/12/1 at 15:48
Video to disseminate the idea of platform co-design	Step 3: Conducting Research	—	Citizen-generated data, Digitalization, Environmental Justice, Exclusion/inclusion, Open data	Technical	Published 2022/12/1 at 15:48
Citizen Social Science Project Roadmap	Step 1: Preparing Research and Innovation, Step 2: Co-Designing Research, Step 3: Conducting Research, Step 4: Interpreting Data, Step 5: Transforming results into action	Co-Evaluation	Co-design, Co-evaluation, Project management	Basic, Technical	Published 2022/12/1 at 15:48
Self-Assessment Survey for Citizen Social Science Projects	—	Co-Evaluation	—	—	Published 2022/12/1 at 15:48
IC roadmap – what worked in different contexts	Step 1: Preparing Research and Innovation, Step 2: Co-Designing Research, Step 3: Conducting Research, Step 4: Interpreting Data, Step 5: Transforming results into action	Ethics	Citizen-generated data, Co-creation, Co-design, Exclusion/inclusion, Open science	Basic	Published 2022/12/1 at 15:48
Open digital platform to collect citizen driven data in a collaborative map	Step 3: Conducting Research	—	Citizen-generated data, Co-creation, Data visualization, Digitalization, Environmental Justice	Basic, Technical	Published 2022/12/1 at 15:48
Open methodology to identify perspectives regarding policy update of CSS knowledge	Step 5: Transforming results into action	—	Democracy, Environmental Justice, Knowledge co-creation, Policy	Basic, Special	Published 2022/12/1 at 15:48
Chatbot "Collectium per la Salut Mental" – Collect for Mental Health	Step 2: Co-Designing Research, Step 3: Conducting Research	Co-Evaluation, Ethics	Citizen-generated data, Co-creation, Co-design, Digitalization, Open science	Technical	Published 2022/12/1 at 15:48
Collective data interpretation – How to explore citizen-generated data with Co-researchers or other groups	Step 4: Interpreting Data, Step 5: Transforming results into action	Co-Evaluation, Ethics	Citizen-generated data, Data visualization, Exclusion/inclusion, Mental health, Open science	Basic, Special, Technical	Published 2022/12/1 at 15:48
Research Diary – Collect for Mental Health microstories writing	Step 2: Co-Designing Research	Co-Evaluation, Ethics	Co-creation, Exclusion/inclusion, Mental health, Storytelling, Support networks	—	Published 2022/12/1 at 15:48
Exhibition	Step 5: Transforming results into action	—	Data visualization, Education, Participatory action research (PAR), Youth	Special, Technical	Published 2022/12/1 at 15:48
Visualization of Data Use	Step 1: Preparing Research and Innovation	Ethics	Data visualization, Education	Basic	Published 2022/12/1 at 15:48
1. Brainstorming Exercise: Develop your Research Topic with a Rich and Precise Research Question	Step 1: Preparing Research and Innovation	Co-Evaluation, Ethics	Co-creation, Co-design, Participatory action research (PAR)	Basic	Published 2022/12/1 at 15:48

Figure 23 - Backend screenshot of tools overview

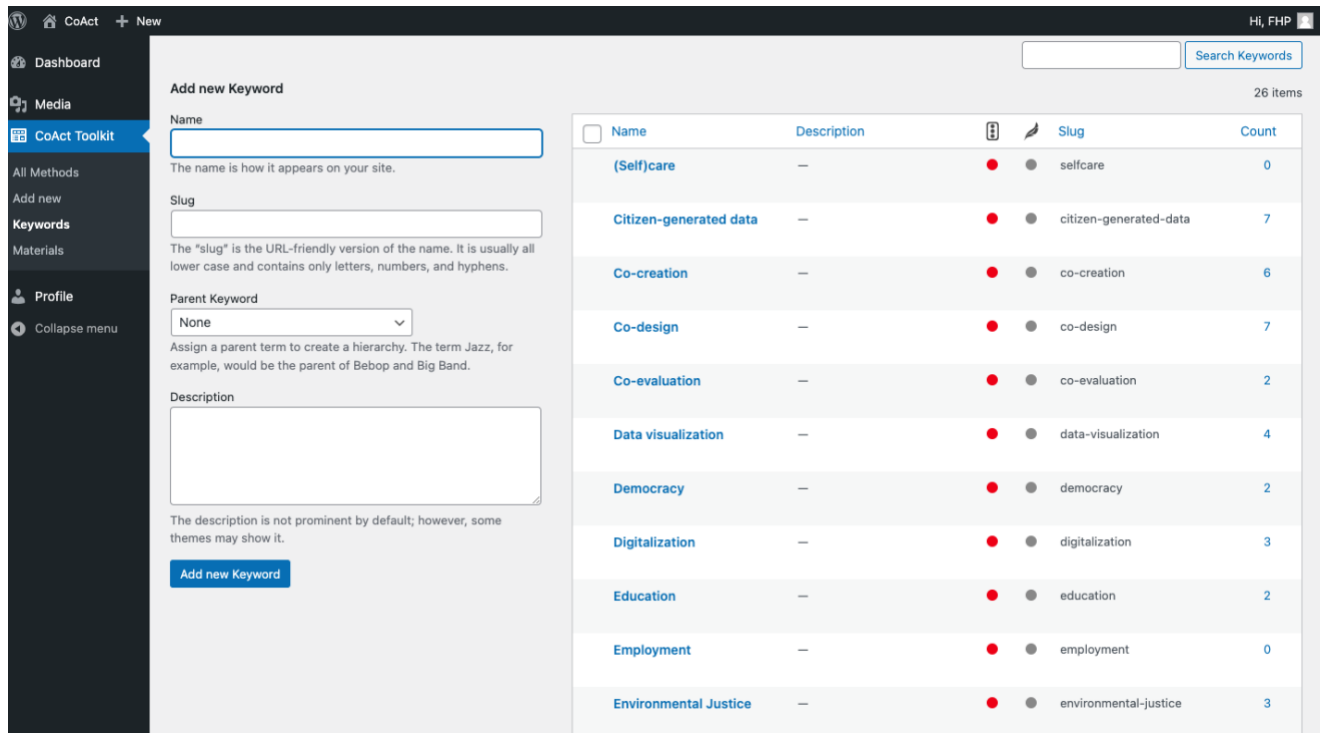


Figure 24 - Backend screenshot of “keywords” page 1 of 2

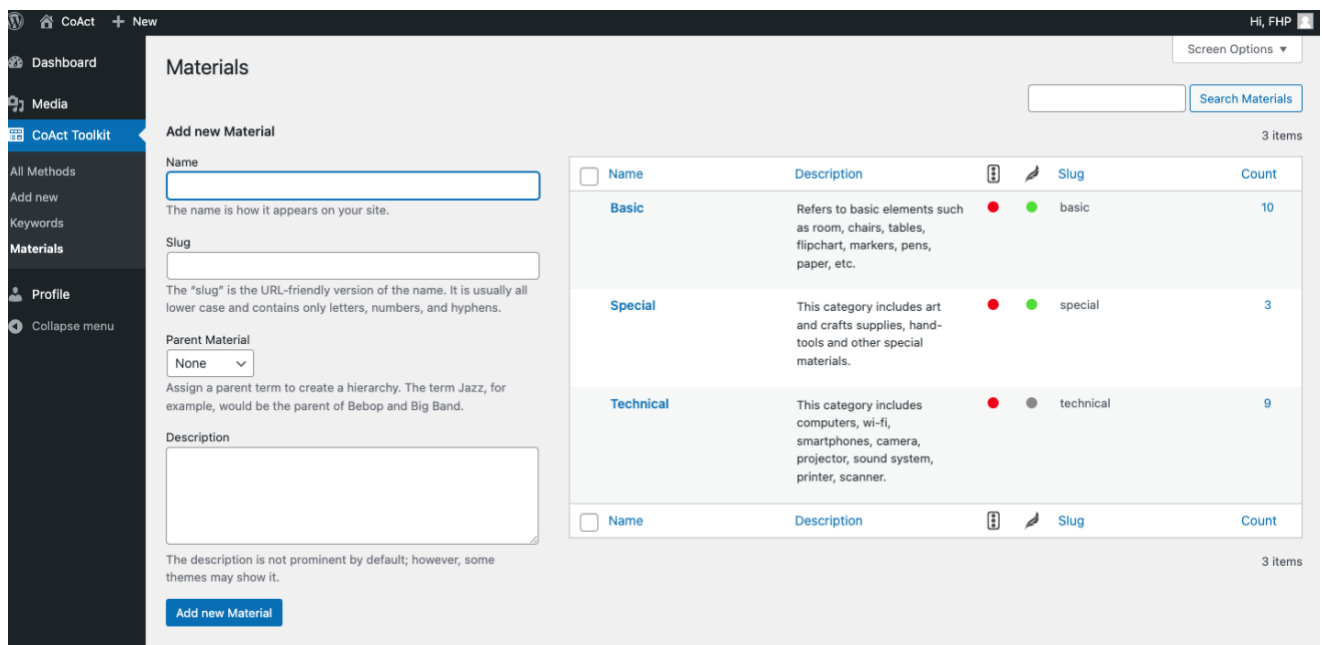


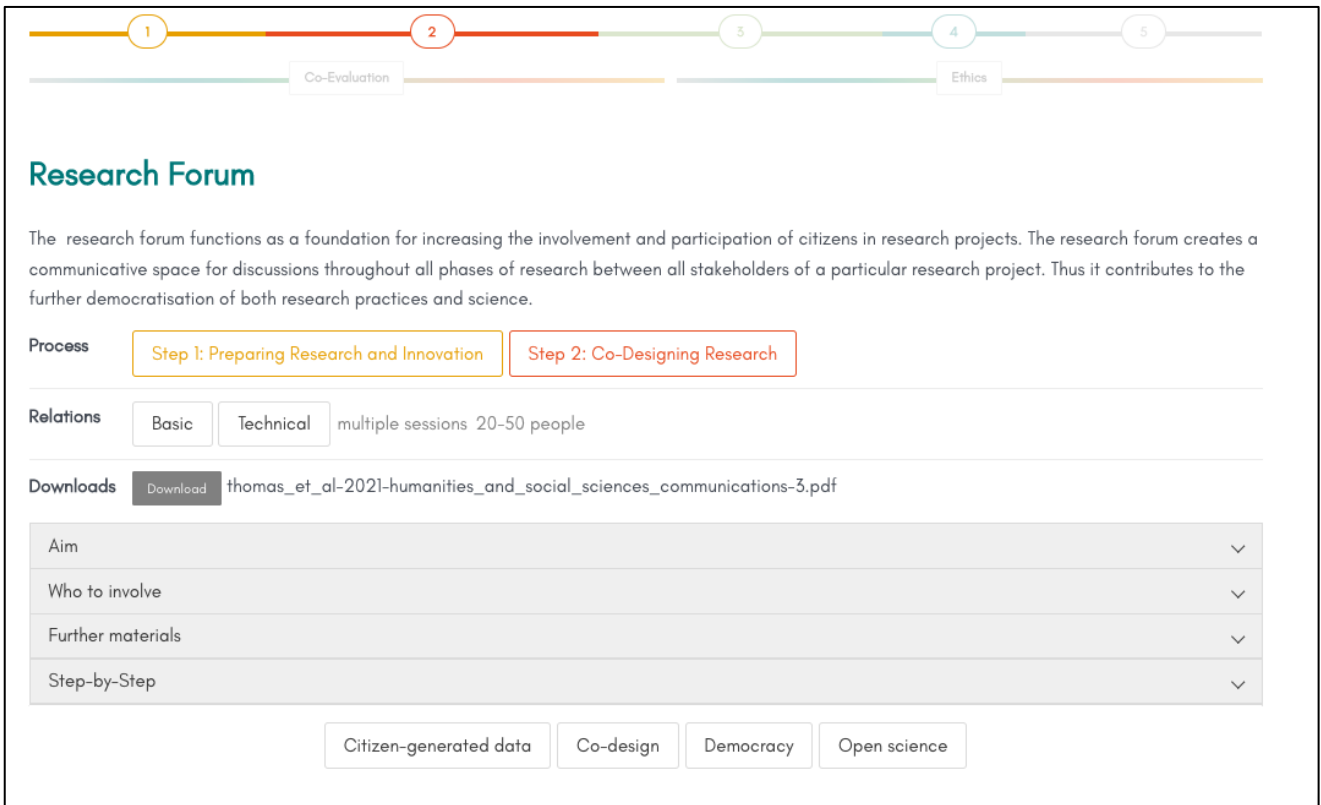
Figure 25 - Backend screenshot of “Materials” filter page

4.5.3.3 Tools (some examples)

The toolkit plug-in is an integrated part of the CoAct website embedding examples of innovative dissemination tools, i.e. methods implemented in other work packages. Hence the Open Citizen Science toolkit provides public users with diverse skills and levels of data literacy with a collection of transferrable methods that can help with evidence-based policy and decision making and that can be implemented in further citizen social science projects to address societal challenges. Currently, the toolkit showcases 16 tools that explain and guide users through possible implementation. CoAct contributors can further upload, update and/or edit existing and new methods to the toolkit.

We hereby present a selection of these citizen social science methods that are embedded in the toolkit website. Please see below.

Figure 26 - “CoAct for Mental Health Chatbot”, toolkit frontend screenshot



1 2 3 4 5

Co-Evaluation Ethics

Research Forum

The research forum functions as a foundation for increasing the involvement and participation of citizens in research projects. The research forum creates a communicative space for discussions throughout all phases of research between all stakeholders of a particular research project. Thus it contributes to the further democratisation of both research practices and science.

Process Step 1: Preparing Research and Innovation Step 2: Co-Designing Research

Relations Basic Technical multiple sessions 20-50 people

Downloads Download thomas_et_al-2021-humanities_and_social_sciences_communications-3.pdf

- Aim
- Who to involve
- Further materials
- Step-by-Step

Citizen-generated data Co-design Democracy Open science

Figure 27 - "Research forum", toolkit frontend screenshot

4.5.4 Key Points

This sub-page of the toolkit expands on some of the themes that are crucial to the design and use of the toolkit as a public dissemination platform.

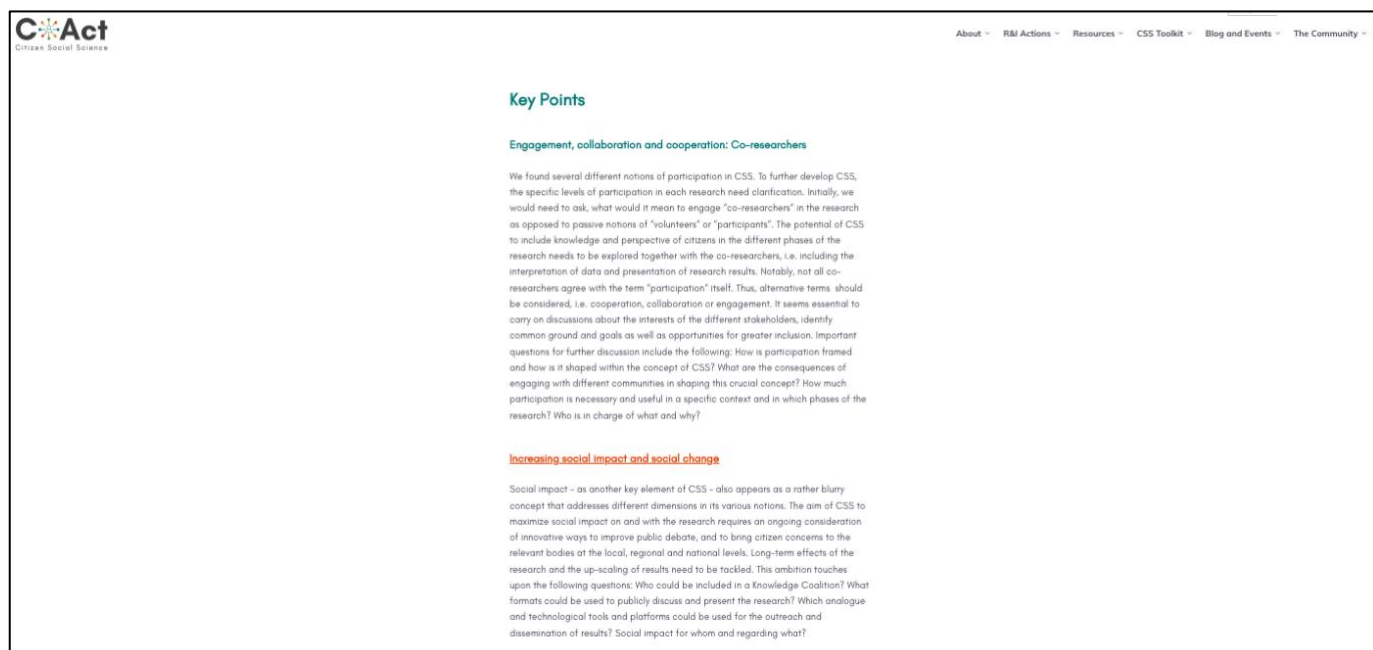


Figure 28 - Key Points, toolkit webpage

4.5.5 The Video Series: “Meet the Experts”

The last section of the toolkit “Meet the Experts” is on the main toolkit menu and directs users to a series of interviews conceptualised and carried out by the FHP project lead in May-June 2022 in Barcelona and on-site in Potsdam. Production and postproduction for this line of dissemination were contracted to the Frankfurt-based videographer and producer Maximillian Nammert on 06.05.2022.

A total of 12 individuals participated in the series to share and reflect on their co-researcher experience as part of CoAct. Editing of the interviews was done collectively. Rounds of co-researcher feedback were incorporated by the videographer. The final versions of the videos were also approved by co-researchers. The interviews are 10-minute long in average and present the diversity of CoAct’s co-researcher profiles. The video series showcase a contemporary, engaging, relevant and accessible conversation on co-researchers’ and partner organisations’ expectations and achievements in practising CSS within the CoAct eco-system.

The video series is hosted by the toolkit website to contribute to the toolkit’s objective to present an accessible, useful, and inspiring public knowledge platform.

Below we present snapshots from the video introduction and interviews.



Figure 29 - Video cover



Figure 30 – “Meet the experts” interviews

5. Conclusion

The Open Citizen Social Science Toolkit is a platform that aims to make citizen social science and community-led collective action an accessible and feasible framework for users who may not otherwise effectively participate in knowledge creating practices.

The toolkit is committed to provide citizens with tools and approaches that are inclusive, co-creative and relevant to the day to day realities users of the platform experience within their communities.

Although the process of developing the toolkit underwent infrastructural (i.e. staff) and logistic (i.e. contractor-related) challenges, it is built on a solid collaborative and highly reflexive foundation which will enable it to be a relevant, effective and accessible citizen social science resource for both expert and non-expert practitioners, users, citizens within and beyond the EU.

6. References

- European Citizen Science Association. (2021). *Citizen Science Project Builder*. <https://eu-citizen.science/resource/213>
- European Citizen Science Association. (2022). *Participatory science toolkit against pollution*. <https://eu-citizen.science/resource/325>
- Involving societal stakeholders as a source of creativity in research: A co-creation toolkit for researchers and engineers*. http://gonano-project.eu/wp-content/uploads/2020/05/GoNano_Co-Creation-toolkit_DEF.pdf
- Maasen, S. & Lieven, O. (2006). Transdisciplinarity: a new mode of governing science? *Science and Public Policy*, 33, 399–410.
- TCV - The Conservation Volunteers. *Citizen Science: Science for Everyone: A guide for teachers and support providers*. https://www.tcv.org.uk/wp-content/uploads/2014/11/teacher_citizen_science_guide.pdf
- Thuermer; G. (Ed.). (2022). *Participatory Science Toolkit Against Pollution*. Action Project. https://actionproject.eu/wp-content/uploads/2022/04/ACTION_Toolkit_11.04.2022.pdf