



A2.4, O2: Unified citizen science platform schedule and pilot results



Co-funded by the
Erasmus+ Programme
of the European Union

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This document has been developed during the pilot phase of the ECIU University Erasmus+ project between 2019 - 2022.

Beneficiaries

- Aalborg University, Denmark
- Dublin City University, Ireland
- Kaunas University of Technology, Lithuania
- Linköping University, Sweden
- Tampereen Korkeakoulusäätiö sr, Finland
- Hamburg University of Technology, Germany
- Universidade de Aveiro, Portugal
- Universitat Autònoma de Barcelona, Spain
- University of Stavanger, Norway
- Università degli Studi di Trento, Italy
- Institut National des Sciences Appliquées de Toulouse, France
- University of Twente, The Netherlands

Abstract

This report documents the development of the ECIU University's Citizen Science platform (csinitiative.eu) and its subsequent evaluation by users amongst the researchers and technical staff communities who have actively used it for the co-creation of Citizen Science pilot project proposals. The survey results indicated that they valued most the user experience and the possibility to connect with others to share expertise and to co-create new project proposals applying citizen science practices. Feedback from some users suggested that it would be better to use the existing online platform resources to engage researchers in Citizen Science, and to organise face-to-face meetings to develop project proposals. This assessment exercise will feed into improving the ECIU Citizen Science platform for future development.

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Symbols, abbreviations and acronyms

AAU	Aalborg University, Denmark
CS	Citizen Science
DCU	Dublin City University, Ireland
EC	European Commission
ECIU	European Consortium of Innovative Universities
KTU	Kaunas University of Technology, Lithuania
LiU	Linköping University, Sweden
Q&A	Questions and Answers
SDG	Sustainable Development Goal
SMART-ER	ECIU University Research Institute for Smart European Regions
TAU	Tampereen Korkeakoulusäätiö sr, Finland
TUHH	Hamburg University of Technology, Germany
UA	Universidade de Aveiro, Portugal
UAB	Universitat Autònoma de Barcelona, Spain
UiS	University of Stavanger, Norway
UNITN	Università degli Studi di Trento, Italy
UT	University of Twente, Netherlands
WP	Work Package

1 Introduction

Citizen Science (CS) is a key aspect for the ECIU University, as it aims to involve stakeholders from the Quadruple Helix in scientific processes to solve societal challenges, and therefore is closely related to the Challenge-Based Research approach.

The focus on CS in Work Package (WP) 2 was aimed to foster collaboration and further integrate research from the member universities, following the conclusions of Activity 2.4.1, (Mapping Citizen Science activities in the ECIU University) completed in 2020. The consultation that took place on 2nd December 2020 as a virtual online event brought together over 80 participants from across the ECIU network. It consisted of a roundtable discussion between CS experts and researchers with experience of CS methodologies, followed by a Q&A session. During the roundtable discussion, the audience was invited to vote on questions related to the proposed ECIU University Citizen Science Hub, and more broadly, to the approach the ECIU University should adopt towards CS. In this context, the proposed ECIU University Citizen Science Hub aimed to create a space which brings knowledge of and expertise in CS under the same roof. It also aimed to be a place facilitating encounters and collaboration between academics and citizens with the ambition of doing more than keeping track of existing CS projects across the ECIU University.

Therefore, a citizen science platform was designed and launched, to facilitate CS in ECIU University, mainly related to sustainable Development Goal (SDG) 11 for the pilot phase. It was initially conceived and promoted by the WP2 of the ECIU Erasmus+ project, and subsequently developed in the context of the SMART-ER Virtual Research Institute which was aimed at developing the Research and Innovation dimension of the ECIU University.

The first actions taken to develop pathways by which researchers can engage with citizen science are:

- The organisation of a series of 8 webinars on Citizen Science in ECIU University
- The facilitation of a co-creation process to allow researchers and technical staff from ECIU University to co-create 3 Citizen Science pilot projects, funded by the SMART-ER project.
- The creation of csinitiative.eu, the Citizen Science platform which was used as a support tool for the co-creation process.

During this first phase of development of the platform, the citizens were not involved in pilot projects nor in the testing of the platform, as the main targets at this early stage have been the researchers at the different members of ECIU University.

2 Objectives

This document aims to briefly present an assessment of the citizen science platform (csinitiative.eu) implemented within the SMART-ER project and provide some relevant insights to consider for the development of new features.

The structure of the deliverable is as follows:

- The third section presents the methodology followed to gather the feedback from the main users of the platform.
- The forth section describes the main results from the questionnaire.
- The last section includes the conclusions of the main results.

3 Methodology

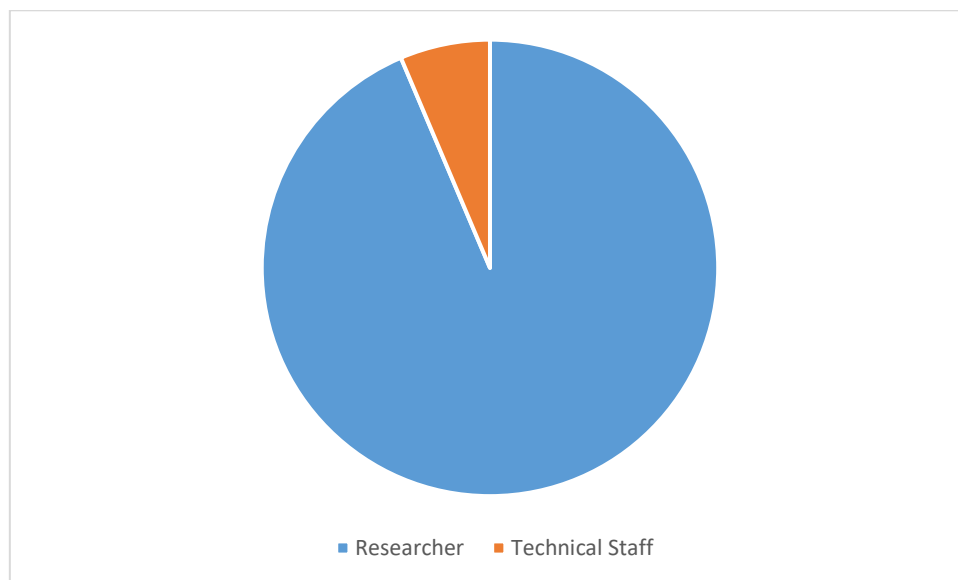
To get feedback about the platform, an online questionnaire has been developed, targeting the researchers and technical staff who have used the CS platform.

3.1 Target group

Both technical staff and researchers who used the platform for the co-creation of CS pilot projects funded by SMART-ER are the target group of this questionnaire.

The target group consists of 47 technical staff and researchers who were awarded funding to implement their CS Pilot Project proposals. Graph 1 represents their professional profile. As one can see, 94% of them are researchers, and only 6% are technical staff.

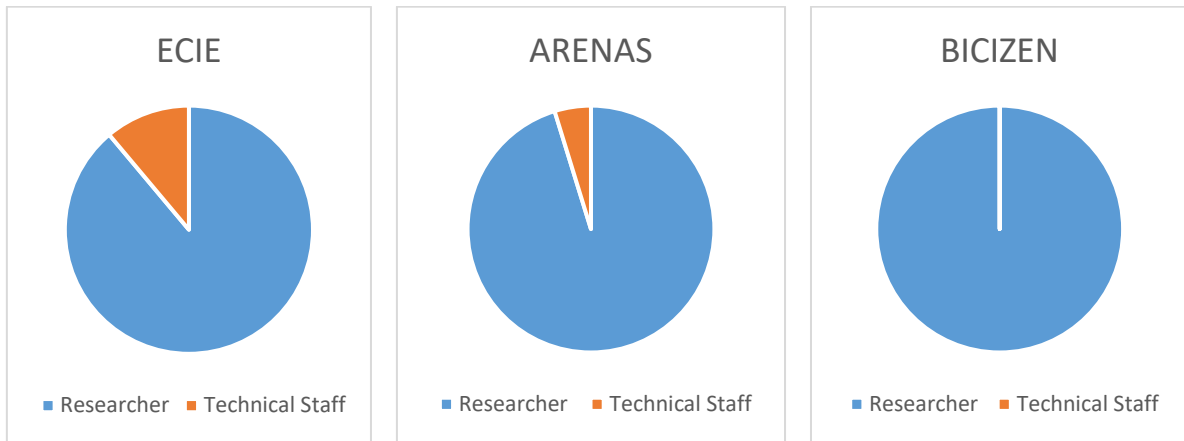
Graph 1: Professional profile of the main target group



The SMART-ER project awarded funding to three CS pilot project proposals, and the composition of the groups that are implementing the pilot projects can be consulted in figure 1:

- Establishing a Community on Empowering, Inclusive, and Equitable CS within ECIU (ECIE)
- Citizen Arenas for Improved Environmental Quality & Resource Use in SMART-ER Cities (ARENAS)
- Empowering Urban Cyclists Through CS (BICIZEN)

Figure 1. Professional profile per pilot project



Note: One researcher is involved in ECIE and in ARENAS.

3.2 Questionnaire structure

The closed questions raised related to personal data are the following:

- University
- Gender
- Role

The open-ended questions raised related to the Citizen Science Platform are the following:

- What did you like the most about the csinitiative.eu platform during the elaboration of the Citizen Science pilot proposal?
- What did you miss on the csinitiative.eu platform during the elaboration of the Citizen Science pilot proposal?
- Do you have any suggestions for improving the platform?
- Do you think the platform would be useful for future networking and development of new project ideas? Please explain.
- Which functionalities/sections in the csinitiative.eu platform would you include to support the implementation of the CS pilot project(s)?

4 Results

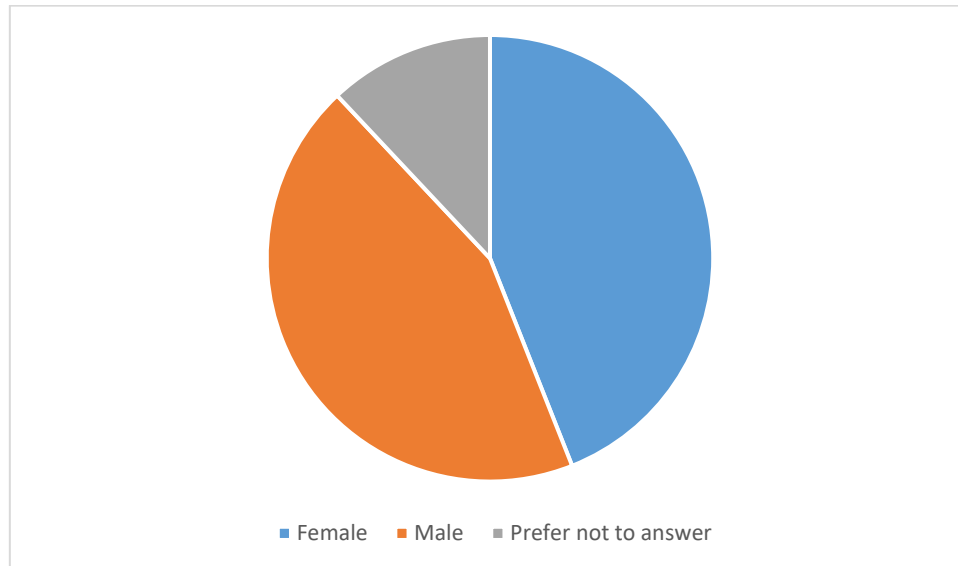
4.1 Demographics and sample structure

The questionnaire tried to capture the feedback from both technical staff and researchers from some members of ECIU University who used the platform for the co-creation of CS pilot projects, by collecting 25 questionnaires in total.

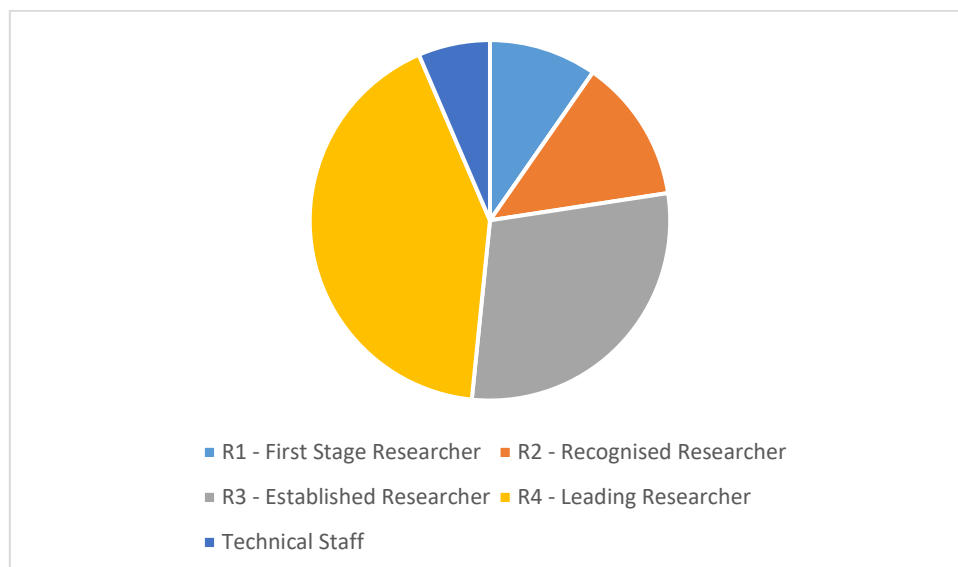
To better understand the survey results, an initial descriptive analysis of the sample for each University is needed. Graphs 2 and 3 present the overall sample structure by professional profile and gender. As we can see, there is gender balance in the sample (Graph 2), and the number of Established Researchers and Leading Researchers is higher than the other professional profiles (Graph 3). Even if there is a limitation in the validity of the results in statistical terms considering the differences between

the target group distribution and the sample distribution, the main goal of this exercise was to receive feedback from the people who had relevant comments for the future of the platform.

Graph 2: Sample distribution by gender



Graph 3: Sample distribution by role



4.2 Perception about the CS Platform and suggestions for improvement

In this section, the results of the survey are presented, by highlighting the points of view of researchers from all career stages and technical staff.

4.2.1 Positive aspects about the CS Platform

The main positive aspect about the CS platform highlighted by the respondents is that it is easy to find things, to communicate with a wide audience and to share documents.

Table 1: Positive aspects about the CS Platform

Researcher profile	Comment
R1 - First Stage Researcher	
	it allowed to share information on the project, but also on the teams and personal research interests, allowing to better understand the teams constitution
	Scientific discussions*
	The user-friendly interface
R2 - Recognised Researcher	
	easy communication with other interested researchers
	to see comments
	Everything. It is very functional.
R3 - Established Researcher	
	collaborative work in the proposal
	It was an easy way to communicate to all groups and a wide audience.
	It was useful to see profiles of people.
	The possibility to connect with others
	To easily find the contacts of everyone
R4 - Leading Researcher	
	Be aware of the program.
	Convenience
	Easy to use
	Information sharing
	meeting other researchers, having a platform to communicate and share documents
	meeting other colleagues; exploring potential ideas; developing a pilot proposal
	The platform was an all in one place facility which was well organised and easy to find things.
	It facilitates communication between colleagues
Technical Staff	
	access to pilot participants
	I didn't really get to like it

Note: Answer to the question "What did you like the most about the csinitiative.eu platform during the elaboration of the Citizen Science pilot project proposal?"

*The original comment had the word "scientific" wrong spelled and was modified by the authors.

4.2.2 Missing aspects in the CS Platform

The main missing aspects in the CS Platform highlighted by the respondents are related to the lack of notifications by email related to activity in the platform, and the fact that the messages were not

updated in real time. Some respondents stress their preference to use email and other already existing communication tools (such as Google groups and Zoom) and the amount of time needed to actively use the platform.

Table 2: Missing aspects in the CS Platform

Researcher profile	Comment
R1 - First Stage Researcher	
	an option that permits to notify by e-mail if there are any messages in the platform
	It was a bit confusing to use... messages were not always in real-time and I got repeated notifications from messages that were no longer new...
	Nothing
R2 - Recognised Researcher	
	I guess nothing at that stage
	it worked well for the first communication among interested researchers
	N/A
R3 - Established Researcher	
	I would prefer communication via email. Nowadays, there are a lot of platform appearing and it becomes hard to manage
	More clarity on the partnership documents.
	Our team shifted to email and a google group because not all users logged in*
	smaller groups and more time to discuss and set the proposal
	Unfortunately, not all participants created extensive profiles.
R4 - Leading Researcher	
	-
	email reminder if people are interested to say follow*
	N/A
	No idea.
	Nothing
	notification by the email that there was an activity on the platform.
	Privacy
	I wish we had been given more guidance and support. There was a lot of vagueness, which confused and lengthened the creation process.
	wish we had received more guidance, facilitation, and contextual background information to support the co-creation process
	As with many communication platforms, it requires own activity to follow up and this is challenging within time constraints of academic work.
	NA
Technical Staff	
	the platform was not covering all our needs (meetings, joint writing, access to the Google Docs) and not all team members were "in" so we had to use additional tools
	It was not very intuitive, nor practical.

Note: Answer to the question "What did you miss on the csinitiative.eu platform during the elaboration of the CS pilot project proposal?"

* The original comments had the words "in", "reminder" and "intuitive" wrong spelled and was modified by the authors.

4.2.3 Suggestions for improvement of the CS Platform

The main suggestion for improvement of the CS Platform is related to the fostering of the discussion and collaboration among participants by, for example, creating specific topic discussions and private discussion forums. Furthermore, some of the respondents are interested in having access to information and resources related to CS around the globe. Again, some respondents suggest linking email with the platform.

Table 3: Suggestions for improvement of the CS Platform

Researcher profile	Comment
R1 - First Stage Researcher	
	a way to notify by e-mail if there are any messages on the platform
	It should be promoted the use of specific topic discussions, as the historical track of messages can become huge and the discussion ideas could be lost in the middle...
	No
R2 - Recognised Researcher	
	for now, he pilot is using an MS Teams environment to collaborate. This is an
	n/a
	Nothing
R3 - Established Researcher	
	..
	No
	Not at the moment.
	Not really
	Probably, to investigate the functionality as people shifted from the platform to e-mailing.*
R4 - Leading Researcher	
	For the purpose of the cocreation project planning it was fine.
	Given many of us were strangers to each other, I think it would be wise to provide more guidance, and a facilitator, to help the group form and to support the co-creation process.
	It is not useful, not a good use of resources. None of us has time for it as there are no resources offered for such work - we do all the work on our own time without any money.
	Link platform and email, by sending notifications
	Maybe turn this to a platform to share, issues for which citizen science is useful, share links to concrete projects in the globe, suggest ideas for collaboration, so this will create a space for ideas and some may it lead to project proposals, etc*
	No
	No
	Please provide more guidance, facilitation, and contextual background information to support the co-creation process. This is especially important for researchers who are less familiar with ECIU and SMART-ER, and their processes.

	Private discussion forums
	I did not like it; I felt that we were being watched as we wanted to develop research ideas in confidence**
	I do not use it; we don't need it for anything, we can much more easily communicate by email and Zoom. Please use resources for something else as there are so little resources for doing this collaborative work.**
	I am not sure there is something I liked most. It was another platform.**
Technical Staff	
	I do not see the added value of yet another platform - why not connect the tools we already use. It now only generates extra work
	Add more information and resources useful for the participants and update the content of the platform on a regular basis, if you go to CS_PILOTS it's still empty!

Note: Answer to the question "Do you have any suggestions for improving the platform?"

*The original comment had the word "functionality", "maybe" and "collaboration" wrong spelled and was modified by the authors.

**Answer to the question "What did you like the most about the csinitiative.eu platform during the elaboration of the Citizen Science pilot project proposal?"

4.2.4 Usefulness of the CS Platform for networking and development of new project ideas

Most of the respondents consider that the CS Platform can be useful for networking and for the development of new project ideas. They highlight the need of the platform to become more interactive and to have more active members involved. Other respondents consider that face-to-face meeting are better for this purpose, and that it is easier for researchers to work with tools they already know.

Table 4: Usefulness of the CS Platform for future networking and development of new project ideas

Researcher profile	Comment
R1 - First Stage Researcher	
	Yes very much
	Yes, it is a good interface of communication on the specific topics discussed.
	yes, of course, because you can create different groups to discuss topics
R2 - Recognised Researcher	
	n/a
	Not sure
	Yes
R3 - Established Researcher	
	It could work similarly it worked for CS pilots.
	n/a

	Not sure
	Yes, is easy to use
	Yes
R4 - Leading Researcher	
	I prefer more conventional forms of communication (such as email)
	I think physical face to face meetings work better for elaborating proposals and building relationships
	It would be more useful if the participants receive more guidance, facilitation, and contextual background information to support the co-creation process. This is especially important for researchers who are less familiar with ECIU and SMART-ER, and their processes.
	Not in this format
	Maybe turn this to a platform to share, issues for which CS is useful, share links to concrete projects in the globe, suggest ideas for collaboration, so this will create a space for ideas and some may it lead to project proposals, etc*
	The platform is only a support tool, and cannot replace have a facilitator assigned to helping each group 1) stay on track with the program goals; 2) build collegial relationships among the new group members, and 3) facilitate inclusivity and equity in the decision-making and task workload.
	Yes
	Yes, but it may need to be more interactive? We need a repository for data gathered in future projects so the platform may need to have a data management repository that is searchable.
	Yes, if used to use the platform and more people get in.
	Yes, it is a good space for collaborative activities
Technical Staff	
	hard to access for people outside our bubble. Why invest time in yet another platform that might not be there after the project's life time?
	Not really, it's easier to communicate and co-work using the tools and platforms you are used and comfortable with.*

Note: Answer to the question “Do you think the platform would be useful for future networking and development of new project ideas? Please explain”.

*The original comment had the word “maybe”, “collaboration” and “comfortable” wrong spelled and was modified by the authors.

4.2.5 New functionalities or sections of the CS Platform for the CS pilots

The most demanded functionalities for the CS Platform are related to data management. Respondents ask for the possibility to store and share their pilot projects’ data. Furthermore, some respondents highlight the existence of a Community section.

Table 5: Demanded new functionalities of the CS Platform for the CS pilots

CS pilot	Comment
Establishing a Community on Empowering, Inclusive, and Equitable Citizen Science within ECIU (ECIE)	
	easy data sharing/joint use of files
	Examples from other pilots. Digital resources
	I do not know
	I do not know which functionalities/sections are available
	I'm not ready to respond that question, apologies.*
	Notifications
	online team-level document storage to facilitate the exchange of specific pilot-related information.
	Question is unclear, so not sure how to answer. I think the 'Community' section was helpful, but moving between documents and webpages was not always easy.
	the chart
Citizen Arenas for Improved Environmental Quality & Resource Use in SMART-ER Cities (ARENAS)	
	can not define
	Dissemination of the activities.
	It would be important to have a GIS platform to input our pilot project data...
	Map visualization; host dedicated webpages for each pilot
	None
	Not sure yet
	team management and budget control
	We will need the platform to enable us to store our data, to have discussions, to generate reports and feedback.
Empowering Urban Cyclists Through Citizen Science (BICIZEN)	
	..
	Community section
	I don't know what they are.
	It's overall a useful platform with CS related information
	maybe showcasing results of the project to other*
	None
	Not sure
	The coordinator has not proposed this. I think there is a need to consolidate thinking an horizontal platforms eg research collaboration vs citizen science vs open data repository etc

Note: Answer to the question "Which functionalities/sections in the csinitiative.eu platform would you include to support the implementation of your CS pilot project(s)?"

*The original comment had the words "I'm" and "maybe" wrong spelled and was modified by the authors.

5 Conclusions

The ECIU University's *Citizen Science platform csinitiative.eu* is valued among most of the researchers and technical staff who have actively used it for the co-creation of Citizen Science pilot project proposals. What they valued the most is the user experience, and the possibility to connect with others to share expertise and to co-create new project proposals applying citizen science.

Nevertheless, there are some users who consider that it would be better to use the existing resources to engage researchers in Citizen Science, and to organise face-to-face meetings to develop project proposals.

This assessment exercise has enabled ECIU University to reflect both on the positive aspects and on the suggestions for improvement of the Citizen Science platform, which will be considered to fine-tune it. This platform shall foster the collaboration among researchers from the ECIU University, by allowing them to get to know each other, and develop new project ideas together, applying Citizen Science practices.

Acknowledgements



Co-funded by the
Erasmus+ Programme
of the European Union