Deliverable D5.2

IMPETUS impact dashboard

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Deliverable description

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30/06/2023	v 1.0	María Anguiano (Zabala)	Correction of tables and format.

Table of contents

Summary

This report describes the target audience and the overall concept and the information that will be displayed in the IMPETUS impact dashboard. It also informs about the process related to its development and functioning and the timeline of its implementation.

The IMPETUS impact dashboard will consist of two infographics that will be embedded in the IMPETUS website.

One will display information about the citizen science initiatives (CSIs) supported by the IMPETUS Accelerator, their outputs, and impacts. It will also include information about the volunteers engaged by those CSIs and the activities they will be involved in.

Another one will be dedicated to the CSI awarded by the European Citizen Science Prize. A first part of the infographic will be dedicated to information about all the CSIs awarded, including the honorary mentions; a second part will provide more in-depth information about the impact of the Prize on the f three projects that receive a money prize.

Each information will be showcased in the most appropriate way through different forms of charts, maps and other visual representation and will be kept updated during the project lifetime. Data will be added during and after each acceleration cycle and after each edition of the Prize.

The data needed for populating and updating the dashboard will be derived from the documents the CSIs delivered and will deliver as part of their participation to the IMPETUS Accelerator and Prize. Additional data will be gathered as part of the impact assessment activities described in D5.1.

The first version of the dashboard will be available on the IMPETUS project website in October 2023, when the first data about CSIs impacts will become available.

The dashboard design provided in this document will be revised on an annual basis and changes will be made to overcome eventual challenges in the data gathering or analysis process and to assure constant improvement throughout the project.

1. Introduction

The objective of this report is to describe the aim of the IMPETUS impact dashboard, its main features, the process related to its development and functioning and the timeline of its implementation.
This report is the first output of Task 5.2, titled "Impetus impact dashboard design and development". The task description in the project DoA is as follows:

"Following a co-design approach engaging all project partners, this task will develop an online dashboard visualising the impacts of the IMPETUS pilots. The IMPETUS impact dashboard will be part of the project website, updated at mid-term and the end of each acceleration cycle, and includes data about the Citizen Science Initiatives (CSIs) awarded with the Prize".

The DoA also mentions that "*The impact dashboard created by WP5 will include diversity monitoring, particularly about gender".*

In the next section we describe the co-design activities carried out for developing the concepts and mapping the main features of the impact dashboards. Section 3 describes the data that will be visualised in the dashboards and includes preliminary design of the visualisation options that will be used (charts, maps, word clouds, etc.). Section 4 explains the data gathering procedures that we will put in place for populating the dashboards with the needed data. Finally, section 5 provides a roadmap of the dashboard implementation.

2. The co-design process

"Co-design", is a widely recognized approach to foster creativity and participation. Its origins trace back to the participatory design techniques developed in Scandinavia during the 1970s (Bødker 1996) (Binder et al., 2011). Within the realm of creative practice, the term 'co-design' serves as an overarching framework encompassing participatory methodologies, co-creation processes, and open design strategies. Co-design enables people from different levels of experience and background to contribute to the formulation and solution of a problem or to the more practical development of socio-technical products or services. Co-design is nowadays often used also for software or App development.

The co-design of the IMPETUS impact dashboard builds on the dashboard developed in the ACTION project[1] (Scandolari et al. 2022). Overall, IMPETUS is strongly related to the ACTION project and the lessons learned for the design, implementation and update of the ACTION impact dashboard informed the development of the IMPETUS impact dashboard.

Indeed, the workshop started with a presentation of the ACTION dashboard with reflections and questions from the T6 team. IMPETUS partners then exchanged their opinions and reflections using a MIRO board, an online collaborative tool that facilitates discussion and visual note-taking. During the discussion we carried out a MoSCoW analysis, this was done using one of the visual template features by the MIRO platform. The MoSCoW analysis takes its name from the initial letters of the words used for prioritising the requirements of an outputs, which are: M - Must have, S - Should have, C - Could have, W - Won't have. It was used to reach consensus among participants on the features that were more useful for the IMPETUS dashboard.

In the case of the IMPETUS impact dashboards, we used co-design to ensure that the expertise and needs of the consortium partners could be reflected in the dashboard development process, and to contribute to a more effective dashboard design. More precisely, the aims of the co-design workshop held on June the 12th 2023 were to:

- Listening to partners' needs and expectations.
- Generating ideas on the features of the dashboard.
- Prioritising features' relevance according to partners' perspectives.

[1] The ACTION project (Participatory science toolkit against pollution) was a three-year programme that supported via cascading calls and a training and mentoring program CSIs to become more participatory, inclusive and citizen-led. It was implemented by ten research and third-sector organisations, universities, institutes, and SMEs, working together with 16 CSIs tackling major forms of pollution. Among them KCL and T6 that are also in the IMPETUS consortium respectively as project scientific coordinator and impact assessment leader. The programme had a duration of 3 years and concluded its activities in January 2022. IMPETUS proposal writing was highly influenced by the experience of the ACTION project and the lesson learned.

The co-design workshop lasted approximately one hour. Since some of the partners could not join it, additional meetings were organised by T6 with key individuals. Two other one-hour meetings took place with colleagues from King's College London (KCL) and Ars Electronica. The colleagues had the opportunity to consult the material and outputs of the co-design session and add their suggestions. Additionally, the meetings aimed at:

- Assure good alignment, and no overlaps, between the impact dashboard and the open call dashboard that will be developed by KCL
- Assure that the value generated by the EU citizen science prize has the necessary recognition.

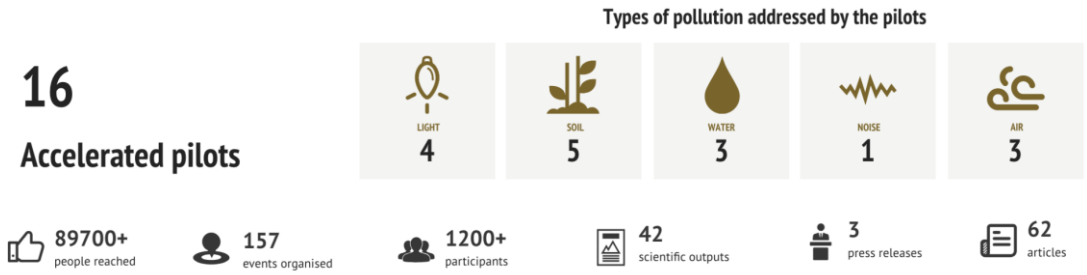
Additional email exchanges followed up the co-design workshop and the meetings adding additional inputs.

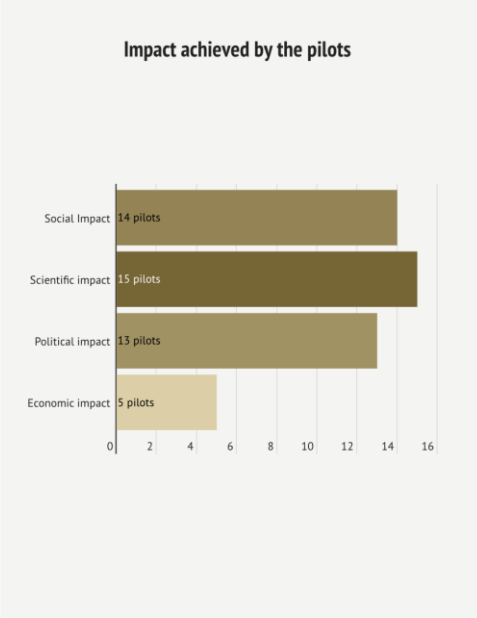
The results of the exchanges led to the definition of the information to be visualised in the dashboard (see section 3). The key differences of the IMPETUS impact dashboard with the ACTION one (see figure 1) are that:

- it will include a greater volume of data since it will consider more than 100 CSIs while ACTION focused on 16 CSIS and
- It will offer more detailed information (see section 3).

Nevertheless, the overall "concept" is broadly the same and some visualisation choices will also remain the same since they proved their validity in the ACTION dashboard.

It is important to notice that during the co-design process we realised that we need **two** dashboards, one for the CSIs participating in the IMPETUS Accelerator and one for the CSIs awarded the European Citizen Science Prize. Indeed, the data that we are gathering for these two groups are quite different and, especially for the impact assessment data, they will be different in form and meaning since the scope of the two assessments is different too (see D5.1). In fact, we will assess the impacts *of* the CSIs participating in the Accelerator, while we will assess the impact of the EU Citizen Science Prize *on* the awarded CSIs.





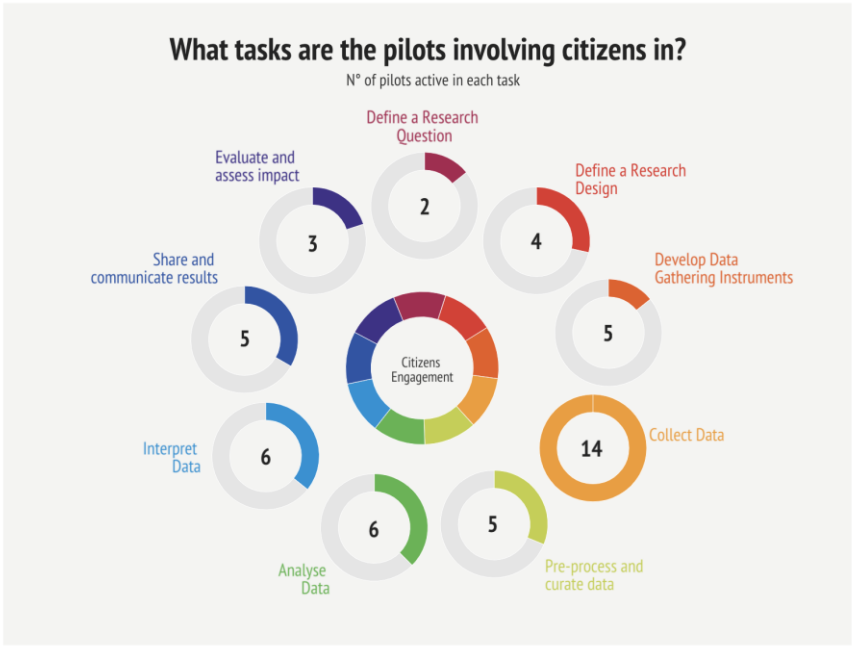
Many of our pilots are still seeking contributions from volunteers

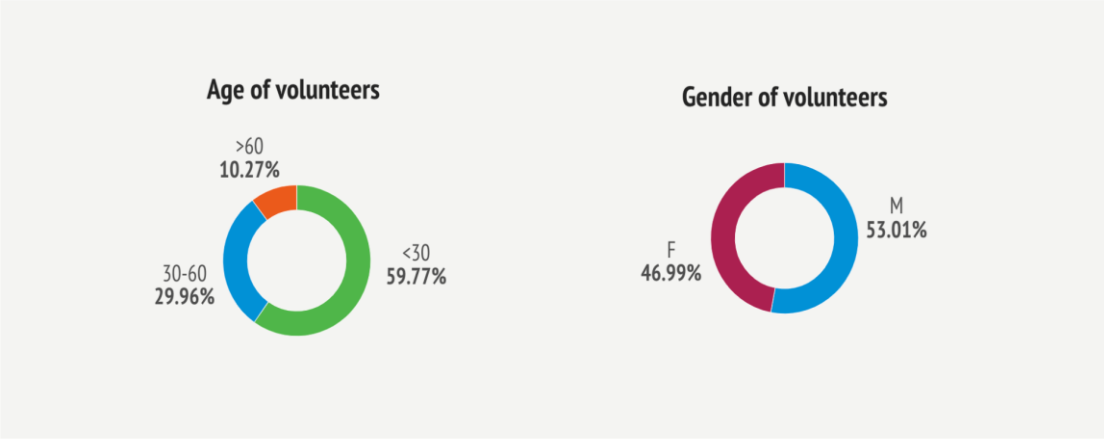
1230+

Active Volunteers

Data gathered by citizens:

- **244827** pictures
- **42677** samples
- **7574** audio files
- **133** datasets
- **46** video
- **6** software
- **5** composters
- **55** other





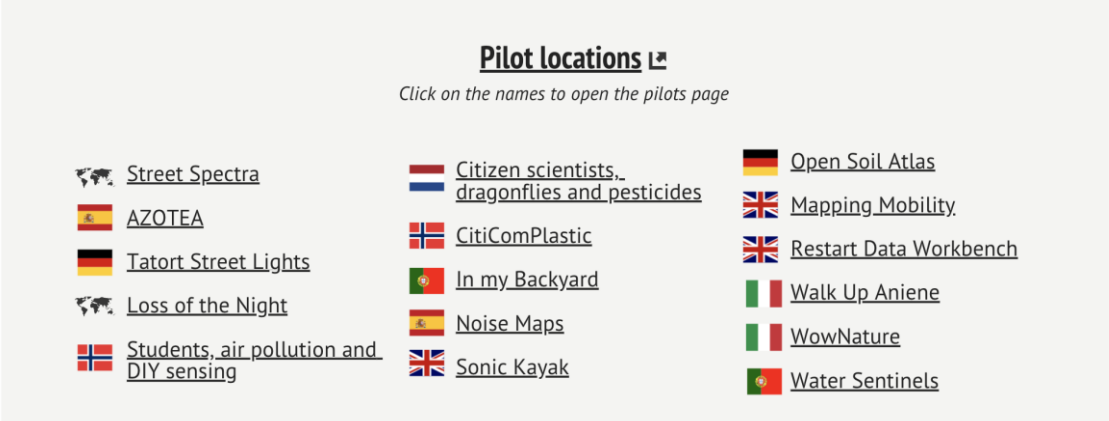


Fig. 1 - ACTION dashboard (Source: ACTION website at www.actionproject.eu)

The dashboards will take the form of infographics generated with Infogram, an online platform that supports the conversion of data into visual representation such as charts, maps, world cloud and similar.

With reference to the citizen science initiatives supported by the IMPETUS Accelerator programme, the infographic will be updated twice for each cohort (showing mid-term and results). The information about the projects awarded by the European Citizen Science Prize will be published annually (see section 5 for a more detailed timeline).

The dashboard will be cumulative, meaning that we will not generate different infographics for each cohort and prize editions, but we will add data so as to be able to show the increments of IMPETUS impacts over time. The number of projects shown in the dashboard will increase over time and their results and impacts will be visualised in an aggregated way across acceleration circles and Prize editions.

3. IMPETUS impact dashboard concept and main features

In this section we discuss the target users of the IMPETUS dashboards. The definition of our target audiences influenced the decision of what information will be visualised on the dashboards and their graphical aspects. Then we list the information that will be included in the dashboards together with preliminary choices on how they will be visualised.
As mentioned in the introduction, the dashboards will include information about:

- the CSIs supported by the Accelerator and *their* impacts.
- the CSIs awarded by the European Citizen Science Prize and *its* impact on them.

An important annotation is that all the data will be reported at an aggregated level with regards to all the CSIs supported in the Accelerator programme, or awarded as part of the prize. This means that it will not be possible to trace the individual performance of a single CSI. This choice is aligned with the aim of the dashboard that it is to show the overall achievements and impacts of the supported and awarded CSIs. Information of the individual CSIs are available on the IMPETUS project website.

3.1 The target users of the IMPETUS impact dashboard

The target audiences of the IMPETUS dashboard are the following:

- *The European Commission.* Professionals from the EC could be interested in having a summary of the IMPETUS project and, by the end of the project, an overview of the more than 100 CSIs the project will support. The same potential interest applies to the European Citizen Science Prize results and impacts.
- *Researchers*, mainly those investigating citizen science as their main research topic. They will find up-to-date information about the CSIs and their impact, and, by the end of the project, they will be able to access the datasets[2] used for populating the dashboard so as to reuse the data for their own research.
- *CS teams interested in applying to the next open calls*. They will be able to consult the dashboard to have information on the topics already covered, on the locations of the CSIs supported, and other information that could be relevant for framing their proposals better.

[2] The dataset will be anonymised and will become available in the open repository Zenodo by the end of the IMPETUS project.

These are the main users of the IMPETUS dashboard. Other actors that could be interested include:

- The UN statistical offices, custodian agencies and national statistical offices collaborating with them might be interested in seeing how IMPETUS CSIs are contributing to the monitoring and achievement of the UN Sustainable Development Goals (SDGs). This information will be provided by the dashboard at a certain level of detail (see subsection 3.3).
- National policy makers could be interested in knowing about the projects active in their country and in monitoring IMPETUS' achievements with the aim to replicate similar initiatives at the local level.
- The citizen science community more generally could be interested in the dashboard in terms of accessing aggregated information about the impacts of citizen science, as well as about engagement practices and projects' outputs.

3.2 Information about the CSIs supported by the IMPETUS Accelerator

With reference to the CSIs supported by the IMPETUS Accelerator, the dashboard will include the following information:

- The number of supported CSIs, divided between new and on-going projects. This distinction is relevant as IMPETUS provides support for both kick-starting and sustaining projects.
- The topic covered by the CSIs. The dashboard will report the number of CSIs working on defined topics such as health, inclusion, biodiversity, etc.

Defining the topics is not an easy task, indeed, the topics covered by the CSIs currently participating in the IMPETUS Accelerator are directly influenced by the Open Call text that proposed two clear thematic scopes: Cities for Life and Healthy Planet (see D1.1 for more information on the Open Call Topics).

The next call will ask for CSI proposals on different topics which means that the list of topics for the dashboard will need to be updated. However, at least some of the future Open Call challenges will relate to the SDGs and European Green Deal objectives, so that these have been considered in the development of the topics list. We also took into consideration the topic classification used by the EU.citizen-science platform[3] and aligned with it in terms of wording as much as possible. Since this platform is becoming an important point of reference for the European CS community and since the CSIs supported by IMPETUS have been invited to register to that platform too, we considered it worthy to analyse a possible alignment in terms of topics.

A full alignment was not possible due to the different scope of the two "exercises". The most important difference is that we didn't include in the "topic" classification, labels related to

[3] https://eu-citizen.science/projects

disciplines. Indeed, in the IMPETUS dashboard, this information will be provided in a separated field/visualisation, while it is part of the "topic" classification in the Eu.citizen-science platform. We also considered the Zooniverse platform, but the projects listed there are not classified by topics (only by disciplines).

The list of topics for the first version of the dashboard will be the following:

- Biodiversity
- Ocean, water and costs
- Soil
- Pollution
- Climate and weather
- Health and wellbeing
- Mobility, transport and urban planning
- Accessibility, inclusivity and diversity
- Green transition and sustainability
- Energy
- Food

- Country of residence of the lead organisation
- Number of projects lead by a woman or a non-binary person
- Main discipline of the CSIs. This will support us in visualising the capability of IMPETUS to engage disciplines that are usually less represented in CS such as social sciences and humanities.

For this classification we will use the OECD Classification of disciplines as proposed in the revised Francati Manual (OECD, 2007). We will add to this the tag "interdisciplinary" for those CSIs that do not see a prevalence of a single discipline. The topic of interdisciplinarity is, indeed, very relevant in CS (Tauginiene et al, 2020) and deserves to be appropriately highlighted also to reflect the work that will be carried out on this topic in the impact assessment activities (See D5.1).

Therefore, the tags are the following:

- Natural Sciences
- Engineering and technology
- Medical and Health sciences
- Agricultural sciences
- Social sciences
- Humanities
- Interdisciplinary

We also took into consideration the classification provided by the Zooniverse[4] platform. The Zooniverse platform classification of disciplines follows a more bottom-up approach and directly reflects the nature of the projects hosted on the platform. The IMPETUS dashboards could be revised along the lines of this approach going forwards throughout the next iterations of the accelerator if there is a clear prevalence of certain sub-disciplines over others.

Socio-demographic information about the volunteers engaged in the IMPETUS CSI pilots that will be reflected on the dashboards includes:

- Number of volunteers engaged by the CSIs
- Gender distribution of engaged volunteers (male, female, and non-binary). This information is difficult to gather as not all the CSIs can collect this information from their volunteers. This is especially true for the projects that are predominantly working online because, for privacy purposes, it is recommended to limit the amount of information collected about participants. To overcome this limitation, we will indicate in the dashboard the number of CSIs that are able to provide this information to be transparent about the level of representability of the data itself. This approach will be used for all the data that will be collected.
- Age distribution of engaged volunteers (where possible)
- Number of projects engaging underrepresented social groups. Social inclusion is a central value for IMPETUS and inclusivity is one of the topics of the Accelerator training which needs to be reflected in the dashboard.
- Activities carried out by the volunteers will be visualised by showing how many projects engage volunteers in each step of the research process. For this visualisation we will refer to the Participatory Science Lifecycle developed by the ACTION project team (Passani et al., 2020) and used for the ACTION dashboard (see figure 2).

[4] https://www.zooniverse.org/projects

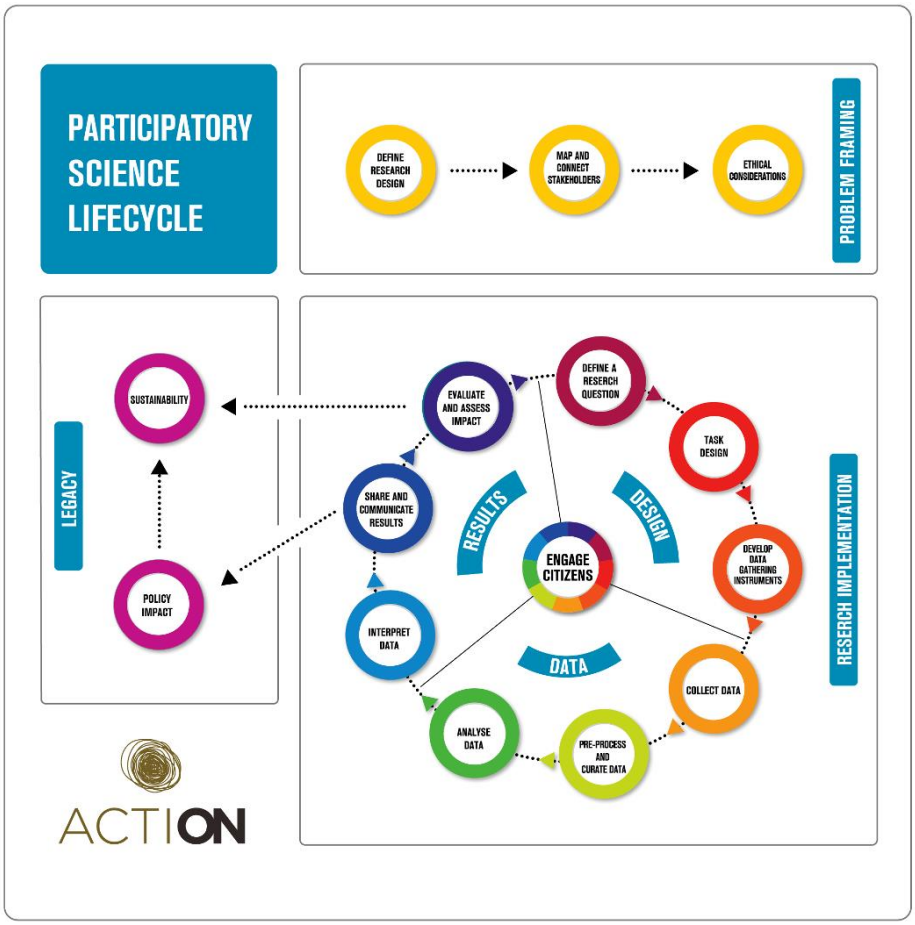


Fig. 2 - Participatory science lifecycle. Source (Passani at al., 2020)

The Participatory Science Lifecycle proved to be sufficiently easy to understand by CSI project teams because the wording used is widely used in the research community. This will facilitate the necessary data gathering process.

The aim beyond this graphic representation is to monitor the level of engagement of volunteers in the scientific process. For this we could have referred to the well-known classification by Bonney et al. (2009) that considers contributory, collaborative, and co-created projects, or to the one proposed by Haklay (2013) that considers extreme, participatory, distributed intelligence and crowdsourcing projects. There are also other classifications (Shirk at al., 2012, Wiggins and Crowston, 2011; Schafer and Kieslinger, 2016) because this topic is very relevant to researchers studying citizen science.

However, our experiences during the ACTION project highlighted that these typologies are not intuitive for citizen science practitioners on the ground, and there is a need to understand what is beyond the typologies in terms of the specific engagement practices and the activities performed by volunteers. We tried to gather data using these classifications in the first phase of the ACTION project. However, we realised that the information gathered was not accurate because projects teams mapped their activities against the classification in different ways and

this made the data not comparable. Beside this, asking the team to familiarise with the new terminology resulted in an additional effort for them that we would like to avoid since their work is already intense.

For this reason, we opted to use the ACTION Participatory Lifecycle approach, since the information gathered using this method can then be used for classifying the IMPETUS CSIs according to Bonney et al. (2009) approach.

The other information to be visualised on the dashboard includes the results of the IMPETUS accelerators CSIs such as:

- Projects outputs: we will consider scientific outputs (datasets, scientific publications, and others such as a PhD Thesis), media outputs (articles in magazines, radio appearances, podcasts, etc), face-to-face events organised, people reached (including both those engaged online and in face-to-face events). We will also visualise the percentage of scientific outputs made available in Open Science repositories.

- Data gathered by the volunteers. Possible data types could be pictures, samples, videos and geotags, for example. The classification of these types of data collected will be created following a bottom-up approach looking at the data collected by the volunteers of the CSI of the various cohorts.

- CSIs locations. This differs from the information about the country of the lead organisation mentioned earlier on in this subsection. There are some CSIs that are active in countries different from the one of the lead organisations and also some that are active in more than one country. Additionally, it would be relevant to visualise the number of projects that represent a scaling-up or replication of a project from one to two or more countries. The topic of citizen science replicability and scalability is a crucial one and a recent EU call for proposal was dedicated to it. This will finance two EU-funded projects that should start in the next few months. This topic and this information could be useful to them.

3.3 Information about the impacts of the CSIs supported by the IMPETUS Accelerator

In addition to visualising the outputs from the IMPETUS Accelerator CSIs on the dashboard, we will also visualise the results of the impact assessment activities that T6 will carry out during the course of the IMPETUS project.

The section of the infographic on CSI impact will include:

- One graphic with the number of CSIs that have a scientific, social, economic, political, or environmental impact respectively.

- One graphic with the number of projects that have an impact on the various dimensions that are considered under scientific, social, economic, political, and environmental impact. We will visualise the most represented dimensions, i.e., the ones on which more projects have an impact. The IMPETUS Impact Assessment methodology, indeed, includes more than 20 dimensions to reflect the different aspects of scientific, social, economic, political, or environmental impact (see D.5.1) and visualising all these dimensions would make the graphic difficult to read.

- One graphic with the number of projects that have an impact on the different SDGs and related targets. We will not only indicate how many CSIs have an impact on, for example, SDGs 6, but we will also include the targets that are considered by the CSIs under the various SDGs.

- A graphic communicating how the IMPETUS CSIs could or do contribute to SDGs monitoring. To support researchers and statistical officers we will use the visualisation provided in Fraisl et al. (2020) that is well-known among practitioners on this topic (see figure 3).

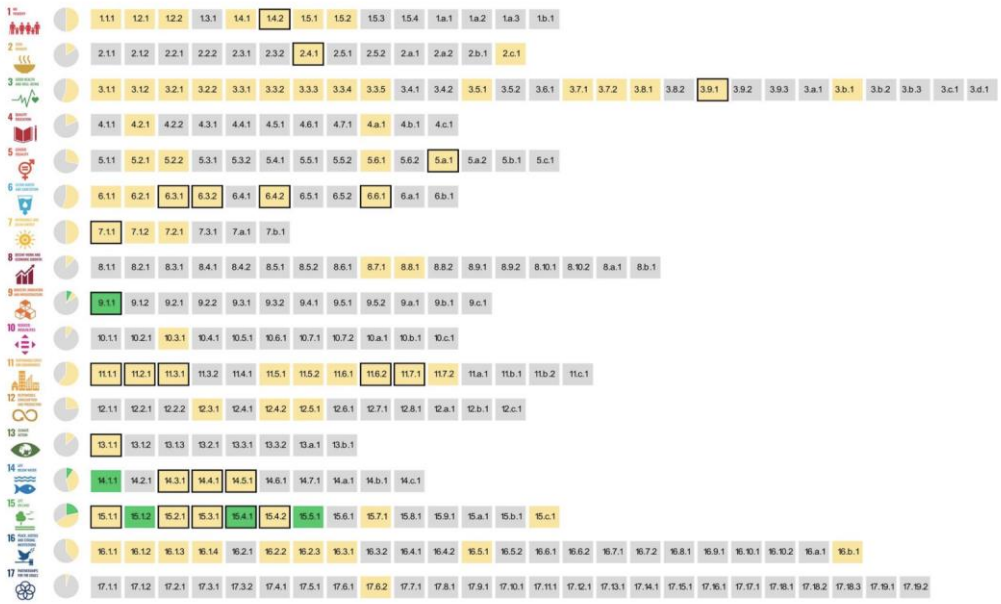
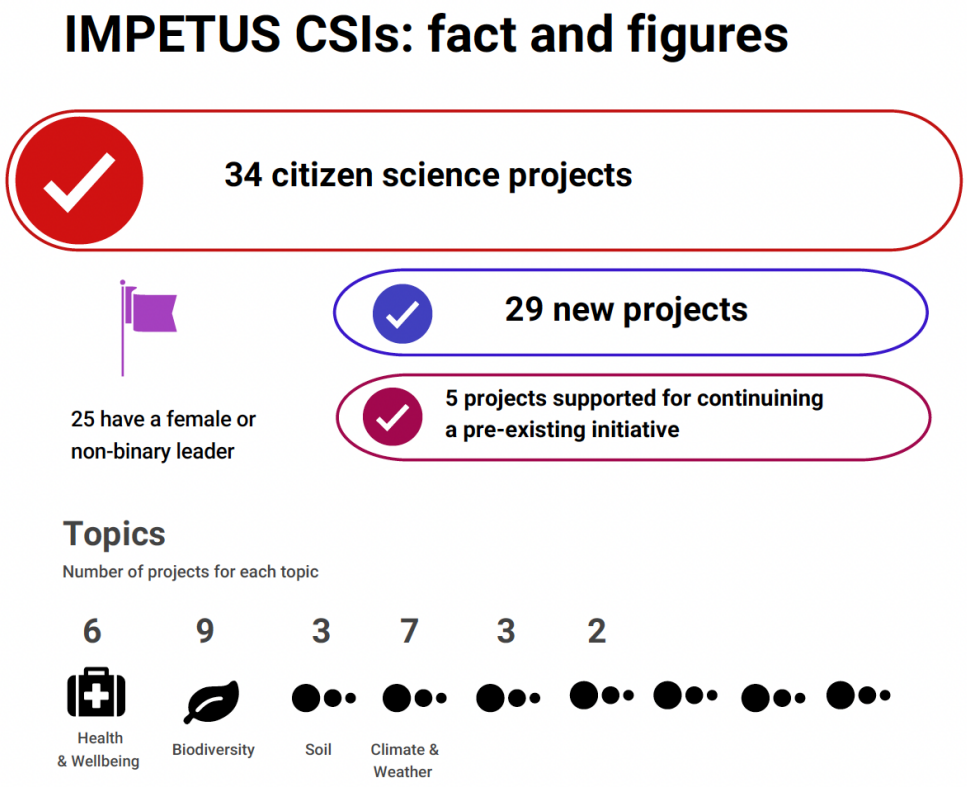


Fig. 3 - The actual or potential contribution of CS to SDGs indicators monitoring. (Source: Fraisl et al., 2020)

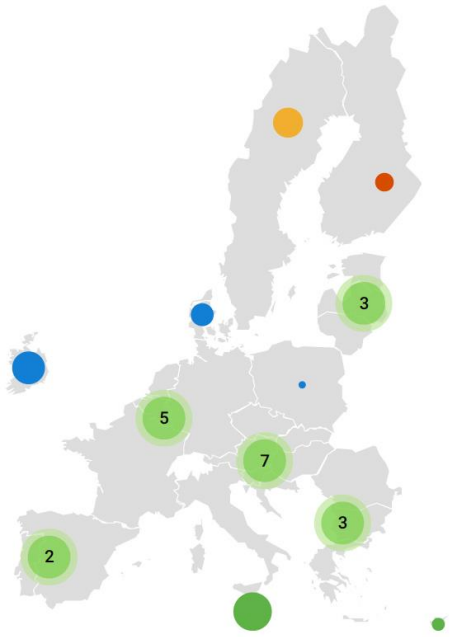
Here below (fig. 4) a preliminary design of the dashboard, a sort of mockup, to show the visualisation options identified so far.

It does not show the actual data of the CSIs since the data gathering and analysis is ongoing or, for some information, will be caried out in the next months. This preliminary visualisation is not aligned with the graphic identity of the IMPETUS project yet. It is, therefore, a first approximation of how the different data will be visualised in the dashboard that will go live, as

part of the IMPETUS website, in October 2023 (see section 5). Some of the graphs will have interactive elements, showing the data labels or details on the data when the user will move his/her mouse on them. The different parts of the Infographic are here shown separately for formatting reasons, but they will be all united in a single webpage.

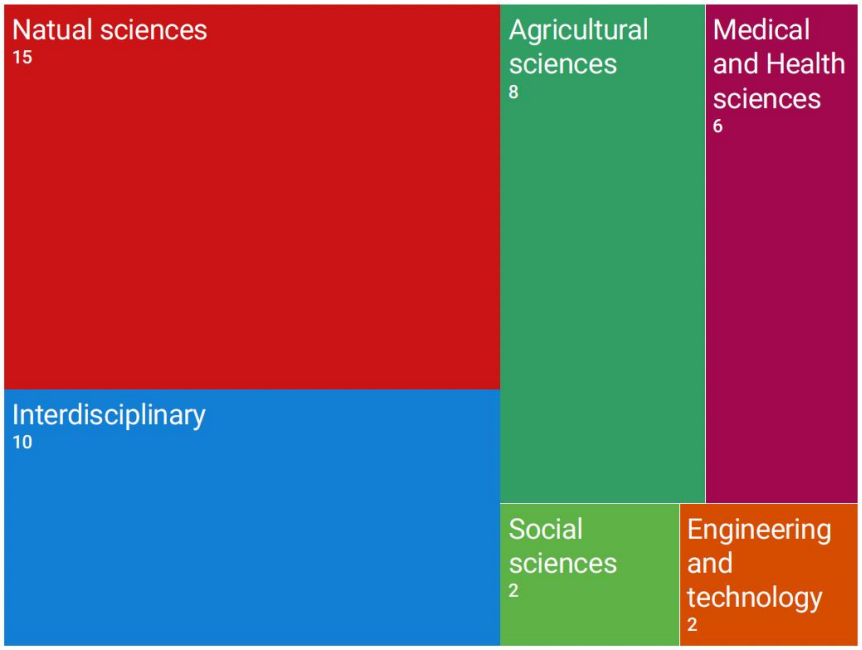


Location of the lead organisation



Disciplines

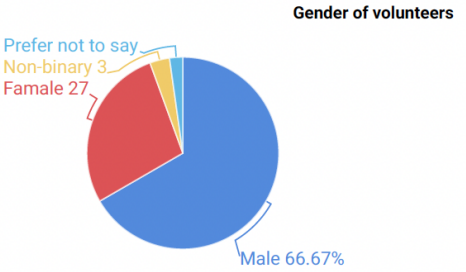
Number of projects for main discipline inspiring the project

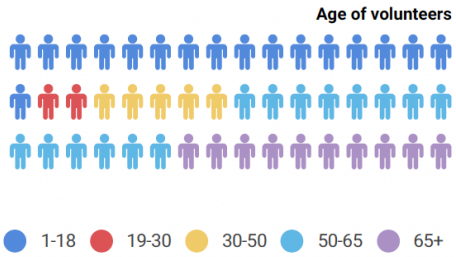


Citizen scientists - volunteers

4000+ volunters

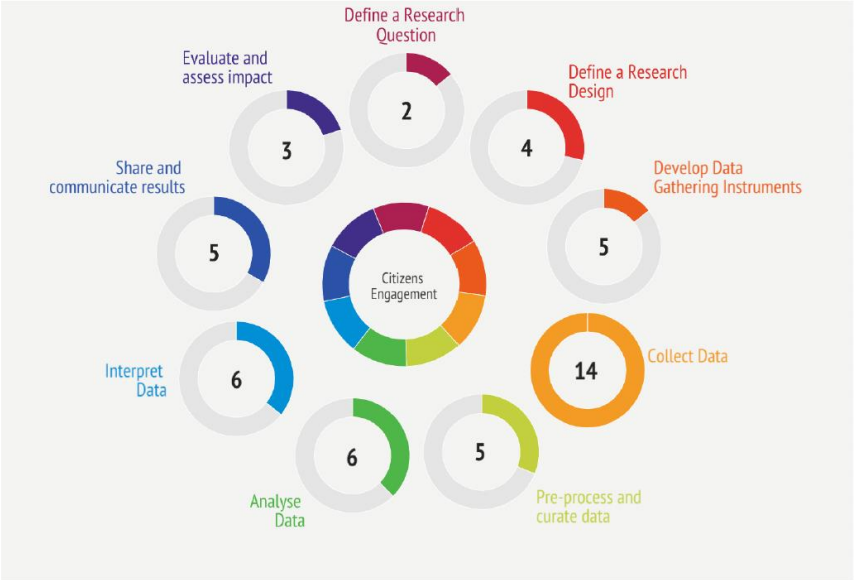
12 projects engage with vulnerable or underepresented grous

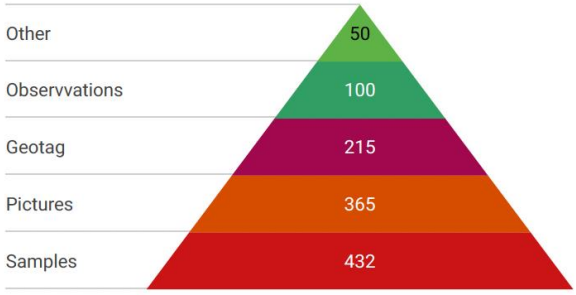




What tasks do volunteers perform?

Number of projects that engage volunteers in the different tasks





Total data collected by volunteers: 1162

Data gathered by volunteers by typology

Outputs of the CSIs

89700+ People reached online

157 events organised

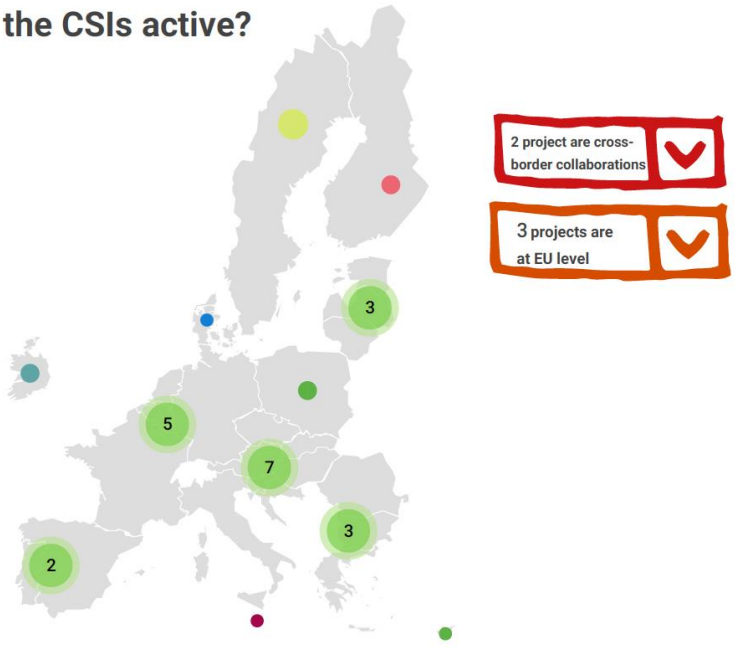
1200+ participants to events

42 scientific pubblications

133 datasets

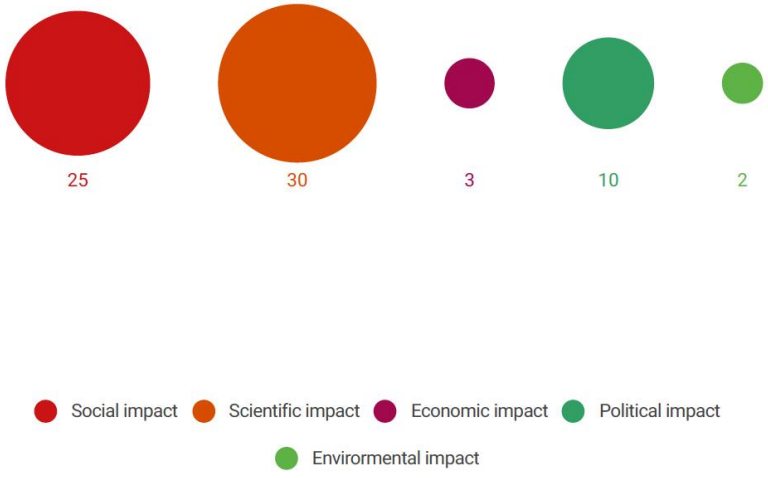
62 media outputs

Where are the CSIs active?



The impacts of the CSIs

Number of project having an impact on the related area



Number of projects having an impact on the related dimensions

Impact on Sustainable Development Goals

Number of targets addressed:

34 out of 163

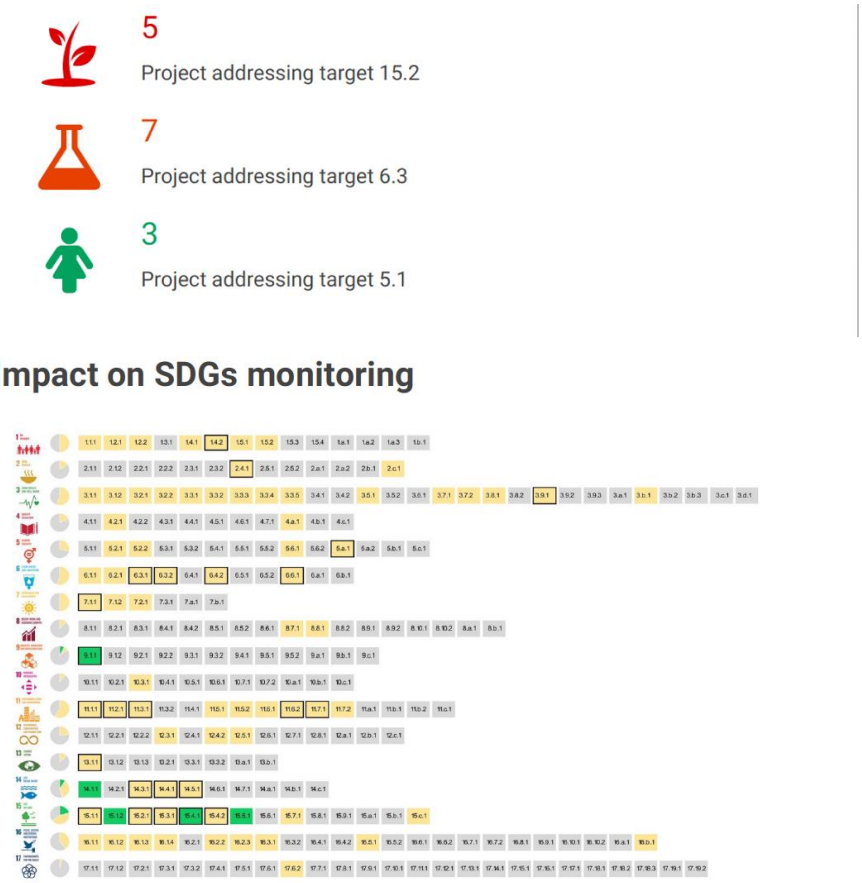


Fig. 4 – Preliminary design of the dashboard dedicated to the CSIs supported by the IMPETUS Accelerator

3.4 Information about the EU Citizen Science Prize winners

The information presented on the dashboard about the EU Citizen Science prize winners will be similar to what will be visualised for the CSIs participating in the IMPETUS Accelerator. We will visualise the following information for the projects awarded by the European Citizen Science Prize:

- Number of winners
- Topics covered by the awarded CSIs
- Country of residence of the lead organisation
- Number of projects lead by a woman or non-binary person
- Main discipline of the awarded CSIs
- Number of volunteers engaged by the CSIs
- Number of projects engaging underrepresented social groups
- Activities carried out by the volunteers
- Data gathered by the volunteers
- CSIs locations
- Number of CSIs that have an impact on one of the 5 areas considered

It is worth noting that some information that we will visualise for the CSIs supported by the IMPETUS Accelerator cannot be included in the infographic about the EU Citizen Science prize as it will require asking the prize winners to gather ad hoc data. This is the case, for example, for the following data:

- Gender distribution of engaged volunteers
- Age distribution of engaged volunteers

In the case that such data is available or has already been collected by the prize winning CSIs, we will include it in the dashboard visualisation. The same applies for the impact related information.

3.5 Information about the impact of the European Citizen Science Prize

The second section of the infographic dedicated to the European Citizen Science Prize will not illustrate the impact of the awarded CSIs, but - as described in the DoA and in D5.1 - the impact of the prize *on* the winners. This will be illustrated through mainly qualitative data, collected through online semi-structured interviews. We will investigate (as described in D5.1) the scientific, social, economic, political and environmental impact of the prize, the main changes to the project that occurred as a result of the prize, and how the prize money was used by the CSIs.

We will visualise the main impacts in two world clouds that will show:

- The key perceived benefits of the prize from the perspective of the prize-winning project managers

- The main changes to the project (if any) that occurred as a result of the prize.

We also expect to gather some quantitative information such as the following:

- Number of new collaborations established thanks to the visibility offered by the prize. We will also visualise the types of organisations engaged in these new collaborations. This could be new scientific collaborations, new collaborations with other CSIs or more policy-related collaborations such as, for example, agreements on the use of the data generated by the CSI.
- New funds gained since being awarded the prize (in Euros) and as a result of it.
- Number of new projects launched since being awarded the prize and as a result of it.
- Number of new funding proposal submitted since being awarded the prize and as a result of it.

From a graphic point of view the infographic dedicated to the Prize will be aligned with the one for the CSIs participating in the Accelerator but, since there will be more qualitative information, we will also use tag clouds and, if appropriate, we will include quotations from the interviews.

3.6 Diversity monitoring

The dashboard will visualise and give visibility to how the IMPETUS Accelerator CSIs address issues of Equity, Diversity, and Inclusion.

For the CSIs participating in the Accelerator, we will visualise:

- The number of projects led by women or non-binary persons
- The gender distribution of engaged volunteers (male, female and non-binary)
- The age distribution of engaged volunteers
- The number of projects engaging underrepresented groups such as migrants, refugees, people with disabilities and people belonging to the LGBTQI+ community

For the EU citizen science prize winning projects, we will only visualise the number of projects led by women or non-binary persons, and the number of projects that engage underrepresented groups.

4. Data gathering and data analysis process

The main sources of data for the dashboard dedicated to the CSIs participating in the IMPETUS Accelerator are:

- Their application forms (see D1.1 for a reference to the template)
- Their work plans
- The impact assessment canvas (see D5.1) that each of them filled in at the end of the Bootcamp
- The intermediate and final reports each CSI will develop as part of their participation in the Accelerator for monitoring and evaluation purposes
- Their impact assessment reports that follow the IMPETUS methodology in D5.1
- Results of surveys and interviews that T6 will carry out with the CSIs teams at the end of the Accelerator

As mentioned in D5.1, and where needed, data could be gathered via desk research and or web-ethnography directly by T6.

Table 1 below summarises the data source for the information included in the dashboards.

Table 1: Dashboard information and data source

Information	Data source
Number of supported CSIs	IMPETUS internal reporting
Topics covered by the CSIs	CSIs' work plan
Country of residence of the lead organisation	CSIs' application forms
Number of projects led by a woman or non-binary persons	CSIs' application forms
Main discipline of the CSIs	CSIs' application forms
Number of volunteers engaged by the CSIs	The intermediate and final report the CSIs

Gender distribution of engaged volunteers	The intermediate and final report the CSIs
Age distribution of engaged volunteers	The intermediate and final report the CSIs
Number of projects engaging underrepresented social groups	The intermediate and final report the CSIs
Activities carried out by the volunteers	The intermediate and final report the CSIs
Project outputs	The intermediate and final report the CSIs
Data gathered by the volunteers	The intermediate and final report the CSIs
CSIs locations	CSIs work plan
Number of CSIs that have an impact on one of the 5 areas considered (scientific, social, economic, political, environmental)	IA canvas and final impact assessment report
Number of CSIs that have an impact on most represented dimensions of the Impact Assessment Canvas	IA canvas and final impact assessment report
Number of CSIs that have an impact on the SDGs and related targets	IA canvas and final impact assessment report
CSIs contribute to SDGs monitoring	Final impact assessment report

With reference to the information visualised in the dashboard for the European Citizen Science Prize the main data sources are: their application forms and the outputs of the interviews T6 will carry out In February 2024 and six to eight months after the prize awarding. The interview data will be supplemented by desk-based research undertaken by T6 to minimise any potential reporting burden on the CSIs awarded the EU Citizen Science Prize.

5. Timeline for dashboard implementation

The dashboard dedicated to the CSIs participating in the Accelerator will be updated six times during the entire IMPETUS project lifetime (twice for each of the three Accelerator circles). The points at which the dashboard will be updated are:

- after the delivery of the CSIs' intermediate reports (Month 4 of the accelerator) and
- after the end of the Accelerator when the final impact assessment report and final activity reports will become available.

This means that for the first acceleration circle, the dashboard will be published on the IMPETUS website in October 2023 since the first cohort of CSIs will deliver their intermediate report at the end of September 2023. The second one will go live in February 2024 and will elaborate on the final impact assessment reports that will be delivered in the second half of December. A similar approach will be used for the second and third cohorts in 2024 and 2025 respectively.

As described in D5.1, we will follow up with the CSIs also after the end of the Accelerator by sending them two surveys, six months and one year after the end of the Accelerator. This will enable us to monitor the impact of the Accelerator CSIs beyond the length of the Accelerator and to update the dashboard accordingly.

With reference to the dashboard dedicated to the European Citizen Science Prize, this will be updated annually after each award of the prize. More specifically, the updates to the dashboard will take place approximately 10 months after the Prize announcement since it is appropriate to wait some months before evaluating the impact of the Prize on the projects. For the first edition of the Prize, we will run the interviews with the three winning projects in February 2024 and the dashboard will go live in March 2024. The winners of the first edition of the prize were communicated in May 2023, but the award ceremony will take place in September and since it will be a crucial moment to give visibility to the prize and the winning projects it is worth waiting some months before interviewing them so to be able to capture the effect of the prize in a better way.

The dashboards will be incorporated onto the IMPETUS website[5] which is publicly accessible. They will be included respectively on the Accelerator page[6] and on the page dedicated to the European Citizen Science Prize[7]. The style and the colour of the dashboards will be aligned with the IMPETUS graphic identity.

The concept and planning provided here will be revised on an annual basis and changes will be made to overcome eventual challenges in the data gathering or analysis process and to assure constant improvement throughout the project.

[5] https://impetus4cs.eu/

[6] https://impetus4cs.eu/accelerator/

[7] https://ars.electronica.art/citizenscience/en/

6. References

Bødker, S. (1996). Creating conditions for participation: conflicts and resources in systems design. Human–computer interaction, 11(3): 215–236

Binder, T., Brandt, E., Halse, J., Foverskov, M., Olander, S., & Yndigegn, S. L., IT University of Copenhagen. (2011). Living the (codesign) LAB. Paper presented at the Nordic Design Research Conference, Helsinki, Finland. Retrieved from www.nordes.org

Bonney, R., Ballard, H., Jordan, R., McCallie, E., Phillips, T., Shirk, J., Wilderman, C. C., (2009). Public participation in scientific research: defining the field and assessing its potential for informal science education. A CAISE Inquiry Group Report, Washington D. C.: Center for Advancement of informal Science Education (CAISE).

Damiano Scandolari, Ilaria Baroni, Irene Celino, Esteban Gonzalez, & Gloria Re Calegari. (2022). D4.8 Live dashboard and publishing portal 1. Zenodo. https://doi.org/10.5281/zenodo.6410738

Haklay, M., (2013). Citizen Science and Volunteered Geographic Information – overview and typology of participation in Sui, D.Z., Elwood, S. and M.F. Goodchild (eds.), 2013. Crowdsourcing Geographic Knowledge: Volunteered Geographic Information (VGI) in Theory and Practice . Berlin: Springer. pp 105-122 DOI: 10.1007/978-94-007-4587-2_7

OECD, (2007). Working Party of National Experts on Science and Technology Indicators REVISED FIELD OF SCIENCE AND TECHNOLOGY (FOS) CLASSIFICATION IN THE FRASCATI MANUAL

Passani, A., Thuermer, G., Simperl, E., Gonzalez, E., Corcho, O, Wittmayer, J., Celino, I., (2020). Participatory Research Lifecycle. Zenodo. https://doi.org/10.5281/zenodo.6333599

Schaefer, T., Kieslinger, B., Fabian, C. M., (2020). Citizen-Based Air Quality Monitoring: The Impact on Individual Citizen Scientists and How to Leverage the Benefits to Affect Whole Regions. Citizen Science: Theory and Practice, 5(1): 6, pp. 1–12. DOI: https://doi.org/10.5334/cstp.245

Shirk, L. J., Ballard, H. L., Wilderman C. C., Phillips, T., Wiggins, A., Jordan, R., McCallie, E., Minarchek, M., Lewenstein, B. V., Krasny, M. E., Bonney, R., (2012). Public participation for scientific research: a framework for deliberate design. Ecology and Society 17(2):29. DOI: http://dx.doi.org/10.5751/ES-04705-170229

Tauginienė, L., Butkevičienė, E., Vohland, K. et al. Citizen science in the social sciences and humanities: the power of interdisciplinarity. Palgrave Commun 6, 89 (2020). https://doi.org/10.1057/s41599-020-0471-y

Wiggins, A.,Crowston, K., (2011). From conservation to Crowdsourcing: A Typology of Citizen Science. In: Proceeding of 44th Hawaii International Conference on System Science (HICSS), pp.1-10: DOI: 10.1109/HICSS.2011.207