COST Action CA15212

Citizen Science to promote creativity, scientific literacy, and innovation throughout Europe

Citizen Science Strategies in Europe

preliminary findings from the pan-European Survey of Citizen Science Strategies and initiatives in Europe as part of a joint initiative of the COST ACTION 15212 and the JRC discussed in Cēsis, Latvia, 4th June 2019

Report

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Photo: Mārcis Gaujenietis

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Executive Summary

On the occasion of the Management Committee (MC) and Working Group Meeting of the COST Action 15212 Citizen Science to promote creativity, scientific literacy, and innovation throughout Europe, preliminary results of a survey on Citizen Science (CS) strategies in Europe were discussed. The online survey was mainly developed by the Joint Research Institute (JRC) of the European Commission (EC) and the Policy Working Group of the COST Action. It aimed to develop an overall idea of Citizen Science strategies in Europe, i.e. to which degree national, regional, and local entities support Citizen Science, and what is the understanding of the added value of Citizen Science in the different regions of Europe. It turned out that the understanding, i.e. terms and concepts, widely differs between regions and countries. There are few countries where strategic support is documented. Albeit we already have 43 answers from 31 countries across Europe, mainly from COST Action MC members, the survey does not provide representative results due to the high heterogeneity. What it does offer is a valuable starting point to and a rich collection of practical suggestions for exploring options and functions of Citizen Science for science, policy, economy, and the broader society in more detail in future studies.

Content

1. Workshop Objectives

The objectives of the workshops were multiple, as follows:

- **Annual MC Meeting,** which serves the effective governance of the COST Action and provides the opportunity for all participants to get acquainted with the content of the work done in other COST Working Groups presented at this occasion (separate minutes);
- **Present, discuss, refine and validate the preliminary findings** from the first round of the survey on CS strategies, initiatives and practices across COST countries;
- Introduce the concept, objectives, possible content, and **find agreement on the production of Citizen Science Country Fact Sheets** as a tool for the participants to promote CS activities in their countries and as a complement to the first CS Inventory at EU level;
- Launch preliminary discussions to **identify options** for possible online platforms that could host the intended output from the survey of platforms, tools, and strategies, as a *living Pan-European Repository of CS strategies and activities*, so as to allow its **long-term operational and financial sustainability**.

2. Workshop Participants and Structure

Participants of the event have been mainly CA 15212 MC Members[1] as well as members of Working Groups, especially WG 3 on Citizen Science and Policy, and invited speakers. In total, representatives from 23 COST countries participated.

The first two hours were dedicated to the COST Action MC Meeting. This was followed by presentations on key aspects of current CS developments in Europe (links to the presentations are in Table 1 and a short script is provided in the Annex of the MC Meeting Minutes).

Table 1: Thematic input at the workshop on European Citizen Science Strategies

Invisible Citizen Science	*Bálint Balázs*
How the Citizen Science community frames policy engagement	*Claudia Göbel*
Introduction to the survey on Citizen Science strategies and first results	*Marina Manzoni, Katrin Vohland, Sven Schade, Claudia Göbel*
National networks and initiatives	*Daniel Dörler*
EU-Citizen.Science	*Katherin Wagenknecht*
How to gain maximum benefit by working in an interdisciplinary group	*Karine Oganisjana*

[1] The European Cooperation on Science and Technology (COST) has 38 member states: https://www.cost.eu/who-we-are/members/

3. Survey Background

It is planned that the survey (-> here is some additional background information) leads to 3 main **outputs**, namely 1) the *Citizen Science Country Fact Sheets,* 2) *a* "living" *Pan-European Inventory of CS strategies, initiatives and practices* including related stakeholders mapping at COST Country level, 3) an initial EU report on the *State of the Art of Citizens Science Strategies in Europe.*

The survey was carried out through and an **online questionnaire.** The *Analytical Framework* was developed at different workshops in COST Action WG 3 and comprised ***CS Country specific*** **questionnaires** which should serve as basis for **CS Country Fact Sheets***.* The respondents addressed by the Survey were in first line all MC Members of CA 15212, with input from the JRC of the European Commission and from relevant International bodies and experts (ECSA, NGOs, Academia….).

The survey was structured along three main building blocks as follows: General information about CS in the country; Methodological and disciplinary approaches to CS; Relevance and impact of CS in different areas; these are summarized in a final chapter about preliminary considerations.

The elements addressed by the survey and its main findings were presented (Manzoni et al., 2019) and discussions focusing on the following issues:

- CS presence/existing strategies and perceived level of development;
- Methodological approach and scope of intervention (collaborative vs participatory, initiators top-down vs bottom up, relevance vs geographical);
- Involved actors, their roles and scope of intervention (who, where, how and at what level);
- Tools and methodologies (platforms, guidelines, exchanges of BPs, events, etc.);
- Areas of applications (incumbent vs emerging);
- Impact (scientific, socio-economic, political ones);
- Common underlying issues;
- Drivers vs barriers;
- Influencing factors;
- Trends/plans for the future.

The presentation pointed also to the many commonalities and similar findings stemming from previous research and related events, including a previous workshops co-organized by the JRC and COST on CS in Environmental Monitoring and Reporting Policy Making of DG Environment (Ispra 21-22nd of November 2018; Manzoni et al, 2019).

The presentation concluded with the introduction to the concept, objectives and use of *Country Fact Sheets*, as an additional tool, both in support to the findings of the survey, and for the use and benefit of the COST Members States.

Socializing: In the evening, the hosts of the event organized a guided tour to the Art and Science Centre Brūzis where Institute for Environmental Solutions (IES) and the WasteArt project invited to an international art exhibition “NOT out of sight, NOT out of mind” dedicated to the waste problems. The evening followed by a social dinner offered by the IES, a network of scientists, artists, engineers and practitioners – working on wellbeing, ecological problems and innovative environmental solutions that hosted the meeting.

The morning of the 5th of June was devoted to WG 4 and 5 parallel meetings, while WG3 met to wrap up and discuss the conclusions from the group work to, agree on the next steps, and a number of future deliverables stemming from the current work and findings of the survey.

4. Key Findings

Contextualisation

The following findings need to be set in the context of an initial survey exercise that, although addressed to all 36 COST Countries, as it stands it encompasses a subset of respondents, due to limited time and resources availability. As such, we have to read the findings with all consequent limitations, in terms of completeness of responses, resulting picture and derived conclusions.

In total, 43 persons responded, coming from 31 countries (Albania, Austria, Belgium, Bosnia and Herzegovina, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Israel, Latvia, Lithuania, Luxembourg, Malta, North Macedonia, Norway, Poland, Portugal, Serbia, Slovenia, Spain, Sweden, Switzerland, The Netherlands, Turkey, and the UK).

Besides, the contributors to the Survey represent a vast variety of actors, from the CS scientific community, NGOs, Museums, or administration. As such, the understanding of the questions, consequent replies, and the perceived landscape very much varies accordingly. Consequently, the preliminary findings can neither be considered as providing a representative image of CS in the covered countries, EU or COST members states, nor indicative in their preliminary conclusions.

Nevertheless, the current survey is the result of a collective effort during the last couple of years, whereby the members of the COST Action 15212, the JRC and other independent experts and practitioners in the CS arena, developed and applied a step-wise approach in identifying and selecting the key issues, related questions, specific categories and indicators used in the current survey. In this context, the observations extrapolated from the current survey can be considered to be representative of a subset of the whole picture, allowing for some projections to be derived on a larger scale.

As such, these extrapolations can be considered important preliminary findings for guiding the pan-European CS practices landscape, and for deriving more representative conclusions from future improved versions of the survey.

Overall Picture

- **Geographical Coverage**: During April and May 2019, 43 replies were received from 31 European countries achieving a good geographical coverage, including eastern countries, and COST co-operating countries (Israel).
- **Terminology**: It was observed that both, the terminology used to describe CS practices, and the level of engagement from citizens, varies between all countries. Accordingly, also the perceived level of development declared by the respondents was not aligned to the same parameters (see examples used in the presentation).
- **Presence of CS practices** in Europe: official/institutional/authoritative CS Strategies at national level were identified only in a few countries (5), followed by local level and regional level, whereas most of them could not identify formal CS strategies.
- **Areas and Disciplines of Coverage**: in most countries the areas where CS practices are present is Environment and Nature Protection (with pollution and biodiversity at the first place), but also land cover/use, Astronomy, Humanities, Social Science and Cultural Heritage. Half of them reported that CS practices are used to contribute some stage of the cycle for policy making processes. Emerging areas are Medicine and Health research, Smart Cities and Traffic, Economy, Arts and Historical sciences.
- **Actors and their roles**: Initiators are Scientific Institutions, NGOs/Associations/ Foundations and Self-regulated Communities whereas, funders are mainly Public Administration from National to Regional to Local level in decreasing order. The actual implementation is done by NGOs, Private companies and sectoral associations in the same decreasing order.
- **Tool and methodologies:** As most used supporting tools and methodologies to support CS practices in Stakeholders Cooperation's of Practitioners (CoPs), Networks and Platforms, followed by training courses and tutoring, Guidelines and BPs and Gathering events are named. Policy documents and regulation or the availability of shared physical spaces are rarely mentioned
- **Impact on policy making processes:** in this context CS seems to affect first of all "resources" (Data) made available for policy making, followed by improving interactions amongst "actors", mostly on early stage "process" like early warning/anticipation and definition, followed by design, implementation and, lastly, monitoring, compliance and evaluation.
- **Scientific impact** was observed especially with reference to Data Gathering and Science Communication, followed by Research Design, Software Development and Data Evaluation, whereas it is surprising to see Problem Definition lagging

behind. This might suggest that citizens are not sufficiently engaged by the scientific society at the very beginning of research.

- **Impact on Society:** the first observations from the received responses suggest that CS is a tool for empowerment of citizens and the civil society in terms of (in order of importance); increase of scientific literacy, understanding of methodological research, improved collaboration, gathering evidence for documenting problems and identify alternative strategies for problem solving,
- **Economic impact:** at a glance impact in the economic sector seems to be perceived especially on the increase of social and technological innovation, followed by budget savings and consequent increase of budget availability to tackle additional issues of public concern.
- **Influencing factors:** whereas we see "Funding models for long-terms sustainability" being the stronger influencing factor in the uptake and development of CS, the fact that this is closely followed/almost directly proportionally to the "Recognition of the benefits of CS", followed by CS national strategy, suggests that the latter and of long-term funding are the direct consequences of the level of political awareness of the benefits of CS on the different segment of society. Mutual trust and educational systems seem to be important influencing factors, whereas "Technological and infrastructural factors" seem to be the least important one, suggesting that it is rather CS that influences innovation in ICT (see impact on economy), while ICT act as an enabler of CS. Finally EU support is considered to be an important element in this context.
- **Observed Trends:** respondents reported about some increase of awareness of CS benefits and consequent plans to increase CS local initiatives and activities, set up platforms and projects, and planned strategies following the path of the Open Science Initiatives triggered by the related EU strategy.
- **Pre-conditions** for CS successful development and sustainable engagement: increased relevance and impact, strong motivation, mutual benefits, common challenges, political will, efficient organization of stakeholders and agile bodies, long term funding, resources and alliances, mutual trust (scientist vs citizens vs policy), ICT as enabler, smart Data Governance including the need for robust QA and Impact Assessment frameworks, and adequate Feedback Mechanisms (policy vs scientists vs citizens).

Generally, the main obstacles to the application and mainstreaming of CS approaches to policy making processes, is awareness by policy makers. Consequently, efforts should be invested at all levels to identify and promote the benefits of CS to policy making, which should lead to willingness in developing relevant strategies and long-terms sustainable plans.

The full data collected through the survey, and further findings related to specific issues, discussed in the 6 dedicated validation Groups, will be collected and

summarized in an annex to the event Report, together with the presentation from the different contributors to the event, and published on the COST Action 15212 web site.

Brainstorming activities before the group presentation. Photo: Mārcis Gaujenietis

5. Reflections from Validating Groups

Group work sessions were organised in the afternoon in order to validate findings from the survey, explore underlying commonalities and differences, as well as common patterns.

1. **Terminology and stage of development** (survey questions 1-6: *What does Citizen Science mean*? *Which other terms are around? What practices are linked to it?)*
2. **National Citizen Science strategies** (survey questions 7-13: *Are there "official" or governmental strategies, or others? What sectoral/for specific groups? Can you give examples, how and by whom are they written? By whom they are adopted? What are key measures? What are country differences? For what reason?*)
3. **Actor constellations** (survey *questions 14-16: What type are these organisations, what is there mission, their power? Why do they support/oppose*

CS? Are there differences between the countries? How the organizational development can be supported?)

4. **Tools and resources** (survey question 17-20*: Which particular resources and tools are available to support Citizen Science in your country?*)
5. **Socio-economic impacts** (survey question 21, 22, 25-33: *Which types of socio-economic impacts of Citizen Science contributing to policy making processes are you aware of in your country? How is the link between science, society, economy, and policy? What are the main influencing factors? Are there factors common to all/other countries?)*
6. **Scientific impacts** (survey question 23-24: *Which types of scientific impacts of Citizen Science in your country are you aware of? What are the main influencing factors? Are there factors common to all/other countries?)*

Groups were composed of 5-10 people, worked in parallel and followed a common structure:

A moderator presented detailed results from the survey on the main topic; participants were encouraged to raise clarification questions and add possible additional open issues; findings and results were collectively reflected, followed by a collective analysis of common issues (e.g. impact, drivers & barriers, influencing factors); finally recommendations were identified both at national as well as at EU level targeted to address the specific topic of discussion. The participants were encouraged to use the freshly gained tools or strategies presented by Karine Oganisjana.

Work in groups. Photo: Mārcis Gaujenietis

Results from Group 1: Terminology and stage of development

Input and Moderation: Balint Balasz; Note Taker: Monika Suškevics

Key point of discussions in this group was the need to have a common definition of CS. Reasons for using a clear definition is the clarification of the concept, especially for surveys as this one. However, it needs to be taken into account whom the respective definition that is applied serves. For the case of the survey, this might mean the definition of CS does not necessarily serve citizen scientists themselves, but rather funders of CS activities. A definition should be non-exclusive and contain a motivation for better research and social innovation. A classification of CS (projects) may include different levels. In any case, the focus on benefits is crucial.

Results from Group 2: National Citizen Science strategies

The group was moderated by Frank Becker; Katrin Vohland gave input and took notes

The group discussed that it is difficult to find national strategies on CS. They may be hidden in other strategies, such as ones that address Open Science, or strategies may not be known to the persons who answered the questionnaire.

The survey was perceived as to long. It was also stated that there are too few answers in order to really validate the ideas. In addition, levels are unconnected. It was recommended to change the method and rather ask focus groups at the policy level in order to get some more insights.

It was raised that the survey questions also provoke biases. For instance, while Spanish people may say, “oh, rather low, I expect more”, Polish people may say there is not too much – but in fact would be able to provide a lot of examples.

This stresses the fact that a clear definition of the concept is needed beforehand. But as this was an explorative study, the different terms which were collected in the different languages may help to frame the term adequately.

It was discussed whether CS will have the power to become a term such as “sustainability”, triggered by the Brundtland report. People were a bit sceptical and said CS has to earn trust, it is/should be rather a bottom up process then top down.

It was suggested to develop a “role model” for CS, which comprised facets such as awareness for benefits of different groups, and not only the “pan European urban city dwellers”.

The gender imbalance was shortly touched – with the comments that men have less communication skills, and that there is not that much money available for CS. I.e. less prestigious then some other sciences.

From Turkey it was reported that it is very effective to link up with NGOs. So, CS becomes instrumental for environmental sustainability while many sectoral strategies are less effective.

This led to the more general question how far CS can support democratic developments and act as indicator for civil society. It was recommended to support transdisciplinary approaches as they combine policy and cross cutting issues.

As recommendations, it was formulated that CS should be more open to stakeholders, and think more carefully about dissemination options in order to mainstream CS to more diverse community. In addition, conflict management may also be a skill to be trained for CS activists.

Results from Group 3: Actor constellations

Input and Moderation: Claudia Göbel

The group discussed survey results for people, organisations and networks supporting and opposing Citizen Science in COST countries.

Regarding support or opposition towards CS survey responses mentioned three stakeholder groups: science, civil society and government. Other groups, such as media, educational sector, etc. were absent. For science diverse actors were mentioned, from individual researchers to research groups or institutions. Likewise for the group “government”, various actors, such as government departments or agencies, municipalities and national administrations, were mentioned in the survey. In contrast civil society was used as a very generic term often without specifying particular actors. Impetus for supporting CS in countries was perceived to come mainly from science, then civil society and last government, while resistance was perceived to originate primarily from science, also from government and lastly also from civil society. Questions regarding impetus seemed to make sense to survey respondents, questions regarding opposition seemed more tricky (fewer people answered and answers list more generic terms). For opposers people often reported individuals, where support was treated as systemic. In addition to supporters and opposers one finds dedicated CS networks on local, national, European and international levels.

The groups raised several questions regarding the validity and representativeness of the survey. Several group members, most of which working on Citizen Science since various years in leading institutions in their countries, had answered the survey themselves and experienced considerable difficulties. The prominent source of the latter was the terminology used. Terms, such as “researcher” and “scientists”, “policy document”, “national strategies” were perceived as unclear and confusing. It was

brought up that survey respondents are from very different backgrounds and related to "policy" in many different ways – a survey asking on these very basic terms cannot capture these differences. However discussions with people on the results can. Therefore the validation workshops were perceived as very valuable exercise although needing to absorb a lot of critique regarding the survey. When unravelling different usages of such generic terms participants gave more nuanced insights into their knowledge and experiences. In such a way the group identified a different positioning of CS in two policy fields – on the one hand environmental policy processes, which should incorporate CS data/results, and on the other hand science policy, which should endorse CS as approach to public participation in science and technology.

Results from Group 4: Resources and tools

Input and Moderation: Daniel Dörler; Note Taker: Lucy Bastin

The group discussed shortcomings of the survey regarding the terminology and underlying concepts used and provided suggestions for better framing of concrete questions.

Besides, it was remarked that there were often different answers from respondents from the same country, which denotes a diverse CS landscape and that resources might not be widely known. In addition language diversity in Europe was discussed. Lots of resources are available only in national languages, which leads to duplication of efforts. Language barriers also make it harder to discuss ideas and develop concepts. Therefore a common language, such as English, is to some degree helpful to promote development of the field. However if a CS hub had all documents in English, you would not reach grassroots communities. It was concluded that guidelines are necessary in both English and local languages. A recommendation for eu.citizen.science emerged: have key documents translated into all languages. For future surveys it could be interesting to identify key documents in local languages that should be available to the European CS community. As overall recommendation: Transfer between EU level and national /regional level should be strengthened, for instance through a network of national networks.

Results from Group 5: Socio-economic impacts

Input: Marina Manzoni; Moderation: Martine Legris; Note Taker: Egle Butkeviciene

The definition of CS must be instrumental to the objectives/use, actors and the extent of the engagement of the Citizens at different levels. See also the main conclusions

from the DITO project in this respect. This should be included in the contextualisation of the results from this first round of the survey.
The current Survey will need and introductory disclaimer for its contextualization to set the boundaries of its scope and limitations.
The background to the Survey should also mention how were the different components selected and developed (COST, JRC, ECSA, experts discussions in WS and relevant events), including the specification of the reasons for the choice of the categories/indicators used in the survey.
The questionnaire for future improvements of the survey would benefit from an "annotated" version including a legend of terms (Dictionary of Survey), including and explanation of how the categories and the identifiers used have been selected or reference to relevant categorizations. Language also should be simplified to be made understandable by lay-people.
The Role of the respondent was understood differently by the different respondents (e.g. different categories for “scientist” and “researcher”).
It is difficult to disentangle and distinguish from social and economic impacts, as there is a strong interdependency between them. These are also interdependent by and to political impacts.
Major problems for CS are: Awareness of CS benefits and Opportunities; lack of financial and human resources and long-terms sustainability plans/strategies; relevance of research to citizens; Data Quality; Long Term Engagement; Lack of feedback of the use of contributed data; Categories, terminology and concept definitions; SDG compliance; identification of relevant groups; luck of trust and misuse of CS results; Time and effort needed to communicate and engage in CS initiatives.
Possible solutions: Promote CS understanding and the importance of CS at policy level; advertise the good practice/cases of CS to raise public awareness on CS through e.g. promotional campaigns and BPs exchanges; Clearly state the benefits a project creates for the society of for science or for the people; provide systematic feedback on contributions; in support to sustainability keep the "red line" (one single person from the start to the end of the project); develop dedicated communication approaches (from interdisciplinary work), also via dedicated media; promotion at EU level: of CS through policy papers, supporting initiatives, development of guidelines on horizontal/common issues like data quality and assessment frameworks, interoperability and standardization.

Results from Group 6: Scientific impacts

Input and Moderation: Anne Land; Note Taker: Miriam Brandt

Difficulties with survey questions were reported regarding the level of activity addressed (project or national level), ambiguous terminology, variation of concepts across countries and languages which may lead to different understandings of the categories used, the selection given. It was also criticised that the categories for

scientific impact given here had been too narrow to capture the impacts CS might have on research. Many suggestions were given to improve future surveys.

As a concrete recommendation for the national level it was suggested to find ways to open up reports that come out of CS projects like the Austrian CS platform does with providing reviews, descriptions of papers and projects on their webpage.

6. Conclusions and Next Steps

General comments on the research design

All groups commented on the research design and gave valuable ideas for an optional later and larger assessment.

Key points were:

- Length of questionnaire,
- Clarity of terms and concepts,
- Rework response option provides and include the possibility to not answer, e.g. with “I do not know” field.

Key aspects presented by all the groups. Photo: Mārcis Gaujenietis

Key issues for further consideration and research:

- ***If a definition of Citizen Science is provided, like it is important for such a survey in order to establish a joint understanding of the topic, it must reflect*** the objectives, actors and extent of the engagement of citizens at different levels. This means that a definition of CS needs to encompass and promote an open and broad understanding of manifold research practices and participation. This comprehensiveness is essential to both – producing meaningful research on CS as well providing support to the development of CS on the national and European level. The definition used in DITOs policy engagement work (Göbel, 2019) provides a good example. For the future improvements of the survey, the issue could be addressed either by including a selected definition (e.g. the one provided by the ECSA), or ask respondents to define CS as it is observed in their countries (e.g. by referring to the infographic about citizens level of involvement developed during the previous workshop in Lisboa).
- ***Horizontal issues of common concern need to be more thoroughly considered*** (e.g. data governance, interoperability, standardization, guidelines, best practices, quality and impact assessment frameworks). There is a need to explore the possibility to develop guidelines for their regulation at EU level);
- ***Multi-stakeholders alliances and funding models for long-terms sustainability***, in support to national strategies need to be further studied and developed, including the identification of good practices in this domain;
- ***The role of the EU and the level of intervention*** is to be shaped in terms of providing a common reference point for collection and development of CS practices, guidelines and policy initiatives, to increase awareness of the benefits, and to promote the use CS for policy making processes;
- ***The future hosting, management and development of the pan-European inventory*** of CS strategies initiatives, practices and related stakeholders mapping at COST country level, for long-term sustainability, should be explored within the framework of relevant current initiatives; A potential candidate could be the recently started Coordination and Support Action EU-Citizen.Science.

Conclusions and wrap-up:

- ✓ Participants to the event were very interested in the preliminary findings from the survey and expressed a number of comments on how to improve it, in a way that could foster both, the different definitions and realities of EU member states with their intrinsic characteristics and, at the same time, provide a more accurate picture of the state of the art of CS at pan-European level in terms of benefits, commonalities (challenges, opportunities, horizontal issues), influencing factors and future trends.
- ✓ There remain some open issues that need further consideration and research that will be scrutinised, and eventually lead to the production of scientific literature and future initiatives, like the development of desired tools, (methodologies, training material, long-term sustainability models) and, hopefully guidelines on issues of common concern (see above).

- ✓ It was stressed that the current findings from the survey are not representative but can serve to shape an initial picture of a state of the art. On this basis, as well as enriched by further research, recommendations can be developed on how to foster and promote the use of successful CS approaches and practices for policy making processes, both at EU and national level.
- ✓ The workshop provided the opportunity to get acquainted with the content of the work done in other COST Work Groups presented with the occasion of the MC meeting and came as a continuation to the final event of the DITO project that presented the lessons learned. This event represented an excellent opportunity to present and get feedback on the preliminary findings from the survey and the terminology and methodology applied, and discuss how these can be improved to shape future versions of the survey. The event also validated the idea of building COST Country Fact Sheets and its intended objectives, and provided the opportunity to start discussing the future sustainability of the Survey outcomes and their update, and achieved outputs.

Next steps

WG participants discussed and agreed the following roadmap:

1. Katrin Vohland to collect the notes from validation groups and make them available to the workshop participants,
2. COST WG 3 leaders to draft the workshop report and make it public on the COST website,
3. JRC to carry out a complete and thorough analysis of the initial findings to be summarised in a Technical Report as the basis for the completion of the intended Pan-European Survey,
4. JRC and COST WG3 leaders to agree the first draft of the COST Country Fact Sheets to be sent to the member states for initial feedback by end of June 2019,
5. Presentation of first set of COST Country Fact Sheets at next WG 3 meeting in Vienna (November 4th 2019),
6. JRC to compile the first inventory (EC and COST Countries initiatives and Projects in the ENV Domain), as input to a possible Policy Paper for the promotion of CS in policy making processes, by the end of 2019,
7. It is intended that the first compilation of the pan-European inventory of CS strategies and initiatives will populate the EU-citizen.science project site, to be further complemented with additional data as soon as this becomes available.

7. Appendix

Available Documentation at the following link: https://www.cs-eu.net/news/cs-strategies-europe-event-report-cesis-latvia-june-4th-2019

I. Workshop Agenda (pdf)

II. Copy of the on-line survey Questionnaire (pdf)

III. Additional survey background information (pdf)

IV. Working Group structure Template (pdf)

V. Detailed report from Group 1: Terminology and stage of development (Balasz, Suskevic) (pdf)

VI. Detailed report from Group 2: National Citizen Science strategies (Becker, Vohland) (pdf)

VII. Detailed report from Group 3: Actor constellations (Göbel) (pdf)

VIII. Detailed report from Group 4: Resources and tools (Dörler, Bastin) (pdf)

IX. Detailed report from Group 5: Socio-economic impacts (Manzoni, Legris, Butkeviciene) (pdf)

X. Detailed report from Group 6: Scientific impacts (Land, Brandt) (pdf)

XI. Blog Entry about the fifth MC Meeting (website)

XII. Attendance List

Attendance List

Represented organization	Represented country
University of Natural Resources and Life Sciences Vienna	Austria
Royal Belgian Institute of Natural Sciences	Belgium
University of Antwerp	Belgium
University of Sarajevo	Bosnia and Herzegovina
University of Ruse	Bulgaria
Institute of Geonics AS CR	Czech Republic
Tomas Bata University	Czech Republic
Finnish Geospatial Research Institute	Finland
Museum National d'Histoire Naturelle	France
University of Lille	France
European Citizen Science Association	Germany
KUBUS, Technical University of Berlin	Germany
Leibniz Institute for Zoo and Wildlife Research	Germany
Museum für Naturkunde Berlin	Germany
University of Münster	Germany
ESSRG Ltd	Hungary
Catholic University of the Sacred Heart	Italy
Vides Instituts	Latvia
Kaunas University of Technology	Lithuania
Vilnius University	Lithuania
Leiden University	Netherlands
Norwegian Institute for Air Research	Norway
Institute of Environmental Sciences	Poland
Universidade de Lisboa	Portugal
Triglavski narodni park	Slovenia
1000001 Labs	Spain
Fundación Ibercivis	Spain
Institute of Marine Sciences	Spain
Universidad Politécnica de Madrid	Spain
Artportalen	Sweden
Duzce University	Turkey
Gazi University	Turkey
Hacettepe University	Turkey
Aston University	United Kingdom
University College London	United Kingdom