



socientize
citizen science projects

SOCIENTIZE
SOCIety as Infrastructure for E-Science via technology, innovation and creativity

Deliverable no.	D3.2.2
Deliverable name	Technical Workshops and Seminars Outcomes Report
Dissemination level	PU
WP no.	3
WP name	Infrastructure Operation and Deployment
Date	26/03/2014
Date of delivery	30/04/2014
Actual date of delivery	
Status	Draft
Author(s)	Cândida G. Silva
Reviewer (s)	Eduardo Lostal, Francisco Brasileiro

SOCIENTIZE is supported by the European Commission under Contract Number: RI-312902



Change log

Version	Date	Author/Editor	Reason for change / issue
1	26/03/2014	Cândida G. Silva	Creation
2	08/04/2014	Eduardo Lostal	Reviewed section 5.2.4
3	22/04/2014	Francisco Brasileiro	Reviewed document
4	30/04/2014	Cândida G. Silva	Completed information on different sections of the document.
5			
			Final

Table of Contents

1. Summary.....	4
2. ICT 2013.....	5
2.1 Exhibition lounge – Socientize: Citizen Science Lab.....	5
2.2 Networking Session – Science Infrastructures for ALL: Engaging Europe’s citizens via participatory infrastructures.....	5
3. “Citizen Science Encounter” Hackathon.....	6
4. 2nd FET2020 Conference.....	6
5. Citizen Cyberscience Summit 2014.....	6
5.1 New frontiers in Citizen Cyberscience track – Socientize set of participatory experiments.....	7
5.2 Workshop on Policy Recommendations to support Citizen Science in Europe.....	7
5.2.1 Definition and Scope of Citizen Science.....	7
5.2.2 Deployment, facilitation and sustainability models.....	7
5.2.3 Awareness and motivation for active involvement.....	8
5.2.4 Drivers and Barriers for Citizen Science.....	9
5.2.5 Impact measurement and evaluation.....	9
6. Roundtable on Citizen Science.....	11
7. Taller Abejas Urbanas 2.0.....	11
8. Arduino Day Zaragoza 2014.....	12
9. NASA Space apps challenge.....	12
9. Conclusion and Future Events.....	12

1. Summary

This deliverable reports the outcomes of the technical workshops and seminars organized by the SOCIENTIZE consortium. From months 13 to 19 of the project, two technical workshops were organized (month 15 and month 18). Additionally, the consortium participated or organized several seminars, workshops and roundtables to promote the public consultation of the Green Paper on Citizen Science in Europe, collecting and compiling contributions from major stakeholders within the European context.

The technical workshops were organized in the form of hackatons in order to allow hands-on developments with stakeholders such as policy makers, journalists, designers and developers communities (open source, DIYs...). On the other hand, discussions on the Green Paper on Citizen Science in Europe were promoted in open space discussion scenarios where main topics addressed were presented following by work groups discussions or plenary discussions.

The remainder of the document is structured as follows. For each event an individual section is provided, presenting information on aspects like organization, attendees and outcomes. Finally, in the last section, we present future events the SOCIENTIZE consortium will organize or participate.

This deliverable is under the responsibility of the WP3 leader and includes the contributions of all the other partners of the consortium.

2. ICT 2013

The ICT2013 (<http://ec.europa.eu/digital-agenda/en/ict-2013>) event was organized by the European Commission in partnership with the Lithuanian Presidency of the Council of the EU, and the official sponsors of the Presidency. This event took place between November 6 and 8 (2013) in Vilnius, Lithuania. Activities included conference, exhibition, networking sessions, work programme sessions, investment forum, activities for students & young researchers, and ICT & Art communities, among others.

SOCIENTIZE consortium promoted activities in the exhibition area (<http://ec.europa.eu/digital-agenda/events/cf/ict2013/item-display.cfm?id=11127>) and a networking session (<http://ec.europa.eu/digital-agenda/events/cf/ict2013/item-display.cfm?id=10225>).

2.1 Exhibition lounge – Socientize: Citizen Science Lab

The Citizen Science Lab hosted some of the most attractive experiments of Citizen Science allowing visitors to get their hands “dirty” and contribute with different research groups from all over the world:

“Imagine the society as a brand new e-infrastructure! Volunteer sensing projects allow for collecting new sources of experimental data via mobile apps at any time everywhere. Volunteer thinking and collective intelligence permit new approaches for some complex problems, which can be unaffordable for machines. Volunteer computing makes use of citizens desktop computers assembling a powerful infrastructure.”

2.2 Networking Session – Science Infrastructures for ALL: Engaging Europe’s citizens via participatory infrastructures

This session focused on innovative approaches to engage citizens, especially the younger generation, in scientific processes by opening up science infrastructures to all. There were two driving forces for the organization of this networking session: the emerging concept of citizen science and the future need for more and highly skilled scientists in Europe.

This session coordinate all agents involved in the citizen science environment at global scale, sharing experiences and promoting the usage of e-science infrastructures composed by citizen-based resources and contributions (c-infrastructures).

Discussions covered a wide range of topics including future strategy development and policy recommendations as well as technical, didactic and citizen support issues.

Attendants were given the opportunity to prepare future initiatives and to set up the basis for the future citizen engagement in science in the White Book of Citizen Science for the Horizon2020.

3. “Citizen Science Encounter” Hackathon

The “Citizen Science Encounter” hackathon was a two-day event (November 29-30, 2013) organized by Medialab-Prado in collaboration with Fecyt, as an activity associated to ComCiRed (<http://medialab-prado.es/article/encuentrodecenciaciudadana>).

This meeting invited hackers, activists, designers, journalists, researchers, amateurs and citizens in general who aim to learn and exchange ideas on citizen science and take part in a hackfest where proposals by participants were developed.

The event started with an introduction to citizen science by Fermín Serrano (Fundación Ibercivis and SOCIENTIZE project), Francois Grey (Citizen Cyberscience Centre), Shannon Dosemagen (Public Lab) and Daniel Lombráña González (Citizen Cyberscience Centre). Next, participants were invited to present their ideas for citizen projects to be developed in the following. In the second day of the event, a subset of projects was selected to be developed. The rest of the day was devoted to hacking.

4. 2nd FET2020 Conference

The 2nd FET2020 Conference on "FET and the City – From project dissemination to engaging society: doing outreach in FET research" took place at the Scuola Superiore Sant’Anna in Pisa in January 30 and 31, 2014 (<http://www.fet2020.eu/index.php?id=24>).

The consortium was represented by Fermín Serrano who gave a seminar on “Citizen Science: enriching outreach and inreach”.

The full presentation and interview by Fermín Serrano can be found here:

- <http://youtu.be/S4X9zFiaums>
- http://youtu.be/Rls5my_Swbl

5. Citizen Cyberscience Summit 2014

SOCIENTIZE sponsored the Citizen Cyberscience Summit 2014 (<http://cybersciencesummit.org>) organized by the interdisciplinary Extreme Citizen Science research group (ExCiteS) of University College of London (UCL), the Citizen Cyberlab, the Citizen Cyberscience Centre, and Mobile Collective. The event took place in London on February 20 – 22 at the Royal Geographical Society and UCL.

The consortium organized a series of activities throughout the summit: (i) announcement of the consultation process on the green paper on Citizen Science in Europe, (ii) presentation of the citizen science applications developed by Socientize in the summit track “New frontiers in Citizen Cyberscience”, (iii) organization of a workshop on policy recommendations to support Citizen Science in Europe, and (iv) participation on the hackday.

5.1 New frontiers in Citizen Cyberscience track – Socientize set of participatory experiments

Roughly 20 people attended the presentation of four of the applications included in the SOCIENTIZE portfolio which cross multiple scientific domains ranging from molecular and cell biology and drug discovery (Cell Spotting), linguistics and semantics (Mind Paths), energy saving and sustainability (SavingEnergy@Home) and astronomy (Sun4All). The evaluation being performed for each application was the main topic of interest.

5.2 Workshop on Policy Recommendations to support Citizen Science in Europe

This workshop opened formally the period of public consultation and community endorsement on the Green Paper on Citizen Science for Europe available online at <http://whitepaper.socientize.eu>.

The goal was to work on the refinement of policy recommendations to be proposed in the White Paper on Citizen Science for Europe by gathering and consolidating contributions of European stakeholders. In an interactive mode the current recommendations stemming from the Green Paper were presented and discussed. With an open and participatory format we mixed plenary and work in groups around the five main topics included in the Green Paper. Overall, although addressing the questions presented in the Green Paper, discussions were very general and more focused on good/bad-practices rather than on policy recommendations. A summary of the work by each discussion group is presented below.

5.2.1 Definition and Scope of Citizen Science

- Work group coordinated by Fermín Serrano
- **Participants:** List not available.
- **Major outcomes**

When faced with the need to present a definition for Citizen Science, many agree that it is important for policy makers. Still, it seems to be of consensus that scope is more important than a strict definition of Citizen Science. The best option would be to have a broad definition coupled with examples that specific communities relate to.

5.2.2 Deployment, facilitation and sustainability models

- Work group coordinated by Manuel Pérez
- **Participants**
 - Daniel Lombraña, Citizen Cyberscience Centre
 - Joaquin Huerta, Universitat Jaume I, Castellón
 - María Ponti, University of Goteborg
 - Steve Cinderby, Stockholm Environment Institute

- **Major outcomes**

- **Deployment.** There is a need for a more intensive support for bottom-up approaches, which failed to exist in FP7 calls. It is mandatory to prepare specific calls for Citizen Science to support these kinds of projects, and make an effort to force Universities, Tech Centers, to work together with Citizen Science promoters.

European institutions need to clarify what is understood as Internet Science on new funding calls, in particular what is common or not between Internet Science and Citizen Science.

- **Facilitation.** Powerful national networks are required to make a strong and powerful European network. These networks would provide: guidelines of participation and deployment of projects; technical support; funding advisory; lobby on local, regional and EU authorities about recognition by the research establishment and the general public; dissemination of projects for easiness of replication; data sharing, respecting legal issues of anonymity and privacy; disseminate the success of Citizen Science projects.

Policy makers should promote the approach of Academia and established researchers to the general public and the market, selecting projects that have in consideration this criterion.

Support projects centered on local issues, issues on the neighborhood of citizens but repeated all around the globe.

- **Sustainability.** New funding models are required. They love the “Robin Hood approach” that is represented by the crowd funding model, but as far as projects have more size and bigger impact on the community, public funding for research needs to be redistributed towards more actors than Academia.

Successful projects should be replicated in other territories. But this requires efficient networks to share projects and good/bad practices. This has been commented as one of the first concerns.

5.2.3 Awareness and motivation for active involvement

- Work group coordinated by Cândida Silva

- **Participants**

- Ad Emmen – AlmereGrid – IDGF
- Juan Hindo – IBM – World Community Grid
- James Borrell
- Carlos Val Gascón – Ipercivis

- **Major outcomes**

- To raise awareness and motivate an active involvement Citizen Science (CS) project must show the project real value. Another important aspect is the recognized reputation of the institution promoting the project: people need to trust the institution behind the project. Because of this cross-institutional support must be encouraged and promoted.

- **Technology.** The used of technology is ubiquitous, thus it is a part of any CS project at some point. Still, it must not be the front page of a CS project, rather focus on the scientific problem.
- **Researchers involvement and Education.** Researchers must be passionate, as they will need a deep level of involvement. Of particular interest is the researcher involvement with volunteers' activities such as training. Visits from the researcher (or co-workers) to schools should be mandatory. CS projects should develop tools that can be used in the classroom.
- Institutions promoting CS projects should get tax benefits.
- **New questions.** How to engage 50+ people? How to engage and recognize the participation of unemployed people? Is there any study on the involvement of disabled people in CS projects? Are CS projects even considering this group?

5.2.4 Drivers and Barriers for Citizen Science

- Work group coordinated by Eduardo Lostal
- **Participants**
 - Keren Limor-Waisberg, Researcher, PhD, Cambridge, United Kingdom
 - Andrea Sforzi, Scientific Director Museo di Storia Naturale della Maremma, ECSA Board of Directors
 - David George Foster, Deputy Department Head IT CERN
 - Ben Segal, honorary member of the CERN IT Department
- **Major outcomes**
 - **Drivers.** CS can be a force for peace and education. Engage 50+ people; they have skills and time, need a purpose, interested in promoting a better world (for their children), and represent a big part of the population in EU.
 - **Barriers.** (i) *Policy Recommendations are needed:* current directives of EU concerning legislation are old (deprecated). Future policies on CS projects should be prepared thinking in a medium-long term scenario. (ii) *Most projects are, eventually, IT-dependent.* (iii) *Data ownership:* currently researchers fear to admit the source of the data, do not even mention it in scientific publications, and do not acknowledge the volunteers' work. (iv) *Data privacy & ownership:* legislation is different across EU partner countries, but also, it does not exist much legislation on this matter. Another problem is in definition of to whom the data collected/analyzed belongs to. (v) *Volunteers cultural background:* in many countries there is the tradition to involve the general public in research projects; give projection to successful national and international initiatives; locate motivated people including researchers and volunteers.

5.2.5 Impact measurement and evaluation

- Work group coordinated by Ilse Marschalek

- **Participants:** List not available
- **Major outcomes**
 - The possibility and tools for evaluation should be provided to enable a culture of evaluation. The benefit of evaluation should be highlighted, a positive culture of evaluation should be established.
 - Although evaluation is important, it is also very important to clearly define the **purpose and scope** of the evaluation! Unclear contexts of evaluation may cause undesirable consequences.
 - Different evaluation schema should be set for existing and new starting projects.
 - For researchers, the transparency and open character of citizen science concept itself should serve as a parameter for evaluation and recognition.
 - **Need for standards.** The provision of standardized tools and indicators could help to set up evaluation strategies. Standards maybe only applied for some projects, or some aspects, and should help to steer the projects.
Consider the indicators on educational impact proposed by Tina Phillips from the Cornell Lab of Ornithology.
 - **Who should set up standards?**
 - The development of standards should also involve professional evaluators, but in the process of development and testing also volunteers should be involved.
 - The European Citizen Science Association could give out measurement strategies, what are standards going to be – what is meaningful across the projects?
 - Project consortia, based on the project goals should also define their evaluation criteria.
 - **Duration of the evaluation process.** Evaluation should be conducted along the project, from the beginning, consider the budget for it as well.
 - **News Questions.** What should the object of evaluation, projects or their outcomes? What kind of impact should be evaluated? Scientific (data quality), direct political or administrative, educational, individual, etc.?
Projects could be evaluated for their protocols, scientific rigor, outreach, the results for what they effected, and so on.
 - **General recommendations:**
 - Set up standards and best practice examples and not strict rules!
 - Establish a voluntarily code of conduct.

6. Roundtable on Citizen Science

Between March 1 and 9 (2014), the University of Coimbra (UC) organized a Cultural Week under the theme “Networks”. The Science Museum of the University of Coimbra, in partnership with SOCIENTIZE and Ibercivis, organized a roundtable entitled “Citizen Science: A link between Science and Society”. This event took place on March 5, 2014 at the Science Museum. Speakers included Paulo Gama Mota (SOCIENTIZE), Cândida Silva (SOCIENTIZE and Ibercivis), Tiago Santos Pereira (Centre for Social Studies – UC), Carlos Simões (project Amilóide@Ibercivis), Rita Serra (Project Biosense) and Paulo Barbosa da Silva (project GeObserver). Around 20 people attended the event. The full program can be found at <http://www.museudaciencia.org/index.php?module=events&option=calendar&action=&id=462> (in Portuguese).

Major topics of discussion included:

- **Nature of existing CS projects.** Most projects are top-down: a researcher has a problem to solve and calls for volunteers to contribute either by collecting or analyzing data. *Policies need to be set to promote the opening of research institutions to participate and develop bottom-up research projects.*
- **Researchers evaluation.** Many funding programs put a major focus on the evaluation of the principal investigator. Currently, researchers evaluation depends greatly on the number of scientific publications. Researchers promoting CS projects take longer to publish, however they spend long hours developing activities and training volunteers which are not taken into consideration. *Researchers evaluation schema need to be adjusted to take into consideration parameters like training of volunteers and dissemination activities.*
- **Projects sustainability.** Current funding programs are very time-limited, usually 3 to 5 years. Many CS projects tend to last for much longer periods. *Funding programs for CS projects need to guarantee the financial support for successful projects in the long run.*
- **Intellectual property.** Only a few scientific publications recognize the collective participation of volunteers in the work developed. *Measures need to be taken to ensure that volunteers' contributions are publicly acknowledged.*

7. Taller Abejas Urbanas 2.0

The Urban Bee 2.0 Workshop (<http://hangar.org/es/news/taller-abelles-urbanas-2-0/>) took place at the Hangar – Centre for Art Research and Production, Barcelona, in March 26 and 27, 2014. The subcontracted application UrbanBees was publicly presented during event.

Located within the territories of the citizen science and the combination between scientific and artistic practices, this workshop invited environmental scientists (bees and the environment), urban beekeepers, physicists of the science of complexity (data science), technologists and artists capable of working on electronics, open source and open data to collaborate with the project.

8. Arduino Day Zaragoza 2014

The Arduino Day is a worldwide event bringing together Arduino people and projects, sharing their experiences! This year the Arduino Day took place on March 29, 2014 in dozens of cities worldwide.

In Zaragoza, the Arduino Day (<http://arduinodayzgz.es/>) took place at the Dlabs: Zaragoza Hackers Space. The activities developed included several Workshops, Show and Tell sessions, Panel/Discussion, and Demos.

Francisco Sanz participated in the event representing the SOCIENTIZE and Ibercivis projects, and demonstrating live how to construct a pH detector to assess the quality of water, explaining and inviting attendees to collaborate with the project.

9. NASA Space apps challenge

The International Space Apps Challenge (<https://2014.spaceappschallenge.org>) is an international mass collaboration focused on space exploration that takes place over 48-hours in 80 cities around the world. The event embraces collaborative problem solving with a goal of producing relevant open-source solutions to address global needs applicable to both life on Earth and life in space. This year we have 40 challenges and 25 projects from last year's Space Apps that support NASA's mission directorates in five themes: Earth Watch, Technology in Space, Human Spaceflight, Robotics and Asteroids. NASA is leading this global collaboration along with a number of government collaborators and 100+ local organizations.

SOCIENTIZE sponsored the NASA Space apps challenge in Zaragoza (local web: <http://www.spaceappszaragoza.com/>) from April 11-13, 2014 in the Etopia Building.

The projects receiving local awards were:

- **Best Earth Observation Projects** – FireOn & LiveFires,
- **Best Innovation Projects** – MyCupola & EarthMe!,
- **Best Citizen Science Project** – OpenCuriosity "Follow your curiosity, open your mind".

Some of these projects were selected for Global Judging:

- **Best Use of Hardware** – OpenCuriosity "Follow your curiosity, open your mind",
- **Best Use of Data** – watchFire,
- **People's choice** – OpenCuriosity "Follow your curiosity, open your mind".

9. Conclusion and Future Events

The promotion of concepts such as citizen science, e-infrastructures, open data, open science, open software and hardware, as well as the discussion of relevant policy recommendations with the major European stakeholders in these issues have been the main focus of the work developed by the consortium during the last 6 months, as shown by the wide variety of events described here.

During the next few months, the consortium will participate in the following events:

- **Ecsite Annual Conference 2014** – May 22 to May 24 – Hague, The Netherlands. The consortium will participate in the panel “A voluntary effort: Making use of social participation in Science Centers”.
- **ESOF2014 – Euroscience Open Forum 2014** – June 21 to June 26 – Copenhagen, Denmark. The consortium will participate with an interactive round table entitled “Citizen Science: new talents, new tools, new knowledge, new science.”. The consortium has also been invited to participate in other workshops related to citizen science.
- **OKFestival 2014 – Open Knowledge Festival 2014** – July 15 to July 17 – Berlin, Germany. The consortium has submitted a proposal for a session to promote an “Open discussion on policy recommendations for Citizen Science in Europe”.