

**doing it
together
science**

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DITOs

Doing It Together science

Coordination & Support Action

D6.8 Final plan for dissemination and exploitation

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1.Version Log

Version	Date	Released by	Nature of Change
DRAFT v0.1	30/04/2019	Alexandra Albert (UCL)	First draft
DRAFT v0.2	20/05/2019	Alexandra Albert (UCL)	Internal Review
DRAFT v0.2	20/05/2019	Alexandra Albert (UCL)	External Review
DRAFT v0.3	24/05/2019	Alexandra Albert (UCL)	Consortium Review
Final Draft	29/05/2019	Alexandra Albert (UCL)	Formal Release

2. Definitions and Acronyms

Acronyms	Definitions
CSA	Coordination and Support Action
DITOs	Doing It Together science
EC	European Commission
ECSA	European Citizen Science Association / Verein der Europäischen Bürgerwissenschaften
eutema	EUTEMA GMBH
H2020	Horizon 2020 Programme
KI	Kersnikova Institute
KPI	Key Performance Indicator
Meritum	Centrum Szkolen I Rozwoju Osobistego Meritum
MP	Medialab Prado, Madrid
RBINS	Institut Royal des Sciences Naturelles de Belgique
RRI	Responsible Research and Innovation
Tekiu	Tekiu Limited
UCL	University College London
UNIGE	Universite de Geneve
UPD	Universite Paris Descartes
WS	Waag Society

3. Management Summary

This deliverable report (D6.8) presents a review of the dissemination and exploitation activities of the DITOs project. By month 30 of the project, a total of 715 events were organised by the DITOs consortium partners in different locations throughout. This exceeds the number of events stated in the DOA by 215 events. Some events were also organised by consortium partners that did not fit into the original event type categories as specified under the activity types in the DOA and were therefore marked as 'additional'. In this sense, DITOS partners were proactive in adjusting to the

reviewer's comments on the first 12 months of the project, in addition to the changing contextual circumstances in which the events were organised, as well as the ongoing evaluation of events, which lead to revisions and improvements. If these additional events are included in the final count, a total of 764 events were organised by the DITOs consortium partners up to month 30 of the project. These events were organised within and around the following themes: biodesign (WP1), environmental sustainability (WP2), public engagement and capacity building (WP3) and policy engagement and Responsible Research and Innovation (RRI) (WP4).

In terms of audience numbers, a total of 577,019 people were engaged directly in face-to-face activities. As above, if the additional events' audience numbers are also included, the total audience number of people engaged face-to-face in DITOs events is 579,793. This is almost double what was promised in the DOA – the expected number of participants in DITOs events was stated as 290,000.

In terms of online interactions with the DITOs project, a total of 2,926,489 people were engaged. This number does not include the events marked as 'additional', that did not fit into the event type categorisations as mentioned in the DOA at the beginning of the project. If these additional events are included, the total number of online interactions with the DITOs project increases to 3,227,073. Again, this is almost double what was promised in the DOA (1.3M).

Specifically, DITOs public engagement and outreach includes:

- Engagement in DITOs events (i.e. people who participated in DITOs online and offline events) which is 3,806,866 participants.

DITOs outreach via dissemination and communication tools and channels:

- Online outreach via DITOs channels (i.e. our online outreach using DITOs channels e.g. website, social media outreach etc.) which is 14,882 people.
- Online outreach via DITOs 'activity channels' (i.e. DITOs channels which were created entirely for the purposes of running specific activities which we describe in the grant agreement; e.g. a website was set up to support the 'Ik heb een vraag' activity, therefore we include them here as a separate category), which is 3,227,073 people.
- Online outreach via DITOs partners' channels (i.e. online public outreach via partner channels; e.g. UCL ExCiteS website www.ucl.ac.uk/excites), which is 1,124,452 people.

A set of key performance indicators (KPIs) was developed as part of the initial communication, dissemination and exploitation plan that constitutes deliverable D6.2. These KPIs were then reported on in the update deliverable D6.5 produced to examine the first 12 months of the project. Section 6.3 reports on the final assessment of the activities of the project for M1-30. It shows that the project met all of the KPIs in some way but only half of them fully.

Some lessons learnt from the use of specific communication and dissemination tools and channels are presented in section 6.4. The very process of writing and generating content for a communication, dissemination and exploitation (CDE) plan (and its updates) reinforces the important point that, from the very start of a project of the scale and size of a CSA such as DITOs, consideration needs to be given to what happens after the project, and, where possible, a succession plan should be put in place from the outset. Furthermore, a consistent challenge throughout the course of the project was to ensure such a diverse range of partners were on the same page, and that communication and dissemination activities were advantageous to the wider success of the project, rather than just an additional reporting burden. The very nature of the assorted cultural identities of partner organisations reinforces the crucial importance of just making the links between organisations, and frequently revisiting the aims and objectives of the project, and the varied interpretations of these aims in each specific partner's context.

Reflections on how to continue to make the DITOs communication infrastructure and material useful are presented in section 7, as part of the overall exploitation strategy and mothballing of the project. Then the Use of Knowledge and related IPR Management Strategy are presented in section 8. In relation to IPR and the acknowledgement of the work and contributions of citizen scientists themselves, this is covered in deliverable report D6.7 on data management from the DITOs project. The commitment to the principles of open access publishing and the use of open source software, and exploitation by ECSA for the public good, will greatly simplify any IPR management issues.

DITOs Final plan for dissemination and exploitation is Deliverable 6.8 (D6.8) from the coordination and support action (CSA) Doing It Together science (DITOs), grant agreement 709443.

4. Introduction

This deliverable report (D6.8) presents a review of the dissemination and exploitation activities of the DITOs project. It presents the final analysis of the communication and dissemination activities of the project, in addition to the Use of Knowledge and the related Intellectual Property Rights (IPR) Management Strategy for DITOs. This current deliverable builds on the initial plan for Communication, Dissemination and Exploitation (CDE) as set out in Deliverable 6.2 (D6.2) which was produced in month 3 of the project. D6.2 delineated a set of key performance indicators (KPIs) against which the CDE of the project might be measured. Deliverable 6.5 (D6.5), which was produced in month 15 of the project, provided a summary update of how the project was fairing in relation to these KPIs. This current deliverable (D6.8) thus reviews and updates the CDE plan, considering all those elements that influenced DITOs communication, dissemination and exploitation during the 'evaluation and upscaling' phase of the project. D6.8 also critically assesses the successes and failures of the CDE plan, providing several examples from the context in which the DITOs project has operated.

The core purpose of DITOs is to carry out a vigorous programme of dissemination and promotion of citizen science, with two work packages dedicated to dissemination to the general public and the research community (WP3) and to policy makers (WP4). In addition, the outcomes of the project itself have been promoted to the scientific research community and to the general public through a process involving an unusually wide range of online and physical events, presentations, publications, conference papers and sessions, showcases and demonstrations. Existing citizen science projects gave us access to a ready-made international dissemination network that has proved very attractive to the mass media as well as the scientific press. Special efforts were made to develop mass media (Web, social media, press, TV), conferences, and events that are beyond the project's programme and scholarly publications. We monitored and identified opportunities for extending our impact and network during the project and for cooperating with other EU networks for citizen science. We also identified opportunities for extending our impact and network after the project.

5. Background

5.1 Overview of DITOs aims and project objectives

The primary concern of the DITOs project is the pan-European development, establishment and promotion of citizen science. The 11 partners in the DITOs consortium promised to deliver approximately 500 face-to-face and online citizen science activities in the fields of biodesign and environmental sustainability. The aim was to reach a total audience of 290,000 offline and 1.3 million online. Of particular concern was an aim to reach currently underrepresented science audiences and citizen science participants such as women, people without access to the internet and people who have not completed tertiary education.

DITOs aimed to create a tangible 'Do-It-Together Science' method to achieve first and foremost a wider and deeper public participation in science and awareness of Responsible Research and Innovation (RRI). DITOs also aimed to raise governments' awareness of the benefits of citizen science approaches for both society and science, as well as to guide funding agencies to set up schemes to take into account the different levels of engagement and their impact. The DITOs project did this by accelerating pan-European coordination and support for citizen science, including DIY science, through multiple avenues of engagement including exhibitions, science cafés, and workshops.

DITOs set out to achieve its aim through the following six objectives (O1-O6, related to WP1- WP6 respectively):

- O1: To engage citizens, scientists and policy makers in shaping and conducting research in biodesign and technology, addressing personal health and global issues such as food production (WP1).

- O2: To engage citizens, scientists and policy makers in shaping and conducting research in environmental sustainability, addressing local environmental concerns and global issues such as biodiversity monitoring (WP2).
- O3: To develop clear guidelines, mechanisms and institutions to extend the development of public engagement in citizen science and DIY science across Europe. This includes support for exploration, learning and innovation (WP3).
- O4: To develop clear guidelines, mechanisms and institutions to extend the development of policy engagement in citizen science and DIY science across Europe, fostering RRI, linking the pan-European citizen science and DIY science communities to decision-makers at various levels, and supporting innovation (WP4).
- O5: To develop a robust framework for evaluating citizen science and gathering feedback on DITOs activities, including the engagement of citizens, scientists and decision-makers (WP5).
- O6: To develop an innovation plan and identify suitable business models for citizen science and DITOs activities, including support for RRI (WP6).

From these objectives it should be noted that clear, effective and wide communication and dissemination of DITOs activities, events, and outcomes lie at the heart of, underlined and resulted in this project's success. To engage with a wide variety of stakeholders in WP1 and WP2 and attract a growing number of people to participate in our activities and encourage them to initiate their own, required an effective CDE plan to reach these audiences and communicate back to them the outcomes of these activities. This is also the case for objectives 3 and 4, where extending public and policy engagement in citizen and DIY science through DITOs guidelines, mechanisms and institutions, required a clear and effective CDE plan to achieve this. Our CDE plan also aimed to communicate and disseminate the outcomes of our evaluation framework and tools to anyone interested in DIY science. This current deliverable report assesses how the project fared in terms of meeting those objectives stated above in section 6.3 and 6.4 below.

5.2 Key points from previous deliverables

5.2.1 Deliverable 6.2 (D6.2)

The initial plan for Communication, Dissemination and Exploitation (CDE) was set out in Deliverable 6.2 (D6.2)¹. This plan delineated a set of key performance indicators (KPIs) against which the CDE of the project might be measured (see section 6.3 below). The initial plan in D6.2 had 3 main aims:

¹ <http://discovery.ucl.ac.uk/1515899/>

- To define how knowledge and project results, including lessons learnt, will be disseminated and promoted to the public, scientific community and policy makers;
- To define how partners should identify and exploit communication opportunities; and
- To define how a legacy framework of communication and dissemination tools and advisory documents will be constructed throughout the life of the project.

The aim of the initial strategic CDE plan was to go beyond the activities of Work Package 3 (WP3) which focussed on developing communication and dissemination of DITOs processes and outcomes to a wide spectrum of stakeholders. Deliverable 6.5 (D6.5) then built on this with a summary update of how the project was fairing in relation to the KPIs. The three aims as stated in D6.2 are reviewed in sections 6.2, 6.3 and 7 respectively.

The European Commission (2016)² defines communication and dissemination as follows:

Communication: “Communication on projects is a strategically planned process, which starts at the outset of the action and continues throughout its entire lifetime, aimed at promoting the action and its results. It requires strategic and targeted measures for communicating about (i) the action and (ii) its results to a multitude of audiences, including the media and the public and possibly engaging in a two-way exchange.”

Dissemination: “The public disclosure of the results by any appropriate means (other than resulting from protecting or exploiting the results), including by scientific publications in any medium.”

From these definitions, a series of specific dissemination and communication objectives were developed as part of the initial CDE plan in D6.2, so as to have a clear set of aims and objectives against which to monitor the dissemination and communication activities of the project (see Table 1).

Table 1: *Dissemination and Communication Objectives (Source D6.2).*

DITOs' Dissemination Objectives	DITOs' Communication Objectives
<ul style="list-style-type: none"> - O1: Identify targets, messages, tools and channels; build an adequate and effective communication and dissemination 	<ul style="list-style-type: none"> - O1: Raise public awareness and ensure maximum visibility of DITOs key objectives, activities

² European Commission. (2016, August 10). Reference Terms. Retrieved from European Commission Participant Portal: http://ec.europa.eu/research/participants/portal/desktop/en/support/reference_terms.html

<p>plan to ensure the best impact of project results.</p> <ul style="list-style-type: none"> - O2: Design a comprehensive set of communication materials (including the project logo) to ensure easy identification of the project and major exposure. - O3: Use the dissemination channels; organise project events and participate in workshops, conference and international/EC meetings. - O4: Ensure persistent and long-lasting visibility of the project activities and outcomes. 	<p>and outcomes at a European and international level.</p> <ul style="list-style-type: none"> - O2: Announce and promote DITOs events, contributing to raising its attendance and engagement potential. - O3: Support the dissemination objectives; - O4: Promote EU research and create a Pan-European and international infrastructure for DIY science and citizen science.
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Deliverable D6.2 further described the mechanism that was set to achieve the DITOs aims and objectives. This mechanism includes a set of tools and channels, which are defined as:

- **Communication and dissemination tools** including all material supports used to present the project and its contents to an external audience. Tools include: the visual identity, printed media, videos, media articles, electronic newsletters and email blasts and project reports.
- **Communication and dissemination channels** including all media through which the project activities and results are conveyed and relayed to the target audiences. Channels include: the knowledge sharing platform, mailing lists and contact databases, social media, our European Interactive map of citizen science, external channels and events and publications.

These mechanisms, and the lessons learnt from their use, are reflected upon in section 6.4 below. Deliverable 6.2 also highlighted DITOs target audiences as the following groups of stakeholders:

General Public

Following the overall aim of the science with and for society programme, DITOs' activities were tailored to engage people from all walks of life, especially those less likely to be involved in science, and the demographics of event participants were monitored to ensure our project was inclusive and reduced barriers to participation. The lessons learned after our events were analysed and reflected upon in deliverable D1.3 and D2.3. The aim was that these would help develop systems of good practice which can be shared by other citizen science projects, a network of communications with local role models and institutions, and a better understanding of the drivers and barriers to engagement and thus what technological, policy and cultural shifts are needed to increase public participation. WP2 activities were intended to improve

citizens' local environments and create cultures of environmental monitoring and innovation. The project aimed to communicate to citizens in and beyond the EU at the various levels of engagement available to them in citizen science, in order that they might "move up (or down) the escalator". Reporting on how the general public were reached is presented in section 6 below and D3.3, in addition to the sharing of best practice in deliverables D1.3 and D2.3.

Policy Makers

It was an aim of the DITOs project that citizen science should gain understanding and support at the policy level, and that policy makers should be aware of the opportunities and risks of citizen science and their own ability to promote or hinder citizen science. The project aimed to bring policy makers face to face with citizen scientists through Discovery Trips, policy discussions and round tables. The project aimed to provide policy makers (and other participants) with guidance on the provision and design of activities that reflect local needs, aspirations and conditions, likely providing them with good relationships with local people who can work with them and provide them with a great deal more data they can work with (see the 13 policy briefs and D4.3). Finally, DITOs aimed to provide policy guidelines, reports and various materials and media to present policy analysis and the impact of citizen science, as well as RRI policies. Reporting on how policy makers were reached is presented in in section 6 below, as well as in D3.3, D4.3 and also in D4.4 which is a specific report on the Discovery Trips.

The Scientific Community

Citizen science has the potential to greatly increase the speed at which discoveries are made. The online Zooniverse project, for example, has over 1 million volunteers, and it is estimated that in total they have contributed over 50 years of human effort, saving €3.5 million in labour costs. Citizen science also offers transdisciplinarity: the wide variety of expertise people from various professions brings and enhances the relevance and innovations of science, and a wider transfer of ideas takes place. Increased public participation in science should also bring more public support for science as an institution. DITOs aimed to reach the scientific community through traditional methods such as conferences and via academic papers, but also through inviting them to participate in local events as speakers or facilitators. Reporting on how the project reached and engaged with the scientific community is reflected on in section 6 below and in D3.3, as well as through the reporting on the dissemination activities of the project on the EU portal.

Innovators and Entrepreneurs

One of the interesting aspects of citizen science and DIY science is the early potential for entrepreneurial opportunity. From equipment sales to app development and services, many of the activities in the different WPs were identified as having the potential to support commercialisation and innovations. For example, WP1 aimed to expose more people to biodesign, an important and challenging new area of science, but one which is often feared in modern culture, an attitude that spans from Mary

Shelley's 'Frankenstein' to modern articles that present it as a potential horror in the future (G. Seyfried et. al, 2014). WP1 aimed to assist in demystifying the topic and gain support for biodesign. Furthermore, WP1 aimed for innovators and entrepreneurs to gain more skills, potential colleagues and access to new markets. In addition, it aimed to provide opportunities for developers of instruments and devices that are suitable for the DIY biology market, and that might eventually serve the development of new early prototypes in biotechnologies.

WP2, on the other hand, opened up the possibilities of new mobile apps and sensors to support environmental sensing, which might eventually be used in the market for environmental monitoring in the EU and beyond. To assist with this process, WP6 aimed to develop an innovation plan and identify suitable business models for citizen science and DITOs activities. This was a new area of study, as there has been little research into business models and citizen science so far, but the aim was that DITOs would build scientific and technological capacity in citizens. Furthermore, RRI was set at the heart of any study or discussion on innovation, adding the citizen as a new participant. The DITOs innovation management plan is presented in deliverable D6.6 'Making Citizen Science Work' and also in an ensuing research insight brief that seeks to map the landscape of business models in citizen science.

Schools and Universities

Several means of communication were developed by DITOs to be transferred to the classroom, such as YouTube videos, games and postcards which featured instructions on how to perform DIY biology. There was also scope for school trips to events and students to receive a more hands-on, collaborative experience of STEM subjects, while university students may have found scope for projects, in-depth study and a chance to bring their skills to discussion groups and the public arena. In addition, the aim of DITOs was that educators might benefit from more awareness of local institutions such as museums, and of good practices that DITOs and its partners developed and shared. Reporting on how schools and universities were reached during the project is presented partly in section 6 below, but also in deliverable D1.3.

Women and Girls

DIY science activities tend to orient too much towards the interests of men, though there are several social factors limiting women's involvement in science (Lin, 2007). DITOs was especially interested in how to communicate invitations to events to women and girls and used expertise in reaching women developed by experienced partners such as KI. 15% of WP1 and WP2's activities were dedicated exclusively to a female audience, and workshops and events were held to discuss how to rectify barriers to women. Other events were adjusted to consider responsibilities often borne by women, such as allowing for childcare; a range of entry points that hopefully lowered barriers, and feedback from women after the events were studied for recommendations. Media such as videos allowed DITOs' partners to use women as role models in participatory science. Reporting on how women and girls were reached

during the DITOs project is presented both in section 6 below, but also in deliverable D5.3 which presents the evaluation of the project.

Science Practitioners

DITOs projects worked at the local level with events such as exhibitions and invited local science actors and public authorities to take a visible part in events, such as by invitations to speak at or facilitate events, which gave them the chance to build their capacity to engage with citizens on science and innovation. Science practitioners met a large audience and range of colleagues and were involved in discussions of good practice in engagement. Reporting on how science practitioners were reached is presented both in section 6 below, and also in the reflections in deliverables D1.3 and D2.3.

Deliverable D6.2 remained a live document and was extended by deliverable D3.1 , which was submitted in M6 (December 2016) - and which initiated and set in practice the development of a communication and dissemination plan and a specific mechanism for monitoring impact and reporting. This included information and guidelines across the consortium as to how the various tools and channels should be used in practice and how we should monitor and report impact from partners' tools and channels.

5.2.2 Deliverable 6.5 (D6.5)

D6.5 constituted an updated CDE plan with a detailed report on the performance and additional communication, dissemination and exploitation efforts that were carried out by the consortium in the first 12 months of the project³. It should be noted that most communication and dissemination activities were initiated after the end of phase 1 'Scoping and monitoring', therefore the majority of the efforts described in the update of D6.5 took place from M7 until M12.

D6.5 reported that in the first 12 months of the DITOs project, several online and offline activities and events were organised by nine partners (i.e. UNIGE, ECSA, MP, MERITUM, KERSNIKOVA, RBINS, UCL, UPD, WS) in different locations throughout Europe. These were organised within the following themes: biodesign (WP1), environmental sustainability (WP2), public engagement and capacity building (WP3) and policy engagement and RRI (WP4). In total 45,279 people engaged directly in DITOs events and 1,767,517 people were reached via our communication and dissemination tools and channels in the first 12 months of the project.

Within this total outreach achievement, 5,685 people were reached online via the online DITOs social media and web channels; 550,445 people were reached online via DITOs activity channels created for specific purposes such as events; and 1,211,387 people were reached online via DITOs partners' channels (e.g. UCL ExCiteS website and other partners' online communication channels).

³ <http://discovery.ucl.ac.uk/1573357/>

During the project, near the end of the first year and as the opportunities for dissemination increased, DITOs partners felt that the definitions for communication and dissemination that were used in D6.2 did not effectively capture the characteristics of DITOs as a coordination and support action, which complicated the way we reported and monitored our events and dissemination activities. This was extensively discussed at the consortium meeting in Madrid in June 2017. The partners agreed that all DITOs events involve both communication as well as dissemination. For example, a DITOs activity (e.g. a seminar or science cafe) - as one of the planned DITOs events for which we report and monitor engagement numbers in our 'events diary' tool in order to deliver target numbers included in DITOs grant agreement - involves members of the public learning about citizen science and DITOs.

All DITOs planned events have involved and followed a strategic plan for communication and dissemination prior, during and after the event to ensure maximum visibility and impact. However, we have also encountered an increasing number of opportunities where DITOs partners are invited or accepted to disseminate DITOs information to a much broader selection of people, e.g. DITOs partners presenting at large conferences, seminars and other types of events, where they talk about DITOs to increase visibility and communicate our work and findings. These types of events and outputs, which are not listed in the grant agreement and which involve mainly dissemination of information, mostly in the form of one-way process (but not necessarily entirely), are reported separately as dissemination activities using the provided EC reporting mechanisms.

6. DITOS: Summary of events and participation numbers

By month 30 of the project, **a total of 715 events** were organised by the DITOs consortium partners in different locations throughout Europe (as set out in Table 2 below). This exceeds the number of events stated in the DOA by 215 events. Some events were also organised by consortium partners that did not fit into the original event type categories as specified under the activity types in the DOA and were therefore marked as 'additional'. In this sense, DITOS partners were proactive in adjusting to the reviewer's comments on the first 12 months of the project, in addition to the changing contextual circumstances in which the events were organised, as well as the ongoing evaluation of events, which lead to revisions and improvements. If these additional events are included in the final count, a total of 764 events were organised by the DITOs consortium partners up to month 30 of the project. These events were organised within and around the following themes: biodesign (WP1), environmental sustainability (WP2), public engagement and capacity building (WP3) and policy engagement and RRI (WP4). In terms of audience numbers, **a total of 577,019 people were engaged directly in face-to-face activities**. As above, if the additional events' audience numbers are also included, the total audience number of people engaged face-to-face in DITOs events is 579,793. This is almost double what was promised in the DOA – the expected number of participants in DITOs events was stated as 290,000 (see Table 5).

Table 2: Total DITOs outreach / engagement up to month 30 of the project.

Type of Engagement/Outreach	Total Number of Participants or People Reached	Source: Tools Monitoring Engagement or Outreach
Engagement in DITOs events	3,806,866	Events Diary
Online outreach via DITOs channels (e.g. website, social media)	14,882	Measure Impact and Monitor
Online outreach via DITOs 'activity channels' (e.g. Ik heb een vraag website)	3,227,073	Events Diary
Online outreach via DITOs partners' channels (e.g. ExCiteS UCL website)	1,124,452	Measure Impact and Monitor
Total	8,173,273	

In terms of **online interactions with the DITOs project**, a total of **2,926,489 people were engaged**. This number does not include the events marked as 'additional', that did not fit into the event type categorisations as mentioned in the DOA at the beginning of the project. If these additional events are included, the total number of online interactions with the DITOs project increases to 3,227,073. Again, this is almost double what was promised in the DOA (1.3M) as stated in Table 5.

Specifically, DITOs public engagement and outreach includes:

- **Engagement in DITOs events** (i.e. people who participated in DITOs online and offline events) which is **3,806,866 participants** (see Section 6.1 for further details).

DITOs outreach via dissemination and communication tools and channels:

- **Online outreach via DITOs channels** (i.e. our online outreach using DITOs channels e.g. website, social media outreach etc.) which is **14,882 people** (see Section 6.2 for further details);
- **Online outreach via DITOs 'activity channels'** (i.e. DITOs channels which were created entirely for the purposes of running specific activities which we describe in the grant agreement; e.g. a website was set up to support the 'Ik heb een vraag' activity, therefore we include them here as a separate category), which is **3,227,073 people** (see Section 6.2. for further details);

- **Online outreach via DITOs partners' channels** (i.e. online public outreach via partner channels; e.g. UCL ExCiteS website www.ucl.ac.uk/excites), which is **1,124,452** people (see Section 6.2 for further details).

It is important to note here that in both the proposal and all the DITOs CDE reports, because DITOs focuses on the full spectrum of engagement with citizen science and DIY science – including people who have not come across these terms – we are counting all “engagement events”. An engagement event can be as fleeting as a tweet that appears in a person’s social media stream, or as deep as participating in a summer school or a MOOC. Moreover, because of the logistical effort and since we chose to collect only the minimal amount of information from participants, we cannot discriminate between new contacts and a repeated contact (e.g. a person that follows several twitter accounts and attended an event). Research by SciStarter (pers. Comm.) have shown that people need to see a message up to 10 times before they start engaging in a more active way, and therefore getting into people’s timelines on social media very much counts within DITOs framework.

The above metrics were all gathered and reported via two tools that were used internally amongst the DITOs consortium; these were the ‘Events Diary’ and the ‘Measure Impact and Monitor’ tools. The ‘Events Diary’ measures participation in DITOs events, both online and offline. It is a tool that participants use to record the event name, description of the event, organising partner and facilitator’s name, status, date and location, event type, work package associated, information about number of participants that participated in each event (including % of female participants, lowest and highest age of participants), reporting period, project phase, online resources and notes. In addition, the ‘Events diary’ records DIY and local communities, academia and research, government and industry and other collaborations associated with each event. For more information on the ‘Events diary’ the reader may refer to Prem and Regalado (2016; p. 45).

The ‘Measure Impact and Monitor’ tool is used to follow the reach and outreach population characteristics for online DITOs and partners’ channels. These are monitored quarterly and gathered in a spreadsheet to monitor the change over time of such metrics as total followers, amount of interactions (per post) % of female participants for each channel etc. For more information on the data we collected for monitoring and measuring the impact of DITOs and partner channels, the reader may refer to deliverable D3.1.

6.1 Engagement with DITOs events

The following tables give a breakdown of more information about engagement with DITOs events. These are also reflected on in more detail in deliverable D5.3 which reports on the evaluation of the DITOs project. However, more specifically, Table 3 sets out the number of participants in DITOs events by the type of event, as specified in the DOA.

Table 3: Participants per event type M20 (Source: Events Diary).

Type of event	Number of Events/Type	Total No. of Participants
Conference	27	3393
Science Cafes/Screenings	163	23,991
Gaming / Online	20	18,862
Workshops	241	120,679
Interactive Travelling Exhibition	276	341,328
Travelling DITOs Bus	17	1,840
Online Outreach	18	3,296,773
Total	764	3,806,866

Table 4 below sets out the participation numbers in each Work Package of the project. It is therefore possible to see the percentage of participants in each work package, based on the engagement targets as set out in Table 5 below. As Table 5 clearly demonstrates, we far exceeded our participation targets for each of the 4 DITOs work packages.

Table 4: Participants engaged per WP (% calculated using Table 5) (Source: Events Diary).

Work Package	No. of Events/Type	No. of Participants	% of Participants (based on engagement targets in Table 5)
WP1: Biodesign	183	50,034	143%
WP2: Environmental Sustainability	473	455,741	190%
WP3: Engagement & Capacity Building	81	3,299,963	21,290%
WP4: Policy Engagement	27	1,128	133%

Table 5 below sets out the total number of DITOs events and engagement/outreach target numbers as stated in the DITOs Grant Agreement 709443.

Table 5: Total number of DITOs events and engagement/outreach target numbers (Source: DITOs Grant Agreement 709443).

Work Package	No. of Planned Events	Expected No. of Participants in Events	Expected No. of Online Outreach
WP1: Biodesign	200	35,000	450,000
WP2: Environmental Sustainability	205	240,000	230,000
WP3: Engagement & Capacity Building	70	15,500	650,00
WP4: Policy Engagement	25	850	-
Total	500	290,000	1.3M

Whilst the analysis presented above focused on a review of the face-to-face activities of the DITOs project up to month 30, section 6.2 presents a review of the online outreach activities of the DITOs project. Figures 1-3 below set out the geographical spread of locations of DITOs events, made visible via an online map to visualise the outreach and engagement activities of the project.

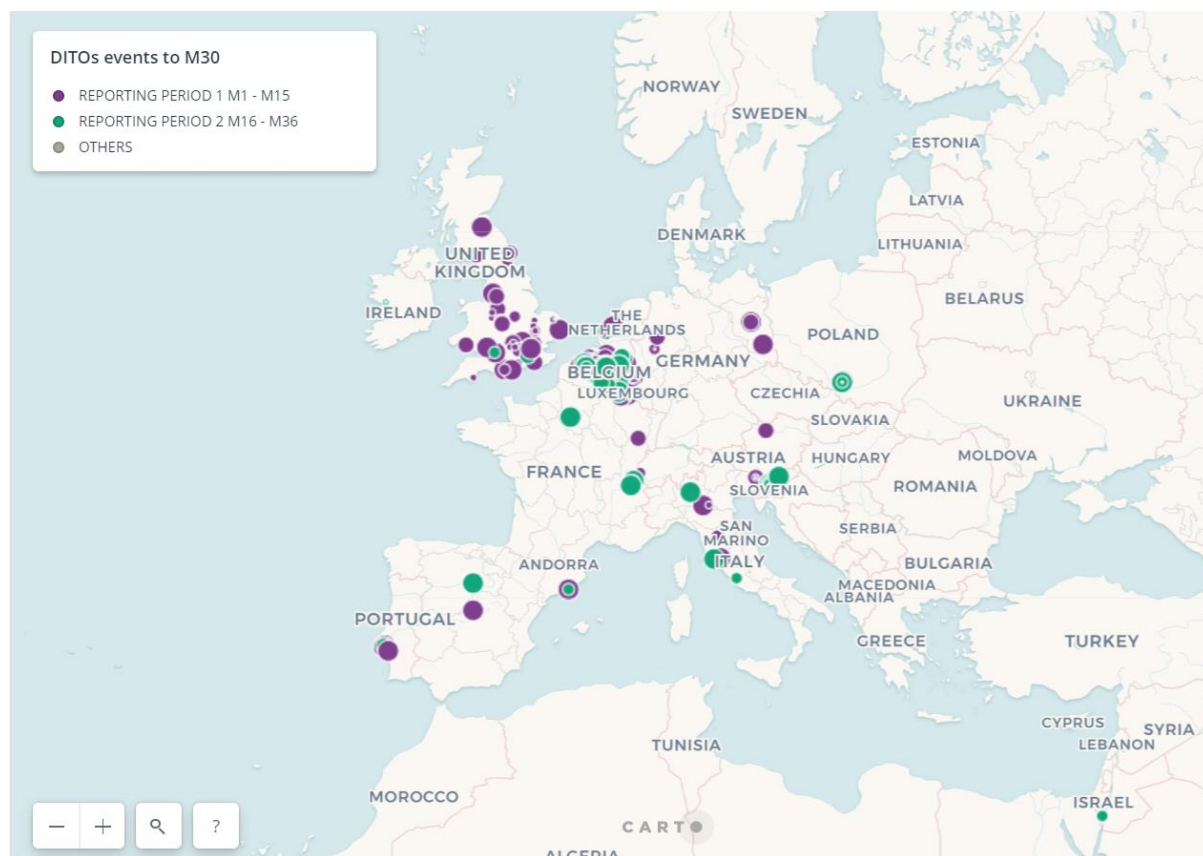


Figure 1: Map of DITOs Activities up to M30.

It is worth noting that the activities displayed on the map in Figure 1 are up to month 30 of the project, even though the reporting period 2, labelled green in the legend in the top left of the image, states that the reporting period goes up to month 36. The map was therefore updated with all the activities that took place in the final 6 months of the project (M30 – M36) but these are not shown in Figure 1 above. Figure 1 also includes activities such as the locations of the science bus activities.

Figures 2 and 3 below focus in more detail on the areas of the UK and Belgium respectively, where there were a considerable number of DITOs events that took place. Figure 2 draws attention to the fact that in reporting period 1 (up to month 15) many activities took place in the UK, and less in reporting period 2 (up to month 30). However, this can be ascribed to the ways in which partners responded to the project reviewers' comments on the interim report in month 15 to demonstrate a wider spread of DITOs activities across Europe. This also relates to Figure 3 below about the spread of events organised across Belgium, owing to XperiLAB, the follow up to the DITOs Science Bus.

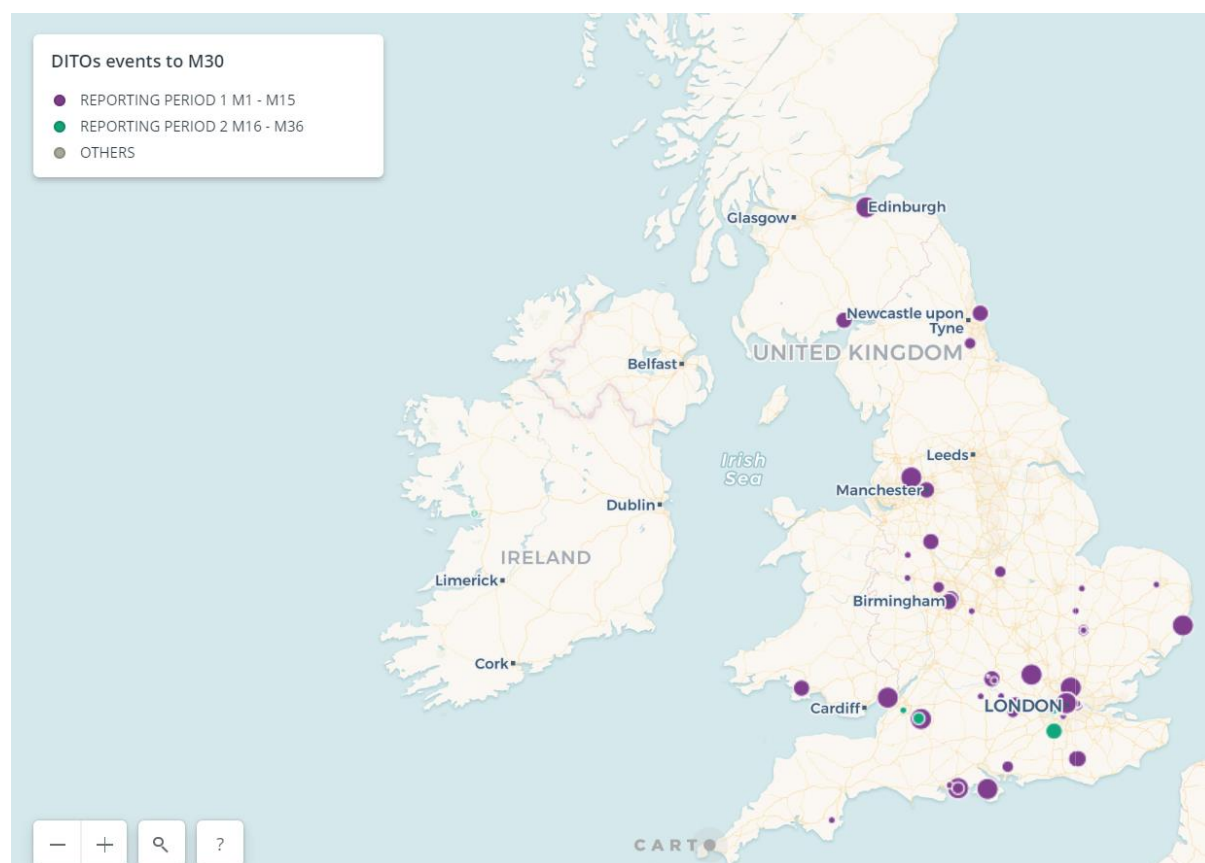


Figure 2: Map of DITOs Activities in the UK up to M30.

Gender of participants

The gender spread of DITOs events was also briefly examined as gender defines some of our target audience categories that we discuss in D6.2 but also in our DITOs Description of Action (i.e. women and girls). Table 4 below shows the percentage of women we engaged with at DITOs events grouped by work package. It is observed that our attempts to engage men and women equally are generally successful. However, this is reflected on in more detail in section 6.4 below which summarises the lessons learnt from the communication, dissemination and exploitation activities of the DITOs project. The topic is also reflected on in more detail, with specific data analysis in Deliverable D5.3 *Final Evaluation Report*.

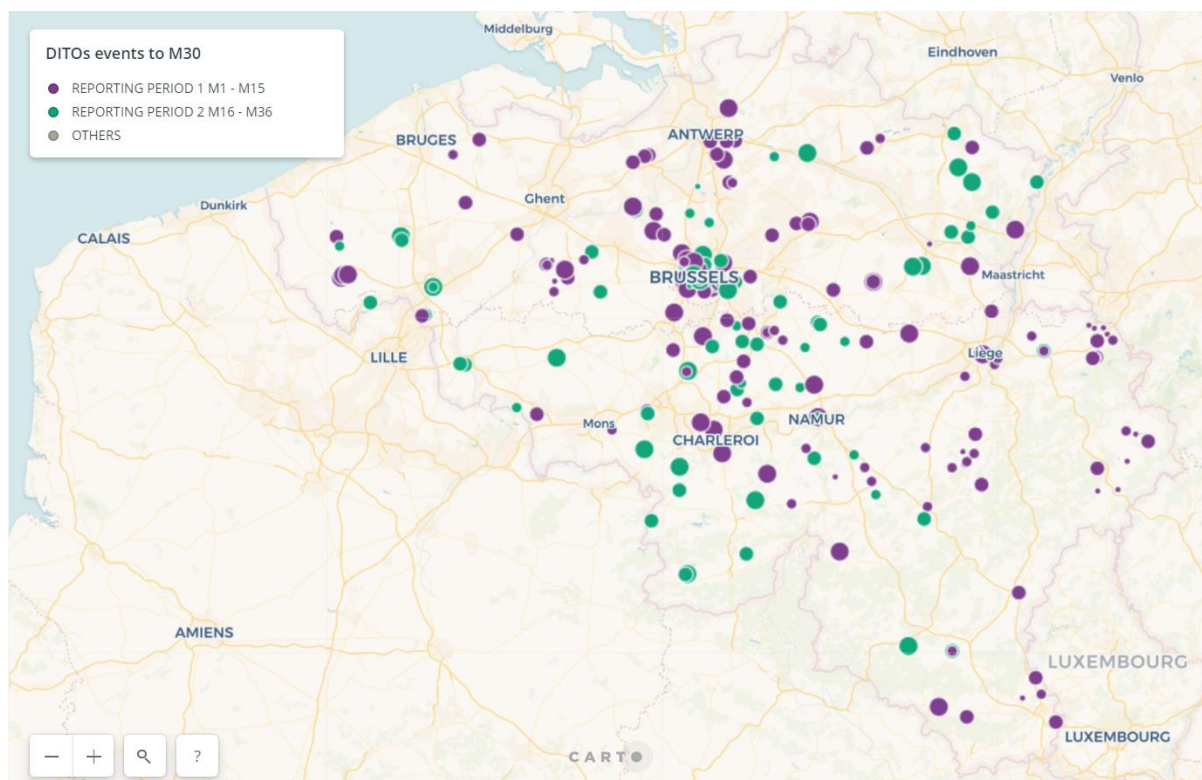


Figure 3: Map of DITOs Activities in Belgium up to M30.

Table 6: Female participants in DITOs events (grouped by work package, excluding online events) Source: Events Diary.

Work Package	% Female Participants
WP1: Biodesign	59%
WP2: Environmental Sustainability	50%
WP3: Engagement & Capacity Building	52%
WP4: Policy Engagement	52.9%

Engaging the hard-to-reach

It should be noted here that the DITOs project worked towards reaching and engaging with people who are usually excluded from citizen and DIY science or who are hard to-reach, due to their geographical location, education level, income level and so on. To achieve this, DITOs designed and implemented a travelling exhibition to travel across Europe and actively engage or simply engage with such hard-to-reach groups. The Science Bus, run by the WAAG, was launched in July 2017 and ran for three months. The other science bus of the project, XperiLAB bus, was created by RBINS, and has been operating since 2010. It travels across Belgium, visiting different schools to bring structured science experiments to enhance the existing education

programmes. The buses were hugely successful endeavours and are evaluated in more detail in a specific case study set out in deliverable D5.3.

In terms of engaging the hard to reach, the ethnographic case study in D5.3 presents a comparative vignette of how both buses involved different practices and framings of scientific knowledge and publics. The XperiLAB bus targeted a specific age range of school children with activities and took place during lesson time and in the physical vicinity of the school and included the classes teacher. The XperiLAB framing is that the bus is an extension of the school classroom. In contrast, the Waag science bus had a looser concept of scientific knowledge and publics that revolved around the notion of 'instructables' - text and image guides that are created by people within online forums to share instruction for a variety of projects. The workshop activities were available as printed instructables as well as website downloads, which meant the participants could carry out the experiment on their own at home. The bus workshops were thus a physical run-through of the instructable information as guided by the science bus captains. Furthermore, the Waag bus was collecting folk remedies from the workshop participants as a two-way knowledge exchange process. By framing folk remedies as 'life hacks', they framed them as similar to the instructables already created for the bus. A key part of the Waag bus, were the video blogs and social media content produced by the science bus captains on their European journey documenting their experiences. For the Waag team, this social media presence was a key outcome of the project and the main way in which it was documented. Thus, the scientific experiment extended across the whole of Europe, and via the instructables entered people's homes.

The case study presented in D5.3 reflects on the impact, the reach and make-up of the potential audiences and publics that were involved by the science buses. The notion of the instructable allowed for the possibility of reaching an age and ethnically diverse audience in Birmingham. Interviews with the Waag bus organisers and science bus captains suggest they were not specifically targeting cultural or social inclusion. The majority of the Waag bus stops did not explicitly target deprived areas but visited a wide range of different settings including rural areas such as the small town of Aranda de Duero in Spain as well as large public festivals and science museums. As the case study in D5.3 suggests, the concept of the instructable allowed the variety of workshops to function in many different settings and with different audiences.

Interestingly, during the process of the DITOs project there was a shift in how RBINS engaged with the XperiLAB bus. Previously the bus would visit any Belgian school that would invite them to come and pay the fee. Yet during the DITOs project, the location of the Xperilab workshops were geographically mapped and analysed for the first time. This overview, as well as the discussions around inclusion that ensued, led to reflections in the RBINS team about whether deprived areas should be specifically targeted by the bus in the future. If this approach was adopted, it would be part of a

shift towards framing inclusion as part of science education and lead to an expansion of scope of the bus experiment.

6.2 DITOS online outreach

Throughout the DITOS project and up to month 30, a **total number of 2,926,489 online interactions took place**. If the events marked as ‘additional’ to the initial event type categories stipulate in the DOA, are included in the count, **the total number of online interactions increases to 3,227,073**. This is well over double what was expected (1.3M) as stated in the DOA (see Table 5). However, as reflected on in section 6 above, the way in which these online interactions are counted is using the broadest understanding of an interaction, so it can be as fleeting as a tweet or as deep as participating in the MOOC. Moreover, because of the logistical effort and since we chose to collect only the minimal amount of information from participants, we cannot discriminate between new contacts and a repeated contact (e.g. a person that follows several twitter accounts and attended an event).

A set of channels and tools, defined in D6.2 (a summary is provided in section 5.2.1 above), were setup to communicate and disseminate information about DITOS and to improve awareness about citizen and DIY science. As D6.2 extensively describes these include:

- DITOS communication and dissemination tools (i.e. visual identity, printed media, videos, media articles, electronic newsletters and email blasts, project reports);
- DITOS communication and dissemination channels (i.e. DITOS knowledge sharing platform, mailing lists and contact databases, social media, Europe’s Interactive Map developed by UNIGE, external channels, DITOS events, external events, publications).

Tool	Communication	Dissemination	Channels	Communication	Dissemination	Online/Offline/Both
Visual identity	✓		Knowledge Sharing Platform	✓	✓	Online
Printed media	✓	✓	Mailing Lists and Contact databases	✓		Both
Videos	✓	✓	Social Media	✓		Online
Media articles	✓	✓	Europe’s Interactive Citizen Science Map	✓	✓	Online
Electronic newsletters and email blasts	✓	✓	External Channels	✓		Both
Project reports		✓	DITOS events		✓	Both
			External Events	✓	✓	Both
			Publications		✓	Both

Figure 4: DITOS communication and dissemination tools and channels (Source: D6.2).

Our outreach (i.e. people who engaged or simply heard more information about DIY and citizen science and DITOS) via DITOS communication and dissemination tools and channels grew very quickly within the first year (specifically during the last six months of the first year). Our outreach continued to grow throughout the course of the project, culminating in a highly successful and innovation final event in Brussels at the

beginning of April 2019, in the form of a pan-European policy forum on citizen science and DIY science. However, it is possible to reflect that the rate of growth of online outreach numbers for the DITOs project did not continue to grow so consistently in the second phase of the project. This could be ascribed to a perceived halo effect after the initial consolidation period in the first 12 months of the project. In this sense, the first 12 months of the project saw a significant increase in online outreach numbers as the intended work of the project was announced and subsequently communicated through the numerous different communication and dissemination tools and channels of the project. However, it is not possible to expect the same rate of growth in the second phase of the project, since much of the work in this phase was focused on consolidating the innovation hub network and activities of the consortium partners.

Furthermore, whilst it is possible to report quantitatively on the numbers of online outreach activities of the project, and the various hits, likes, followers and subscribers to the different communication and dissemination tools and channels used throughout the project, it is not easy to understand the meaning of these numbers at face value. Much of the important details around who such followers or subscribers are, how they found out about DITOs and how likely they are to engage in the future, cannot be understood from the numbers here. Some qualitative reflections on the successes and failures of particular tools in allowing us to meet our communication and dissemination objectives are presented in section 6.4 below. These may be of use for future coordination and support action projects.

The online outreach of the project via DITOs channels grew to a total of 14,882 people by month 30. Table 7 sets out how the number of followers/subscribers grew over the course of the project, focussing on the DITOs specific channels.

Table 7: *Online outreach by DITOs specific channels.*

DITOs channels	Followers/Visits by M12 (From D6.5)	Followers/Visits by M30
Website (WS)	3,960	9,211
Twitter (UCL)	620	1,508
Facebook (UCL)	394	802
Mailing List (UCL)	124	831
Youtube (UCL)	35	107
Science Bus Website (WS)	n/a	2,423
Total	5,133	14,882

Online outreach via DITOs ‘activity channels’ (i.e. DITOs channels which were created entirely for the purposes of running specific activities which we describe in the

grant agreement; e.g. a website was set up to support the 'Ik heb een vraag' activity, therefore we include them here as a separate category), **is 3,227,073 contacts**.

Online outreach via DITOs partners' channels (i.e. online public outreach via partner channels; e.g. UCL ExCiteS website www.ucl.ac.uk/excites), **is 1,124,452 contacts**.

The following section provides an assessment of how the project fared against its key performance indicators (KPIs) for DITOs' communication, dissemination and exploitation activities as set out in the initial CDE plan in D6.2.

6.3 KPIs assessment and update

A set of key performance indicators (KPIs) was developed as part of the initial communication, dissemination and exploitation plan that constitutes deliverable D6.2. These KPIs were then reported on in the update deliverable D6.5 produced to examine the first 12 months of the project. Table 8 below reports on the final assessment of the activities of the project for M1-30. For more detailed breakdowns of activities in various reporting periods, see D6.2 and D6.5.

Table 8: DITOs CDE KPIs.

Objective (As defined in D6.2)					
Mechanisms to achieve objective	KPI 1	KPI 2	KPI 3	Comment from Reporting M30	Success
Communication O1: Raise public awareness and ensure maximum visibility of DITOs key objectives, activities and outcomes at a European and international level.					
DITOs activities; especially DITOs travelling exhibition.	500 events take place	Travelling exhibition for 3 months	290,000 attendees	764 events were organised as part of the DITOs project, engaging a total of 579,793 people in face-to-face activities up to month 30.	✓
Communication O2: Announce and promote DITOs events, contributing to upgrade its attendance and engagement potential.					
DITOs online and offline outreach	Expected number of participants engaged in offline activities ~290,000	+1,300,000 online outreach	-	579,793 people engaged in face-to-face activities up to month 30; 3,227,073 online interactions took place via our online dissemination and communication tools and channels up to month 30.	✓
Communication O3: Support the dissemination objectives					
Meet all KPIs	-	-	-	Work undertaken and all KPIs met.	~
Communication O4: Promote EU research and create a Pan-European and international infrastructure for DIY and citizen science.					

ECSA membership, Pan-European Policy Forum attendance	Expected number of ECSA members to increase to >350 (from 172) by end of DITOs	Expected numbers of participants at Pan-European Policy Forum - 50		The total number of ECSA members by month 36 of the project is 265. 113 people participated in the Pan-European Policy Forum in Brussels in April 2019.	✓
Dissemination O1: Identify targets, messages, tools and channels; build an adequate and effective communication and dissemination plan to ensure the best impact of project results.					
WP6	Initial CDE Plan in place M6	Interim CDE Plan in place M15	Final CDE Plan in place M36	Final CDE update and review in place. (See section 6.4 of current deliverable for lessons learnt). Focus on policy brief dissemination, drawing on expertise of external PR agency to fully exploit dissemination opportunities.	✓
Dissemination O2: Design a comprehensive set of communication material (including the project logo) to ensure an easy identification of the project and a major exposure.					
WP3 & 4	Logo developed and used on all project material	500 events listed on shared platform by M36	At least 12 newsletters (i.e. quarterly at minimum) on shared platform by M36	Logo is very much a recognised brand. 6 newsletters were sent out by M36.	~
Dissemination O3: Use the dissemination channels; organise project events and participate in workshops, conference and international/EC meetings.					
Effective Management of Dissemination Channels (via WP6)	Mailing list of 10,000 on Mailchimp	Talks given at 2 international/EC meetings	Each partner tweets at least 12 times during their month(s) of custody of twitter account	831 subscribers for the DITOs mailing list by M30; the final Twitter rota included six partners: the four who had run the most events and tweeted most prolifically over the previous two years (Waag, MP, UPD and UCL), then March had eutema to tweet about evaluation methods in the penultimate month and ECSA in April as the legacy.	~

Dissemination O4: Ensure a persistent and long-lasting visibility of the project activities and outcomes.					
DITOs reports	21 Reports on knowledge sharing platform by M36	Reports and other publications on institutional repositories.	Logic Model Paper published	All DITOs reports on open access UCL Discovery. Logic model paper finished and under review for publication.	✓
Exploitation O1: Strengthening ECSA as a policy and coordination body for citizen science (NEW)					
WP3T3, ECSA membership	Expected number of ECSA members to increase to >350 (from 172) by end of DITOs			The total number of ECSA members in 2018 was 170 members. There are 240 registered on the website (but 70 not paying). Of these 39% are individual members, and 61% are organisational members.	~
Exploitation O2: Establishing local science and innovation hubs (NEW)					
WP3, D3.2, ECSA working groups	DITOs Innovation Hubs Key Performance Indicators agreed and approved by the consortium by M24.	DITOs Innovation Hubs manifesto is approved by the consortium and it is available online by M24.	New organisations express interest in the DITOs Innovation Hubs network.	Innovation hubs have gone from strength to strength and are flourishing (See D3.3 for more detail); D6.6 sets out the DITOs Innovation Management Plan; plans to develop publishable paper from D6.6.	~
Exploitation O3: Maintaining and exploiting a knowledge sharing platform for citizen science. (NEW)					
WP3	Identification of new functionality that will be added to the platform.	Implement new functionality in the platform by M36.	Migrate to the new platform to be maintained by ECSA immediately after M36.	All website materials have been mothballed and all communication and dissemination tools handed over to ECSA for use on the successor EU CitSci project.	✓

As demonstrated in the reporting on the KPIs in the table above, it is important to note that appropriate measures were taken to ensure the number of participants continued to grow in line with the DOA in the final phase of the project. Furthermore, in this final phase, the project attempted to target a more even distribution of events and outreach activities across countries.

6.4 Summary and lessons learned

This section reflects on some of the lessons learned from the communications, dissemination and exploitation activities of the DITOs project. A summary of the initial activities plan is provided in Appendix 2 for reference.

6.4.1 Developing a CDE plan

A communication, dissemination and exploitation (CDE) plan was not such a developed aspect of previous coordination and support action (CSA) projects. The initial CDE plan (see D6.2) set out clearly and succinctly the CDE aims and objectives of the project and remains a very helpful resource for CSA projects going forward. It delineated in great detail a target audience analysis for the project (see Appendix 1) and a thorough and comprehensive plan of intended communication activities (see Appendix 2). D6.2 also sets out a series of Key Performance Indicators (KPIs) against which it became possible to monitor and reflect on the progress of the project against such indicators. Furthermore, updating the plan in D6.5 and then reviewing it in this current deliverable was a valuable process that can be built upon, and the learning shared both across the consortium and beyond. The very process of writing and generating the content for these deliverables reinforces the important point that, from the very start of a project of the scale and size of a CSA such as DITOs, consideration needs to be given to what happens after the project, and, where possible, a succession plan should be put in place from the outset.

6.4.2 Coordination of consortium CDE activities

A key challenge throughout the course of the communication and dissemination activities undertaken during the project was the successful consolidation of efforts across multiple partners in a diverse consortium. It was observably demanding to run a media and communication strategy centrally on a multi-partner consortium project as frequently, messages risked getting lost in each partner's independent communications. In this sense, it was necessary to accept to a certain degree, the individual organisational approaches to communication and dissemination activities, all the while attempting to ensure some level of coherence and coordination across them. A consistent challenge throughout the course of the project was to ensure such a diverse range of partners were on the same page, and that communication and dissemination activities were advantageous to the wider success of the project, rather than just an additional reporting burden. The very nature of the assorted cultural identities of partner organisations reinforces the crucial importance of just making the links between organisations, and frequently revisiting the aims and objectives of the project, and the varied interpretations of these aims in each specific partner's context. The number of capacity building activities that took place between partners went some way towards addressing this. Such a challenge was further heightened with some partners not having their own specific work package. Since having a balanced consortium is hugely important for its successful operation, it was noted that allowing

enough energy and attention to the communication and dissemination between partners, as well as beyond the consortium itself, was a vital lesson learnt.

6.4.3 Reaching beyond the typical audiences

Analysis of period 1 of the project suggested that DITOs reached primarily a highly educated audience. Reaching those beyond the typical science audiences, as set out in initial CDE plan, was far from straightforward. The activities of the DITOs project highlighted the need to thoroughly plan to engage hard to reach people, because in most projects where it does happen, such specific engagement often tends to be inadvertent or sometimes almost by accident. In many ways, the Waag science bus was an important tool for communicating DITOs messages to such specific types of audiences, or certainly to less regularly engaged audiences. A case study and review of the science bus is presented in deliverable D5.3, as well as in a specific research insight. However, it is important to note that a real challenge observed throughout the DITOs project was around disseminating DITOs messages and activities at such a vast range of different levels and to different audiences. It is possible to suggest that we could have been more strategic in terms of accessing harder to reach audiences, despite having a clear plan to reach community centres in marginalised or rural areas. As a consortium, there is no doubt that we could have been bolder in our experimenting with different channels, tools, activities and approaches. It is also possible to suggest that whereas we were not short as a consortium of ideas to test out, and innovative approaches to take, we were perhaps a bit too ambitious in the delivery of our activities, and particularly with regards to reaching the unreachable. The science bus is rightly perceived to be a huge success as a communications tool; however, the format in which it was actually materialised was very different to what was envisaged by consortiums partners at the beginning of the project. Initially it was envisaged that the science bus would create a network of citizen scientists that would all be joined up and connected via the bus. But this conceptualisation of the bus did not materialise. Furthermore, it could be suggested that had the bus been delivered at a different stage of the project, it might have served a greater role, both in starting to create this network of citizen scientists, and in reaching harder to reach groups in a more structured and targeted fashion, to really address issues of inclusion beyond just the wider inclusion of school children and adults participating in community centre activities.

6.4.4 Specific communication and dissemination channels and tools

D6.5 presented a coherent and easy-to-navigate overview of all various platforms, video channels, partner webpages, policy documents, and languages. As far as possible these were also presented in one place on the main DITOs webpage. Furthermore, the dissemination and exploitation plan and update reflect on the interactive and travelling exhibitions, conferences/seminars, debates at science-cafes and public screenings, workshops and gaming competitions/ online engagement. Some lessons can be garnered from the specific communication and dissemination tools that were developed throughout the project and these are reflected on below:

Science Has No Borders Meetup - this is one of the main innovations to come out of the project. However, the meetup took a lot of energy and support to help the group to develop to the point where the meetup could be self-sufficient. It is worth noting that some participants already had issues or research questions that they wanted to work towards solving, and thus were more focused on pursuing these. Other participants were those with well-educated parents who were keen for their children to know more about science to be able to develop strong personal statements for their university applications. In this sense, the question of developing a meetup for groups who are 'harder to reach' or are not already in some ways engaged and proficient in science needs to be more thoroughly developed.

Citizen Science Massive Open Online Course (MOOC) - the first iteration of the MOOC was successful and very well received. However, it is worth reflecting here on the amount of input and preparation required to deliver the course; the latter in many ways exceeded expectations. The MOOC will be carried on through the EU-Citizen.Science project but will require deliberate marketing and promotion.

Citizen Science Translation Hub - This is being developed as a small spin-off project from DITOs and will continue through the duration of EU-Citizen.Science. A small pilot project struggled to grow due to the lack of popular interest materials - the main offerings were policy briefs, which were not of particular interest to the volunteers already engaged with the project. However, a new website is being generated to function in the same style as a citizen science project, and to thereby generate greater interest in and awareness of the hub.

Facebook Group and Project of the Week - This was a plan to regularly write a brief Facebook post and blogpost about a citizen science project widely available to blog readers in Europe and hopefully worldwide. It took the form of a series of questions: "What does this project do? What do I have to do? Where can I find out more?" and space afterwards for further details. It was not always possible to write an entry each week due to the time-consuming nature and unpredictability of other work. However, 26 entries were produced over 18 months, and they seemed to be popular, generating lots of attention on social media. Other citizen science projects were often very keen to be featured. The simple format, of a series of questions and answers, could be used for similar future formats. All the 'projects of the week' are being pulled off the blog and being made into a coherent PDF booklet for use in a paper format.

All posts published

Reach: Organic/Paid Post clicks React
























































Published	Post	Type	Targeting	Reach <i>i</i>	Engagement
30/11/2018 15:07	 At UCL Extreme Citizen Science we ran a course			470 	20 8
27/11/2018 16:19	 If you are in Paris on Friday 7th December,			109 	6 4
21/11/2018 15:18	 Are you in school? Or do you work with young			267 	5 8
19/11/2018 16:13	 Calling all young people! And we have some			210 	24 6
15/11/2018 12:52	 There's another job going at UCL ExCiteS!			134 	4 2
09/11/2018 14:07	 Thank you EuroScientist for this nice mention!			224 	6 4
05/11/2018 15:34	 Paper: A vision for global biodiversity monitoring			256 	8 7
01/11/2018 15:42	 Citizen science supports people's learning, is a			116 	2 1
31/10/2018 08:35	 🙌 The 300+ participants of the @biosummit			213 	2 2
30/10/2018 15:58	 Solving problems and strengthening			175 	1 0
25/10/2018 15:44	 Do you like citizen science games? There is a new			196 	5 2
24/10/2018 16:52	 Doing It Together Science			151 	14 12
15/10/2018 14:18	 Congratulations Muki Haklay of our UCL partner			612 	31 22
10/10/2018 15:32	 We will be at Bloomsbury Festival! Would you like to			203 	5 7

Figure 5: Screenshot of reach of DITOs posts on Facebook.

#CitSciStories - This was an attempt to create a hashtag on Twitter and then to blog with it and get Twitter people to join in. However, the approach was not very successful, possibly due to being too vague, or nobody wanting to step forward. Few people used the hashtag or contributed to the blogs. It could be that citizen scientists are not used to being interviewed or speaking publicly about what they do and a longer, more thorough process is needed to encourage them.

DITOs ambassadors - After the limited success of #CitSciStories and since citizen scientists did not seem to want to use the platform to publicly tell their story, there were very few people we got to know well enough to ask to run our DITOs Twitter channel. We did ask Mark Langtry, one of the science bus drivers, and, although he

agreed, he never actually had time to take over the account. In future it would be recommended to either build up relationships more, or specifically build up relationships with the comms team. Alternatively, it is possible that more personal accounts such as @IAmCitSci are more appropriate for this.

City Nature Challenge - DITOs participated two years in a row in a very new worldwide event. We mostly helped with communications and used Project of the Week. We also did capacity building, training citizens (mostly events leaders and green space volunteers in London) to use the iNaturalist app. London came roughly middling in the world rankings. Twice running, we tried to seed and then assist grassroots actions by writing to ~65 “Friends Of” London parks, but neither 2018 nor 2019 showed them having the capacity or resources to take on such an event. (It did arouse some interest, with a few Friends Of groups mentioning City Nature Challenge on social media and one community leader in the Friends of Wimbledon Park coming to early planning meetings the following year with the hopes of involving a local school.)

Partner Twitter rota - Starting on 1st October 2016, a Twitter rota was created, with the plan that each consortium partner would curate it for one month and identify themselves in the Twitter bio (though any partner could still tweet, for example to pass on interesting news or interact with other Twitter users). A table was created with 11 months and partners could choose themselves a month, such as to coincide with when they would have the most events running. 11 months later this process was repeated, with partners being asked to choose themselves a different month. (Those who did not fill in the table were assigned a month but negotiated with.) For the final rota, only seven months were available, and these were assigned to those partners who had tweeted most prolifically and/or run the most events in the past. The penultimate month, March, was given to eutema so they could tweet about evaluation methods, and the final month, April, was given to ECSA so that they could tweet about DITOs’s legacy.

We were successful at using our evaluations and changing our practices - all of which are an important part of the consortium journey. However, it is also worth noting that we left partners to use their own tried and trusted mechanisms rather than imposing our own structure on top. This allowed them to relate the project to their own work.

It is worth noting that the communities (lists of followers, and also histories of interaction) built up on Twitter, Facebook and Instagram were successful enough to decide to maintain them and for them to be “inherited” by another project, EU-Citizen Science, which will be managed by some of the same partners as DITOs.

6.4.5 The DITOs knowledge sharing platform

The DITOs knowledge sharing platform (www.togetherscience.eu) was the main source of data on the events activities organised by the DITOs consortium (see Figure 5). The DITOs knowledge sharing platform was the interactive website to communicate information about DITOs events, our news, to host blog posts, and

provide an access point to document and data repositories. It also provided a map where events could be viewed and filtered based on either location or type of event. An interesting page was the #DITScience page which collects any information online that uses the hashtag from various sources (e.g. social media, blogs) and visualises it on one single page which is an effective way to visualise anything related to DITOs, from all latest DITOs videos and Instagram photos to the most recent citizen science and DIY science news. Whilst work was undertaken in phase 2 to increase the functionality of the website, it is possible to reflect that the website could have been more interactive, and if it had scraped partners' websites for information or data, this might have eased the reporting burden on partners. It is also possible to reflect that the website could have been a hub for linking different citizen science communities together to coordinate and support their activities. The data collected at the level of DITOs partner was not disseminated directly as most of such data was small scale and very specific to the contexts in which it was generated, such as the partner organisation, specific event type etc. In this way, it is possible to reflect on the challenges around the consolidation of citizen science at such a high level as the DITOs project. Data, as is frequently discussed, is not easy to control, exploit or standardise in any linear and straightforward way. Such challenges remained throughout the course of the whole project and were not easily resolved. As noted in the conclusions of deliverable D6.7 on the DITOs Data Management Plan, a key challenge in such coordination and support action projects as DITOs, is around a shared understanding of, and reflections on, the nature of data generated in a project, and how to make use of it and to store it and manage it.

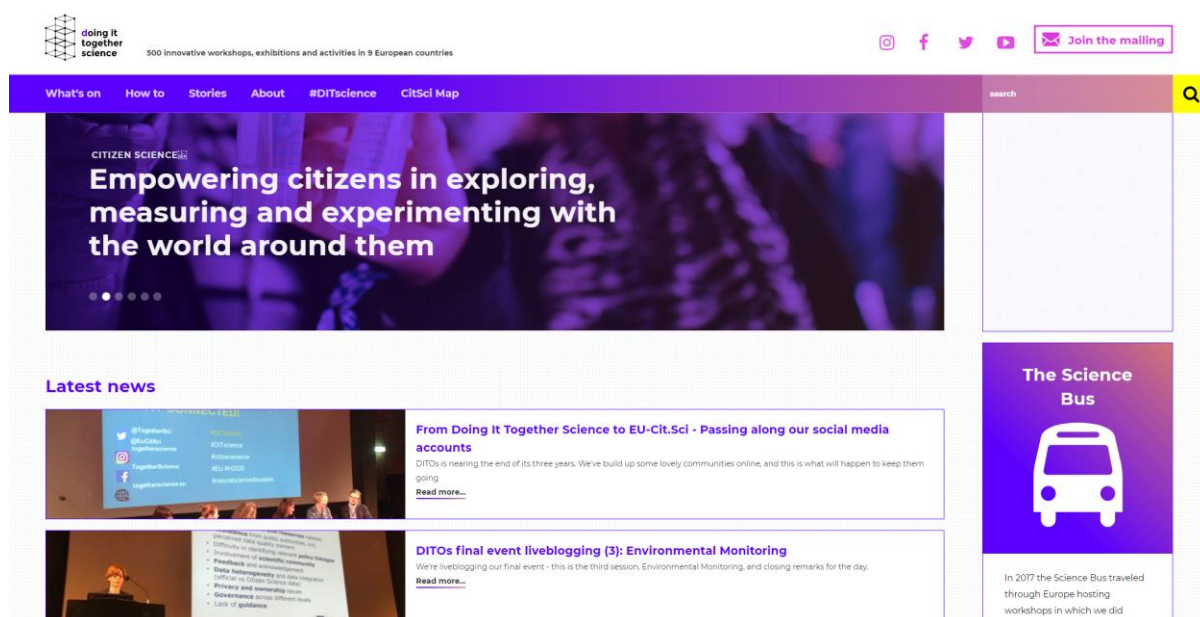


Figure 6: The DITOs knowledge sharing platform www.togetherscience.eu

6.4.6 COST Action on citizen science

The COST Action CA15212 (<https://www.cs-eu.net/>) served as a particularly useful dissemination mechanism for many of the DITOs activities, outputs, policy briefs and deliverable reports. Many members of the consortium partner teams were involved in delivering and also attending COST Action activities, whether this was training schools, early career researcher seminars, Short Term Scientific Missions and related activities. For example, a workshop was organised with over 60 participants across Europe who together with the DITOs team carried out an extensive and in-depth stakeholder mapping analysis of three DITOs activities.

6.4.7 Policy brief dissemination

The 13 policy briefs have been disseminated in the following ways:

- To the UK Parliamentary Office of Science and Technology (POST) who are responsible for researching and producing impartial evidence-based policy briefs on many of the topics covered by our own suite of policy briefs.
- Where applicable, policy briefs were disseminated to UK Parliament All Party Parliamentary Groups (APPGs). These are informal, cross-party groups formed by MPs and Members of the House of Lords who share a common interest in a particular policy area, region or country. While they are not official parliamentary committees these groups can sometimes be influential because of their non-partisan, bicameral approach to an issue). The Citizen Science and Education policy brief was sent to the Education APPG⁴, the EU Clean Air Day policy brief was sent to the Air Pollution APPG⁵(Communities Engagement⁶.
- All policy briefs are with the UCL Public policy unit who are responsible for promoting policy relevant research carried out by UCL staff. For example, the unit may send the briefs out in response to any relevant public enquiry. The unit have also committed to disseminating the briefs through their vast network of relevant UK policy networks.

⁴ <https://publications.parliament.uk/pa/cm/cmallparty/180718/education.htm>

⁵ <https://publications.parliament.uk/pa/cm/cmallparty/180718/air-pollution.htm>

⁶ <https://publications.parliament.uk/pa/cm/cmallparty/180718/communities-engagement.htm>



Figure 7: A selection of the published policy briefs.

7. Exploitation strategy

Exploitation is referred to by the European Commission as “the utilisation of results in further research activities other than those covered by the action concerned, or in developing, creating and marketing a product or process, or in creating and providing a service, or in standardisation activities.” (European Commission, 2016).

Project partners strove to identify the strongest project exploitation potential at the level of each partner and of the project partnership as a whole, in order to support the development of their activities, and to possibly enable the launch of new ones. The Innovation Hubs in DITOs, which are physical, mobile and online spaces that support the process of transforming ideas and concepts that were acquired through citizen science into practice, contribute towards this direction and further allow people to connect and work on certain topics and interdisciplinary projects together. Our aim was to scale up the DITOs network so that good practice and relationships with participants are created by each partner and more bottom-up practices are likely to begin, which is enabled with through DITOs Innovation Hubs.

The Innovation Hubs principles in DITOs (in Work Package 3) identify the following six capacities for each partner:

- Principles in practice (i.e. how the DITOs partner organisation puts the Innovation Hub principles (List 1) into practice);
- Infrastructure and facilities (i.e. material things that afford people to do something, such as physical infrastructure, IT);

- Audience profile (i.e. people we involve in our CS & DIY science activities (target audience, profile of hub users);
- Partners and stakeholders (i.e. people and other organisations we work with);
- Multiplier arrangements (i.e. mechanisms that are in place to share and increase the impact of activities);
- Future (i.e. the plans and expectations for the development of the Hub and integration into DITOs).

Preliminary analysis of these six capacities in the context of each partner has not only resulted in the establishment of DITOs partners as Innovation Hubs, but it further revealed the consortium's dedication to 'openness', and further sets the foundations for the work that it is carried out in WP3T3 'Sustainable Capacity Building'. In the second phase of the project, the network was structured more formally, and exchanges between partners were enhanced, and networking capacities enlarged. Furthermore, ECSA's membership grew in line with the organisation of the ECSA 2018 conference in Geneva. ECSA's capacities and profile were solidified by the end of the project, so as to be ready to incorporate the DITOs brand, relevant documents, networks of contact and channels of communication, into the pan-European reference network for citizen and DIY science. This is manifested in the EU Citizen.Science project (EU CitSci) that began in the final few months of the DITOs project and is building on the legacy of DITOs, with several partners for DITOs participating in EU-Citizen.Science.

Each partner took steps to ensure the sustainability of the project by guaranteeing that all documents were open access, technologies used were mainstream and unlikely to become obsolete within a short time, and that a good working relationship was developed with participants so that activities are likely to continue. Partners took note of local preferences along with developing a central pool of knowledge of good practice; and each partner who wished to write academic papers and guidelines for citizen science to ensure that lessons learned during DITOs were shared across local, European and worldwide citizen science projects.

Deliverable D6.2 further identified a set of actions to be taken to optimise the impact and exploitation of those results beyond the timeframe of the DITOs project, as discussed in the next section. Moreover, D3.2 identified specific areas of growth to inform our exploitation plan, which are also summarised below in section 7.1.

7.1 How can DITOs communication infrastructure and material stay useful?

7.1.1 Biodesign and environmental sustainability activities:

With over a million engagement events in biodesign or environmental sustainability both face-to-face or online, interest in citizen science will remain high and activities will continue. The DITOs brand, incorporated by ECSA, will continue to serve as a source of guidance and contacts for further activities. ECSA, UCL and RBINS are partners in the new EU-Citizen.Science project.

7.1.2 Good practice recommendations as learned from the DITOs events and enhance the exchange of best practices:

Starting from the feedback from events and evaluation (WP5), DITOs has at its disposal an operational and structural guide on the promotion and exchange of good practices, which it will make available to any organisation or individual. All data (except that which involves any confidentiality) will be open access as will any written papers that come from DITOs. As stated in Deliverable D6.7 - The Data Management Plan, all data produced from the project has been uploaded to Zenodo, a general-purpose open-access repository developed under the European OpenAIRE program and operated by CERN. It allows researchers to deposit data sets, research software, reports, and any other research related digital artefacts, in addition to non-research outputs, such as event photos.

The primary focus of the Innovation Hubs is the further exchange of best practices, with a focus on enabling citizen scientists themselves to co-create these processes. These are presented and reflected on in Deliverables D1.3 and D2.3 in relation to Biodesign and Environmental Sustainability respectively. All deliverable reports produced from the DITOs project were published on UCL Discovery platform⁷ and are therefore open access. From UCL Discovery it is possible to review basic statistics about how many times the different deliverables have been downloaded and in what countries. An example is shown in Figure 8 below for the number of downloads of D6.6 Innovation Management Plan.

The material of websites and information from exhibitions and events was shared openly on the DITOs website as well as on partners' websites, using suitable open licenses. Three academic publications that emerged from DITOs, were published in open access journals, such as the journal 'Citizen Science: Theory and Practice', or on self-archiving repositories.

⁷ <http://discovery.ucl.ac.uk/>

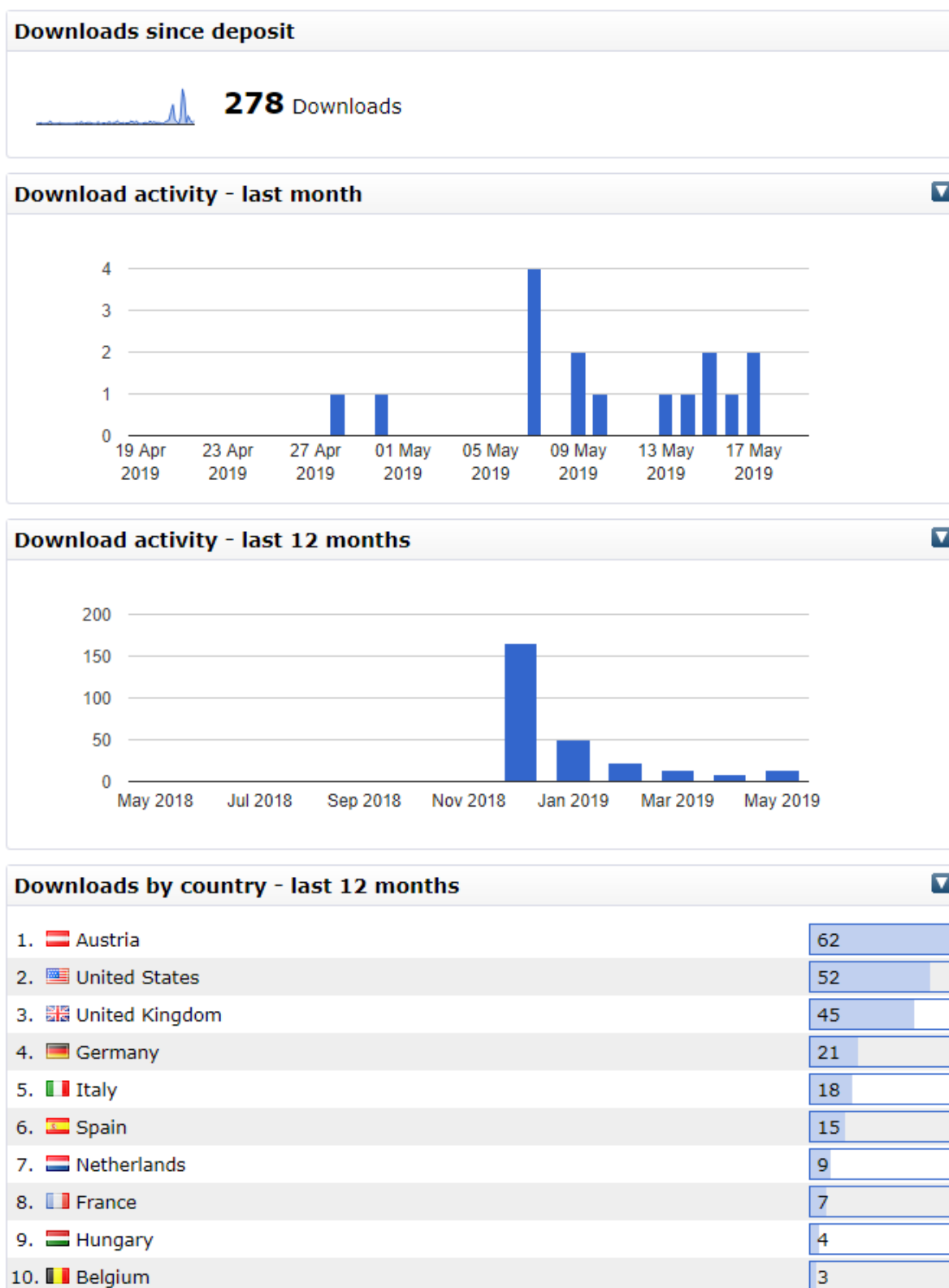


Figure 8: Deliverable downloads graphic for Deliverable D6.6 Innovation Management Plan.

7.1.3 Increase the functionality of the online platform:

In D3.2 it was explained that a more detailed functional platform design plan is necessary for:

- the visibility of the Hubs in the ECSA network;
- online support for the workflow of the Hubs;
- a system for external parties to contribute;
- the application process for new Innovation Hubs;
- links and integration to different platforms, such as meetups;
- initiation of research questions & projects;
- facilitation of interaction between users and organisations.

It was suggested that this could either be the DITOs project website www.togetherscience.eu, or ECSA website right away. The search function of the DITOs website was improved in the final phase of the project. However, after the end of the project, partners decided to mothball the website and domain www.togetherscience.eu Waag managed this process, and the relevant announcements were made on the website itself and through communication channels to inform visitors to the site that the project is ending and to redirect them to the ECSA website and the website of the new EU-Citizen.Science project. Archival copies of website were made at the internet archive and for historical research (a Dutch requirement) and it was agreed that at the end of 2019 the DITOs website and domain will be taken out of service (Waag).

7.1.4 A comprehensive set of dissemination and communication tools for citizen science and engagement:

By the end of the project, each partner has developed a set of communication tools to reach their local audiences. Furthermore, by the end of the project, it is possible to identify a centralised pool of agreed communication skills and strategies that work, and those that are less successful as reflected upon in section 6.4 above. Additional attention was also paid to the type of messages and the framing of issues that assisted the DITOs project in its goals of reaching its audiences. The learning from the multimedia content developed throughout the project, such as the stories, videos, instructables and lab books, were all archived, either on partners' own websites, the science bus website, and also on Zenodo, the open access platform. Furthermore, the Citizen Science book - with over 14,000 downloads - is making a difference to the way in which citizen science is recognised and understood globally (see Figure 9).

Statistics

Explore download statistics for UCL Press books. For more information on how we collect and record our data, [click here](#).



* Google Books Web View and Internet Archive data do not include country data. These are added to 'No info' category.

Figure 9: Download statistics of the Citizen Science book.

7.1.5 A variety of social media channels with a large audience:

Mailing lists and channel subscribers were notified that ECSA will support and further promote DITOs work and activities upon project completion. Such subscribers were invited to join the mailing lists of the new EU-Citizen.Science project, and other ECSA communication and dissemination channels. Furthermore, all DITOs social media channels, such as Facebook, Twitter, Youtube and Instagram, were handed over to ECSA and to the new EU-Citizen.Science project at the end of the DITOs project. The social media and communications teams from both projects have been in touch and are liaising to ensure a smooth transition between projects. An important suggestion for future citizen science projects is to consider handing over the social media channels and materials to ECSA and the new EU-Citizen.Science portal to consolidate efforts and resources.

7.1.6 Policy and RRI recommendations:

The outcomes of the project were promoted to policy making organisations, the scientific research community and to the general public through a process involving an unusually wide range of online and physical events, presentations, publications, conference papers and sessions, showcases and demonstrations. Partners who gained expertise in policy and RRI acted as advisors to other organisations involved in these areas. We have recently enlisted the help of Zoi Environment Network in producing two short animations (2-4 minutes each) which will be used to disseminate the results from four of the 13 policy briefs (UK Environmental Policy, European Clean Air Day, DIYBio, Guidelines for Citizen Science in Italy) across key influential EU policy social media networks. Zoï combines technical expertise with political insight and creative talent to produce concise analyses presented through multifaceted communication materials. Their diverse team has experience and a long-standing track-record in working with local governments, academia and civil society. Over the years, they have built up unrivalled local networks that guide stakeholder processes and catalyse international cooperation for lasting results that improve people's lives. The first animation will be targeted at the environmental monitoring, DIYBio and environmental policy communities and will largely draw on the content of the European Clean Air Day policy brief but include some input from the DIYBio brief about the needs of the DIY science community. It will explore the contribution that the DIY community has made in terms of developing low cost sensors for air quality monitoring, the issues with these sensors (e.g. data quality), the contribution of citizen science to European wide air quality monitoring, ending with a call for a European-wide Clean Air Day (like the one in the UK on the 20th of June). We hope to have the animation created in time for the 20th of June so we can capitalise on all the interest there will be around that time citizen science and air quality monitoring. The second animation draws on the content of the UK Environmental Policy brief and the Guidelines for Citizen Science in Italy brief. The animation will focus on the challenges for the integration of citizen science data into environmental policy, address long-standing myths around citizen science data (e.g. issues with data quality), and provide recommendations on how we address these challenges and move forward. We have selected these four policy briefs as we believe that the content is of interest to a broad audience and therefore maximises our dissemination impact.

7.1.7 Sustainable support for citizen and DIY science and legacy plan for DITOs Innovation Hub network integrating into ECSA:

As part of sustainable capacity building, all project partners have been now established as innovation hubs for local citizen science initiatives (see D3.2). Partners who wish to continue their events will do so under the DITOs brand, although ECSA will have overall responsibility for this and citizens will be directed to ECSA for information on activities in citizen science and DIY science. As discussed in deliverable D3.2, the concept and definition of a Hub that facilitates the transformation of new ideas, concepts or methods in the context of citizen science as a whole, and

DITOs in particular, will require additional fine-tuning. DITOs' aim is to scale up citizen science and to have moved many participants up the escalator model, thus increasing European (and other) engagement with citizen science. As long as good quality activities continue to run, this interest should be sustainable; this should especially be the case with bottom-up projects, where individuals have built their capacity to run events and begin projects. Project partners will continue to work as innovation hubs and support people who wish to begin citizen science projects of their own, connecting them to ECSA and the DITOs brand as appropriate. A legacy plan was developed at the end of the project by ECSA (in D3.3) to further demonstrate how DITOs innovation hubs to continue their work once the DITOs project is over.

8. Use of Knowledge and related IPR Management Strategy

As clearly stated in D6.2 and D6.5, as a Coordination and Support project, the DITOs project itself is not aimed at developing new technology and IPR, but there is some potential for knowledge creation in some of the activities and rights in some of the tools deployed. The Consortium Agreement, based on standard EU project models, will clarify any issues regarding availability of source code and open source agreements and cover the management of Intellectual Property.

D6.6 entitled *Innovation Management Plan: "Making citizen science work"* focused on the way that the consortium identified, developed and nurtured ideas emerging from project activities. It noted the potential for innovation management within the context of a distributed network of citizen science and DIY science activities. The very nature of the DITOs project is such that it has enabled us to encounter a wide variety of different types, scales and aims of citizen science projects; and to better understand the array of types of funding models, and ways in which citizen science projects take place. Thus, D6.6 sets out the findings from such encounters and provides a description of the citizen science funding landscape. Part of the challenge with citizen science is the multiple goals of projects - some research funders consider citizen science mostly under "public engagement" or "informal education" and therefore do not perceive it yet as a central methodology in the R&I landscape (for example, DITOs itself is funded from the stream "Science with and for Society" and not from one of the core streams of H2020 funding). The same can be said about the current level of policymakers' and scientists' acceptance of citizen science (see Nascimento et al. 2018; Bonn et al. 2018). We are therefore at a very early stage in the development of innovation management for citizen science and the understanding of the appropriate mechanisms that are required to streamline it.

Within the DITOs project, DITOs innovation hubs (see Deliverable D3.2) are demonstrating a range of innovation paths in the field of citizen science, and in some cases the development of viable businesses that emerge from such innovation - for example 'Mapping for Change' which emerged from UCL which provides the know-how on carrying out participatory mapping and community-led social enterprises. Moreover, some innovations were created specifically for DITOs, such as the Science

Bus touring exhibition which travelled across Europe and brought DIY science workshops to hard-to-reach places that do not benefit from science centres or museums (see Deliverable D6.5 and Figure 2). Another innovation is linked to the formats of the Policy Round Table in conjunction with Discovery Trips, in which a group of officials and policy makers are invited to take part in a learning tour a day before participation in a round table, a method that has proven to provide more focused discussions, and to establish long-lasting links and capacity building between participants.

This area of citizen science and social innovation has much scope for future work and will hopefully be the subject of future research projects. However, as DITOs is a Coordination and Support Action project, research is beyond the primary scope of the project.

As identified in the initial DITOs data management plan (D6.3) and updated in the DITOs final data management plan (D6.7), all project data and outputs will be made available via open source repositories. D6.7 has an appendix which considers the management of data generated as part of various case study DITOs activities, including the acknowledgement of participants and maintenance, accessibility and storage of data.

It was anticipated in D6.2's initial CDE plan that the DITOs project would contribute to addressing questions of ownership and openness with regards to the scientific results of citizen science projects. ECSA continues to develop a code of practice and ethics for citizen science and DIY science projects, and DITOs is perfectly positioned to provide informed opinion for this code of practice and establish guidelines for open standards that recognise and reward volunteer participation appropriately, by helping to evaluate the creative significance of volunteers in such projects.

In relation to IPR and the acknowledgement of the work and contributions of citizen scientists themselves, this is covered in deliverable report D6.7 on data management from the DITOs project. The commitment to the principles of open access publishing and the use of open source software, and exploitation by ECSA for the public good, will greatly simplify any IPR management issues.

9. Appendices

Appendix 1 Target Audience Analysis

1. Policy Makers

Policy Makers	
DITOs aims that citizen science should gain understanding and support at the policy level, and that policy makers should be aware of the opportunities and risks of citizen science and their own ability to promote or hinder citizen science.	
Who are they? (Job titles)	Head of European Engagement, European Commission officer, Urban Planner, President of the European Union of Science Association, Environmental Health official, Science Advisor, Communications Director, Programme Manager, Governance Manager, Community Engagement Coordinator, Officer, Civil Servant
What do they talk about?	#citizenscience #openscience #openaccess #RRI #R&I #dataquality #science #innovation #research #networks #ageing #Europe #socialnetworks #studentcurricula #sustainable #sustainability #incentives #motivation #socialresponsibility #social business responsibility #training #environmentalmonitoring #environmentaldecisionmaking #agriculture #food #urbanplanning #smartcities, #health #medicalresearch #humanitarianaid #scienceawarenesss #bioblitz #DIYBio #conservation #coastalmarinemanagement #womeninscience #womeninSTEM #genderequality #H2020
Who we would like to notice us?	@MichaelT1979: Primary deputy in UK and columnist for TES magazine for education; @tombennett71: Chair of the department for education behaviour group - uk; @Moedas European Commissioner for research science and innovation; @i_smadariaga: UNESCO Chair on Gender Equality Policies in Science, Technology and Innovation; sharing solutions for better regional policies; @David_Golding: Head of European and Global Engagement - Innovate UK and Coordinator - Enterprise Europe Network England, Northern Ireland and Wales
Link with Facebook accounts	@CCMSTEM: Women in STEM @Department-for-Environment-Food-and-Rural-Affairs: DEFRA's page @EUSciComm: Promoting news and views and women in STEM @the.Horizon.2020: H2020 official page @interregeurope: co-financing programme @womeninstem: Women in STEM @womeninstemcommunity: Women in STEM Community

Link with Twitter accounts	<p>@BIA_UK: Trade Association of UK Bioscience;</p> <p>@CaulfieldTim: Tim Caulfield, professor of science policy, author (US but many followers)</p> <p>@ChiOnwurah: Labour MP (Newcastle), scientist, speaker, Shadow Minister for Industrial Strategy, Science & Innovation</p> <p>@defragovuk: DEFRA's page</p> <p>@ERSA_org: research, policy makers and local stakeholders in Europe</p> <p>@EUSciComm: Promoting news and views and women in STEM</p> <p>@EU_Commission: European Commission</p> <p>@EU_H2020: H2020 official page</p> <p>@EuroScientist: Research and policy in Europe</p> <p>@genderSTE: Network of policy makers for women in STEM</p> <p>@GenonHEAL: Founder of Health and Environment Alliance (Europe)</p> <p>@lukegeorghiou: Local/national/Europe/worldwide science and innovation policy</p> <p>@interregeurope: co-financing programme</p> <p>@mikegalsworthy Science policy in EU</p> <p>@mlbrook: Michelle Brook, active in science policy, democracy and open science</p> <p>@MINOUW2015: Marine research, science, policy, NGOs</p> <p>@Research_Voice: Connecting researchers with policy makers</p> <p>@RRIPRACTICE: EC funded RRI-PRACTICE project</p> <p>@Sciencewise: UK's national centre for public dialogue in policy making</p> <p>@UCLSTeAPP: UCL Department of Science, Technology, Engineering and Public Policy</p>
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2. The Scientific Community

Scientific Community	
<p>Citizen science offers several case studies that can be found in a variety of disciplines. The wide variety of expertise people from various professions will bring will enhance the relevance and innovations of science, and a wider transfer of ideas takes place. The scientific community will be reached through traditional methods such as at conferences and via academic papers, but also be invited to participate in local events as speakers or facilitators.</p>	
Who are they? (Job titles)	<p>Scientist, Researcher, PhD researcher/student, MSc student, Professor, Post Doctoral Researcher, Science communicator, Teacher, Artist, Conservation biologist, Bioinformatician, Biologist, Lecturer, Neuroscientist, Neurobiologist, Geographer, Anthropologist, Computer Scientist, Social Scientist, Ecologist, Designer, Software Developer, Biochemist, Geneticist, Physicist, Technician, Lab Technician, Librarian, the ECSITE network</p>

What do they talk about?	#citizenscience #citsci #openscience #datascience #citsci #nycitsci #scicom #innovation #EUFunding #citsci2017 #H2020 #EU_H2020 #DITScience #pollution #environmentaljustice #scicomm #sciart #STEM #education #women #RRI #crowdsourcing #biodiversity #smartcities #EUCitSci #awareness #diy #criticalthinking #diyscience #biodesign
Who we would like to notice us?	@davidlazer @Northeastern: Volunteer Science
Link with Facebook accounts	<p>@AustralianCitizenScienceAssociation</p> <p>@CECHRUOD: Partnership between the University of Dundee and the James Hutton Institute on sustainability</p> <p>@Citizen-Science: Citizen Science page</p> <p>@CitSci.org: Citizen Science organisation</p> <p>@Cerlis-Centre-de-Recherche-sur-les-Liens-Sociaux172140592938953: CRI - UPD</p> <p>@ECSACommunity : European Citizen Science Association</p> <p>@openscience: Page about open science very similar to citizen science</p> <p>@openSciencePuglia: smaller open science community</p> <p>@IHEST-368109513296006: Educational Institute in Paris, one of DITOs supporters</p> <p>@StockholmEnvironmentInstitute: Stockholm Environment Institute</p> <p>@UCLEngineering: University College London; Engineering Faculty</p> <p>@uclofficial : University College London</p> <p>@UniversiteParisDescartes: University Paris Descartes</p> <p>@wellcometrust: Charity supporting Scientists and Researchers</p>
Link with Twitter accounts	<p>@CECHR_UoD: Partnership between the University of Dundee and the James Hutton Institute on sustainability</p> <p>@citsci : Citizen Science Organisation</p> <p>@CitSciOZ : Australian Citizen Science Association</p> <p>@CitizenScience_: Citizen science page</p> <p>@EuCitSci : ECSA</p> <p>@IamSciComm: Curated account by people doing science communication</p> <p>@IamCitSci: Curated account by people doing citizen science</p> <p>@openscience_gr: Page about open science very similar to citizen science</p> <p>@q_mitmedialab: MIT Media Lab</p>

3. Innovators and Entrepreneurs

Innovators and Entrepreneurs	
<p>One of the interesting aspects of citizen science and DIY science is that they are starting to show an early potential for entrepreneurial opportunity. From equipment sales to app development and services, many of the activities in the different WPs have the potential to support commercialisation and innovations.</p>	
Who are they? (Job titles)	Scientists, Social Entrepreneurs, Makers, Digital Fabricators, DIYBio Practitioners, Designers, Founder and Director, Researcher, PR,
What do they talk about?	#BioFabbing #DigitalFabrication #CriticalDesign #HackSpaces #SmartCities #IOT #M2M #make (zine) #DIYBio #DesignInTech #hackerspace #fablab #makerspace #sustainable
Who we would like to notice us?	@jacobsherson: game developer & data; @David_Golding: Head of European and Global Engagement - Innovate UK and Coordinator - Enterprise Europe Network England, Northern Ireland and Wales; @JohnMaeda: Head of Computational Design & Inclusion at Automatic
Link with Facebook accounts	@advancedHackspace: Imperial College Advanced Hackspace (ICAH) @approchanalytics: nutrition app @bioartsociety: Bioart Society Public Group @CyberSciCentre: Citizen Cyberscience Centre @forumforthefuture: NGO for sustainability issues #theBIGshift @ImpactHubBerlin: An innovation lab @KosovoInnovations: UNICEF Innovations Lab Kosovo @londonhackspace: Hackspace in central London @openlivinglabs: European network of living labs (innovation labs) @Scifabric: Technology company for data collection and analysis
Links with Twitter accounts	@CitizenCyberlab: Citizen Cyberscience Centre @Forum4theFuture: NGO for sustainability issues #theBIGshift @ImpactHubBLN: An innovation lab @KosInnovations: UNICEF Innovations Lab Kosovo @la_fing: Fondation internet nouvelle génération @Londonhackspace: London Hackspace @q_mitmedialab: MIT Media Lab @openlivinglabs: European network of living labs (innovation labs) @Scifabric: Technology company for data collection and analysis

	@Smark_phd: nutrition app
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4. Science Practitioners

Science Practitioners	
DITOs projects work at the local level with events such as exhibitions, and will invite local science actors and public authorities to take a visible part such as by invitations to speak at or facilitate events, which will give them the chance to build their capacity to engage with citizens on science and innovation. They will meet a large potential audience and range of colleagues, and be involved in discussions of good practice in engagement.	
Who are they? (Job titles)	Research Scientist, Research Associate, Research Technician, Associate Professor, Museum Curator, Museum Supervisor, Artist, Designer, Scientist, Museum Officer, Biocurator, Facilitator, Lab Technician, Technical Intern, BioHacker, Ecologist, Biologist, the ECSITE network
What do they talk about?	#citizenscience #citsci #ArtSciCuration #SciArt #citsci2017 #scicomm #ornithology #animaltracking #climatechange #WhoLaidIt #NameThatAnimal #DamarNot #namethatcarcass #natureblogger #trickybirdid #airpollution #communitylab #BritainBreathing #openhardware #BritishScienceFestival #SICEurope #sustainable #scistarter
Who we would like to notice us?	@RangerRidley (Event facilitator for children events); @rebeccanesbit: (Ecologist, novelist, blogger); @ConnectedWaters (Conservation scientist); @SimonRipperger : works for MFNB; @MostlyMicrobes (Anne Estes,Biologist); @moulds (SteveMould, Science presenter); @helenarney (Helen Arney, Science presenter); @VanessaLorenzoT
Link with Facebook accounts	@UKBioBlitz: UK BioBlitz @BioBlitz: National Geographic Bioblitz Page @BritishScienceAssociation: British Science Association @BUGSS-Baltimore-Under-Ground-Science-Space275707269195705: Community Lab @CECHRUOD: Centre for Environmental Change and Human Resilience @cern: CERN: European Organisation for Nuclear Research @Citizen-Science: Citizen Science page @DesignCouncil: Charity on strategic design @FestivalOfTheSpokenNerd: comedy night for sci-curious

	<p>@hackuarium: open & community-driven citizen biology lab in Lausanne</p> <p>@EcsiteNetwork: European Network Science Centres & Museums</p> <p>@inaturalist: iNaturalist.org for observations of plants and animals</p> <p>@kersnikova4: KERSNIKOVA</p> <p>@MfN.Berlin: Museum of Natural History Berlin</p> <p>@museostorianaturalemamma: Maremma Museum</p> <p>@naturalhistorymuseum: Natural History Museum</p> <p>@OpenStreetMap: OpenStreetMap</p> <p>@pintofscience: London based NGO academics explaining their research to the public in pubs</p> <p>@PublicLab: Public Lab</p> <p>@sciencemuseumlondon: Science Museum</p> <p>@SICommunityEU: Social Innovation Community</p> <p>@TransitionUSStA: Uni of St Andrews group combating air quality</p> <p>@uclofficial: University College London</p> <p>@UniverCite.ch: open and citizen-driven community & space based in Switzerland</p> <p>@vetenskapollm: Swedish NGO to promote openness in science</p> <p>@waagsociety: The Waag Society</p> <p>@wellcometrust: Charity supporting Scientists and Researchers</p>
<p>Link with Twitter accounts</p>	<p>@BioBlitzUK: UK BioBlitz</p> <p>@BritSciAssoc: British Science Association</p> <p>@BUGSSlab: Community Lab</p> <p>@CECHR_UoD: Centre for Environmental Change & Human Resilience</p> <p>@Cern: CERN: European Organisation for Nuclear Research</p> <p>@designcouncil: charity on strategic design</p> <p>@FOTSN: comedy night for sci-curious</p> <p>@Hackuarium: open & community-driven citizen biology lab in Lausanne.</p> <p>@IamSciComm: Curated account by people who do science communication</p> <p>@IamCitSci: Curated account by people who do citizen science</p> <p>@ICALondon: Institute of Contemporary Arts</p> <p>@inaturalist : iNaturalist.org for observations of plants and animals</p> <p>@kapelicagallery: KERSNIKOVA</p> <p>@mfnderlin: Museum of Natural History Berlin</p> <p>@NHM_London: Natural History Museum London</p> <p>@NHM_Science: Natural History Museum London</p> <p>@NHM_Tring: Natural History Museum London</p> <p>@NHM_WPY: Natural History Museum London</p> <p>@openstreetmap: Open Street Map</p>

	<p>@pintofscience: London based NGO academics explaining their research to the public in pubs</p> <p>@PublicLab : Public Lab</p> <p>@sciencemuseum: Science Museum London</p> <p>@STIPCommonsLab : Commons Lab Wilson Centre</p> <p>@TransitionUSTA: Uni of St Andrews group combating air quality</p> <p>@TomChivers BuzzFeed science journalist</p> <p>@uclofficial : University College London</p> <p>@UniverCiteCH: open and citizen-driven community & space based in Switzerland</p> <p>@vetenskapollm: Swedish NGO to promote openness in science</p> <p>@waag: The Waag Society</p> <p>@wellcometrust: Charity supporting Scientists and Researchers</p> <p>@the_zooniverse: Huge citizen science platform</p>
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5. Schools and Universities

Schools and Universities	
<p>A number of means of communication is being developed by DITOs which can be transferred to the classroom, such as YouTube videos, games and postcards which feature instructions on how to perform DIY biology. There will be scope for school trips to events and students will receive a more hands-on, collaborative experience of STEM subjects, while university students may find scope for projects, in-depth study and a chance to bring their skills to discussion groups and the public arena. In addition, educators will benefit from more awareness of local institutions such as museums, and of good practices that DITOs and its partners are developing and sharing.</p>	
Who are they? (Job titles)	<p>Teacher, Researcher, Deputy Headteacher, School Principal, student (all levels), UCL CEGE students, UCL Geography students, UNIGE students, UPD students, Scientist, Researcher, PhD researcher/student, MSc student, Professor, Post Doctoral Researcher, Science communicator, Teacher, Artist, Conservation biologist, Bioinformatician, Biologist, Lecturer, Neuroscientist, Neurobiologist, Geographer, Anthropologist, Computer Scientist, Social Scientist, Ecologist, Designer, Software Developer, Biochemist, Geneticist, Physicist, Technician, Lab Technician, Librarian</p>
What do they talk about?	<p>#STEMed #chemdemos #spacecamp #deeperlearning #edchats #TrainLikeaMartian #STEMrocks #UKedchats #sciencerocks #ASEchat #STEMsational #teachertraining #CPD (continuous professional development) #PBL (project based learning) #edtech #sciencefun #teachered #enviroed #kindergartenbioblitz #gardenbasedlearning #collaborativePD #taxonomy</p>

<p>Who we would like to notice us?</p>	<p>@Stephen_Logan (Deputy Headteacher);</p> <p>@AnnMroz (Editor of Times Educational Supplement); Link with Facebook accounts</p> <p>@AssociationforScienceEducation: The association for science education in the UK</p> <p>@bibliothequessansfrontieres: Libraries without Borders initiative</p> <p>@Cerlis-Centre-de-Recherche-sur-les-Liens-Sociaux17214059293895: CRI - UPD</p> <p>@codeEU: Initiative on technology</p> <p>@esea.eu: European Science Education Academy</p> <p>@expecteverythin: campaign for & by teens to spark their interest in Science, Technology, Engineering & Math (STEM)</p> <p>@galileoteachers: European Science Education Academy (Worldwide teacher network on astronomy in education)</p> <p>@imperialcollegelondon: Imperial College</p> <p>@scienceinschool: Magazine</p> <p>@StemEducationEntrepreneurship: Closed group on STEM</p> <p>@StemAllianceEU: STEM Alliance for various stakeholders</p> <p>@STEMLearningUK: STEM Education centre</p> <p>@UniverCite.ch: Open and citizen-driven community & space in Switzerland</p> <p>@UniversiteParisDescartes: University Paris Descartes</p> <p>@ukedchat: Social Enterprise community of teachers</p> <p>@WhizzPopBangMag: : Science magazine for girls & boys</p>
<p>Link with Twitter accounts</p>	<p>@alomshaha - part time science teacher, part time science TV presenter and writer</p> <p>@BSF_France: Libraries without borders initiative</p> <p>@CodeWeekEU : Initiative on technology</p> <p>@criparis :CRI - UPD</p> <p>@expecteverythin: campaign for & by teens to spark their interest in Science, Technology, Engineering & Math (STEM).</p> <p>@galileoteachers : European Science Education Academy (Worldwide teacher network on astronomy in education)</p> <p>@GoLabProject : European Science Education Academy</p> <p>@imperialcollege: Imperial College</p> <p>@InspiringScienc: : European Science Education Academy</p> <p>@ods_eu : European Science Education Academy @OutdoorClassDay: Campaign @PriSciGeeks: Primary + Science + Geek = me! PSQM Senior Regional hub leader</p> <p>@stemalliance_eu: STEM Alliance for various stakeholders @STEMlearningUK: STEM Education centre</p> <p>@theASE: Association for sciENCE education</p> <p>@TES Times Educational Supplement @ukedchat: Social Enterprise community of teachers</p> <p>@UniverCiteCH: open and citizen-driven community & space based in Switzerland @UParisDescartes: Universite Paris Descartes</p> <p>@Whizzpopbangmag: Science magazine for girls & boys</p>

6. Women and Girls

Women and Girls	
DIY science activities tend to orient too much towards the interests of men, though there are several social factors limiting women's involvement in science (Lin, 2007). DITOs is especially interested in how to communicate invitations to events to women and girls.	
Who are they? (Job titles)	Academics, students (PhD), Bsc student, Msc student, postdoctoral research, urban planning, architects, directors, managers, mothers, pharmacists, doctors, teachers, science communicator
What do they talk about?	#womeninscience #women #womenscience #womeninstem #women4development #climateaction #climatechange #teachers #classroom #humanrights #stem #research #UN #empowerwomen #girlsinscience #womenintech #talent #scicomm #STEMdiversity #genderequality #IAmAWomanInSTEM #gender #intersectionalfeminism #empowers
Who we would like to notice us?	@vickyfyf: Dr Vicky Foster (UK Researcher and sci com); @i_smadariaga: UNESCO Chair on Gender Equality Policies in Science, Technology and Innovation; sharing solutions for better regional policies; @aimafidon: Anne Marie @4womeninscience
Link with Facebook accounts	@1576449549335259: Science-based women in Agriculture: closed group @148587938963746: Science- based parenting: closed group @thewomeninstem: Promoting equal participation of women in STEM @royalinstitution: Royal Institution GB independent charity connecting people to science @SciGrrl: Network celebrating & supporting women in science @soapboxscience: Initiatives bringing female academics to their soapboxes to talk science with the public on the streets @steminist: STEMinist for women in Science, Tech, Engineering and Math @iamawomaninstem: #IAmAWomanInSTEM movement @UNWomenUK: UN for gender equality - UK @womeninstemcommunity: community for women in STEM
Link with Twitter accounts	@astrokatie: Astrophysicist and science writer, very well known for encouraging women to do science @ChiOnwurah: Labour MP (Newcastle), scientist, speaker, Shadow Minister for Industrial Strategy, Science & Innovation @findingada: Ada Lovelace Day - yearly celebration of women in science (and year-round writing) @IBJIYONGI: Postdoc: race, gender and other marginalisation and science @IamaWomanInSTEM: #IAmAWomanInSTEM movement

	<p>@karenlmasters: Portsmouth astronomer, involved in citizen science, major advocate of women in science</p> <p>@meerakaulfounda: foundation for the support of women in STEM</p> <p>@meg_urry: Yale physicist, involved in Galaxy Zoo, major advocate of women in astronomy</p> <p>@STEMettes: Showing that girls do STEM</p> <p>@StudentStemette : Mentorship program for student from @STEMettes</p> <p>@STEMinist: STEMinist for women in Science, Tech, Engineering and Math</p> <p>@Science_Grrl: Network celebrating & supporting women in science</p> <p>@sophiacol: Leader of “Parenting Science Gang”, has just run a workshop for parents especially mothers</p> <p>@Ri_Science: Royal Institution GB independent charity connecting people to science</p> <p>@soapboxscience: Initiatives bringing female academics to their soapboxes to talk science with the public on the streets</p> <p>@UN_Women: UN for gender equality</p>
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7. Funders

Funders	
<p>As a key element of Citizen Science event facilitation, funding appears in various forms relevant to each project. For DITOs, the main funder comes through the EU grant, but other funders in the form of business, government, university or public associations become relevant in individual cases. This type of funding would extend the scope of the project, and its scale by consolidating and moving further in time. Thus, DITOs aims to actively reach outside funders interested in Citizen Science facilitation in order to communicate the potential of DITOs.</p>	
Who are they? (Job titles)	Charities, Institutions, Business CSR, European Commission officers
What do they talk about?	#DigitalInclusion #openaccess #openscience #RRI #R&I #innovation #socialresponsibility #womeninSTEM #H2020
Who we would like to notice us?	<p>@ColombeWarin (DITOs Project Officer);</p> <p>@Wellcome Trust,</p> <p>Rowntree Foundation,</p> <p>NESTA,</p> <p>The New Economics Foundation,</p> <p>EPSRC,</p> <p>ESRC,</p>

	NERC
Link with Facebook accounts	<p>@epsrc: The Engineering and Physical Sciences Research Council</p> <p>@EuropeanResearchCouncil: The European Research Council</p> <p>@theESRC: Economic and Social Research Council</p> <p>@the.Horizon.2020: H2020 official page</p> <p>@wellcometrust: Charity supporting Scientists and Researchers</p> <p>@JosephRowntreeFoundation: independent organisation working to inspire social change through research, policy and practice</p> <p>@NERCscience: Natural Environment Research Council funder of independent research</p> <p>@nesta.uk: Innovation Foundation and Funder</p>
Link with Twitter accounts	<p>@epsrc: The Engineering and Physical Sciences Research Council</p> <p>@ERC_Research: The European Research Council</p> <p>@esrc: Economic and Social Research Council</p> <p>@EU_H2020: H2020 official page</p> <p>@wellcometrust: Charity supporting Scientists and Researchers</p> <p>@jrf_uk: independent organisation working to inspire social change through research, policy and practice</p> <p>@NERCscience: Natural Environment Research Council funder of independent research</p> <p>@nesta_uk: Innovation Foundation and Funder</p> <p>@EU_H2020: H2020 Official Page</p> <p>@research_uk: Research Councils UK</p>

8. DITOs ambassadors

DITOs Ambassadors	
These are our friends and DITOs fans who will help us spread our message.	
Who are they? (Job titles)	Advisory Board, DITOs supporters, DITOs partners
What do they talk about?	#DigitalInclusion #openaccess #openscience #RRI #R&I #innovation ##socialresponsibility #womeninSTEM #DITScience
Facebook accounts	<p>@bioartsociety: Bioart Society</p> <p>@Biodiversity4All: Biodiversity 4 all project</p> <p>@BIOSCOPE.UNIGE: Bioscope UNIGE</p>

	<p>@BritishScienceAssociation: British Science Association</p> <p>@Cerlis-Centre-de-Recherche-sur-les-Liens-Sociaux172140592938953: CRI - UPD</p> <p>@CyberSciCentre: Citizen Cyberscience Centre</p> <p>@ECSAcommunity: European Citizen Science Association</p> <p>@EcsiteNetwork: European Network Science Centres & Museums</p> <p>@expecteverythin: campaign for & by teens to spark their interest in Science, Technology, Engineering & Math (STEM)</p> <p>@IHEST-368109513296006: Educational Institute in Paris, one of DITOs supporters</p> <p>@kersnikova4: KERSNIKOVA</p> <p>@KosovoInnovations: UNICEF Innovations Lab Kosovo</p> <p>@MappingforChange: Mapping for Change SME</p> <p>@MedialabPradoMadrid: Medialab Pardo</p> <p>@meritumskolenia: MERITUM</p> <p>@MfN.Berlin: Museum of Natural History Berlin</p> <p>@museumdino: Royal Belgian Institute of Natural Sciences (RBINS)</p> <p>@museostorianaturalemamma: MaremmaMuseum</p> <p>@OpenStreetMap: OpenStreetMap</p> <p>@PublicLab: Public Laboratory</p> <p>@StockholmEnvironmentInstitute: Stockholm Environment Institute</p> <p>@uclofficial: university College London</p> <p>@UCLEngineering: University College London; Engineering Faculty</p> <p>@uclofficial : University College London</p> <p>@vetenskapollm: Swedish NGO to promote openness in science</p> <p>@waagsociety: The Waag Society</p>
<p>Twitter accounts</p>	<p>@BIA_UK: Trade Association of UK Bioscience;</p> <p>@bioartsociety: Bioart Society</p> <p>@BritSciAssoc: British Science Association</p> <p>@CyberSciCentre: Citizen Cyberscience Centre</p> <p>@Ecsite: European Network Science Centres & Museums</p> <p>@eusja: European Union of Science Journalists' Associations</p> <p>@expecteverythin:campaign for & by teens to spark their interest in Science, Technology, Engineering & Math (STEM)</p> <p>@IHEST: Educational Institute in Paris, one of DITOs supporters</p> <p>@kapelicagallery: KERSNIKOVA</p> <p>@KosInnovations: UNICEF Innovations Lab Kosovo</p> <p>@la_fing: Fondation internet nouvelle génération</p> <p>@mapping4change:Mapping for Change SME</p>

	<p>@mfnberlin: Museum of Natural History Berlin</p> <p>@opalnature: Open Air Labs</p> <p>@openstreetmap: Open Street Map</p> <p>@PublicLab: Public Laboratory</p> <p>@Scifabric: Technology company for data collection and analysis</p> <p>@SEIclimate: Stockholm Environment Institute climate & policy research team</p> <p>@SEIforskning: Stockholm Environment Institute - swedish page</p> <p>@SEIresearch: Stockholm Environment Institute</p> <p>@STIPcommonslib: Commons Lab Wilson Centre</p> <p>@vetenskapollm: Swedish NGO to promote openness in science</p> <p>@waag: The Waag Society</p>
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Appendix 2. Communication and Dissemination Activities Plan (Source: D6.2)

DITOs Communication Activities Plan					
Work Package	Project Activities	Messages to be communicated	Tools	Channels	Timing
WP1: Biodesign	Outreach Plan for Biodesign	Communicate availability of plan on: how public engagement biodesign activities will take place (calendar of activities); Best practices and methods used.	Media articles, e-newsletters	Knowledge Sharing platform, social media, maps, external channels, mailing lists and contact databases	M6
	WP1 Activities	Organization of 200 events in Biodesign; Pre-event communications (e.g. Newsletter, invitations, registration); Post-event communications (e.g. Thank you email, invitation to join subscription list, reflections and experiences shared)	Printed media, videos, media articles, e-newsletters and email blasts	Knowledge Sharing platform, social media, maps, external channels, mailing lists and contact databases, external events	M7- M36
	Summary of Biodesign Engagement and Support	Communicate availability of report on Biodesign activities and outcomes	Media articles, e-newsletters	Knowledge Sharing platform, social media, mailing lists and contact databases, external channels, external events	M15
	Summary of Good practices in participatory Biodesign	Communicate availability of report on good practices and validated methods for outreach activities for citizen science and DIY science in the area of biotechnology	Media articles, e-newsletters	Knowledge Sharing platform, social media, mailing lists and contact databases, external channels, external events	M36
WP2: Environmental Sustainability	Outreach Plan for Env. Sustainability	Communicate availability of plan on: how public engagement env. sustainability activities will take place (calendar of activities); Best practices and methods used.	Media articles, e-newsletters	Knowledge Sharing platform, social media, maps, external channels, mailing lists and contact databases, contact lists and databases	M6
	WP2 Activities	Organization of 205 events in Env. Sustainability; Pre-event communications (e.g. Newsletter, invitations, registration); Post-event communications (e.g. Thank you	Printed media, videos, media articles, e-	Knowledge Sharing platform, social media, maps, external channels, mailing lists and	M7- M36

		email, invitation to join subscription list, reflections and experiences shared).	newsletters and email blasts	contact databases, external events	
	Summary of Env. Sustainability Engagement and Support	Communicate availability of report on Env. Sustainability activities and outcomes.	Media articles, e-newsletters	Knowledge Sharing platform, social media, mailing lists and contact databases, external channels, external events	M15
	Summary of Good practices in participatory Env. Sustainability	Communicate availability of report on good practices and validated methods for outreach activities for citizen science and DIY science in the area of Env. Sustainability.	Media articles, e-newsletters	Knowledge Sharing platform, social media, mailing lists and contact databases, external channels, external events	M36
WP3: Public Engagement and Capacity Building	DITOs Visual Identity	DITOs visual identity is in place.	e-newsletter 2	All online and offline channels	M3
	Knowledge Sharing Platform	DITOs website is online	e-newsletter 3	Knowledge sharing platform, mailing lists and contact databases, social media, external channels, external events	M6
	DITOs printed media	DITOs printed media is in place	Printed media	External events	M6
	DITOs Newsletter project launch	DITOs newsletter about project launch	Media articles, e-newsletter 1	Partners' social media, external channels, mailing lists and contact databases	M1
	DITOs online social media	Setting up DITOs online social media	Media articles, e-newsletter 2	Social media	M3
	DITOs travelling exhibition	Plan travelling exhibition in rural areas in Europe; Map with stops and calendar; Pre-visit communications to inform about the bus and where it will be (e.g. Newsletter, invitations, registration); Post-event communications (e.g. Thank you email, invitation to join subscription list, reflections and experiences shared)	Printed media, videos, media articles, e-newsletters and email blasts	Knowledge Sharing platform, social media, maps, external channels, mailing lists and contact databases, external events	M13- M24

	Summary of DITOs Innovation Hub Report	Communicate availability of report which shares knowledge about the process of setting up of project partner innovation hubs, facilities, multiplier arrangements with third parties such as science museums and centers, and future development plans.	Media articles, e-newsletter	Knowledge Sharing platform, social media, mailing lists and contact databases, external channels, external events	M15
	Summary of Sustainable Support for citizen and DIY science	Communicate availability of report on network expansion and long-term sustainability plans developed by ECSA.	Media articles, e-newsletter	Knowledge Sharing platform, social media, mailing lists and contact databases, external channels, external events	M36
WP4: Policy Engagement for RRI	Summary of Initial Policy Briefs	Communicate availability of good practices and standards on biodesign regulations and adaptation potentials, and cross-border research and cooperation for Environmental Sustainability	Media articles, e-newsletter	Knowledge Sharing platform, social media, mailing lists and contact databases, external channels, external events	M12
	Summary of Policy Briefs 2	Communicate availability of second series of policy briefs, including key overarching RRI standards in DITOs projects: gender equality and inclusion of disadvantaged groups, and ethics and quality evaluation open access, open data, and open science.	Media articles, e-newsletter	Knowledge Sharing platform, social media, mailing lists and contact databases, external channels, external events	M24
	Summary of Policy Briefs 3	Communicate availability of third series of policy briefs, updating and extending the initial briefs and providing two additional briefs on involvement of SMEs and industry, and open access, open data, and open science ethics and quality evaluation.	Media articles, e-newsletter	Knowledge Sharing platform, social media, mailing lists and contact databases, external channels, external events	M36
	WP4 Activities (Round Tables, Discovery Trips)	Plan WP4 activities on Biodesign, Environmental Sustainability and cross-cutting issues with authorities all over Europe and deliberative workshops involving citizens, scientists, business, industry and policy makers at local, regional, national and EU level. Publish events calendar and agendas; Pre-event communications (e.g. Newsletter, invitations, registration); Post-event communications (e.g. Thank you email, invitation to join subscription list, reflections and experiences shared)	Printed media, videos, media articles, e-newsletters and email blasts	Knowledge Sharing platform, social media, maps, external channels, mailing lists and contact databases, external events	M7-36

	Discovery Trips outcomes	Communicate availability of report which communicates lessons learned from Discovery Trips and future applications	Media articles, e-newsletter	Knowledge Sharing platform, social media, mailing lists and contact databases, external channels, external events	M36
	Pan European Policy Forum (conference)	Plan event to engage decision makers on various levels of governance with European citizen and DIY science communities as well as showcase the results and highlights of DITOs; Pre-event communications (e.g. Newsletter, invitations, registration); Post-event communications (e.g. Thank you email, invitation to join subscription list, reflections and experiences shared)	Media articles, e-newsletter	Knowledge Sharing platform, social media, maps, external channels, mailing lists and contact databases, external events	M36
WP5: Evaluation	Summary of Evaluation of Terms of Reference and templates	Communicate availability of overall terms of reference and key performance indicators identified for DITOs, with templates and guidelines for recording and documenting activities and gathering public feedback.	Media articles, e-newsletter	Knowledge Sharing platform, social media, mailing lists and contact databases, external channels, external events	M6
	Summary of Interim DITOs Evaluation Report	Communicate availability of interim evaluation report reflecting the key success and learning of the project at the early stages of Phase 2.	Media articles, e-newsletter	Knowledge Sharing platform, social media, mailing lists and contact databases, external channels, external events	M15
	Summary of Project Evaluation Results Report	Communicate availability of final results report which contains a Reflection on the entirety of the DITOs project evaluation.	Media articles, e-newsletter	Knowledge Sharing platform, social media, mailing lists and contact databases, external channels, external events	M36
	Various Evaluation results	Report on evaluation results as necessary	Videos, media articles, e-newsletters	Knowledge Sharing platform, social media, mailing lists and contact databases, external channels, external events	M7-36
WP6: Coordination Support and	Kick-off meeting	DITOs has been officially started.	Media articles, e-newsletter	Partners' social media, mailing lists and contact databases, external channels, external events, online website	M1

Management	Setting up external advisory boards	Communicate all advisory board and members	Media articles, e-newsletter	Social media, mailing lists and contact databases, Knowledge Sharing platform	M1-M6
	Summary of Initial Plan for CDE	Communicate availability of plan on communication and dissemination activities, and the Use of Knowledge and the related IPR Management Strategy for citizen science.	Media articles, e-newsletter	Knowledge Sharing platform, social media, mailing lists and contact databases, external channels, external events	M3
	Summary of Data Management Plan	Communicate availability of data management plan.	Media articles, e-newsletter	Knowledge Sharing platform, social media, mailing lists and contact databases, external channels, external events	M6
	Summary of Plan for communication, dissemination and exploitation - update	Communicate availability of plan on communication and dissemination activities update.	Media articles, e-newsletter	Knowledge Sharing platform, social media, mailing lists and contact databases, external channels, external events	M15
	Summary of Innovation Management Plan	Communicate availability of plan which reports on the way that the consortium identified, developed and nurtured ideas that emerge from project activities. It will note on the potential of Innovation management within the context of distributed network of citizen science and DIY science activities.	Media articles, e-newsletter	Knowledge Sharing platform, social media, mailing lists and contact databases, external channels, external events	M30
	Summary of Final Data Management Plan	Communicate availability of data management plan update.	Media articles, e-newsletter	Knowledge Sharing platform, social media, mailing lists and contact databases, external channels, external events	M36
	Summary of Final Plan for dissemination and exploitation	Communicate availability of final plan for communication and dissemination activities, and the Use of Knowledge and the related IPR Management Strategy for citizen science.	Media articles, e-newsletter	Knowledge Sharing platform, social media, mailing lists and contact databases, external channels, external events	M36