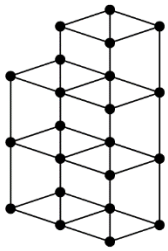

doing it together science

Grant agreement no. 709443

DITOs

Doing It Together science

Coordination & Support Action

D6.5 Plan for Communications, Dissemination and Exploitation - Update

Work Package: 6

Due date of deliverable: Month 15

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Lead beneficiary for this deliverable: UCL

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CO	Confidential, only for members of the consortium (including the Commission Services)	
EU-RES	Classified Information: RESTREINT UE (Commission Decision 2005/444/EC)	
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EU-SEC	EU-SEC Classified Information: SECRET UE (Commission Decision 2005/444/EC)	

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1 Version log

Version	Date	Released by	Nature of Change
Version 0.1	17.07.2017	Artemis Skarlatidou	1st version released for review (internal, external)
Review Internal	19.07.2017	Lotte Kleijssen	Internal Review comments
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Version 0.2	07.08.2017	Artemis Skarlatidou	Address Reviewers' comments
Version 1.0	21.08.2017	Judy Barrett	Formatting consistency
Version 1.1	30.08.2017	Alice Sheppard	Final proof and review

2 Definitions and Acronyms

Acronyms	Definitions
CDE	Communication, Dissemination and Exploitation
CSA	Communication 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
M	Month
Meritum	Centrum Szkolen I Rozwoju Osobistego Meritum
MP	Medialab Prado, Madrid
RBINS	Institut Royal des Sciences Naturelles de Belgique
RRI	Responsible Research and Innovation
STEM	Science, Technology, Engineering, and Mathematics
Tekiu	Tekiu Limited
UCL	University College London
UNIGE	Universite de Geneve
UPD	Universite Paris Descartes
WP	Work Package
WS	Waag Society

Executive Summary

This deliverable is the updated Plan for Communications, Dissemination and Exploitation (CDE) of the project Doing It Together Science (DITOs), grant agreement 709443.

This deliverable provides a very detailed report on the performance and additional communication, dissemination and exploitation efforts that were carried out by the consortium during the first *12* months of the project. It should be noted that most communication and dissemination activities initiated after the end of phase 1 'Scoping and monitoring', therefore the majority of the efforts described took place from M7 until M12.

In the first 12 months, 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 we have reached to *1,767,517* people via our communication and dissemination tools and channels. Out of this **5,685** people was the online outreach via DITOs channels (e.g. the DITOs website; social media); ***550,445*** people was the online outreach via DITOs activity channels (e.g. DITOs channels which were created entirely for the purposes of running specific activities which we describe in the grant agreement) and; 1,211,387 people was our online outreach via DITOs partners' channels (e.g. UCL ExCiteS website and other partners' online communication channels.

Based on the strengths and weaknesses as well as new opportunities and progresses in the rest of the action, we provide an updated Plan for Communications, Dissemination and Exploitation which builds on the initial plan delivered in M3 and which will remain a live document to report on the lessons learnt and constantly update for the duration of the project.

3 Introduction

The Plan for Communications, Dissemination and Exploitation (CDE) - Update is Deliverable 6.5 (D6.5) from the coordination and support action (CSA) 'Doing It Together science' (DITOs), grant agreement 709443.

DITOs is a three-year project which aims to raise awareness and participation in citizen science across Europe and beyond. To do so, DITOs promises to deliver a total of 500 citizen science events and activities in the areas of biodesign and environmental sustainability, reaching a total number of *290,000* participants who will attend these events and an additional engagement of *1.3 million* as wider public outreach for this project. Central to the efforts of this project is the goal to engage and reach currently underrepresented in science people and citizen science participants such as women, people without access to the Internet and people who have not completed tertiary education. Through DITOs' activities, its wider mechanisms for enabling awareness improvement and the successful implementation of the project actions, DITOs will build a legacy framework for both public engagement/capacity building and policy engagement for Responsible Research and Innovation (RRI). DITOs Work Package (WP3) already contains support for exploration, learning and innovation, dedicated to further ensure communication and dissemination of DITOs processes and outcomes to a wider spectrum of stakeholders at various levels of

knowledge/experience. Central to these efforts, which are coordinated via WP6, is the implementation of a coherent and structured communication and dissemination plan that this deliverable describes.

More specifically, the updated version of the CDE Plan (D6.5) extends the initial CDE plan (D6.2) by critically assessing its performance and additional efforts carried out by the consortium and the people that DITOs engaged or reached during the first *12* months of the project. By critically reviewing the strengths and limitations of our DITOs approach to communication and dissemination, we provide herein an updated CDE plan to reflect new opportunities and new understandings of the needs of the target audiences which are now included in the updated version and which will be used for the remainder of the project. Therefore, the main aim of the CDE plan (D6.5) update is to:

- Communicate and disseminate the wider aim of DITOs to improve awareness of citizen and DIY science and the various DITOs objectives;
- Report on communication, dissemination, exploitation and engagement activities during the first year of the project;
- Review and report on additional opportunities to communicate and disseminate knowledge gained and project results, including lessons learnt, how these have been communicated and disseminated to the public, scientific community and policy makers to date, and how this will continue taking place throughout the rest of the project;
- Review and report on how a legacy framework of communication and dissemination tools and advisory documents will be constructed throughout the life of the project. ECSA will become custodians of the framework at the end of the project.

The DITOs CDE Plan will be further reviewed and updated as a live document, until the end of the project when a final version in M36 (May 2019) will be submitted to consider all those elements that influenced DITOs communication, dissemination and exploitation during the 'evaluation and upscaling' phase. This final deliverable will critically assess successes and failures, providing several examples from the DITOs context.

In March 2017, DITOs carried out a stakeholder mapping event at UCL with the participation of about *30* researchers and practitioners who specialise and work in various fields in citizen science. The aim of the workshop was to understand what co-creation entails for the field of citizen science, since it has proven to be extremely important and helpful in other disciplines by promoting creativity, collaboration maximising personal and social value gained from participation and more: what its benefits are and finally, through identification of who is involved in co-creation, how we can understand whether these activities can be better designed and promoted. It quickly became evident from the workshop discussions that if citizen science activities fail, or are more likely to fail, it is due to a lack of communication amongst stakeholders, who are extended in most cases to include not only those involved in a particular project but also funders, policy makers and the general public. The results of this DITOs workshop, which are currently under review for a journal publication, agree with many other studies that also report the same communication issues. Therefore, this deliverable aims not only at providing a structured communication and dissemination mechanism to support the successful implementation of DITOs aims and objectives; but also, especially via our reflections on limitations and lessons learned while

developing it, to inspire others to adopt and build on it and initiate a conversation which will result in the advancement of communication and dissemination in the broader citizen science context.

4 Background – Overview of D6.2

4.1 Overview of DITOs aims and project objectives

DITOs aims at creating a tangible 'Do-It-Together Science' method to achieve first and foremost a wider and deeper public participation in science and awareness of RRI. DITOs also aims at raising governments' awareness of the benefits of the citizen science approach for both society and science, and also at guiding funding agencies to set up schemes that take into account the different levels of engagement and their impact. This will be achieved by accelerating pan-European coordination and support for citizen and DIY science through multiple avenues of engagement including exhibitions, science cafés and workshops.

DITOs will 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 community 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).

Clear, effective and wide communication and dissemination of DITOs activities, events and outcomes lie at the heart of this project and are key in achieving this project's success. To engage with a wide variety of stakeholders in work packages 1 and 2, and attract a growing number of people to participate in our activities and encourage them to initiate their own, requires having an effective communication and dissemination plan in place. 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 further require a clear and effective plan to achieve this. This plan also aims at communicating and disseminating the outcomes

of our evaluation framework and tools to anyone interested in DIY science. Finally, objective 6 is also considered in our exploitation strategy (section 6).

Considering our wider DITOs aims and high level objectives, we proceed to the next section where we briefly describe some of the deliverables that have been already submitted. This will help the reader understand the context of our work and justify how we use existing deliverables as live documents, on which we build in order to develop and deliver an effective communication and dissemination plan.

4.2 Key points from previous deliverables

The initial DITOs communication and dissemination plan D6.2 (Skarlatidou and Sheppard, 2016), submitted in M3 (August 2016), was a preliminary instrument for the achievement of DITOs's communication and dissemination aims and objectives (Table 1). D6.2 specifically identified DITOs's target audiences and the communication and dissemination tools and channels, a preliminary exploitation strategy and the use of knowledge and the related IPR management strategy for citizen science. In D6.2 we discuss the following dissemination and communication

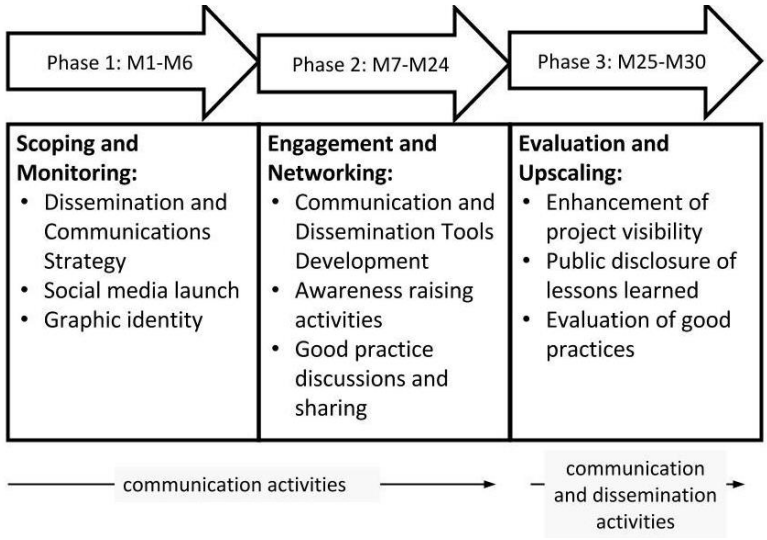
Table 1 Dissemination and Communication Objectives (Source: Skarlatidou and Sheppard, 2016).

DITOs Dissemination Objectives	DITOs Communication Objectives
O1: Identify targets, messages, tools and channels; build an adequate and effective communication and dissemination plan to ensure the best impact of project results. O2: Design a comprehensive set of communication material (including the project logo) to ensure an easy identification of the project and a major exposure. O3: Use the dissemination channels; organise project events and participate in workshops, conference and international/EC meetings. O4: Ensure a persistent and long-lasting visibility of the project activities and outcomes.	O1: Raise public awareness and ensure maximum visibility of DITOs key objectives, activities and outcomes at a European and international level. O2: Announce and promote DITOs events, contributing to upgrade 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.

Deliverable D6.2 remained a live document and was extended by deliverable D3.1 (Kleijssen et al., 2016), 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.

Following DITOs timelines (Graph 1) the outcomes of both deliverables have put into practice after December 2017 (M7) with the initiation of Phase 2 and after a set of tools and channels have been developed.

Graph 1 DITOs project phases (source: DITOs grant agreement 709443).



Deliverable D6.2 further describes the mechanism that was set to achieve our aims and objectives. This mechanism includes a set of tools and channels, which in D6.2 are defined as:

- **Communication and dissemination *tools*** include 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*** include 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.

As was noted above, this deliverable reports on the preliminary outcomes and progress of the first *12* months of the project and proposes an extended and improved communication and dissemination plan for the remainder of the project, with scope for ongoing improvements throughout.

4.3 DITOs Statement for Dissemination and Communication Reporting

Deliverable D6.2 established the following definitions for communication and dissemination:

- 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." (European Commission, 2016)

- 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." (European Commission, 2016)

Due to the fact that 'Doing It Together science' is a coordination and support action that aims to increase public awareness in citizen science, all of our events and activities entail dissemination and communication. During the project, near the end of the first year and as the opportunities for dissemination increase, 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 in the PCC 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 involve and follow a strategic plan for communication and dissemination prior, during and after the event to ensure maximum visibility and impact. However, we do also encounter 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), we report separately as dissemination activities using the provided EC reporting mechanisms.

5 DITOs Year 1: Summary of events and participation numbers

In the first 12 months several online and offline activities and events were organised by six 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 we have reached to *1,767,517* people via our communication and dissemination tools and channels (Table 2). Specifically, DITOs public engagement and outreach includes:

- ***Engagement in DITOs events*** (i.e. people who participated in DITOs online and offline events) which is ***45,279*** participants (see Section 5.1 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 **5,685** people (see Section 5.2.2.1 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 ***550,445*** people (see Section 5.2.2.1.4) 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 ***1,211,387*** contacts[1] (see Section 5.2.2.2 for further details).

We will note here that in both the proposal and this report, 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 fleeting as a tweet that appear in a person's social media stream, or as deep as in 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 account and attend 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 is, within DITOs framework, count.

Table 2 Total DITOs outreach/engagement in the first 12 months of the project.

Type of Engagement/ Outreach	Total Number of participants/people reached	Source: Tools monitoring engagement/ outreach
Engagement in DITOs events	45,279 participants	Events Diary
Online outreach via DITOs channels (e.g. website, social media)	5,685 people reached	Measure Impact and Monitor
Online outreach via DITOs 'activity channels' (e.g. 'Ik heb een vraag' website)	550,445 people reached	Events Diary
Online outreach via DITOs partners' channels (e.g. ExCiteS UCL website)	1,211,387 people	Measure Impact and Monitor
Total	45,279 participants in our events (+ 1,767,517 online outreach)	

The above metrics were all gathered reported using two tools that are used internally in DITOs; i.e. the 'Events Diary' and 'Measure Impact and Monitor' tools.

[1] Also, more information can be found in Annex A. DITOS Online Engagement and Outreach – Table A1: total Audience and Highest reach by partner.

The 'Events diary'[2] measures participation to 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), total funding (in Euros), the price and currency, reporting period, project phase, online resources and notes. In addition, the 'Events diary' records DIY & local communities, the academia & research, the 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 total followers, amount of interactions (per post) % of female participants for each channel etc. For more information on the data we collect for monitoring and measuring the impact of DITOs and partner channels, the reader may refer to deliverable D3.1 (Kleijssen et al., 2016; p. 28).

5.1 Engagement with DITOs events

In the first 12 months 194 events were carried out (and one more which has not been evaluated) and which resulted in the engagement of *45,279* participants (Table a). Using the event type classification, we have presented in DITOs deliverables D1.1 and D2.1 (Baïz and Asai, 2016; Blanco and Fernandez, 2016) the following types of events were carried out: *six* BioBlitz activities, *14* conferences, *13* discussions, *six* science cafes, *12* exhibitions, *one* game-related offline event, *five* online events including *three* game-related online events, *one* movie screening, *18* seminars and *119* workshops

Table 3a Participants per event type

Type of Event	Number of Events/Type	Total No of Participants	Participation Avg/Event
BioBlitz	6	1,433	239
Conference	14	1,250	89
Discussion	13	896	69
Exhibition	12	30,395	2,533
Game	1	29	29
Online	5	684	137
Science Cafe	6	220	37
Screening	1	18	18
Seminar/Talk	18	2,060	114
Workshop	119	8,293	70
Total	**194**	**45,279**	**N/A**

[2] The DITOs events diary is also undergoing evaluation for its data and it should be noted that in the data reported herein there are the following issues: i.e. one event does not have a category assigned for the event type and *39* events do not have a country assigned or such is not applicable as is further discussed in D5.2.

It should be noted that of these 194 events, five are online events which engaged a total of 684 participants; the rest of the reported events are all offline. Our online events include:

iGamer competition: International gaming competition, which engaged 600 undergraduate and graduate game developers for the development of scientific oriented games. The game is on Gamelier website run by UPD (Figure 1a).

Game Jam: Attended by 60 participants with the aim to develop a scientific oriented game. The game is on Gamelier website run by UPD.

Gamelier Masterclasses: Weekly meetings about educational and scientific games. The game is on Gamelier website run by UPD.

MOOCs on Synthetic Biology: Run by UPD and result in dissemination and communication material which we populate via our social media and other channels (e.g. our YouTube channel as Figure 1b demonstrates) (figure 1b).

CRI Journal online: Organised by UPD, offers the opportunity to be published for anyone that is passionate about citizen science, synthetic biology, innovation and creativity.

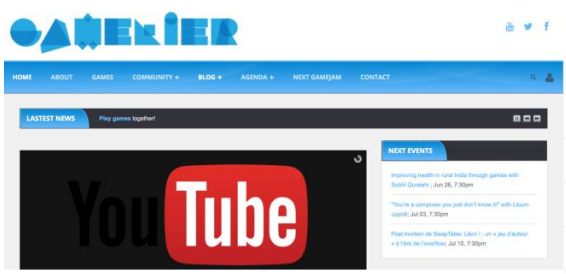


Figure 1a. UPD's Gamelier online event.

Figure 1b. UPD's MOOC one on YouTube.

Figure 1 Online events

Geographical Location of participants – Table 3b

We looked at the spread of events in the different locations around Europe in order to better understand our participants and increase our efforts for wider spread throughout Europe, if necessary. Table 1 Table 3b (below) shows the total number of events and participants per country in which events took place. First, in terms of total people engaged, is Belgium, where the Poison exhibition is taking place and which attracts a significant number of people right at the bottom of the DITOs escalator. Second is Spain, followed by Slovenia and UK, with the other countries having an outreach of *<1000* people. Based on our analysis data, it is clear that our geographical outreach mainly extends to the countries in which the DITOs partners operate, with the exception of USA where DITOs partners were invited to hold seminars and workshops, a significant progress for DITOs given the popularity of citizen science in the U.S. In addition, three events took place in Italy, which is something we are working towards expanding with our travelling exhibition (i.e. Science Bus) across Europe.

Table 3b Participation in various countries, where events where events took place.

Country	Number of Events/Country	Total No of Participants
UK (UCL, Tekiu)	28	1,01
France (UPD)	22	305
Belgium (RBINS)	20	5,552
Germany (ECSA)	5	705
Spain ((WS)	9	1,439
Netherlands (WS)	31	553
Poland (Meritum)	4	610
Switzerland (UNIGE)	10	430
Slovenia (Kersnikova)	24	1,094
Austria	1	55
USA (not a partner country)	4	995
Italy (not a partner country)	3	410

Gender of participants - Table 3c

The gender spread of DITOs events was also briefly examined as gender is defining 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). The table below shows the number of women we engaged with DITOs events. It is observed that our attempts to engage men and women equally are generally successful. In terms of offline events, bioblitzes, exhibitions and conferences have attracted more women than men. In their total numbers, however, we observe that DITOs events attract only very slightly more women than men, although it should be acknowledged that for some event types such as games and DIY workshops the numbers of events carried out are still too limited to draw specific conclusions. Nevertheless, this preliminary insight is taken into account in the ways we advertise to attract a higher number of women.

Table 3c Female participants in DITOs events (grouped by event type).

Type of Event	Number of Events/Type	Total No of Participants	Avg % Female Participants
BioBlitz	6	1,433	67.7
Conference	14	1,250	54.5
Discussion	13	896	46.8
Exhibition	12	30,395	51
Game	1	29	31
Online	5	684	43.6
Science Cafe	6	220	50
Screening	1	18	45
Seminar/Talk	18	2,060	48
Workshop	119	8,293	48
Total	**194**	**45,279**	**N/A**

It should be noted here that in DITOs we are working 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 has designed and will implement a travelling exhibition to travel across Europe and actively engage or simply reach to such hard-to-reach groups. The Science Bus will launch in July 2017 and will run for three months.

Participation in each Work Package – Table 4a

Table 4a Participants engaged per WP (% calculated using Table 4b).

Work Package	Number of Events/Type	Number of Participants	%of Participants (based on engagement targets in table 4b)
WP1 – Biodesign	112	5,710	16.4%
WP2 – Environmental Sustainability	59	36,361	14.2%
WP3 – Engagement and Capacity Building	5	684	4.4%
WP4 – Policy Engagement	18	1,335	157%

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Using the 'Events Diary' data (extracted 22nd June 2017) we further examined the number of events and the number of participants in each work package separately and we summarise and present this information in Table 4a below. The percentage of participants is used here to show the number of people that were engaged in the first 12 months of the project as a percent of the total population that DITOs aims to engage (i.e. as described in the Description of Action and which is shown in **Error! Not a valid bookmark self-reference.**b).

Table 4b: DITOs total number of events and engagement/outreach target numbers (source: DITOs Grant Agreement 709443).

Work Package	No of planned Events	Expected Number of Participants in events	Expected Number of online outreach
WP1 – Biodesign	200	35,000	450,000
WP2 – Environmental Sustainability	205	240,000	230,000
WP3 – Engagement and Capacity Building	70	15,500	650,000
WP4 – Policy Engagement	25	850	-
Total	**500**	**290,000**	**1,3 M**

Generally, it is observed that for both WP1 and WP2 about a 15% of the total estimated engagement targets, has been already achieved in the first six months of Phase 2, WP3 engaged almost 4% of total participants (this number however will significantly increase in the next three months with the travelling exhibition). Interestingly, we have exceeded the engagement target numbers for policy-makers with our WP4 events that took place in the first six months of phase 2.

Our online outreach is much broader and goes far beyond simply engaging with people who participate in DITOs events. A whole set of tools and channels and a communication and dissemination mechanism has been set up to ensure that DITOs improves awareness of citizen and DIY science across Europe; it communicates and disseminates DITOs information that is relevant to every single activity prior, during after the event and even further beyond. This mechanism we discuss in the next paragraph.

5.2 DITOs online outreach - dissemination and communication tools and channels

A set of channels and tools, defined in D6.2 (a summary is provided in Section 4.2) has been setup to communicate and disseminate information about DITOs and to improve awareness about citizen and DIY science. As D6.2 extensively describes (Table 5), 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 (Section 5.2.2.1.5), external channels, DITOs events, external events, publications).

Table 5: DITOs communication and dissemination tools and channels (Skarlatidou and Sheppard, 2016).

Tool	Communication	Dissemination
Visual identity	✔	
Printed media	✔	✔
Videos	✔	✔
Media articles	✔	✔
Electronic newsletters and email blasts	✔	✔
Project reports		✔

Channels	Communication	Dissemination	Online/Offline/Both
Knowledge Sharing Platform	✔	✔	Online
Mailing Lists and Contact databases	✔		Both
Social Media	✔		Online
Europe's Interactive Citizen Science Map	✔	✔	Online
External Channels	✔		Both
DITOs events		✔	Both
External Events	✔	✔	Both
Publications		✔	Both

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). In this section, we discuss these public engagement and outreach mechanisms and we report on monitoring impact. In Section 5.2.1 we discuss the communication and dissemination tools and in 5.2.2 the communication and dissemination channels.

5.2.1 DITOs Communication and Dissemination Tools

Deliverable D6.2 includes the following DITOs communication and dissemination tools: DITOs visual identity, printed media, videos, media articles, electronic newsletters and email blasts, project reports. We discuss these in separate sections below.

5.2.1.1 DITOs Visual Identity and printed media

The Waag Society (WS) leading WP3 was responsible partner for the design of DITOs visual identity applied an iterative design process with continuous feedback from the rest of the consortium for its development. Briefly, the DITOs identity was designed to work in different contexts: online/offline, for a wide range of cultures, language, age groups and education backgrounds. The core priority and concern is for DITOs to be associated with the ethos and values of promoting a science which is friendly and open to the public of all ages, genders and other demographics but to also various other target groups. Our logo is simple, recognisable and modular so that its shape and colours can be modified easily to fit different contexts (Figure 2a).

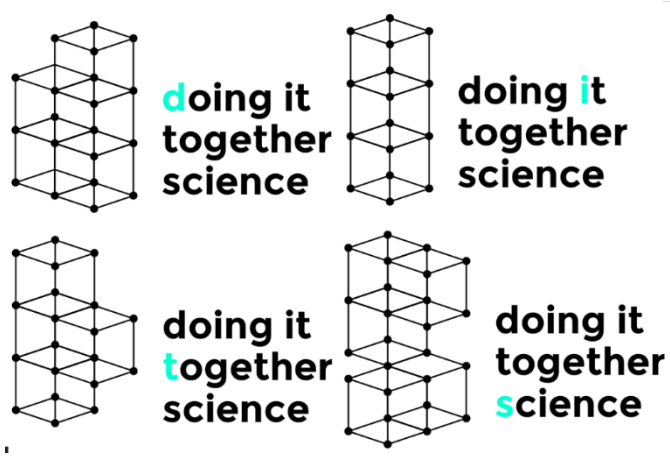

Figure 2a DITOs visual identity

Our visual identity has not only received positive feedback, but it has been also proven to be extremely flexible. WS developed a strategy to promote its use across the consortium partners as widely as possible and has therefore distributed a media templates package which includes: Powerpoint presentation templates, word document templates, a style guide, a banner template and so on. Partners have constantly been using the logo in all forms of communication and dissemination material e.g. printed material, online posts and newsletters.

Apart from the development and design of the visual identity a set of printed media has been produced mainly for distribution in DITOs offline events to ensure visibility but to also communicate details so that people stay in contact, follow up and attend future events (Figure 2a). DITOs printed media includes stickers, educational and information leaflets, business cards (with DITOs visual identity, contact details, hashtags, website and social media accounts), T-shirts and educational postcards. For example, we took the opportunity to promote DITOs in large events such as the Citizen Science Association (CSA) 2017 conference in Minnesota with T-shirts and printed colourful DITOs cards for participants to take home (Figure 2b & Figure 2).

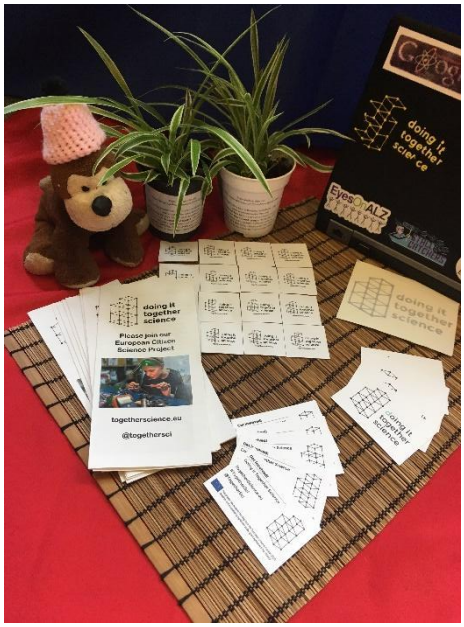

Figure 2b DITOs printed media: flyers, business cards, stickers

Figure 2c DITOs t-shirts in Citizen Science Association 2017 conference

5.2.1.2 DITOs Videos & Media Articles

DITOs YouTube channel 'Doing It Together Science[3]' was launched in early 2017 with the aim to "increase the consortium's visibility and impact towards the general public"[4] (Kleijssen et al., 2016; p.22), boost DITOs visual content (and subsequently eliminate language barriers) as well as enable sharing DITOs videos easily and quickly. With new content being slowly but constantly added in the last five months the channel has *35* subscribers and more than 3,000 views in total. A series of video logs (vlogs) has been created by Pieter van Boheemen from the WS, in the theme of biodesign. Cindy Regalado from UCL has also created a DITOs video with the title 'The Making of Maps without Borders[5] for the 'Maps without Borders Exhibition' event organised and run

[3] https://www.YouTube.com/channel/UC-KXyw1Qg6fLrdoQ5IrC_zg

[4] YouTube also targets a much younger target audience - i.e. mainly "millennials" - and helps us expand beyond the continent as it is particularly popular in the U.S. (Blattberg, 2015).

[5] The making of Maps without Borders – watch here: https://youtu.be/-Dc81AQmMWk

by UCL. The video was published on 9th of March 2017 and has *27* views so far. Also on our YouTube channel is a MOOC on Synthetic Biology and videos from the Voice of Citizen Science and DIY biodesign events both run by UPD. A full list of all videos with view count can be found in Appendices (Annex A. Table A4).

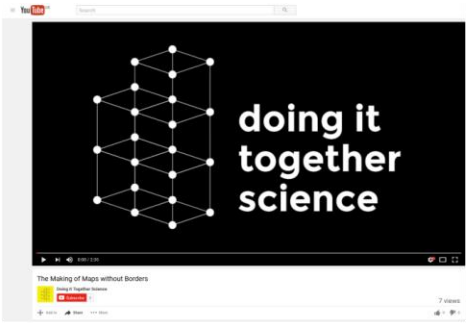

Figure 3a. DITOs YouTube channel.

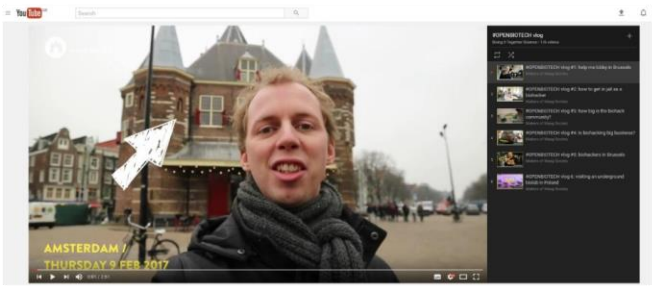

Figure 3b. DITOs YouTube vlogs on biotechnology by Pieter van Boheemen.

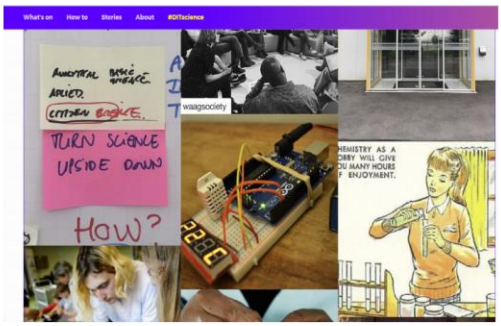

Figure 3c. #DITscience page on DITOs website.

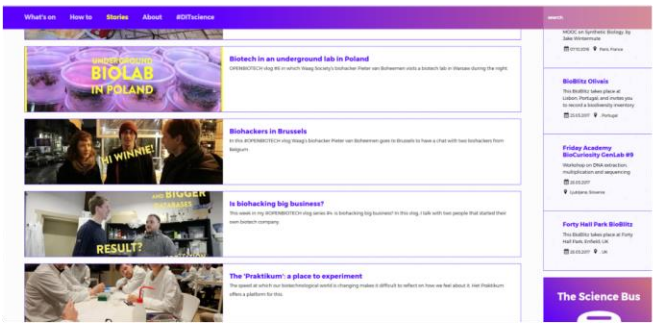

Figure 3d. DITOs stories page on DITOs website.

Figure 3 DITOs videos and media articles.

DITOs also uses media articles, which include all types of written press articles focusing on dissemination of DITOs activities and results, published on different channels. These take the form of news, announcements, tweets and press releases. Various news, announcements and can be found on DITOs under 'Stories' and on the partners' websites and social media (Figure 3d above). Last but not least, DITOs also uses the hashtag #DITscience and creates a collage of all information published on our website (Figure 3c). This is a very user-friendly way to scan information and click on anything that the user finds particularly interesting. It also provides an overview of all DITOs activities for any user to quickly grasp the vision and objectives of this action.

5.2.1.3 Electronic Newsletters and email blasts

Quarterly newsletters are issued so that all stakeholders are regularly updated on project's developments, which means that four major newsletters have been circulated so far (Annex B. Newsletters). The newsletters are compiled by UCL and WS with input from consortium partners, who provide information on upcoming events and photos.

To ensure the best delivery rate and to allow for an effective monitoring of the outreach, we use a professional emailing service (Mailchimp) which also allows campaigns (Figure 4). Two mailing lists have been set up with Mailchimp: a. 'DITOs friends', our public mailing list where everyone can subscribe; b. 'DITOs supporters and board members', a mailing list for communication that specifically targets our advisory board members and all those individuals and organisations that have been providing us with their support in terms of materials, access to tools and channels. In

total, the members of the two DITOs mailing lists exceed the *157* members. People can subscribe and unsubscribe themselves from this list.

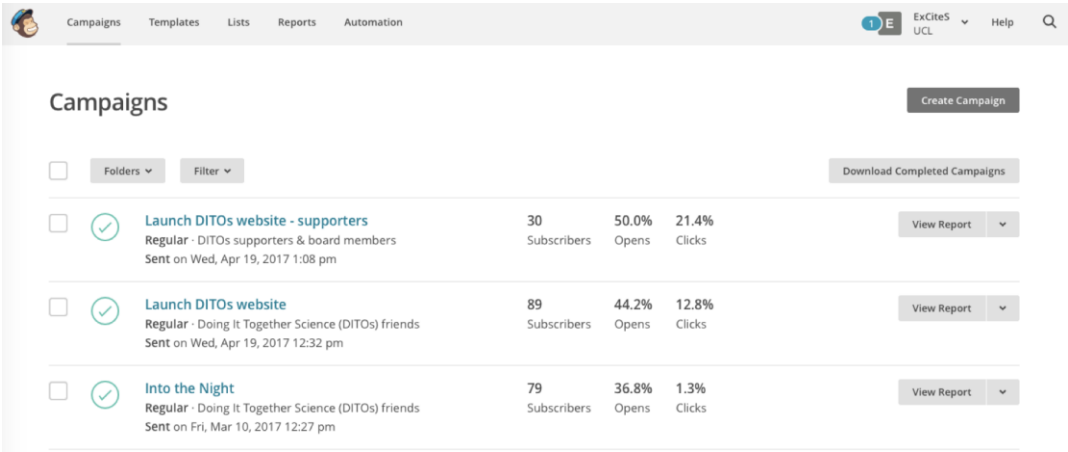

Figure 4 Mailchimp used for managing our newsletters subscription lists, communication and the design and execution of campaigns.

A report generated by Mailchimp documents important information and statistics such as successful deliveries, total opens, clicks per unique open, likes on Facebook, top locations and so on. As it is shown in Appendices (Annex C: Measure Impact and Monitor Statistics), Mailchimp collects data to help us understand and subsequently improve the way we manage our mailing lists and campaigns.

5.2.1.4 Project Reports

DITOs reports are significant dissemination outcomes which help us promote citizen and DIY science, communicate lessons learned and share our experiences and also increase transparency of our implementation frameworks and work. Over the entire project duration, DITOs will produce 22 reports in its deliverables, 20 of which will be made publicly available in the project website (resources area) in order to spread the project's excellence and disseminate knowledge to our target groups. Public deliverables already submitted are available on the DITOs website (Figure 5a) as well as UCL institutional repository (Figure 5b) to support archiving and the ability to find them in academic search engines and by our website therefore improving visibility and accessibility.

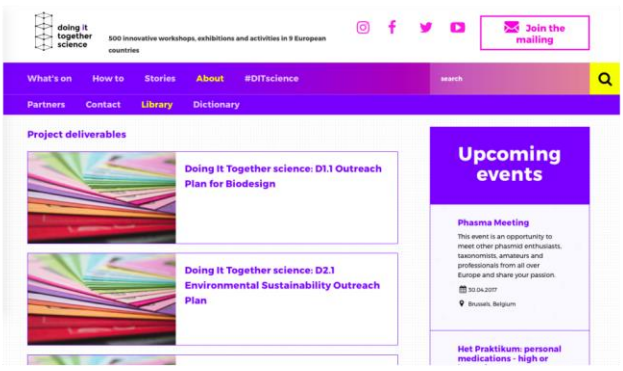

Figure 5a. DITOs website, Library page for publication of our deliverables.

Figure 5b. Public deliverables on UCL Discovery database.

Figure 5 Publication of Project Reports

5.2.1.5 Other Tools

A generic thematic brochure has been created with information about DITOs to disseminate as widely as possible in various public spaces (e.g. museums, galleries, university cafes etc.). So far, 400 brochures have been printed and distributed in DITOs events and the CSA 2017 Conference in Minnesota.

5.2.2 Communication and Dissemination Channels

DITOs communication and dissemination channels include: the DITOs knowledge sharing platform, contact databases, social media, the DITOs Interactive Science map and external channels. A new category was also added to include online communication channels which are used to support DITOs online activities (e.g. online discussion boards and forums that promote DITOs and citizen and DIY science). We further distinguish DITOs communication and dissemination channels in: a. DITOs channels and b. DITOs partner channels

5.2.2.1 DITOs Channels

The DITOs channels were created to support the project's dissemination and communication and to achieve our broader aim which is to increase awareness and participation in citizen science across Europe and beyond. The DITOs channels resulted in an outreach of *5,685* people via DITOs knowledge sharing platform, social media, YouTube and the mailing list (see Table 6 below for spread across channels).

Table 6 DITOs channels reach by type (as per June 2017).

Twitter	Facebook	Website	Mailing List	Instagram	Youtube	DITOs Curated Social Media Accounts
620 (followers)	394 (likes)	3,960 (unique users)	124 (subscribers)	38 (followers)	35 (subscribers)	514 (followers)

In the following paragraphs, we will discuss each channel in more detail.

5.2.2.1.1 Knowledge Sharing Platform

The DITOs knowledge sharing platform (http://togetherscience.eu) (Figure 6) is our 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 provides a map where events can be viewed and filtered based on either location or type of event. An interesting page is 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.

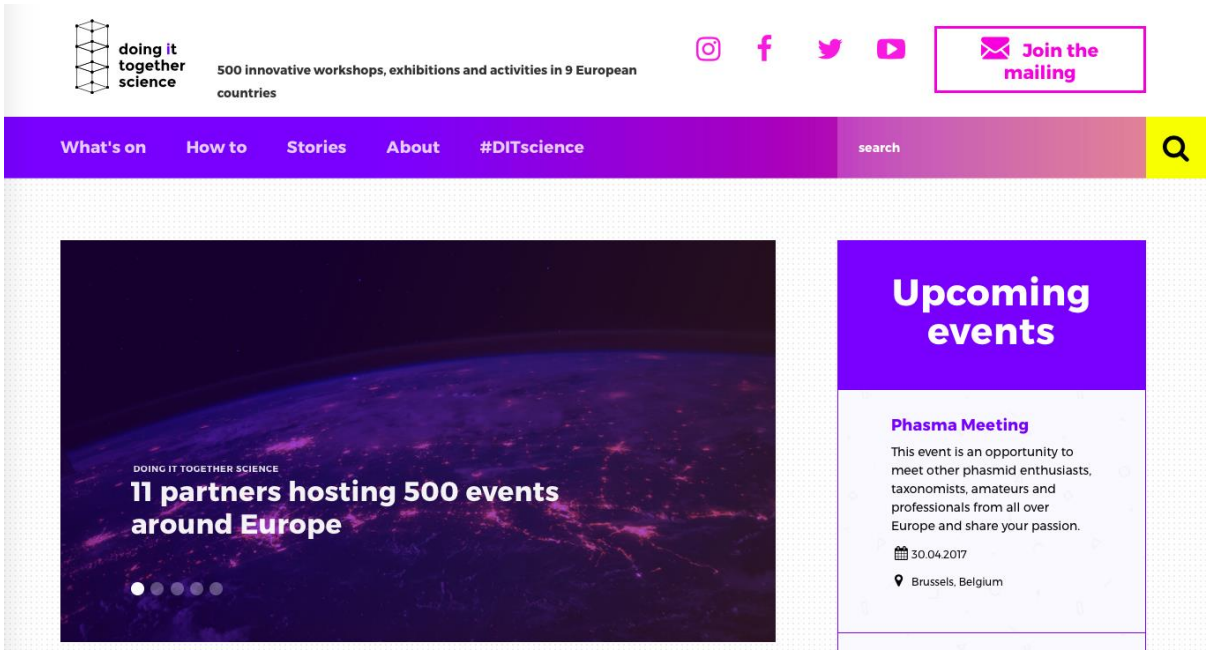

Figure 6 DITOs knowledge sharing platform [http://togetherscience.eu].

The website was officially launched on 19th April 2017. A campaign was run on Mailchimp for its launch to reach *89* subscribers (and resulted in *72* opens and *14* link clicks). Unfortunately, on the day of the launch the website generated only *45* visits, though it has to be acknowledged that the website's launch coincided with the Easter holiday. Nevertheless, April has been the month when most views were recorded on the website (*1,224* views, compared to the rest of the months which average around *700* views). Most of the visits were driven by mailing websites, social media and other related websites. We further promoted the website launch on social media on the day of the launch and in weeks that followed.

The relevant tweet on DITOs social media (Figure 7a below) reached *2,300* impressions and *68* total engagements, out of which 16 likes and 16 retweets by partners and other, and *18* link clicks. Facebook posts (Figure 7b below) to improve visibility, were boosted using Facebook advertising to reach a broader age group (i.e.18-65) with an interest in citizen science in the countries in which DITOs partners operate. One of these Facebook posts have, for example, reached *2,027* people, out of which *78* engaged in some way and received *46* likes and *11* shares.

Figure 7a. Website launch on Twitter @TogetherSci.

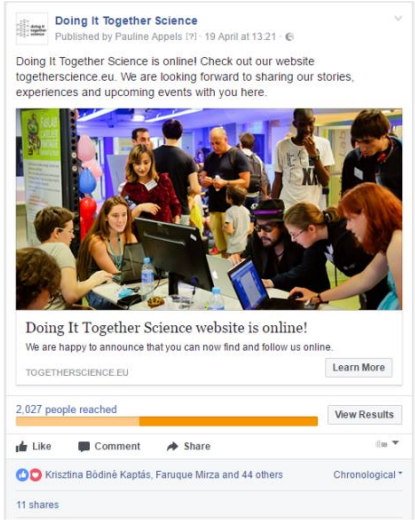

Figure 7b. Website launch on Facebook @TogetherScience.

Figure 7 Social Media Website Launch

Since December 2016, the website has a total of *5,507* views. Because our analytics software, Piwik, only calculates the 'unique visitors' data per month, we estimated the overall number of unique users based on the data available. Accordingly, we added the unique number of visitors for each month to get an estimated overall number of visitors. With the highest reaching month being April, when *805* unique visitors came to the website, *3,960* unique visitors are estimated to have visited the website since December 2016, but this could be slightly higher than the actual number (Annex C. Measure Impact and Monitor Statistics).

Since its official launch, on the 19th of April 2017, the website gained *2,125* visits, out of which *31.1%* were coming from from social media (*12.4%*) and the rest from other websites like Wikipedia, mailing websites and partner's websites. Overall, Twitter was responsible for *5.8%* of the website's traffic and Facebook for *6.6%,* since its launch.

Most visits to our website come from the United States. In Europe, most of our visits come from Western European countries, particularly the UK (12%), France (8.5%), Spain (5.1%), Germany (8.8%), and Netherlands (9.2%). Fewer visits come from Eastern Europe, with only 1.3% visits coming from Poland, 0.4% from Romania, 0.1% from Ukraine and Serbia and 0.9% from Greece. No visits have come from Bosnia & Herzegovina, Montenegro, Macedonia, Albania, Bulgaria, Moldova and Belarus (see Annex C. Measure Impact and monitor Statistics).

Piwik is not used to gather additional metrics of our visitors. WS, which is responsible for monitoring the impact of our tools and channels including the website analytics, stands for an open, fair and inclusive policy and puts this into practice with every tool or platform used. This explains the decision for using Piwik in the first place to monitor our platform's impact: it is an open-source software that guarantees privacy protection of the visitors. Other analytical tools make use of visitors' profiles (such as Google accounts) to gather demographic data that give insight into specifics such as gender and age of people reached online. This way of gathering data does not conform with the data policy of WS. This is why specific metrics such as gender and age are not gathered for the DITOs website. Nevertheless, this data will be available from other channels, such as Twitter or Facebook. This data will be used to draw conclusions about the online engagement.

5.2.2.1.2 Contact Databases (Mailchimp)

Mailchimp is used for storage and management of our mailing lists so far as it improves the ways we can communicate with our target audiences in terms of sending out newsletters, email blasts and organising and running email campaigns. As noted in the previous section (5.2.1.3) there are many pros for using Mailchimp for this reason. Mailchimp can be used to create different Mailchimp which correspond to different target audiences; so far we use two main lists: 'DITOs friends' and 'DITOs supporters and board members' but we are planning to expand those as it is discussed in the next section.

Our mailing list is growing steadily; in December 2016 it had 51 subscribers, in February 2017 it had 57 subscribers and at the end of June 2017 it has 157 members. The contact database is constantly promoted using *subscribe* prompts in the social media campaigns with relevant links to the Mailchimp generated Subscribe page, embedded in the Doing It Together Science website (Figure 8).

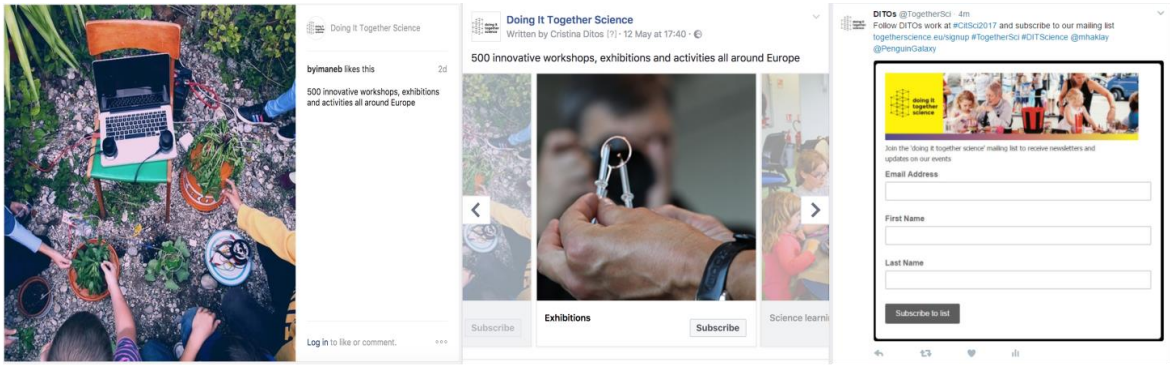

Figure 8a. Mailing List campaign on Instagram @togetherscience.

Figure 8b. Mailing List campaign on Facebook @TogetherScience.

Figure 8c. Mailing List campaign on Twitter @TogetherSci.

Figure 8 DITOs social media campaigns for subscribing to our mailing list.

DITOs partners also disseminate information, news and DITOs newsletters into their existing mailing lists with add up to a total outreach of *23,558* people (this is discussed more in depth in 5.2.2.2). Table 7 shows the spread of people reached for all partners that have a mailing list, which increases significantly the visibility of our work (for an example of partners' newsletters see Annex B. Newsletters). Although we do not have this information for all partners' mailing lists (mostly because not all partners collect this information) but from those that we do have enough data it can be said that 45% of subscribers are female. One of our aims for the next phase as it is discussed in the next section is to increase targeted content for women where there is a higher number of female subscribers.

Table 7 Number of people reached through the mailing lists of all partners.

Partner Name	UCL	WS	RBINS	ECSA	Kersnikova	Medialab Prado	UPD	UNIGE	Tekiu	Meritum	Eutema
Number of People in Mailing List	874	2,486	n/a	1,547	9,179	n/a	n/a	5,636	n/a	n/a	n/a

5.2.2.1.3 DITOs Social Media

DITOs social media includes: Twitter, Facebook, Instagram and a YouTube channel. Our engagement via these channels is presented in this section.

DITOs on Twitter: With *328 million* active twitter users worldwide and *500 million* daily tweets (Aslam 2017; Twitter, 2017) and with a profile of an average twitter user which shares many characteristics of those who usually volunteer in citizen science - i.e. mostly age 18-30 years old, with a college degree and above-average income (Newberry 2016) - Twitter is one of DITOs most highly used social media platforms. Keyhole (http://keyhole.co) hashtag analytics show for the last five days in June 2017 for #citizenscience a *2 million* reach and *2.3 million* impressions. Considering there is growing community with an interest in citizen and DIY science on twitter, this platform has proven to be particularly useful for reaching new publics via relevant new tweets and retweets.

Our Twitter account (@TogetherSci) had *324* followers in December 2016 (shortly after it was set up), *397* followers in February 2017, and *668* followers in June 2017 with an average of around *7,000* impressions per week. However, if in December 2016 and February 2017 Twitter's outreach was *57%* women, in June 2017, it is *53%* women, showing a slight decrease in the relative number of female followers as the total number of followers has increased (see Annex C. Measure impact and monitor Statistics).

Twitter is used, since its launch, on a monthly rota by all partners, but all partners use the relevant hashtag (i.e. #DITscience) when they are posting related tweets in other pages at all times. During the first year of the project Twitter has been used for:

- Promoting DITOs events and activities related to biodesign (WP1), environmental sustainability (WP2) and Capacity Building (WP3) (*40%* of all our tweets[6] from 19/02 to 21/05/2017);
- Communication of content related to citizen and DIY science interest (*21%* of total tweets as per May 2017) including other citizen science events and activities;
- Running engagement activities, which involve conversation with other citizen science organisations and individuals, as well as polls, links, stories and friendly questions to encourage more active engagement of those that we reach online (*33%* of total tweets) e.g. hashtags such as #citscistories, which prompt readers to come up with their own ideas and narratives and propagate conversation.

[6] This number was generated by manually counting the number of tweets from February 2016 to May 2017

- Promoting other *DITOs* channels, such as the DITOs YouTube channel *(2%* of total tweets), mailing list (*1.5%* of total tweets) and our DITOs website togetherscience.eu (*1.5%* of total tweets).

Analysis of "top tweets" and "top interactions" suggests that promoting DITOs events and activities gains the most interest (e.g. in the form of retweets), while engagement activities gain the most new followers.

Figure 9a. Claudia Göbel from ECSA: Partner's post using #DITScience.

Figure 9b. Tweet about DITOs activities and events.

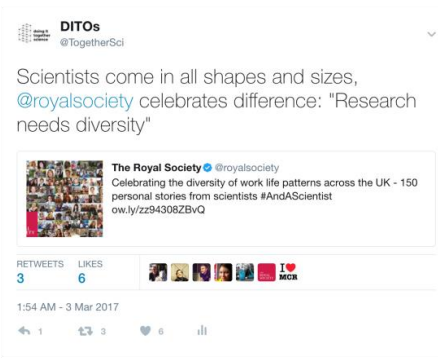

Figure 9c. Communication of content relating to Citizen Science on Twitter.

Figure 9 Examples from the use of Twitter

Figure 10a. Encouraging interaction on Twitter @TogetherSci.

Figure 10b. Promotion of DITOs YouTube Channel on Twitter @TogetherSci.

Figure 10c. Promotion of DITOs Knowledge Sharing Platform on Twitter @TogetherSci.

Figure 10 Twitter DITOs activities to improve interaction and encourage engagement.

It should be noted that DITOs partners and individuals have been also invited to curate other popular Twitter accounts, for example @IAmCitSci, a rotating account for citizen scientists and practitioners with *1,206* followers at the time of writing this deliverable. Such type of activities further draw attention to our DITOS channels and help to increase our public and academic target audiences and outreach. This experience is described in one of our blog posts (Sheppard 2016).

DITOs on Facebook: With *1.28 billion* daily active Facebook users on average (as of March 2017), with more than *80%* outside the U.S. and with a higher female population (Facebook, 2016; Zephoria Digital Marketing, 2017) Facebook is equally important as a social media platform in DITOs. Building on the strengths of this platform and considering its differences with other social media tools (e.g. Facebook posts have a much longer life), DITOs aims at gradually building a Facebook community in DIY and citizen science.

DITOs Facebook page (@TogetherScience) had *zero* likes in December 2016, *209* page likes in February 2017, and reached *426* page likes in June 2017, out of which *57%* were female (Annex C. Measure Impact and Monitor Statistics).

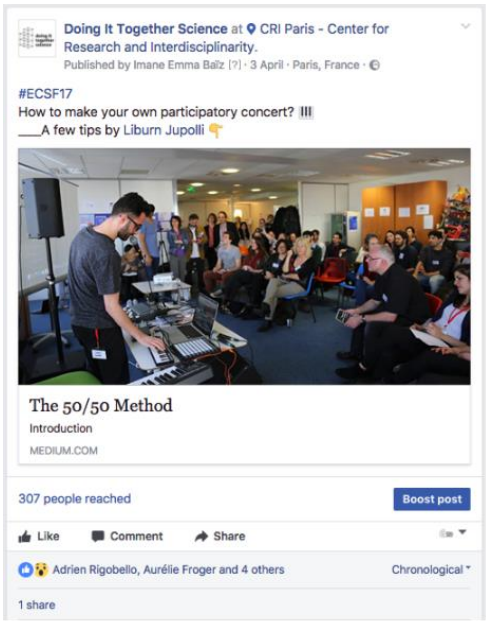

Figure 11a. Facebook post about DITOs activities and events.

Figure 11b. Communication of content relating to Citizen Science on Facebook.

Campaign name	Resu...	Reach	Cost pe...	Amount sp...	Ends	People t...	Unique ...	Uni...	Page lik...	Link clic..	Page en...
Newsletter	5 Leads (Fo...	1,394	£2.60 Per Lead (Fo...	£13.01	18 May 2017	30	41	1.79%	6	26	34
Post: "Do you brake the rules or do you...	13 Post Enga...	918	£0.62 Per Post Eng...	£8.00	19 May 2017	11	18	0.54%	–	6	13
Post: "It's never too early to do science...	49 Post Enga...	1,840	£0.20 Per Post Eng...	£10.00	3 May 2017	49	67	1.03%	–	19	49
Post: "Science has no gender!"	64 Post Enga...	1,856	£0.16 Per Post Eng...	£10.00	3 May 2017	67	80	0.32%	3	6	67
Results from 4 Campaigns	–	5,855 People	–	£41.01 Total Spent		152 People	203 Total	0.94% Per Per...	9 Total	57 Total	163 Total

Figure 11c. Paid advertising results insight on Facebook.

Figure 11 Examples of Facebook posts.

The DITOs Facebook page is moderated by UCL, with partners sharing relevant posts regularly. In the last six months our Facebook page has been mostly used for:

- Posting information about event and activities (Figure 11a) related to biodesign (WP1), environmental sustainability (WP2) and capacity building (WP3) (*54%* of total Facebook posts[7]);
- Communication of content related to citizen and DIY science interest (*28%* of total Facebook posts - Figure 11b), including other citizen science events and activities;
- Promoting other *DITOs* channels, such as DITOs YouTube channel (2% *of* Facebook posts) and our DITOs website togetherscience.eu (17% of Facebook posts);
- Running campaign to target specific audiences (18% *of total posts*). For example, Facebook advertising tools were used for three targeted campaigns to mainly promote our website and increase subscription to our mailing list. A total of £28 was spent, leading to *4,450* people reached, *122* unique people taking action, *162* total clicks (including page clicks, link clicks, likes and shares) and *129* page engagement

[7] This number was generated by manually counting the number of posts from February 2016 to May 2017.

actions, including *nine* new page likes (Figure 11c). One campaign was used to promote the page to mainly women (Figure 12a), which reached *1,985* people, out of which *75* took some form of action. Another campaign targeted at parents with younger children (Figure 12b). Finally, another campaign was launched to promote the page to students with an interest in science (Figure 12c) and which reached *1,105* people, out of which *22* interacted with the post and which was further shared in a student science interest group with *17,275* members.

- Promotion of content to engage more women (11% of total posts), parents with young children (15% of total posts) and students.

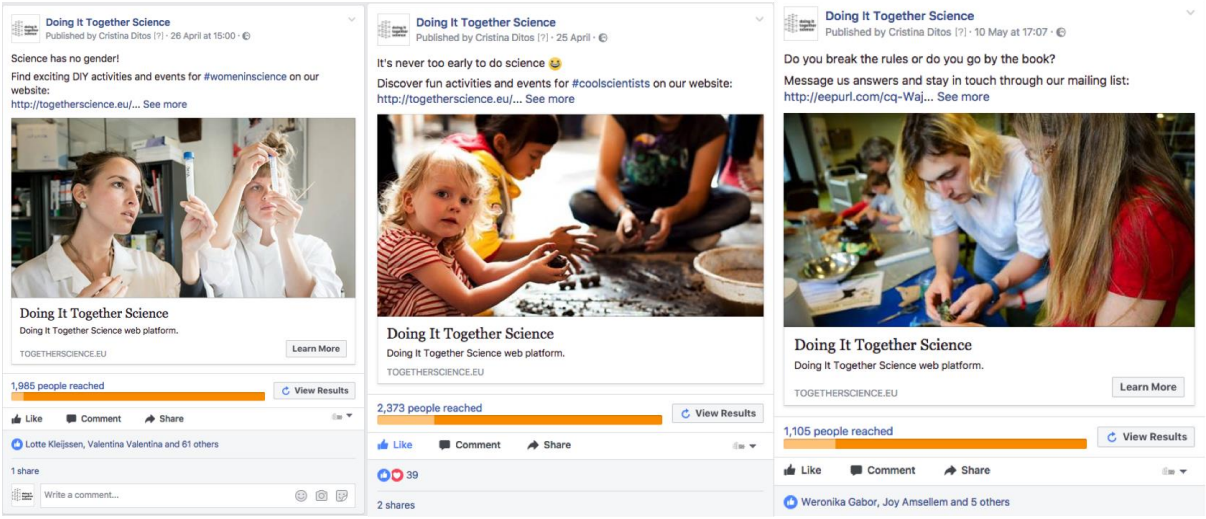

Figure 12a. Paid advertising targeted at women on Facebook.

Figure 12b. Paid advertising targeted at children on Facebook.

Figure 12c. Paid advertising targeted at students on Facebook.

Figure 12 Advertising and campaign on Facebook.

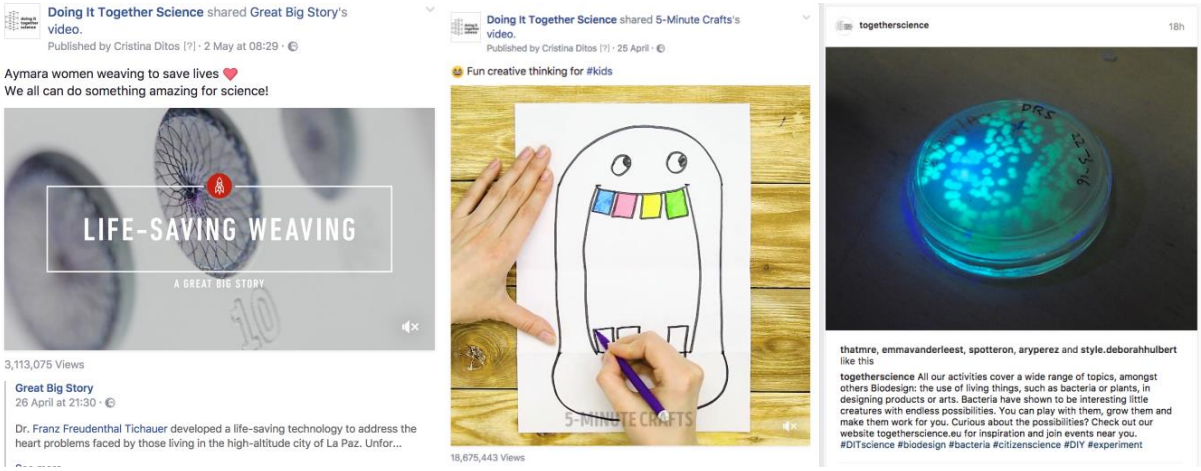

Figure 13a. Post targeted at women on Facebook.

Figure 13b. Post targeted at parents on Facebook.

Figure 13c. Post on Instagram.

Figure 13 Examples of posts on social media.

Twitter was linked to Facebook on 23rd of May 2017, in order to increase the number of tweets and have connected dissemination amongst DITOs platforms.

DITOs on Instagram: Instagram is a popular social media platform for sharing images and videos, which can be thought of as the business response to the growing obsession with mobile photography. With over *600 million* Instagram users worldwide,

with *90%* of those under the age of *35* (Smith, 2014), we included it into our social media platforms as the platform which would enable DITOs to share our images and reach a younger population, especially girls and women (i.e. 68% of Instagram users are female: Smith, 2014). Instagram was only launched recently and has so far *63* followers and *23* posts (see Figure 13c).

DITOs on YouTube: Another social media platform that DITOs uses is YouTube, which was chosen due to its usability in sharing and disseminating visual content, mainly videos. With *300* videos uploaded per minute, YouTube has something for everyone (Blattberg, 2015). Being mainly fairly male-dominated, the spread depends on the category of videos that you choose to look at (Blattberg, 2015). This is particularly important as almost all internet users are on YouTube (Blattberg, 2015). It offers great potential in reaching new people, particularly through linking from other videos.

The DITOs YouTube channel (Doing It Together Science) had in June 2017 *36* followers, *17* video uploads and seven created playlists, including UPD's five MOOCs, Waag Society's Open Biotech and the Voices of Citizen Science series. The YouTube channel was promoted for the first time on 23rd May, through our partner UCL's mailing list, reaching *22* link clicks (see Annex B. DITOs Newsletters). DITOs YouTube channel was also promoted using our social media (Figure 10b for Twitter example). As is discussed in the following sections, more attention will be paid in the future to increasing the number of YouTube followers and views for DITOs videos.

5.2.2.1.4 DITOs online activity channels

DITOs online activity channels is a new dissemination and communication category that it is added in this deliverable (i.e. was not included in D6.2). These are not events as the rest that take place in DITOs and they are different from the other online channels in that they have their own purpose of existence which goes beyond simply communicating and disseminating DITOs related material. They are online activities which are used to achieve a *two-way information exchange and active engagement* and include specific activities such as forums and discussion boards, describe in the Grant Agreement, where we describe three such activities (i.e. 'Ik Heb Een Vraag' website, 'If I were Prime Minister' video gathering and the Interactive Citizen Science map). The outreach or engagement of these online activity channels is reported via the 'events diary' tool; for example the Belgian 'Ik Heb Een Vraag' activity channel (Figure 14), run by RBINS, which was so far visited by *550,435* people. Another activity, ''If I were Prime Minister', has so far generated *10* responses.

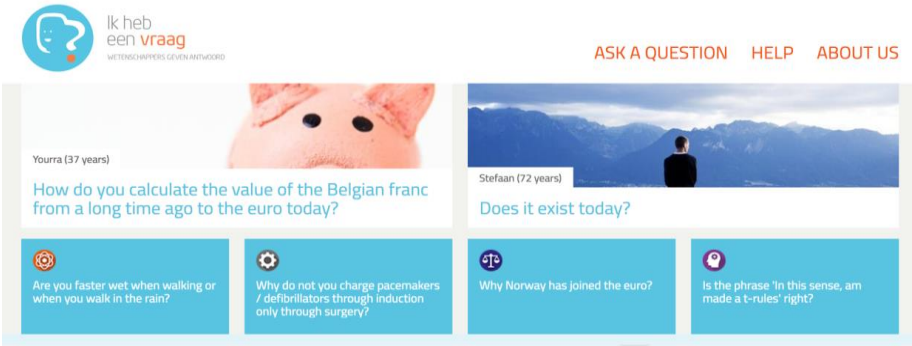

Figure 14 'Ik Heb Een Vraag' activity channel. Translated from Dutch

Table 8 Online activity channels evaluated to date.

Event name	Translation/description	WP	No of people engaged (or reached by e.g. visiting the online activity channel)	%of those female
Ik Heb een Vraag	"I have a question" discussion forum	WP3	550,435	46^
If I were a Prime Minister	Video gathering activity	WP3	10	60%
Total			**550,445**	**N/A**

5.2.2.1.5 DITOs Interactive Citizen Science Map

The interactive citizen science map, developed by the University of Geneva (UNIGE), shows the evolution of European Citizen Science over time (Figure 15a). In the back end, the map integrates data from various citizen science projects and in the front end it shows the location of citizen science contributions in real-time as they occur demonstrating not only the impact of various projects and their outreach, but it also helps volunteers identify projects local to their area and join them (Figure 15b). The Interactive citizen science map is an important visualisation tool which significantly increases visibility of citizen science and contributes to the DITOs aims for improving awareness in citizen and DIY science.

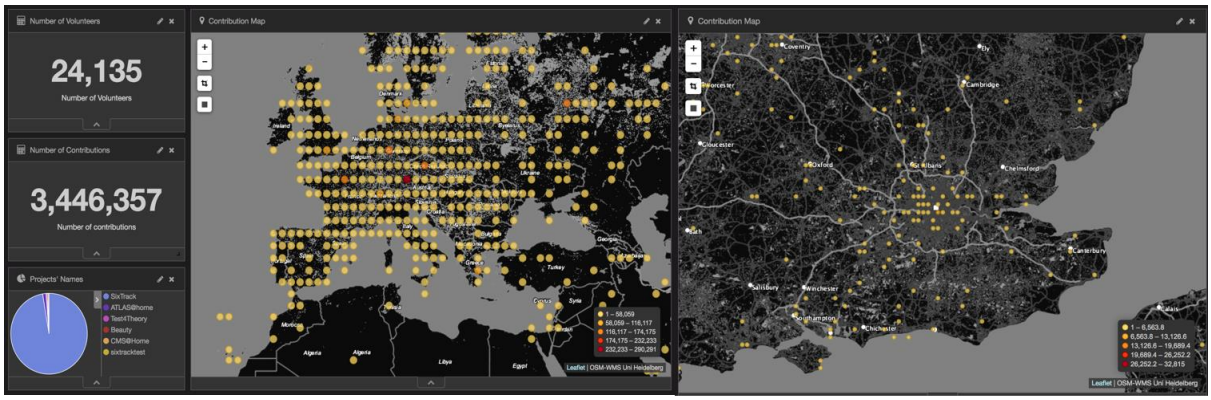

Figure 15a. Interactive CS map of Europe. ***Figure 15b.*** Local map of CS in London, UK.

Figure 15 Interactive Citizen Science map.

The map has only been launched in July 2017 and although it is up and running and it has not been evaluated for unique views and engagement. Impact of the interactive citizen science map will be reported at the end of July via the *'Measure Impact and monitor'* tool.

5.2.2.1.6 Social Media Packages and Marketing

Although the DITOs Facebook page occasionally engages in marketing – "boosting" posts so that they appear on the Facebook timelines of individuals likely to be among our targeted audiences, such as women, children and students – it was decided after a trial with Hootsuite and Buffer in autumn 2016 not to use commercial social media packages. Although these are suited to business accounts and offer services such as promoted tweets at suggested "peak times", these were of interest to more commercial

organisations than DITOs. The analytics page of Twitter provided more information relevant to us, such as relating to target audiences, than the analytics offered by social media packages, and their use was therefore limited. It was therefore decided to focus instead on providing content likely to be of interest to our target audiences and therefore be spread by "word of mouth", and of making use of Twitter's own analytics page and tools such as scheduling tweets, available on the specialist Twitter platform Tweetdeck. While marketing campaigns have a place in science communication, they have been found not to increase participation time in citizen science projects (Crall et al, 2017).

5.2.2.2 DITOs Partners Channels

It is explained in the grant agreement that DITOs partners and supporters will make use of their own channels and tools to promote and disseminate DITOs related content. DITOs partners include key players in the area of citizen science and therefore their channels already have a significant number of users, which are now further used to spread the word about DITOs and contribute to reach a wide and broad selection of people online (Figure 16a, b).

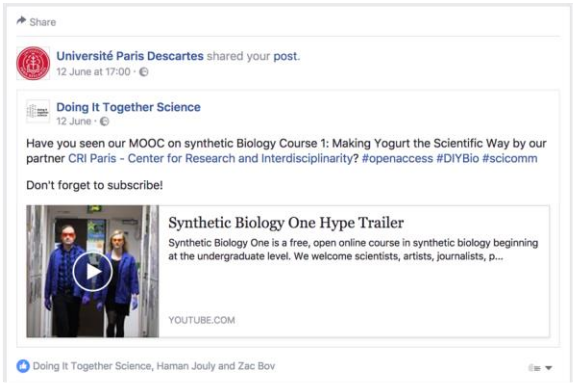

Figure 16a. UPD sharing the trailer for the first MOOC on Facebook @TogetherScience.

Figure 16b. Citizens Without Borders sharing the Twitter page @TogetherSci.

Figure 16 Partners share DITOs content on their channel.

Each of the partners and supporters manages a number of different communication and dissemination tools and channels online. The total number of people reached via all of our partners' and supporters' channels was *1,211,387* people (see Annex A). We further calculated the total outreach based on only the highest reaching channel for each partner (based on the assumption that the same people might follow the same partner across various channels), which is again over a million. In Annex A. DITOs Online Engagement and Outreach, you can follow the detailed calculation for each of the partner and supporter, considering both the total number of followers on all channels, and only the channel with the highest reaching audience number.

5.2.2.3 External Channels

External channels in D6.2 include external platforms of organisations, institutions and projects that are relevant to the project. A full list of these is provided in D6.2 (Section 5.7.5). As these are not internal to DITOs our outreach via those platforms is not possible to be measured.

5.3 Summary and Lessons Learned – Key Performance Indicators Assessment and Update

Below we list the key performance indicators identified in D6.2 and we further evaluate and comment on our performance with respect to each indicator below (last column)

Table 9 Progress made towards achievement of Key Performance Indicators from deliverable D6.2 and update.

Objective (As defined in D6.2)	**Mechanisms to achieve objective**	**KPI1**	**KPI2**	**KPI3**	**Comment from Reporting M12**
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	*195 events took place engaging a total of 45,279* people in the first six months.
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	-	*45,279* people engaged via DITOs events; *1,767.517* people have been engaged via our online dissemination and communica-tion tools and channels in the first six months.
Communication O3: Support the dissemination objectives	Meet all KPIs	-	-	-	Work in progress.
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 the Pan-European Policy Forum 50		ECSA members increased by 40 at the end of the first year and they are a total of 212
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	Plan extended in preparation of CDE Plan Update to address project's needs, limitations

					and 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 delivered and is used across all communicatio n and dissemination material. DITOs is now recognised as a brand; 4 newsletters have been already sent out.
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	Mailing lists of DITOs and partners add up to *23,558* ; all partners have now curated the DITOs twitter account and continue to do so exceeding KPI 3 expectations.
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 -	6 reports already online; Work on logic model is still in progress.
Explotation 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			Number of ECSA members have increased to 210, and continues to increase
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 organisation s express interest in the DITOs Innovation Hubs network.	Preliminary analysis of DITOs partners as innovation hubs have been developed
Exploitation O3: Maintaining and	WP3	Identification of new	Implement new	Migrate in the new	Information is currently

exploiting a knowledge sharing platform for citizen science. (NEW)		functionality that will be added to the platform.	functionality in the platform by M36.	platform to be maintained by ECSA immediately after M36.	being collected

Although DITOs is only at the end of its first year and only in the first six months of the actual engagement phase (i.e. Phase 2), there was already significant progress in terms of improving awareness in the citizen and DIY context. A large number of events were carried out (i.e. 194 out of the 500 included in the grant agreement) (Table 10), reaching an audience of 45,279 people. With the majority of events running during Phase 2 (until M24) there is more than enough time to reach the expected audiences. For example, our travelling exhibition just launched in July 2017 and it will run in the next three months all over Europe, expecting the numbers of our engagement audiences to improve significantly.

Table 10 Number of events and participants reached to date and expected number by M36 as described in the grant agreement.

	No of planned events	**No of events took place**	**Expected Number of participants in events**	**Participants reached**
Biodesign (WP1)	200	112	35,000	5,710
Env. Sustainability (WP2)	205	59	240,000	36,361
Public engagement and capacity building (WP3)	70	5	15,500	684
Policy engagement for RRI	25	18	850	1,335
Totals	500	194	290,000	45,279

Although it goes beyond the scope of this deliverable to evaluate the number of events that were carried out and the outreach, which is extensively discussed in the deliverable D5.3, it should be noted that we identified some limitations with respect to monitoring the engagement via our activity channels (e.g. the current online engagement outreach that it is reported in this deliverable does not include any data from the engagement of MOOCs and the CRI Journal, which are both included in the grant agreement).

Online we reached out a total of *1.2* million via DITOs dissemination and communication channels and those of our partners. Although this number may be criticized for including the same users in more than one of DITOs or our partners' channels, and that many of those counted only seen a tweet briefly and did not engaged with it beyond this. Yet DITOs aims to engage people at all levels, and starts from the assumption that most people have not heard the term citizen science and DIY science, and therefore making it appear in front of them might, eventually, spark their interest. While we have done some work to ensure that our counting is not doubling the number of people pointlessly, we maintain that the high numbers that we are counting are outreach "events" with different people and the total number it is still a very high in terms of outreach. To give an example of the success of DITOs online,

note that DITOs Twitter followers are close to 750 when similar projects that were funded under the same call and started a month earlier or even a year earlier are followed on twitter by lower number of people (200, and 500, respectively). Although it is extremely hard to identify if a user who has an account in various platforms is included across our channels more than once, we expect that our online outreach number will be at least tripled by the end of this year and with such events as the travelling exhibition taking place and with the additional effort we place on our online engagement (which is discussed in the next section, we expect that more unique users will engage with us online (e.g. within the first week that the travelling exhibition was launched there were only on DITOs Facebook about *100* new followers), hence our online outreach will significantly exceed the numbers that are listed in the grant agreement.

Looking at our dissemination and communication tools, we conclude that:

- Printed media, DITOs visual identity and promotions such as DITOs leaflets, business cards and T-shirts were successful in communicating the project's branding and ethos (based on responses and feedback we received). We have not tested how memorable our branding is but this is something we are planning to do within the next months of the project.
- Traditional media such as TV, radio, newspapers and magazines has not yet been used to its full extent. Where we know that they were used it was extremely hard to report on the numbers reached and include them in this deliverable.
- YoutTube videos that were created to provide an alternative way to engage with DITOs have not be proven as effective yet considering the amount of effort and time that it is required to prepare and publish such material. A strategy that helps DITOs effectively make use of these tools is essential.
- DITOs partners' mailing lists reach an impressive 23,558 people in different countries across Europe, proving to be a very useful tool in reaching Europeans already interested in citizen science. However, our mailing list management tools enable us to notice that only a small percentage of these people take some action after reading a newsletter, e.g. open and click on the links associated with the email newsletter. Perhaps more thought and expertise from outside DITOs needs to be brought in to think of ways that improve our newsletters and encourage engagement.
- Other materials such as the DITOs information brochure are now disseminated across Europe via our travelling exhibition and we are also planning to translate and disseminate these via our website in as many European languages as possible.

With respect to DITOs dissemination and communication channels, we conclude that:

- The DITOs knowledge sharing platform has proved to be a powerful channel for reaching a significant number of online users, with many of them coming from outside Europe. A new communications plan is being developed to source and produce content that effectively captures our target audiences and records instances where examples of this has

been successful or unsuccessful. We also need to add more material translated into various languages, and are beginning with the DITOs bus instructables and the DITOs information brochure.

- Social media is perhaps the most interactive online channel that we use in DITOs (Figure 17a,b), and we are planning to invest further resources to be more inclusive towards our target audiences but also in terms of expanding to build a very interactive self-sustained citizen and DIY community, something which is extensively discussed in the next section.

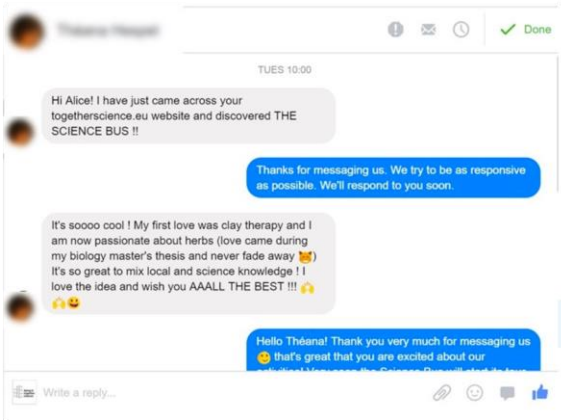

Figure 17a. Replying to people getting in touch on Facebook @TogetherScience.

Figure 17b. Replying to people getting in touch on Twitter @TogetherSci.

Figure 17 Facebook communication and interactions: replying to people in social media.

- DITOs partners' and supporters' channels were a significant source for reaching out to a high number of people. However, less attention was paid to delivering targeted content that takes into account the special requirements of our diverse audience as well as making these audiences realise the existence of DITOs platforms to increase traffic and outreach there.

6 Communication and Dissemination Plan - Next Steps

6.1 Updated Target Audiences Analysis

As the project progressed towards the end of the first year advancing our understanding of who is engaged and how, the DITOs communication and dissemination team, which mainly involved the WP3 and WP6 leaders, realised the importance of revisiting our target audiences working towards a far more detailed 'target audience' plan which we present here (see Annex D). For the initial target audiences that were identified with our preliminary dissemination and communication plan the reader may refer to deliverable D6.2 (Skarlatidou and Sheppard, 2016).

DITOs updated target audiences include: Policy Makers, the Scientific Community, Innovators and Entrepreneurs, Science Practitioners, Schools and Universities, Women and Girls, Funders and DITOs Ambassadors. Deliverable D6.2 listed 'the general public' as a specific target audience, which we have decided to not include in D6.5 not only because it involves all other target audiences but it is also far too broad

to design a specific communication plan for its engagement. Moreover, we include herein two more target audiences - i.e. DITOs Ambassadors and Funders. DITOs Ambassadors are friends, fans and everyone else who has participated in our events and who wants to spread the word. It was decided to include them in our communication and dissemination plan because their continuous engagement is absolutely essential, and we thus need to identify opportunities for them to support and contribute to our communication and dissemination activities increasing their role and presence into the project. Funders is a fundamental target audience, which is usually ignored. As it was noted in the introductory section, in one of our DITOs events which aimed at mapping stakeholders in co-creation activities of citizen science, it became clear that communication activities that target funders are extremely problematic and further attention needs to be placed to improve this.

Following the identification of our main target audiences, we continued with an in-depth analysis on how these audiences can be reached. First, we looked at the relevance and appropriateness of DITOs channels in terms of reaching each target audience (Table 11).

Table 11 Media preference for each target audience.

	Policy Makers	Scientific Community	Innovators & Entrepreneurs	Science Practitioners	Schools & Universities	Women & Girls	Funders	DITOS ambassadors
DITOS website	✔	✔	✔	✔	✔	✔	✔	✔
Blogs	✔	✔	✔	✔	✔	✔	✔	✔
Mailing lists	✔	✔	✔	✔	✔	✔	✔	✔
Twitter	✔	✔	✔	✔	✔	✔	✔	✔
Facebook		✔	✔	✔	✔	✔	✔	✔
Instagram			✔		✔	✔		✔
LinkedIn	✔	✔	✔	✔	✔	✔	✔	✔
YouTube		✔	✔	✔	✔	✔		✔

Second in our analysis, we considered the audiences that each partner is better at reaching (Table 12: source D3.1 section 6, pp. 22). This is fundamental in terms of directing shared content from different channels.

Table 12 Audience of each partner (Source: Klejssen et al., 2016).

Partner	Public	Policy	Academia/ Scientists	Industry
UCL	✓	-	✓	-
WS	✓	-	-	-
RBINS	✓	-	✓	-
ECSA	✓	✓	✓	-
Kerniskova	✓	-	-	-
Medialab Prado	-	✓	-	-
UPD	✓	-	-	-
UNIGE	✓	-	✓	-
Tekiu	-	✓	-	✓
Meritum	✓	✓	-	-
eutema	✓	✓	-	✓

Thirdly, each target audience was considered separately, in order to plan for a more effective development of targeted communication content. Thus, for each target audience we include the following information:

- Who are they (i.e. Job titles);
- What do they talk about (in the form of hashtags and keywords);
- Facebook and Twitter accounts;
- Google keyword search examples with information about whether these are provided by our togetherscience.eu website (i.e. to mainly help us improve our Google search find results).

An example of this information can be found in Table 13 below, although we provide the results of the full analysis in our Appendices (Annex D. Target Audience Analysis). This is a live document that we also keep on Google Drive and which we constantly update on a weekly basis to improve information about our identified target audiences.

Table 13 Example of Target audience analysis for women and girls

(for the full list of target audiences see Annex D).

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?	@vickyyyf: 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

Relevant hashtags (#) and tags (@) will be used for our posts, particularly on social media, in order to increase the visibility and relevance of DITOs content. This will half-automate the process of targeting posts, by creating an easy-to-reach database of targeted knowledge to link to. In addition, we have developed a set of questions and specific communication practices for each target audience in the form specific instructions. Examples of such targeted posts are provided by Figures 18 below.

Figure 18a. Post directed at policy makers on Twitter @TogetherSci.

Figure 18b. Post directed at schools and universities on Twitter @TogetherSci.

Figure 18 Examples of targeted posts on Twitter.

6.2 Communication and Dissemination Tools - update

6.2.1 Visual Identity and printed media

Due to the success of DITOs visual and overall brand identity and the use of DITOs style documents throughout the project in terms of adoptability across the consortium, we have decided to not make any further changes but instead encourage their wider and broader use whenever this is applicable. We will also design a short survey to monitor and assess the recognisability of DITOs brand identity within citizen science communities.

WS has already introduced a unique design for DITOs printed media such as leaflets and business cards, which is already used and will continue using it. This follows specific guidelines discussed in D6.2. Currently we are also creating unique design styles for public deliverables that target specific target audiences (e.g. policy briefs) to promote their wider dissemination. In this phase, we will promote and encourage wider use of UNIGE's postcards and other fan material that DITOs participants can take home.

6.2.2 DITOs videos and media articles

We will continue to develop DITOs videos, with a focus on promoting DITOs YouTube channel even further (see section 6.3.6). We will also consider opportunities for creating more targeted content for our participants and broader outreach and also connect better with the wider YouTube community in the context of citizen and DIY science. A YouTube video to answer the question 'What is DITOs?' is yet to be designed by WS.

Media articles make reference to all types of written press articles focusing on presenting the DITOs activities and results that are published on different channels. They may take the form of news, announcements, tweets, press releases, published on the project website, on external websites including partners' websites, on social networks, etc. The outreach will be monitored via the 'Measure impact and monitor' tool.

6.2.3 Electronic Newsletters and Email Blasts

A quarterly newsletter will continue to be issued to ensure that all stakeholders are regularly updated on project's development via Mailchimp. A summary of the DITOs newsletter will also be circulated via ECSA's regular newsletter (in a DITOs section)

to support our wider exploitation development framework. Email blasts will be also sent occasionally to communicate content targeted to specific target audiences and to notify users about specific DITOs activities (e.g. the launch of the travelling exhibition).

A greater effort will be placed in this phase towards expanding our contact databases and mailing lists even further. This will be achieved by an increase in the number of targeted posts for this purpose via DITOs media and DITOs partner channels, as well as via campaigns (on Mailchimp and Facebook) with a focus on dissemination by partners.

Upon the project completion, a newsletter will be sent to announce the project's end and invite our subscribers to join ECSA's newsletter to keep themselves updated in the citizen and DIY science context.

6.2.4 Project Reports and other tools

We will continue to post the project reports on our knowledge sharing platform, and we will promote these via our social media. As it was noted public deliverables that do target specific target audiences such as the Policy Briefs (i.e. D4.1) will be promoted as widely as possible.

6.2.5 Responsibilities and Quality Assurance

At least every six weeks, WS (assisted by UCL) will review the DITOs web content monitoring partners' contributions to date and assigning future responsibilities for providing new content. This will ensure a dynamic, relevant and timely content.

6.3 Communication and Dissemination Channels - Update

6.3.1 DITOs Knowledge Sharing Platform

The knowledge sharing platform functions as an online hub to present information relevant to DITOs, its activities, blog posts, #DITScience and @TogetherScience news and relevant activities, links to the partner websites, instructables for participants, DITOs public deliverables, and so on. In the next stages, we will continue growing the platform towards this direction and we will also add content that targets specific audiences as well as more translated material whenever possible. DITOs will also focus on running a Google Ads campaign and on developing Search Engine Optimisation. For this purpose, our new target audience analysis will be used for assigning the appropriate keywords. We will also continue to promote our website using our other platforms by linking to relevant pages. As DITOs community grows we expect to host and share blogs and other information that it is developed by our target audiences. A separate platform (togethersciencebus.eu) will be created to host al information relevant to the Science Bus when the exhibition will be launched.

6.3.2 DITOs Social Media

DITOs on Twitter (@TogetherSci): According to Table 9, Twitter targets all our target audiences and therefore enables us to reach a very diverse audience. In the future, we will attempt to further target our posts, by making use of our target analysis hashtags and keywords and relevant links to other accounts, as appropriate. Our short-term goal is to increase our audience towards all directions. Our long term goal is to create a self-sustaining community, in a similar style to other citizen science accounts such as @SciStarter and @the_zooniverse (citizen science projects) and @IAmCitSci (rotating individuals) but with the specific message of "doing it together" and the speciality of being a series of events. We therefore need to continue to interact

with other accounts and also as many DITOs partners and ambassadors as possible should tweet.

For the next two years of DITOs, @TogetherSci will continue to be a rotating account with each partner taking at least another two turns at curation. However, we will continue to examine successful tweets by partner organisations (both tweeting as @TogetherSci and as their own institution) and carefully gather topics that spark the most interest. We anticipate that this will be specific activities, such as the travelling exhibition. We will therefore work more closely with each partner to share stories from events and activities to ensure these are tweeted promptly. Other platforms such as partners' blogs and the Flickr and Instagram accounts where pictures were taken will be used as soon as possible.

As we gather feedback about which topics generate more interest, training will be provided by UCL's community manager to other partners in writing interesting tweets. More importantly, citizens who take part in events will be invited to take photographs and share their experiences in various aspects of our social media (especially Facebook and the DITOs and partners' blogs). After the completion of the travelling exhibition in November 2017, we anticipate that several citizens will have communicated interest to us in sharing their photos and stories, and as part of our deeper engagement strategy we will invite these citizens to spend short periods curating the Twitter account as "DITOs ambassadors". Other "DITOs ambassadors" may be citizens in or out of academia who run citizen science events or projects and would like to share their stories. By 2018 we plan to have a small number of "DITOs ambassadors" occasionally curating the Twitter account for a day or a few days, and this increasing throughout 2018-19. By the end of the DITOs project, we intend that the account should have gained widespread interest with several individuals and organisations happy to take turns curating it.

During this time we will continue to tweet not only our own work but that of other citizen scientists and citizen and DIY science projects, as well as any news items relevant in terms of biodesign, environmental sustainability, capacity building, policy and generally "doing it together". This will promote wider engagement as well as alert more citizen science projects to our work (dissemination) and promote future collaboration. We will also utilise relevant hashtags not only of science topics but of days such as Earth Hour or anniversaries of the births of relatable scientists.

DITOs on Facebook (@TogetherScience): Facebook has been the second most popular social media platform that it is currently used in DITOs. In the coming stage, we will attempt to provide more targeted content, using our target audience analysis to promote each post using relevant hashtags (#) and tagging relevant people, communities and partners. In addition, we will make more use of group posts to increase targeted outreach. We will continue to attempt to increase the page likes, with the aim of reaching 1,000 people by the end of M24. In addition, we will attempt to make Facebook more engaging by being more responsive, encouraging two-way communication and inviting people to share thoughts and photos after events on our Facebook page. Our long-term goal is for the Facebook page to become a self-sustaining community with many people sharing and commenting on its posts. To achieve this, a series of steps are planned in terms of content and in terms of contributors.

Doing It Together Science has gained nearly 500 page "likes" showing a great interest in our page. Our next step is to ensure that our posts are more shared and commented on. Posts that are popular are often mainstream inspirational citizen science stories,

but to promote deeper engagement we will assess what posts inspire more comments so that they promote discussions as well as simply reading. As of June 2017, we have begun inviting guest posts from people we know are involved in citizen science, and received the first one with interest being expressed for others. We have been also contacted by several other Facebook accounts and groups to host posts on citizen science (e.g. UZH Graduate Campus has contacted us for hosting a post about the LERU summer school '17 on citizen science). It should be noted that, so far, the dilemma has yet to be resolved whether to grant other individuals admin access (or make the page open for anyone to post), or whether DITOs's own social media specialists should maintain control of the page. The latter is the current status, with the "guest posts" being sent to us and the author tagged and credited. By 2018 we aim to have several "guest posts" receiving comments and questions from members of the public. In addition, more of the content from the 11 partners' pages will be shared on the DITOs page to raise awareness of our wide variety of events and activities. Individuals from our partners who are active on Facebook will be invited to be administrators of our page or to advise on enjoyable, shareable content.

DITOs on Instagram (@togetherscience): The DITOs Instagram account has only been recently launched and content is now slowly added. Nevertheless, the DITOs travelling exhibition and other events will generate a huge number of 'instagrammable' photographs and therefore we expect a rise in the number of our audiences. The WS, which is in charge of the Instagram account, will continue to post images from events, including targeted images for the identified audiences. Instagram is expected to grow consistently in the next two years, and connecting it to Facebook and Twitter will be taken into account in order to improve accessibility.

DITOs on LinkedIn (Doing It Together Science): As a social media channel LinkedIn offers opportunities to reach a more specialised audience in a formal way. LinkedIn is specifically useful in terms of reaching professional individuals, policy organisations and networks, academic and industry related audiences which are harder to reach via other platforms. With the page being set up at the end of July 2017, little effort has been so far placed towards building DITOs LinkedIn presence, which is something that we will invest in the coming months.

DITOs on YouTube (@DoingItTogetherScience): We will continue to use YouTube for uploading and promoting our channel videos. We expect the number of views and subscribers will increase with the travelling exhibition, which will generate a significant number of media such as photographs and videos. We will attempt to further increase the number of subscribers by connecting our different platforms to a higher degree and promoting the YouTube channel on these. Also, more time will be invested to better link DITOs with existing citizen and DIY communities on YouTube. Last but not least we will continue promoting our account to

DITOs on Flickr: As Flickr has, since the beginning of our project, become more of a niche product (Pierce, 2016), it was decided to use Instagram mainly for the purpose of sharing photographs which we consider as being easier but also more appropriate for the aims of promoting an informal communication with younger audiences. In addition, having both an Instagram and Flickr account was harder to maintain and therefore less attention will be paid on Flickr, where we already have a small collection of DITOs materials. Flickr will thus be used as a backup for large numbers of photographs to occasionally share as whole albums.

DITOs via partner channels: DITOs will continue to make use of our partners' strong networks and monitor these numbers as described in deliverable DD3.1 (Section 9: Analytics Communication Tools and channels).

6.3.3 Additional considerations for communication and dissemination

- So far, the main language used to disseminate and communicate information has been English, with the exception of some targeted partner newsletters which are sent in local languages. DITOs will produce material in local languages such as DITOs information leaflets, the DITOs policy briefs, and other relevant material which is identified by local partners. There is a dedicated budget for translations and all partners need to coordinate this effort internally to decide on relevant local printed material.
- Headlines of the DITOs knowledge sharing platform will be soon available in partners' languages.
- DITOs print material exists and will continue to exist in all local events.
- Every partner is responsible for adding their events on the website (which communicates with the events diary tool) and sharing information across DITOs social media.
- Information related to external and internal partner networks will be enriched upon the submission of the Innovation Hubs deliverable (i.e. deliverable D3.2).
- With deliverable D3.2, the consortium's communication plan has been described as follows:

Table 14 Step plan for events (Source: Klejssen et al., 2016).

Step plan for events - DITOs communication for partners
1. Define the program and target audience.
2. Create the program or event, and write a text that is targeted to specific audience groups.
3. Define relevant DITOs channels and tools (social media, website and/or print material) and potential (external) partners through which communication can take place.
4. Announce the upcoming program online on: (1) the partner's own website (2) togetherscience.eu (3) external websites.
5. Prepare printed material using the WS-supplied templates as a basis. Ensure that all printed material contains the DITOs logo, the web address, the twitter handle and the EU acknowledgement
6. Promote the program or event through: DITOs channels and potential external partners or media. For example, write a blog on the program's topic as a preview on what the event will be about.
7. Prepare communication actions for during event, for example tweets, live stream or the creation of a video.
8. During event or program: Make sure to mention all DITOs online activities and website to be able the get offline involved audiences to also follow us online, by providing handouts to take away to all participants, with DITOs logo, website address, twitter handle and EU acknowledgment.

9. After the event or program:
Partners can choose to share their experience via for example a blog. What went well, how did audiences respond, what did you learn? This is important for the consortium to be able the share best practices and learn from each other.

- DITOs will continue to monitor online outreach the project's online outreach using the same 'Measure impact and monitor' frameworks and tools that were proposed with deliverable D3.1.
- In Annex F we have also included the communication and dissemination messages of each work package and the tools and channels that will be used (also described in deliverable D6.2).

6.3.4 Communication Channels Efficacy Monitoring

At least every six weeks, WS (assisted by UCL) will review the the use of all communication channels, monitoring partners' contributions to date and assigning future responsibilities as necessary. This will ensure ongoing commitment and increased online visibility.

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 will strive 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 current 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 is 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 'openess', and further sets the foundations for the work that it is carried out in WP3T3 'Sustainable Capacity Building'. In the next 18 months, the network will be structured, exchange between partners will be enhanced, and networking capacities will be enlarged. During this time, ECSA will have been growing in membership, capacities and profile and at the end of M36 will 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.

The stages of dissemination and communication at these levels can be visualised using Figure 19 Stages of Communication, Dissemination and Exploitation:

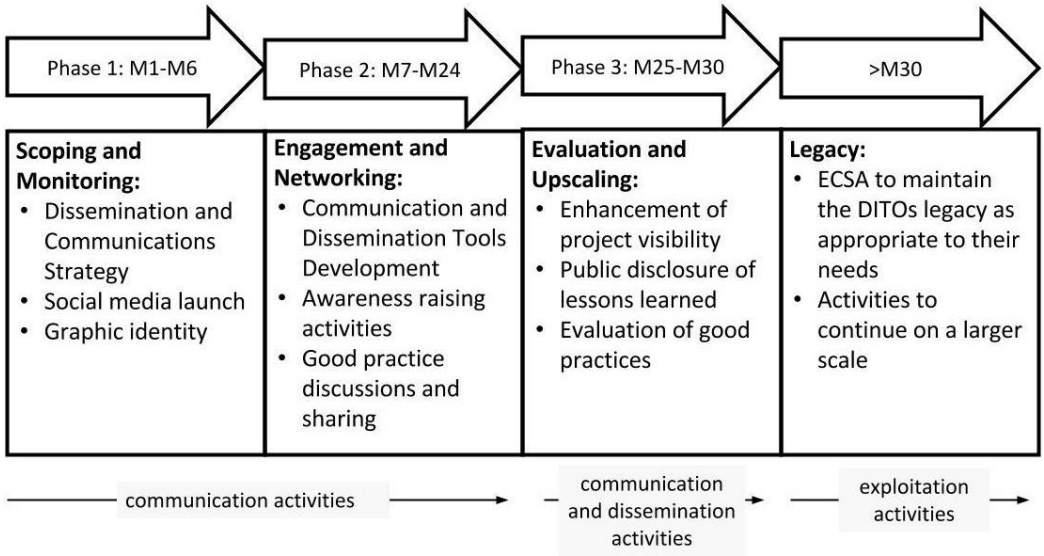

Figure 19 Stages of Communication, Dissemination and Exploitation.

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

Deliverable D6.2 (Skarlatidou and Sheppard, 2016) further identifies a set of actions that will be taken to optimize the impact and exploitation of those results beyond the timeframe of the DITOs project. Moreover, D3.2 identifies specific areas of growth to inform our exploitation plan. We summarise these below:

Scaled-up 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.

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

- Starting from the feedback from events and evaluation (WP5), DITOs will have 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. The primary focus of the Innovation Hubs should be the further exchange of best practices, with a focus on enabling citizen scientists themselves to co-create these processes. Within this context we will explore the possibility of setting up an exchange program on citizen science.

Increase the functionality of the online platform:

- This could either be the DITOs project website www.togetherscience.eu, which will be adopted by ECSA by the end of the project, or ECSA website right away. In D3.2 it is 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".

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

- Each partner will have developed a set of communication tools to reach their local audiences, and by the end of the project we will also have a centralised pool of agreed communication skills and strategies that work universally. Additional attention need to be paid to the type of messages and the framing of issues that will assist DITOs in its goals of reach new audience. The type of messages and guidelines for their use will be developed towards the end of the project, based on our growing experience.

A variety of social media channels with a large audience:

- DITOs social media channels will become self-sustained communities for citizen and DIY science representing a string 'doing it together' message. DITOs will contact mailing lists to further notify that ECSA will support and further promote DITOs work and activities upon project completion and invite them to join their mailing lists and other ECSA communication and dissemination channels.

A set of educational tools:

- UNIGE is developing several educational materials in French, which, with agreement of the other partners, will be available for translation to use in other projects.

Policy and RRI recommendations:

- The outcomes of the project will be 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 have gained expertise in policy and RRI will act as advisors to other organisations involved in these areas.

Innovation hubs and identification of key performance indicators:

- 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 and DIY science. As we discuss in deliverable D3.2 the concept and definition of a Hub that facilitates the transformation of new ideas, concept or methods in the context of Citizen Science as a whole and DITOs in particular will require additional fine-tuning, which we will work in DITOs in the coming months. The progress towards establishing the network of Innovation Hubs needs measurable indicators. The Spheres Framework that is currently in development at UPD serves as a great qualitative starting point, from which a more quantitative model can be derived. Moreover, in order to enable non-DITOs organisations to join our network DITOs Innovation Hubs network a public DITOs Innovation Hubs manifesto will be established.

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

- 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 will be developed by 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

Deliverable D6.2 (Skarlatidou and Sheppard, 2016) has further set a Data Management plan for DITOs, where the reader may refer for additional information. This plan considers not only data implications and access which are internal to DITOs but also addresses issues of ownership, knowledge sharing and openness. 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 management of Intellectual Property.

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Annex A. DITOs Online Engagement and Outreach

Table A1. Total Audience and Highest Reach by partner.

Partner (as of May):	Social Media (followers / likes)	Website (unique users)	Mailing List (subscribers)	Blog (unique visitors)	Other - MeetUp, Event Site, Slideshare (subscribers)	Total (people)	Highest Reach (people)
UCL (as of June)	2,107	1,666	874		691	5,338	2,086 (Twitter)
WS	26,570	293,696	2,486		1,149	323,901	293,696 (Website)
RBINS	17,868	511,779				529,647	511,779 (Website)
ECSA	1,143		1,547	110		2,800	1,547 (Mailing List)
Kersnikova	4,815		9,179			13,994	9,179 (Mailing List)
Medialab Prado	92,633	164,570				257,203	164,570 (Website)
UPD	25,555					25,555	13,618 (Facebook)
UNIGE	1,032	901	5,636			7,569	5,636 (Mailing List)
Tekiu	35	678				713	678 (Website)
Meritum	2,283	1,310				3,593	2,283 (Facebook)
Eutema	21	2,804				2,825	2,804 (Website)
Muki (UCL)	5,234			336	56	5,626	3,584 (Twitter)
Alice (UCL)	4,358					4,358	4,358 (Twitter)
Jack Stilgoe	4,053			17,000		21,053	17,000 (Blog)
Pawel (Meritum)	2,660			106		2,766	1,455 (Facebook)
Pieter (Waag)	1,960					1,960	1,031 (LinkedIn)
Wieke (Waag)	249					249	249 (Twitter)
Cecilia (Waag)	2,170					2,170	2,170 (Facebook)
Xiamyra (Waag)	67					67	67 (Twitter)
Total (people)	194,813	977,404	19,722	17,552	1,896	**1,211,387**	**1,041,750**

Table A2. Women Outreach by Channel Type and Partner.

% Female

Partner (as of May)	Twitter	Facebook	Website	Mailing list	YouTube/ Vimeo	Blog	Overall
UCL (as of June)	51%						**51%**
WS	44%	52%		45%			**47%**
RBINS	35%	58%					**56%**
ECSA	56%	56%				76%	**58%**
Kersnikova							
Medialab Prado					40%		**40%**
UPD							
UNIGE		62%	61%				**61%**
Tekiu							
Meritum		64%					**64%**
Eutema							
Muki (UCL)	46%						**46%**
Alice (UCL)	41%						**41%**
Pawel (Meritum)	31%					49%	**34%**
Pieter (Waag)	35%						**35%**
Wieke (Waag)	39%						**39%**
Cecilia (Waag)		68%					**68%**
Overall	**44%**	**56%**	**61%**	**45%**	**40%**	**63%**	**50%**

Table A3. Communication and Dissemination Roles and Responsibilities.

[Source: Skarlatidou, A. and Sheppard, A. (2016) D6.2 Initial Plan for Communications, Dissemination and Exploitation, [online source], http://togetherscience.eu/content/4-about/3-deliverables/5-deliverable-6-2/ditos-d6.2-20160831-3.pdf

Communication & Dissemination activities L=leader E=enabler (technology / guidance) C=Contributor	UCL	RBINS	UPD	WS	ECSA	MP	KI	meritum	UNIGE	Tekiu	eutema
DITOs Knowledge Sharing Platform											
Create	-			L	-						
Update and Manage	C	C	C	L	C	C	C	C	C	C	C
DITOs Social Media Platforms											
Twitter	All partners contribute C			L	All partners contribute C						
Facebook				L							
Instagram / snapchat				L							
YouTube				L							
Vimeo				L							
Flickr				L							
LinkedIn				L							
Partners' and other Blogs				L							
DITOs Newsletters											
DITOs	L	C	C	L	C	C	C	C	C	C	C
Partners' newsletters	L	L	L	L	L	L	L	L	L	L	L
DITOs Events											
WP1 Events	C	C	L	E	C	C	C	C	C	C	C
WP2 Events	C	C	C	E	C	L	C	C	C	C	C
WP3 Events	C	C	C	L	C	C	C	C	C	C	C
WP4 Events	C	C	C	C	L	C	C	C	C	C	C
Management and Assessment of Dissemination Activities	L	-	-	C	-	-	-	-	-	-	-
External channels											
Professional networks	C	C	C	L	C	C	C	C	C	C	C
Popular science publications	L	All partners contribute C									
Traditional media (TV, radio, newspapers)	L	All partners contribute C									
Talks/Presentations/Conferences	L	All partners contribute C									

Table A4. *DITOs YouTube monitoring*

Title	Published	Views (as of 10.07.2017 26.04.2017)
#OPENBIOTECH vlog #1: help me lobby in Brussels[8]	14 February 2017	862
#OPENBIOTECH vlog #2: how to get in jail as a biohacker[9]	21 February 2017	792
#OPENBIOTECH vlog #3: how big is the biohack community?[10]	2 March 2017	353
#OPENBIOTECH vlog #4:is biohacking big business?[11]	10 March 2017	283
#OPENBIOTECH vlog #5: biohackers in Brussels[12]	17 March 2017	267
#OPENBIOTECH vlog #6: visiting an underground biolab in Poland[13]	3 April 2017	244
European Citizen Science Forum - CRI [14]	6 March 2017	52
The Making of Maps without borders[15]	9 March 2017	27
Voices of Citizen Science and DIY Bio (x 16)[16]	9 June 2017	110
MOOC on synthetic Biology Course 1: Making Yogurt the Scientific Way (by our partner CRI) (x 15)[17]	8 June 2017	12 views for the playlist (6,875 total views)

[8] #OPENBIOTECH vlog #1 – watch here: https://youtu.be/dYJvDfUjurc?list=PLB6IBD9OG9pC1i7VkZIWZg9hE3puKX7Ep

[9] #OPENBIOTECH vlog #2 – watch here: https://youtu.be/cjGLmLvP3bg?list=PLB6IBD9OG9pC1i7VkZIWZg9hE3puKX7Ep

[10] #OPENBIOTECH vlog #3 – watch here: https://youtu.be/WpVp9YH8Znc?list=PLB6IBD9OG9pC1i7VkZIWZg9hE3puKX7Ep

[11] #OPENBIOTECH vlog #4 – watch here:

https://youtu.be/Rkru0Pg77qM?list=PLB6IBD9OG9pC1i7VkZIWZg9hE3puKX7Ep

[12] #OPENBIOTECH vlog #5 – watch here:

https://youtu.be/dCVbF0ZxMC0?list=PLB6IBD9OG9pC1i7VkZIWZg9hE3puKX7Ep

[13] #OPENBIOTECH vlog #6 – watch here:

https://youtu.be/UspeMVzRUJA?list=PLB6IBD9OG9pC1i7VkZIWZg9hE3puKX7Ep

[14] European Citizen Science Forum - CRI - watch here:

https://www.youtube.com/playlist?list=PLB6IBD9OG9pBuILrkboQtLoP_xCaWN_Uy

[15] The Making of Maps without borders - watch here:

https://www.youtube.com/watch?v=-Dc81AQmMWk

[16] Voices of Citizen Science - watch here:

https://www.youtube.com/channel/UC-KXyw1Qg6fLrdoQ5IrC_zg

[17] MOOC on synthetic Biology Course 1 - watch here:

https://www.youtube.com/watch?v=KP8uluheETg&list=PLB6IBD9OG9pDyHjqXLg0t_FJsrJnnXMpJ

MOOC on Synthetic Biology Course 2: Your First GMO (by our partner CRI)[18] (x 11)	8 June 2017	0 views for the playlist (819 total views)
MOOC on Synthetic Biology Course 3: Let's Paint with Bacteria (by our partner CRI) (x 9)[19]	8 June 2017	0 views for the playlist (713 total views)
MOOC on Synthetic Biology Course 4: Your First Cloned Gene (by our partner CRI) (x 12)[20]	8 June 2017	2 views for the playlist (616 total views)
MOOC on Synthetic Biology Course 5: Isolating Genes from Natural Sources (by our partner CRI) (x 13)[21]	8 June 2017	0 views for the playlist (239 total views)

[18] MOOC on synthetic Biology Course 2 - watch here:

https://www.youtube.com/watch?v=XjaFcmQIveQ&list=PLB6IBD9OG9pAQBLod-6ZRN0xwUjWtxaH2

[19] MOOC on synthetic Biology Course 3 - watch here:

https://www.youtube.com/watch?v=WJORhnEXDpQ&list=PLB6IBD9OG9pBGFQjiiUPVW0WCPY559Vuh

[20] MOOC on synthetic Biology course 4 - watch here:

https://www.youtube.com/playlist?list=PLB6IBD9OG9pDC31sKoq73ayNQzAwn4GlG

[21] MOOC on synthetic Biology course 5 - watch here:

https://www.youtube.com/playlist?list=PLB6IBD9OG9pD7ng9o2rrjXfhmBjorsGZB

Annex B. **Newsletters**

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DITOs Newsletter #1

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We are celebrating our 3rd month of *Do-It-Together science* after an invigorating kick-off meeting 7 to 9th June. We have begun our scoping and planning phase with a range of BioDesign, Environmental Sustainability, and Policy activities.

Our upcoming events:

Aug 25th, 18:30, London, UK - Film night and sensory experience: Like Water for Chocolate (1992) hosted by UCL.

Aug 17th, 18:30, London, UK - Science Pub Night #1 hosted by UCL.

Sept 8th, Linz, Austria - ***Local stakeholder Roundtable DITO's Good Practices*** hosted by eutema*:*

Roundtable as part of the ARS Electronica Festival to addresses policy makers in preparation of FP9 activities focusing on questions of citizen outreach through the use of art in scientific and technological research.

Sept 7th, European Commission, Brussels - ***Member of the Parliament Briefing on Citizen Science*** hosted by European Citizen Science Association (ECSA) & Tekiu*:*

"Citizen Science is not an idea – it´s the future" is a briefing for the Members of the European Parliament (MEPs). It is an opportunity to inform MEPs on the global development of Citizen Science, particularly on the value of Citizen Science with regards to decision-making and its link to European and national level policies.

Sept 16-17th, Dortmund, Germany - ***DIY aerial mapping workshops*** hosted by UCL as part of Innovative Citizen.

Nov 8th, Museum für Naturkunde, Berlin, Germany - ***European Stakeholder Round Table on Responsible Research and Innovation (RRI) Good Practice*** hosted by ECSA:

Organised as part of the Berlin Science Week, this event is dedicated to discussing the links between RRI, Citizen Science and DIY approaches and to help map priorities in the European landscape. Input from this event will be valuable to gather inputs from European stakeholders on their needs and barriers to conduct Citizen Science and DIY.

Our past events include:

Waag Society, NL

OpenLabEvening:

Open innovation evenings for grass-roots self-initiated bio research / design taking place in the WS fablab and wetlab, during which the machines and lab are free to use. External advisors & policy makers will be invited for special events/needs.

Evening where participants can work on own biology-related project

Do-It-Together Bio:

Workshops led by an artist and scientist duo on a specific life science topic, engaging the public hands-on; past events included "Human Enhancement Clinic - Hormones facilitated by Maja Smrekar, Špela Petrič + Mary Tsang Byron Rich from the Open Source Estrogen project

University Paris Descartes - Centre for Interdisciplinary Research (CRI), FR

Gamelier Masterclasses:

A club dedicated to educational and scientific games based at the CRI. The Gamelier team organises weekly meetings on educational and scientific games open with different activities: lectures, workshops and gamejams during which people make games together (from board- to digital games). During these meetings, everyone - gamers, students, researchers, citizens - can present ideas, learn about game design theory, contribute to each other's projects, and run workshops. During the summer, the Gameliers run a Gamelab Summer School with 15 international students working in groups for two months on a scientific game project.

Biodesign masterclass on artificial life with Rémi Sussan:

Biodesign masterclass on BioArt with Helena Shomar:

Biodesign Workshops:

A series of workshops addressing the field of BioDesign for students and adults (age 17 - 99) to explore the principles of Biodesign and experiment on case studies about environmental health, open health, water preservation, quantified self, activity trackers, food and health, healthcare (e.g. diagnostics innovation or health monitoring, vaccine development and biosafety) under the mentorship of professional mentors from the fields of biotechnology, design, & industry.

Biodesign Mecathon Workshop with Dr Mehdi Benchoufi:

Co-lab OpenPlant #1 in Cambridge, UK:

Co-lab OpenPlant #2 in Cambridge, UK:

Biodesign NightScience:

Free and open continuous events that bring together researchers, hackers, education innovators and citizens from around the globe to reflect collaboratively on building new ways to achieve better knowledge construction and transmission in science education and research.

Facebook event and Eventbrite pages.

iGAMER:

iGAMER is the first International Game competition for Education and Research, a worldwide competition organized at La Cité des Sciences that invites undergraduate and graduate students to develop innovative and incentive games that engages the largest community into learning through research and questioning.

Facebook event and Eventbrite pages.

Biodesign and the City:

As part of the GLaSS 2016 program, the CRI Paris GameLab invites [pop-up] urbain, Gamelier association and CRI open source electronics researcher Kevin Lhoste to open this game jam. They will share with jammers keynotes on the themes of urbanity and biodesign.

BIOSCOPE, University of Geneva, CH

BioNights: hands-on evenings for experimentation and discussion on biodiversity, the environment, and sustainability.

Royal Belgian Institute of Natural Science (RBINS), BE

Exhibition on Water and biodiversity: "Roads to Urban Sustainability" conveys the history and future of the City of Brussels featuring ongoing city projects that have water and biodiversity at their heart.

University College London, UK

New meetup group launched for our London-based community: 'Science has no Borders'.

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2. DITOs Newsletter #2

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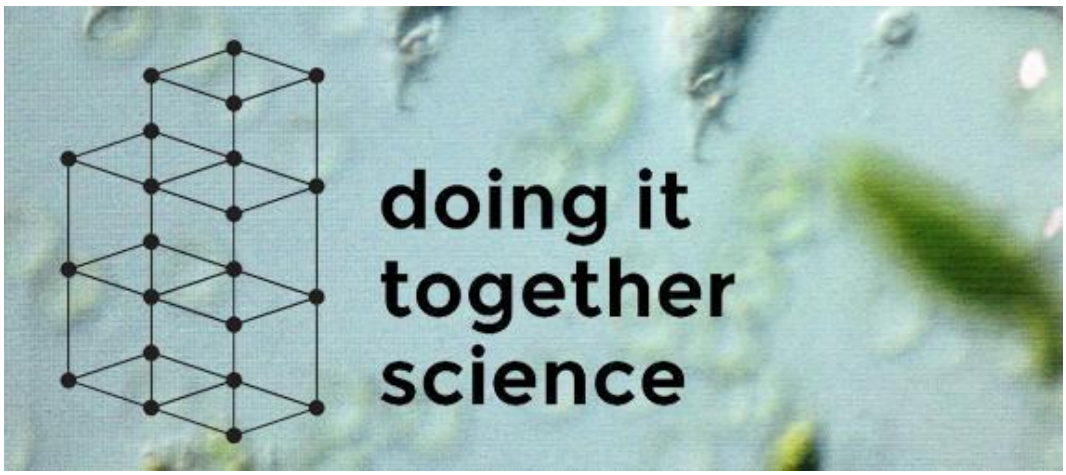

DITOs Seasons Greetings & Happy 2017!

We are celebrating 6 exciting months of making, exploring, sharing, and inspiring in our **Doing it together science** project (DITOs). In 2016 we reached out physically to 60,000 people through a total 75 of events including science cafes, exhibitions, DIY workshops, policy round tables and seminars in BioDesign, Environmental Sustainability, and Policy engagement.

Our highlights from 2016 include:

'Poison': an exhibition featuring reptiles, amphibians, spiders, insects and other venomous creatures that live and roam throughout more than twenty terrariums at the Royal Belgian Institute of Natural Sciences. With the guidance of trained specialist who looks after their health visitors can observe his work and bust a few myths about these magnificent creatures.

Touch|Play|Learn: a collaborative exhibition by the DITOs consortium introducing the project to audiences in London through talks, discussions, and hands-on activities where people could touch, play, and learn.

Biodesign Nightscience at the Centre for Interdisciplinary Research is a set of free and open continuous events that bring together researchers, hackers, education innovators and citizens from around the globe to reflect collaboratively on building new ways to achieve better knowledge construction and transmission in science education and research.

Featured upcoming events:

European Round Table - in Paris, France 25th MarchThis stakeholder roundtable will hold multiple sessions dealing with issues such as regulation, transparency and support from the perspective of the relationship between institutions and citizen science communities. Discussions will take place in front of a public audience and streamed online. The roundtable will run alongside the Paris Nuits de Debats Initiative, and the Biodesign Nightscience festival, featuring lightning talks and interactive DIY-Science workshops. [More information coming in early January]

Do It Together bio workshops - in Amsterdam, Netherlands - starting 21st January. During our lives we age. But what exactly is this process of 'getting older'? And why do some people age faster than others? During this workshop you will go into the lab and work with the tardigrades. Subsequently, we will have a look at the tardigrade DNA and compare it with human DNA using bioinformatics followed by a discussion on ageing and longevity.

Storytelling through citizen maps: an exhibition - in London, UK - 21st Feb. [More in information in January at www.sciencehasnoborders.com]

#DITbio • #DITscience

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3. DITOs Newsletter #3

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We are well into the second phase of the project which is dedicated to engagement and networking. This phase concentrates on collaborative development of events; outreach to new publics, researchers and policy makers; and capacity building. It also involves the replication of activities (from shared experiences between partner organisations) with local groups and organisations that enables cross-fertilisation through information and practice sharing. Part of this also involves communication and dissemination efforts to promote practices and seek new collaborations.

To this end, we carry out regular one on one conversations with consortium partners to share their challenges in practice and ways to overcome them; in the planning of our events we reach out to experts in areas that complement our work and enrich theirs; and we produce dissemination materials in video format (see our blog and vlogs here). See our upcoming and past events below.

Upcoming events:

May 2nd, 18:00, Amsterdam, NL - Het Praktikum: personal medications - high or hysteria? #1 hosted by the Waag Society

May 15th, 19:30, London, UK – Pint of Science: What a disaster! – UCL participating

Ongoing workshops, Geneva, CH – Youth workshops hosted by the BIOSCOPE

Ongoing exhibition, Brussels, BE – POISON hosted by the Royal Belgian Institute of Natural Science

Ongoing traveling exhibition, across Belgium – Xperilab hosted by the Royal Belgian Institute of Natural Science

See more events at http://togetherscience.eu/events

News

Our Science Bus is coming! We're looking for its captain to join the team. Interested or know someone who might? Find out more information [here] and help us disseminated far and wide.

Our new DITOs website is ready to launch! Please promote far and wide: @TogetherSci #DITscience

Our past events include:

European citizen science forum in Paris, FR

Maps without Borders exhibition with a follow up Do-It-Yourself aerial mapping Part 1: aerial photography in London, UK

Local meetups on air quality monitoring in the Silesia region, PL

See more events at http://togetherscience.eu/events

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4. DITOs Newsletter #4

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Find Doing It Together Science online View this email in your browser

Dear Doing It Together Science enthusiast,

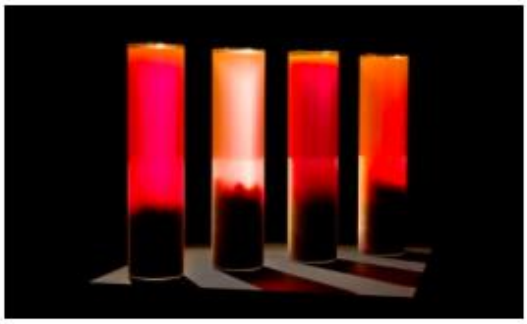
Since May 2016 all Doing It Together Science (DITOs) partners have organized many innovative events and activities across Europe to get citizens involved in Citizen Science. We are happy to announce that you can now find and follow us online.

Check out our website: togetherscience.eu
which we will be continuously improving and adding content to while our project moves forward.

About us:
In Doing It Together Science universities and research institutions work together with science galleries, museums and art institutions to engage people with citizen science in Europe. In total more than 500 innovative workshops, exhibitions, and activities are organized in nine countries in Europe. Read more about us and our ambitions here.

Curious what we have been up to? Find updates and interesting reads in this blog section.
Find a selection of our upcoming events below:

The Science Bus:
will hit the roads in the summer of 2017, ready to host workshops all around Europe. We are still looking for enthusiastic local partners, to help us with the program on locations, and a Science Bus crew to drive the bus, host workshops and go on adventure.



Amsterdam, the Netherlands
Do It Together Bio: Extracting pigments from algae
Saturday 27 April, 14:00 to 17:00
More information here

Geneva, Swiss
Bionight on Biodiversity
Tuesday 25 April, 18:00 to 20:00
More information here

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5. Example partner newsletter (ECSA)

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EUROPEAN CITIZEN SCIENCE ASSOCIATION

ECSA Newsletter
June 2017

Dear ECSA Community,

Some of you are already enjoying the summer break and some of you will very soon. In all cases, we hope you have selected one or some citizen science projects in which you will participate while enjoying nature or biking through the park, or even while traveling in the train. If not, in this Newsletter you will find some great suggestions.

The ECSA Team is looking for a Headquarters Coordinator. Apply for this position and support ECSA community management, communication and representation in citizen science events and processes. Contribute to ECSA organizational development and to the scientific project management.The ECSA Headquarters Coordination role gives you the great opportunity to be in contact and learn from all members and to contribute to shaping the role of citizen science in Europe. Find more details below in the Calls & Events section of this Newsletter.

In this Newsletter you will find News from the two H2020 projects in which ECSA is a partner: DITOs and LandSense. You will also find a section on the COST Action for Citizen Science and from more ECSA Partners. We received and collected information about Citizen Science Publications & Tools that we think you will enjoy and use in your work, and finally we list upcoming Calls & Events, in which we hope to meet you!

Enjoy your beautiful Summer!
The ECSA Team

News from the DITOs Project

Happy birthday Doing it Together science!
At the DITOs consortium meeting in Madrid we celebrated the first year of cooperation and activities. Recent highlights included a European Stakeholder Round Table in Paris on DIYbio, CS and institutions (https://cri-paris.org/the-european-citizen-science-forum/), the BioFabbing conference (http://citizensciences.net/biofabbing/) organized by University of Geneva and Hackteria, and several policy engagement workshops. You can now also find 19 entries of the Voices of Citizen Science and DIY Bio campaign (http://togetherscience.eu/blog/european-citizen-science-forum) and a MOOC on Synthetic Biology (http://togetherscience.eu/events/mooc-phase-1_dnmhr) on the DITOs youtube channel (https://www.youtube.com/channel/UC-KXyw1Qg6fLrdoQ5IrC_zg). We started the work on innovation hubs that you'll soon learn more about – and the two first policy briefs on BioBlitzes and DIYbio are just about to come back from the layout!

We are now sharing citizen science informally on Facebook.
Please have a look at https://www.facebook.com/TogetherScience/ for citizen science stories and events all over Europe. Whether you like difficult or easy, or tinkering with electronics or getting out in nature, there'll be something in there for you. Plus, **we'd love to hear from you** - what interests you? Have you done any citizen science of your own? Have you got an idea for an event? If so, please share it - we'd love to hear about it, and so would our readers.

ECSA Open Science Working Group and Workshop in Copenhagen

DITOs is working together with the ECSA Working Group on "Citizen Science & Open Science" (https://ecsa.citizen-science.net/working-groups/citizen-science-and-open-science) to exchange good practice on Open Citizen Science. A first joint action is to write a **Policy Brief on links between Open Science & Citizen Science** for decision makers across Europe.

We are looking for

- Examples of Open Science practices that you are implementing in your Citizen Science initiatives,
- General ideas on where Open Science practices could be useful for CS projects,
- Documents and case studies that should be taken into account,
- Suggestions of people and stakeholders to involve,

and very much appreciate your inputs!

We're also organizing a **workshop to start writing the Policy Brief in Copenhagen, 9th-10th July 2017**, and there is still some space left on site & for remote participation. Please have a look at the draft agenda and other details of the workshop here: https://ecsa.citizen-science.net/events/ecsa-events/ecsa-open-science-wg-writing-workshop
If you are interested in contributing, please get in touch!

More information on the WG activities here: https://ecsa.citizen-science.net/working-groups/citizen-science-and-open-science
Call for contribution for the Policy Brief:
https://docs.google.com/document/d/10j7SdRngQHTSR1cYPj4mUatOojeWuh9MLqGBHber8O0/edit?usp=sharing
Contact: Claudia Göbel (claudia.goebel@mfn-berlin.de), Kyle Copas (kcopas@gbif.org)

The European tour of the Science Bus is about to start!
Until November 2017 the Science Bus will travel through Europe bringing workshops and tools to investigate the world around you. How can you charge your phone when there is no socket around? Do you know what lives in your yogurt? And can you make your own sunscreen? We want to find out, with you! The Science Bus is in search of folk remedies. An everyday trick or 'life hack' that everyone can use to make or fix just about anything. By combining old knowledge with new technologies we want to make these clever folk remedies accessible to everyone. Read more about the Science Bus here and be sure to follow it on Instagram, Facebook and Twitter. The official route will be announced next week! The Science Bus is part of the project Doing it Together Science, funded by the EU Horizon 2020 programme.

Follow @TogetherSci on Twitter https://twitter.com/TogetherSci
Follow DITOs YouTube Channel https://www.youtube.com/channel/UC-KXyw1Qg6fLrdoQ5IrC_zg
Sign up for the newsletter http://togetherscience.eu/#mc_embed_signup
And contact Gaia Agnello (gaia.agnello@mfn-berlin.de) or Claudia Göbel (claudia.goebel@mfn-berlin.de) if you have any question or suggestion to the project!!

News from the LandSense Project

LandSense
A Citizen Observatory and Innovation Marketplace for Land Use and Land Cover Monitoring

The new LandSense homepage is available now!!!
The new Landsense website was launched on the 20th of June and we invite everyone to visit (http://landsense.eu) to learn about the project, the team, main themes, news and to stay in contact.

Project coordinator **IIASA presented LandSense in the European GEO Workshop 2017** in Helsinki, June 19-21, 2017. The purpose of the conference was to bring together European stakeholders interested in and actively contributing to the Global Earth Observations System of Systems (GEOSS) in order to exchange ideas and inform participants about work and initiatives undertaken in the context of GEOSS.

For more info on the workshop visit: https://ec.europa.eu/easme/en/european-geo-workshop-2017

LandSense project partner University of Heidelberg is organizing a **mapathon to validate OpenStreetMap land use data** on the 29th of June at 18:00 in Heidelberg. For more info visit: http://k1z.blog.uni-heidelberg.de/2017/06/20/mapathon-open-street-map-land-use-quality/

Follow LandSense Facebook page https://www.facebook.com/LandSense.euFollow @LandSense on Twitter https://twitter.com/LandSense
Sign up for the newsletter https://landsense.eu/

Looking for air quality measurement devices for ECSA 2018 conference in Geneva

Next year's **ECSA international conference in Geneva (June 3-5, 2018)** will start with a public event.

During this event, Elisa Radosta from the Geneva University, will offer the chance to the public and participants of the conference to build different air quality measuring devices and assess Geneva air quality for the time of the conference. It would be ideal to have different devices in order to test and compare results. To validate the measurement reliability, there will be access to the city of Geneva air quality data.

If you are interested in having your prototype tested, if you have a kit that you have been using and are happy to share and compare to others - please do contact: Elisa.Radosta@unige.ch

News from the COST Action

CITIZEN SCIENCE COST ACTION

Cost Action: „Citizen Science to promote creativity, scientific literacy, and innovation throughout Europe"
https://www.cs-eu.net/

New COST Instrument for young researcher from ICT Countries

For young researchers from ICT Countries a new COST Instrument has been created. COST Networking Tools such as MC Meetings, Workshops, Training School and Short Term Scientific Missions, make it possible to attend international science and technology related conferences that are not specifically organised by the COST Action itself. Please have a look at the user guide and the COST Vademecum.

The Citizen Science COST Action will consider this instrument for the next planning phase starting in May 2018.

OPEN CALL for Short Term Scientific Missions (STSMs)

The COST Action members are invited to apply for Short Term Scientific Missions (STSMs) in order to network and develop scientific collaborations between institutions involved in the Action.

Application deadline: June 30, 2017

Objective

Strengthening the existing networks by allowing researchers to go to an institution in another COST Country to foster collaboration (e.g., to draft proposals, undertake research, etc.). Selected applicants should be targeting Action deliverables as much as possible, e.g. literature reviews or some specific tasks, as stated in the Memorandum of Understanding.

Visit the website or find here the complete call and the procedure to apply.

Third Management Committee Meeting:
Exploring and Strengthening Connections
Tartu, October 17, 2017

The deadline to apply for financial support from the COST Action in order to contribute to the target of the Action is **July 24th 2017**.

More information will be announced soon here!

Register here

News from ECSA Partners

- Have you seen animals or animal tracks?
- Do you want to actively participate in Citizen Science projects?
- Do you want to get information about scientific urban ecology projects?
- Are you interested in information on wild animals in the city?

Leibniz Institute for Zoo and Wildlife Research
IN THE FORSCHUNGSVERBUND BERLIN E.V.

Then check out our new webpage: Stadtwildtiere.de

Stadtwildtiere.de is a project of Leibniz Institute for Zoo and Wildlife Research (Leibniz-IZW) in Berlin in collaboration with Verein StadtNatur in Zurich with stadtwildtiere.ch.

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6. Example partner newsletter (UCL)

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Did you know we are on Youtube?

ExCiteS DITOs

Join us @ExCiteS and @DITOs for

Exciting videos from our events and activities!

Subscribe Now

ExCiteS DITOs

Annex C. Measure Impact and Monitor statistics

Image a, b: Mail chimp Statistics Data and geographical location

Figure C1. Mailchimp statistics for geographical distribution.

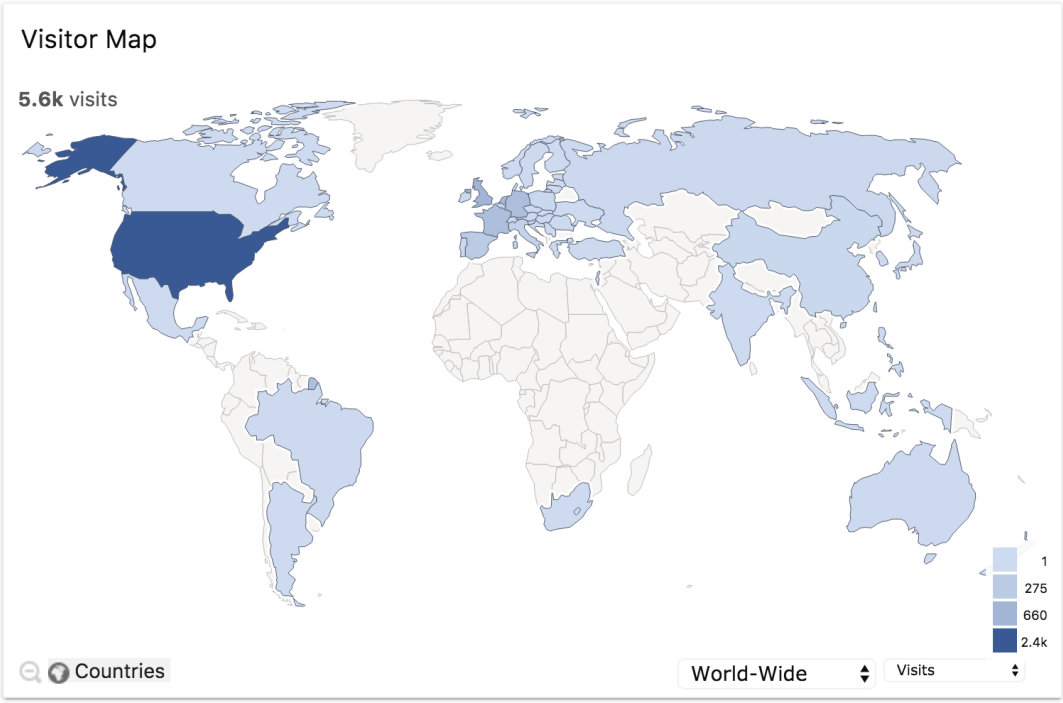

Figure C2. DITOs knowledge sharing platform - togetherscience.eu - PIWIK statistics: spread of website visits worldwide.

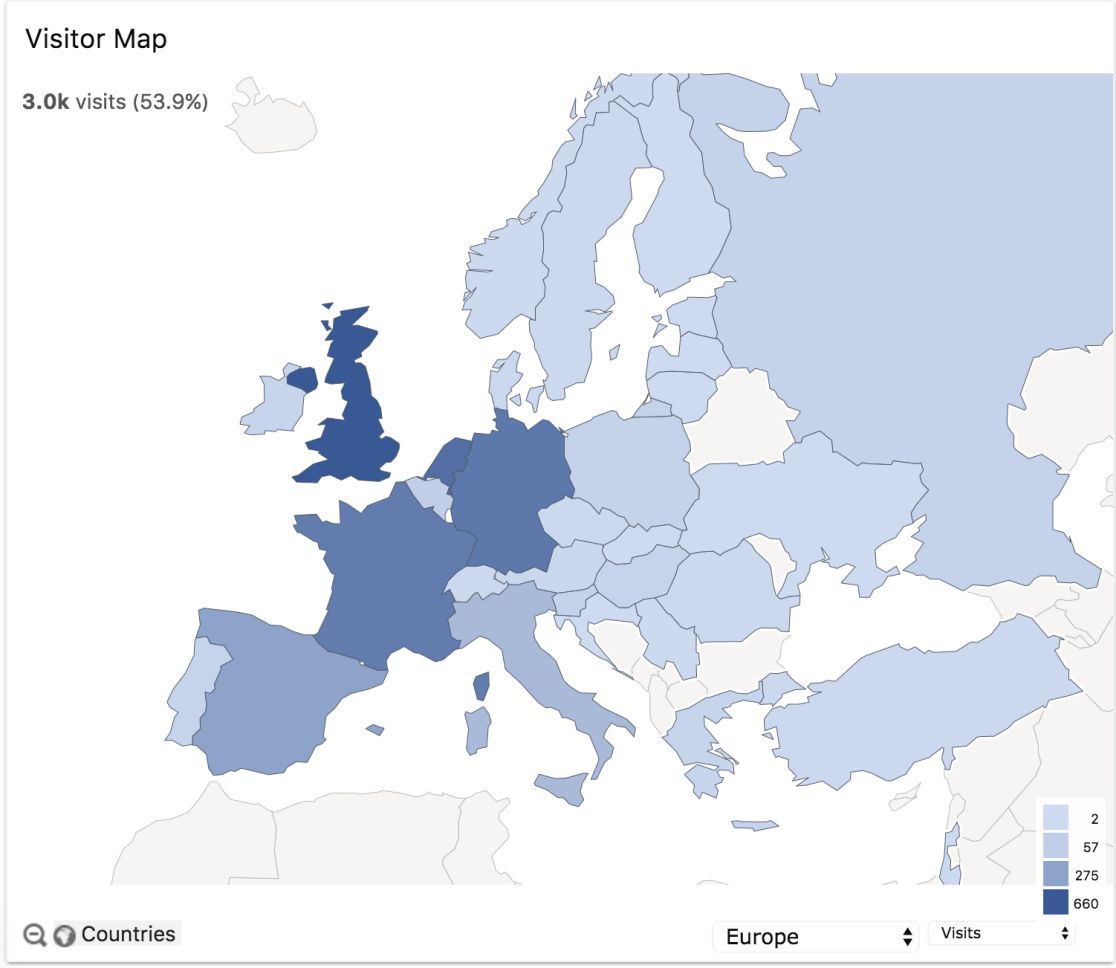

Figure C3. DITOs knowledge sharing platform - togetherscience.eu - PIWIK statistics: spread of website visits in Europe..

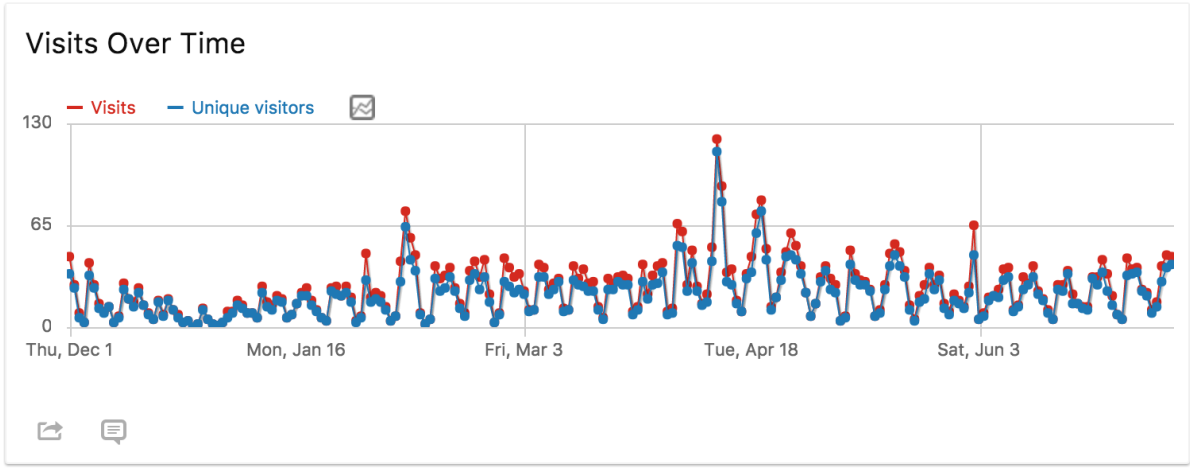

Figure C4. DITOs knowledge sharing platform - togetherscience.eu - PIWIK statistics:visits and unique visitors over time.

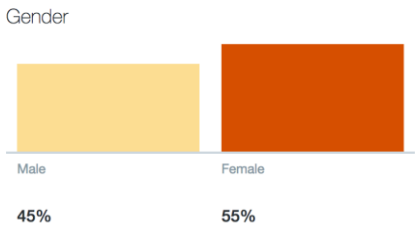

Figure C5. DITOs social media statistics: Twitter followers by gender.

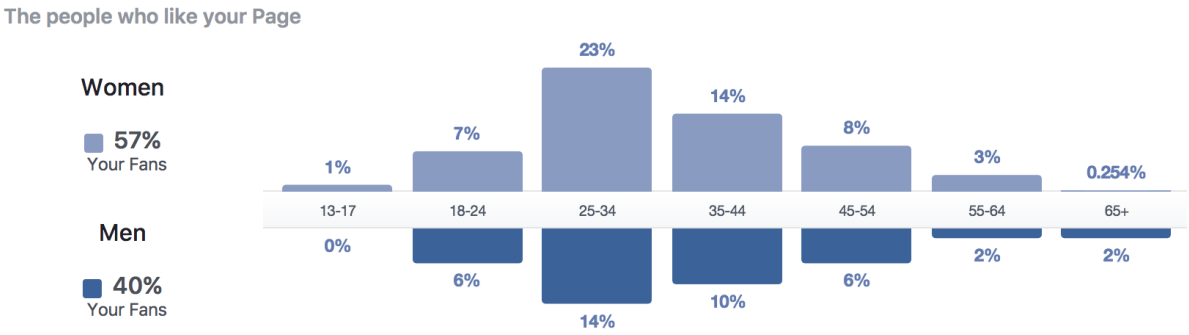

Figure C6. DITOs social media statistics:Facebook followers by gender.

Figure C7. DITOs social media statistics:Twitter followers by location.

Country	Your Fans	City	Your Fans	Language	Your Fans
United Kingdom	139	London, England	62	English (UK)	163
France	83	Paris, Île-de-France	56	English (US)	115
Germany	26	Berlin, Berlin	18	French (France)	62
Greece	23	Kent, England	12	Greek	22
Netherlands	21	Amsterdam, Noord-Holl…	10	Dutch	16
United States of America	19	Komotiní, Eastern Mace…	9	Italian	12
Belgium	17	Brussels, Brussels	7	Spanish	11
Spain	15	Dublin, Dublin	5	Polish	11
Poland	14	Barcelona, Cataluña	4	German	10
Italy	13	Ljubljana, Central Slove…	4	Spanish (Spain)	6

Figure C8. DITOs social media statistics: Facebook followers by location and language.

Annex D. 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	@BIA_UK: Trade Association of UK Bioscience; @CaulfieldTim: Tim Caulfield, professor of science policy, author (US but many followers) @ChiOnwurah: Labour MP (Newcastle), scientist, speaker, Shadow Minister for Industrial Strategy, Science & Innovation @defragovuk: DEFRA's page @ERSA_org: research, policy makers and local stakeholders in Europe @EUSciComm: Promoting news and views and women in STEM @EU_Commission: European Commission @EU_H2020: H2020 official page @EuroScientist: Research and policy in Europe @genderSTE: Network of policy makers for women in STEM @GenonHEAL: Founder of Health and Environment Alliance (Europe)

	@lukegeorghiou: Local/national/Europe/worldwide science and innovation policy @interregeurope: co-financing programme @mikegalsworthy Science policy in EU @mlbrook: Michelle Brook, active in science policy, democracy and open science @MINOUW2015: Marine research, science, policy, NGOs @Research_Voice: Connecting researchers with policy makers @RRIPRACTICE: EC funded RRI-PRACTICE project @Sciencewise: UK's national centre for public dialogue in policy making @UCLSTEaPP: UCL Department of Science, Technology, Engineering and Public Policy

2. The Scientific Community

Scientific Community	
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.	
Who are they? (Job titles)	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
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	@AustralianCitizenScienceAssociation @CECHRUOD: Partnership between the University of Dundee and the James Hutton Institute on sustainability @Citizen-Science: Citizen Science page @CitSci.org: Citizen Science organisation @Cerlis-Centre-de-Recherche-sur-les-Liens-Sociaux-172140592938953: CRI - UPD @ECSACommunity : European Citizen Science Association @openscience: Page about open science very similar to citizen science @openSciencePuglia: smaller open science community @IHEST-368109513296006: Educational Institute in Paris, one of DITOs supporters @StockholmEnvironmentInstitute: Stockholm Environment Institute @UCLEngineering: University College London; Engineering Faculty @uclofficial : University College London @UniversiteParisDescartes: University Paris Descartes @wellcometrust: Charity supporting Scientists and Researchers
Link with Twitter accounts	@CECHR_UoD: Partnership between the University of Dundee and the James Hutton Institute on sustainability @citsci : Citizen Science Organisation @CitSciOZ : Australian Citizen Science Association @CitizenScience_: Citizen science page @EuCitSci : ECSA @IamSciComm: Curated account by people doing science communication @IamCitSci: Curated account by people doing citizen science @openscience_gr: Page about open science very similar to citizen science @q_mitmedialab: MIT Media Lab

	@REIsearchEU: Brings together researchers, policy makers, media and citizens @SEIresearch: Stockholm Environment Institute @SEIclimate: Stockholm Environment Institute climate & policy research team @SEIforskning: Stockholm Environment Institute - swedish page @ScienceinEurope: science, policy, dissemination, discoveries @IHEST: Educational Institute in Paris, one of DITOs supporters @TeaBagIndex: ongoing citizen science project @ucl : University College London @UCLEngineering : University College London; Engineering Faculty @UCL_in_public: UCL Public Engagement Unit @VolunteerSci: Citizen Science online platform @wellcometrust: Charity supporting Scientists and Researchers

3. Innovators and Entrepreneurs

Innovators and Entrepreneurs	
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.	
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) @approachanalytics: 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

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 #DamorNot #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-Space-275707269195705: 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

	@hackuarium: open & community-driven citizen biology lab in Lausanne @EcsiteNetwork: European Network Science Centres & Museums @inaturalist: iNaturalist.org for observations of plants and animals @kersnikova4: KERSNIKOVA @MfN.Berlin: Museum of Natural History Berlin @museostorianaturalemaremma: Maremma Museum @naturalhistorymuseum: Natural History Museum @OpenStreetMap: OpenStreetMap @pintofscience: London based NGO academics explaining their research to the public in pubs @PublicLab: Public Lab @sciencemuseumlondon: Science Museum @SICommunityEU: Social Innovation Community @TransitionUStA: Uni of St Andrews group combating air quality @uclofficial: University College London @UniverCite.ch: open and citizen-driven community & space based in Switzerland @vetenskapoallm: Swedish NGO to promote openness in science @waagsociety: The Waag Society @wellcometrust: Charity supporting Scientists and Researchers
Link with Twitter accounts	@BioBlitzUK: UK BioBlitz @BritSciAssoc: British Science Association @BUGSSlab: Community Lab @CECHR_UoD: Centre for Environmental Change & Human Resilience @Cern: CERN: European Organisation for Nuclear Research @designcouncil: charity on strategic design @FOTSN: comedy night for sci-curious

	@Hackuarium: open & community-driven citizen biology lab in Lausanne. @IamSciComm: Curated account by people who do science communication @IamCitSci: Curated account by people who do citizen science @ICALondon: Institute of Contemporary Arts @inaturalist : iNaturalist.org for observations of plants and animals @kapelicagallery: KERSNIKOVA @mfnberlin: Museum of Natural History Berlin @NHM_London: Natural History Museum London @NHM_Science: Natural History Museum London @NHM_Tring: Natural History Museum London @NHM_WPY: Natural History Museum London @openstreetmap: Open Street Map @pintofscience: London based NGO academics explaining their research to the public in pubs @PublicLab : Public Lab @sciencemuseum: Science Museum London @STIPCommonsLab : Commons Lab Wilson Centre @TransitionUSTA: Uni of St Andrews group combating air quality @TomChivers Buzzfeed science journalist @uclofficial : University College London @UniverCiteCH: open and citizen-driven community & space based in Switzerland @vetenskapoallm: Swedish NGO to promote openness in science @waag: The Waag Society @wellcometrust: Charity supporting Scientists and Researchers @the_zooniverse: Huge citizen science platform

5. Schools and Universities

Schools and Universities	
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.	
Who are they? (Job titles)	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
What do they talk about?	#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
Who we would like to notice us?	@Stephen_Logan (Deputy Headteacher); @AnnMroz (Editor of Times Educational Supplement);
Link with Facebook accounts	@AssociationforScienceEducation:The association for science education in the UK @bibliothequessansfrontieres: Libraries without Borders initiative @Cerlis-Centre-de-Recherche-sur-les-Liens-Sociaux-17214059293895: CRI - UPD @codeEU: Initiative on technology @esea.eu: European Science Education Academy @expecteverythin: campaign for & by teens to spark their interest in Science, Technology, Engineering & Math (STEM) @galileoteachers: European Science Education Academy (Worldwide teacher network on astronomy in education)

	@imperialcollegelondon: Imperial College @scienceinschool: Magazine @StemEducationEntrepreneurship: Closed group on STEM @StemAllianceEU: STEM Alliance for various stakeholders @STEMLearningUK: STEM Education centre @UniverCite.ch: Open and citizen-driven community & space in Switzerland @UniversiteParisDescartes: University Paris Descartes @ukedchat:Social Enterprise community of teachers @WhizzPopBangMag: : Science magazine for girls & boys
Link with Twitter accounts	@alomshaha - part time science teacher, part time science TV presenter and writer @BSF_France: Libraries without borders initiative @CodeWeekEU : Initiative on technology @criparis :CRI - UPD @expecteverythin: campaign for & by teens to spark their interest in Science, Technology, Engineering & Math (STEM). @galileoteachers : European Science Education Academy (Worldwide teacher network on astronomy in education) @GoLabProject : European Science Education Academy @imperialcollege: Imperial College @InspiringScienc: : European Science Education Academy @ods_eu : European Science Education Academy @OutdoorClassDay: Campaign @PriSciGeeks: Primary + Science + Geek = me! PSQM Senior Regional hub leader @stemalliance_eu: STEM Alliance for various stakeholders @STEMlearningUK: STEM Education centre @theASE: Association for scIENCE education @TES Times Educational Supplement @ukedchat: Social Enterprise community of teachers @UniverCiteCH: open and citizen-driven community & space based in Switzerland @UParisDescartes: Universite Paris Descartes

	@Whizzpopbangmag: Science magazine for girls & boys

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

7. Funders

Funders	
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.	
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?	@ColombeWarin (DITOs Project Officer); @Wellcome Trust, Rowntree Foundation, NESTA, The New Economics Foundation, EPSRC, ESRC, NERC
Link with Facebook accounts	@epsrc: The Engineering and Physical Sciences Research Council @EuropeanResearchCouncil: The European Research Council @theESRC: Economic and Social Research Council @the.Horizon.2020: H2020 official page @wellcometrust: Charity supporting Scientists and Researchers @JosephRowntreeFoundation: independent organisation working to inspire social change through research, policy and practice @NERCscience: Natural Environment Research Council funder of independent research @nesta.uk: Innovation Foundation and Funder
Link with Twitter accounts	@epsrc: The Engineering and Physical Sciences Research Council @ERC_Research: The European Research Council @esrc: Economic and Social Research Council

	@EU_H2020: H2020 official page @wellcometrust: Charity supporting Scientists and Researchers @jrf_uk: independent organisation working to inspire social change through research, policy and practice @NERCscience: Natural Environment Research Council funder of independent research @nesta_uk: Innovation Foundation and Funder @EU_H2020: H2020 Official Page @research_uk: Research Councils UK

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	@bioartsociety: Bioart Society @Biodiversity4All: Biodiversity 4 all project @BIOSCOPE.UNIGE: Bioscope UNIGE @BritishScienceAssociation: British Science Association @Cerlis-Centre-de-Recherche-sur-les-Liens-Sociaux-172140592938953: CRI - UPD @CyberSciCentre: Citizen Cyberscience Centre @ECSAcommunity: European Citizen Science Association @EcsiteNetwork: European Network Science Centres & Museums @expecteverythin: campaign for & by teens to spark their interest in Science, Technology, Engineering & Math (STEM)

	@IHEST-368109513296006: Educational Institute in Paris, one of DITOs supporters @kersnikova4: KERSNIKOVA @KosovoInnovations: UNICEF Innovations Lab Kosovo @MappingforChange: Mapping for Change SME @MedialabPradoMadrid: Medialab Pardo @meritumszkolenia: MERITUM @MfN.Berlin: Museum of Natural History Berlin @museumdino: Royal Belgian Institute of Natural Sciences (RBINS) @museostorianaturalemaremma: MaremmaMuseum @OpenStreetMap: OpenStreetMap @PublicLab: Public Laboratory @StockholmEnvironmentInstitute: Stockholm Environment Institute @uclofficial: university College London @UCLEngineering: University College London; Engineering Faculty @uclofficial : University College London @vetenskapoallm: Swedish NGO to promote openness in science @waagsociety: The Waag Society
Twitter	@BIA_UK: Trade Association of UK Bioscience; @bioartsociety: Bioart Society @BritSciAssoc: British Science Association @CyberSciCentre: Citizen Cyberscience Centre @Ecsite: European Network Science Centres & Museums @eusja: European Union of Science Journalists' Associations @expecteverythin:campaign for & by teens to spark their interest in Science, Technology, Engineering & Math (STEM) @IHEST: Educational Institute in Paris, one of DITOs supporters @kapelicagallery: KERSNIKOVA @KosInnovations: UNICEF Innovations Lab Kosovo

	@la_fing: Fondation internet nouvelle génération @mapping4change:Mapping for Change SME @mfnberlin: Museum of Natural History Berlin @opalnature: Open Air Labs @openstreetmap: Open Street Map @PublicLab: Public Laboratory @Scifabric:Technology company for data collection and analysis @SEIclimate: Stockholm Environment Institute climate & policy research team @SEIforskning: Stockholm Environment Institute - swedish page @SEIresearch: Stockholm Environment Institute @STIPcommonslab: Commons Lab Wilson Centre @vetenskapoallm:Swedish NGO to promote openness in science @waag: The Waag Society

Ambassadors additional information

Instagram	Britsciassoc: British Science Association Expecteverything: campaign for & by teens to spark their interest in Science, Technology, Engineering & Math (STEM) Mfnberlin: Museum of Natural History Berlin Unicef_innovations_lab_kosovo: UNICEF Innovations Lab Kosovo Vetenskapoallm: Swedish NGO to promote openness in science
Youtube	BritAssoc Ecsiteeurope ExpectEverything La Fing MfNBerlin: Museum of Natural History Berlin seivideos vetenskapoallmanhet

Other	https://www.linkedin.com/groups/4733131/profile https://www.flickr.com/photos/79586792@N02/ https://www.linkedin.com/company-beta/1678438/ http://www.crosstalks.net/ https://www.openstreetmap.org/#map=3/53.33/-43.68 https://www.linkedin.com/company-beta/51624/ https://www.linkedin.com/company-beta/9367118/

Annex E. DITOs Prototype Style Guide

Use UK English spelling

'organisers' rather than 'organizers'

You might need to install a UK English spell checker for your browser / Word.

https://addons.mozilla.org/en-GB/firefox/addon/british-english-dictionary/

Write as if you enjoyed creating the document :)

These deliverables will never be great works of literature but they should not be a chore to read and edit.

Be concise.

Short is good!

Use a separate sentence for each idea.

Don't glue multiple ideas together into a single sentence. 2 ideas = 2 sentences

Make sure you know what the point is that you are trying to communicate.

So introduce the point, then make the point and finally conclude by summarising the point. If you have no point to make - don't write.

Have a quick read about how to use commas.

http://www.grammarbook.com/punctuation/commas.asp

Avoid unnecessarily info in brackets.

Either the extra info is important in which case include in the text, or if it's not, then leave it out. It is rare that stuff in brackets matters.

Make titles of sections meaningful not just single words.

For example, ‘documentation of activities’ is clearer than ‘documentation’. ‘Approaches to documenting activities’ might be even better.

Don’t use the word ‘etc.’

It doesn’t really say anything and in a report looks unprofessional.

Avoid using the word ‘we’.

It is not clear who it refers to and feels vague. instead use ‘the consortium’ or ‘the WP’ or ‘UPD’ or ‘I‘, if it’s merely yourself making an argument.

If you are listing things in a sentence, just include three elements (A,B and C). Pick the three most important bits. Or if you have to list more than that, make it into an ordered list or separate into two sentences. For example: “*we packed rice, water and salt*” instead of “*we packed rice, water, salad, beans, hope, freedom, citizen science and donuts*”.

Normal words are not capitalised in the middle of a sentence.

So when we talk about biodesign and environmental sustainability they are all lower case. It is only proper names ie. names of people or specifically named entities that are capitalised.

http://www.sussex.ac.uk/informatics/punctuation/capsandabbr/caps

Speech marks “ “are only used for direct quotes.

If you want to emphasise a word use ‘ ‘ or use italics or bold.

Avoid acronym salad.

Sometimes it is clearer to write out the word ‘citizen science’ rather using lots of ‘CS’, ‘DIT’ acronyms.

Annex F. **Communication and Dissemination Activities Plans**

Table F1. *Communication Activities Plan (Source:* Skarlatidou and Sheppard, 2016*).*

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-newsletter	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-newsletter	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 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 Env. Sustainability Engagement and Support	Communicate availability of report on Env. Sustainability activities and outcomes.	Media articles, e-newsletter	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-newsletter	Knowledge Sharing platform, social media, mailing lists and contact databases, external channels, external events	M36
	DITOs Visual Identity	DITOs visual identity is in place.	e-newsletter 2	All online and offline channels	M3

WP3: Public Engagement and Capacity Building	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 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
	Kick- off meeting	DITOs has been officially started.	Media articles, e-newsletter	Partners' social media, mailing lists and contact databases,	M1

				external channels, external events, online website	
	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
WP6: Coordination Support and Management	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 communications, 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	Communicate availability of data management plan update.	Media articles, e-newsletter	Knowledge Sharing platform, social media, mailing lists and	M36

	Management Plan			contact databases, external channels, external events	
	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

Table F2. Dissemination Activities Plan (Source: Skarlatidou and Sheppard, 2016).

DITOs Dissemination of outcomes					
Work Package	Project Activities	Related Output	Tool	Channel	Timing
WP1: Biodesign	Outreach Plan for Biodesign	Outreach Plan for Biodesign	Publication Report – D1.1	Knowledge Sharing platform, Publication Report	M6
	WP1 Activities	200 events	Events, Printed media, videos, media articles, e-newsletters and email blasts	Knowledge Sharing platform, Maps, Project events and external events	M1-M36
	Biodesign Engagement and Support	Biodesign Engagement and Support	Publication Report – D1.2	Knowledge Sharing platform, Publication Report events	M15

	Good practices in participatory Biodesign	Good practices in participatory Biodesign	Publication Report – D1.3	Knowledge Sharing platform, Publication Report	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.	Publication Report – D2.1	Knowledge Sharing platform, Publication Report	M6
	WP2 Activities	205 events	Events, 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	M1-M36
	Env. Sustainability Engagement and Support	Communicate availability of report on Env. Sustainability activities and outcomes.	Publication Report – D2.2	Knowledge Sharing platform, Publication Report	M15
	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.	Publication Report – D2.3	Knowledge Sharing platform, Publication Report	M36
WP3: Public Engagement and Capacity Building	DITOs travelling exhibition	Bus Travelling exhibition visiting rural areas in Europe for 3 months	Events, Printed media, videos, media articles, e-newsletters and email blasts	Knowledge Sharing platform, Maps, Project events and external events	M13-M24
	DITOs Innovation Hub Report	DITOs Innovation Hubs	Publication Report – D.3.2	Knowledge Sharing platform, Publication Report	M15

	Sustainable Support for citizen and DIY science	Sustainable Support for citizen and DIY science	Publication Report – D.3.3	Knowledge Sharing platform, Publication Report	M36
WP4: Policy Engagement for RRI	Initial Policy Briefs	Initial Policy Briefs	Publication Report – D.4.1	Knowledge Sharing platform, Publication Report	M12
	Policy Briefs 2	Policy Briefs 2	Publication Report – D.4.2	Knowledge Sharing platform, Publication Report	M24
	Policy Briefs 3	Policy Briefs 3	Publication Report – D.4.3	Knowledge Sharing platform, Publication Report	M36
	WP4 Activities	Policy Engagement via Discovery Trips, Round Tables & Pan-European Policy Forum	Events, 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 – Final Report	Discovery Trips – Final Report	Publication Report – D.4.4	Knowledge Sharing platform, Publication Report	M36
	Pan-European Policy Forum (conference)	High-level conference event in Brussels showcasing the results and highlights of the project	D4.5 Events, 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	M36
	Evaluation of Terms of Reference and templates	Evaluation of Terms of Reference and templates	Publication Report – D.5.1	Knowledge Sharing platform, Publication Report	M6

WP5: Evaluation	Interim DvITOs Evaluation Report	Interim DITOs Evaluation Report	Publication Report – D.5.2	Knowledge Sharing platform, Publication Report	M15
	Project Evaluation Results Report	Project Evaluation Results Report	Publication Report – D.5.3	Knowledge Sharing platform, Publication Report	M36
WP6: Coordination Support and Management	Initial Plan for Communication, Dissemination and Exploitation	Initial Plan for Communication, Dissemination and Exploitation	Publication Report – D.6.2	Knowledge Sharing platform, Publication Report	M3
	Data Management Plan	Data Management Plan	Publication Report – D.6.3	Knowledge Sharing platform, Publication Report	M6
	Communications, dissemination and exploitation plan- update	Communications, dissemination and exploitation plan- update	Publication Report – D.6.5	Knowledge Sharing platform, Publication Report	M15
	Innovation Management Plan	Innovation Management Plan	Publication Report – D.6.6	Knowledge Sharing platform, Publication Report	M30
	Final Data Management Plan	Final Data Management Plan	Publication Report – D.6.7	Knowledge Sharing platform, Publication Report	M36

	Final Plan for dissemination and exploitation	Final Plan for dissemination and exploitation	Publication Report – D.6.8	Knowledge Sharing platform, Publication Report	M36