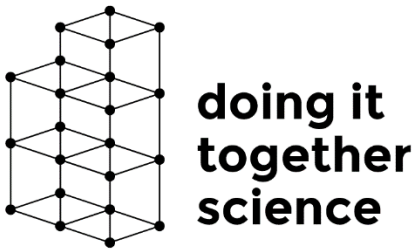

Grant agreement no. 709443

DITOs

Doing It Together science

Coordination & Support Action

D6.2 Initial Plan for Communications, Dissemination and Exploitation

Work Package: 6

Due date of deliverable: Month 3

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Lead beneficiary for this deliverable: UCL

Contributors: All members of the consortium

Reviewer: J.L. Fernandez UNIGE

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CO	Confidential, only for members of the consortium (including the Commission Services)	
CI	Classified, as referred to in Commission Decision 2001/844/EC	

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1 Version log

Version	Date	Released by	Nature of Change
DRAFT	24.08.2016	J. Barrett (UCL)	Consortium Review
Review	26.08.2016	C. Göbel (ECSA)	ECSA review
Review	28.08.2016	I. Baïz (UPD)	UPD Review
Review	30.08.2016	J.L. Fernandez (UNIGE)	UNIGE Review
1.0	31.08.2016	J. Barrett (UCL)	Version 1.0

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

3 Introduction

The Initial Plan for Communications, Dissemination and Exploitation (CDE) is Deliverable 6.2 (D6.2) from the communication and support action (CSA) Doing It Together science (DITOs), grant agreement 709443.

DITOs' primary concern is the pan-European development, establishment and promotion of citizen science.

The 11 partners in the DITOs consortium will deliver approximately 500 face-to-face and online citizen science activities in the areas of biodesign and environmental sustainability, reaching a total audience of 290,000 offline and 1.3 million online, with a special effort to reach currently underrepresented science audience and citizen science participants such as women, people without access to the Internet and people who have not completed tertiary education.

Through these actions and their evaluation and ensuing discussion platforms, DITOs will build a legacy framework for both public engagement/capacity building and policy engagement for Responsible Research and Innovation (RRI), reaching out to the general public, researchers and policy makers.

The DITOs project plan includes a 'Public Engagement and Capacity Building' work package (WP3) which already contains support for exploration, learning and innovation, already ensuring communicating and disseminating DITOs processes and outcomes to a wider spectrum of stakeholders at various levels of knowledge/experience.

Our strategic CDE plan goes beyond WP3 to include these activities in terms of all Work Packages (WPs). Our proposed implementation framework, comprising two main themes of DIY science - biodesign (WP1) and environmental sustainability (WP2) - will cross over with public engagement, policy, RRI and evaluation activities taking place in both themes concurrently, which means communication, dissemination and exploitation are relevant in all areas of the project. Thus, our strategies will be discussed in terms of each WP as well as within the wider context of citizen science in Europe and worldwide, and the networks of DITOs partners, especially the European Citizen Science Association (ECSA) and DITOs supporters.

The main aim of this CDE plan is to define:

- how knowledge and project results, including lessons learnt, will be disseminated and promoted to the public, scientific community and policy makers;
- how partners should identify and exploit communication opportunities; and
- 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.

This initial version of the CDE Plan will be reviewed and updated during the project's lifetime in order to reflect new opportunities and new understandings for the needs of the target audiences. Two major revisions are planned – an intermediary version in M15 (August 2017), during the 'engagement and networking' phase, and a final version in M36 (May 2019), at the end of the 'evaluation and upscaling' phase.

4 Background - DITOs Overview

4.1 The DITOs Escalator Model

Doing-It-Together Science (DITOs) is a three-year EU H2020 programme to increase participation and engagement in science and innovation by the general public.

A central model to DITOs is the 'escalator' of participation (Figure 1) in which a citizen in any walk of life may become aware of different levels of participation and choose that which is best for them, while being encouraged to try other levels - either toward higher or lower levels of engagement, in accordance to their needs, interests and availability of free time. Such participation and step-changing will help science outreach, innovation, research and problem solving move from a top-down model, in which it is driven by institutions, to a bottom-up model, where it is shared by active public participation at various levels of scientific engagement. This dissemination plan defines how we will communicate both our events and the lessons we learn from them to the general public, science practitioners, institutions, policy makers, the academic community and many other stakeholders in order to implement the concept of the virtual 'escalator'.

Figure 1 The Escalator Model of Participation

At the most intense level of engagement in DIY science, it is estimated that about 2,000 people participate in DIY science in the area of biology; and several hundred are active in DIY science using the Public Laboratory of Open Technology and Science tools. In contrast, in the UK alone, there are over 40,000 people involved in ornithological surveys. Over 150,000 Europeans have contributed their unused computer resources to IBM World Community Grid to support scientific computations, and more than a million people have participated in the online Zooniverse project. Yet, the best estimate of the number of Europeans involved in citizen science is not more than 2 million. Considering that access to the internet is being actively increased and that over a quarter of the EU population hold an advanced degree, there is great potential for increased participation in citizen science. The challenge is in reaching the 30% of Europeans who are not online as well as those not engaged through education by linking and strengthening existing hubs to support face-to-face and offline outreach, which is something that DITOs will do via various outreach activities and events that directly will engage the public such the DITOs travelling exhibitions, which will visit carefully targeted areas to achieve this aim.

The DITOs 'escalator' will be used throughout the duration of this project to inform our CDE strategy in order to ensure that not only we achieve our expected public outreach but also that through careful evaluation we monitor how people move towards more active forms of participation.

4.2 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 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 science, including 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, outcomes lie at the heart, underline and will eventually result in this project's success. To engage with a wide variety of stakeholders in WP1 and WP2 and attract a growing number of people to participate in our activities and encourage them to initiate their own requires an effective CDE plan in place which aims at reaching these audiences and communicating back to them the outcomes of these activities. This is also the case for objectives 3 and 4, where extending public and policy engagement in citizen and DIY science through DITOs guidelines, mechanisms and institutions further require a clear and effective CDE plan to achieve this. Our CDE plan also aims at communicating and disseminating the outcomes of our evaluation framework and

tools to anyone interested in DIY science. Finally, O6 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 describe our communication and dissemination strategies.

5 Communication and Dissemination Strategies

5.1 Definitions and Objectives

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

> Communication: "*Communication on projects is a strategically planned process, which starts at the outset of the action and continues throughout its entire lifetime, aimed at promoting the action and its results. It requires strategic and targeted measures for communicating about (i) the action and (ii) its results to a multitude of audiences, including the media and the public and possibly engaging in a two-way exchange."*
>
> Dissemination: "*The public disclosure of the results by any appropriate means (other than resulting from protecting or exploiting the results), including by scientific publications in any medium."*

DITOs' Communication Objectives are:

> 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.

DITOs' Dissemination Objectives are:

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.

Section 5.11 establishes a preliminary set of Key Performance Indicators (KPIs) for these objectives.

5.2 Timeframes

Figure 2 below illustrates the timeline of communication and dissemination activities

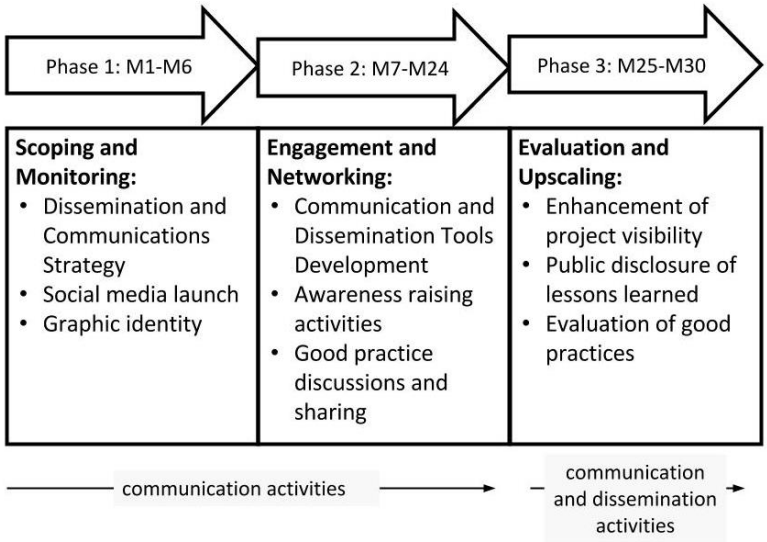

Figure 2 The DITOs timeline of activities

Phase 1 (M1-6): Scoping and Engagement

During the early stage of the project, the attention will be to initial events, identify the communication and dissemination strategy and plan to ensure the best impact of DITOs' outcomes.

Phase 2 (M7-24): Engagement and Networking

Run the bulk of the events, produce a comprehensive set of engagement tools and build a community, extract and act upon key messages from the feedback from the events and produce a plan for sharing best practice with other practitioners and other targeted groups.

Phase 3 (M25-30): Evaluation and Scaling Up

Evaluate the impact and success of the dissemination activities against pre-established performance indicators; identify and set up the mechanisms

needed to ensure persistent and long-lasting visibility of DITOs and its messages, alongside a legacy framework to hand over to the European Citizen Science Association (ECSA).

5.3 Partners' Roles and Responsibilities

The communication and dissemination plan can best be thought of and conceptualized using the Work Packages (WP) table in Figure 3 and which is used herein to further explain the key roles and responsibilities with respect to dissemination and communication activities.

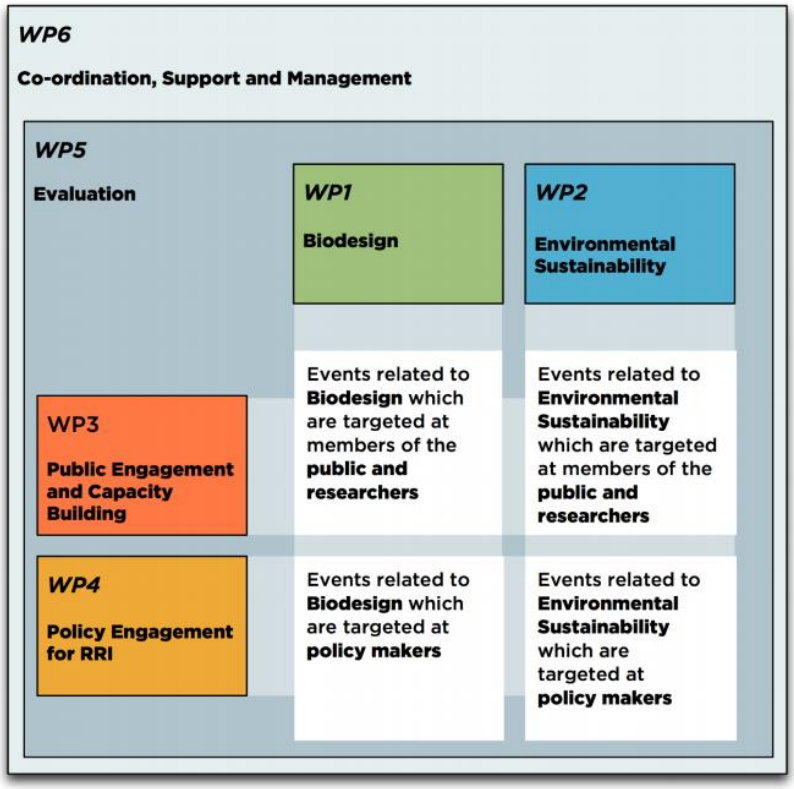

Figure 3 The Relationships between the Work Packages

WP1 and WP2 include a series of activities in the themes of biodesign and environmental sustainability respectively. Their objectives include engaging a wider audience interested in citizen and DIY science and establishing a network of hubs in both themes.

While each partner acts as a technological and social innovation hub, WP3, which overlaps with WP1 and WP2 provides extensive CDE mechanisms in both work packages and the rest of the project. These include providing the mechanisms for public engagement and capacity building to subsequently feed into strengthening ECSA as the pan-European knowledge and resource centre for RRI-driven and citizen science.

Similarly, WP4, which also overlaps with WP1 and WP2, is responsible for policy engagement and RRI that run across both themes (i.e. biodesign and environmental sustainability). CDE mechanisms in this work package focus on extending DITOs networks to include policy stakeholders via a series of events (i.e. 'discovery trips') and disseminating their outcomes. WP4 is led by ECSA and thus further builds ECSA's capacity in the policy context to ensure DITOs legacy after completion.

WP5 includes dissemination activities such as videos and publications to communicate evaluation material and outcomes, and the lessons that were learned from the project activities.

Finally, WP6, with its oversight of all work packages, ensures the smooth operation, coordination, support and management of DITOs. One of the particular objectives of WP6 is overseeing and managing CDE efforts to achieve the desired impacts; WP6 further places our communication strategy into a much broader context and sets the exploitation strategy as described by this deliverable.

The **Waag Society** (WS), as leader of WP3 (Public Engagement and Capacity Building), will build technology and provide guidance to enable all communication and dissemination activities across the project and especially with respect to WP1 and WP2.

ECSA, which leads WP4 (Policy Engagement and Capacity building), will support **WS** in communication and dissemination activities of WP4.

Universite Paris Descartes (UPD) and **Medialab Prado** (MP), the WP1 and WP2 leaders respectively, will oversee and coordinate the project communication and dissemination for their respective WP, working closely with **WS** and **ECSA** for this purpose.

Finally, **eutema**, which leads WP5, will also work with **WS** for the dissemination activities that are the outcomes of this particular WP, such as instruments and approaches that will emerge through the project, as well as the outputs of evaluation activities.

The CDE plan further encourages all partners to contribute to the activities, plan and organize their events and support WP1 and WP2 leaders in the overall planning and organization of DITOs events. **University College London** (UCL**),** as WP6 leader, will perform the leadership of the coordination of the project communication and dissemination activities based on the strategy defined in this plan.

The following table (Table 1) presents in more details the communication and dissemination activities and the roles and responsibilities of each partner:

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	-	-	-	-	-	-	-

Communication & Dissemination activities L=leader E=enabler (technology / guidance) C=Contributor	UCL	RBINS	UPD	WS	ECSA	MP	KI	meritum	UNIGE	Tekiu	eutema
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 1 Communication and Dissemination Roles and Responsibilities

5.4 DITOs Target Audiences

We have identified the following groups of stakeholders likely to be interested by the DITOs events and other outputs, and therefore targeted by the consortium for communication and dissemination activities:

5.4.1 General Public

Following the overall aim of the **science with and for society** programme, DITOs' activities will be tailored to engage people from all walks of life, especially those less likely to be involved in science, and the demographics of event participants will be monitored to ensure our project is inclusive and reduces barriers. The lessons learned after our ~500 events will help develop systems of good practice which can be shared by other citizen science projects, a network of communications with local role models and institutions, and a better understanding will be gained of the drivers and barriers to engagement and thus what technological, policy and cultural shifts are needed to increase public participation. We aim also that WP2 activities will improve citizens' local environments and create cultures of environmental monitoring and innovation. We aim to communicate to citizens in and beyond the EU the various levels of engagement available to them in citizen science, in order that they can "move up (or down) the escalator".

5.4.2 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. It is planned that policy makers should be brought face to face with citizen scientists through Discovery Trips, policy discussions and round tables. Policy makers (and other participants) will be provided with guidance on the provision and design of activities that reflect local needs, aspirations and conditions, likely providing them with good relationships with local people who can work with them and provide them with a great deal more data they can work with. Finally, DITOs will provide policy guidelines, reports and various

materials and media to present policy analysis and the impact of citizen science, as well as RRI policies.

5.4.3 The Scientific Community

Citizen science has the potential to greatly increase the speed at which discoveries are made. The online Zooniverse project, for example, has over 1 million volunteers, and it is estimated that in total they have contributed over 50 years of human effort, saving €3.5 million in labour costs. Citizen science also offers transdisciplinarity: the wide variety of expertise people from various professions will bring will enhance the relevance and innovations of science, and a wider transfer of ideas takes place. Increased public participation in science should also bring more public support for science as an institution. 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.

5.4.4 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 sale to app development and services, many of the activities in the different WPs have the potential to support commercialisation and innovations.

For example, WP1 will expose more people to biodesign, an important and challenging new area of science, but one which is often feared in modern culture, an attitude that spans from Mary Shelley's "Frankenstein" to modern articles that present it as a potential horror in the future (G. Seyfried et. al, 2014). WP1 can assist in demystifying the topic and gain in support, and innovators and entrepreneurs will gain more skills, potential colleagues and access to new markets. In addition it can provide opportunities for developers of instruments and devices that are suitable for the DIY biology market, and that can eventually serve the development of new early prototypes in biotechnologies.

WP2, on the other hand, open up the possibilities of new mobile apps and sensors that can support environmental sensing, which can eventually be used in the market for environmental monitoring in the EU and beyond.

To assist with this process, WP6 aims to develop an innovation plan and identify suitable business models for citizen science and DITOs activities. This will be a new area of study, as there has been little research into business and citizen science so far, but DITOs will build scientific and technological capacity in citizens. RRI will be at the heart of any study or discussion on innovation, adding the citizen as a new participant.

5.4.5 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.

5.4.6 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, and will use expertise in reaching women developed by experienced partners such as KI. 15% of WP1 and WP2's activities will be dedicated exclusively to a female audience, and workshops and events will be held to discuss how to rectify barriers to women. Other events will be adjusted to take into account responsibilities often borne by women, such as by allowing for childcare; a range of entry points will hopefully lower barriers, and feedback from women after the events will be studied for recommendations. Media such as videos will allow DITOs' partners to use women as role models in participatory science.

5.4.7 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.

5.5 Communication and Dissemination Tools and Channels

In order to successfully convey DITOs messages to the respective target audiences and reach the highest impact possible, the project consortium will employ a strategy which involves:

online and interactive tools and channels (e.g. website, social media);

non-electronic tools and channels (e.g. printed material);

and physical interactive tools and channels (e.g. discussions, lectures).

We will tailor our communication and dissemination tools to each of our target audiences to improve effectiveness and impact. For example, while specific DITOs e-newsletters may target policy makers others will be designed and communicated to the general public or even more specifically school children.

It should be noted that by **communication and dissemination *tools*** we mean all material supports used to present the project and its contents to an external audience.

By **communication and dissemination *channels*** we mean all media through which the project activities and results are conveyed and relayed to the target audiences.

5.6 Communication and Dissemination Tools

Some of the tools listed below will be used for communication, others for dissemination and some for both as Table 2 below demonstrates.

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

Table 2 Communication and Dissemination Tools

5.6.1 Visual Identity

WS has defined DITOs' visual identity with a logo that works in different contexts: online/offline, and in a different range of cultures, language, age groups and education backgrounds. It is therefore simple, recognisable and modular. Depending on its use the shape and colours can vary.

A style document has also been developed to provide all (external) partners with the available logos. Additionally, templates for presentations and official documents will be developed in the same style. Finally, the ambition is to develop a mascot in the same style that is equally modular in its use and understanding.

5.6.2 Printed Media

Leaflets and flyers to hand out at events should bear the DITOs logo supported by relevant partner's logos and show the website URL (see section 5.6.1). The ambition is to make the printed material represent local events while sending a centralised message. This will be achieved through a unified layout and design on all the printed media. By adapting the used images and languages the print material will be adapted to a local context.

All printed media should also contain the formal H2020 acknowledgement statement in the appropriate language alongside the EU emblem (as defined in deliverable D6.1, Project Handbook).

UNIGE is developing educational postcards which we will encourage participants to take and send to friends. These postcards should also contain DITOs logo, EU acknowledgement and the website address.

Finally, more playful printed material will be developed such as stickers with the logo in different colours and shapes.

5.6.3 Videos

DITOs will create videos from certain events and as a broadcasting tool to attract a wider audience, such as "What is DITOs?" as an introduction to get more people involved. At events where filming will take place, the intention to film will be announced to participants in order that they can consent (or not) to appearing in a video. As with the website and other media and communications, DITOs will track viewer numbers.

The Consortium as a whole will plan together the form and purpose of the videos. For those that are to be incorporated into the DITOs website, to act as educational tools, Vimeo will be used due to its higher quality, lack of advertisements and ease of incorporation. For those that are to be broadcast to a wider audience, such as the "What is DITOs?" video, YouTube will be used, and UCL and the WS will create a "DITOs" channel. Partners will agree by the end of the Scoping phase (Phase 1) which of the two platforms (Vimeo or YouTube) the "DITOs" channel should use.

5.6.4 Media Articles

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.

Members of the consortium who interact with the media, such as authors of Guardian (https://www.theguardian.com) blog posts, will choose to use this platform to promote DITOs to their audiences.

5.6.5 Electronic Newsletters and Email Blasts

A regular (at least quarterly) newsletter will be issued as a communication tool to ensure that all stakeholders are regularly updated on project's developments. It will be circulated via our mailing list but also via all partners' media forms. A professional emailing solution (Mailchimp) will be used to ensure the best delivery rate but also to ensure that the same audience can be reached via other forms of campaigns in the project Work Packages. People will be able to subscribe and unsubscribe themselves into this mailing list but target groups will be segmented whenever possible and a regular analysis will be driven on newsletter results (opens and clicks) to optimise the impact.

On various occasions, email blasts will be drafted to send shorter and more targeted messages to the project community members, usually on one specific aspect of a project activity.

5.6.6 Project Reports

A major expression of external dissemination is the production of deliverables. Over the entire project duration, the DITOs consortium will produce 22 reports in its deliverables and 21 of those will be made publicly available in the project website resources area in order to spread the project excellence and disseminate knowledge to our target groups. The reports will all be hosted in the UCL institutional repository to support archiving and the ability to find them in academic search engines.

5.6.7 Other Tools

Specific thematic brochures and flyers will also be created by DITOs in support of the different activities of the project, for example in support of the dissemination materials promoting the events in our various WPs.

Posters and/or roll-up banners will also be designed and used at events that the project will organise or contribute to. Posters will be laminated in order to make them reusable and limit the number of printed copies. Specific posters and/or roll-up banners will be created for the project events. These serve both communication and dissemination purposes. As with printed media (section 5.5.2), these posters and banners will display the DITOs logo, website address and EU acknowledgement.

5.7 Communication and Dissemination Channels

The proposed communication and dissemination channels (Table 3) that are discussed in this section are both internal (between members of the consortium) and external (directed at the general public, scientific community and/or policy makers)

Channels	Communication	Dissemination	Online/Offline/Both
Knowledge Sharing Platform	✓	✓	Online
Mailing Lists and Contact databases	✓		Both
Social Media	✓		Online
Maps	✓	✓	Online
External Channels	✓		Both
DITOs events		✓	Both
External Events	✓	✓	Both
Publications		✓	Both

Table 3 Communication and Dissemination Channels

5.7.1 DITOs Knowledge Sharing Platform (togetherscience.eu)

The DITOs knowledge sharing platform will be a key communication tool for the project and it will be delivered in M6. Its aim will be to increase the action's visibility and impact towards all actors but especially towards the general public.

The website will contain an activity stream, tracking (social) media activities of DITOs channels, partners and participants through, for example, selected hashtags. Also blogs will be posted on activities, events and related themes. Additionally, once the science express/ bus is running all its activities will be streamed and displayed to connect with local audiences. The website will further contain a map displaying all the (consortium) partners, tracks the bus and displays events.

Considering the escalator model, those already involved in the DIY movement, citizen science and environmental mapping will be actively approached with a call to action: to share their experiences, express their interests and needs, encourage them to actively participate and give them a platform. Additionally, the website will offer the ability to contribute gathered data of results from local activities. The ambition is that also used methods and best practices are shared on the platform.

5.7.2 Contact Databases

DITOs is compiling contact databases in the form of spreadsheets of potential and actual partners (for example, those who have written letters of support), soon to be expanded in other sheets to participants who have been willing to provide us with their details. In time, as our participant numbers increase, these will be broken down by area, interest, etc. As people sign up to our MailChimp newsletter, register for events in Eventbrite or join a meeting at Meetup.com, this will create another contact database. These databases will be available on the DITOs Google Drive and not shared to any third parties without the explicit consent of the contacts involved.

5.7.3 Social Media

DITOs has created a Twitter account @TogetherSci (see Table 4) for the proposed and currently used hashtags) and by the end of M3 will have created accounts for Flickr and Instagram (photo albums), YouTube (videos), LinkedIn and Facebook (and other social media platforms) to exploit different channels to reach as many online participants as possible. All 11 consortium members will have access to each account, with the Twitter account being run on a schedule with each Consortium member tweeting for a month at a time (though all members will tweet their own events as appropriate regardless of whether they are curating the account at the time or not).

Every Consortium member will know their local audience and styles will therefore vary from place to place. However, a central pool of knowledge will be developed and maintained to share best practice in reaching large audiences. Members of the Consortium who have expertise in areas of social media will share tips and use their large following as appropriate to share DITOs' message and upcoming events.

Hashtags to use	
DIT Citizen science specific	*General*
#DITScience	#citizenscience
#TogetherSci	#citsci
#TogetherScience	#DIYscience
#making	#STEM
#DIT	#scichat
#DoItTogether	#DIYbio
#Biodesign	#biohacking

Hashtags to use	
DIT Citizen science specific	*General*
#citizenscience	Particular events and anniversaries, eg the British Science festival – obviously these will change regularly
	#naukaobywatelska
	#CitSciChat

Table 4 Hashtags to be Used

5.7.4 DITOs Interactive Citizen Science Map

UNIGE will develop an interactive, real-time map of citizen science participation. This will be placed on the DITOs knowledge sharing platform to allow participants all over Europe to find events running in their area and to raise awareness about the rise of citizen science. The data required for this map will be carefully assessed to ensure there is no breach of privacy/safeguarding.

5.7.5 External Channels

DITOs activities will be communicated and the outcomes will be disseminated on a series of external platforms of other organisations, institutions, projects and their respective social networks. The list of these sources will be extended throughout the duration of this project. Table 5 summarises a list of external channels that have been identified in M3 grouped by topic.

Title	**Website**
European Commission	
European Commission	http://ec.europa.eu/index_en.htm
EC Cordis News	http://cordis.europa.eu/news/home_en.html
Socientize	http://www.socientize.eu/
CAPS	https://ec.europa.eu/digital-single-market/en/collective-awareness
European Parliament	http://www.europarl.europa.eu
Related H2020 projects	

RRI Toolkit	http://www.rri-tools.eu/
Sparks Project	http://www.sparksproject.eu/
European Biodiversity Observation Network (EU BON)	http://www.eubon.eu/
Other related projects	
The Ecsite Network	http://www.ecsite.eu/
Citizen Science Association	http://citizenscience.org/
Australian Citizen Science Association	http://csna.gaiaresources.com.au/wordpress/
UK Environmental Observation Framework	http://www.ukeof.org.uk/our-work/citizen-science
Citizen Cyberlab	http://www.citizencyberlab.org/
Citizen Create Knowledge Germany platform and network	http://www.buergerschaffenwissen.de
Citizen Science platform Austria	http://www.citizenscience.at
European Universities Public Relations and Information Officers Association (EUPRIO)	http://www.euprio.eu/
European Science Events Association	http://www.eusea.info/
SYNENERGENE (RRI in Synthetic Biology)	https://www.synenergene.eu/
OPAL	https://www.opalexplorenature.org/
OrganiCity	https://futurecities.catapult.org.uk/project/organicity/
Ideas for Change: The Bristol Approach	http://kwmc.org.uk/projects/bristolapproach/
Policy	

Royal Society of Biology website and weekly policy newsletter	https://www.rsb.org.uk/policy
NESTA website and weekly policy newsletter	http://www.nesta.org.uk/
The Royal Society	https://royalsociety.org/topics-policy/
Institute for Government	http://www.instituteforgovernment.org.uk/
Policy Exchange	http://www.policyexchange.org.uk/
Open Data Institute website and weekly newsletter	http://theodi.org/
US Government Platform for Citizen Science	https://www.citizenscience.gov/
General news and other websites	
European Citizen Science Association website and newsletter	http://ecsa.citizen-science.net/
Guardian Blog	https://www.theguardian.com/tone/blog
Horizon 2020 Projects	http://horizon2020projects.com/
BBC Science and Environment	http://www.bbc.co.uk/news/science_and_environment
Science News	https://www.sciencenews.org/
EuroScientist	http://www.euroscientist.com/
Nauka w Polsce	http://naukawpolsce.pap.pl/
Jisc mailing lists	Public Communication of Science and Technology [PCST], British Ecological Society-Citizen Science [BES-CITIZENSCIENCE], Science in Public

Table 5 External Online Channels

5.8 DITOs Events

DITOs events are essential to disseminating this project's knowledge and outcomes throughout the duration of this project. They will help in spreading the project outputs

to the respective target audiences, facilitate valuable feedback from respective stakeholders, and provide ground for discussion and brainstorming.

Table 6 below summarises the number of events that we are planning to run in each work package and our expected offline and online outreach.

	No. of Planned Events	Expected Number of Participants (online outreach)
WP1 Biodesign	200	35,000 (+450,000 online outreach)
WP2 Environmental Sustainability	205	240,000 (+230,000 online outreach)
WP3 Public Engagement and Capacity Building	70	15,500 (+650,000 online outreach)
WP4 Policy Engagement for RRI	24	860
Total	499	~290,000 (+ 1,300,000 online outreach)

Table 6 Events and Participant Planned Numbers

Our exhibitions will display the work and collaboration of scientists and artists from a wide range of backgrounds and traditions in various modes, including the travelling exhibitions Touch|Play|Learn and the Bus Tour as well as interactive exhibitions of extended duration such as RBINS' Poison exhibition.

Our seminars are intended to reach a wide range of audiences and raise awareness about scientific challenges, advancements, and opportunities for engagement, such as NightScience, which provides spaces for lectures by specialists, presentations by young change-makers from around the globe, and showcasing for people of all ages.

Our activities also include gaming and online platforms such as Igame4er, an initiative which encourages the development of low or high tech, digital or analogue games for public learning and contribution to science, and Europe's Interactive Citizen Science Map.

Our highly interactive and participatory workshops span all levels of engagement and a wide range of topics: BioFridayAcademy activities that foster research skills in children Explorer of the World playshops (EoW*Playshop) that combine indoor and outdoor investigations with arts and science; and Hack the City (EnvHacktheCity) focusing on community mapping and 'planning for change' activities with local communities.

DITOs science cafés include various grassroots public science initiatives such as the Open Lab Evening with members of the public presenting and discussing their own work and having the lab available to verify or extend those discussions supported by lab staff and invited speakers.

Other activities include interdisciplinary collaborations between students, discussion-based public film screenings of science-related documentaries, and online activities such as blog posts and ebooks.

5.8.1 External Events

Regular and widely attended events also offer the opportunity to spread the word and extend our outreach. DITOs partners will use various such events to disseminate key results and will do so by carefully selecting the events that will allow for optimal impact.

5.9 Communication Activities Plan

Table 7 (below) defines the specific communication message(s) of each work package and the tools and channels that will be used.

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

WP3: Public Engagement and Capacity Building	DITOs Visual Identity	DITOs visual identity is in place.	e-newsletter 2	All online and offline channels	M3
	Knowledge Sharing Platform	DITOs website is online	e-newsletter 3	Knowledge sharing platform, mailing lists and contact databases, social media, external channels, external events	M6
	DITOs printed media	DITOs printed media is in place	Printed media	External events	M6
	DITOs Newsletter project launch	DITOs newsletter about project launch	Media articles, e-newsletter 1	Partners' social media, external channels, mailing lists and contact databases	M1
	DITOs online social media	Setting up DITOs online social media	Media articles, e-newsletter 2	social media	M3
	DITOs travelling exhibition	Plan travelling exhibition in rural areas in Europe; Map with stops and calendar; Pre-visit communications to inform about the bus and where it will be (e.g. Newsletter, invitations, registration); Post-event communications (e.g. Thank you email, invitation to join subscription list, reflections and experiences shared)	Printed media, videos, media articles, e-newsletters and email blasts	Knowledge Sharing platform, social media, maps, external channels, mailing lists and contact databases, external events	M13-M24

	Summary of DITOs Innovation Hub Report	Communicate availability of report which shares knowledge about the process of setting up of project partner innovation hubs, facilities, multiplier arrangements with third parties such as science museums and centers, and future development plans.	Media articles, e-newsletter	Knowledge Sharing platform, social media, mailing lists and contact databases, external channels, external events	M15
	Summary of Sustainable Support for citizen and DIY science	Communicate availability of report on network expansion and long-term sustainability plans developed by ECSA.	Media articles, e-newsletter	Knowledge Sharing platform, social media, mailing lists and contact databases, external channels, external events	M36
	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,	Plan WP4 activities on Biodesign, Environmental Sustainability and cross-cutting issues with authorities all over Europe and deliberative workshops involving	Printed media, videos, media articles, e-	Knowledge Sharing platform, social media, maps, external channels, mailing lists and	M7-36

WP4: Policy Engagement for RRI	Discovery Trips)	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)	newsletters and email blasts	contact databases, external events	
	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
	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

WP5: Evaluation	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, external channels, external events, online website	M1
	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 Management Plan	Communicate availability of data management plan update.	Media articles, e-newsletter	Knowledge Sharing platform, social media, mailing lists and contact databases, external channels, external events	M36
	Summary of Final Plan for dissemination and exploitation	Communicate availability of final plan for communication and dissemination activities, and the Use of Knowledge and the related IPR Management Strategy for citizen science.	Media articles, e-newsletter	Knowledge Sharing platform, social media, mailing lists and contact databases, external channels, external events	M36

Table 7 Communication Activities Plan

5.10 Dissemination Plan

Table 8Table 7 (below) defines how the outputs (including deliverable reports) will be disseminated and the tools and channels which will be used.

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. Sustainabilitynactivities 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,	Knowledge Sharing platform, social media, maps, external channels, mailing lists and	M36

			e-newsletters and email blasts	contact databases, external events	
WP5: Evaluation	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
	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

Table 8 Dissemination Activities Plan

5.11 Communication and Dissemination Plan Key Performance Indicators

A preliminary series of key performance indicators (KPI) has been defined to measure the success of the dissemination and communication activities carried out by the project consortium in Table 9 below.

It should be noted that, in M6, D5.1 will define KPIs and other means for monitoring achievement of the DITOs overall success; the indicators in this document are an initial means of measuring the success of the DITOs Communication & Dissemination plan

Objective **(As defined in section 5.1)**	**Mechanisms to achieve objective**	**KPI1**	**KPI2**	**KPI3**
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
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	
Communication O3: Support the dissemination objectives	Meet all KPIs			
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	Expected numbers of participants at the Pan-European Policy Forum 50	

Objective **(As defined in section 5.1)**	**Mechanisms to achieve objective**	**KPI1**	**KPI2**	**KPI3**
		DITOs		
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
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 (ie; quarterly at minimum) on shared platform by M36
Dissemination O3: Use the dissemination channels; organise project events and participate in workshops, conference and international/EC meetings.	Effective Management of Dissemination Channels (via WP6)	Mailing list of 10,000 on mailchimp	Talks given at 2 internationa l/EC meetings	Each partner tweets at least 12 times during their month(s) of custody of twitter account
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	Logic Model Paper published	

Table 9 Communication and Dissemination Plan KPIs

6 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.

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. 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 4 Stages of Communication, Dissemination and Exploitation:

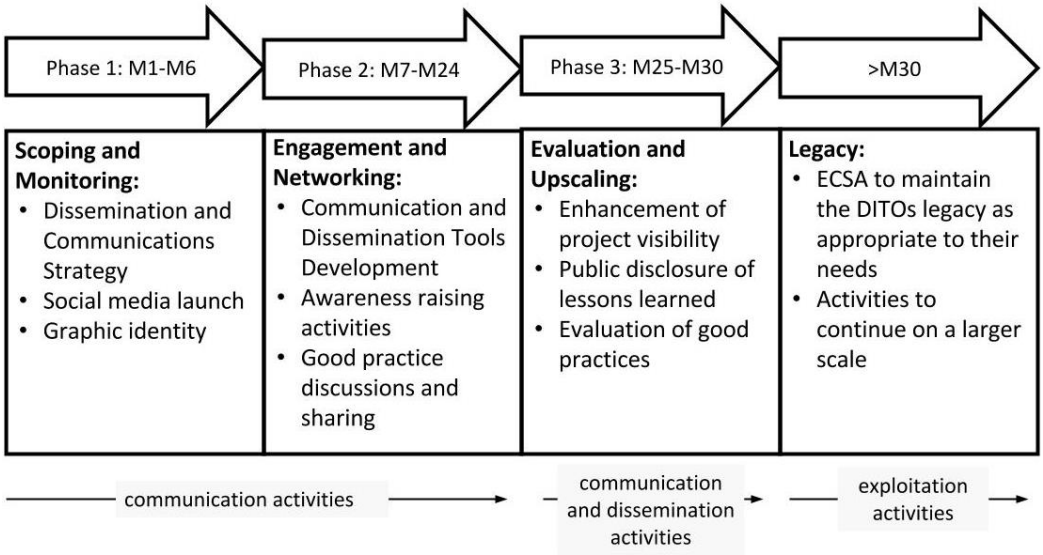

Figure 4 Stages of Communication, Dissemination and Exploitation

6.1 Exploitation Strategy at Partner Level

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.

UCL

Main role in the project: coordinator, involved in all WPs

UCL will support all the other consortium partners in their activities to ensure that DITOs reaches its maximum possible impact, supervise activities such as RRI workshops as required, lead internal evaluation reviews, create frameworks for the evaluation of policy/RRI and for public engagement and local initiatives support, and lead in Consortium activities such as communication, activity planning and monitoring.

UCL will contribute to the evaluation of case studies and identify patterns in participation which can then be used in further projects. This partner will be responsible for the scaling up and legacy of WP1-5 and innovation planning prior to the handover to ECSA at the end of M36, the Use of Knowledge and the related IRP Management Strategy for citizen science.

UCL will produce a paper on the Logic Model which will be published in a scientific journal and spoken about at conferences, and disseminated via traditional academic channels. Additional papers on new theorisations of participatory design, plus good practices, guidelines, evaluation and discoveries of citizen science, may also be published based on analysis of DITOs events.

RBINS

Main role in the project: Involved in WP2-6

RBINS will work with local science practitioners to develop relationships between them, scientists, other stakeholders and local citizens for capacity building, and support analysis of data from events in environmental sustainability. This partner will also be involved with local schools, ensuring hands-on science as part of local STEM education and thus empowering schoolchildren.

RBINS will for the first time develop an exhibition with citizens, involving museologists and scientists from the scientific domain tackled by the exhibition. It will be a product available for other venues and a good example of scientific-citizens collaboration. Evaluation of attendance, reporting and communication on the exhibition will be traceable.

Because different profiles of RBINS staff (museologists, communicators, scientists, education service) will be involved in DITOs, this partner will also promote the activities towards various working channels including schools, eu projects and networks raising awareness on the scientific career and gender equal opportunities, the general public through its visitors, citizens associations and public authorities. A change in the internal working processes of this partner might be one of the project results.

This partner will promote towards other Natural History Museums and science museums its experience from DITOs activities notably through science networks of which it is member CETAF and ECSITE.

UPD

Main role in the project: WP1 leader, involved in all WP3-6

UPD will lead DITOs on biodesign and create good practices in this area to be disseminated to other organisations. This partner will also participate in capacity building and dissemination activities (including with external partners) to build DITOs' impact, create guidelines in participatory biodesign and good practices, support the principle of open science, contribute to the popularisation of science and citizen science and liaise with policy makers regionally and in France.

WS

Main role in the project: WP3 leader, involved in WP1 and WP3-6

WS will take the primary responsibility for DITOs' communication channels and will focus on building up a communication and online community management strategy and thus a large audience with a sustained interest in biodesign and environmental activities, which will lead to a knowledge sharing platform to be incorporated into ECSA activities in the long term. The WS is also running a travelling exhibition design (bus tour) and will acquire feedback from this and workshops to be used in policy recommendations.

ECSA

Main role in the project: WP4 leader, involved in all WPs

ECSA will be responsible for acting as custodian the legacy framework of communication and dissemination tools and advisory documents of DITOs after M36. ECSA will thus prepare to take on, and if necessary adapt, relevant DITOs communication channels, knowledge, documents, web and platforms. Most importantly, ECSA as organization will continue to engage with consortium members and partners, participants of DITOs activities, stakeholders and international partners after the end of DITOs in order to nurture a sustainable pan-European network of citizen science and DIY science. The DITOs legacy will thus be integrated into the ECSA capacity building work and scaled up. By these measures, and additional ones that will be defined over the course of the project, we aim to ensure the valorization and impact of DITOs activities beyond the project lifetime. In the meantime, ECSA will develop policy briefs and a pan-European policy forum. ECSA hosts conferences on European citizen science and will continue to promote this and DITOs, expand its network, reach communities especially in the area of environmental monitoring, develop long-term sustainability plans and support ethical standards and policy guidelines which will be communicated to other citizen science projects.

MP

Main role in the project: WP2 leader; involved in all WPs

MP will produce communication and dissemination materials and involve local science practitioners in DITOs activities to scale up the project. MP will also develop policy guidelines, collect and analyse data to be published, form links with other international organisations and lead DITOs in developing good practices in participatory Environmental Sustainability.

KI

Main role in the project: involved in all WPs

KI will take experience from activities and feed it into good practice recommendations and guidelines for DITOs' partners and make these recommendations available to all citizen science projects after DITOs. This partner will also promote DITOs' activities in the media and to local and national stakeholders and engage local scientists in DITOs projects. KI will also implement a program of inviting female scientists to run workshops (including women-only workshops) and promote science to women and girls, and develop observations and recommendations on involving women and disadvantaged groups which will then be made available to other citizen science groups.

Meritum

Main role in the project: involved in all WPs

Meritum will work with local citizens in workshops and promote these to national organisations with the aim of expanding citizen science in Poland. Meritum will also evaluate strategies on sustainable development and gender equality and make these strategies available to other partners and citizen science groups.

UNIGE

Main role in the project: involved in WP1 and WP3-6

UNIGE will create educational materials and raise awareness in Europe of the ethics, legalities and social and political consequences of DIY experiments and of online engagement of citizens. This partner has produced many DIY Science publications and will link these with DITOs to ensure that participants know the work is continuing.

Tekiu

Main role in the project: involved in all WPs, mainly WP4.

Tekiu will run the Discovery Trips during the project, liaise with eutema (see below) in their evaluation and produce the final report. This partner also has primary responsibility for bringing DITOs' partner activities to the attention of policy and decision makers. Tekiu will work closely with WP4 leader ECSA to develop DITOs' legacy of promoting citizen science into biodesign and environmental policies, helping to establish communication channels with the policy world on both the European and national levels. While planning Discovery Trips, Tekiu will work closely with consortium partners to identify, consolidate and communicate with local policy networks enabling partners to continue working within these after the lifetime of DITOs.

EUTEMA

Main role in the project: WP5 leader, involved in WP3-6

Eutema will produce the final evaluation report in which they will produce questionnaires for participants and collect the responses, then review all data gathered during DITOs, analyse results and the impact of activities and the impact of the project, capacity building, influence on policy and legacy, and also how to evaluate other citizen science activities. This partner will also develop guidelines and an analysis of good practices and experiences.

6.2 Exploitation Plan at Consortium Level

The major project outputs that will have the most value for exploitation are:

1. Scaled-up biodesign and environmental sustainability activities;
2. Good practice recommendations as learned from the DITOs activities;
3. A knowledge sharing platform;
4. A comprehensive set of dissemination and communication tools for citizen science and engagement;
5. A variety of social media channels with a large audience;
6. A set of educational tools;
7. Policy and RRI recommendations;
8. Innovation hubs;
9. Sustainable support for citizen and DIY science.

In order to optimise the impact and exploitation of those results beyond the timeframe of the DITOs project, the following preliminary exploitation plan of the outputs listed above is as follows:

Scaled-up biodesign and environmental sustainability activities

With over a million citizens now having participated biodesign or environmental sustainability 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. We will identify and monitor opportunities to extend our impact and network during and after the project, and for cooperating with other EU networks for citizen science.

Good practice recommendations as learned from the DITOs events

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, whether grassroots or academic (bottom-up or top-down), and make this available and visible through the DITOs brand, knowledge sharing platform, blogs and news articles, and conferences and other academic channels.

All data (except that which involves any confidentiality) will be open access to make it available for verification and re-use, as will any written papers that come from DITOs, which are likely to be lessons learned and policy recommendations for the running of citizen science events across Europe.

A knowledge sharing platform

The DITOs website will be incorporated into ECSA activities, and the knowledge sharing platform will continue to expand and grow in its capacity as citizens from and beyond Europe will use it and work with professional scientists.

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 that work universally.

A variety of social media channels with a large audience

ECSA will continue to use DITOs social media channels and use them to reach out to communities in areas not yet involved in DITOs projects. Our numerous social media accounts (LinkedIn, Facebook, Twitter, Flickr etc.) as well as the website will be incorporated into ECSA activities. Specific efforts will be made to mass media (Web, social media, press, TV), conferences and events that are beyond the project's programme and scholarly publications.

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. If these educational tools prove popular and successful, they can continue to be made and perhaps expanded upon in terms of subject matter.

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. These outcomes will include better knowledge on policy and RRI and recommendations resulting from these. By the end of the project, citizen science should have gained a more robust place at policy level, and policy makers will have stronger relationships with citizen scientists. Partners who have gained expertise in policy and RRI will act as advisors to other organisations involved in these areas.

Innovation hubs

As part of sustainable capacity building, all project partners will be established as innovation hubs for local citizen science initiatives. By the end of the project, local groups will be accustomed to working with professionals, have access to the pan-European citizen and DIY science communities and have experience in bottom-up project work. 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.

Sustainable support for citizen and DIY science

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.

7 Use of Knowledge and the related IPR Management Strategy for Citizen Science

Data Management plan

DITOS will participate in the programme for open access to research data in Horizon 2020. While personal information will be protected, and therefore many of the detailed information that will be captured during evaluation activities will not be shared beyond the project, we will follow the results of citizen science and DIY science activities and make sure that where possible they are offered under open access.

We expect the project to generate the following data: in work packages 1 and 2, citizen science will produce scientific tools, observations and results of experiments. These data will be made according to the standards that are common in the specific domain (e.g. recording of ecological observations) and are likely to be stored and shared on existing systems that are already in operation (such as the Global Biodiversity Information Facility - GBIF). While this is helpful in terms of archiving and maintenance (as many of these are curated and managed by established and funded organisations), there is still a challenge in accessing the data and linking it together. ECSA has a specific working group on "Projects, Data, Tools, and Technology" that considers existing and emerging data standards (e.g geoJSON) for data sharing and

access, and we will work closely with them to ensure that DITOs data management plan is compatible with their plans and activities. The range of activities that will be carried out in DITOs will provide a range of “use cases” for the consideration of the working group, and the dialogue will assist in making the outputs from DITOs relevant to the various scientific fields which it touches.

In work packages 3,4 and 5, the project will generate evaluation from different events, questionnaire results and interviews. This information will be stored in spreadsheets and online questionnaire systems, and the top-most priority here is personal data protection and consideration of how this information can be shared with other researchers who might be interested in its analysis. Here we will need to prepare aggregated or anonymised results that can be shared and reused by other researchers.

Over the first 6 months of the project, we will evaluate the implications of these data sources and the way in which they should be shared. This will lead to DITOs data management plan (D6.3) that will be updated regularly.

Ownership, Knowledge Sharing and Openness

We anticipate that DITOs will contribute to addressing an important question that few citizen science projects have tackled so far, namely the question of ownership of the scientific results that stem from projects. There is as yet no consensus on the rights of volunteers and obligations of scientists who have collaborated in a discovery process, and how they should share any benefits. This has so far been a matter for individual institutions hosting the pilots to establish on a case-by-case basis. The originality of volunteer contributions can vary widely, from fairly menial tasks (classification of images) to significantly creative insights, as will occur in DIY science activities. In some projects, such as the FoldIt project (http://fold.it/), the resulting data from volunteers’ effort are made available in the public domain, and teams that contribute significantly are invited to be co-authors of the resulting scientific papers, because the scientists recognise that the contributions of these teams is highly original.

ECSA is already developing a code of practice and ethics for citizen science and DIY science projects, and DITOs is perfectly positioned to provide informed opinion for this code of practice, and establish guidelines for open standards that recognise and reward volunteer participation appropriately, by helping to evaluate the creative significance of volunteers in such projects. The use of existing knowledge sharing platforms such as the Public Laboratory research notes system will assist in sharing findings, methods and approaches with other citizen science and DIY activities across the globe. Thus, through the activities of different partners the knowledge that DITOs guidelines and good practice document can directly help to establish a grassroots movement, similar to open source in software and open access in publishing, that in due course will set worldwide practices for rights, obligations and overall openness in citizen science.

Following these approaches, the material of websites and information from exhibition and events will be shared openly on the DITOs website as well as on partners’ websites, using suitable open licenses. Academic publications that emerge from DITOs will also be published in open access journals, such as the journal ‘Citizen Science: Theory and Practice’, or on self-archiving repositories. As part of the update of the dissemination plan, the DITOs Project Secretariat will monitor the access and

availability of the project's outputs. Projects such as RRI Toolkit, or the German GEWISS Project (Bürger schaffen Wissen – Citizens-create Knowledge), are also expected to contribute to this process. The commitment to the principles of open access publishing and the use of open source software, and exploitation by ECSA for the public good, will greatly simplify any IPR management issues.

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.

8 Bibliography

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