groundtruth2.0

Environmental knowledge discovery of human sensed data

Deliverable D1.3

Initial Stakeholder Engagement Strategy

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Versions and Contribution History

Version	Date	Modified by	Modification details
v.01	10.11.2016	Kim Anema	Set up of the structure and envisioned content
v.02	11-01-2017	Kim Anema	Initial draft
v.03	21-01-2017	Ellen Pfeiffer	Aligned Terminology with GT2.0 Stakeholder Framework
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V1.0	31-01-2017	Kim Anema	Final version for submission

Table of contents

List of figures

1 Introduction

1.1 Background

Citizen observatories are a relatively recent phenomenon of citizen science, using and enabled by Information and Communication Technologies (ICTs). Still, they are not just 'products' or 'platforms', but involve communities of citizens, scientists, policy and decision makers, as well as private sector data aggregators engaged in complex social practices. Using their own observations and mobile devices, citizens provide a new data stream that generates localized information meant to be used in the management of natural resources on the ground. However, many efforts to implement citizen observatories are facing problems sustaining engagement by citizens, limited scalability and limited impact due lacking involvement of decision-makers.

Ground Truth 2.0 will deliver the demonstration and validation of 6 scaled-up citizen observatories in real, operational conditions, with 4 European and 2 African demonstration cases. It will demonstrate the technological feasibility, the sustained use and the societal and economic benefits of such citizen observatories. The ultimate objective is the global market uptake of the concept and enabling technologies. Building sustainable CO communities that engage with the platform beyond the duration of the project forms, therefore, the heart of the GT2.0 efforts. Identifying stakeholders who could be or should be members, inviting them to join, and keeping them engaged is key priority to ensure the success of the project.

1.2 Purpose of the Document and Role in GT 2.0

The purpose of this engagement strategy is to assist the six GT 2.0 Demo Cases in their efforts to engage and sustain an active community for their respective purposes. This document offers support in determining the appropriate method of recruiting, interacting and maintaining the input and interest of stakeholders in setting up the observatories.

The six Demo Cases are very different, addressing different issues in different cultural contexts and institutional settings. Accordingly, each Demo Case will require a tailored, individual engagement strategy or engagement plan. The following sections do not describe the finalized strategies, but provide a generic blueprint and reference handbook to guide the Demo Cases through the process of planning and executing their individual engagement activities. As such, it is also a contribution to the development of generic guidelines for the setting up citizen observatories (D1.13).

The approach to the engagement strategy builds on the GT 2.0 stakeholder framework (T1.1); suggested Demo Case activities are based on data collected in the initial stakeholder analysis (D1.1) and for ongoing analysis on incentives and barriers (T1.7). These inputs provide the starting point regarding WHO to engage and WHY to engage them, as well as indicators that help to determine WHEN and HOW the engagement stakeholder for the different social, technical, political and commercial design aspects of the Demo Case COs.

The key goal of the engagement strategy is to turn target groups into active participants. In terms of short-term project tasks, this means to recruit pilot users and participants for the co-design process (T1.2), providing information about messaging and audiences for communication activities (WP4) and set up a system for long-term community management supporting upscaling and exploitation activities (WP3). In this, the activities described in this document are of crucial importance to get from project outputs to desired project outcomes in terms of changed practices: While the technical CO

platforms can be ‘delivered’, the behaviour and active participation of people in the observatories is ultimately not controlled by the project, but nurtured by engagement activities.

1.3 Structure of the Document

Section 2 outlines the rationale for and logic of stakeholder engagement, and introduces the elements of the stakeholder engagement in the specific GT2.0 context. Section 3 describes GT2.0 as key tool for Demo Case engagement planning, with guidance on the specific engagement activities for the initiation phase of the GT 2.0 Citizen Observatories provided in section 5. Finally, section 5 provides a setup for engagement activities during the upscaling phase.

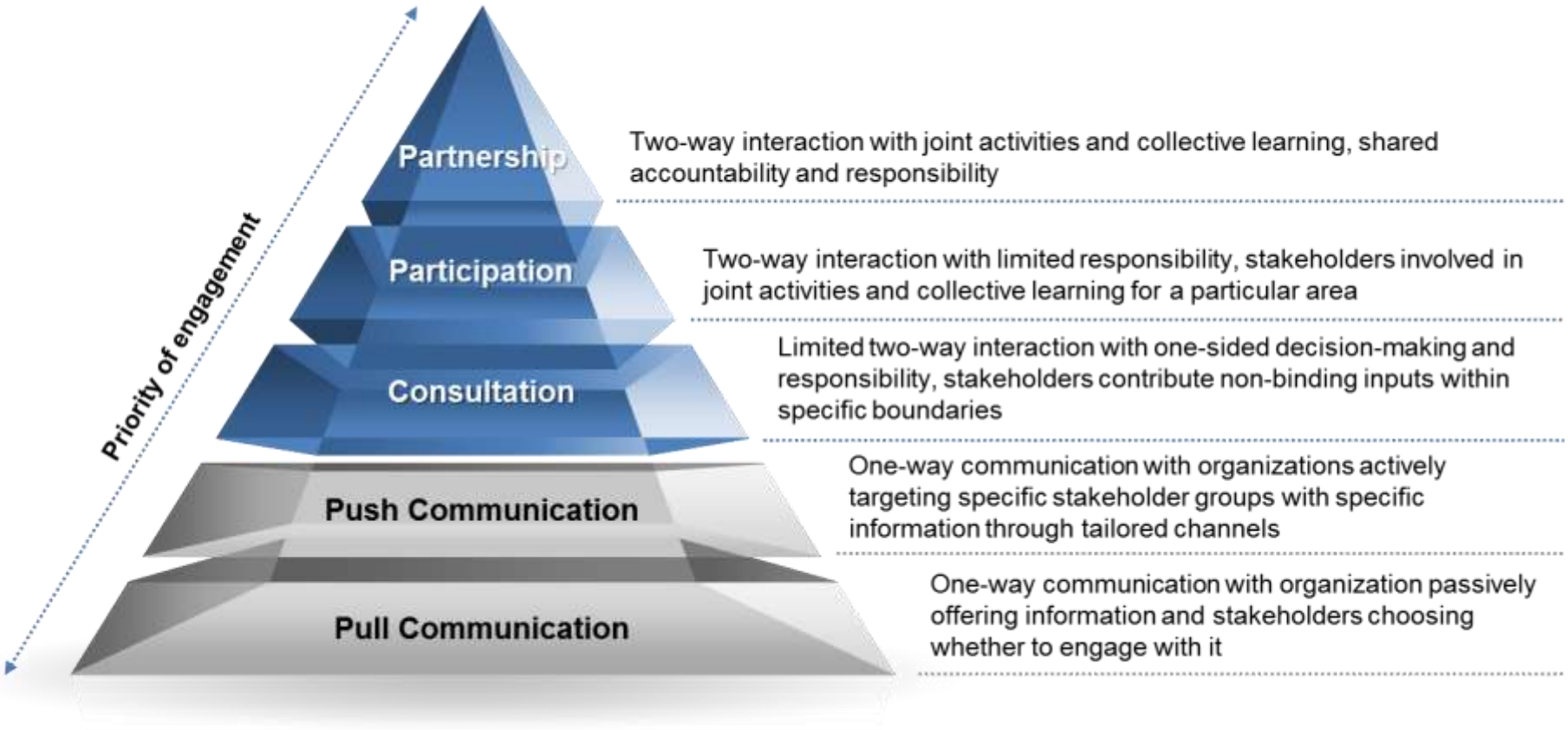
2 What is an 'Engagement Strategy'?

Strategies are action plans or roadmaps designed to bring about achievement of a goal or solution to a problem. In GT 2.0, strategies draw on a review of state-of-the-art approaches that helped similar citizen science communities or organisations to achieve similar kinds of results. In this, GT2.0 follows the logic of the Theory of Change, which pays particular attention to identifying and creating the conditions for success.

Stakeholder engagement in business and project management typically refers to activities that help to build better relationships with the societies in which a project operates, resulting in improved planning and performance (Altria Corporate Services, 2004). In policy implementation and public projects, stakeholder engagement also aims to involve stakeholders affected by a policy or decision in the process to improve policy outcomes. Due to the dual character of the GT 2.0 citizen observatories, this Engagement Strategy will include elements of both approaches.

In practice, stakeholder engagement takes five general forms, partnership, participation, consultation, push communication, and pull communication, distinguished by the direction of interaction, nature of contributions and responsibilities (see figure 1).

Figure 1 Basic Forms of Stakeholder Engagement.



Source: Own visualization based on stakeholdermap.com

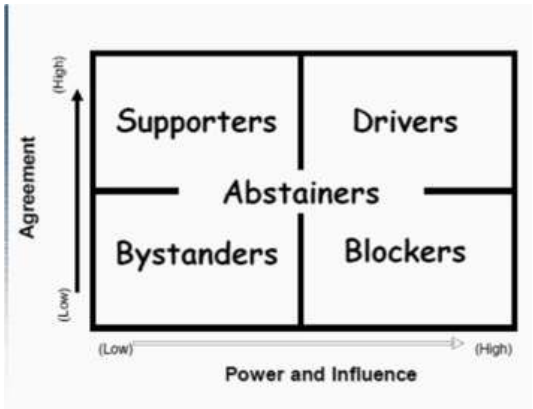
The higher up on the pyramid a form of engagement is, the more effort the engagement takes, and the fewer stakeholders will be involved. Selecting the level and intensity of engagement depends on the priority of involving a particular stakeholder. The term 'priority' is here used very loosely; each Demo Case has to determine what priority means based on the specific stakeholder landscape, context and setup of the planned Citizen Observatory.

Basis for the planning process is an in-depth stakeholder analysis (facilitated by Task 1.1), considering factors such as the power, influence and legitimacy of stakeholders, their interests in general and in the project outcome, their ability to impact the project and aptitude for taking action, as well as their knowledge of and attitude towards the project, the importance of their involvement for success, or the level of their commitment. Typically, the results of such analysis is used to create two-by-two matrices that classify stakeholders and suggest a matching engagement strategy (see table 1 and figure 2)

Table 1 Examples of Stakeholder Matrices and recommended engagement

Dimension 1	Dimension 2	Classifier	Engagement Strategy
View on Project = Support	Ability to impact Project		
Positive	High	Champions	Involve as leaders or sponsors
Positive	Low	Helpful Assitants	Engage to help deliver
Negative	High	[Opposition]	Priority Target for Engagement
Negative	Low	[...]	Monitor (minimum effort)
Power/Influence	Ability to impact Project		
High	High	Key Player	Engage closely
Low	High	Affected Players	Show consideration - keep informedmaintain interests
High	Low	Important Players	Meet their needs - Keep Satisfied
Low	Low	Potential Players	Monitor - keep informed (minimum effort)
Power/Influence	Interest in Project Outcome		
High	High	Leaders/Drivers	Encourage and influence
Low	High	Subjects	Keep active - maintain interests
High	Low	Players	Keep satisfied - active consultation
Low	Low	Crowds	Monitor for change
Power/Influence	Impacted by project outcome		
High	High	Key for business	form strategic partnerships
Low	High	Beneficiaries	meet needs and ensure consultation and participation
High	Low	Facilitators	Can be a risk to 'license to act'
Low	Low	Sideliners	be open for special contributions
Power/Influence	Interest in Project Outcome		
High	High	Promoters	Engage closely
Low	High	Defenders	Show consideration - maintain interests
High	Low	Latents	Meet their needs - Keep Satisfied - active consultation
Low	Low	Apathetics	Monitor - keep informed (minimum effort)
View on Project = Support	Knowledge of project		
Positive	Aware	Champions	don't take for granted
Positive	Ignorant	Potential Supporters	nurture
Negative	Aware	Opponents	consider plan contingency
Negative	Ignorant	Hecklers	make aware and try to change attitude

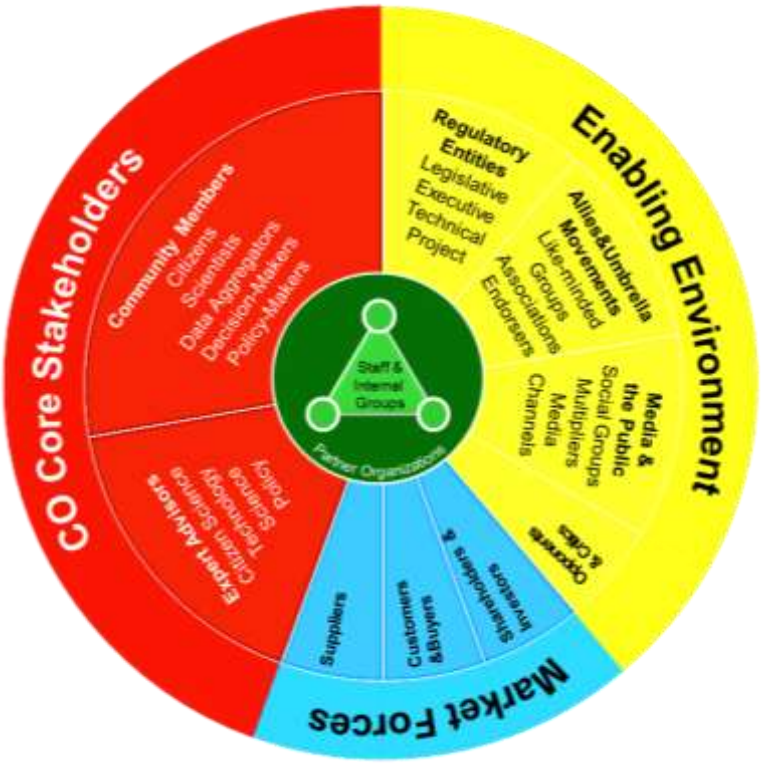
Figure 2 Example visualization stakeholder matrix



2.1 Who to engage

The GT 2.0 project has a created an integrated analytical framework that clusters stakeholder groups into categories based on the role of a stakeholder in the project, i.e. on the rationale and logic guiding their engagement (see Fig 1 below).

Fig 1 GT 2.0 Main Stakeholder Categories



One element of the resulting engagement strategy is pre-determined by the objectives of the project. Citizen observatories represent a form of collective action, meaning that citizens, data aggregators, scientists, policy- and decision-makers "join" a collective effort. Core Stakeholders are groups and persons who will be actively and personally involved. This means that Core Stakeholders of the CO have to be engaged at minimum in the participation level. They are the key actors to recruit for the co-design process and priority target groups during the upscaling phase. Core stakeholders consist of two major subcategories: **Community Members** and **Expert Advisors**.

Community members are stakeholders who identify or perceive themselves as being a part of the social group that forms the CO community. In many cases, becoming a member of a community involves a visible act, such as signing a consent form, registering an account for an app, or posting to an online platform. Practically, this effort creates a virtual community, commonly defined as an "aggregation of individuals or business partners who interact around a shared interest, where the interaction is at least partially supported and/or mediated by technology and guided by some protocols or norms." (Porter 2006) Key task of the engagement strategy is recruitment of this group.

Expert Advisors are stakeholders who possess and contribute knowledge or experience valuable for the development and activities of the Citizen Observatory, but who are unwilling or unable to become members of the core community. As examples, this concerns scientific issue area experts, software developers, policy-makers or leaders of other citizen observatories who are too busy or not in a position to "join" the community, or who are located outside the case region. Such actors might, nevertheless, be willing to share relevant experience one-off during the design process, or to provide occasional advice when approached about a specific issue.

While a CO is free to choose which groups and individuals it defines and targets as members and advisors, other stakeholder groups shape the **Enabling Environment** for the project are defined by forces outside the control of the CO. The level of engagement for these groups will mainly involve push communication and pull communication (the latter implemented by WP4), and, in selected cases, consultation. The four main sub-categories are **Regulatory Entities, Allies & Umbrella Movements, Media & the Public, and Opponents & Critics**.

Regulatory entities are formal authorities that determine the formal and legal boundary conditions for the CO operations. They set rules the CO has to comply with, provide the legal basis and limits for citizen information and participation, and 'own' in the land and natural resource management process targeted by the CO. Due to their legal standing, engaging regulatory entities is not optional, challenge for the Engagement Strategy is to carefully distinguish actors according to their attitude and interests and tailor the approach.

Allies and Umbrella Movements To be successful, new local initiatives and communities benefit from links to other actors that help win weight and credibility. Acquiring endorsements, winning allies, and linking the embryonic CO to umbrella movement are key engagement strategies that should be explored while the shape and direction of the community are still evolving.

Media and the Public To break down the monolithic notion of 'the public' and enable meaningful communication and outreach strategies, the stakeholder analysis needs to screen for distinct population groups that might require a tailored message (e.g. farmers or language groups), communication channels or multipliers that could help reach a large number of people (e.g. local churches or NGOs with an interesting membership), and local VIPs and opinion leaders (who do not necessarily care about the issue or CO objectives but will promote a 'good cause').

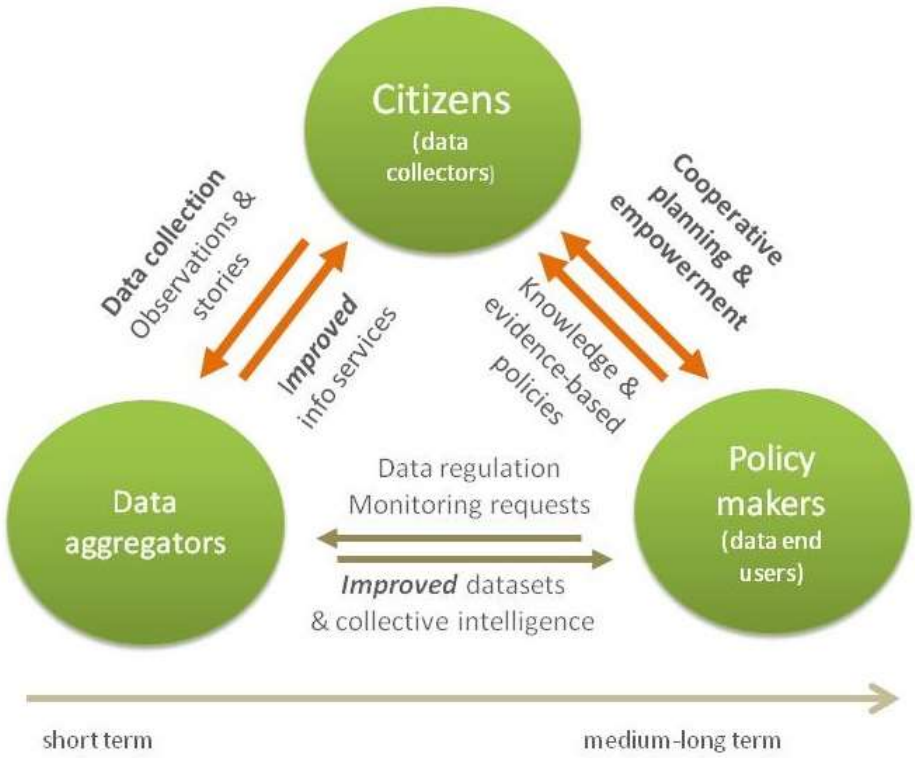
Opponents & Critics Citizen Observatories asks actors to change the current practice. Change will usually elicit a range of reactions from enthusiastic support to outright hostility. Some stakeholders identified as (potential) opposition need to be targeted with the Engagement Strategy, in particular opposition that is caused by fear, lack of knowledge about the project, or actors demanding recognition.

With regard to market forces, the relevance for the initial Engagement Strategy depends on the findings of the Stakeholder Analysis. In the presence of dominant investors, suppliers or future buyers, it might involve expectation management, or active mitigation of conflicts of interest.

2.2Why to engage

The information flow in a Citizen Observatory is cyclical and each observatory needs at least three roles fulfilled, before the exchange and interactions on it become meaningful (see figure 3).

Figure 3The cyclic flow of information in a Citizen Observatory



Building sustainable CO communities that engage with the platform beyond the duration of the project forms the heart of the GT2.0 efforts. Identifying stakeholders who could be or should be members, inviting them to join, and keeping them engaged is key priority for the stakeholder engagement strategy. However, deciding which stakeholders to engage in different stages of the process is highly challenging.

Citizens might be enthusiastic about engaging in collaborative planning, but planning processes that transfer competences to informal institutions and actors beyond the nation-state, raising questions of legitimacy of the multi-stakeholder systems that are created or strengthened. Legitimacy derives from accountability, and while Citizen Observatories can be seen as tools to increase the accountability of planning authorities, as a civilian endeavour it has to gain legitimacy itself. Ensuring the configuration of members represents certain principles, or aiming to create societal benefits that are widely accepted can help to gain legitimacy, but the outcome is by no means guaranteed. These abstract-sounding challenges manifest in daily practical management decisions in the implementation of the engagement strategy, such as who to invite to co-design workshops.

Data Aggregators might be accused of using citizens as 'unpaid labour' where commercial interests are concerned, or their involvement perceived as inappropriate lobbyinm.

Decision-makers: Such stakeholders are by definition 'project critical' for GT2.0, and have to be engaged to achieve the project's objectives, whether or not they are supportive, neutral or hostile to the idea of citizen observatories.

Figure 4: Factors influencing the design a specific engagement activity

- Citizen observatories involve technical, social, environmental and political issues and different stakeholders might contribute to each of them.
- Stakeholders are not equally powerful and different stakeholders are entitled to different consideration.
- Some stakeholders have a legal right to be involved, or carry legal responsibility for the outcomes of decisions the COs address.
- Decisions connected to spatial planning and natural resource management very often involve conflicts and questions about justice, fairness, and equity.
- For (senior) political actors and staff of government agencies and departments, becoming personally involved in the CO community might be restricted or impossible due to political or institutional considerations.
- The data aggregators software developers and technology consultants are important partners during the development process, but usually only key account managers will join the collective activities in the longer term.
- “Neutral” scientific advisors can help increase the credibility (epistemic authority) of the CO. Experienced political operators are often crucial to open doors and facilitate political communication.

3 The engagement formula

To steer engagement and influence people's participation in the observatory there are three issues that need careful management:

$P_{options}$	= What people can contribute – **Options for participation** in the observatory; can community members get involved beyond mere data collection and how?
M	= How people can contribute – The **means and infrastructure** of your observatory; can they only participate online via a specific app? Or are there offline options, different channels etc.
O	= Why people contribute – Is **the objective for community members to participate** strong enough to keep them coming back?

These three issues work like multipliers on each other: with a very relevant objective, the means and participation options are less relevant. However, if convincing community members about the relevance of their participation is a struggle – then the how and through what channels they can participate becomes much more important.

$$E = P_{options} * M * O$$

Ajusted from the Motivation-Opportunity-Abilities (MOA) model for behavioural change proposed by Ölander and Thøgersen (1995).

Like in any product of three variables: all three need to have a minimum (non-zero) value. No matter how much energy you put in the other two, if one of the three is lacking the observatory will not fly.

3.1 O: the objectives of the core community members

This will be discussed more elaborate in the following chapter, under incentives and barriers. Engaging stakeholders becomes easier when it is clear what they want to get out of their participation in the observatory: their objective. Influencing this objective, between the three variables of the formula, is probably the hardest aspect. It is possible however. Ways to influence the overlap between the observatory and the stakeholders' objective are:

- Framing the topic of the observatory in a different way, to accommodate different community members
- Transparency on impact and results (of the observatory and their participation in general)
- Appeal to secondary objectives that the core community members could have (e.g. Meeting peers, entertainment, local interest)
- A balanced awareness and urgency between data collectors and data end users. It can be demotivating if one is more involved than the other. It is important that the members in the observatory are all active enough to keep activating and motivating the others.

3.1.1 Feedback

Few things are more demotivating than being enthusiastic about something and then discovering that nobody cares. When there is no reaction to the input of new observers, they will lose interest quickly (Rotman cs., 2012). It is important to make sure that there is a (minimal) feedback loop in the Demo Case observatory. This feedback can consist of any kind of conformation, sent by the end-users or data-aggregators, when a measurement is being uploaded.

3.1.2 Purpose for the data

Comparable with the feedback loop, but with a somewhat more subtle influence on the motivation is the question that every observer will sooner or later ask: "what happens with the data am I collecting?". Of course, a lot of thought has gone into the overall purpose of the observatory - and a simple explanation of those objectives will do just fine in a first instance. To maintain credibility, questions about concrete deployment of the collected data should have a proper answer. Are there publications planned in which the data are used? Which policymakers are using it to do what exactly?

3.2 M: the means - infrastructure and education

Before any stakeholders outside the co-design group join the observatory, it is important that the means are there. New core community members should be able start participating right away.

- Is there an appropriate level of understanding? Do the core community members have enough knowledge of the topic and of what they should be doing? Or do they need explanation and/or training before they can start collecting data.
- Are all technical issues arranged? Is all the interaction infrastructure available? Most probably the observatory is still under development. That is not a problem, as long as the communication about it is clear and the new community members are provided with the means to give feedback and report bugs.

3.2.1 Sustainable support (who feels responsible)

Last but not least, who is keeping tabs on the dynamics of the observatory as a whole? Eventually the interactions between the three stakeholders might sustain itself, but especially in the beginning, someone should invest energy and enthusiasm into the observatory to 'get it off the ground' and make it fly. This is the role of community manager or Principal Investigator, by default filled by the Demo Case leaders, elaborated in the following chapter. This person will be reminding people that the observatory is there, how they can upload, what are good opportunities to go out and do measurements.

3.3 $P_{options}$: the options for participation

Attention should be given not only to what the interest of core stakeholders is to join the observatory. The other way around, what value they can add and in what way deserves as much attention. The simple interpretation of these contributions will be something like 'posting measurements', 'making sense of raw data' and 'demonstrate usefulness of the data'. But in a full-fledged observatory, these activities should not be the only things that core community members can contribute. There might be many more options: from writing a blog to collecting experience-points or socializing on the associated forum. A (non-exclusive) list of potential participation options, to consider for integration in the observatory design, can be found in §4.5.

3.3.1 Timing and time investment

An issue that is relevant in this stage is the timing and time investment required from the different community members. Whether it is an hour per month or an hour per day, the important issue is that it is communicated transparently. Other considerations on this issue are if the members are free to participate anytime they want. Would the observatory still work if they did less or at different times?

4 Initiating the CO Community

As mentioned before, each separate Demo Case will go through three separate stages of engagement. The first of these stages is the initiation. This is where the first core community members are being recruited and with their input, the observatories will start to take shape.

4.1 Co Design

There is no strict time limit for this initial stage, as all cases will develop at different speeds. It is nevertheless important that the in- and outputs of this engagement process align with the overall Project Management structure; and specifically with the co-design process planned in Task 1.2.

In practice, that means that this first stage of engagement will unfold in the first project year and continue until the first versions of the observatories are being rolled out. In this first year there will be no (full) observatory to interact on yet, but there are three co-design sessions planned with core stakeholders. The members of this co-design group are the first stakeholders that need to be engaged.

The participation of specific stakeholders in this co-design process must not be improvised/ad hoc and needs to be part of each observatory's creation process. A good starting point for the selection of participants in the co-design process is the stakeholder analysis executed in Task 1.1. The core community members (in the red part of the Stakeholder sunburst) listed with the highest priority, will be most relevant to invite for the co-design process. Other criteria for a balanced co-design group are that all roles in the observatory (e.g. data collectors, aggregators and end users) need to be represented and the group cannot be too big. This chapter will elaborate on how to identify, invite and sustain the members of a co-design group.

4.2 Setting up community management

To ensure that the observatory and its community will come to live there is one very essential role that needs to be fulfilled in each of the Demo Cases. That is the role of the 'Principal Investigator' (PI), who leads the research and data collection in a specific region (Raddick cs, 2009). This PI role can be very similar to that of a community manager. A PI is responsible for liaising with the CO community members, keeping them aware and motivated, responding to comments and queries and building relationships with external parties. Without a PI, or a community manager, it will prove almost impossible to launch and sustain well-functioning citizen observatories.

In the GroundTruth2.0 structure the tasks of the Principal Investigator are, by default, placed with the Demo Case leaders. This might, however, not always be the best option since the Demo Case leaders have so many other tasks as well. Ideally the PI is someone, from within the consortium, who is really active in the observatory and is eloquent in on- and offline communication and engagement. This chapter will elaborate on what the tasks of a PI / community manager are and what to take into account for the recruitment or appointment of one.

4.3 Expert Advice

The stakeholder sunburst also features 'expert advisors' as members of the CO core community. Expert Advisors are stakeholders who possess and contribute knowledge or experience valuable for the development and activities of the Citizen Observatory, but who are unwilling or unable to become members of the core community. To make full use of their experience and knowledge it is wise to also recruit these expert advisors in in the early stages of the observatory. This chapter will elaborate on how to identify, invite and sustain expert advisors on a Demo Case level.

The members of the design group and the expert advisors will also be able to provide valuable new insights in (and contacts of) who else should be engaged. This way of identifying target groups for the observatory is called snowballing and can be very useful for the subsequent stage of engagement: 'Enlarging the Community'.

4.4 Intended results

4.4.1 Co-Design group

What: A carefully selected group (15-25 persons) of core community members, per Demo Case, motivated to contribute to the design and set-up of the observatory. All three roles (data collectors, aggregators and end users) need to be represented in this group.
When: as soon as possible as the first co-design sessions are already being scheduled.

4.4.2 Expert advisors

What: 'Friends of the Demo Case', recruited on individual level based on their experience, knowledge and/or network. They are invited to provide solicited and unsolicited advice on the development of the Demo Case observatory
When: After the first, but before the second co-design session is a good moment to recruit expert advisors.

4.4.3 Principal Investigator or Community manager

What: An individual within the GroundTruth2.0 consortium, by default the Demo Case leader, who is committed to actively liaise with the CO core members and activate (and keep active) the CO community.

When: between the second and third co-design session it should be clear what this role implies in the specific contexts of the Demo Cases and who is going to fill it.

With the techniques elaborated on in §1.3, §1.4 and §1.5 these three results should be feasible for each Demo Case. Preconditions to achieve the above mentioned results are:

- Conveyable enthusiasm for the observatory of the Demo Case team
- Time and attention invested by Demo Case team
- Understanding of Demo Case team of the specific interests of targeted stakeholders

4.5 Monitoring progress

Because the observatories will probably not develop synchronously with each other, we are refraining from a detailed timeline in this strategy. To make sure that there still will be information available to monitor the progress and development of the observatories, we will keep statistics and measure the progress in the six demo cases continuously.

4.5.1 Initiation phase: activity logs

Co-Design group and Expert advisors

To keep track of the progress in recruiting a co-design group and expert advisors, all Demo Cases will be asked to keep a log, throughout the first project year, of the organisations and groups that were ap-

proached and what their reaction was. The log will ask if any follow-up actions were taken and if and when the stakeholder indeed joined the observatory.

PI or Community manager

To monitor the proper assignment of community management tasks each Demo Case will be asked to deliver, in the timeframe between the second and the third co-design session, the following:

- Task description and profile of the PI (see Annex) - tailored for the Demo Case
- Name of the one or two persons, within the GT2.0 consortium, who will take-up those tasks

The scheduled strategy-updates for the next two stages of engagement will take on board lessons learned during implementation in the different Demo Cases.

4.5.2 Planning ahead: features to incorporate in the platform design

During this initial stage for the observatories, not many of the associated online platforms will be operational yet. The platforms will however be being designed; and to be able to monitor progress after they are launched, a few features should be taken into account during this design.

Keep track of who is signing up

This is tricky. The observatory should be as accessible as possible; having to fill in a long 'new membership' form might deter people and discourage them to indeed sign-up. At the other hand, collecting as much information as possible about the new people that sign-up is needed partially to keep statistics on the target-audience and partially to be able to link actions on the platform back to user profiles. Based on inventive solutions that have been found by other internet-fora struggling with similar challenges, the GroundTruth2.0 default option will be as follows:

1. Ask people to sign-up <u>after</u> their first measurement (before their second). That way new community members can test and directly experience how easy it is to participate. It will also keep the GT2.0 databases clean from one-time-only test-users.
2. When they sign up the GroundTruth2.0 will only ask for their email- or social-media-account and one other, Demo Case related, issue (e.g. region, topic of interest, preferred device)
3. If the observatory works with credits or points in their 'maintenance strategy', registered users will earn credits when they fill in their full profile.

Analytics

When the platforms are designed it is essential to integrate a way to keep statistics, otherwise the ship is being steered blindfolded. Statistics and quantitative measurements will provide a precise insight in the movements on the demo case platform and complement the understanding of its liveliness. Keeping statistics will back up (or challenge) existing notions on the parts of the platform that are and are not working, and will prevent positive or negative biases. It can also be used to track the results of specific engagement efforts; did they indeed draw more visitors to the platform or not?

There are many alternatives but Google Analytics is one of the most widely used analytical tools for this - and it is free. It can provide an overview of what's happening on the website. Funnels, track traffic, view sources and referrals, set up event and goal tracking – etc, can all be set up. It can be used it to get insight in the number of visitors on the platform, but also in where the visitors came from, how long it has been since their last session, what time they spend on which page of the platform etc. A potentially interesting statistic to keep track of, for design purposes, is the type of device and operating system people used to access the platform.

Pop-ups, like-buttons and side-bar polls

Numbers are one thing. And although they are precise, they might lose important nuances. Positive or negative attitudes will not appear from site statistics and neither will the reason why people came back to the observatory three times in one week. For that reason the Analytics from the previous paragraph will be complemented with more qualitative information about user experience. Not too much, the community members on the platform should not get tired from answering questions[1].

- One simple and often used technique are pop-ups on the platform, at entering a new part of the site or after a certain amount of time spent on the platform. These pop-ups will just ask one question, to be answered with a smiley face.
- Another option are simple, temporary, 'like'-buttons under new features ("Hey, did you see this feature? – tell us if you like it").
- Poll on the side bar with changing questions (multiple choice answers and percentages of the answers so far):
    - "I am doing this because…."
    - "The most difficult part of being an observer is …."
    - "Sometimes I wonder about this platform …"
    - …

4.6 Getting to work: Identifying who could or should be invited

Each engagement process goes through three steps: identifying who to engage, inviting (or recruiting) them and finally keeping them. This paragraph elaborates on the first step; identifying who to engage in the observatories during the initiation stage. Task 1.1 provided a valuable starting point for this; there is a comprehensive stakeholder analysis available for each of the six Demo Cases in Deliverable 1.1. The stakeholders listed under the CO Core (red) part of the sunburst are the target groups for the engagement activities in this strategy.

All CO Core Stakeholders mentioned in the analysis cannot and should not be engaged at once. In this stage of development of the observatories, the quality of engaged CO community members is more important than the quantity: it is better to have one or two motivated representatives per role (e.g. data collector, aggregator and end user) willing to invest, than to have the complete spectrum of stakeholders present, but none specifically committed to set up the observatory.

The challenge for this first step in engagement is to make a well-considered, sensible selection and prioritize the identified stakeholders per Demo Case in when they should be invited to join. During the initiation of the observatories, circa the first project year, the objective should be to gather a small group of committed CO community members. These CO community members will be invited to co-design the observatory and test the first version before roll-out.

4.6.1 Sunburst Diagram and the prioritization done in Barcelona

During the Barcelona workshop in December 2016 the Demo Case teams were asked to position all stakeholders that came up in the analysis of their Demo Case in the sunburst diagram; closer to the centre according to their relevance for the observatory. The prioritization made there guides the first selection of which stakeholders to invite to the co-design per Demo Case. An overview of CO Core Stakeholders positioned in the 'first tier' of the sunburst diagram per Demo Case is featured in the Annexes.

[1] The impact and outcomes of each of the demo cases in GT2.0 is being monitored and measured the impact assessment in Task 1.6. Depending on the demo case there might be room for one or two extra questions specific on user experience.

4.6.2 Further selection criteria

Selection criteria to further specify this select group of priority-stakeholders are:

1. Their role. Each of the three essential roles (data collectors, data aggregators and data end-users) need to be represented in the final selection
2. Their interest in the topic. The first engagement efforts should target those stakeholders with the highest interest in the topic and the realization of the observatory.

With these selection criteria in mind all Demo Case teams should be able to identify the first three (one for each role) stakeholders to invite to the co-design of the observatories. Depending on the specific contexts per Demo Case, there might be room to engage one or two more parties. The eventual objective is to compose a co-design group of 10 – 20 individuals; of which some can be external advisors.

4.7 Getting to work: Inviting the selected stakeholders

Now a clear image is established of which stakeholders should be engaged first, it is time to start thinking about how to engage them. For that it is essential to gain an understanding of people's motivations and also be very clear about why their participation is needed for the observatory. Basically what they are expected to give (1) and to get out of it (2).

4.7.1 Incentives and Barriers

Understanding the specific 'costs and benefits' per stakeholder links closely to the Incentives and Barriers analysis done in Task 1.5. And fortunately, depending on their role in the observatory, there are consistencies in what different stakeholders would like to get out of their participation in it. A list of potential input and output for each category of stakeholders is featured in the Annexes. Note that in this initial year of setting up the observatories, the input asked from engaged community members is quite different from what they will be expected to contribute when the observatories are operational.

By specifying the contributions and interests per selected stakeholder, something similar to a user-profile is created. This profile could change as more information on the specific stakeholder becomes available, but it is a good starting point for a first conversation with them. Before liaising with them, Demo Case teams should take stock of what they can promise: if and how the (anticipated) interests of these stakeholders can be served.

Because the stakeholders selected for this initial stage have different roles in the observatory, their cost and benefits will be very different to each other. Obviously, data collectors, aggregators and data end-users do not have the same objectives for participation in a Demo Case. To engage them, it is essential to find motivations for all three; but how to gain their enthusiasm might be very different.

This will result in three very different user profiles and engagement approaches.

The one thing that sets data end-users a bit apart from the other community members is that they are the only group that might have something to lose by engaging in the observatory. Opening their door for citizen data will have implications for their job as they know it. It is important for the Demo Case teams to be sensitive about this. It might cause barriers for their engagement that might need to be overcome. If an argument like this comes up, the appropriate reaction would be to never deny that their job might indeed change. Instead it might be wise to try and take away some insecurity about the new situation, to focus on what they have to gain and offer a demonstration / pilot / exercise for them and their colleagues with the observatory. Once they have seen it in action, and one or two colleagues are enthusiastic, they might change their attitude.

Still, there will be many similarities between the engagement approaches as well. After all, the professional core community members (e.g. policy makers, decision makers, etc.) will only come on board the observatory if they can be enthused sufficiently. Their incentives and barriers will be different and their relation to the observatory will also be different, but in terms of engagement, they are people that need to get interested in being part of something new and exciting.

4.7.2 Sales Pitch

After all this analysing, actually convincing the stakeholders about the observatory and the project can still be challenging. Even if there is really something in it for them; they don't know that yet, and they might be preoccupied and not really willing to listen. First impressions count. This is where the sales pitch comes in. A sales pitch can help to order the information that needs to be communicated in a concise and convincing way.

Every sales pitch consists of five elements or steps. If a clear and concise answer is formulated for each of these elements, the complete pitch features all the information that people need to get inspired and curious in a one minute (max) message.

1. Why we are doing this: why is this observatory so important, what are the objectives and who is benefitting from it?
2. Why the input of this stakeholder useful: why was this specific stakeholder selected for the observatory? What does their participation mean? How will their contributions be used?
3. What the selected stakeholder gets out of it: summarize the analysis on their incentives and potential objective to participate. What is the observatory offering that this stakeholder will like?
4. How the selected stakeholder can be involved: this is where the different participation options come in; what will the stakeholder be doing if they decide to join? What contribution do you expect from them?
5. What happens next: what is the next step towards engaging this stakeholder? (e.g. a presentation for their colleagues or attendance of a training). Offer a very concrete next step, that they can say yes or no to.

Sensitivities

The before mentioned potential sensitivities of data-end users can be integrated in this sales pitch between 2 and 3: *"Why the changes are beneficial for the selected stakeholder and related community"*. To let sleeping dogs lie, this element should only be incorporated in the pitch if there has been some hesitation already.

The pitch constructed from these five or six steps can be used as a script during the first contact with the selected stakeholders. It does not have to be used literally: the important thing is to have a convincing story clearly formulated in mind during this conversation.

Each sales pitch is tailored for one specific stakeholder; that is one of its preconditions for being successful. You have constructed three very different pitches for three different roles in the observatory. If you use the same pitch for different stakeholders, the pitch is not specific enough and its objective will remain abstract or vague.

4.7.3 Making contact

"no plan survives first contact with customers" – Steve Blank.

"the most difficult thing to do properly, is execute." - Brad Smith

There is only so much that can be prepared and strategized. When it comes to engagement, the key thing is to get out there, make oneself visible and give the stakeholders something to engage with. Contacting the stakeholders, with a tailored sales pitch in mind, should be done over the phone or in person, for example at a (public) event where they are present. In this stage of the engagement e-mail is too easily discarded and would be a waste of all the efforts so far. A thorough internet search on the stakeholder will provide enough information about how to contact them, where to find them and who to talk to. The collected information should be recorded in a log, together with the details of the conversations conducted (with whom, what was discussed etc.).
This part is even more case or stakeholder specific than the rest of this engagement strategy. The best deals are made with attention for the very specific needs and interests of both parties. Sticking to a script and keeping the objectives vague and general allows for vagueness in the collaboration as well. The whole purpose is to get concrete commitment; this might be an invitation to come and explain the observatory in a presentation, to discuss with his colleagues, or it might be a promise to join the observatory directly. Always make sure that their commitments are specific enough for you to follow up on. After a week, or an appropriate amount of time, you should be able to call back and ask the person about it. Do be aware that many people will need time to think and don't want to be rushed. To accommodate that, you can offer to discuss it again next week during a meeting; it will give them time to visit the website and check references.

4.7.4 The first steps into the Demo Case

When the stakeholders are convinced and enthusiastic, their first steps in the observatory should be well guided. There are five main types of information that need to be shared with the new community member as soon as they agree to join the Demo Case:

1. Organisational information - e.g. background of the project, objective of the observatory, key players, size and structure.
2. Procedural information - e.g. communication procedures, 'codes of practice'.
3. Role-related - e.g. tasks, responsibilities, training, equipment and materials, supervision.
4. Personal - e.g. travel expenses, etc.
5. Team-related - e.g. who they will work with, availability, possibly meetings.

The way this information is shared needs to be consistent between community members, so that the knowledge base between community members is equal. Also setting up a procedure for sharing this information now, saves time later when new members are signing up more frequently. Things to take into account:

- <u>Who</u> will tell them - While the Demo Case leader will probably take the major responsibility, there may be other staff or stakeholders who should be involved in explaining the role.
- <u>When and where</u> will they be told - It is not a good idea to try to get all this information into one meeting. The new members should not be overwhelmed before they have even started. The information should be prioritized and spread out over a few days or weeks.

- How will all this information be conveyed – It might be sensible to use multiple approaches to communicate the information and spread these approaches over a period of time. Some details may need to be agreed with each individual, but most of it can probably be covered with a group. It should also be considered what resources and written materials will be needed.

4.7.5 Outreach

Engagement and PR are closely related. PR is critical in building a network and acquiring support in the Enabling Environment (see Stakeholder Analysis in D1.1), even before roll-out. It is essential that story behind the observatory is communicated to a wider group than just the envisioned community members. Building credibility with personal meetings and tailored updates to the right people, helps to gain support and address opposition in an early stage.

4.8 Getting to work: Keeping community members engaged

"The most valuable customer is the one you don't lose." - unknown

Engagement is not finished after the recruitment of core community members. It could be argued that recruitment is just the beginning. Keeping people engaged is just as important as the acquisition of new stakeholders. The monitoring tools discussed in §4.2 are important in this respect, with them the enthusiasm of community members can be monitored and changes in it can be responded to. In the initial stages of the observatories, before the roll out of the platforms, the main challenge for sustaining the interest of the recruited CO community members might be the dynamics and feedback loops that are not yet functioning. The co-design sessions will be the main moments of contact with the engaged members, but these will probably not be enough to create a feeling of ownership with the members.

4.8.1 Regular updates once engaged

- **Follow up** after their first measurements, or activity, on the observatory; tell them that it was received well and that their input makes a difference.
- **Send updates** even if there is not much happening and (especially) if the community members have not been active, it is important that they receive a message about the observatory with a certain regularity.
- **Remind them** to stay active and keep uploading measurements/observations/contributions. Not only to jog their memory, but also to demonstrate how relevant their activities are.
- **Be reachable** if they have any questions, the community members should have the contact details of the community manager or PI and assure them that they will be available for any questions.

Eventually the activities on the platform of the various participants fulfilling different roles (collector, aggregator and end user) will create a platform dynamic that, ideally, keeps them all engaged and feeling relevant. For now, with limited users and not all roles fulfilled yet, the observatory does need energy from the Demo Case leader to get the interaction going and provide a "warm bath" for the first participants.

Douglas McGregor (1960) suggested a view on volunteer management which said that work is as natural to human beings as rest or play. So, in the right circumstances, most people not only accept responsibility, but seek it out. From this perspective, control and coercion are not the best ways to manage people at work, let alone for an observatory like this, in which every core community member participates vol-

untarily. If the work itself is satisfying, then people will be committed to the role and, by extension, to the organisation. McGregor suggested that if people feel this way they will go beyond the basic physical or mental effort required to do the work and will use imagination and ingenuity to tackle their work creatively.
There are a few ways to keep the work satisfying. Although the resulting database and potential policy changes might be unprecedented and very exciting, the work that needs to be done to get that database filled and validated might be a bit monotonous. To ensure the continued participation of the community members, even after their first contributions, there are some mechanisms and/or rewards that would enrich the Demo Case observatories.

4.8.2 Exclusive walking tours, site visits, meet and greets

Another great way to keep community members interested in the observatory, even if there is not much activity on it is to engage them in related, but slightly different activities. The people that are interested in the observatory will have a general curiosity in issues related to the topic. Rewarding their continued participation with for example a Meet and Greet with important decision makers or specialists from the field is proven practice. Along the same lines continued participation can be rewarded with tailored hiking routes or exclusive site visits.

4.8.3 Stewardship and Participatory Decision-making

Eventually the objectives of each of the observatories in the Demo Cases are to boost environmental stewardship and promote participatory decision making. It would make sense for the Demo Case observatories to anticipate on that and think of ways to give substance to these concepts in their respective observatories. Especially for the promotion of environmental stewardship it might not be necessary to have a fully operational observatory to start with.

These elements will become more important over the course of the project and the updated versions of this engagement strategy will elaborate more on how to maintain people's interest.

4.8.4 Dealing with 'drop-outs'

The Demo Case teams should be committed to continually improving the quality of the interactions with and between core community members in the observatories. When someone who has participated in the observatory decides to leave, it can be very insightful to get their views on their experiences in the observatory. Therefore, there will be interviews or simple questionnaires arranged for leaving community members. The information gathered with that is essential to improve future practice in the observatory.

Leaving core community members feel freer in this conversation than when they still were responsible for a certain task, and this can make it easier for them to make critical notes, provide tips and advice.
The objectives of an exit interview are:

- Ending the collaboration period in a formal way for both the observatory and the community member
- Discover points of attention for improving the observatory practices.
- Figure out the true motives for leaving of the core community member.
- Get an idea of how the community member experienced their time interaction with the observatory

An exit interview provides an opportunity for your observatory. Moreover, it can lead to a relation with the ex-core community member in which you still can ask them for a favour now and then.
Investing in saying goodbye is often profitable.

5 Enlarging and Maintaining the CO Core Community

After their initiation, circa in the first year, the observatories will move to the next stage: 'Enlarging the community'. During that stage their focus will be exactly that; to grow the community that is active in the observatory. More stakeholder groups will be invited to join and the interactions in the observatories should multiply.

5.1 Going viral

A year after initiation the observatories will roll out the first version, with this version a second round of core stakeholders will be invited to join the observatory and test its features. After that a third and a fourth round will be invited, each adding to the existing CO community group. Ideally, all these community members will, by then, be inviting their peers to join the observatory as well – so that the observatory membership can snowball through the relevant stakeholder networks. Meanwhile the technical infrastructures of the platform will develop along with the growing user base.

When the objectives for the 'Enlarging the community'-stage have been reached, the observatories will enter their last stage of engagement (within the GroundTruth2.0 project), which is called 'Maintaining the community'. In this final stage less attention will be directed to recruitment or gaining the interest of potential new community members. Instead the Demo Case teams will focus on sustaining the community members they have already engaged and on embedding continuity.

5.2 Long-term community members

Towards the end of the project, when the observatories have a solid member base and the obvious recruiting channels have been exhausted. The focus of this engagement strategy will shift towards sustaining. For the observatories to survive after the project, it is important to have continuity in their dynamics: long-term community members, in all three roles (data collectors, aggregators and end users) that are committed and will stay committed. Long term engagement is a different trade from recruitment and initiating engagement; the final update of this strategy will shift its focus towards maintenance and long-term commitment to support the Demo Case teams in that.

Both stages will require different skills, different focus and different tools, than required in the initiation stage – also depending on how this initiation stage has been executed in each Demo Case. Since the directions in which the six Demo Cases will develop can currently only be estimated, and because the tailored strategy for enlarging and maintaining the community will not be needed in the Demo Cases before the first (Dec '17) respectively the second (Dec '18) updates of this strategy; this version, the initial strategy for engagement, will feature an outlook. An outlook on the intended results, monitoring tools and engagement techniques and processes that will, likely, be part of the strategies on enlargement and maintenance. The detailed, tailored strategies for these stages will be laid out in the two updated versions of these strategies, scheduled in December 2017 and 2018.

5.3 Intended results

What: During the 'Enlarging the community' phase the objective is to substantially grow the number of community memberships. Specific, measurable, objectives will be shared in the updated engagement strategy, tailored for the second stage of engagement

When successful: The 'Enlarging the community' phase is a success when community members start referring each other towards the observatory. This is the case when the number of memberships are

growing without the GroundTruth2.0 team pitching or recruiting as much as in the beginning of this phase.

What: During the 'Maintaining the community' phase the objective is to ensure continuity in the dynamics of the observatories. Specific, measurable, objectives will be shared in the updated engagement strategy, tailored for the third stage of engagement.

When successful: The 'Maintaining the community phase is a success when community members feel ownership, stay engaged with the observatory for longer than six months and (a part of them) will stay committed after the end of the GroundTruth2.0 project.

5.4 Monitoring progress

Both recruiting new members and keeping the continuing members interested are time-consuming activities. Therefore engagement and participation need to be monitored, to have an indication of the success of the Demo Case, but also to inform practise. In order to keep improving the GroundTruth2.0 knowledge on how to maintain participation and which activities were most effective, we have to measure the results.

Comparing between cases and project-wide reporting

To learn from the efforts in the GroundTruth2.0 project, and to be able to draw generic conclusions at the end, the six demo cases that are so different will need to be compared with each other. There will be some variation in the approaches used in each demo case and also in the timing of the different steps, but the common denominator will be that each case collects a user-base. To assess the effectiveness of the different approaches, we will ask each demo case for their statistics and collected information on the following things:

- Number of posts,
- Number of visits (of which how many unique),
- Geographical spread,
- Device used
- User feedback from different roles.

Positioning the observatory in a wider context

The Gavagai monitor is developed for tracking public opinion and attitude with respect to commercial and political issues. It mines online media and generates social media analytics for implicit data sensing. The Gavagai monitor is a useful tool to get a handle on what is considered important and interesting about the topic of this observatory in a wider context than just that of the Demo Case community. Gavagai monitor will also help to keep track of how these attitudes might change over the course of the project, so that the Demo Cases can anticipate with their recruitment and maintenance strategies.

5.5 Getting to work: a glance into the future

Although much is uncertain in how the six Demo Cases will develop and what they will need to respectively enlarge and maintain their communities in the following stages, there are certain issues that will might become relevant as a consequence of the initiation phase.

5.5.1 The sales pitch: adjust and repeat

During the initiation of the observatory, engagement efforts in the Demo Cases focussed on engaging 10-20 individuals in three different roles. After launching the observatory and its platform, there is no

limit. Demo Case teams can engage as many stakeholders as they want. The project-objective is to demonstrate the potential and have as many users as possible, so no constraints there.

However, each separate engagement effort costs time, and for that reason it might still be sensible to think twice about who to engage next. The place to start, of course, is again the stakeholder analysis (D1.1), with the comprehensive list of potential CO core community members for each Demo Case.

The prioritization of new stakeholders should be based on these criteria:

- Engaging large groups is more time-efficient than separate individuals
- Their gain, can their objectives be addressed sufficiently? If this is not the case, they will drop-out quicker than they can be recruited.
- The need within the observatory: what does the observatory need for better dynamics: more data end users to provide legitimacy and feedback, or more data collectors for the volume?

5.5.2 Introducing new partners to a moving train

Getting people enthusiastic about an observatory that is not operational yet might be challenging as we have seen in the previous chapter. Engaging them for an observatory that is already up and running is probably easier, but still brings its own challenges.

Most importantly new recruits might feel that they are not really needed, as the observatory is already functioning fine without them. Especially when the initial community members are really enthusiastic, it might seem to newcomers that they have not much to add. This might push them into a less active role in which they are insecure and less enthusiastic about the collaboration. This goes not only for data collectors, but also for data end-users (policy makers). It is important to be aware of this risk and consciously guide newcomers onto the platform. For observers it might be worthwhile to 'give' them a location or area that is not monitored yet and/or give extra attention to their posts when they upload them. Extra attention to the activities of new data end-users on the platform and feedback on how their feedback on the data was received, will help them get more secure on the platform.

Especially if there is a sense of community between the core community members, an introduction of newcomers will be appreciated. It does not have to be much, just attention drawn to the fact that there are new members and who they are, during a regular interaction moment should be enough. The other way around, newcomers do not know how to recognize members that have been part of the community for a while longer. While their seniority might be something they are proud of, or is at least something that they expect would distinguish them from newer members. Again, this might go for data collectors, but for engaged policymakers as well. Senior members could take on a mentoring role over the newer members; a point of reference, so they can share their valuable experience. Depending on the participation options, it might be sensible to create duos. It is their observatory and introducing newcomers to the trade is a great way to provide them with ownership. Certain habits and customs might have grown over time and this is the only way newcomer can get introduced into those little habits.

6 Project-wide tools to aid engagement

Although the Demo Cases will be very different there are some overarching tools and techniques that will be offered project-wide to aid engagement in all six cases. This chapter elaborates on three of these overarching tools: the international community, case specific assistance and active brokerage between cases of tools and methods

6.1 International network of GT2.0 participants

Having the community members enthusiastic for the local demo case is a precious thing, it might have been a lot of work to get them at that point. These community members might have been triggered by the topic of the observatory or the group dynamics (see chapter 3). Still, especially at the start when there is not a lot of activity on the local level yet, the international character of the GT2.0 project might be a selling point as well. That is why the GT2.0 international participants group will be founded, where all participants from all demo cases can join and exchange experiences.

6.1.1 How it works

Everybody that signs up to participate in one of the local observatories, will be asked for their email address and automatically receive the latest 'monthly update' of the GT2.0 participants' network. They will keep receiving these monthly updates unless they 'unsubscribe' and each of these messages will feature the link to the online GT2.0 community (a Facebook group), which they can join for added features and discussions with fellow participants.

6.1.2 Monthly updates

In English, featuring short updates for each case and one project-wide or -related highlight. The message will not be long and is mainly meant to keep the GT2.0 project on top of their minds. This monthly update will be distributed from Delft, unless that contradicts with the local interaction between GT2.0 partners and the participants. In that case the update will be send to the GT2.0 partners, for them to distribute further (translated, complemented, …) – the link to the online community should always remain in there.

6.1.3 Online community

To avoid the feeling of 'yet another platform' this online community will be on Facebook, for which most people already will have a profile. The functionality of a closed group on Facebook allows its users to share posts, talk to each other in a group chat, share photos, documents and create events. This community will of course be linked to the existing GT2.0 Facebook page and generate traffic for both. The community will be moderated by UNESCO-IHE, but is of course open to all project partners.

6.1.4 Promotion material

In the online community it is possible to share documents. From the GT2.0 project team some universal promotion material will be shared. A presentation about the project and its relevance, some graphics on our first results (when they are there), flyers, background information on the six cases and a downloadable logo with instructions how and when (and when not) to use it.

These materials will enable the very enthusiastic participants to talk about the project, present on it, for audiences beyond our reach. This is a win-win: The participants will feel ownership while at the same time snowballing 'brand awareness' for Ground Truth 2.0 to relevant audiences.

6.1.5 Webinar about project results per case once a year

Every year a webinar will be hosted for all GT2.0 participants (from all cases) in which a short overview per case is given and participants have the opportunity to ask questions. This will provide a sense of belonging and ownership with the participants.

6.2 Assistance on cold acquisition and case specific challenges

Not many people are used to picking up the phone and calling a complete stranger. Cold acquisition, as it is called, is notorious for being daunting and tough. Even when the meeting is face to face pitching an idea and convincing a conversation partner might be daunting.

Although the Demo Case leaders have to do the engagement and, thus, the (cold) acquisition themselves for the respective cases they work on. The team of UNESCO-IHE is there to provide assistance where needed and help to prepare for it. They can help to:

- Practice the sales pitch on a real audience
- Discuss possible entry points for difficult stakeholders
- Try to resolve potential stumbling blocks for engagement of a specific stakeholder
- etc. – *whatever might be the problem.*

This assistance will be offered in the monthly recurring contact moments between the Demo Case and task 1.4, but obviously can be specifically asked for by the Demo Case leader as well. It is important that the engaged participants in the observatory feel supported. It is, however, equally important that the Demo Case teams feel supported by the rest of the GroundTruth2.0 project team as well.

6.3 Active brokerage between cases of tools and methods

Apart from case specific support and an overarching, international, effort to engage participants even more. The exchange of best and worst practices between cases will also be supported. Although the cases are very different in their envisioned stakeholders and cultural context, still there will be lots of commonalities between cases. There is nothing more informative than the experience of another project partner with the same tools and methods: What did work and what did not? Why? Within the project we will be able to ask each other these (and more) questions for the improvement of practice in another demo case.

From task 1.4, UNESCO-IHE will be encouraging and facilitating this exchange of experiences. From the monthly contact moments with each demo case, we will have an overview of who is dealing with what challenges and who has succeeded in overcoming similar issues.

6.3.1 Tools and techniques matrix

At project-level a tools and techniques matrix will be kept up-to-date. This is a matrix inspired on a skills matrix, which is used in teams, to confirm the skills, knowledge, and interest of different team members. A skills matrix is a table that displays people's proficiency in specified skills and knowledge, as well as their interest in working on assignments using these skills and knowledge.

Similarly for the six Ground Truth 2.0 demonstration cases a tools and techniques matrix will be available. This matrix will display for each case which engagement techniques and tools were deployed and how successful this technique was. With this matrix available on the GDrive it will be very easy for demo case leaders to find who has been applying which technique and ask bilaterally for more information on what went well and what went wrong.

6.3.2 Best Practice Working sheets

For the most successful engagement techniques deployed a 'Best Practice Working Sheet' will be drafted. Specifying what technique was used, how it worked in practice, why it was so successful, how much time it took and what kind of core community members were recruited or sustained.

6.3.3 Supportive telco's with a defined structure

Also, in very similar cases, or when the learning potential between two demo cases is really obvious a telco will be organized with both demo cases represented in it. These telco's will have a tailored, but set agenda - loosely based on the structure of the working sheets but complemented with case specific questions, remarks and learning points.

7 Annex 1: Further reading

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8 Annex 2: Task description and profile of community manager

Tasks

- Provide engaging text, image and video content for platform and newsletters
- Respond to comments and queries of core community members in a timely manner
- Monitor and report on feedback
- Organize and participate in events to build community and boost awareness of the observatory
- Liaise with GroundTruth2.0 international project team to stay updated on new developments
- Build relationships with core community members, potential community members, interested professionals and journalists
- Stay up-to-date with trends and developments on the observatory topic
- Use Gavagai monitoring tool to find the conversations happening around the observatory and its topics.
- *Add Demo Case specifics*

Profile

- Able to provide continuity to the task – ideally for the full 3 years of the project.
- Experience launching community initiatives (e.g. building an online forum, launching an ambassador program, creating an event series and writing an email newsletter)
- Involved or interested in the topic of the observatory
- Ability to identify and track relevant community metrics (e.g. repeat attendance at events)
- Good verbal communication and writing skills
- *Add Demo Case specifics*

9 Annex 3: Prioritized Core Stakeholders per Demo Case

Source: Barcelona Meeting, December2016

BELGIUM	
Stakeholder type	**Stakeholder group**
CS - Community Members - Citizen target groups - organized citizens	Member of EABs
CS - Community Members - Policy target groups – administration	LNE Ambassadors
CS - Community Members - Policy target groups - policy-makers/legislators	Local council members
CS - Community Members - Data Aggregators	VITO
CS - Expert Advisors - Design-Phase - experts citizen science	Flamenco (Flanders, platform guidance on how to set up scitizen science campaigns – other unit in VITO
CS - Expert Advisors - Design-Phase - issue experts	VITO
CS - Expert Advisors - Design-Phase - technol-ogy experts	Altran
CS - Expert Advisors - Design-Phase - technol-ogy experts	Akvo
CS - Expert Advisors - Design-Phase - technol-ogy experts	Gavagai
CS - Expert Advisors - Design-Phase - technol-ogy experts	Tygron
CS - Expert Advisors - Design phase - reality checkers citizen observatories	Leaders other GT2.0 Demo Cases
CS - Expert Advisors - Long-term - policy linkages	LNE CO steering group
SPAIN	
Stakeholder type	**Stakeholder group**
CS - CO Members (Recruitment targets) - Citizen tar-get groups – individuals	Meteo.cat observers (esp. Subgroup of ~50 Fenocat observers)
CS - CO Members (Recruitment targets) - Citizen tar-get groups – children	Schools

CS - CO Members (Recruitment targets) - Citizen target groups - organized citizens	Ornithological societies
CS - CO Members (Recruitment targets) - Citizen target groups - organized citizens	Butterfly societies
CS - CO Members (Recruitment targets) - Business target groups - reliant on environmental/natural resources	Farmers (esp. fruit trees - via farmer syndicates/cooperatives
CS - CO Members (Recruitment targets) - Policy target groups - decision-makers	Contact persons Direccios Generales (several)
CS - CO Members (Recruitment targets) - Data Aggrega-tors	CREAF
CS - CO Members (Recruitment targets) - Data Aggregators	Starlab
CS - Experts & Advisors - Design-Phase - experts citizen science	Coordinators Meteocat citizen network
CS - Experts & Advisors - Design-Phase - issue experts	Expert list Fenocat project
CS - Experts & Advisors - Design-Phase - issue experts	Spanish Meteorological service fenolo-gy department
CS - Experts & Advisors - Design-Phase - issue experts	Catalan Institute of Natural History
CS - Experts & Advisors - Design-Phase - technology experts	Altran
CS - Expert Advisors - Design phase - reality checkers citi-zen observatories	Leaders other GT2.0 Demo Cases
CS - Experts & Advisors - Long-term - local policy	DG experts
CS - Experts & Advisors - Long-term - policy linkages	SMC (Meteorological Service)
THE NETHERLANDS	
Stakeholder type	**Stakeholder group**
CS - Expert Advisors - Design phase - reality checkers citizen observatories	Leaders other GT2.0 Demo Cases
…	
SWEDEN	
Stakeholder type	**Stakeholder group**
CS - CO Members (Recruit-ment targets) - Citizen target groups – individuals	Stockholm residents living close to water bodies

CS - CO Members (Recruit-ment targets) - Citizen target groups – individuals	Residents Flen Ecovillage
CS - CO Members (Recruit-ment targets) - Policy target groups - decision-makers	Stockholm Stad
CS - Experts & Advisors - Design-Phase - experts citizen science	Earthwatch (Citizen science)
CS - Experts & Advisors - Design-Phase - experts citizen science	Ericsson Sustainability Center
CS - Experts & Advisors - Design-Phase - issue experts	Stockholm University
CS - Experts & Advisors - Design-Phase - issue experts	SEI
CS - Experts & Advisors - Design-Phase - technology experts	Altran (Tech)
CS - Experts & Advisors - Design-Phase - technology experts	Gavagai (Tech)
CS - Experts & Advisors - Design-Phase - technology experts	Akvo (Tech)
CS - Expert Advisors - Design phase - reality checkers citizen observatories	Leaders other GT 2.0 Demo Cases
KENYA	
Stakeholder type	**Stakeholder group**
CS - CO Members (Recruitment targets) - Citizen target groups – individuals	Tourists
CS - CO Members (Recruitment targets) - Citizen target groups – children	Schools – awareness for biodiversity and contribute
CS - CO Members (Recruitment targets) - Citizen target groups - organized citizens	MMWCA Local conservation organizations (300 members)
CS - CO Members (Recruitment targets) - Business target groups - Reliant on environmental/natural resources	Lodge owners, tour operators and tour guides
CS - CO Members (Recruitment targets) - Policy target groups - decision-makers	Local government departments in need of data/Wardens and wildlife managers
CS - CO Members (Recruitment targets) - Data Aggregators	Upande Ltd (VirtualKenya)
CS - CO Members (Recruitment targets) - Scientists	Researchers – Maasai Mara university
CS - Experts & Advisors - Design-Phase - issue experts	IHE

CS - Experts & Advisors - Design-Phase - issue experts	African Conservation Centre
CS - Experts & Advisors - Design-Phase - issue experts	DRSRS – wildlife counting via planes, issue-specific
CS - Experts & Advisors - Design-Phase - issue experts	National Museums of Kenya – mandate to track biodiversity, run archives and collections -
CS - Experts & Advisors - Design-Phase – issue experts	Kenya Wildlife Service
CS - Experts & Advisors - Design-Phase - issue experts	Kenya Meteorological Departement
CS - Experts & Advisors - Design-Phase - technology experts	MMWCA Local conservation experts
CS - Experts & Advisors - Design-Phase - technology experts	Gavagai
CS - Expert Advisors - Design phase - reality checkers citizen observatories	Leaders other GT 2.0 Demo Cases
CS - Experts & Advisors - Long-term – science	Maasai Mara University
CS - Experts & Advisors - Long-term – science	Egerton university
CS - Experts & Advisors - Long-term - policy linkages	MaMaSe partners
CS - Experts & Advisors - Long-term - policy linkages	Kenya Ministry of Environment and Natural Resources, Forestry
ZAMBIA	
Stakeholder type	**Stakeholder group**
X	X

10

11 Annex 4: Input from and rewards for different stakeholder groups

Source: Barcelona Meeting, December 2016

Their input

Data collectors (individual citizens & groups)	Data aggregators (technical partners & scientists)	Data end users (decision - & policy makers)
◯ Time	◯ Feedback on the activities of others	◯ Use and purpose for the collected data
◯ Local knowledge	◯	◯ Demonstrable results
◯ Feedback on activities of others	◯ Translation from separate data entries into an usable dataset	◯ Feedback on the activities of others
◯ Create dynamics for others to interact with	◯ Extrapolation to a larger area	◯ Substantiate the relevance of the topic
◯ Measurements and observations	◯ Dissemination	◯ Dissemination
◯ Other (Demo Case) specific, namely…	◯ Other (Demo Case) specific, namely ….	◯ Create dynamics for others to interact with
Specific for organized groups i.e hobby clubs etc.	***Specific for Scientists***	◯ Other (Demo Case) specific, namely…
◯ Structural approach to measurements	◯ Use of the data in scientific research	***Specific for Policy makers***
◯ Other (Demo Case) specific, namely …	◯ Translation of research outputs to non-technical language	◯ Interactive policy design
	◯ Other (Demo Case) specific, namely …	◯ Other (Demo Case) specific, namely …

Their reward

2 (Worksheet) Overview of potential rewards for core community members per role

Data collectors (individual citizens & groups)	Data aggregators (technical partners & scientists)	Data end users (decision - & policy makers)
◯ Improve personal skills (certain technical skills or social skills)	◯ Free source of data	◯ Improve public participation in decision making
◯ Gain knowledge/learning something new	◯ Business opportunities	◯ Improve local decision making by availability of local data
◯ Share knowledge	◯ Improve organization image (public profile)	◯ Improve organization image
◯ Make contribution to community	◯ Expand knowledge, skills and expertise by interacting	◯ Improve city image
◯ Good for career (i.e. advancing in current career)	◯ Filling obligation by working with and educating the public	◯ Business opportunities (cooperating with CO partners)

- ◯ Social recognition
- ◯ Entertainment/hobby
- ◯ Usefulness of data for personal purposes
- ◯ Financial gains
- ◯ Sense of belonging to a community of shared interests
- ◯ Other namely, …

Specific for organized groups i.e hobby clubs etc.

- ◯ Attract new members
- ◯ Visibility and connection for the group
- ◯ More trusted source of data than official channels
- ◯ Other, namely ….

Specific for Scientists

- ◯ Advancement of scientific knowledge with new data
- ◯ Raising awareness on environmental issues
- ◯ Other namely, …
- ◯ Expand knowledge, skills and expertise by interacting
- ◯ Filling obligation by working with and educating the public
- ◯ Other, namely…

Specific for Policy makers

- ◯ Data is helpful for reporting on and monitoring policy targets.
- ◯ Other namely, …