



Deliverable D5.5

Second Advisory Board Meeting



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List of abbreviations

AB	Advisory Board	GT2.0	Ground Truth 2.0
CO	Citizen observatory	PMT	Project Management Team
DC	Demonstration Cases	WP	Work Package

2 Introduction

2.1 Background of the Ground Truth 2.0 project

Citizen science, enabled by ICTs, is on the increase. Using their own observations and mobile devices, citizens can provide a new data stream that provides localized information about the environmental situation on the ground, complementing existing data systems and surveys. However, many efforts to successfully implement citizen observatories are facing problems with the sustained engagement by citizens, limited scalability and limited impact on governance processes.

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. Ground Truth 2.0 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.

2.2 The Ground Truth 2.0 Advisory Board

The Ground Truth 2.0 Advisory Board provides strategic advice to the consortium during key milestones. The Advisory Board can help review the project from a broader and higher strategic perspective. This will allow for the entrance of new ideas and guarantee that the project is linked to the general public's interest. Concretely, the main tasks of the Advisory Board are:

- To ensure the link between the corresponding stakeholders and the Ground Truth 2.0 project deliverables and results (incl. dissemination);
- To advise on the market analysis, the potential business models definition and the identification of the market barriers for the Ground Truth 2.0 enabling technologies and services;
- To advise on dissemination activities/material about project results for relevant stakeholders, incl. policy makers and other EU projects;
- To disseminate information about the outputs and impacts of Ground Truth 2.0 to the stakeholder groups they represent and/or are linked to.

The members of the Advisory Board have been appointed strategically with a balanced composition in terms of gender, background and communities that they represent (e.g. GEO community, lobby, spatial planners, governments, citizen science community, etc.).

The thorough involvement of the Advisory Board is sought annually back-to-back with a face-to-face PMT meeting.

2.3 Purpose and structure of this document

The purpose of this document is to capture the discussion of the second Advisory Board meeting which took place on Wednesday 11 October in Delft, The Netherlands and to record the actions points that were identified. The agenda of the meeting and its participants are presented in Annex 1.

The meeting started with an overview of the Advisory Board members (section 3.1) and a short overview of the project (section 3.2). Next, the six Demo Cases were presented and discussed in detail (section 3.3), followed by presentations and discussions of the four Work Packages (section 3.4). Finally, a summary of the recommendations of the Advisory Board and a list of Action Points are provided in section 3.5.

3 Minutes

3.1 Introduction of Advisory Board members

Clairie Papazoglou was working last year for BirdLife Cyprus, now she is working as a consultant. She is still working with large NGOs on environmental issues, but is also involved in strategic planning and empowering NGOs. She is looking forward to hear how GT2.0 has progressed. She was talking to partners from Catalonia yesterday, and would be happy to liaise with the BirdLife organisation in Spain. There could be interesting links there to develop.

Henk van der Kamp represents the spatial planning discipline and is very interested in how GT2.0 can contribute to better and more participative planning. ECTP has adopted a Charter on Participative Planning. He was the vice-president of the European Council of Spatial Planners until last week, now he is a regular member of the Executive Committee. He reported back from GT2.0 to the Council 4 times per year. Last Saturday he also discussed GT2.0 in Leuven, Belgium at the General Assembly of ECTP. This links very well with GT2.0. He remembers from last year that there was a presentation on OpenStreetMap and possibilities for land-use mapping, and he would be more than happy to support that stream of work.

Barbara Anton represents ICLEI, a global city network. She is working from the European Secretariat, in the team called 'Sustainable Resources, Climate and Resilience.' Her focus area is mostly the water domain, which is why she is especially interested in those parts of the project that focus on water. ICLEI is supporting local governments. They are working with them in many ways, with the goal to help them manage resources better locally, but within the global context of sustainability. Planning issues are at the heart of it. When it comes to governance and sustainable resources, the theme of green infrastructure is becoming important. GT2.0 ties in closely to these themes. She is curious to see how things are going. She feels it is a privileged role to be an AB member. It is a nice learning process. She is curious about how GT2.0 progresses, what problems the project faces and how it handles those.

Liselott Sjödin Skarp works for the Swedish Species Information Centre (ArtDatabanken), which is part of the Swedish Agricultural University (SLU). They do many things related to citizen science, for example providing information when it comes to observation and national support for nature conservation. ArtDatabanken has signed up for the interest group for citizen science that is about to start within TDWG (www.tdwg.org), which works with biodiversity standards. They have had some contact with SU during the year. Liselott's colleague Anna Maria has joined SU meetings for advice. Liselott is really interested to see how the project works, and hopes that she can help.

Two Advisory Board members could unfortunately not attend the meeting:

- **Mr. Pontus Westerberg**, working for UN-HABITAT in Nairobi;
- **Mr. Gregory Giuliani**, working for UNEP-GRID.

3.2 Ground Truth 2.0 update by the Project Director

Dr. Uta Wehn is Associate Professor of Water Innovation Studies at IHE Delft and Project Director of Ground Truth 2.0. Her background is in Computer Science as well as the social sciences (Science, Technology and Innovation Policy Studies). She is very interested in the role of science in society. Besides Ground Truth 2.0, she coordinates another H2020 project called AfriAlliance.

Uta presents a short overview of the approach and objectives of Ground Truth 2.0 (GT2.0). She also discusses the progress and achievements of the first year, as well as the plans for the second year to come. This presentation is included in Annex 2. After the presentation, the Advisory Board (AB) is asked for their first reactions.

Discussion

Barbara: referring to Uta's slide about achievements in year 1, why is there so little focus on the social dimension, and more on the technical part? Uta explains that in line with the GT2.0 socio-technical approach, WP1 (Social dimensions: co-designing citizen observatories) was in fact the real driver throughout year 1, with increasing collaboration from WP2. We slotted the technologies in once we knew what the user requirements were. The presentation was set up this way to set the scene for the Demo Case presentations that follow.

Liselott: when you were creating the user stories, did you have user experience experts in the team? She mentions that this is one of the most important details to get the system usable. Alberto (Altran, WP2 leader) says that colleagues from IHE supported this process, because they have this experience. Uta adds that the COs are not built purely on the user stories alone. These inputs are triangulated with, for example, data from the stakeholder and institutional analysis and the co-design process more broadly.

Henk: the word 'co-designing' is used a lot. What does it mean in this project? Uta explains that for GT2.0 it means that people who will use the CO need to shape their observatory. They need to decide on the purpose of the CO and this may even shift over time. For example, the focus of the Demo Case in Kenya changed from our original ideas because of the perspective of the co-designers. User preferences should be built into the system.

Henk: how does this actually work? Uta shows that the slide with the pyramid is the core of the method and the logic behind the kind of workshops that were held. Meetings covered different levels, with exercises to let people think about the different questions presented. For each level, there were particular exercises and interactive sessions, with a design behind it to consistently feed into different cases.

Clairie: she sees very well how GT2.0 develops the stories, but she does not see very clearly how that can be linked to policy change or decision-makers. Decision-makers think in a different way and information needs to be presented to them in a more concrete way to make a change. Citizens can tell you many things, but that does not necessarily feed into policy. You need someone as translator between citizen data and policy makers, so that you can make your CO more sustainable. Uta says that this is a valid point. She adds that for us, stakeholders are not only citizens. Policy makers are not the only end users of what an observatory might produce. All groups are important (citizens, scientists/data aggregators and decisions/policy makers), and a CO should involve and serve all of them. They have different needs, which are articulated through user stories, but talk about the same central issue. In the functional design, we analysed the different user requirements. It was an extensive exercise in which we discussed what the basic building blocks for a general CO are, and how we need to reshuffle these for different cases.

Barbara: so actually the CO seems to be a 'stakeholder observatory'. Observatory sounds like observations, but GT2.0 is moving it more into comprehensive participatory planning management. She thinks that GT2.0 might bump into existing methodologies for these bigger processes. In these methodologies, the weakness is often how they deal with factual data and monitoring. The two types of methodologies could merge. Uta says that the project is up in a way to a new paradigm. The goal is to create legitimacy for different perspectives, experiences etc. It is not a top-down approach. We have seen that top-down

approaches to more participation have limitations, especially the lack of stakeholder buy-in. GT2.0 plays a neutral role here. It creates a level playing field, where people can experiment with new methods.

Henk: there seems to be this picture about governance and the assumption that collaborative governance will change. But of course GT2.0 must not try to do too much. The value would be to demonstrate how this new governance might work if these new systems would be in place. But to change governance itself is a longer-term process and for other people to undertake. The new form of governance is assisted in two ways by this approach: it makes participation easier and it gives new research and new types of data. Uta adds that GT2.0 is a neutral way of experimenting with technologies and governance. Some citizens demand more participation but do not find the channel. GT2.0 gives new possibilities to each CO and lets citizens decide on where they want to go with it.

Liselott: the strength of GT2.0 is to show the value of using these methods through the six Demo Cases. Important is that the parameters that you take into the project are the ones that those who want to analyse the data need and what the people that are to report into the system are interested in reporting. It is crucial to make systems easy so that people can report without too much effort. This has to do with the usability of the system.

To wrap up this first block of discussions, Uta mentions that Henk asked her if the project's hypotheses are working. One important hypothesis is that a CO does not necessarily have to start with data collection, and this is exactly what we see. The process differs per case, and there is no single entry point. The stakeholders decide what type of CO they want (environmental monitoring, cooperative planning or environmental stewardship); moreover, that may change over time.

3.3 Demonstration Cases

All six Demo Cases are presented by the Demo Case leaders. The presentations are included in Annex 3 of this document. At the end of each presentation the Demo Case leaders present issues or questions that they would like to discuss with the AB. After the six presentations the floor for discussion is opened.

Discussion

Henk: it is important to let communities themselves discover that spatial data can help solve tensions. You do not have to come up with policy solution to solve tensions. That is for other projects. It would be great if GT2.0 could come up with policy solutions, but it is not the project's task necessarily. The Demo Cases allow you to describe valid research results, and that is a benefit discovered then. Uta says that GT2.0 is not a research project but an implementation project, so it does need to deliver sustainable COs. But indeed maybe not all Demo Cases can be equally successful. As in other fields of innovation, it is important and highly valuable to learn from failures, friction and uncertainty.

Clairie: congratulations to all Demo Cases on the work done. Her comments focus on the African cases in Zambia and Kenya. She says that trust is crucial for the success of the COs. When you are dealing with communities in conflict, it is not easy to establish an initiative like this. Gaining trust takes time. Her concern is that this is only a three-year project, and that the COs might collapse after that. Finding a sustainable way to continue is needed, depending on the people involved. It is also important to find the solutions that people are looking for. Conflict on livelihoods happens all over in the area of conservation, in fact this is why conservation efforts are needed. Finding solutions through collaborative forums is a challenge. It is crucial to have a good policy tool at the end that can help resolve those conflicts (e.g. a fair compensation scheme).

Clairie: addressing people in their local language is important, but we should not forget the project language that we use. Too much terminology will lead to people dropping out. Try to use simpler language, which you can then translate yourself in project and EC language.

Uta says that indeed we have experienced this problem. For example the word 'observatory' itself has been challenging in the Belgian and Dutch cases. Concerning the remark about trust and engagement, she mentions that it is crucial to make a difference compared to what has been done already. For example, in Zambia there is a parallel project using the monitoring idea, but with a focus on the gender component and the empowerment of women. So these projects can reinforce each other.

Liselott: thanks the Demo Case leaders for their presentations. There seem to be some common issues across presentations, especially how to make observatories sustainable. It is important to ask those involved what they want (their motivations to participate). If you have the platform, you have what you need to continue discussions. For the financial component, it could be good to have authorities involved. She mentions the importance of giving citizens credits for their contributions, or have lists showing who did what to create a little competition. Many people wish to contribute, and for some that would be enough, but for many people there needs to be something in it for them. It is also important to immediately visualize the data collected so that participants see that something is being done. That can already help to sustain the engagement.

Uta responds that GT2.0 does research on the various types of incentives. People have different reasons for participating, and understanding those can improve our engagement efforts. The baseline study shows that different incentives exist for different people. We need to see how we can use this information in different DCs. Immediate benefits are important.

Barbara: compliments to the Demo Case leaders on the level of efforts undertaken. At the same time, this could mean that for the future, at least the same level of effort will have to be invested, again bringing up the issue of sustainability. The issue of who will take over is now closer at the horizon than last year. In this process, it is also important to look at questions of vested interests. Taking such a comprehensive approach also means that you run into the full scale of participation issues. It is important to make sure that one does not insist on participation for the sake of participation. Maybe there will be a moment in time when it does not make sense anymore to ask for all the stakeholders' involvement. Then there is the issue of accountability. Coming from the outside as a neutral actor means you can walk away. If a local organisation takes over, that changes the rules of the game.

Uta agrees that these are all important points. If we aim for sustainability, it is good to think about who takes over and why. The project should be seen as a chance, as a way of capacity development, and an opportunity to co-create something different. But we should not aim for having a CO for the sake of having a CO.

Henk: if he looks at this as a contribution to spatial planning, he believes that collaborative planning is reality. Any technology or approach that helps this is going to be successful because that is the way we are going. Problems are the validity and sustainability. The issue of validity is mentioned in many DCs: if some parties do not engage, your data become less reliable and representative. His suggestion is to paint some different scenarios and to provoke some parties to get them involved. For the sustainability it is also important to show how the data/the CO is relevant to different policies and how data/results feed into policy processes.

Clairie: concerning the Dutch case, it is important to manage the expectations of citizens in terms of the time it takes to analyse data. We live in a society where people want reactions instantly, while some things take time. This is especially important as there are public servants involved in the Observatories, and they might resist having to produce information instantly and through unofficial processes, as citizens might expect. Concerning the Spanish case: on the policy level, it is not clear how phenology links with policy. If it is not clear, communicating to the various levels will not be easy. Make it more specific, develop the link more clearly. If you want it to be relevant for decision-makers, more than a simple description is needed. Camille says that the case focuses on adaptation, not the overall impact of climate change. He agrees that it is good to further specify this.

Uta says that this is the next step for all cases: map how we can connect with decision-makers. There is an inherent bias because we do not have all relevant stakeholders in the room. Then there are also stakeholder dynamics in the room that should be considered. Some parties are more dominant and there is never absolute neutrality in a collaboration space.

3.4 Work Packages

For the presentation of the Work Packages, the same structure is used as for the Demo Case presentations. The Work Package presentations can be found in annex 4 of this document. After all four presentations the AB was invited to give feedback.

Discussion

Clairie: responds to the question from WP1 on how to keep momentum. Each group is different. For groups that collect information, like the Spanish one, keeping the momentum is linked to what you give back to users. She repeats the idea of making lists with who has contributed most to create a little competition. This seems to motivate people to keep putting in data. What will determine the CO success is if they will be able to achieve their goal, to contribute something to the set challenge.

Uta mentions that the challenges are so fundamental and big, like climate change, that the COs cannot help in solving them on their own. But it is good to articulate clearly how we contribute.

Liselott: stakeholder engagement is the key factor to success. She gives an example of using people's interest in taking photos to give them acknowledgements, which is especially useful for species monitoring. Governments have other purposes, so it is good to involve them from an early stage to get these purposes clear.

Henk: he approaches this issue from spatial planning. He sees stakeholder engagement as being mainstreamed in twenty years. He finds it a positive challenge: you receive rich data from local citizens who are the experts on their neighbourhoods. Municipalities, mayors and politicians should welcome the availability of free information coming from the experts. For this process you need credibility. It means that you need to converge the six COs in some way, so that you have some concluding analysis after the project with recommendations. This would also be good for other citizen science projects. Uta says that we are working towards the method of developing sustainable COs, as this is one of the main GT2.0 goals. It is part of what WP1 does. The impact assessment looks at what works, but also at results and triggers for change.

Barbara: how does GT2.0 approach impact assessment? Uta explains that we use a results-based framework that goes from DC level outputs, to outcomes and impacts. At DC level, we measure according to indicators that DCs themselves set (i.e. their objectives). Similar to the thinking that good governance

is measured according to local goals about what this entails. Overall, we use the same framework at different units of analysis.

Liselott: the TDWG group tries to develop biodiversity standards, and wishes to start an interest group for citizen science. ArtDatabanken and SLU have worked with phenology, including two apps for birds and plants where the data is stored in Artportalen (the Swedish Species Observation System), and will also send some information to Alberto. Many existing systems are open source, and have modules that are more general while others are more complex and adopted to national conditions. It is good to provide systems and standards, and get to get inspired by each other, but it might be hard to make the existing systems to adopt the new standards set in this project. Managing systems costs a lot of money and it is important to consider how this could be done after the project has ended, and what kind of support you wish to provide.

Henk: what is the product that we are selling? Uta says that these are tailored products and services set up for the COs, such as tailored apps, but also mainly the methodology itself. The methodology will not be proprietary, it should be freely accessible. Henk mentions that here social feasibility comes up. If you make a plan for a town, the obstacle is often that people do not like it. So it is in the interest of local authorities to maximize the chances that people will accept it. This tool can help foster acceptance. Uta stresses that the platforms cannot simply be used in other cities without adjustments to the local community context. The co-design process is needed in each situation.

In relation to this point, Gregory has provided a written comment on the draft minutes: are you planning to have a proper license (like Creative Commons) to ensure that your methodology will be properly acknowledged and ensure that it will remain free?

Liselott: it is important to realise that cases are different, but that it is important to sell the method since the method could probably be used for most cases. When it comes to the solutions you might need technological or other adjustments. And it is important to note that user stories and the whole process are needed. Uta says that the method as a product is also a deliverable, so we have to think about how to disseminate it and how to make it accessible. It needs to be implementable for people who have not been in the project.

Henk: would this be a methodology to engage local communities to provide information for local governments for a given problem? Uta says that it is important to realise that in this project, we do not see local governments as the only entity defining a problem. The problem is decided upon by the CO.

Henk: in relation to WP3's questions about market segment, one segment could be local governments as described above. This process would then be embedded in the local governance of the community. It seems to be a success in Mechelen. The same structure could help solve other existing local municipality problems.

Uta mentions the WeObserve project, which will bring additional resources to mainstream COs in decision-making. The project will organise roadshows with success cases. Market building will be required to make it the added value of COs tangible and to create a market.

Barbara: the local government is of course a representation of the local community already, but many people are not happy with the current structure. But would a CO then be replicable to all kinds of issues? Different groups of stakeholders are needed per issue. What holds a CO together then? What is the institution of this? She also asks what we mean with a market niche.

Uta says that we are still figuring out where the money could come from and where the possibility for revenue is. The demand for COs is articulated in a more vague way. Concrete products and services are

coming out that the technical partners could market, so for them there are revenues to be made. There is no easy answer for financial sustainability yet of each observatory in the DCs.

Henk: representative democracy is happening. Local governments are increasingly willing to engage in this type of way. Uta adds that they also have the obligation now. Henk finds it interesting that Mechelen is ahead. Apparently, the scale is ideal. It would be interesting to see in the analysis if the size of a place matters, and other success factors for upscaling. Uta says that the analysis also looks at that, in addition to information on the people we gathered, people's body language in the co-design sessions, gender balance etc.

Liselott: goes back to the topic of future sustainability and the needs of defining a business model on how to finance management and support of the product. There are different ways to go when it comes to financing, using for example open source and governmental financing or licensing models. We should make a choice which path would be best for societies to reach their goals. Uta says that technology-wise, we made a choice for a modular approach, dependent on the infrastructure already in place each case and with a different composition of technical partners. Liselott adds that we should not only consider the methods, but also how you define different functionalities to make a vocabulary.

3.5 General feedback from the Advisory Board

Alberto (Altran, WP2 leader) says that currently the big issue for WP2 is data fusion. For example, in the Belgium case we are using an app that is just getting the noise from the device microphone. The noise level depends on how people measure it. Some people have their phones in their pockets, others carry them in their hand. How can we make this type of data really useful? In policies, levels of noise are mentioned, but how can we make the gathered data useful in the sense that policy makers trust the data enough to make a decision based on it?

In relation to this point, Gregory has provided a written comment on the draft minutes: he thinks that one possible contribution is the fact that local measurements can increase the spatial (and temporal) resolution of model outputs. This can be potentially highly valuable as this will show more details.

Henk: on its own the data are not reliable enough, but in combination with other benchmark measurements they can be stronger. You need other sources of data to triangulate. He suggests to use it as relative data. The phone might be in the pocket, so it is not measuring the actual noise level. But if the same person walks somewhere else with his device in his pocket, the level is relatively the same. So you should use triangulation. Then there is the issue of perception as well. For example, some people like church bells, while for others this is noise. If the perception is there, it is the truth (although norms or measurements say something else). Alberto asks how much data we need to ensure that policy makers can do something with it. Henk says this differs per case.

Liselott: you can also use data to describe situations. In the Belgian case, you also have questionnaires, so you have different types of data. To influence decision makers, you need to convince the people.

Clairie: you could work with thresholds, use for example a traffic light system of red, amber and green to indicate the level of ambient noise, thereby giving immediate feedback also to the user. Additionally, from the user you have an indication of what is happening in a certain place. If mobile devices are reliable enough to give you a level, you can make a map with hotspots and then you could verify. With ground truthing, collecting data is one way, verifying is another.

Barbara: this is about the relationship between hard and soft data. Where it coincides, there is no problem. But when it contradicts it becomes interesting.

Uta then asks the AB members about the best way to engage with the groups of stakeholders that they represent.

Henk: you should focus on the local level. Citizens are closest to the problem. Also, he is happy to bring back anything that GT2.0 produces to the Council of Spatial Planners. The Council could be a good platform to showcase GT2.0.

Barbara: ICLEI conferences could also be a platform for this. A relevant team within ICLEI could be 'Governance and Social Innovation.'

Liselott: advises Joan to get engaged with the TDWG. There are many people there who are interested in this type of questions. She will help him or Uta to get connected.

Clairie: as BirdLife is one of the most scientific NGOs, it could be relevant for the case of Catalonia. BirdLife International is also involved in another H2020 project. She will provide some contacts for the Spanish case.

Clairie: reading the papers and looking at the presentations, GT2.0 uses acronyms that are not always clear. It is easy when you are in the project, but we should try to make an effort to be clearer on that. When she was thinking about the evaluation that the project has to present at the end, a reasonable question would be to consider comparing other alternatives and methods for consultation and participation, which are not as collaborative or bottom-up as the co-design method that this project promotes. It would be good to distinguish this method from collaboration and other participation systems in the evaluation report so as to highlight its strong points.

Henk: the Demo Cases are all excellent but also different. He would be happy with a typology in the form of a matrix with several variables. Uta mentions that such a table was included in the DoA, but we will update it now. Apart from this, Henk is fascinated with this new data source. It would be especially interesting to create a third set of data by combining new and existing data sources.

Camille (Starlab, Spanish Demo Case leader) says in regard to data fusion that he understood from the Commission that via Copernicus, the EU put a lot of money in satellites. Locally, even though we have so many satellites, data is still missing. The Commission would appreciate it if these types of data are improved.

In relation to this point, Gregory has provided a written comment on the draft minutes: what is also the situation concerning GEO/GEOSS? Is GT2.0 still interested in contributing? If yes, how? He thinks the project can bring very valuable inputs to the CS community.

Final words & closing

All AB members thank GT2.0 for the very interesting day.

Liselott emphasizes the importance of sorting out the business model.

Barbara reiterates the point that it is really nice as an AB member to see what another project does and how it deals with challenges.

Uta wraps up by thanking all AB members for their time and for coming here for the day.

4 Recommendations and actions

4.1 Summary of recommendations by the Advisory Board

- As user stories are one of the most important details to get a system usable, make sure to have user experience experts in your team.
- Think about how to translate citizen data to decision-makers, as the latter need information in a different way to be able to feed it into policy.
- GT2.0 should not try to do too much. The value would be to demonstrate how a new form of governance might work if these new systems would be in place. But to change governance itself is a longer-term process and for other people to undertake.
- Make systems easy so that people can report without too much effort, so maximize usability.
- Take into account that building trust takes a long time.
- To make COs sustainable, really ask people what they want and why.
- Sustainability of COs is important, but do not make them sustainable just for the sake of having sustainable COs. It is important to keep the ultimate goal in mind.
- Do not use too much project terminology, this can scare people off.
- For the Spanish case: make the link between phenology and policy more specific to be able to better communicate about it.
- For the Demo Cases: make lists with who has contributed most to create a little competition, and to motivate people to keep contributing.
- Consider in the analysis of the overall project success factors for upscaling, and contextual factors that help make a certain case a success.
- Triangulate the 'softer' data with other data sources to make them more valid and reliable.
- In the communication about the project, be careful with the use of acronyms that are not clear for other people outside the project.

4.2 Actions for GT2.0

Ref.	Action item	Who
AB.2017.1	Check for possibilities to showcase GT2.0 in Council for Spatial Planners	Henk
AB.2017.2	Check for links with ICLEI teams and conferences	Barbara
AB.2017.3	Provide relevant contacts from BirdLife for the Spanish case	Clairie
AB.2017.4	Update typology/matrix of different Demo Cases from DoA table	Uta
AB.2017.5	Send instructions on declarations to AB members	Linda
AB.2017.6	Connect Joan with particular standards community	Liselott

Annex 1: Agenda and participants

Time	Topic	Chair/Speaker(s)
9:00 – 9:15	Welcome	Uta Wehn
9:15 – 9:30	Advisory Board member introductions	All AB members
9:30 – 10:15	Overview of GT2.0 achievements year 1, milestones year 2, agenda for the day	Uta Wehn
10:15 – 10:45	Coffee break – (posters)	
10:45 – 11:45	Ground Truth 2.0 Demonstration Cases	SU, VITO, Starlab, WWF, UNESCO-IHE, HR
11:45 - 12:45	Guidance for Year 2 from the Advisory Board	Uta Wehn
12:45 – 13:45	Lunch (UNESCO-IHE restaurant)	
13:45 – 14:45	WP1 – WP4 presentations	Altran, Starlab, CREAM, UNESCO-IHE
14.45 – 15.30	Guidance for Year 2 from the Advisory Board	Uta Wehn
15:30 – 16:00	Coffee break	
16.00 – 16.45	General feedback from the Advisory Board	Uta Wehn
16.45 – 17:00	Wrap up	Uta Wehn

Name	Organisation	
<i>Advisory Board Members</i>		
Barbara Anton (AB)	ICLEI	
Liselott Sjödin Skarp (AB)	ArtDatabanken	
Henk van der Kamp (AB)	European Council of Spatial Planners	
Clairie Papazoglou (AB)	Consultant, formerly BirdLife Cyprus	
<i>WP and Demo Case leaders</i>	<i>Organisation</i>	<i>Role</i>
Uta Wehn	IHE Delft	Project Director, WP1 leader, Kenyan Demo Case representative
Alberto Masa	Altran	WP2 leader
Laura Moreno (by skype)	Starlab	WP3 leader
Joan Masó	CREAF	WP4 leader
Camille Pelloquin	Starlab	Spanish Demo Case leader
Rianne Giesen	HR	Dutch Demo Case leader
Silvina Tejada Skoglund	SU	Swedish Demo Case leader
Conrad Muyaule	WWF Zambia	Zambian Demo Case leader
Inge Liekens	VITO	Belgian Demo Case leader
Linda Velzeboer	IHE Delft	Project Assistant

Annex 2: GT2.0 Overview presentation by Project Director Uta Wehn



Second Advisory Board Meeting
11 October, 2017
IHE Delft, the Netherlands

Project Director: Dr. Uta Wehn, Associate Professor, IHE Delft



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Welcome & introduction
Dr. Uta Wehn (IHE Delft), 11 October 2017
2nd Ground Truth 2.0 Advisory Board Meeting

Project Director: Dr. Uta Wehn, Associate Professor, IHE Delft



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Advisory Board introductions

Agenda – AB meeting 11 October

Time	Topic	Chair/Speaker(s)
9:00 – 9:15	Welcome	Uta Wehn
9:15 – 9:30	Advisory Board member introductions	All AB members
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16:45 – 17:00	Wrap up	Uta Wehn




Strengthen the full feedback-loop in the information chain from citizen-based data collection to knowledge sharing for joint decision-making, cooperative planning and environmental stewardship

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Socio-technical approach
Living Labs principles

Citizen Observatories

1. Demonstration of societal and economic benefits of citizen observatories
2. Global uptake

Business development

Market



Project progress in Year 1



Plenary meetings

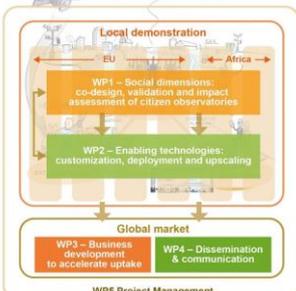
- Kick-off meeting, Delft – Sep 2016
- Plenary meeting, Barcelona – Dec 2016
- Plenary meeting, Stockholm – May 2017
- Coming up: plenary meeting, Mechelen – Nov 2017




Demo Cases

 Sustainable natural resources mgt Zambia	 Balancing livelihoods & biodiversity mgt Kenya	 Water quality management Sweden
 Preparing for Climate Change Spain	 Weather & Climate proof water mgt The Netherlands	 Environmental quality of life Belgium

GT2.0 WP & Demo Case structure



Local demonstration (EU, Africa)

WP1 – Social dimensions: co-design, validation and impact assessment of citizen observatories

WP2 – Enabling technologies: customization, deployment and upscaling

Global market

WP3 – Business development to accelerate uptake

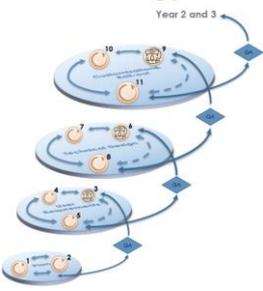
WP4 – Dissemination & communication

WPS Project Management

Social Dimensions, Citizen Observatories, Enabling Technologies, Business development

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GT2.0 methodology



Year 2 and 3

11 ACTIVITY CLUSTERS (lead by WP)

- 1) Roll-out version 1 of case platforms (WPs 1,2,4)
- 2) Baseline and final usability tests (WP2)
- 3) Configuration and interactive design of custom platform interfaces (WP2)
- 4) Functional test architecture (WP2)
- 5) Data integration and kick-off data collection (WP2)
- 6) Technical development (WP2) and interactive design of political processes (WP1)
- 7) Facilitate user requirements analysis and functional design (WP1)
- 8) Review case architecture and technical requirements (WP2)
- 9) Baseline analysis stakeholders, context, incentives/business (WP1)
- 10) Interactive capture of user requirements and profiles (WP1)
- 11) Tailor Methodologies: Select tools and methods, technical feasibility criteria, planning (all WPs lead 1)

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LivingLabs guiding principles for the co-design process

- Create **value** for you by understanding your needs and motivations
- Give you - as future users - **influence** on the decisions of the Citizen Observatory
- Aim for **sustainability** in economic, environmental and social terms
- Involve multiple perspectives and collaborate widely for **openness**
- Carry out activities in the **real-life context**



Co-design method

Outputs: Commitment articulation

Leverage points to focus CO on; Vision, mission & objectives of the CO; User stories for different CO actors

Causal analysis: Map of causes & effects re. the central challenge



Outcomes:

- Community building,
- Joint understanding and agreement on CO focus & functionalities,
- Emphasis of CO domains
 - Environmental monitoring
 - Cooperative Planning
 - Environmental stewardship

Central Challenge

Based on Atkisson Inc. (2009)

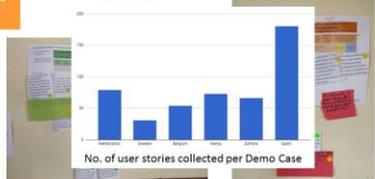
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Co-design method

User cards & story maps (SCRUM)

to see the planned platform 'through the eyes' of the future users and their needs

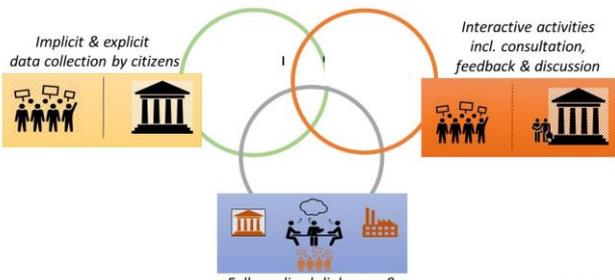
As a <type of user>
I want <to do something>
so that <some value is added>

GT2.0 CO domains

Implicit & explicit data collection by citizens

Interactive activities incl. consultation, feedback & discussion

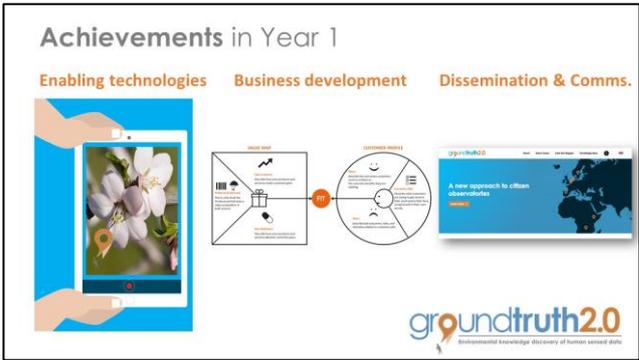
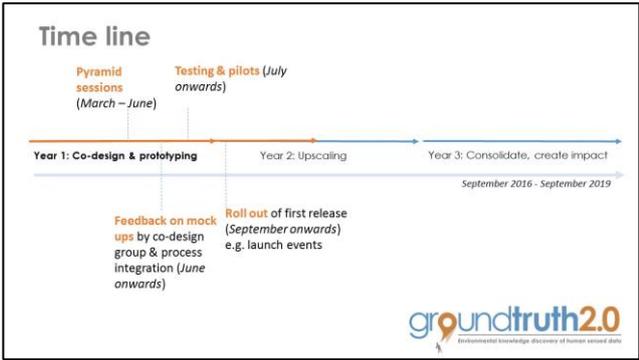


Fully realized dialogues & shared responsibility for NRM

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Demo Cases

- Masaai-Mara Citizen Observatory
- Grip op water
- Meet Mee Mechelen
- Segueix el ritme de la natura



Objective for today

To obtain **YOUR** feedback/comments/ideas/suggestions on **Ground Truth 2.0 progress (in year 1) and plans (for year 2)**

Questions so far?

Annex 3: Demo Case presentations

Kenya (Uta Wehn, IHE Delft)

Kenya Demo Case Masai-Mara Citizen Observatory

DC team (IHE Delft, Upande, TAHMO), 11 October 2017
2nd Ground Truth 2.0 Advisory Board meeting, IHE Delft

Project Director: Dr. Uta Wehn, Associate Professor, IHE Delft

Kenya Demo Case – location

- Narok county
- Maasai Mara reserve
- Shared ecosystem
- Wildlife & biodiversity conservation
- Maasai
- Tourism

Kenya Demo Case progress in Year 1

Kenyan Demo Case – Stakeholders

Citizens/Community	Scientists/Data Aggregators	Policy/Decision makers
Maasai (WUA)	Upande, TAHMO	NAROK COUNTY GOVERNMENT
MAASAI MARA WILDLIFE CONSERVANCIES	Kenya Meteorological Department	KENYA WILDLIFE SERVICE
Friends of Maasai Mara	MaMaSe, NATIONAL MUSEUM OF KENYA	
	AFRICAN CONSERVATION CENTRE, IHE DELFT	

Kenya Demo Case – Year 1

GT2.0 project partners: Upande Ltd, IHE-Delft, TAHMO

3 Co-Design workshops
1 Soft Launch

Challenge & Vision of Kenya Demo Case

Central Challenge (the CO wants to help address)

Vision (desired future)

We envisage a society in which all stakeholders are working together to ensure the balance between sustainable livelihoods and biodiversity management in the Mara ecosystem

'Objectives' of the Kenya Demo Case

1. To provide a monitoring system for biodiversity, livestock and crop, land and water resources, and climate across the Mara ecosystem by 2017.
2. To establish a repository on Mara biodiversity, livestock and crop, land and water resources and climate information that is accessible to all stakeholders by the end of 2017.
3. To develop a platform by the end of 2018 for the engagement of citizens, government, research and the private sector to promote practices that create the balance between livelihoods and biodiversity in the Mara ecosystem.
4. To improve data, information and knowledge generation and sharing on biodiversity and livelihoods between citizens, practitioners, researchers and policy makers by 2018 for informed policies and policy implementation.

Platform of Kenya Demo Case

Masai-Mara Citizen Observatory

Livelihood tool: serves data submitted by local citizens or organisations touching on HWC, Grazing, Water etc

Weather: Tool pulls data from Tahmo stations to the platform

Biodiversity tool: Pulls biodiversity data on the Mara from the SDI repository

Soft Launch of the Kenya Demo Case

Annual Global March for Elephants & Rhinos event held in the Maasai Mara. 10km walk from Speke Camp to Mara Talek Gate.

- a booth
- an address to participants introducing the observatory to the locals.



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Lessons from year 1 of the Kenya Demo Case

- **Uptake** by some stakeholders (e.g. Hoteliers) has been a challenge given widening of demo case scope.
- Case focus: from **biodiversity** to now also include **livelihood**
- Inclusion of **tourists** as stakeholders: difficult
- **Managing** short term stakeholders' **expectations**: reimbursements, allowances, etc.



Kenya Demo Case plans for Year 2

- Finalize development of the technical tools
- Integrate GT2.0 tools with existing tools (e.g. Wild APP)
- Pilot tools with the co-design group/ wider CO community
- Full launch of all functionality the Maasai Mara Citizen Observatory

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Launch of the Kenya Demo Case

Plans for the launch event of the **Masaai-Mara Citizen Observatory**

- Launch date: November 28th 2017
- Coupled with MaMaSe closing event
- Largely the same Stakeholders: Govt, Local Organisations, Conservancies
- Program Schedule and Activities towards the launch

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Upscaling of the Kenya Demo Case

Technical:

- Use GeoNode Spatial Data Infrastructure as the basis
- Integrate time series (sensor) data with SDI
- Use Web Processing Services (WPS) to automatically analyse/process data and generate new layers

Social:

- Partner with KWCA (Kenya Wildlife Conservancies Association)
- Expand partnership with other national stakeholders (Council of Governors, KWS, National Government, WWF, USAID projects, (i)NGOs, etc.)
- Incentivise citizens to submit/use data

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Platform enhancement of the Kenya Demo Case



Wild App: Mobile data collection tool developed by WWF in conjunction with locals & wardens and adopted by conservancies in the Mara. Data captured includes HWC, sightings, Incidences, Patrol

Vespucci: mobile app based on OSM. Suitable for mapping fences and/or other polygon data on



Virtual Museums: online Museum on biodiversity based on citizens observations

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Kenya Demo Case Issues/questions for the AB

- *Do you know of successful COs that have integrated citizen groups who are illiterate?*
- *Are you aware of best practice use cases in which revenues generated by COs are used across a wide range of stakeholders?*

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Thank you!



Project Director: Dr. Uta Wehn, Associate Professor, IHE Delft, u.wehn@un-ihe.org

This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement No. 689744.

The Netherlands (Rianne Giesen, HR)



Dutch Demo Case
 DC team, Rianne Giesen, Arnold Lobbrecht (HydroLogic Research)
 11 October 2017
 2nd Ground Truth 2.0 Advisory Board meeting, IHE Delft

Project Director: Dr. Uta Wehn, Associate Professor, IHE Delft



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Dutch Demo Case progress in Year 1



Dutch Demo Case – Stakeholders

Theme: Weather and climate-proof water management

<p>Citizens</p> 	<p>Data aggregators</p> 	<p>Policy makers</p> 
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Dutch Demo Case – Location

Gripp water Altena



Dutch Demo Case – Year 1

- 4 evening co-design sessions
- 10-17 external stakeholders per session
- Functional and technical design defined




Challenge & Vision of Dutch Demo Case

Central Challenge
 (the CO wants to help address)

Vision
 (desired future)

In Land van Heusden en Altena the municipalities, water authority, citizens and farmers understand each other's interests and ways of working and are together responsible for limiting the damage by pluvial flooding in urban and rural areas.

The citizen observatory is a place (on- and offline) where collected observations, knowledge and warnings are shared, where bottlenecks and measures are constructively discussed along short communication lines and where it is clear which actions are taken by which party.



'Objectives' of the Dutch Demo Case

1. Facilitate the exchange of observations and information about the weather and water systems [in October 2017] to allow all stakeholders to act or plan ahead.
2. Support short communication lines and insight in plans and activities of stakeholders regarding water management in Land van Heusden en Altena [early 2018]
3. Set up a knowledge platform with action perspectives and tips to take measures against damage from pluvial flooding [in the course of 2018]
4. Support an open and constructive dialogue between all involved parties in Land van Heusden en Altena [from the start] and expand the network towards a real water community.
5. Prepare the sustainable continuation of this CO after GT2.0 [in 2018 en 2019]



Functional design of Dutch Demo Case




Platform of Dutch Demo Case

Platform website

Information and tips

Maps with existing data

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Launch of the Dutch Demo Case

Images of launch event (if held, include it here. Otherwise move to plans for Year 2)



Lessons from year 1 of the Dutch Demo Case

- Essential to use Dutch language throughout
- Challenge to engage particular citizen groups (farmers, weather amateurs)
- Little 'presents' are much appreciated



Dutch Demo Case plans for Year 2



Launch of the Dutch Demo Case

- Online launch of the platform
- No organized events related to the demo case theme identified in the next months
- Current plan is to hook on to the occurrence of a heavy rainfall event in the coming months
- The water authority communication department can help with generating publicity



Upscaling of the Dutch Demo Case

- Local upscaling
 - network of co-design group
 - generate publicity in local media
 - present the project to specific stakeholder groups
 - involve new stakeholders
- Regional upscaling
 - present the platform to stakeholders in other parts of the water authority working area
 - create local copies of the pilot platform



Platform enhancement of the Dutch Demo Case

Report water issues and view on map

See what is happening on social media

Discuss, share, comment

FORUM

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Dutch Demo Case Issues/questions for the AB

- How can we introduce the observational aspect to this observatory?
- How to engage underrepresented groups (farmers, weather amateurs, other organisations)?
- How do we create a sense of ownership for the citizens?



Thank you!



Project Director: Dr. Uta Wehn, Associate Professor, IHE Delft, u.wehn@un-ihe.org



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Spain (Camille Pelloquin, Starlab)



Spanish Demo Case: "Segueix el ritme de la natura"
 Camille Pelloquin, Ester Manzano, Alberto Masa, Iñigo Lamfús, Cristina Montachini, Ester Prat, Joan Maso, Joan Pino
 11 October 2017
 2nd Ground Truth 2.0 Advisory Board meeting, IHE Delft

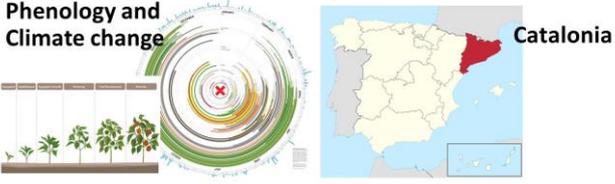
Project Director: Dr. Uta Wehn, Associate Professor, IHE Delft



Segueix el ritme de la natura *

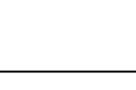
* Follow the rhythm of nature

Phenology and Climate change

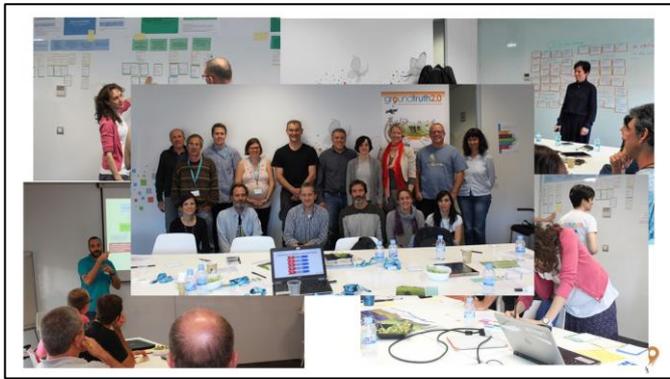


Catalonia

Spanish Demo Case – Stakeholders

Citizens/Community	Data Aggregator	Policy makers
    	   	  

Spanish Demo Case plans for Year 1



Challenge & Vision of Spanish Demo Case

<p>Central Challenge <i>(the CO wants to help address)</i></p> <p>The main challenge in the Spain Demo Case is the lack of a place in which to create collective knowledge about the local impact of climate change on nature and its rhythms in Catalonia, to contribute to better adaptation policies.</p>	<p>Vision <i>(desired future)</i></p> <p>In the digital world there will be a place that allow citizens, managers and politicians to access and share phenological information. Such place will allow communication among stakeholders and will be sustainable in time.</p>
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'Objectives' of the Spanish Demo Case

- To create an open Citizen Science platform dedicated to **store, comment share and disseminate** facts, opinions and proposals about the effects of Climate change on Nature and influence related decision-making processes.
- Through data collection by citizens and by a **guided observation protocol**, to generate useful information to understand the impact of Climate Change on nature.
- To find **synergies with existing platforms** and ensure that the Observatory becomes an aggregation of information and organizations related to the effect of Climate Change on Nature.
- To promote the **sustainability** of the Citizen Observatory beyond the end of the project.
- To disseminate proposals related to the effects of Climate Change on Nature and promote a space to discuss them.
- That allows sharing and validating the collected observations.
- To share self-generated content as well as the observers' contributions.
- To share opinions with other users regarding the effects of Climate Change on Nature.
- That allows accessing relevant information (data, studies, etc.)
- Motivate and promote relevant educational activities.

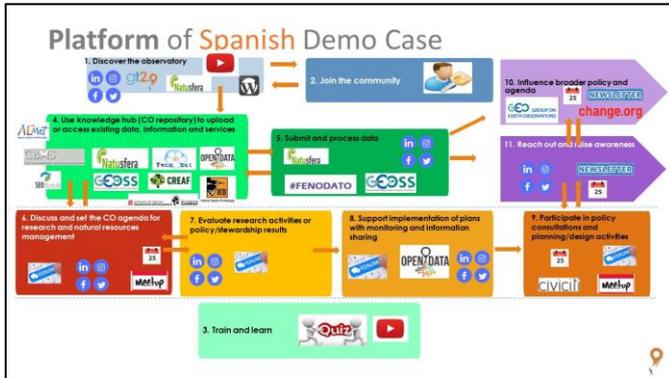
Functional design of Spanish Demo Case

First priority

- Discover the observatory
- Join the community
- Train and learn
- Use knowledge hub (CO repository) to upload or access existing data, information and services
- Submit and process data
- Influence broader policy agenda
- Reach out and raise awareness

Second priority

- Discuss and set the CO agenda for research and natural resources management
- Evaluate research activities or policy/stewardship results
- Support implementation of plans with monitoring and information sharing
- Participate in policy consultations and planning/design activities



Launch of the Spanish Demo Case

"DESPRES DEL FI DEL MON" (After the end of the world)
Reflexion around climate change and the new era for humans

"CLINICA DE SALUT AMBIENTAL" (Environmental Health Clinic)
Lead by the engineer and artist **Natalie Jeremijenko** and the Citizen science expert **Josep Perelló**
Project about design of new natural spaces in Barcelona, through experiments by citizens about new climate policies to improve environmental conditions in the urban areas.

MAC BA MUSEU D'ART CONTEMPORANI DE BARCELONA **CCCB** Centre de Cultura Contemporània de Barcelona

Launch of the Spanish Demo Case

- Week end launch event
- Week activities with schools – 2 to 4 hours activity with children presenting Phenology and Climate Change, the Observatory and proposing in-house activities of plant monitoring

MAC BA MUSEU D'ART CONTEMPORANI DE BARCELONA **CCCB** Centre de Cultura Contemporània de Barcelona

- ### Lessons from year 1 of the Spanish Demo Case
- Difficulties in finding a **leader** of the observatory
 - Fenocat ?, CREAT ?, both ?
 - Local **political** roles and influences
 - Catalan/Spanish agencies
 - City, metropolitan area, region, autonomous region
 - Strong implication and commitment** from existing communities
 - Strong commitment of technical people, but **funding and political issues** when full involvement of the organisations
 - Take care to not **interfere** in the existing communities and data collection protocols
 - Design **observation protocols**. 1. Following a strict phenological protocol for data collection. 2. Opening to a wider audience

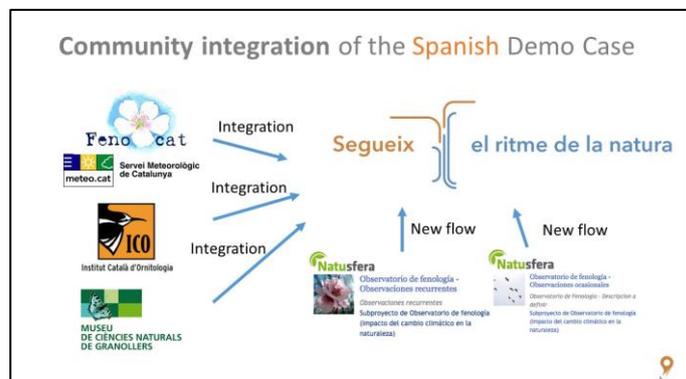
Spanish Demo Case plans for Year 2

Platform features of the Spanish Demo Case

Module integration

Proper features

- Training/educational material
- Access to phenological, and climate change content
- Forum
- Agenda, Events/activities dissemination
- Maps, and Key indicators



Consolidate roles within the CO community

- Leadership (Infrastructure, scientific)
- Activities organisation (community building)
- Material (e.g. training, educational, content)
- Dissemination (e.g. conferences, policy maker events)
- Data analysis and key indicators definition
- Policy makers interaction (from technical offices to political offices)



Upscaling of the Spanish Demo Case

- (To be better developed in the coming months)



Spanish Demo Case Issues/questions for the AB

- Regarding data collection, how sensible is to make communities use new tools for observation to replace their current methodologies and tools?
Losing members ?
- Which data to provide to GEOSS ? Raw data ? Validated data ? Analysed data ?
- Do you have any experience/advice about targeting school communities (First targeted communities for the launch) ?
- Advice on upscaling.
- How to best impact policy making processes: internally through internal contacts or/and externally through surveys, petitions... ?



Thank you!



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Sweden (Silvina Tejada Skoglund, SU)



Swedish Demo Case
 DC team Sweden,
 11 October 2017
 2nd Ground Truth 2.0 Advisory Board meeting, IHE Delft

Project Director: Dr. Uta Wehn, Associate Professor, IHE Delft



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Swedish Demo Case progress in Year 1



Swedish Demo Case
Water quality management in socio-economic systems




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Main stakeholders of the Swedish Demo Case



Swedish Demo Case – Year 1

- Workshops
 - 2 preparation meetings interested community
 - 1 co-design session
 - 1 functional design validation workshop
- Activities kick-off
 - Short term engagement: Water Blitz, Flen Pilot
 - Medium-long term engagement, Flen Pilot

Änggårdens egen verksamhet den 1 oktober



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Swedish Demo Case – Year 1 – Water Blitz Campaign



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Challenge & Vision of Swedish Demo Case

Central Challenge
(the CO wants to help address)

Water health is decreasing due to current lifestyle choices & consumption patterns. Without a life-cycle perspective of what is going in, and what is being taken out, we risk fixing one and starting many more problems.

Vision
(desired future)

We envision a society where government, business, citizens, researchers and civil society organisations collaborate to be active stewards of a sustainable environment.



Objectives' of the Swedish Demo Case

- To **group the community** by watershed and get citizen inputs (**observations, data**, from for instance WaterBlitz) on the water health of Båven and Mögården and get verified these inputs by expert groups in 2017.
- To **include existing water data platforms** in order to make those more visible and accessible and by so doing generating incentives to innovate with data in 2018.
- To **provide visualization** on the existing **data platforms** and the new data to make the gathered data more accessible in 2018
- Helping to count on a physical space for citizen to discuss, plan and engage in actions toward the open monitoring and stewardship of water quality and causes of stress visualized in the CO- in 2019.
- To **raise awareness** of water quality issues and how lifestyle choices impact upon the aquatic environment.

Platform of Swedish Demo Case



Lessons from year 1 of the Swedish Demo Case

- Challenge of keeping stakeholders engaged
 - Cultural dimension
 - Motivation
 - Expectations
 - Interested driven groups
- Attention to specificities of the community
- Importance of language & platform customization
- Key factors to keep the citizen observatory rolling:
 - Coordination of activities
 - Communication with stakeholders
 - Help desk

Ref. Relationship state - Citizen
 & svenska miljöskilj - gemenskap och observera i det moderna Sverige, Henrik Berggren, Lars Trägårdh, 2015



Swedish Demo Case plans for Year 2



Launch of the Swedish Demo Case

- First line of activities took place in 2017.
- Website development.
 - Launch in the next upcoming workshop.



Upscaling of the Swedish Demo Case

- Citizens data collection
 - WaterBlitz campaigns
 - Regular measurements
- New communities
 - Dunken
 - Kvnista - Stockholm Archipelago
- New issues of interest
 - Micro plastics in water bodies
 - Medicine intake residuals in water bodies
- Public events
 - Water management, Linköping, November 2017
 - Water management, Malmö, February 2018



Swedish Demo Case Issues/questions for the AB

- Focus in interest groups & grow slowly?
- Or try to reach out to the broader community? In this case, what type of incentives we need to consider to attract 'regular' citizens? How to overcome indifference?
- Planning continuity, best time to do it?



Thank you!



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This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement No. 689744.

Zambia (Conrad Muyaule, WWF Zambia)



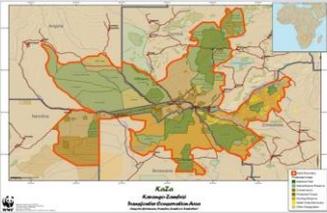
Zambia Demo Case
 DC team, Conrad Muyaule and Ellen Pfeiffer
 11 October 2017
 2nd Ground Truth 2.0 Advisory Board meeting, IHE Delft

Project Director: Dr. Uta Wehn, Associate Professor, IHE Delft



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The "Niti Luli" CO



Partners

Citizens Community members VAGS	Data aggregators Community Volunteers VS WPOs Project staff	Policy makers CRBs and BRE Government Department (Council, Forestry, MET, National Assembly, MA,
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Zambia Demo Case – Year 1 progress

- 2 co-design sessions (1 co design meeting & 1 validation session), 2 preparatory workshops with VAGS and CRB, 9 village meetings
- First Co design, 45 stakeholders in 3 meetings, second Co-Design 28 stakeholders, 342 participants in village roadshow
 - Community members
 - Decision makers (village chiefs, local council, district, national)
- 5 of 6 steps of Pyramid covered
- Central Challenge defined, Vision, mission and objectives framed, (Outputs: enemy wall, problem map, community objectives)
- 68 story cards generated and prioritized



Village "Roadshow"



Key findings from the roadshow:

- "Lack of accountability, coordination and communication between different governance levels and missing involvement of CRB/BRE"
- "Failure of projects to deliver tangible benefits responsive to community needs"

Challenge & Vision of Zambia Demo Case

Central Challenge
(the CO wants to help address)

- In Sesheke West, **inadequate information, transparency, coordination and communication between different governance levels**
- in particular a lack of involvement of CRB (Community Resource Board) and BRE (Barotse Royal Establishment) in planning and implementation of programmes
- and insufficient CRB attention to VAG (Village Action Group) concerns and information needs;
- made worse by frequent failure of projects to deliver **tangible benefits accountable and responsive to community needs**, funding restrictions and logistical challenges;
- are limiting benefits of sustainable resource management and **undermine trust in conservation efforts**
- which results in continuous natural resource degradation, making communities poorer

Vision
(desired future)

Communities, government agencies and donors **collaborate respectfully and effectively** in implementing natural resource management and conservation efforts that **benefit local communities.**



Objectives' of the ZAMBIA Demo Case:

Agreed community priorities and resulting CO objectives

Departments and donors talk to each other: "Establish an active exchange between government departments and donors regarding planned activities and projects in the Silowana complex"	Communities have actual influence in decisions: "Create communication channels that facilitate, ensure and simplify two-way communication with communities in decisions over their resources"	Address bottlenecks in current process with help of IT: "Digitize data collection and feedback of results, and create tools that support tracking of responses of donors and agencies to concerns raised by communities"	Communities are more pro-active: "Provide communities with information and training that allows them to be more pro-active in their decision-making and in holding VAG members, CRB and other local actors to account"
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Platform of Zambia Demo Case

- Not designed yet. Suggested priority functions for pilot:
 - Website – Resource Pages reflecting community information needs
 - Data Collection - Electronic Event Book
 - Land-use Mapper
 - Communication Channels
 - Regular fora – with option to submit post with regular SMS
 - Sections that track status of responses
 - Anonymous incident reporting



Lessons from year 1 of the Zambia Demo Case

- Bringing the technical partners on board as early as possible
- All interactions with community representatives attract logistical costs – transport, meals and accommodation- vast area of operation
- Keep stakeholder engaged to all times to keep the momentum
- Deep rooted mistrust among partners (lack of transparency and accountability)
- Lack of understanding of the roles and responsibilities of VAGs and CRBs
- Too many different reporting tools with different information needs
- Staff time requirements on the ground under estimated
- Much easier to identify problems but much more challenging in finding solutions
- The specific methodology was also new to the facilitating team.

Lessons from year 1 of the Zambia Demo Case

On the ground:

- Low local capacity - stakeholder activities needs to be done in steps with few questions/points and intense handholding
- High level of frustration about past 'development' projects and deep rooted mistrust among partners
- 5 of 10 communities entirely offline and without hardware - Zambian case has to design a "human process" as well, and requires extensive F2F interactions
- Much easier to identify problems than to find solutions – many local roles unclear
- Keep stakeholder engaged to all times to keep the momentum – big challenge

In the project:

- Too many different reporting tools with different information needs
- Aligning expectations technical and social science partners – especially early on
- Resource and Staff time requirements on the ground under estimated. All interactions with community representatives attract logistical costs – transport, meals and accomodation-vast area of operation
- The specific methodology was also new to the facilitating team



Launch of the Zambia Demo Case

- Details not yet planned
- Likely soft launch – lots of individual exposure required
- Local map-swipe parties as entry to technology use
- Presence in existing local event tbd



Platform enhancement of Zambia Demo Case

- Workflow Support
 - Verification of Community approval for timber licenses
 - Consultations on planned programmes/policies
 - Both require relationship building with departments
- Integration external Data Collection
 - Extension Agent Books and conservation Agriculture (BENGO)
 - Data Collection WPOs (Smart)
 - Water Quality Analysis
- Provide Community Sensitization /Training Materials
 - GMP Implementation Support / Awareness for Conservation
 - Meteorological data & advice / Climate Change
 - VAG/CRB Institutional Strengthening (Practical advice, elections...)



Zambia Demo Case plans for Year 2

- 3rd Co-design workshop, technical design (incl interfacing existing technology to local context) and launch platform
- Collection resources to put online and migration of data collection (with relevant departments)
- Partnerships for upscaling (WWF young trailblazer program, National Association of CRBs)

Upscaling of the Zambia Demo Case

- Include second Sesheke CRB in Mufulani
- Additional CRBs through collaboration with National Association of CRBs
- Interface with DNPW SMART system, Ward Development Committees and Community Forestry committees
- Update for use by partner organisations in the Kaza region

Zambia Demo Case Issues/questions for the AB

- Low-tech context – lack of smartphone and internet access
 - Design will have to integrate offline activities through 'access points'
- Collateral impact of conflict in project environment
 - Both challenge (trust crisis) and opportunity (CO suitable tool to address conflict)
- Language and logistics
 - Outreach to 'citizens' will require physical tour of the villages and operation in local languages



Zambia Demo Case Issues/questions for the AB

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Thank you!



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Belgium (Inge Liekens, VITO)



Belgium Demo Case
 Stijn Vranckx, Inge Liekens (VITO)
 11 October 2017
 2nd Ground Truth 2.0 Advisory Board meeting, IHE Delft

Project Director: Dr. Uta Wehn, Associate Professor, IHE Delft



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CO in Mechelen

Environmental quality of life

- Noise
- Air quality

Ground Truth 2.0 partners: VITO, IHE, AKVO, TYGRON, ALTRAN, GAVAGAI



Belgium Demo Case – Stakeholders

<p>Citizens</p> 	<p>Data aggregators</p> 	<p>Policy makers</p> 
---	--	---




Belgium Demo Case – Year 1

- 12 stakeholders attended 4 co-design meetings
- Functional and technical design ready
- Launch of the Observatory + online platform






Challenge & Vision of Belgium Demo Case

<p>Central Challenge (the CO wants to help address)</p> <p>Air pollution and noise disturbance have an impact on health, quality of life and social cohesion in all neighbourhoods and villages of the city of Mechelen</p>	<p>Vision (desired future)</p>  <p>In Mechelen, all stakeholders cooperate in a sustainable and constructive manner to keep on improving the air quality and the soundscape.</p>
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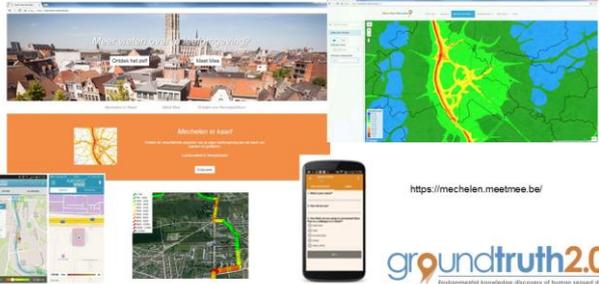


'Objectives' of the Belgium Demo Case

<p>To organize civilian campaigns on air quality, sound and perception of both topics in Mechelen as of September 2017.</p>	<p>To launch an online web platform (September 2017) where our measurement results are visualized together with public data and information and available as open data for joint analysis of these results.</p>	<p>To support and initiate from the platform, local initiatives, both online, offline and visible in the city, to improve air quality, reduce noise and thus support awareness raising and behavioral change towards sustainability in Mechelen in 2018.</p>	<p>To support an open and constructive dialogue between all parties involved in Mechelen from the start and expand the network of stakeholders into a true community.</p>	<p>To prepare the sustainable continuation of this CO after GT2.0 as of 2018.</p>
--	--	--	---	--



Platform of Belgium Demo Case Meet Mee Mechelen



<https://mechelen.meetmee.be/>



Launch of the Belgium Demo Case



Lessons year 1 of the Belgium Demo Case

- Engage people into the co-design group: constant effort
- Initiative of Ground Truth was welcomed: neutral role
- Because of neutrality: looked at Ground Truth team to organise activities
- Surfing on 'famous' events as „car free days“ brings positive dynamics in the group

Belgium Demo Case plans for Year 2



Upscaling of the Belgium Demo Case

- Upscaling the Demo case in Mechelen
- Enlarge the community
 - Request for new themes (start)

Upscaling to other cities e.g. Antwerp



Platform enhancement of the Belgium Demo Case

- Content of the website: more background info
- Guidelines for using tools
- Extra features
e.g. discussion platform, Gavagai tool



Belgium Demo Case Issues/questions for the AB

- Keeping people engaged so that it survives without GT-team
- Analysis of data.
 - What about quality of the data? Measurements are not exact data.
 - How to tackle issue of difference between official data and measurements?
 - How to combine both types of data?
- In which context these data are useful? Links with policy, spatial planning...



Thank you!



Project Director: Dr. Uta Wehn, Associate Professor, IHE Delft, u.wehn@un-ihe.org

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Summary slide with issues and questions for the AB

<p>Sustainable natural resources mgt</p>	<p>Balancing livelihoods & biodiversity mgt</p>	<p>Water quality management</p>
<p>Zambia</p>	<p>Kenya</p>	<p>Sweden</p>
<p>Low-tech context – lack of smartphone and internet access</p> <p>→ Design will have to integrate offline activities through ‘access points’</p> <p>Collateral impact of conflict in project environment</p> <p>→ Both challenge (trust crisis) and opportunity (CO suitable tool to address conflict)</p> <p>Language and logistics</p> <p>→ Outreach to ‘citizens’ will require physical tour of the villages and operation in local languages</p>	<ul style="list-style-type: none"> • Do you know of successful COs that have integrated citizen groups who are illiterate? • Are you aware of best practice use cases in which revenues generated by COs are used across a wide range of stakeholders? 	<ul style="list-style-type: none"> • Should we keep our focus on small-interest groups & grow slowly? • Or try to reach out to the broader community? In this case, what type of incentives we need to consider to attract ‘regular’ citizens? How to overcome indifference? • Planning continuity, best time to do it?
<p>Preparing for Climate Change</p>	<p>Weather & Climate proof water mgt</p>	<p>Environmental quality of life</p>
<p>Spain</p>	<p>The Netherlands</p>	<p>Belgium</p>
<ul style="list-style-type: none"> • Regarding data collection, how sensible is to make communities use new tools for observation to replace their current methodologies and tools? Losing members? • Which data to provide to GEOSS? Raw data ? Validated data? Analysed data ? • Do you have any experience/advice about targeting school communities (First targeted communities for the launch)? • Advice on upscaling. • How to best impact policy making processes: internally through internal contacts or/and externally through surveys, petitions... ? 	<ul style="list-style-type: none"> • How can we introduce the observational aspect to this observatory? • How to engage underrepresented groups (farmers, weather amateurs, other organisations)? • How do we create a sense of ownership for the citizens? 	<ul style="list-style-type: none"> • Keeping people engaged so that it survives without GT-team • Analysis of data. <ul style="list-style-type: none"> • What about quality of the data? Measurements are not exact data. • How to tackle issue of difference between official data and measurements? • How to combine both types of data? • In which context these data are useful? Links with policy, spatial planning...

Annex 4: Work Package presentations

WP1 Social dimensions: co-designing citizen observatories (Uta Wehn, IHE Delft)

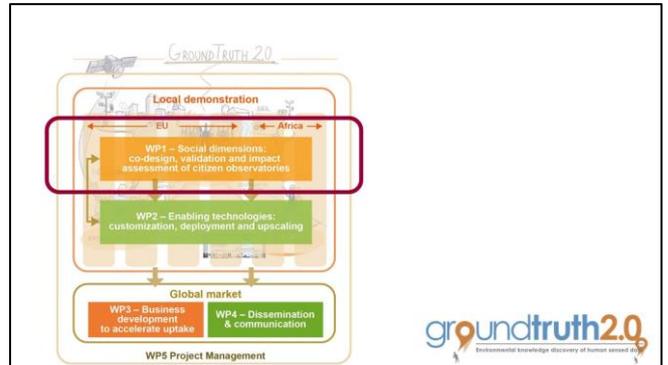


WP 1 - Social dimensions: co-designing citizen observatories
 WP leader: Uta Wehn (IHE Delft)
 11 October 2017
 2nd Ground Truth 2.0 Advisory Board meeting, IHE Delft

Project Director: Dr. Uta Wehn, Associate Professor, IHE Delft



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WP1 in Year 1
 Social dimensions:
 co-designing citizen observatories



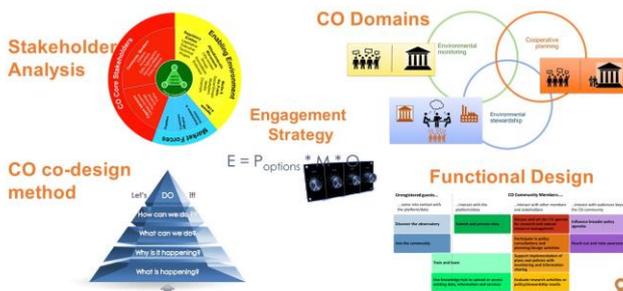
WP1 - Year 1



Co-design of 6 demand-driven Demo Cases



WP1 Progress & achievements in Year 1



Stakeholder Analysis

CO Domains

Engagement Strategy

CO co-design method

Functional Design

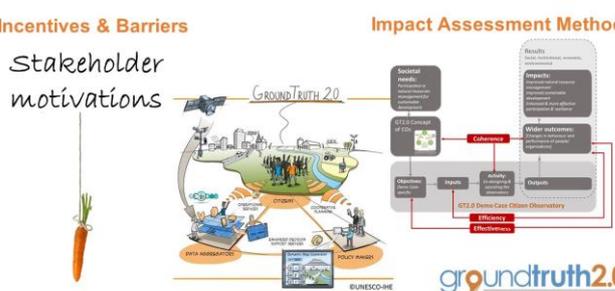
Central Challenge

WP1 Progress & achievements in Year 1

Incentives & Barriers

Stakeholder motivations

Impact Assessment Method



Ground Truth 2.0



WP1 Progress & achievements in Year 1



Deliverable D1.1

Deliverable D1.3

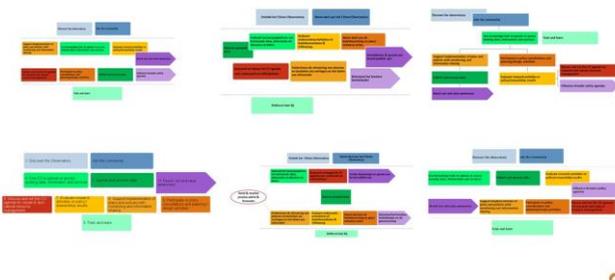
Deliverable D1.5

Deliverable D1.6

Deliverable D1.10



Functional designs of 6 Demo Cases




WP1 Reflection on Year 1

- **Co-design method** helped stakeholders to create collective understanding of THEIR citizen observatory
- **Stakeholder engagement** starts with the project partners
- **User stories** are great – but need clarification/further analysis
- **Citizen observatories** (COs) are emerging phenomenon – intangible for some stakeholders to grasp
- **Designs** envision open debates in inclusive communities but work in contexts with strict roles



WP1 plans for Year 2



WP1 Key tasks in Year 2

*Help the Demo Cases upscale
Trace & monitor changes and impacts*

- Stakeholder Analysis **update**
- Finalise **co-design**, start **upscaling** COs via engagement
- First comprehensive analysis of **Incentives & Barriers** for stakeholder participation in COs
- **Impact assessment** in the Demo Cases
- Economic impact of **data fusion**



WP1 Links with WPs/Demo Cases

Links with Demo Cases:

- **Co-design focus:** link COs to decision making processes
- **Engagement of broader CO community,** informed by Incentives & Barriers analysis & updated Stakeholder Analysis
- **Trace impacts** (social, economic, institutional) in each Demo Case

Links with WPs:

- **WP2 Enabling Technologies:** inform data modelling, enhanced services; transition WP1-WP2
- **WP3 Business Development:** sustainability of the COs
- **WP4 Diss. & Outreach:** practical support for implementation of engagement activities



WP1 Issues/questions for the AB

Stakeholder engagement:

- What methods for **maintaining momentum of the co-design groups** should we also consider?
- How can we best support the **upscaling of the COs** to wider community/ies – incl. African contexts?

Community building:

- How can we ensure the **shift** from GT-lead co-design process to functioning CO communities?
- What ways of **fostering community leaders** would be useful for us?



Thank you!



Project Director: Dr. Uta Wehn, Associate Professor, IHE Delft, u.wehn@un-lhe.org

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WP2 Enabling technologies (Alberto Masa, Altran)



Environmental knowledge discovery of human sensed data

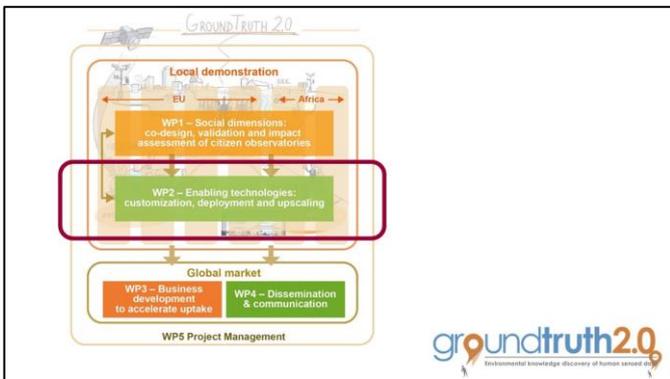
WP 2 – Enabling technologies
 Alberto Masa (Altran), all.
 11 October 2017
 2nd Ground Truth 2.0 Advisory Board meeting, IHE Delft

Project Director: Dr. Uta Wehn, Associate Professor, IHE Delft



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WP2 in Year 1

WP2 Progress & achievements in Year 1

Technical design: Developed the first version, currently in process of adapting it to each DC.

Data collection: started to build a methodology for establishing a common framework among the cases.

Land Use Mapper: Explored the possibilities of joining forces with other sister project (LandSense) and other initiative from the Coimbra University.

Standard access for data repositories:

- List of standards that can be useful for CS.
- Test SOS implementing one for a pilot DC.



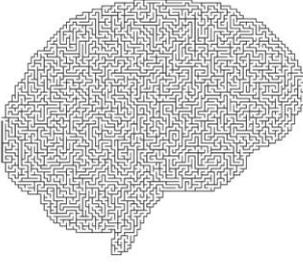
WP2 Progress & achievements in Year 1

User services: Several tools already defined or customized enabling visualization and collaboration between citizens.

Technical performance: Tool selected and draft version of the performance topics outlined.



WP2 Reflection on Year 1

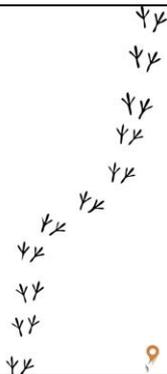


- Challenge of aligning different demonstration cases with their own existing dynamics, partners and mature technical solutions.
- Validate the methodology from the specificities of the cases: pick up the good ones that can be applicable among the cases.
- Good efforts in the synchronization between functional and technical aspects with this common methodological framework.

WP2 plans for Year 2

WP2 Key tasks in Year 2

- Configure the **technological platform** in each demonstration case.
- Collect and aggregate **data** in all the DCs.
- Implementing the **standards** - implement a Sensor Web Enablement Citizen Observation profile in SOS services.
- **Land Use Mapper** redefinition.
- Develop and implement **validation/QA methods** for demonstration cases
- Establish the **monitoring process** and the technical performance global framework



WP2 Links with WPs/Demo Cases

WPs

WP1 → Ensure that the platforms cover the user requirements.

WP3 → Work in the business development associated with the technical platforms.

WP4 & WP5 → Follow the communication strategy and the Project management methods.

Demo cases

Support the implementation of the technical platforms.

Help with data collection, quality and standard access.

Configure and communicate technical performance metrics.



WP2 Issues/questions for the AB

- How can we merge the **requirements** from the cases and the products' **roadmaps**?
- How we can discover **existing tools** from previous initiatives?
- Any advice in how to provide **support in data collection** to the cases? Specially regarding what data will be useful for their objectives and what are the levels of quantity and quality required.
- And how can we make this data useful out of the observatories?
- How can we make DCs understand the importance of the standard access?
- Any recommendation in how to conduct **technical performance monitoring**? Any framework or methodology to consider?



Thank you!



Project Director: Dr. Uta Wehn, Associate Professor, IHE Delft, u.wehn@un-ihe.org

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WP3 Business development to accelerate uptake (Laura Moreno, Starlab)



WP 3 - Business development to accelerate uptake
 Laura Moreno, Starlab
 11 October 2017
 2nd Ground Truth 2.0 Advisory Board meeting, IHE Delft

Project Director: Dr. Uta Wehn, Associate Professor, IHE Delft

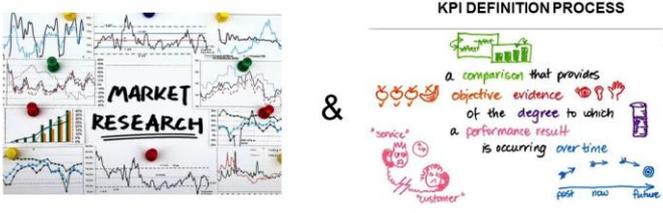


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WPX in Year 1



WP3 Business development to accelerate uptake



KPI DEFINITION PROCESS
 a comparison that provides objective evidence of the degree to which a performance result is occurring over-time

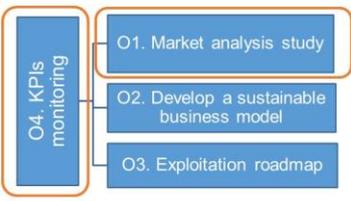
WP3 Objective

Main objective is to use this WP to build **sustainable business models** to bring the GT2.0 products to the market.

GT2.0 products

- Demo case COs
- CO products and services
- CO methodology

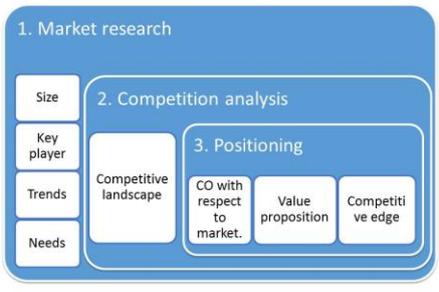
WP3 Progress & achievements in Year 1



O4. KPIs monitoring

- O1. Market analysis study
- O2. Develop a sustainable business model
- O3. Exploitation roadmap

T3.1 Market analysis M6-M18. Objectives



1. Market research

- Size
- Key player
- Trends
- Needs

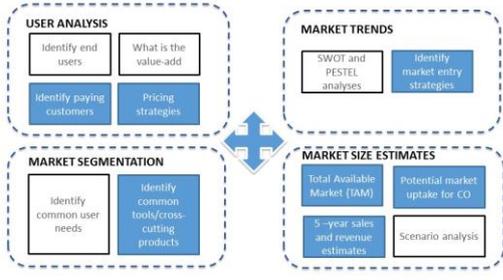
2. Competition analysis

- Competitive landscape

3. Positioning

- CO with respect to market.
- Value proposition
- Competitive edge

T3.1 Market analysis M6-M18. Progress



USER ANALYSIS

- Identify end users
- What is the value-add
- Identify paying customers
- Pricing strategies

MARKET TRENDS

- SWOT and PESTEL analyses
- Identify market entry strategies

MARKET SEGMENTATION

- Identify common user needs
- Identify common tools/cross-cutting products

MARKET SIZE ESTIMATES

- Total Available Market (TAM)
- Potential market uptake for CO
- 5-year sales and revenue estimates
- Scenario analysis

T3.4 Monitoring and evaluation roadmap strategy

KPI DEFINITION PROCESS:

1. Articulate the objective
2. Define the measure(s) of success
3. Identify diagnostic metrics
4. Gain stakeholder buy-in
5. Finalize requirements (Business, Technical, Process)

WP3 Reflection on Year 1

- Methodology defined for exploitation strategy
- Strong interaction required with Demo cases
- Common strategy for the 6 demo cases, but each demo case will have its own added value and strategy for sustainability
- What will be the exploitable results of the 6 GT 2.0 COs ?
- Who will be the main “customers” for the products/services ?
- Who will benefit from the GT 2.0 CO and how ?
- What is the value-added offered to these customers ?



WP3 plans for Year 2



WP3 Planning for Year 2

Tasks	M 1 -M 6	M 7 M 12	M 13 - M 18	M 19 -M 24	M 25 -M 30	M 31 -M 36
T3.1 Market analysis						
T3.2 Business model						
T3.3 Exploitation roadmap						
T3.4 KPI definition and monitoring						



WP3 Key tasks in Year 2

T3.1 Follow up market analysis

- SWOT
- PESTEL
- Market characterization
- Competitor analysis

T3.2 Business case exploration per case

- Added value proposition
- Sustainability option

T3.4 KPI consolidation and measure

- KPI utility assessment
- Continuous measuring



WP3 Links with WPs/Demo cases

Demo cases

- Establishment of a single exploitation contact person within each demo case
- Data collection for business development
- Personal interviews with Demo case exploitation contact along the project

WP1

- KPIs
- Stakeholder analysis
- Incentives and Barriers

WP2

- Identification of products and services
- Deep understanding of the technology value

WP4

- Commercial communication
- Branding



WP 3 Issues/questions for the AB

- How does COs achieve long term sustainability? Any success cases ?
- Which are the common mistakes in CO sustainability?
- Is there any market segment / niche which has been identified as a common market for CO? Governments? Industry? Which one?



Thank you!



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WP4 Dissemination and communication (Joan Masó, CREAM)



WP 4 – Dissemination and communication
 Joan Masó, Ester Prat - CREAM
 11 October 2017
 2nd Ground Truth 2.0 Advisory Board meeting, IHE Delft

Project Director: Dr. Uta Wehn, Associate Professor, IHE Delft



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WP4 in Year 1

WP4 – Year 1

WP4 has provided GT2.0 with a **detailed Dissemination and communication strategy** as well as with the **needed tools** to achieve the specified objectives.



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How to get the newsletter?

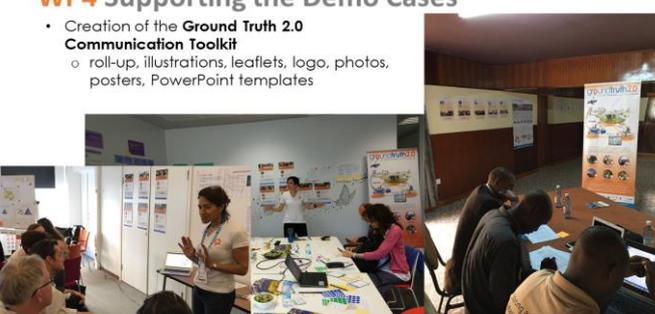


Project Coordinator's note

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WP4 Supporting the Demo Cases

- Creation of the **Ground Truth 2.0 Communication Toolkit**
 - roll-up, illustrations, leaflets, logo, photos, posters, PowerPoint templates



International events



GEO Week schedule

13:00-17:00 GEO Health Community of Practice Meeting

13:00-17:30 The role of Citizen Observatories and Crowdsourcing Com

WHAT IS THE CITIZEN SCIENCE COST ACTION CA150122?
 A Framework in Science and Technology to promote creativity, scientific literacy, and innovation throughout Europe

221 Scientists, 38 Countries

OGC citizen science DWG
 GEO Standards and Interoperability Forum

WP4 Key tasks in Year 2

- For the project
 - Guidelines, training, articles, videos
 - Implementing the communication plan
 - Increasing the social media presence
- With the other Sister projects
 - Lease with the CSA WeObserve dissemination task
 - EC Common Dissemination Booster
- For the Demo Cases
 - Land Use Mapper Communication Toolkit
 - Approaching the media
 - Amplifying the social media presence
- International initiatives
 - Participate in the Architecture and Interoperability Pilot (AIP) in GEOSS
 - Lead the CS activity in GEOSS
 - Leading the OGC Citizen Science DWG



WP4 Links with WPs/Demo Cases

Demo Cases

- Provide the common **umbrella**
- DC are going to **help** in the dissemination of their respective COs

WPs

- with **WP1** for the promotion of the **key project's outputs**
- With **WP2** for the dissemination of **Land Use Mapper**



WP 4 Issues/questions for the AB

- o What kind of good dissemination **content/media** do you want to see?
- o What should be **relation** of Groundtruth 2.0 with the other COs?
- o Do CO need their own **standards** for data models, discovery and access or should apply the current ones
- o How should we **tackle the promotion** of European market uptake and exploitation of the Ground Truth 2.0 technologies, services and standards? What would be the main target groups and channels?
- o How to export the **methodology/best practices** developed in Ground Truth 2.0 to other CS initiatives?
- o How to **sustain** the dissemination after the project ends?



Thank you!



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Summary slide with issues and questions for the AB

Social dimensions: co-designing citizen observatories	Enabling technologies: customization, deployment and upscaling
<p style="text-align: center;">WP1</p> <p>Stakeholder engagement:</p> <ul style="list-style-type: none"> • What methods for maintaining momentum of the co-design groups should we also consider? • How can we best support the upscaling of the COs to wider community/ies – incl. African contexts? <p>Community building:</p> <ul style="list-style-type: none"> • How can we ensure the shift from GT-lead co-design process to functioning CO communities? • What ways of fostering community leaders would be useful for us? 	<p style="text-align: center;">WP2</p> <ul style="list-style-type: none"> • How can we merge the requirements from the cases and the products' roadmaps? • How we can discover existing tools from previous initiatives? • Any advice in how to provide support in data collection to the cases? Specially regarding what data will be useful for their objectives and what are the levels of quantity and quality required. • And how can we make this data useful out of the observatories? • How can we make DCs understand the importance of the standard access? • Any recommendation in how to conduct technical performance monitoring? Any framework or methodology to consider?
<p style="text-align: center;">Business development to accelerate uptake</p> <p style="text-align: center;">WP3</p> <ul style="list-style-type: none"> • How do COs achieve long term sustainability? Any success cases ? • Which are the common mistakes in CO sustainability? • Is there any market segment / niche which has been identified as a common market for CO? Governments? Industry? Which one? 	<p style="text-align: center;">Dissemination and communication</p> <p style="text-align: center;">WP4</p> <ul style="list-style-type: none"> • What kind of good dissemination content/media do you want to see? • What should be relation of Ground Truth 2.0 with the other COs? • Do CO need their own standards for data models, discovery and access or should apply the current ones • How should we tackle the promotion of European market uptake and exploitation of the Ground Truth 2.0 technologies, services and standards? What would be the main target groups and channels? • How to export the methodology/best practices developed in Ground Truth 2.0 to other CS initiatives? • How to sustain the dissemination after the project ends?