

University of Groningen

Public engagement in R&I

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Published in:
 Science, Society and Engagement

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version
 Publisher's PDF, also known as Version of record

Publication date:
 2015

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Bussu, S., Mulder, H., Pfersdorf, S., Kuhn, R., Mbungu, G., & Nierling, L. (2015). Public engagement in R&I. In E. Andersson, S. Bussu, & H. Davies (Eds.), *Science, Society and Engagement: An E-Anthology* (pp. 38-40). The Involve Foundation.

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Engage2020

Science, Society and Engagement
An e-anthology



This project is co-funded by
the European Union



university of
 groningen





Grant Agreement: No. 612281
Activity acronym: Engage2020
Activity full name: Engaging Society in Horizon 2020

D2.2 E-anthology

Due date of deliverable: June 2015
Actual submission date: October 2015
Start date of Activity: 1 September 2013 Duration: 2,25 years

Author(s): The Engage2020 Consortium
Editors: Edward Andersson, Sonia Bussu & Houda Davis

Organisation name of lead beneficiary for this deliverable: The Involve Foundation

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ISBN: 978-0-9552421-9-9
The Involve Foundation
33 Corsham Street, London, N1 6DR



About this Anthology

There are many ways to engage members of the public in research and innovation activities. Many policy makers, researchers or administrators are either carrying out public engagement or considering engaging the public in their work around a scientific or technological issue. While engaging society in research and innovation can bring many benefits, it can also be a daunting prospect for those without previous experience. This anthology is designed to help those who are interested in engagement, but do not have much direct experience yet.

This Anthology eBook provides a short introduction to engagement in research and innovation. It forms part of [Engage2020](#), an EU funded research project which explores methods and policies across Europe and beyond. It includes:

- Practical examples on why, when and how to engage the public and societal stakeholders in R&I policies and activities.
- Brief descriptions of engagement tools.
- Examples of good practice around different Grand Challenges and policy and research areas.
- Short articles from researchers, practitioners, academics and policy makers sharing their experience and expertise of public engagement.

How to use this Anthology

This publication is a digital ebook. As such it allows readers to access multimedia content (such as videos) as well as navigating freely across the document. You can of course read the ebook from cover to cover, but you can also navigate to the sections that are most relevant to you.

Where to go next will be highlighted at the end of each section.

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Play video on YouTube

A video about engagement in research and innovation and the methods gathered and the tools produced by the Engage2020 project.

What is Engage 2020?

Engage2020 was a project funded (FP7) by the European Commission (DG Research and Innovation) that explored how members of society are involved today and, perhaps more importantly, how they could be involved in the future in science and science policy. The project investigated how, where and why societal actors are engaged in the research process, from early policy development to the delivery of research activities, whether as consumers, employees, or lay persons. The core objective

of Engage2020 was to increase the use of engagement methods by mapping current practice and raise awareness about engagement opportunities among researchers, policy makers and other interested parties.

The results of Engage 2020 help inform the engagement strategy of Horizon 2020, a programme that will invest €80 billion into research and innovation between 2014 and 2020.

Engage2020 focused on genuine engagement forms, which go beyond traditional one-way communication of scientific findings. Public engagement in European research and innovation activities is relatively high by interna-

tional standards, but it is unevenly distributed, both geographically and in terms of issues. Engage2020 has disseminated information on state-of-the-art participative processes, maximising learning from best practice, such as the foresight community and Science Shops.

Responsible Research and Innovation

Europe's ability to respond to societal challenges (PDF, 4 pages, 520 KB)





1 What is public engagement?

by Sonia Bussu, Lars Klüwer, Leonard Hennen, Rainer Kuhn, Grace Mbungu and Linda Nierling

1.1 What is public engagement in research and innovation?

Public engagement is about involving citizens in the decision-making process or in the research process itself. The public can be involved in Research and Innovation (R&I) in a number of different ways and with different objectives:

- to elicit input in the form of opinions (e.g. public opinion surveys and focus groups)
- to elicit judgments and decisions that could inform policies (e.g. consensus conferences and citizens' juries).

[For a description of different methods click here to chapter 3](#)

The term "Public engagement" was taken up by the science communication and informal science education community to mean primarily a series of activities focused on fostering interaction between scientists and publics (Rowe & Frewer, 2005).

Public engagement is about bringing on board the widest possible diversity of actors.

It is different from 'public understanding' or 'communication' or even "consultation" approaches.

Just who is this 'public' anyway?

The difference between communication, consultation and participation

1.2 Why is public engagement important?

In the last decade participatory approaches have become particularly important in the field of science and technology policy making. The practice of public engagement can promote more legitimate and sustainable decisions that better respond to citizens' interests and societal needs rather than commercial imperatives - particularly around new technological and scientific developments that can have profound ethical implications.

There are in fact limitations in the knowledge of experts, who often disagree among themselves. But perhaps the most persuasive argument for public engagement is that value judgments are made at all stages of decision-making and the risk management process.

These reasons are reflected in a growing push towards 'democratising expertise.' The public can offer different types of expertise, as they express their values, aspirations and represent broad societal interests.

There are different reasons for public engagement:

- **Public engagement brings significant benefits to research institutions, policy makers and the public.** Engaging the public in these processes promotes more legitimate, sustaina-

ble, responsive and relevant decisions. It also demonstrates accountability and transparency and increases public trust. Citizens' expertise can improve the quality and legitimacy of decision making (link to [EU expert group Taking Knowledge Society Serious report](#) and [MASIS 2012](#)). On value-laden issues, public insights can be crucial to influence the development of science and technology so that they respond to people's needs rather than commercial imperatives.

- **Policy informed by public views is more likely to be trusted, accepted and perceived as legitimate** by the public, civil society groups, NGOs and the media. This might mean that a new technology is more effective and might also prevent backlash against certain innovations.
- **Public engagement will help ensure R&I activities are relevant in a rapidly changing world.** European research must focus on the Grand Challenges of our time, from global warming to tightening supplies of energy, water and food, to ageing societies and public health pandemics and security. The European Union's [7 Grand Challenges \(Link to chapter 3\)](#) facing society today can only be tackled effectively if a wide range of societal actors are fully engaged in the process.
- **Public engagement can play an important role in *co-creating knowledge*,** particular-

ly with regard to Mode 2 knowledge. This understanding of knowledge, as trans-disciplinary and characterised by heterogeneity of skills, entails that it cannot be seen as separate from practice or context, but is acquired or gains meaning within a shared practice. PE allows for the integration of the knowledge, which different actors already have through a shared and intensive process where new knowledge and innovations are co-created.

Why should you involve people in research?

Mode 1 and Mode 2 Knowledge

- **Funders and policy makers expect researchers to do it.** There is growing interest at the European Union level to engage citizens in research and innovation activities. Much of the funding available for R&I through Horizon2020 requires an element of public engagement. In addition there are legal requirements for participation, either internationally (such as the *Arhus Convention*) or nationally.
- **The public invests in research** and ultimately they must feel this investment is worthwhile if it is to be maintained sustainably. As taxpayers the public have an interest and a right to influence R&I policy.

1.3 Different ways of engaging the public

There exist a number of different [participatory methods](#) to facilitate public engagement, along a spectrum of inclusiveness and intensity. Rowe and Frewer (2000) identify a number of success criteria for effective public participation.

They grouped them under two main types:

acceptance criteria include features of a method that make it acceptable to the wider public;

process criteria refer to features of the process that are likely to make it work in an effective manner.

Acceptance Criteria	Process Criteria
<p>Representativeness</p> <p>One approach to achieving good representativeness is to select a random stratified sample of the affected population. Another might could involve questionnaires to determine the spread of attitudes with regard to a certain issue, and using that as a basis for selection of members. (Link to chapter 1.3.1)</p>	<p>Necessary resources</p> <p>It is crucial that the sponsors of the process show commitment and provide the necessary resources (e.g. information; human, financial and time resources).</p>
<p>Independence</p> <p>Management of the participation process should be unbiased. Independence might be obtained through the appointment of a steering committee that incorporates members from diverse bodies or neutral organizations.</p>	<p>Task definition</p> <p>It is important to manage expectations and clarify from the start the scope of the participatory process.</p>
<p>Early involvement</p> <p>Public participation should occur as soon as is reasonably practical, particularly at the stage at the stage when value judgments become important. To have credibility the PE should be about underlying assumptions and agenda setting and not narrow, pre-defined problems. (Link to chapter 1.3.2)</p>	<p>Structured decision-making</p> <p>Examining the reasons behind a decision and documenting the process of reaching it and its outcome is likely to increase transparency and perceived credibility of the process, as well as its efficiency</p>
<p>Influence</p> <p>The output of the procedure should have a genuine impact on policy. That's why political buy-in is crucial.</p>	<p>Cost-effectiveness</p> <p>The scale of the participatory method should be proportionate to the scope of the decision. A large citizens' assembly might be inappropriate to a minor decision.</p>
<p>Transparency</p> <p>The process should be transparent so that the public can see what is going on and how decisions are made.</p>	<p>Link to effective participation table</p>

1.3.1 Selection Methods

There are different ways of selecting publics, depending on the purpose of the engagement initiative. They are necessarily mutually exclusive and in some cases they can be combined. In each case there will be trade-offs and challenges to consider.

Random stratified sampling or mini-public

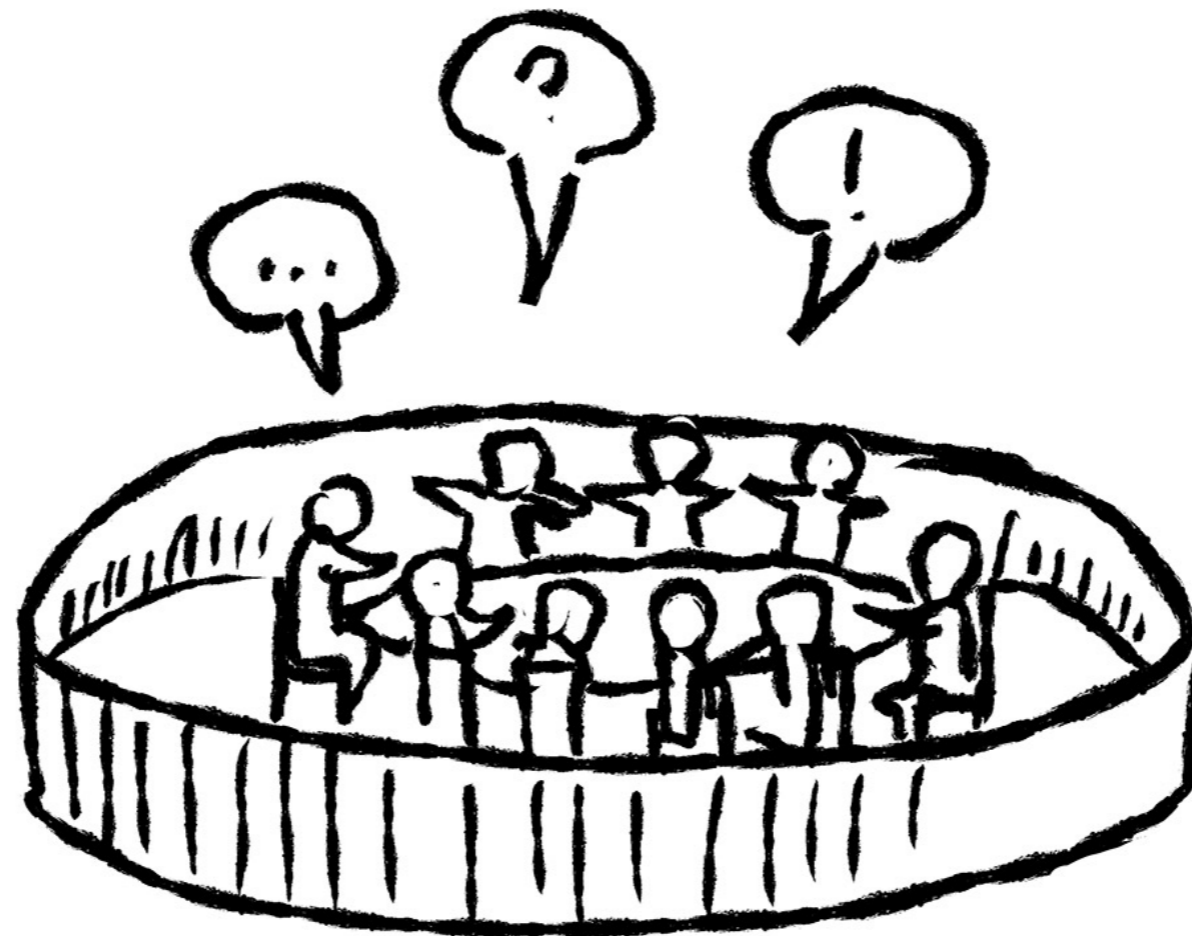
A lack of diversity is likely to compromise the representative nature of discussion and outcome of a participatory process. Many public engagement processes, most notably the *Citizens' Assembly (CA)* and *Citizen Jury* models (see also [Sciencewise](#) public dialogues), attempt to overcome this by using random selection stratified by various characteristics such as age, gender, ethnicity, and income. Selecting people in this way is intended to ensure equal representation, in particular bringing in views that are not typically part of political or partisan bodies, thus more closely reflecting the perspectives of ordinary citizens.

Random selection can help legitimate public policy processes and can lead to significant policy developments. However, selecting participants based on demographics can ensure

inclusivity, but the more attributes to consider the more complex and expensive the selection process will be.

Purposeful Sampling

Purposeful sampling, or active recruitment of specific stakeholders might increase the likelihood of having very engaged members. How-



ever, stakeholders are likely to have strong pre-held positions leading to a hot high-stake deliberation which might be ill-suited for non-empowered assemblies with no final decision-making powers.

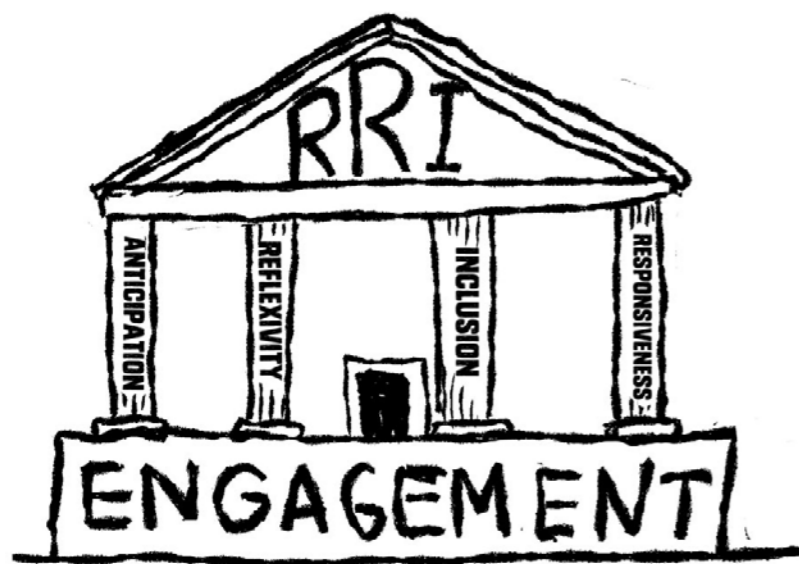
One method based on purposeful sample is the [Citizen advisory groups](#), which can create effective and on-going dialogue allowing issues and concerns to be explored in depth. Citizen advisory groups generally involve 10-30 members of the public who sit as a committee to inform and advise decision making over an extended period of time. The people selected should be from the most affected groups, whose expertise and or personal experience of the issue at stake can help improve decision-making.

Open Assemblies

Open assemblies are open forums which provide people with an opportunity to highlight issues and priorities. They can help policy-makers better understand public needs and promote citizens' trust in decision making. However, an open approach could further empower special interests and those with higher than average income and education and might be unrepresentative of a larger public. Targeted outreach and structural incentives can help involve participants among subgroups who are less likely to engage. Open recruitment is common in citizen science processes for example.

1.3.2 Engaging the public “up-stream”: Anticipatory Governance

Public input has the greatest chance of influencing policies when citizens are engaged up-front at the early stages of development. In R&I “upstream engagement” allows for “anticipatory governance” or a regulatory framework that can help to manage rapid technological developments and address potential unforeseen consequences, simultaneously with research and innovation.



Anticipatory governance represents the best way of addressing the so-called Collingridge Dilemma of Control (Montana and Parker 2014). This recognises that it is difficult to detect the harmful effects of a technology in its infancy and it is difficult to impose control to remove the harmful effects once a technology is mature.

The public dialogue (involving citizens and experts in a deliberative setting) commissioned by the [Human Fertilisation and Embryology Authority on Mitochondrial Replacement](#) in the UK represents good example of PE in anticipatory governance that influenced [decision-making](#).

1.3.3 Opening Up v. Closing Down Engagement

Andy Stirling (2008) makes a distinction between Public Engagement that closes down or opens up the decision process. It is vital to be clear on these distinctions when engaging.

Closing down PE has an instrumental focus to assist incumbent policy actors by providing a means to justify or legitimise decisions already framed. The focus is on defining the “right” questions, finding “priority” issues, identifying “salient” knowledges, recruiting “appropriate” protagonists, adopting “effective” methods, highlighting “likely” outcomes, and so determining the “best” options.

Opening up PE has a very different emphasis. It’s about opening up choice and examining different assumptions. Instead of focusing on unitary prescriptive recommendations, it poses alternative questions, focuses on neglected issues, includes marginalized perspectives, triangulates contending knowledges, tests sensitivities to different methods, considers ignored uncertainties, examines different possibilities, and highlights new options.

1.3.4 Assessing public engagement

Rowe and Frewer (2000) assess various participation methods, based on the acceptance and process criteria they identified [\[link to table\]](#)

The EU-funded project [Global Ethics in Science and Technology \(GEST\)](#) identified and evaluated more than 100 public engagement processes that have been organized in Europe on a national level on Genetically Modified Food (20 processes) and on emerging technologies such as Nanotechnology (90) and Synthetic Biology (15).

The [MASIS report](#) (Monitoring Policy and Research Activities on Science in Society in Europe) assesses public engagement in science and technology in the 27 EU member states and finds renewed emphasis on public engagement is common to many European countries. Local context and country-specific understanding and applications of democracy, dialogue and decision-making inevitably affect the relative success of public engagement activities. For instance, inclusive systems such as Denmark, Norway or the Netherlands have well-developed mechanisms for engagement and sustained political commitment to dialogue at different levels. In France’s exclusive political system, PE processes tend to be initiated for instrumental reasons, rather than a genuine commitment to participatory policy-making.

Effective participation table

<i>Acceptance criteria</i>	<i>Referenda</i>	<i>Public Hearings</i>	<i>Public Opinion Survey</i>	<i>Negotiated Rule Making</i>	<i>Consensus Conference</i>	<i>Citizens Jury/ Panel</i>	<i>Citizen Advisory Committee</i>	<i>Focus Groups</i>
<i>Representativeness of Participants</i>	<i>High (assuming high turnout at poll)</i>	<i>Low</i>	<i>Generally High</i>	<i>Low</i>	<i>Moderate (limited by small sample)</i>	<i>Moderate (limited by small sample)</i>	<i>Moderate to low</i>	<i>Moderate (limited by small sample)</i>
<i>Independence of true participants</i>	<i>High</i>	<i>Generally Low</i>	<i>High</i>	<i>Moderate</i>	<i>High</i>	<i>High</i>	<i>Moderate (often relation to sponsor)</i>	<i>High</i>
<i>Early involvement?</i>	<i>Variable</i>	<i>Variable</i>	<i>Potentially High</i>	<i>Variable</i>	<i>Potentially High</i>	<i>Potentially high</i>	<i>Variable but may be high</i>	<i>Potentially High</i>
<i>Influence on final policy</i>	<i>High</i>	<i>Moderate</i>	<i>Indirect and difficult to determine</i>	<i>High</i>	<i>Variable but not guaranteed</i>	<i>Variable but not guaranteed</i>	<i>Variable but not guaranteed</i>	<i>Liable to be indirect</i>
<i>Transparency of the process to the public</i>	<i>High</i>	<i>Moderate</i>	<i>Moderate</i>	<i>Low</i>	<i>High</i>	<i>Moderate</i>	<i>Variable but often low</i>	<i>Low</i>
<i>Process Criteria</i>	<i>Referenda</i>	<i>Public Hearings</i>	<i>Public Opinion Survey</i>	<i>Negotiated Rule Making</i>	<i>Consensus Conference</i>	<i>Citizens Jury/Panel</i>	<i>Citizen Advisory Committee</i>	<i>Focus Groups</i>
<i>Resource accessibility</i>	<i>Low</i>	<i>Low-Moderate</i>	<i>Low</i>	<i>High</i>	<i>High</i>	<i>High</i>	<i>Variable</i>	<i>Low</i>
<i>Task definition</i>	<i>High</i>	<i>Generally High</i>	<i>Low</i>	<i>High</i>	<i>Generally High</i>	<i>Generally High</i>	<i>Variable but may be high</i>	<i>Variable but may be high</i>
<i>Structured decision making</i>	<i>Low</i>	<i>Low</i>	<i>Low</i>	<i>Moderate</i>	<i>Moderate (influence of facilitator)</i>	<i>Potentially High</i>	<i>Moderate (influence of facilitator)</i>	<i>Low</i>
<i>Cost-effectiveness</i>	<i>Variable/Low</i>	<i>Low</i>	<i>Potentially High</i>	<i>Potentially High</i>	<i>Moderate to high</i>	<i>Moderate to high</i>	<i>Variable</i>	<i>Potentially High</i>

1.4 So you want to do public engagement? Top 10 things you need to know before you start.

1. Be clear in your purposes and objectives from the outset.
2. Start as early as possible in the policy/decision/research process.
3. Create a culture of openness, transparency and participation.
4. Have sufficient resources in terms of time, skills and funding.
5. Cover both the aspirations and concerns held by the public, scientists in the public and private sector, and policy makers and involve as many perspectives as possible.
6. Be clear about the extent to which participants will be able to influence outcomes.
7. Ensure that policy makers and experts promoting and/or participating in the dialogue process are competent in their own areas of specialisation and/or in the techniques. Measures may need to be put in place to provide support to build the capacity of the public, experts and policymakers to enable effective participation.
8. Employ techniques and processes appropriate to the objectives. Multiple techniques and methods may be used within an engagement process, where the objectives require it, including offline and online discussions where possible.

9. Encourage collaboration, networking, broader participation and co-operation in relation to engagement with science and technology.

10. Build in evaluation to every stage of your process.

More information

<http://www.sciencewise-erc.org.uk/cms/assets/Uploads/Publications/Sciencewise-Guiding-PrinciplesEF12-Nov-13.pdf>

Want to know more?

Policy brief 2: Public Engagement in R&I Processes – Promises and Demands:

http://engage2020.eu/media/Engage2020-Policy-Brief-Issue2_final.pdf

Report: Promises, demands and fields of practice:

<http://engage2020.eu/media/D2.1-Public-Engagement-Promises-demands-and-fields-of-practice.pdf>

National Coordinating Centre for Public Engagement:

<http://www.publicengagement.ac.uk/International>

Association for Public Participation, other umbrella networks:

<http://www.iap2.org/>

Research Councils UK:

<http://www.rcuk.ac.uk/pe/>

Pathways through Participation:

<http://pathwaysthroughparticipation.org.uk/>

Citizens as Partners: Information, consultation and public participation in policy-making:

<http://www.oecdbookshop.org/>

People and Participation:

<http://www.involve.org.uk/index.cfm?fuseaction=main.viewSection&intSectionID=400>



2 Why engagement?

Edited by Edward Andersson, Sonia Bussu, and Houda Davis

There are many reasons to do engagement; among others:

- Democratizing expertise
- Social Robustness of scientific knowledge
- Meeting society's needs
- Science for the people, by the people

The following chapters contains short pieces by leading policy makers and researchers about why they think engagement is important.



2.1

Research funders and societal engagement

By Professor Jackie Hunter

*Professor Jackie Hunter,
Chief Executive of the Biotechnology and
Biological Sciences Research Council (BBSRC).*

Why is it important to engage society in R&I?

If one was to sum up the importance of public engagement in a single sentence it would be: Research is not carried out in a vacuum – research needs to inform society but research also needs to be informed by societal needs, concerns and aspirations therefore engagement with society is vital.

We live in a world where science in general and bioscience in particular are increasingly relevant. As a society we face some unprecedented challenges: how are we going to cope with three billion more mouths to feed; increasing demands for new energy sources; a population becoming increasingly elderly and infirm and all in the context of climate change? These challenges are complex and interdependent and will require innovative solutions, which are not only technical but also political. They will

not be solved by silver bullets and their complexity means that they can be hard to grapple with and comprehend even for scientists engaged in research.

“Research is not carried out in a vacuum – research needs to inform society but research also needs to be informed by societal needs, concerns and aspirations therefore engagement with society is vital.”

If we focus on bioscience specifically, it is clear that it has the potential to make some transformational changes which will improve our future sustainability both in terms of basic health and welfare, but also in terms of the environment through healthier animals, plants and soils. However new technologies also bring with them new questions and concerns. Engaging with society is vitally important to enable those

questions and concerns to be surfaced and addressed; to enable a deeper understanding of the challenges, and the scientific methodologies and solutions used to address them; and to ensure that a diverse set of perspectives are brought to bear on the debate. Such dialogue will allow us to make sure that the most appropriate paths to innovation are adopted.

What are the challenges and benefits of public engagement?

When done well, engagement can empower all of those involved. The public feel ownership of the direction of research, the support of stakeholders is fostered and, most importantly, research investment and practice is focused in socially useful directions. A small scale example from the BBSRC’s many forays into public dialogue would be the recent project looking at one of our areas of strategic focus – Food,

Nutrition and Health. Two small workshops were run with a diverse set of people to explore the value of BBSRC investment in this area. It was useful for us as we were able to refine our thinking about the science as well as receive reassurance that our general direction chimed with the participants' opinions. The public participants reported high levels of satisfaction with their involvement and those experts involved were bought into the outcomes.

However, it is important to reflect on the consequences of not getting societal engagement right. The classic exemplar here is the debate around genetically modified (GM) crops. Sciencewise have done an excellent review¹ of past efforts in the UK to engage around GM and this is a much discussed subject. There were many learnings from this report, but it is clear that in this particular case, early engagement (e.g. a BBSRC consensus conference² in 1994) did identify many of the concerns which became more prominent later. However, these concerns were not sufficiently attended to and followed up with further activity. This highlights that public engagement has to be an ongoing, sustained effort with a clear long term vision and commitment rather than one-off events. There were other points that came out of the

1 <http://www.sciencewise-erc.org.uk/cms/assets/Uploads/Talking-about-GM.pdf>

2 <http://www.bbsrc.ac.uk/society/dialogue/activities/plant-biotechnology-conference.aspx>

report in terms of lessons learned for the future including: the purpose of the engagement must be clear; those with the power to make decisions must be brought into the process and willing to change their views; and the process of engagement must be of high quality. With these three pillars in place an engagement programme can hope to command the confidence of a broad range of stakeholders.

It is also important that the context of the problem that is being solved is articulated clearly up front – i.e. what societal challenge needs to be addressed. This was very nicely illustrated by the discussions around the use of animals in medical research. The involvement of patients in the debate including such organisations as 'Seriously ill for Medical Research', put the need for such research in a societal context that moved the debate on positively from its importance for research in isolation, where there was no clear linkage with the potential impact for patients.

An inspiring example of engagement...

I really feel it is vitally important that those involved in animal research in any way are open and transparent about the work they do, or fund, or support. I am proud of BBSRC's involvement with the recent Concordat on Openness in Animal Research which commits its signatories to enhance their communication about their use of animals. Whilst the Concordat sig-

Read about the EU Directive for the regulation of the use of animals in research

natories support the use of animals in research, under strict conditions, wider communication about how that research is carried out will increase the opportunities for discussion and debate. This will help us to ensure that the research carried out on the public's behalf is in step with their views and that we continue to develop our methods so that excellent science and high standards of animal welfare go hand in hand.

What can we do to improve public engagement in R&I?

For people and organisations wanting to engage on issues with society there are some best practice principles that have been formulated through experience. Communication and engagement are two ways and it is important to look at the process from the point of view of those with whom you are trying to engage. Think broadly about who the participants are and what stake they have in the topic, how will it affect them, why would they care? It's important to be clear with those you are engaging with what your motivations are and how they can influence the decision making process. It is so important, and often neglected, to remember that just because people aren't experts in a science topic it doesn't mean they do not have expertise which is valuable. In BBSRC's experience, and that of many others, it has always been rewarding to see the experts – some of whom start sceptical of the value of public input – really appreciate the insights and wider

perspectives that members of the public can bring.

There is a nice model, developed by the Environment Agency and others which outlines two approaches to engagement either Decide, Announce, Defend (DAD) or Engage, Deliberate, Decide (EDD). In some scenarios the 'DAD' approach is justified and cost effective but in others, particularly where there is complexity, 'EDD' is much more appropriate. The more thoughtful 'EDD' approach should result in a better outcome, be more cost effective in the long run and, importantly, can really ensure the buy-in of a range of participants.

Great progress has been made in societal engagement in recent years, much of it due to the vision of parts of government like the Department of Business, Innovation and Skills who have funded the excellent Sciencewise programme for a number of years. BBSRC has been lucky enough to work with Sciencewise many times over the years and it was pleasing to see Sciencewise doing well in the international open government awards¹ earlier this year.

There are some areas where societal engagement could be improved. One area is that engagement could become more integrated with the broader research agenda. Often it is seen as a late 'add-on' in policy and decision mak-

ing. Secondly, I think there is real scope for engagement to happen at many different levels. For example societal engagement at the institutional level is often very good but we need to share best practice cases across institutions.

“Each engagement activity should have a crystal clear purpose with a well-articulated set of drivers. Being clear on a purpose and motivations allows you to think hard about what is appropriate for your situation rather than reaching for the same tools you always use.”

The most important thing that policy makers could do is to make sure they employ best practice in terms of societal engagement but also ensure that all areas of government really prioritise it highly with a long-term, strategic approach. Each engagement activity should have a crystal clear purpose with a well-articulated set of drivers. Too often engagement does not have a clear idea of what it is trying to achieve and therefore might not be done in the right way or with the right people. Being clear on a purpose and motivations allows you to think hard about what is appropriate for your situation rather than reaching for the same tools you always use. At the same time, societal engagement activities are sometimes seen as a one-off quick fix to address a particular issue rather than being seen as an activity that needs to be a long-term strategic initiative.

¹ <https://www.opengovawards.org/>



2.2

The deliberative turn

Interview with John Dryzek

*John Dryzek,
Research council laureate fellow and centenary professor in the
centre for deliberative democracy and global governance at the
institute for governance and policy analysis.*

Bridging the gap between people and politics

The language of democracy, and deliberative democracy in particular, seems to have become very popular and widespread. I'd say that everyone from Barak Obama to people in the Chinese Communist Party hierarchy seems to be believing in deliberative democracy. But of course the danger is that it just becomes something that people sort of wave in the direction of, but that's as far as their commitment goes.

Looking at contemporary politics, I think there is a widespread sense that there is a rift between politicians and the public. We certainly see it in Australia right now, where we see that one-term government is becoming the norm. People just don't trust politicians, they're not ready to give them any leeway at all. As soon as politicians start doing things they didn't promise in their election campaigns, the public

becomes very dissatisfied and very alienated from the system.

We see it in Europe now, with the rise of anti-austerity movements and parties, in places like Greece and Spain. There's widespread recognition that something needs to be done to reconnect the public and the most formal side of politics. Almost by definition, public engagement is part of that, and I'd certainly see deliberative democratic innovations as being part of that too.

However, for many policy makers, citizen engagement is a box they have to put a tick on. They need to do public engagement. They don't really care how meaningful it is. It's just something they need to check off. And I think that attitude is very common.

In terms of a deeper commitment, more meaningful, to public engagement, I think that is

quite rare among politicians. I think it's much more common among ex politicians. At least that's my experience in Australia, if that's anything to go by.

Over the last few years I've done work with something called the [New Democracy Foundation](#) and this organisation has several, very prominent ex politicians, from both the left and the right on its Board. These ex politicians are very aware of the problems of standard electoral democracy and its limitations and are seeking ways to connect more deeply the public with the formal political system. But it seems that they can only do that after their career in politics has been finished. While they're actually in politics, they're too caught up in the strategic game; they don't really have time for these deeper questions. So that seems to be quite a common syndrome.

There are a few exceptions to that rule. There are one or two senior politicians in Australia who have been very committed to expanding deliberative innovations in particular, but they're very, very small in number. Partisanship often means neglecting any conception of the public interest in favour of simply the strategic games of politics and an emphasis on winning. So in that sense there is a big clash between partisanship and the possibilities of more deliberative and participatory engagement.

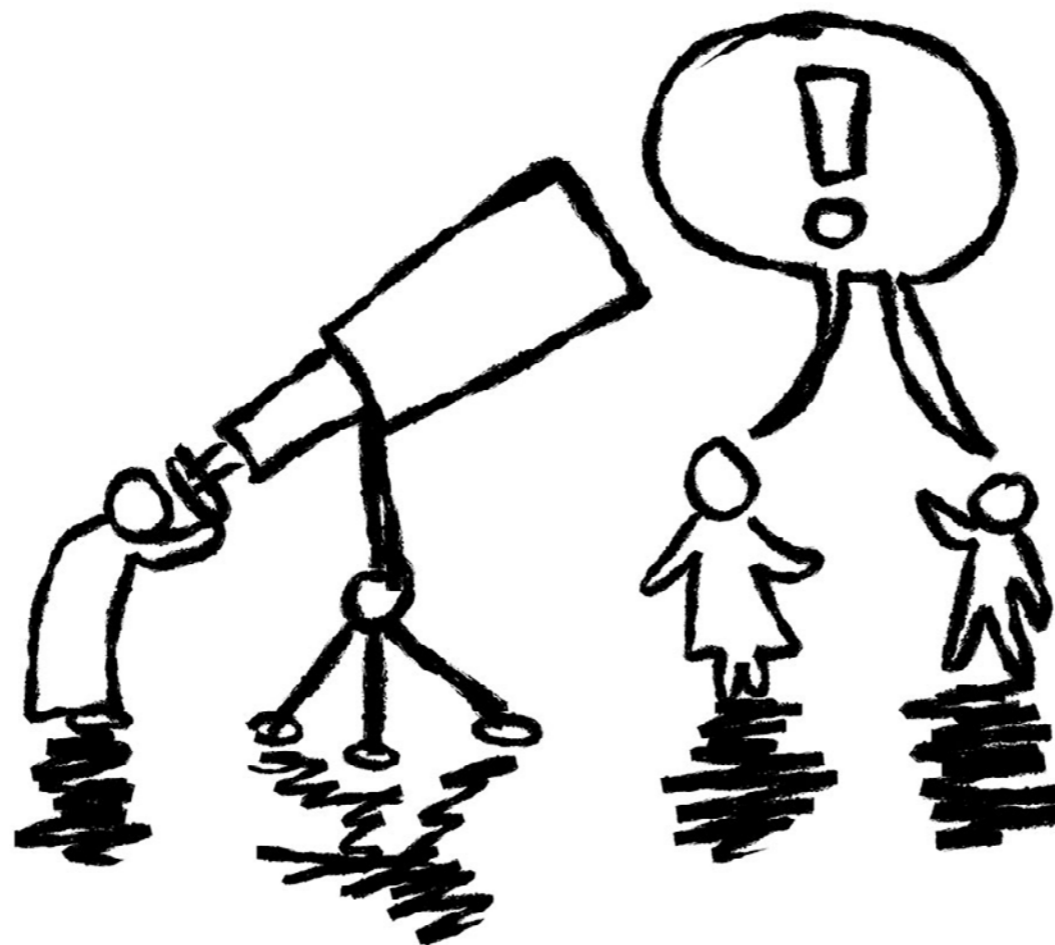
On effective public engagement

What I'd say to policy makers and practitioners trying to start meaningful participation is that it's important to find an opening. Let me get some negative and some positive examples.

A negative example would be a big deliberative process I helped to organise a few years ago, called the [Australian Citizens' Parliament](#) which was held in 2009. It was very big, we had 150 people, with 1 citizen from each federal electoral district in the country. We brought them all to Canberra and helped them deliberate in Old Parliament House to generate a set of rec-

ommendations, which were then sent to the Prime Minister. But all we got from the PM was a letter saying, "Thank you for input on the debate on the Australian democracy." And that was it.

So we didn't identify any openings, we didn't identify any reasons why anyone in formal politics should pay attention to what we were doing.



A good example would be the place where I used to live, in the state of Oregon, in the United States. They recently implemented some-

thing called the [Citizens' Initiative Review](#). In Oregon there's a long tradition, over 100 years old, of citizens' initiated referenda, where people can request a referendum among all the voters of the state. And often that has produced quite bad results, because of the influence of money. So a few years ago, there was a group of reformers who said, "Let's have a deliberative process in conjunction with the referendum question." They don't do it for all the referendum questions, but they do it at least for some of them. They convene a citizens' jury, which then deliberate over the referendum's questions and produces a report which is included in the voter pamphlet. This is sent to every voter in the state. And apparently it has substantial impact in raising the level of discourse on the referendum questions. That's a way of finding a point of entry.

"I think in terms of deliberative systems and that does involve multiple levels and multiple sites of deliberation, and this at least opens a variety of possibilities for particular kinds of deliberative exercises to make them work in the larger system."

I think in terms of deliberative systems and that does involve multiple levels and multiple sites of deliberation, and this at least opens a variety of possibilities for particular kinds of deliberative exercises to make them work in the larger system.

There are many ways of doing this. Just to mention one example that I'm familiar with, here in Australia my colleague and occasional co-author Caroline Hendriks quite recently ran two citizens' juries on questions of energy policy in conjunction with a parliamentary committee. This is a committee not of the national parliament but of the state parliament in New South Wales. She worked with that committee and also with the New Democracy Foundation, which I mentioned earlier, to run these citizens' juries. These were charged to investigate and produce some recommendations for the state parliament. The citizens' juries had a commitment from the chair of the parliamentary committee. He and several other committee members actually attended the two citizens' juries that were held. This close link to formal representative channels ensured that the citizens' juries really had quite a strong input into the recommendations that the parliamentary committee ended up producing on the energy policy issues in question. And it was hoped that the input of the citizens' jury would increase the quality of deliberation in the parliamentary committee. And that, in turn, might have helped improve the overall quality of deliberation of the largest system, say Parliament and the broader public debate on energy policy issues in general.

That is just one example of thinking in terms of a larger deliberative system and how one particular innovation can connect to other parts of the system and ideally induce good deliber-

ation in the system as a whole.

The benefits of engaging people in science

I think scientists could gain a lot from engaging the public and I think a lot of scientists now realise this. The case I know best and that I've worked a lot on in recent years is climate change. I know a lot of climate scientists. I think there are two kinds of climate scientists when you think about engaging publics. One view is that scientists should have all authority when it comes to things like climate change. The argument goes, "Well, if you've got cancer, you don't engage in public participation to decide the best treatment – you find the best expert."

Now, there are climate scientists that have realised that that really doesn't work. They've tried to assert the authority of science. They have tried to frighten people with a particular kind of scenarios about what's going to happen with catastrophic climate change, but politicians and the public often eventually turn off. So, some scientists have become very, very interested in things like deliberative democracy, on the grounds that they think that that would be a much better way of involving the public and inducing a better relationship between them and science. So, of course the science itself has to be produced by scientists, but in terms of things like setting the agenda for science, interpreting scientific findings, trying to tease out what the policy implications

for those findings are, then the scientists themselves are starting to see a real role for more effective public deliberation. And that can involve citizen engagement; it can involve more effective and more deliberative relations with politicians, who of course are generally not experts on the science.

“As long as we give citizens a chance, we give them enough time, we give them access to expertise, they can cope pretty well on any kind of complex scientific and technological issues”

I think a lot of scientists themselves now realise that. And I think that's actually a very positive development. If you can apply that to climate science, which of course is extraordinarily complex and multifaceted, I think that can apply it anywhere. And if we think at examples of sustained citizen deliberation on particular things of technological risks, such as nanotechnologies, human bio-technology, genetically modified organisms in agriculture, I think we do see that as long as we give citizens a chance, we give them enough time, we give them access to expertise, they can cope pretty well on any kind of complex scientific and technological issues. So, I think there are no limits to citizen participation when it comes to issues like that.

I find it hard to think of any occasions when citizen engagement is not appropriate. There might be times of crisis decision-making when

government has to act immediately in response to a crisis and then of course engagement is going to be very hard to organise. Traditionally there have been issues that have been seen as off-limit, much in the way of citizen participation. So, that would include things like foreign policy, national security, maybe even economic policy. But those of course are some of the most important things government does.

“The science itself has to be produced by scientists, but in terms of things like setting the agenda for science, interpreting scientific findings, trying to tease out what the policy implications for those findings are, then the scientists themselves are starting to see a real role for more effective public deliberation..”

I actually think that on all of those issues it could be possible to organise citizen participation and public engagement. I've been thinking about a book published a long time ago by the democratic thinker Robert Dahl, the leading democratic thinker in the US. And the book is called, “Controlling Nuclear Weapons”. That was actually one of the very first proposals for something like a citizens' assembly. And he suggested that such a citizens' assembly actually should deliberate on the questions of nuclear weapons, what the US policy on this

should be and how nuclear weapons should be controlled. He made a very compelling case that a citizens' assembly - well, he didn't call it that, he called it a mini-populous - could work on issues like that.

My own feeling is that if you actually did have citizens' participation - more effective citizen participation - on these issues, you might actually be very effective in stopping potential disasters.

Some inspiring case studies...

I think some of the best examples do come from Australia and they involve a particular period in the politics of one Australian state, Western Australia. I mentioned earlier that serving politicians are often not very interested in promoting deliberation. It's only after they retire that they become interested. But there was one serving politician in Western Australia, her name is Alannah MacTiernan, the planning minister in Western Australia. She was very committed to deliberation and she worked very closely with my friend Janette Hartz-Karp, who is now at Curtin University in Western Australia, to organise a number of citizen deliberations, a number of different models. They were very effective and a lot of the recommendations were adopted into policy, mainly as a result of the personal commitment of this minister.

Perhaps the best known one was called [Dia-](#)

[logue with the City](#). The idea was to develop a new city plan for the city of Perth, which is the biggest city in Western Australia. And the model used was one developed by the AmericaSpeaks Foundation in the US - the [21st Century Town Meeting](#). Dialogue with the City was one among several deliberative exercises in Western Australia, which had a very big impact on government policies. But the problem was that it all depended on the commitment of one minister and then the government of which she was part was eventually defeated and the new government had no interest at all in citizen participation of any sort.



I think we have to realise that ensuring both high quality citizens' deliberation and having an impact is often a real struggle. But it's not impossible and certainly worth keep trying!



2.3

Public engagement as a priority for research

By Gerrit Rauws

Gerrit Rauws is a Director at the King Baudouin Foundation. He manages the Foundation's programmes on Health and Biomedical Research, European engagement and Social engagement. From 1984 to 1989 he worked as a researcher at the University of Leuven, where he received a Ph.D. in Physical Geography.

Changing rationales behind public engagement

I believe that public engagement will be an important issue for research foundations across Europe. The King Baudouin Foundation has had a lengthy history on working with public engagement, for example in the [Meeting of Minds](#) project which involved 126 citizens in 9 European countries in discussions around Brain Science ten years ago. However in recent years we have seen a shift in our focus when it comes to public engagement.

In previous projects our key focus was on getting the citizen views on various aspects of research into research policy from a democratic frame of mind. Our thinking was that important research areas, like genetic testing or brain research needed the views of the public for research to be legitimate.

In today's complex research environment engagement forms a vital part of the system of checks and balances. The truth remains that the European scientific research community remains sometimes quite closed from society.

“In today's complex research environment engagement forms a vital part of the system of checks and balances”

The ethical and social discussions of certain research topics are important for the future of science and I strongly believe that engagement needs to be mainstreamed and move beyond pilot activities. Engagement is first and foremost a governance issue.

Although democratic accountability is of course still a relevant driver for public engagement,

as a Foundation we have increasingly found ourselves looking at public engagement in a different way. My chief argument for engagement today is not that it makes research more legitimate, but rather that it may improve the quality of the research itself.

Engagement in research is thus about more than policy, it is also about the practice of research and the vital role that citizens can play in the research process. Intertwined in this debate is the fact that Europe and the world face some extremely difficult problems. These 'wicked problems' are interdependent, complex and changing and for these reasons engagement is all the more important in finding solutions. In some cases it is very obvious where citizens can play a role; for example cases where the issues have a local component and the citizens are affected stakeholders. There are, however, areas where it is less immediately obvious what the citizens can add.

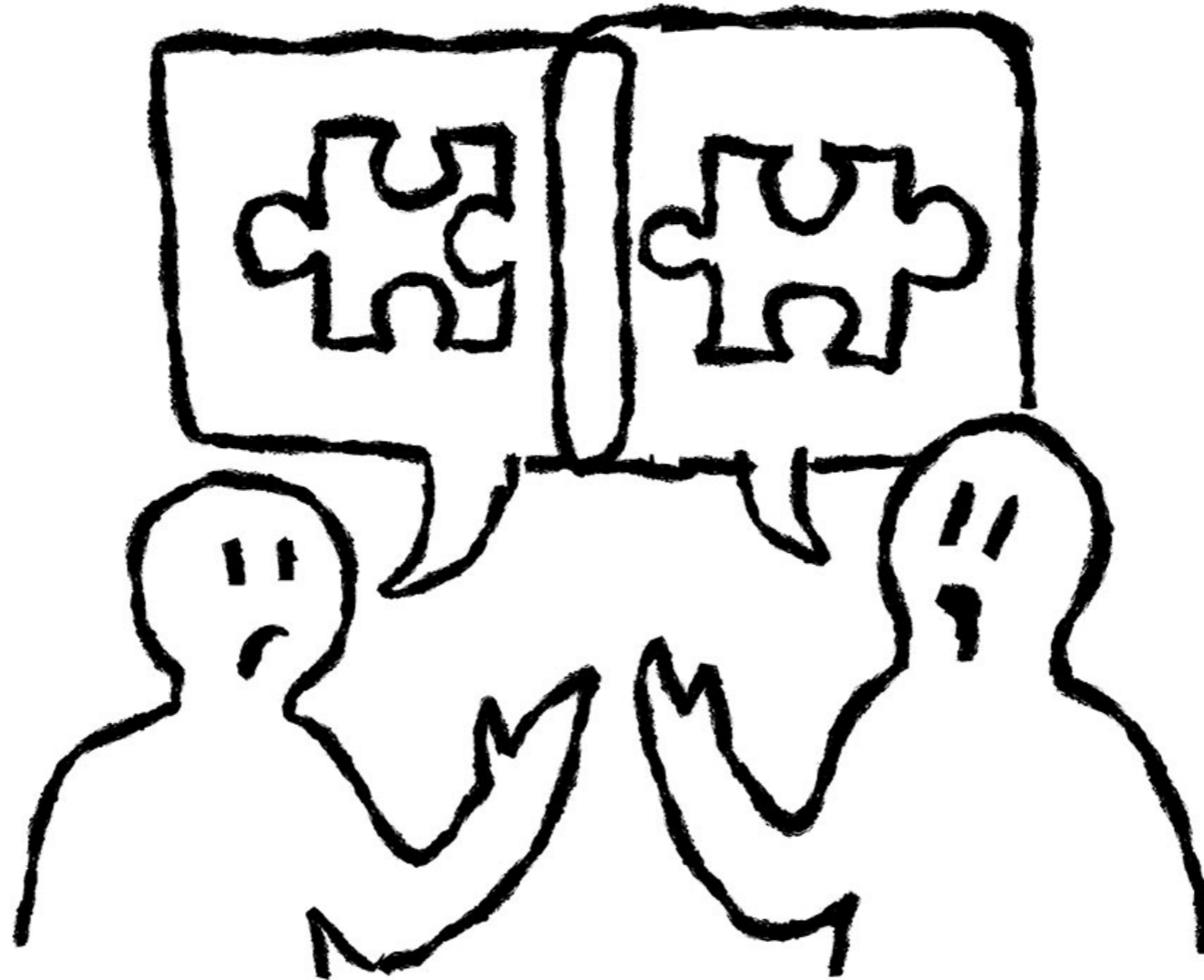
Why should we engage the public?

So why should private Foundations like the King Baudouin Foundation or public funders across Europe spend their scarce research funding on engagement? I think that the reasons for engagement are compelling, even from a strictly financial perspective.

Firstly, there is a communications argument for engagement. If researchers are pushed to interact with non-professionals, this obliges them to communicate in another way. Translating an academic text from one language to another forces the writer to make sure that the content is clear and concise, and in the same way engagement helps researchers to clarify their function. Engagement is thus a useful communications exercise and not a distraction. Engagement enhances the ability of scientists to get their message through to different audiences and helps ensure robust thinking.

Secondly, engagement is beneficial to the individual researcher. One of the things I am

most enthusiastic about when it comes to engagement is seeing the interaction between citizens and individual researchers. A decade ago when we ran the Meeting of Minds process I met plenty of sceptical Brain researchers who were convinced that citizens had little



to contribute. This (and many other projects) has taught me that the best way to convince sceptical researchers is to involve them. At the start they are often convinced that the topic is too difficult for citizens. Each time I have seen remarkable interactions between citizens and researchers, where both sides have learnt a

lot. I have seen how the experience of engagement can influence the careers of researchers. The questions raised by citizens change how researchers carry out research and how they communicate, but also where their research priorities are. Engagement can shape and form the basis for a successful academic career. My experience tells me that engagement leads to better research as a result of these new and unexpected questions.

Finally, there are benefits from engagement which accrue to the research institutions rather than individual researchers. Engagement is part of a wider systematic change in how research institutions operate. Engagement needs to be made institutional to give the full benefits. The truth is that for a long time private companies have had someone who is responsible for CSR or quality control. Research institutions need similar governance and interaction instruments, appropriate to their unique circumstances. Engaging the public is a vital part of this and needs to become part of the corporate culture of research institutions, in order to achieve the aspirations of the Responsible Research and Innovation agenda.

When should we engage citizens?

There are perhaps certain research areas where it is more difficult for citizens to make a difference. However, I do not think that there is any area of science or innovation which is inherently unsuitable for engagement. In the past decade we have seen European projects on topics like brain science, nanotechnology, and climate change. It is clear that complexity is not an insurmountable barrier to engagement. There is therefore no reason to discount any research discipline off hand.

“The shift towards a more engaging research system is a gradual process, one where Foundations working together will play an important role in moving from one-off pilots to more established practice.”

We still need more good examples of engagement shifting the scientific research culture. In the area of biomedical research I feel that engagement has become more common as part of the agenda setting. In research around biomedical issues scientists are increasingly aware that their end users matter, not just at the final stages of research, but at every level. In this field it has become clear that the priorities of people who live with disorders matter for the final results. There have been numerous examples of negative effects if the research agendas are out of sync with the needs,

wants and lived experiences of those citizens affected by health conditions. This has made it increasingly easy to make the case for engagement in this field. It is visibly beneficial both to the researchers and to the research results. We need to see this shift in opinions in other fields as well and I am convinced that we will do so in the years that come.

I see the role of foundations like the King Baudouin Foundation as helping to set the agenda within the R&I community, as well as providing practical engagement tools and sharing good practices. As significant funders of research we need to walk the talk. The shift towards a more engaging research system is a gradual process, one where Foundations working together will play an important role in moving from one-off pilots to more established practice. The R&I community is increasingly international and so we need to develop a European engagement community. I am glad to see the European Commission playing an active role in fostering such a community through its work around RRI and Horizon 2020. The Societal challenges that the Commission has identified are both scientific problems and societal problems. This is why broadening the range of expertise considered in R&I is important.

In the coming years I believe that we will see engagement move from an experimental activity to becoming part of governance toolbox of research institutions. My advice for unsure colleagues is to just do it. Engagement is still a developing practice. It involves trial and error. Don't wait, start somewhere. There shouldn't be any off-limit topics, there is always something that can be added by bringing in outside perspectives. A growing number of organisations are signing up to the principles of Responsible Research and Innovation and in the future it will become difficult to stay relevant without finding ways to relate to the views of the public.





2.4

Public engagement: a dynamo of democracy

By Innes Newman

Innes Newman is a psychologist currently working on a new perspective of the human Personality. She was formerly a member of the Sciencewise Citizen Group in the UK. In 2010 she was a randomly selected participation in a public dialogue in environmental change.

Engagement processes: a citizen's perspective

In 2010 I was invited as a randomly selected citizen to take part in the Citizens Advisory Forum for Living with Environmental Change ([LWEC](#)). This public dialogue included around 35 citizens representing the 'public' and we were a very mixed group: male and female, different ethnicities, ages ranging from 17 to 73 and in various walks of life. As citizens our job was to discuss government policy options for scientific research to address expected impacts of environmental change and agree policy priorities. Our deliberations were fed back to the UK Government Living with Environmental Change Network to inform their future work, and to ensure we could have informed deliberations, before each meeting we were required to read background material. I did wonder whether the subject matter and mate-

rials might be too complicated for us but there no need for concern. In fact the material was excellent, no jargon or complex science but in three pages of concise and straightforward information. In this summary the key aspects of the issue laid out:

- a. this is the issue;
- b. these are the options;
- c. these are cost-benefit considerations;
- d. and these are the questions we would like you to think about.

“Part of the magic of public dialogue and engagement is that all these differences go into a pot, they're shaken and stirred and out pours a shiny new cocktail.”

For example, the final question was, 'Upon what principles should we make decisions about "who gets what" in the face of increasingly scarce resources as a result of climate change?' The ensuing conversation made for a lively finale to the public dialogue!

There were sources for further reading but the summary was sufficient to participate fully in discussions, which were also informed by expertise. I was impressed by the scientists who came to talk to us. Forget the stereotype of scientists with their heads in the clouds and speaking in tongues. The focus for the scientists we interacted with was very practical, namely the potential physical and material impacts on everyday life of environmental change. As well as sharing a wealth of knowledge in language everyone could understand, they infused their passion and enthused about our views and ideas, and they liked a laugh - we all did.

How did it work?

Over 5 months we met 3 times to discuss 3 different topics. Each time there was an initial presentation to the whole group by an environmental scientist who explained the first issue in more detail and answered our questions. The whole group divided into sub-groups for in-depth, facilitated discussions and the scientists rotated around the sub-groups. Each sub-group elected a spokesperson to present a summary of the agreed policy priorities to the re-convened whole group and each summary was followed by questions from the floor so everyone discussed everything until the facilitator concluded the morning session. As lunch was served at the venue, this mid-meeting break was a good time for informal conversation before the dialogue process resumed for the afternoon session, which repeated the procedure for the second issue relevant to the topic.

About a month after each meeting citizens received a 5-6 page Forum Report. Just as the other material, this was a concise yet detailed summary of our responses to the issues. Reading it was like switching on a video that replayed the whole meeting in a few minutes.

I didn't want the meetings to end but they did, leaving me to reflect on what I enjoyed so much and why this project had affected me more profoundly than I could have imagined.

Certain aspects like the quality of the material, faultless organisation and skilled facilitation played a big part in maximising the productivity and enjoyment of the meetings but aspects were part of the whole and for me personally, the whole project was fantastic. 'Public dialogue' was something new to me: it was refreshing, enlivening, thought-provoking and it really opened my eyes.

Was it useful?

Firstly, there was the subject and how much I learned. I was interested in environmental change and thought I knew something about it but I never imagined how much I would learn nor how fascinating and effortless the learning would be. Over the 5-month period my awareness of the subject expanded enormously. I



learned from reading but written material is always second-hand and distant. I learned most, and was inspired to read more, from the scientists and other citizens who brought the subject close to home (literally in the sense of those who'd personally experienced flooding) and made it come alive.

There was a rich assortment of people I'd never meet otherwise, and break times were filled with interesting stories about their different lives, work, families, values, ways of seeing the world. Part of the magic of public dialogue and engagement is that all these differences go into a pot, they're shaken and stirred and out pours a shiny new cocktail. In our case, we were asked to think about a scenario for the future within which everyone could identify their little piece, but there was much more to it: more aspects considered, potentials recognised, purposes served and new possibilities included.

Yes, doing the dialogue was an eye-opener, but then something else occurred to me weeks after the project ended. I received an email with links to a YouTube video, an email address for project feedback and the Forum Report that ended with a thank you for taking part in this 'important engagement'. The deeper significance of 'public dialogue' escaped me at the time because the meetings were so absorbing and the whole experience fascinating.

Why is it important to engage?

Engaging the public through dialogue is really important. It is important because it gives individual citizens a voice and gives politicians an ear on the ground. Right now 'public engagement' looks like an infant taking the first tentative steps, but it's an upgrade of democracy that has no precedent or parallel. Democracies vary a lot but they all have in common universal franchise and political elections every few years. Political structures vary too, but in Britain and other parts of Europe many (sometimes even a majority of) people don't get the political representatives they vote for. Voting for a political party is tantamount to supporting all their policies and once a party is in power, apart from a rare national referendum, there is no nationally coordinated mechanism offering ordinary folk direct involvement in the political process. Hardly surprising then, at some point ruling political parties are commonly criticised for being out of touch with the people, how could they not be? Because complex democracies work in slow and cumbersome ways, daily life on the ground is changing faster than the political establishment can digest and act upon.

However, someone had a bright idea of actually getting in touch with the public before specific policies were introduced, testing the water and seeing what comes to the surface perhaps. 'Public dialogue' uniquely bridges gaps between what politicians think is best

for people and what people think is best for themselves; how politicians see society changing and how people are actually experiencing change. It offers people a unique opportunity to think about and decide what is best for themselves, and to input their decisions directly into the political policy making process, at least potentially. It injects dynamic awareness and inspirational co-creative thinking into citizens' perspectives and can do the same for political policy making processes. Even in this early stage, public engagement is a significant dynamo of democracy and it has huge potential as a mechanism for facilitating mutual understanding between citizens and their elected political rulers.

“Public dialogue’ uniquely bridges gaps between what politicians think is best for people and what people think is best for themselves; how politicians see society changing and how people are actually experiencing change”

I spoke with several citizens who, like me, felt a little apprehensive initially. Some had wavered about participating in the project because they thought the science might be too technical and complex, they wouldn't feel qualified to talk about it and they would be embarrassed if they did. But then they thought that if they couldn't

do it they wouldn't have been approached. Their interest was stronger than their apprehension which, as mine, disappeared when they received the background reading for the first meeting. Thus any notions about incapability are soon forgotten: the only qualification necessary is to be an interested citizen.

What if citizens aren't interested? Some people may not be, and their voice will never be heard. On the other hand, many people may think they're not interested but interest varies a great deal, from the quite specific, 'I want to know what the government is going to do about river XXX flooding', to the general, 'I want to understand what my kids will be faced with'. Plus, the scientific field is vast and anyone who has eaten food, travelled from A to B or visited a hospital is likely to have some interest in one policy making area or another. So perhaps many people don't lack interest rather a meaningful means of expressing it.

Neither is it down to lack of interest for many people who work and run businesses. Our organisers did their best, we had three meetings over 5 months, all on Saturdays at a central location and scheduled well in advance. Even so, there were a few missed meetings due to work and it's safe to assume work commitments prevented some people from participating at all. Given how many people work in today's society, their underrepresentation in public dialogues is a problem and might skew the balance of public engagement groups.

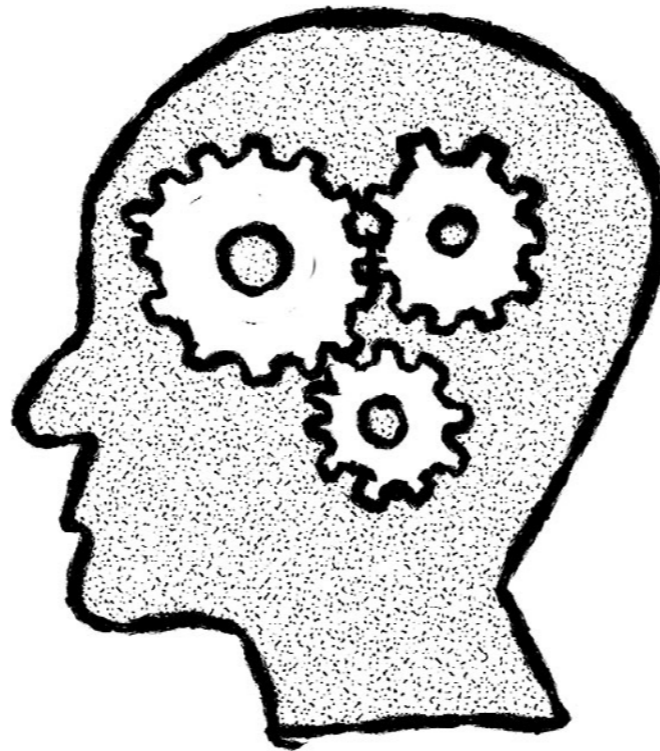
On the other side of the coin, citizens receive feedback but I think this is an area which could be improved. Beyond website references for specific organisations, projects and reports, this intelligence disappears into an ocean and there is no way of knowing whether it reaches policymakers. And there is no evidence from policymakers that they've heard what citizens have said in public engagement projects. Engagement, like justice, needs to be seen to be done.

Nevertheless, there's reason to believe shortcomings are temporary and public engagement is here to stay. Engaging the public means reaching people where people are. Offering different venues and a range of attendance options (more, shorter evening meetings for example) may help to reach more people, especially if there were an increase in dialogue projects. But this is tinkering on a small scale. We live in a digital world with built-in big scale and there's great enthusiasm for self-expression online.

Digital technology sweeps away physical problems of place and time and offers new, flexible ways of organising engagement. Online public engagement has the potential to reach most people and, looking at younger generations,

pretty soon this could be the only way of reaching people. And this points to a fundamental transformation in social processes which puts politicians on their mettle.

In the face of mounting uncertainty and pressure to do a better job of running the country, sooner or later the political establishment will realise the huge benefits of reaching people where people are, of using digital platforms to proactively and meaningfully engage the public. [Sciencewise](#) is the UK's national centre for



public dialogue in policy making involving science and technology issues and there are indications that Sciencewise is adapting the tried and tested Public Engagement methodology for the digital age.

Once citizens experience this form of participation, many may want another opportunity, as did I and several citizens in the [LWEC](#) project. Citizens may be especially keen to know their views are being registered and taken seriously by policymakers. It's not impossible to imagine the minister making a speech about Alzheimer's research and referring specifically to engagement projects in Clydebank, Cirencester or Cyberspace. Further down the line, public engagement could be constitutionally enshrined, an opportunity afforded to all citizens or an obligation akin to jury service, 'engagement service'.

Meanwhile, for anyone interested in learning more about the current status of public engagement, there is plenty of information on the Sciencewise website and if you have the chance to participate, it could be a fascinating eye-opener. You may have strong views about the subject - that's okay. You may have no specific views, that's okay too. If you just go along willing to listen to others and speak your mind, you'll be amazed what comes out of this dynamo of democracy.

More information

A full and fascinating Final Report of a public dialogue pilot on the subject of bioenergy can be found at:

<http://www.bbsrc.ac.uk/documents/bioenergy-dialogue-report-pdf/>



2.5

Participatory and cross-sectoral policy-making for complex health challenges

by Susanna Kugelberg

Susanna Kugelberg is a Technical Officer, working within the Division of Noncommunicable Diseases and the Life-course at the WHO Regional Office for Europe.

Why is it important to engage society in food and health?

The promotion of healthy behaviours with better diets and increased physical activity is of utmost urgency for future public health in Europe and it is defined as a grand societal challenge to reduce the noncommunicable disease burden. Some might question the need for engagement on these issues, arguing that we already know what is needed. However, to govern societies towards better health is not a linear equation from the best available evidence. Multi-stakeholder participation is a vital part of the solution to the growing challenges of the global burden of diseases and the shift towards noncommunicable diseases.

Health Ministries across Europe acknowledge the high, and still increasing, burden of disease caused by unhealthy dietary and lifestyle patterns in many countries of the European Re-

gion and in particularly the rapid rise of overweight and obesity, especially in children^{1,2}. Diet related diseases have a negative impact on the quality of life and well-being of the individual and of society as a whole and represent a high burden on health systems and the economy. WHO's Regional Office for Europe endorsed a new policy on health governance in 2012- Health 2020³, which directly states that engaging the whole-of-society constructively is crucial to addressing these challenges.

WHO defines governance for health and well-being as the attempts of governments and other actors to steer communities, whole countries or even groups of countries in the pursuit of health as integral to well-being through both whole-of-government and whole-of-society approaches⁴. A whole-of-society (WOS) approach brings the many ideas of public engagement together and can be better understood as a principle for broader public engagement in

the context of food and health policies. WOS is particularly developed to involve and engage civil society groups, media and communities in the articulation of health needs in policies.



Complementing the WOS approach, a whole-of-government (WOG) approach is being largely promoted as a way to achieve a larger impact of health in all policies. WOG focuses on the government structure and underlines the importance of addressing health equity and social determinants of health in the policy-making process. Many policy areas, such as health or food suffers from limited cross-sectoral collaboration and have traditionally being vertically structured in the government with a high specialization within their areas. WOG emphasizes the need for cross-cutting approaches with collaboration between all relevant stakeholders in different sectors and levels of government, as well as the private sector and civil society, and increasingly taking into account regional and global institutions. The new European Food and Nutrition Action Plan⁵ launched in 2014 also supports and encourages health ministries to bring key stakeholders together in a shared effort to respond to food, nutrition and health dilemmas. It recognizes the contribution of such stakeholders – particularly civil society – in taking health agendas forward at the Regional level.

What are the benefits of public engagement?

WHO's policy framework Health 2020 policy mentioned earlier has emerged as a response to a changing context with many of the food and health challenges being complex and difficult to solve without a broad collaboration

and support across sectors. Thus, working from a WHO perspective, there are numerous benefits of public engagement. Firstly, timely and structured engagement is a tool in health governance - a participatory approach ideally leads to decision based on more complete information, anticipating and mitigating against unexpected and negative outcomes. There is also sufficiently support for a view of engagement as a forum for social learning. Social

“Public Engagement fills an important role by increasing the involvement and inclusion of those on the periphery of the decision-making process, who are often feel marginalised in today's health re-search policy environment.”

learning is crucial for changing views about complex issues as childhood obesity. Governments need to learn to see it as less of an individual problem and more of a problem where many actors have a part in the puzzle and an obligation to respond. Stakeholders and the wider society learn from each other through the development of new relationships and learn to appreciate the legitimacy of each other's views. Thus, the common ground and trust established between participants can reduce conflicts and increase networking and collaboration in responding to issues as childhood obesity. Engagement could also help to implement health interventions. If stakehold-

ers actively participate in the development of health interventions they are much more likely to be adapted to needs and environments. Thus engaging civil society and cross-sectoral collaboration is vital for WHO Europe as well as other national and multilateral actors and is likely to become increasingly obvious in the coming decade.

A participatory approach is also a crucial tool to address health inequity and even gender issues, cross-cutting issues across all of the WHO's technical program work. Public Engagement fills an important role by increasing the involvement and inclusion of those on the periphery of the decision-making process, who are often feel marginalised in today's health research policy environment. Also, an additional normative benefit around equity is that stakeholders' participation increases the likelihood that decisions are perceived as fair. WHO also recognised the importance of public engagement as it is seen as empowering stakeholders through the co-generation of knowledge and increasing the participant's capacity to use this knowledge.

WHO's work in [INPROFOOD](#) resulted in a study which concluded that the legitimacy of policy-making is not only determined by the number of stakeholders involved but also the capacity of the process to deliver its objectives and in responding to the societal challenge. Thus a multi-stakeholder involvement in policy-making should both deliver its objectives

effectively and efficiently, i.e. to do it in a timely and cost-efficient manner. From a WHO perspective, this indeed represents one of the main challenges of engagement – how to engage stakeholders and the civil society more effectively and efficiently?

DISCLAIMER

Susanna Kugelberg is a consultant to the WHO Regional Office for Europe. The author alone is responsible for the views expressed in this publication and they do not necessarily represent the decisions or the stated policy of the WHO.

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2. WHO Regional Office for Europe. Country profiles on nutrition, physical activity and obesity in the 53 WHO European Region Member States. Copenhagen: WHO Regional Office for Europe; 2013.
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5. WHO Regional Committee for Europe. European Food and Nutrition Action Plan 2015-2020. Copenhagen: WHO Regional Office for Europe; 2014.



2.6

How citizen engagement can help us address complex issues like climate change

By Hans Bruyninckx

Hans Bruyninckx is the Executive Director of the European Environment Agency, since 1 June, 2013.

Why is it important to engage citizens on scientific issues?

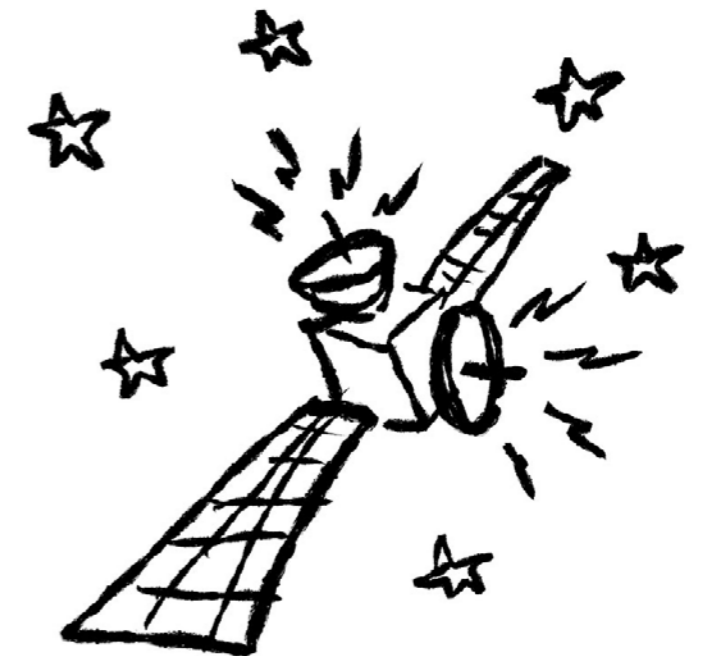
For me the question of why citizen engagement is important in science is quite straightforward: we are working on science and innovation not for ourselves but for society. We need societal change on a number of issues, like the environment, climate change and the technologies related to that. If you are working for societal change you want to involve society. That is the core element of why we should engage more, in more structured ways and using more creative approaches. I think this holds true not only when it comes to large public research and innovation projects but also the private and academic sectors.

I think you are missing an enormous potential if you don't engage society at large when you work in research and innovation. The creative

capacity of organised and unorganised citizens is enormous and you don't want to overlook this when you have major societal challenges. The necessary creativity and inspiration needed to turn around the major challenges in the 21st century will not only be found in universities, companies and research and innovation departments. The largest challenge from the European Environment Agency's perspective is that of climate change and the related problems of biodiversity loss, resilience and adaptation to climate change. All of these things will require tapping into societal potential.

Research and innovation aim to improve the living conditions of people in society and it would be very unwise not to involve them in that enterprise. Changing societal conditions almost by definition requires a transparent, open and engaging debate with the citizens. Modern forms of governance are in my opin-

ion essential if you want to spend public money (and also private money) in a way that is legitimate and in line with what we think of democracy in Europe.



Embedding citizen engagement in policy making and research

There are some great examples of where R&I are already involving citizens in very fundamental ways. For example we have examples of co-creation in research and innovation, where we see NGOs, citizen scientists and individuals connected through the Internet contributing to new technologies. There are also lots of examples of activities of crowd-sourcing in design, such as citizens helping to design new cars. We now have cars that are actually produced and designed by citizens; we have new products that are not designed by three or four engineers in a lab but are produced in an open source way. There is a lot of potential in these new ways of working. Of course not all efforts will lead to magnificent results, but I think we have an obligation to think out of the box when it comes to research and innovation. Many people who work in technology and innovation are very focussed on the technical aspects. Ordinary citizens bring a different view of society and reality, which helps ensure better innovation.

Over the last couple of years we have framed the 2050 agenda around the concepts of a climate neutral society, eco-system resilience and a circular economy. This triad will mean massive innovation and massive technological change but also societal change. There is huge potential in rethinking how we invest in innovation in a more systemic way. We need to in-

vest in research, not only to analyse the problems but also to help solving them. This is the key challenge that we are facing over the decades in Europe. This is increasingly recognised as the agenda for the first half of the 21st century. Now we need to make better use of societal resources to frame new innovations.

“We have an obligation to think out of the box when it comes to research and innovation.”

Policy makers should require more engagement when they spend public money for research and innovation. At the moment this is often not the case. The requirement is often that the result should serve societal purposes, but the methods to engage societal actors early on is often not even suggested and definitely not required. If I was a policy maker for a day, I'd probably put that among the requirements for funding in research and innovation. I think there are good methods and practices out there, as well as great examples of how to engage society in science and technology. The networking technology which allows citizens to be connected to all sorts of issues has great potential, but these are not necessarily always the most democratic fora. All sorts of people can be engaged in more loose and unstructured ways and we need to be mindful of how we design the engagement. As we see with social media, it raises an enormous po-

tential when it comes to awareness raising and crowd-sourcing, while at the same time being short term and potentially causing upheaval or damage to people. We are at the very early stages of learning how to engage with all these new methods and citizen-focussed processes. I also think it is important that we don't limit ourselves to just engaging with individuals. In Europe we have very well organised NGOs and civil society organisations, who also provide the interface between citizens and economic stakeholders, policy makers, and universities. We should make use of that solid mid-field of organised society and also engage with them. I have the impression that often we now jump over those organisations directly into online and the internet and social media, but I think there is an important role for that part of society to be played.

As a scientist I am very clear that fundamental science needs to have a space. I do not believe that we should only fund research and innovation that is an immediate solution to societal problems. We also need a space where people can think and innovate and also reflect freely on all sort of issues. We need this type of research to be the fertile ground for more solution-oriented technologies and innovation. We have to be very careful not to give too much steer and maybe not too much involvement at all stages. Citizens have a vital role in solving our societal challenges, and so do scientists and innovators. We must make sure that they have the space for them to do their thing.



2.7

Why the engagement of civil society actors and of citizens is a priority in research and innovation

By Claudia Neubauer

Dr. Claudia Neubauer works as program officer at the Swiss foundation Charles Léopold Mayer.

Societal engagement is vital in the field of R&I

Research and Innovation have been strongly shaping our societies, our daily lives and our world vision over a long period. Technological developments based on scientific knowledge - such as nuclear power plants, pesticides, GMOs, air planes and space shuttles, big and fast cars, household appliances for all and everything, and drugs of all sorts, but also fashion clothes and faraway holidays - were presented as the ultimate marks of modernity, progress and happiness. Even with all due respect to numerous inventions, the consequences of these massive innovations and developments are at least ambiguous, as scientific progress is one of the most important and at the same time most inconsistent factors influencing our present and our future. If, on the one hand, certain scientific findings call us to change urgently our current produc-

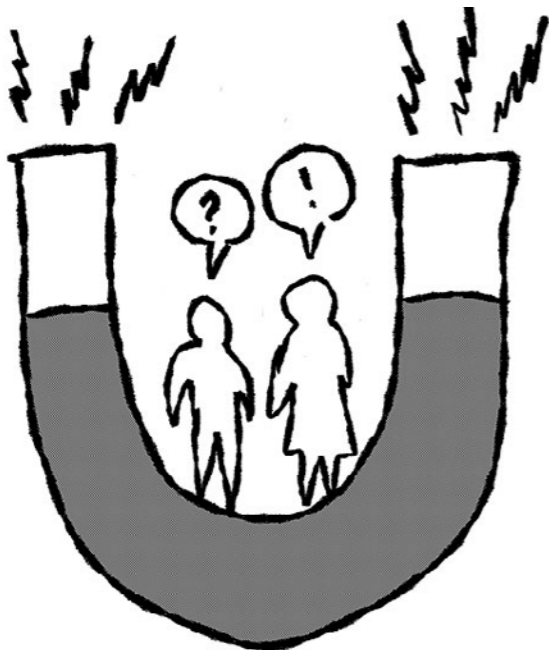
tion models and consumption patterns, on the other hand many scientific and technological innovations contribute to reinforcing the very same production and consumption models. R&I therefore have their share of responsibility for the current crises.

“societal engagement should not only alter the face of research but also improve public confidence and support in research and innovation, lead to more creative and real-world inputs, improved policy decision making and the development of more appropriate, effective and robust solutions for pressing issues.”

Social and environmental injustice, income poverty and climate change are the burning problems of our period and have become the overarching goal of sustainability efforts of

numerous nations, whereby the hardest challenges lie in improving livelihoods through economic alternatives that also maintain the natural resources for current and future generations. These challenges are highly complex, interconnected and systemic. Research can, should and partly does play here the role of an impulse generator, by taking seriously its social responsibility and by opening to the whole variety of perspectives present in society. Research has always claimed to be an external and neutral observer of reality. And yet, beyond this position of an observer, it has also always intervened to change reality. The latter is what research has been doing massively over the last decades not to say the last centuries and what is commonly called scientific progress. It is thus this scientific progress that we have to question and to redefine: its direction, its meaning, and its outcomes. Scientists cannot do this alone. Since the consequences of scientific and technological development concern society as a whole, all actors should be

involved and should be heard in order to collectively identify the required changes. Societal engagement in research is about participation, and it is about change. The questions we should ask ourselves are: What changes? In which directions and for what objectives? For whom? With whom? By mobilizing what material and cognitive resources? With what modes of action?



As in economics, there are two antagonistic facets in scientific activity: sharing and competing. The current trend in the dominant scientific model, which is more and more closely tied to a (neo)liberal economy, entails the competing taking largely precedence over the sharing. However, we can also observe the opposite dynamics at place, even if marginal and marginalised, as there is increasing sharing, not only of scientific results, but also of scientific activity itself. Such sharing happens not only between researchers but also between researchers and non researchers, thus ques-

tioning current scientific knowledge production methods and offering new approaches. This societal engagement in research, boosted by civil society actors and citizens as well as researchers themselves, has been called participatory research, action research, citizen science, community based research, etc. This is a new popular paradigm that muddles the established order and self-understanding of scientific identity and pushes the borders of traditional academic research.

However, this societal engagement should not only alter the face of research but also improve public confidence and support in research and innovation, lead to more creative and real-world inputs, improved policy decision-making and the development of more appropriate, effective and robust solutions for pressing issues.

There are numerous arguments for societal engagement...

Amid all the evidence that scientists have built over the last decades (for example, on the physical limits of our planet, on climate change, on socio-economic processes), all the experiences of social, economic and environmental injustice and all the incidental consequences of scientific progress people have been facing all over the world, the promise of universal economic growth based on techno-scientific innovation and unlimited production and consumption for all is not only an illusion but a dangerous

and unreasonable objective. Thus, since we need (and wish) to move towards a resource saving, low-carbon, just and peaceful world, we need the wisdom, the knowledge and the will of (empowered) citizens and civil society organisations (CSO) to reach these aims.

“CSOs are a valuable resource not only in terms of providing data, concrete cases, financial and human resources, but also in terms of practical know-how or even theoretical knowledge, as well as in the formulation of research hypotheses. Their feedback at different stages of research can help researchers adjust and recast their work, thus enhancing the validity of the outcomes. Societal engagement of these actors supports a drive towards transdisciplinarity, and towards more relevance of research to problems and needs of people. As more and more emphasis is put on concepts like “evidence-based policy-making”, research is supposed to become a source for policy-makers even more than before. The improvement of the relevance and of the validity of the research created is a precondition for better informed policy-making. Research agendas, and the narratives that underpin them, should reflect the diversity of interests and needs in society.”¹

¹ *Report on « Participation of civil society organisations in research » of the European project STACS - Science, technology and civil society - Civil Society Organisations, actors in the European system of research and innovation, Fondation Sciences Citoyennes, 2009*

In a real “knowledge society” (to use the term that is put forward at the European level) it should be evident that not the knowledge of the few but of the most will be necessary to move in the right direction. This can only occur in a negotiated, complex and long lasting process that includes the rethinking and redefinition of values, institutional change and change in societal organisation. The active involvement of citizens in research and innovation processes (towards sustainability and ecological transition) will enrich both research and democracy, not least because it calls for the setting of procedures that are transparent and for pluralistic knowledge.

“The active involvement of citizens (...) will enrich both research and democracy,”

“Real and balanced progress can only occur if we restore both the clear distinction and the constructive dialogue between Good, Technology, Truth and Beauty. We need a better and different comprehension of nature and society, of what research can deliver and what not, and of beauty and good in our common life.”¹

¹ Neubauer, C., Calame, M., *Redesign progress now! The use of knowledge for a re-conceptualised human progress, in the 5th GUNI (global university network for innovation) report on Knowledge, Engagement and Higher Education: Contributing to Social Change, 2014*

Things I would like to change about how engagement is carried out today...

If I were a policy maker I would launch a (never ending) “societal engagement and sustainability” programme with a significant budget. This programme would include trans- and interdisciplinary research, and active links to other public policy domains would be transversely integrated dimensions. The programme would mainly intervene on two aspects:

- a. solutions for urgent real world problems, supporting research and innovation (with public engagement where necessary and possible) in fields such as energy saving; renewable energies; climate change; social coherence and justice; empowerment of local communities; sustainable and local food production and fisheries; sustainable urban and rural development; support to SMEs with sustainable production schemes. In general it would promote a transition towards a low carbon society.
- b. transformation processes and reforms in the scientific system, notably:
 - a large debate in the scientific community on missions, aims, responsibilities, values, modes of functioning and new forms of doing research of publicly funded research;
 - supporting the creation of universities or university departments for transdisciplinary sustainable research, where student

curricula and research agendas are oriented towards sustainability goals;

- encouragement of universities and research institutions to integrate public engagement and service to the community in their mandate and in their programmes;
- encouragement for high level institutional support for scientists who are interested in engaging with societal actors;
- support to conduct the evaluation of scientists on a larger basis than solely on their contribution to their discipline and publications;
- support for a more open and appropriate reward structure for scientists that promotes the creation of career opportunities for scientists with transdisciplinary experiences and expertise (e.g. evaluation and recognition of graduate studies and PhD theses);
- support for the professional mobility of researchers from public research institutions to the non-profit sector, for instance through Ph.D. and postdoctoral grants and fellowships for senior researchers who wish to engage in research projects with CSOs.

When colleagues approach me with questions about engagement I say:

Researcher and CSOs still rarely interact with one other. They work in different worlds, act in

different ways, speak with different languages, and follow different objectives in daily activities. We should acknowledge these differences and make a strength out of them! Working together implies bridging the gap between these two cultures and developing a relationship of trust. This demands time and openness. That's why, when people or colleagues approach us with questions about how to get started with engagement, we should tell them to take time, sit together, believe that they can learn from others and talk to each other with open minds.



With regard to concrete research projects there are number of aspects to consider, from the initial question/s and a commonly shared definition of the problem/s and the objective/s over the use of methods and protocols, the place

and responsibilities of each partner to the understanding of the results and their communication. Each stage is crucial and should not be rushed, rather readjusted, if necessary, over the course of the project.

If societal engagement in research and innovation appears today in many official discourses and programmes, its weight remains marginal when it comes to the shaping and orientation of research agendas and research projects. What is needed here is raising political conscientiousness, will and courage to support societal engagement towards more sustainable and more democratic R&I, and an open-minded and self-reflexive move within the scientific community.

“Opening up new options can be an asset for research and innovation and an enrichment not only for the social and democratic life of our society but also for research itself, which remains one of the fundamental tools of social transformation.”

Some of the main factors limiting the full use of public engagement today include the relentless focus on new technologies; the narrow framing of the role of research as a purveyor of competitiveness in a globalised market; an overly narrow definition of scientific excellence; and the disciplinary organisation of research. Society has much to gain if research funders

and performers (be they governments at all levels, public research agencies, research institutions or universities) will change this narrow approach to, and understanding of, research. Societal engagement of civil society actors and citizens in research activities would unfold its huge transformative potential. It should then contribute to relocalise, regionalise and diversify research, bringing it closer to people and opening up new strands of work. The recognition of less institutional and “alternative” research also fits with a vision of what democracy is about. Opening up new options can be an asset for research and innovation and an enrichment not only for the social and democratic life of our society but also for research itself, which remains one of the fundamental tools of social transformation.

There is no natural order of society, so we have the choice. Our model of society needs close scrutiny since “Patterns of power in society may thus be seen not only as outcomes, but also as determinants of our understandings of progress.”¹ Societal engagement in R&I is about reconsidering what kind of society we wish to build, how we can guarantee a decent life for everybody and for future generations, and how we can live in peace with other people and with nature.

¹ Stirling, A.: *Direction, Distribution and Diversity! Pluralising Progress in Innovation, Sustainability and Development*, STEPS Working Paper 32, Brighton: STEPS Centre, 2009



3 Public engagement in R&I

by Sonia Bussu, Henk Mulder, Simon Pfersdorf, Rainer Kuhn, Grace Mbungu and Linda Nierling

3.1 How public engagement is changing the relationship between science and society

Scientific and technological innovations often have important societal, ethical, economic and environmental implications with a wide range of risks and benefits for individuals, public and private interests.

New forms of governance around scientific and technological innovations that respond to societal needs have emerged as a way to ensure that R&I takes account of these multiple values and interests in decision making. While scientific expert opinions in decision making

remain crucial, decision makers increasingly acknowledge the inherent uncertainty and ambiguity of scientific knowledge with regard to practical implications. Engage 2020 publication Public Engagement - Promises, demands and fields of practice by Leonhard Hennen and Simon Pfersdorf.

From technocracy to “new contract of science and society”

The shift towards greater societal engagement with scientific and technological research and innovation has its roots in the 1960s. During this time there were, on the one hand, growing concerns about negative social and ecological impacts of industrialism (see for example *Silent*

Engage 2020 publication
Public Engagement

Promises, demands and fields of practice



Tap here to download
the PDF-document

Spring by Rachel Carsons published in 1962) and, on the other hand, increasing awareness that science and technology could bring significant benefits to social welfare. This 'participatory turn' (a word coined by Sheila Jasonoff's in an article on citizen participation in governing science) was intensified in the 1990s by controversies around 'Mad Cow Disease' (BSE) and genetic modification (GM) controversies. These events led to growing criticism of the management of the potential risks of technologies and a general mistrust of scientific evidence and policy making. Today a 'dialogue model' approach is becoming more prominent; this acknowledges that decision making on science can benefit from public views to respond better to societal needs and values. It is no longer about merely communicating scientific knowledge, but rather about what has been called "[co-production of knowledge](#)" and cooperative forms of governance involving a range of societal actors.

3.2 Public engagement and EU policy making in the eu

The Directorate-General of the European Commission is determined to bridge the gap between the scientific community and wider society. A new focus on Responsible Research and Innovation (RRI) guides research towards societal needs and advocates the use of public engagement (PE) as a new way of promoting co-operation between scientists and researchers, policy makers and a wide variety of

societal actors. The need to gear R&I towards societal needs is reflected in many high-level policy, strategy and programme documents such as the [Europe 2020 strategy](#) (2010) and [the Horizon 2020 Framework Proposal](#) (2011). [The Lund Declaration](#) (2009) and the Social Dimensions of European Research Area (2010) also highlight the importance of addressing societal needs and ethical questions in R&I.

The Lund declaration (2009) calls for "a new deal among European institutions and Member States, in which European and national instruments are well aligned and cooperation builds on transparency and trust." It says "*The identification of the Grand Challenges must engage the major stakeholders including the European Institutions, business, public services, NGOs and the research community*"

European research must focus on the Grand Challenges of our time, from global warming to tightening supplies of energy, water and food, to ageing societies and public health pandemics and security. The 2014 Rome Declaration states that "early and continuous engagement of all stakeholders is essential for sustainable, desirable and acceptable innovation".

3.3 What is Responsible Research and Innovation (RRI)?

RRI is a key element of the new European Research Policy, which seeks to foster uptake of

Sheila Jasonoff's article

Citizen participation in governing science.



Responsible Research and Innovation

Europe's ability to respond to societal challenges



The Social Dimensions of European Research Area



The Lund Declaration (2009)



the RRI by stakeholders and institutions and a crosscutting theme in Horizon 2020. RRI is based on the following principles:

- Inclusive - Involve diverse stakeholders (users, NGOs, etc.) in R&I processes.
- Anticipatory - Researchers and innovators are asked to include new perspectives in R&I, agendas for risk assessment and management.
- Reflexive - Researchers and innovators are asked to think about their own ethical assumptions and their role and responsibilities in public dialogue.
- Responsive - Flexibility and capacity to change R&I processes according to public values.

Public engagement is at the heart of all RRI principles. Engage 2020 aims to contribute to embedding RRI across all areas of science and technology R&I by mapping existing societal engagement with a focus on how and why citizens, stakeholders, CSOs and other actors can be engaged in research processes and highlighting how practices could be improved in the future. Engage 2020 also seeks to increase engagement practice by inspiring researchers, policy makers and other interested parties to connect science and society.

Want to know more?

Engage2020 resources:

<http://engage2020.eu/results-description/>

Horizon 2020 Framework Programme:

<http://ec.europa.eu/programmes/horizon2020/en/what-horizon-2020>

Key mile stones for Science and Society in Europe

What are 'The Grand Challenges'?

The Rome Declaration (2014)



Policy brief 1:

Policies and Activities Supporting Societal Engagement in Research and Innovation



Report:

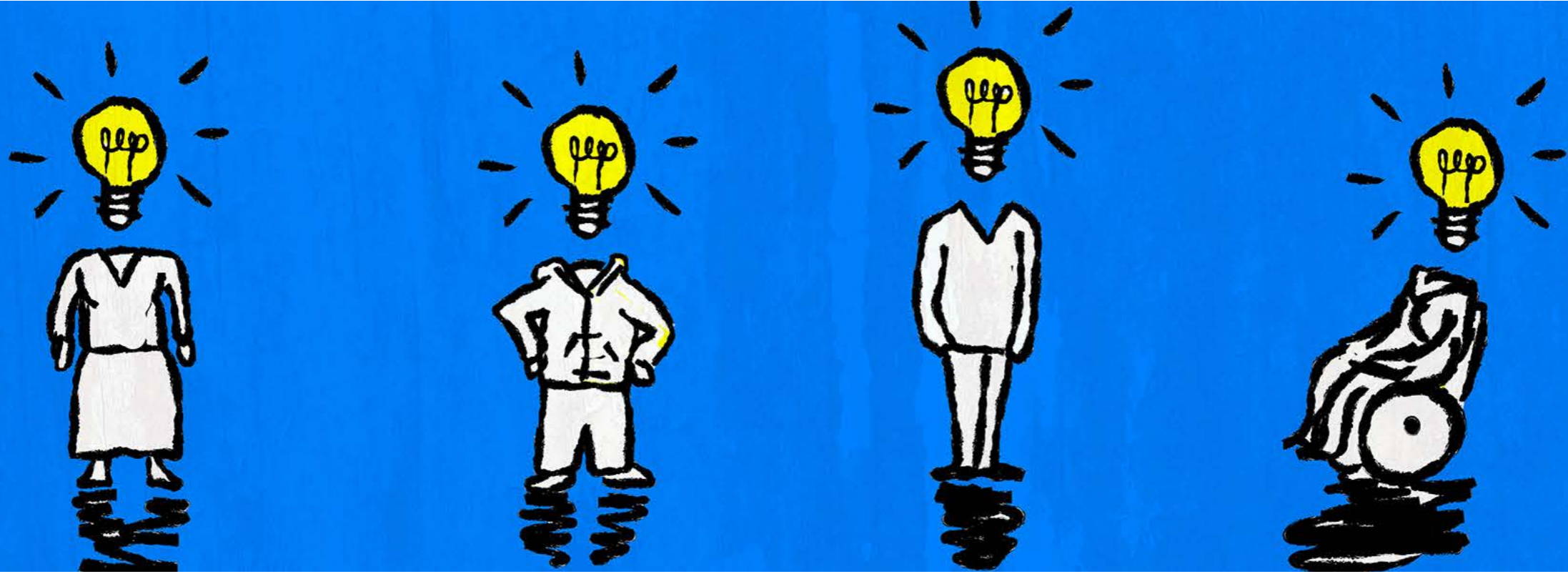
Tools and instruments for a better societal engagement in "Horizon 2020"



Engage 2020 Action catalogue

An online method tool that lets you find the exact method you are searching for





4 Who is the “public”?

by Edward Andersson, Marie Louise Jørgensen, Gy Larsen, Jako Jellema and Sonia Bussu

Public engagement processes can be differentiated according to the actors involved: stakeholders, afflicted interest groups, non-involved citizens, or the public at large.

There are different forms or objectives of engagement processes such as exploring public attitudes for decision making, mediation and conflict resolution, joint problem solving, mutual learning and co-design and production. The role and type of engaged actors might differ depending on the format and institutional context: from gauging local knowledge, to functioning as a neutral jury on contested is-

sues, to being a partner in planning and shaping innovation processes and setting the research agenda.

4.1 Involving civil society

Civil society organizations (CSOs) have played an increasing role in decision making since the 1960s, when citizens started to mobilise around environmental issues such as nuclear energy and pollution. Since then, new forms of governance have emerged, which involve co-operative and transdisciplinary ways of working. Areas of cooperation between CSOs

CSOs in R&I: benefits and challenges:

Want to learn more?

<http://www.livingknowledge.org/livingknowledge/science-shops>

<http://engage2020.eu/media/D2.1-Public-Engagement-Promises-demands-and-fields-of-practice.pdf>

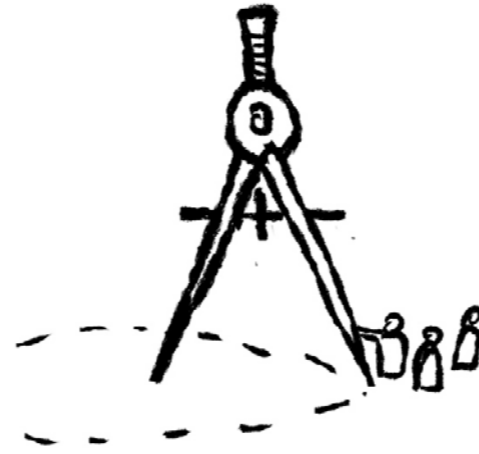
and scientists include: health; sustainability and environmental safety; water management; mining; energy; forestry and agriculture. [Link to Case Studies, chapter 8.](#)

CSOs can participate in all steps of a research project from initiating a project, to dissemination and outreach activities; they can give research projects orientation from the outset and can also be part of the research process. They provide decision-makers with information about societal needs and expectations. They review research proposals and ongoing projects and can have influence on defining specific research programmes. They also participate in the decision making process on the regulation of scientific applications. However, in terms of R&I policy making and programme definition in general the influence of CSOs appears to be rather marginal and the direct involvement of CSOs on project definition and research execution level is limited to the medical and health sector, outside of Science shops.

4.2 Engaging citizens

Citizens can be involved in a number of ways, depending on the purpose of engagement (link to section 5.1.), from crowdsourcing ideas or gathering data for science projects to offering informed public opinions that can shape upstream governance of new science and technologies. Citizen engagement can help shape the research process and could inform the direction of new developments in science and

technology so that they responds better to society's needs and values.



There is also a strong argument that citizens should be involved in R&I in their capacity as tax payers, with a democratic right to shape how their investment is spent.

Citizens are members of a community or society and therefore are by definition in a relatively enduring relationship with their community by virtue of the rights and responsibilities that bind them in. Under an instrumentalist perspective, to focus merely on a consumer approach to engagement fails to address the mounting levels of public distrust in a number of institutions, as well as emerging ethical issues linked to new developments in science and technology and their impact on society.

These issues require a balance between consumer and citizen interests and demand some rethinking of the relationship with the public, focusing more on two-way communication, public discussion and positive engagement.

4.3 Involving consumers and end-users

Modern economies (with rapidly developing technologies and changing markets) demand that industries respond to the expectations and needs of consumers and users in order to be economically successful. 'Users' are individuals who have specific knowledge about a context or the application of a product. They are everyday experts in the application of technologies to their every-day lives. Individual end-users are involved because of their practical, contextual or implicit knowledge and their potential expectations towards the improvement of a product or a situation.

Engagement of users in R&I is most relevant for product development or product improvement – more on the innovation than the research side of R&I. In R&I user involvement takes place in fields such as computer science, medical research, social science engineering, mathematics and business. User involvement is also popular within commercial settings such as software design and web development, and all kinds of consumer product development.

Most user involvement is organised and led by scientific or technological experts. However, users can also initiate innovation processes, and recent developments such as the so called [Fablabs](#) offer the opportunity for users to become producers themselves.

User involvement has many benefits, as it can

- decrease development costs;
- reduce marketing costs;
- accelerate diffusion.

User involvement also reduces uncertainty by providing developers with a more reliable picture of user demands and needs.

It can involve different stages.

- In the **understanding phase** (1), designers need to learn about the needs of the end-user groups and to what extent these go beyond the state-of-the-art technology.
- In the **conceptualization phase** (2), the target group is more focused, developers and users brainstorm ideas about how to address the identified needs and identify best practice cases.
- Finally, in the **testing phase** (3), the product is checked, evaluated and, if needed, improved. After that, the business modelling should explore the market conditions for the innovation.

4.4 Employee engagement in the field of workplace innovation

Engagement of employees in management and organisation of work processes is nowadays widely referred to as “workplace innovation”.

This involves employees carrying out human, organisational and technological innovation.

Innovations in the workplace reflect attempts to move from hierarchical and rigid types of organisation towards more collaborative and flexible structures where teams and/or individual workers contribute new ideas and practice.

The issue of how much right the workforce should have to be involved in decision making about work processes is as old an issue as is industrial capitalism. Increasingly evolving economies and social change mean that industrial workplace structures do not fit with the demands, expectations and preferences of the 21st century workforce. Today a level of ‘Industrial democracy’ is achieved for example through [shop stewards committees](#) and representation of worker interests by trade unions.

Attempts to improve working conditions and organise work in an economically effective way and according to employees’ demands and needs has found much support within the EU, which launched the [European Workplace Innovation network](#) (EUWIN).

Involving people as employees can mean more sustained engagement than with a more external group.

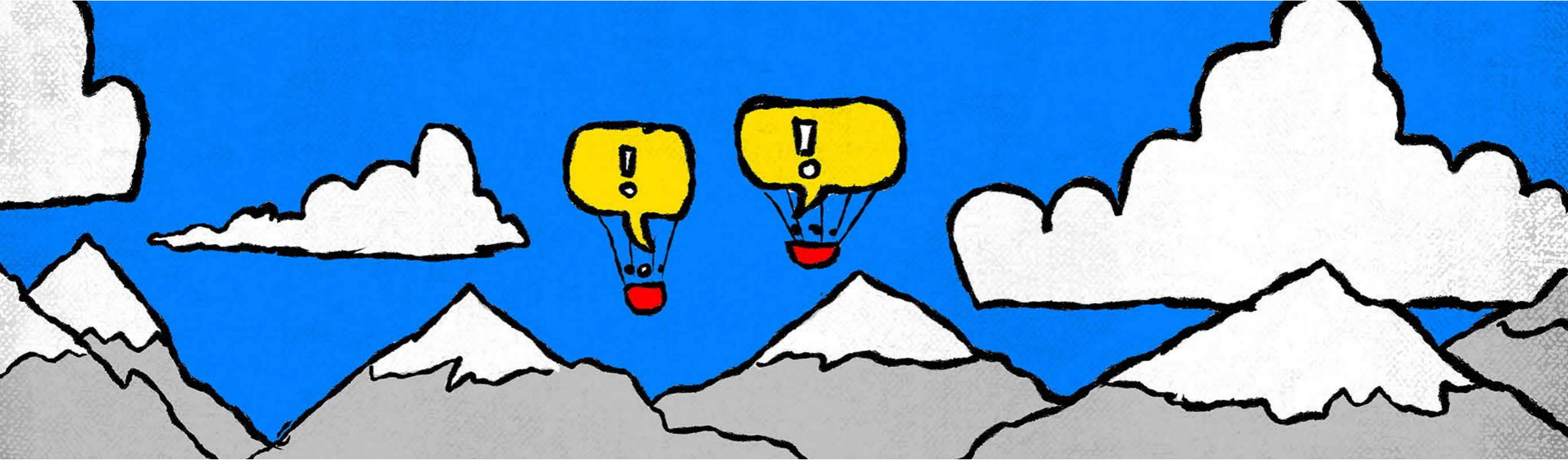
Want to know more?

Engaging CSOs in research agenda setting:
<http://www.livingknowledge.org/livingknowledge/widgets-collection/deliverables-of-perares/perares-deliverables-at-a-glance>

Links to Global Networks (allied in GACER):
<http://communityresearchcanada.ca/?action=alliance>

Living Knowledge Network:
<http://www.livingknowledge.org/livingknowledge/>

Public Engagement in the Workplace:



5 Engaging the public in R&I: why, when, & how

by Edward Andersson, Henk Mulder, Rainer Kuhn, Zoya Damianova and Sonia Bussu

5.1 Why: start with the purpose of engaging

When deciding to open up an engagement process, it is important to have a clear purpose, which will inform when (or at what stage of the research cycle) and how (what methods are best suited) to engage. Of course one cannot be prescriptive and often a mix of stakeholders and creative use of methods might be required .

Having a clear understanding of why you want to engage with the public is a first crucial step and will affect what type and numbers of public(s) you should involve.

The mechanisms of participation should be calibrated along a spectrum of inclusiveness depending on the scope of participation. Do you plan to involve citizens to:

- Gauge public opinions on a particular science project/ issues and/ or new technology?

- Assess a new technological application?
- Help researchers gather data for a given project?
- Have a broadly representative sample of people make judgments and or decisions which might inform policy making?
- Get the public and experts (e.g. researchers; policy makers) to collaborate to co-create knowledge and co-produce innovation?

Haklay's typology can help visualize this distinctions.

Level 4 "Extreme Citizen Science"

- Collaborative science - problem definition, data collection and analysis

Level 3 "Participatory science"

- Participation in problem definition and data collection

Level 2 "Distributed Intelligence"

- Citizens as basic interpreters
- Volunteered thinking

Level 1 "Crowdsourcing"

Citizens as sensors

- Volunteered computing

Table : Participatory levels of citizen science (Haklay 2012, taken from Science Communication Unit 2013)

Whereas crowdsourcing, submissions, hearings, or opinion surveys can offer a comprehensive range of responses, deliberative polls, citizen juries and public dialogues can help researchers and policy makers gain more informed responses that can shape decisions.

The scale and scope of the research project will also influence the method of public engagement. Who is affected and by which degree? These considerations will impact on what groups or representatives of individuals should

be involved in participatory mechanisms. Giving a variety of methods will obviously lead to a greater variety of people responding.

For instance, involving affected publics through purposeful selection (e.g., patients/ carers) might be more conducive to co-production of new solutions and co-creation of knowledge around a specific issue. Focus groups and citizen panels can be more representative of the community and inclusive of marginalised groups.

5.1.1 Technology Assessment

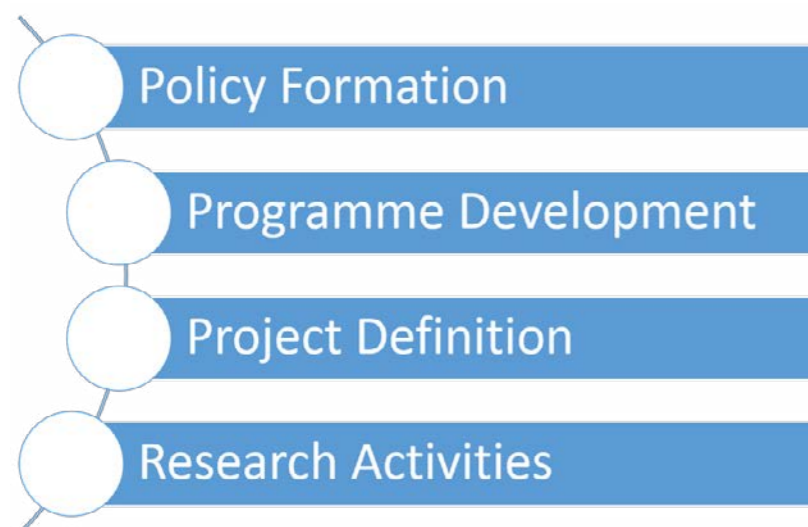
[Technology Assessment](#) (TA) is an approach used to study and evaluate new technologies. It is based on the idea that new scientific and technological developments are relevant to wider society and that developments are never free of ethical implications. TA aims to deliver a complex, comprehensive, open and transparent assessment of possible (positive as well as negative) effects of new technological and scientific developments. It takes into account different scientific perspectives and a broad range of values and interests held by different groups in society. It seeks to support society, politics and science in dealing with uncertainty in a pragmatic, rational and democratic way.

Different levels of Engagement:

More on Technology Assessment:

5.2 When and how? understanding the research cycle and what methods work best at different stages

We have identified four different levels of the research and innovation process: policy formation, programme development, project definition and research and innovation activities.



Public engagement is possible at all stages of the research cycle, but different considerations should be made at each stage over how and which public to engage, so as to maximize the impact of engagement.

Many specific methods of public and societal engagement have been developed to facilitate citizen participation in R&I. There are also growing efforts to develop web based or other digital engagement tools. A fuller list of methods can be found at www.actioncatalogue.eu/.

5.2.1 Policy formation

Policy formation refers to setting the conditions for R&I activities. These include developing funding policies and financial instruments for research programmes; rules and instruments on responsible R&I, etc.

Two examples of engagement methods at this stage are the Consensus Conference and The World Wide Views concept.

[The consensus conference](#) is a method designed by the [Danish Board of Technology](#) in 1980s and is one of the earliest attempts to include the input of ordinary citizens on decision-making. The purpose of consensus conferences is “to qualify people’s attitudes, inasmuch as they are given all the information they require until they are ready to assess a given technology.” Consensus conferences work well to assess technologies with clear ethical and societal implications. Where issues are value-laden the public’s expertise can be most important to assess regulatory requirements, to ensure the technology responds to societal values.

The [World Wide Views method](#), developed by the [Danish Board of Technology](#) and other partners in the World Wide Views Alliance, allows for multiple sites debate on the same day over the same policy related questions on a given issue – see case study in the next section. [\(Link to Chapter 6 Case studies.\)](#)

Engage2020

Tools and instruments for a better societal engagement in “Horizon 2020”

Deliverable 3.1 - Report on Current Praxis of Policies and Activities Supporting Societal Engagement in Research and Innovation



How does a Consensus Conference work?

To learn more:



Similar methods:

<http://jefferson-center.org/what-we-do/citizen-juries...>

5.2.2 Programme development

Programme development is the process of defining the content and the calls in R&I research programmes. This process generally involves member state representatives (for European research), programme committees, the research community, through different platforms and hearing processes.

At this level civil society and citizens are hardly ever involved, although there exist examples of less structured engagement, through on-line hearings and calls for ideas. There are growing efforts to involve the public in the definition of programmes, for instance through direct involvement of CSOs and affected groups depending on the different policy areas (e.g., patients, educators, etc.) or larger constituencies of concerned groups (e.g., environmental or social NGOs). In section 5.3 you'll find a few cases of direct citizen involvement in formulating visions for research programmes ([Link to CIVISTI](#)).

5.2.3 Project definition

CSOs, affected people, employees, etc. can be involved in shaping the research question and the focus of a research or innovation project to ensure it is relevant for the local community and responds to societal needs and values.

Examples of engagement at this level include participatory research approaches and meth-

ods such as Science Shops . The scope of this type of engagement could be for example to ensure up-stream involvement of relevant societal groups.

5.2.4 Research and innovation activities

As well as helping to raise citizens' awareness of research and innovation, engaging society directly in the research and innovation activities may help researchers collect new empirical data); improve the relevance and the implementation of research and innovation results (for example through Science Shop related activities). It can also help citizens and civil society stakeholders co-create new knowledge and co-design and produce innovation.

An interesting Danish development around public engagement on S&T is the so-called MindLab (LINK to box), based on the concept of the Living Laboratory, which integrates concurrent research and innovation processes within a public-private-people partnership operating at a local level (the so-called Public-Private-People Partnership). Living Labs involve user communities, as observed subjects and as a source of innovation to co-create knowledge ([also see FabLab in Chapter 4. Section 4.3 – engaging users](#)).

Community-Based Participatory Research & Participatory Action Research

URL: <http://www.participatoryactionresearch.net/>

URL: <https://www.dur.ac.uk/beacon/socialjustice/prh/>

Science shops

URL: <http://www.livinknowledge.org>

Citizen science

URL: <http://en.wikipedia.org/wiki/Biohacking>

MindLab

URL: <http://www.theiteams.org/case-studies/nesta-innovation-lab-0>

5.2.5 A few examples

This sections offers a few examples of how the engagement purpose might determine when and how to engage people. However, this shouldn't be understood as a prescriptive guide: different methods might be combined and/ or used at different points of the research cycle.

Why: Gauge public opinion on ethical repercussions of emergent technology	
WHEN: Upstream engagement (Policy formation/ programme development)	HOW: Consensus Conference Citizens' Juries
Why: Develop a new technology	
WHEN: Project Definition	HOW: Science Shops Future Panel (select stakeholders)
Why: Assess a technology	
WHEN: Monitoring and evaluation/ Research activities	HOW: Online/ offline user panels Focus groups

5.3 A a typology of participatory methods for R&I

Based on the four dimension described above we have developed a typology of involvement categories, which takes account of the role of the research organisation and the type of participatory process; the initiative for the engagement process shifts from the researchers towards the civil society from left to right.

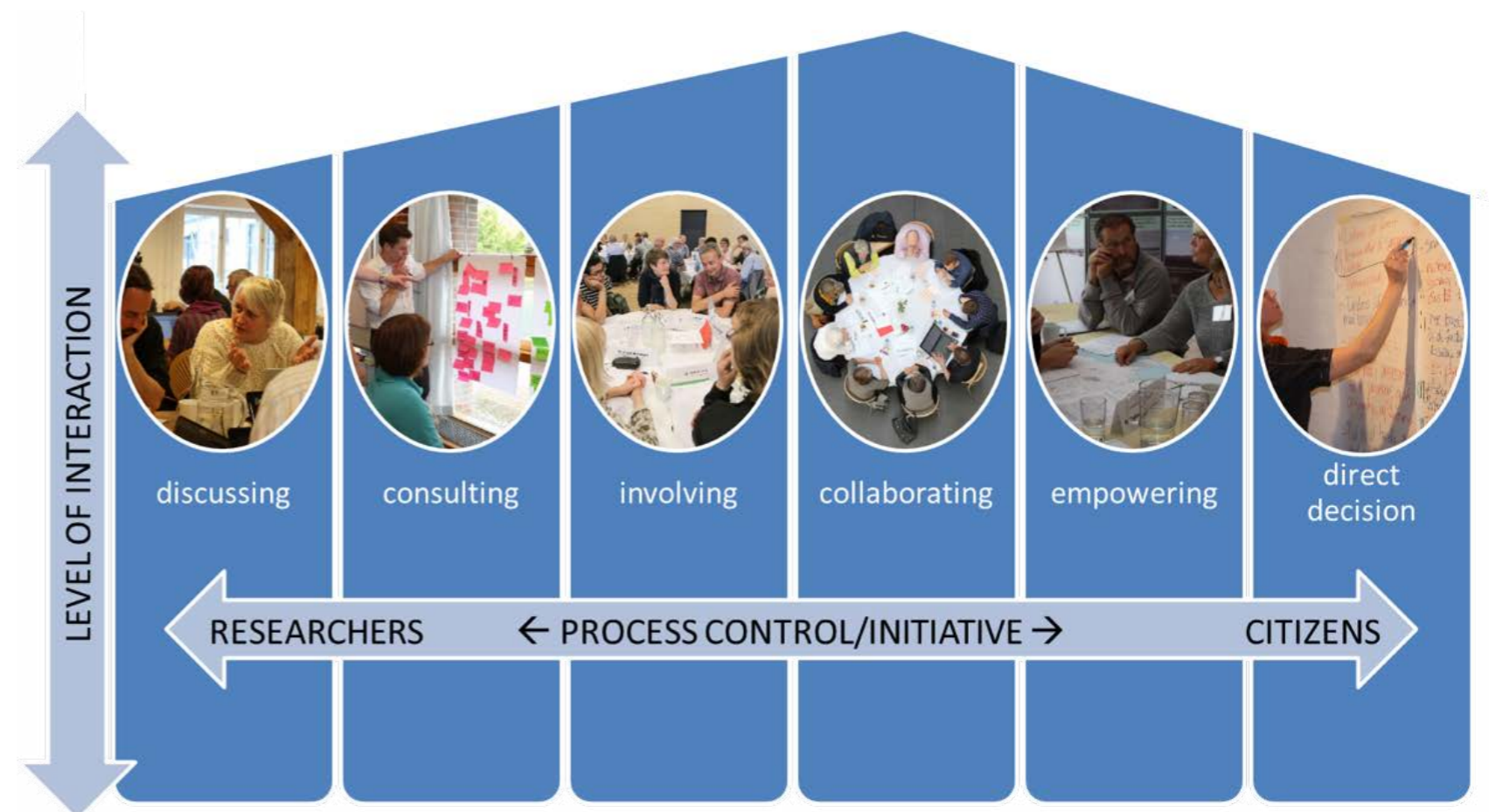


Table:

Levels of engagement

Table:

Policy levels & methods

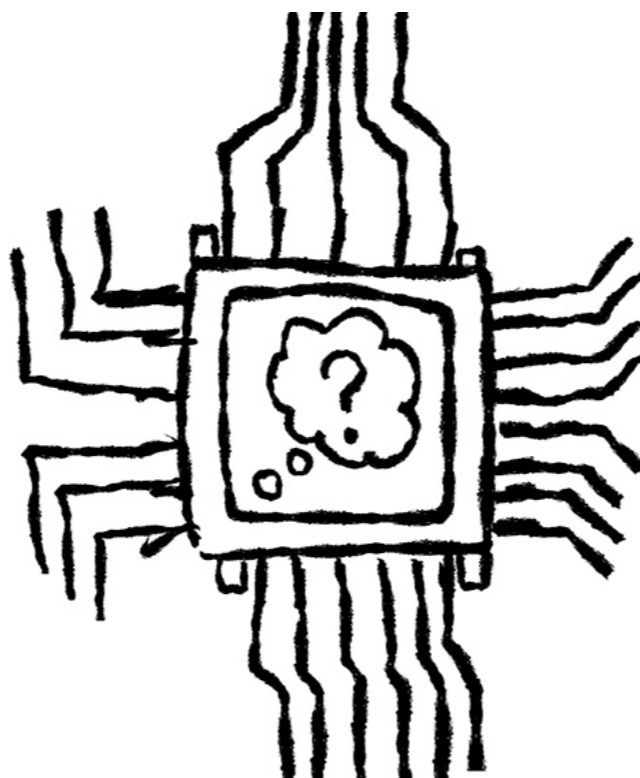
5.4 Online and offline methods

We are currently living through a dramatic time of technological and social change, brought on by the rapid development in information and communication technologies. These new developments which have radically reduced the cost and resource requirements of communicating, creating, copying and sharing information. This is having dramatic impacts also on engagement. There are a lot of hopes pinned to digital technologies making engagement cheaper, faster and more widespread. There are also many practitioners who feel that its impact is likely to be less than many hope for. There is a [lively](#) and [ongoing debate](#) about the role of digital technology in public engagement, at different point in the research and policy process.

Online methods have been criticised by a number of engagement practitioners for lacking in deliberative quality or being unable to provide a representative selection of overall society (the digital divide argument). On the other hand some engagement practitioners have incorporated digital and online tools into their work (see for example the work of [AmericaSpeaks](#)). There are also growing attempts at replicating the [deliberative experience in an online only format](#). [Link to Chapter 6 Case studies](#).

Perhaps to turn the question of digital technology in engagement into an “either or” is

unhelpful. It is clear that digital technology will play a role in the future; and rather than asking if it will replace existing forms of engagement it is more fruitful to ask ourselves how digital developments could enhance what we already have.



While it will become increasingly possible to run engagement processes from start to finish online, there are a number of reasons why this may not become widespread:

- It might not necessarily be cheaper and there are added challenges of maintaining the engagement and focus of participants;
- Although software tools have been developed to facilitate online deliberation discussions, the quality of face-to-face communication and interaction still remains much higher.

Some of the most valuable uses of digital technology are likely to come from the combination of online and face to face engagement.

There are some areas where digital methods have advantages over face to face methods:

- Asynchronous conversations – participants can take part in conversations when it suits them.
- Dispersed conversations – Participants can take part over great distances.
- Instant conversations – Participants can converse directly with one and other and do not necessarily need an intermediary.
- Anonymity – for cases where participants might normally be reluctant to speak freely digital techniques provide one option.
- Digital information – since the information gathered and created is digital it can be indexed and searched.

[Link to chapter 8.3](#)

Want to know more?

Participatory methods

Engage2020, Action catalogue:

<http://actioncatalogue.eu/>

Public Engagement Methods and Tools:

<http://engage2020.eu/media/D3-2-Public-Engagement-Methods-and-Tools-3.pdf>

Report on Current Praxis of Policies and Activities Supporting Societal Engagement in Research and Innovation:

<http://engage2020.eu/media/D3.1-Current-Praxis-of-Policies-and-Activities.pdf>

Democracy Cookbook:

<http://cmsnew.pdst.ie/sites/default/files/Democracy%20Cookbook%20Part%202%20Recipes.pdf>

Participation Compass:

<http://www.participationcompass.org/>

Participedia:

<http://participedia.net/>

Beteiligungskompass (German):

<http://www.beteiligungskompass.org/>

Results from the PE2020 project will be published at this address:

<http://pe2020.eu/results/>

Science Shops :

<http://www.livingknowledge.org/livingknowledge/science-shops>

[http://www.livingknowledge.org/livingknowledge/science-shops/documentation \(specific\)](http://www.livingknowledge.org/livingknowledge/science-shops/documentation%20(specific))

<http://www.livingknowledge.org/livingknowledge/science-shops/suggested-reading>

Reports on starting Science Shops:

<http://www.livingknowledge.org/livingknowledge/wp-content/uploads/2012/02/wp2-so.pdf> (2001)

http://www.livingknowledge.org/livingknowledge/wp-content/uploads/2014/09/Report-Supporting-new-Science-Shops_Deliverable-D4.2.pdf (2014)

To register as 'member' (free) of Living Knowledge and join the listserv:

<http://lists.ucc.ie/cgi-bin/wa?SUBED1=LIVINGKNOWLEDGE-L&A=1>

Citizen Science

<http://www.citizensciencealliance.org/>

<http://www.galaxyzoo.org/>

Distributed Dialogue

<http://www.involve.org.uk/blog/2010/04/06/talking-for-a-change/>



6 Engaging the public in R&I: why, when, & how

by Sonia Bussu, Blagovesta Chonkova, Desislava Asenova and Henk Mulder

6.1 Why: start with the purpose of engaging

This section offers a number of case studies that demonstrate how citizen engagement in R&I can happen at various stages of the research cycle. These case studies cover different policy areas, each in relation to one of the seven Grand Societal Challenges:

1. health and demographic change
2. food security and sustainable agriculture
3. clean and efficient energy
4. green transport
5. climate change and resource efficiency
6. inclusive and innovative societies
7. security.



Case study 1

European Wide Views on Sustainable Consumption

On 25 October 2014, 11 European countries took part in a EU-funded multi-site deliberative process to discuss sustainable consumption, as part of the PACITA project. The process involved more than 1000 European citizens. It was based on a method developed by the Danish Board of Technology, called World Wide Views. The rationale was to demonstrate the potential of societal engagement on issues related to science and technology policy and to inform EU-wide policy making on the topic of sustainable consumption.

Source: Europe Wide Views on Sustainable Consumption Policy Report

What was the purpose of this engagement process?

In order to tackle one of today's greatest challenges – climate change – European societies need to make policy choices on improving the sustainability of European economies and protecting the environment. Policy choices, however, are closely linked to the choices that individuals make in their everyday life and to the level of interference into citizens' consumption choices that would be acceptable to them. Involving citizens into policy formulation over Grand Societal Challenges, namely "Climate action, environment, resource efficiency and raw materials", and in particular the topic of sustainable consumption is therefore essential to make sure policies respond to citizens' perspectives and needs. This, on the one hand, increases the democratic base of policy making processes; on the other, it improves the

acceptability and effectiveness of the implemented policies.

These were among the major considerations that informed the choice of consortium of partners in the PACITA project to use the method World Wide Views on the topic of sustainable consumption, involving 11 European countries and over 1000 citizens.

Applying the method

The method World Wide Views (WWV), which in this case was referred to as European Wide Views (EWW), as only European countries were involved in its application, was used to engage European citizens in simultaneous debates on the issue of sustainable consumption with the aim of providing policy advice to politicians and policy-makers on the EU (and possibly national) level.

Facts about the Engagement method:

URL: <http://citizenconsultation.pacitaproject.eu/>

What is PACITA?

What is WWV?

Citizen consultations were held on 25 October 2014, in Austria, Belgium (Wallonia), Bulgaria, Denmark, the Czech Republic, Hungary, Ireland, Lithuania, the Netherlands, Portugal and Spain (Catalonia). As the EWV method was applied as part of the PACITA project, it involved only partners from the PACITA consortium. The number of participants in the 11 countries was around 1030 lay persons. The participating citizens were of different age, gender, settlement, education, and occupation in order to represent the diversity of views among European citizens. Participants were selected following two main criteria:



Source: *Europe Wide Views on Sustainable Consumption Policy Report*

- i. participants need to be lay people with no prior expertise in the field of sustainable consumption;
- ii. they should reflect the demographic diversity of the respective country.

The consultations in each country followed the same agenda and consisted of four thematic sessions, each focused on a different aspect of sustainable consumption:

- iii. i) introduction to the concept of sustainable consumption;
- iv. shifting consumption towards sustainability;
- v. reducing consumption; and iv) reducing waste. Each session started with an information video after which participants discussed the questions in groups of 8-9 people. The group discussions were facilitated by a trained moderator. Following about a 45-minute discussion on each theme participants were given a questionnaire sheet and were asked to vote on questions related to the specific theme. The questionnaire was prepared in advance by the organisers and aimed to gather the views of the involved citizens, which served as the basis for the analytical policy report (see Section Results and Impacts). Before and during the meeting, citizens were provided with information materials – information booklet and short videos – which presented the topic of discussion in an accessible way, in order to introduce citizens to the topic and prepare them to participate in the debates and make informed decisions. The votes from each session were collected and reported online; they were immediately made publicly accessible on the project's website for review and comparison.

Preparation phase

Considering the complexity of the method, careful planning and implementation in the preparation phase is essential. In particular, the recruitment process, described above, can be complex and expensive.

A crucial part of the preparation phase is the development of the information pack and the formulation of the survey questions. Relevant stakeholders, such as representatives of the European Parliament and the European Commission, were involved at this stage to identify the most important aspects on the topic of sustainable consumption and incorporate these in the information material and questionnaire. A special web tool was developed and used to keep track of the results from the voting on the questionnaire by the participating citizens.



Considering that not all partners have had previous experience with the method, a one-day training took place a few months prior to the citizen consultation, which aimed to improve organisers' understanding of the method and help them prepare and implement the method.

Results and impacts

The main output of the citizen consultations was a policy report containing nine policy recommendations over sustainable consumption. The report was based on the [results of the voting](#) as well as the notes from the discussions at a few tables. The results were discussed by a working group from the consortium at a policy

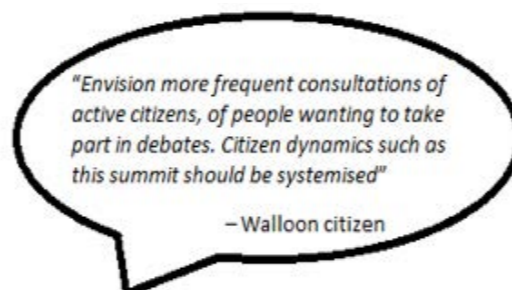
workshop in Copenhagen shortly after the citizen consultations took place. The policy report was presented to representatives of the European institutions and other interested stakeholders in March 2015 in Brussels.



Some of the major benefits from applying this specific engagement method are:

i. The method's application contributed to raising public awareness on the specific topic of sustainable consumption among citizens across Europe. The method's format and the engagement of citizens in small group discussions on the different aspects of sustainable consumption can foster greater knowledge and improve citizens' understanding compared to what achieved using traditional educational materials and information campaigns.

ii. The engagement process can help policy maker have a better understanding of citizens' views and can help inform better policy making that responds to societal needs and values.



iii. The overall feedback from the organisers in all countries was that citizens were eager to participate in the discussions and many expressed their willingness to participate in such engagement activities in the future. Sharing their experiences with their families and friends, these citizens would serve as ambassadors of public engagement.



iv. The organisers of the citizen consultations in the different countries gained valuable experience and skills in applying the method, engaging citizens in policy making and developing policy recommendations. The involved organisations built capacity in public engagement activities, which they can use in the future.

Policy Report

Europe Wide Views on Sustainable Consumption



Similar projects

WWV on biodiversity:

<http://biodiversity.wviews.org/>

WWV on global warming:

<http://wviews.org/>

Case study 2



Source: www.civisti.org

Citizen Vision on Science, Technology and Innovation (CIVISTI)

Between 2009 and 2011 a consortium of partners from seven EU countries developed and tested a new approach for citizen participation in research agenda setting. National-level consultation panels were organised where participants could share their needs, concerns and visions for the future. These were “translated” into EU-relevant policy options and research priorities in the field of R&I, with the help of relevant experts. This newly developed participatory method made a unique contribution to the field of foresight as it gave citizens the opportunity to influence long-term programme development of science and technology.

What was the purpose of this engagement process?

The rapid changes occurring in today's globalised world (e.g. from technological development to migration and the formation of multi-cultural societies, to the depletion of natural resources and climate change) often translate into complex crises and uncertainties which need addressing. Science plays a key role in this respect. In order to align scientific research with societal values, needs and concerns, and move closer to solving the grand societal challenges, citizens should be involved in the development of R&I programmes and research agenda setting.

With the aim to assist European decision-makers in the process of identifying new, emerging topics for EU research policy and programme development, a consortium of partners from across Europe worked on the development of

a new engagement method in order to facilitate the inclusion of European citizens' perspectives in this process.

With the launch of the Horizon2020 programme, the European Commission strengthened its approach of bringing science closer to society, to address the societal challenges of today.

Applying the method

The project CIVISTI was a “learning-by-doing” project as the methodology of the CIVISTI method was developed and used for the first time within the project.

The CIVISTI project's specific objectives included

- i. consult national citizen panels through an informed deliberation process, focusing on citizens' long term visions, needs and concerns

Facts about the Engagement method

URL: <http://www.civisti.org/>

The CIVISTI project

What is the CIVISTI method?

- ii. develop criteria for transformation of the visions into relevant areas for future science, technology and innovation activities;
- iii. apply the criteria through stakeholder and expert participation processes, analyse citizens' visions and transforming them into possible priorities for research programmes;
- iv. validate and develop the priorities through a second round of citizen consultations.

CIVISTI consisted of three major phases. Prior to the event, information materials were distributed in order to set the ground by inspiring the citizens to think about the future.



During the **first phase**, seven national-level citizen consultation panels were held between May and June 2009 in the seven partner countries: Austria, Belgium (Flanders), Bulgaria, Denmark, Finland, Hungary, and Malta. The participants in the panels (approximately 25 people per panel) were selected to be of dif-

ferent age, education and occupation in order to ensure diversity of views. During the consultations the citizens were asked to describe their vision of the future. They were divided into several small groups of 5-6 people and discussed their dreams and concerns for the future 30-40 years, including personal, national, European and global level issues.



Each national panel resulted in a list of visions for the future as perceived by the participating citizens in the respective country. The visions formulated in the seven participating countries were presented in individual country-specific *visions catalogues*. These were later summarised in a content analysis report detailing thematic content across 37 topics, e.g. ageing, environmental awareness, genetics, health-care and medical services, ICT, automation and artificial intelligence, and smart materials. The visions catalogues and the content analysis report served as the basis for the **second phase** of the method's implementation, namely the

formulation of recommendations for research agenda themes and policy options for European research and innovation. A two-day expert workshop took place in Sofia in June 2010, where a final list of 30 recommendations was prepared.

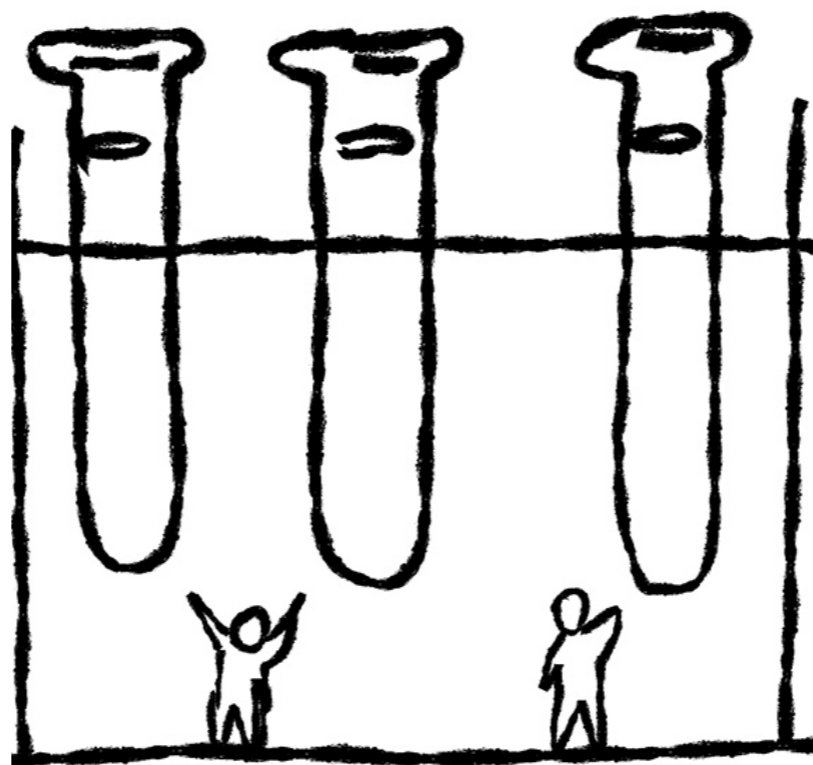
The **third phase** consisted of a second round of the national panels, involving the same people as in the first consultation, to validate and prioritise the recommendations formulated by the experts. At the end, a final policy report, encompassing topics of relevance to future European science and technology, was developed and presented to the relevant national and EU-level policy makers at a Policy Workshop in Brussels in January 2011.

Results and impacts

As a result of the project's implementation, the consortium partners identified new and emerging issues in the European R&I field from the viewpoint of the European citizens and formulated policy options of relevance to future European research policy. The main aspiration of the project was to consult European decision-makers in the process of the development of Horizon2020 Framework Programme for Research and Innovation and defining its priority areas. Bringing citizens' perspectives in the development of the European research agenda is a major endeavour which can bring science closer to solving the great societal challenges of today.

The other major contribution of the project was the development of an innovative participatory methodology which builds on the interplay of foresight and participatory technology assessment, involving citizens in a cost-effective way. The method allows for mediation between relevant interest groups such as citizens, experts, and policy-makers, taking a more holistic approach to policy formulation and programme development in the area of R&I. Thus, the focus on citizen inclusion, by taking the demand side in science and technological development as a starting point (i.e. the needs and trends of society and societal development), can help address the democratic deficit in the EU decision-making processes in the field of science, technology and innovation.

The CIVISTI project further contributed to the expansion of the European foresight capacity. New European actors were involved in foresight activities and contributed to building capacity on foresight. The involved institutions and researchers gained valuable insights and experience with applying engagement methods in the field of R&I.



Similar projects

Ambient Assessed Living:

<http://www.oeaw.ac.at/ita/en/projects/civisti-aal>

Public Participation in Developing of Common Framework for Assessment and Management of Sustainable innovation (CASI):

<http://www.casi2020.eu>



Source: Final Report of European Voices for Active Ageing

Case study 3

European Voices for Active Ageing (EVAA) – World Café

In 2012, around 700 adults aged 50-95 took part in participatory dialogues conducted as thematic cafés in six European countries – Germany, France, Great Britain, Italy, Spain and the Czech Republic. The meetings were held as part of the international project “European Voices for Active Ageing” (EVAA), the major objective of which was to improve the engagement of adults aged 50+ in public discussions on active ageing. By applying the World Café engagement method, consortium partners aimed to provide a platform for a participative and intercultural dialogue concerning the theme of active ageing.

What was the purpose of this engagement process?

Ageing societies is a pressing issue on the agenda of today’s Europe. By 2050 the number of elderly Europeans is expected to increase almost two times, which will affect policy-making processes, business opportunities and European societies at large for decades to come.

In order to cope with the challenge of ageing societies and to ensure the wellbeing of elderly adults (thus, addressing one of the Grand Societal Challenges formulated by the European Commission, namely “*Health, demographic change and wellbeing*”), their voices need to be heard in the process of policy formulation. Meetings with elderly people were held in six European countries, organised as part of the “European Year of Active Ageing and Solidarity between Generations 2012”. The meetings

aimed to foster a sense of community among the participants and promote pan-European thinking, as well as to provide a platform for participative and intercultural dialogues concerning active ageing. Participants could share personal experiences and ideas related to active ageing, as well as formulate innovative solutions for it.

Applying the method

During the project’s lifetime, six meetings were held in 6 different countries and cities, namely Bilbao, Bonn, Prague, London, Bologna and Strasbourg, in order to better reflect European cultural diversity. Around 100 participants took part in each meeting. The topics discussed included social Innovation and the role of adults aged 50+, civic engagement of adults aged 50+, changing the perception of ageing, and doing physical activities.

Facts about the Engagement method

URL: <http://www.worldcafe.eu...>

What is EVAA?

What is World Café?

The meetings followed the same agenda. All venues were provided with round tables and chairs so as to recreate the atmosphere of a café. People were divided into small groups. The meetings consisted of four rounds of conversation with each lasting around 20 minutes. After the first round each person moved to another table with only one person staying on the same table in order to share what was discussed during the previous round. At the end, participants were invited to share their results, which were also presented visually on graphic recordings involving capturing of people's ideas and expressions in words, images and colours.



Source: *Final Report of European Voices for Active Ageing*

Results and impacts

As a result of the meetings, many ideas and innovative recommendations related to issues that matter to older Europeans emerged. They were presented to policy-makers at local, na-

tional and European level. The project further contributed to empowering the elderly by actively involving them in both the conceptual development and hosting of the World Café meetings, providing them with opportunities for personal leadership development and life-long learning. Participants' feedback also contributed to developing more advanced coaching workshops and establishing a network of experienced and motivated elderly adults to create meaningful and effective dialogues about issues across Europe that are of interest to them. Inspired from the positive results of the meetings, World Café Europe developed an "Active Citizens Engagement" (ACE) network, which provides interested citizens the opportunity to make a contribution to positively changing the perception of ageing.

Final Report

European Voices for Active Ageing (EVAA)



Tap here to download
the PDF-document



Source: INPROFOOD Book of proceedings

Case study 4

INPROFOOD – Open Space Conference

A conference was held in November 2013 in Brussels as part of the INPROFOOD project. Around 70 experts and stakeholders from all across Europe and the world spent a day discussing the future of research in the area of food and health. The conference was based on the Open Space Technology with the participants developing their own agenda according to their areas of interest and expertise. The aim of the conference was to facilitate networking across countries and actor-groups in the field of food and health related techno-science, to share insights and experiences, and to initiate new partnerships and identify new relevant topics for research in food and health.

What was the purpose of this engagement process?

Due to the increases in obesity and diet-related chronic diseases (such as diabetes and cardiovascular diseases) in the EU, member states have recognised food and health as a key policy and research priority. These issues have also been listed among the Grand Societal Challenges in the research agenda of the European Commission for the programming period 2014-2020.

Societal patterns in food consumption and their effects on the health of individuals are determined by a multitude of interrelated and complex factors. A dialogue among research institutions, industry and civil society is therefore required, if we want to make a transition towards more sustainable food consumption and attain a reliable and socially robust vision of how technological innovations and innova-

tive social measures could contribute to dealing with food-related health issues.

The efforts of policy makers across the EU to increase the public awareness on these issues have not led to significant changes in the food purchases and food consumption in the EU member states. Innovative approaches based on shared understanding of the problem and collaboration in policy, practice and research are required in order to give impetus to healthier eating and living. The INPROFOOD project aimed to contribute to this ambitious task via conducting various national and EU level engagement activities that encourage dialogue and mutual learning between the various stakeholders in the field, i.e. the industry, academia, civil society and policy-makers. One of the project's key initiatives was the implementation of the 'Open Space Technology' engagement method, which encouraged the participating stakeholders to share their perspectives

Facts about the Engagement method

URL: <http://www.inprofood.eu/>

What is INPROFOOD?

and preferences in regard to various aspects of food and health. The method's application allowed for the collection of qualitative data in a short time, such as which topics are of greatest interest to the stakeholders and what the positions of the participating stakeholders are.

Applying the method¹

On 15th November 2013, around 70 participants from 18 countries gathered together at a one-day conference in Brussels to discuss how to shape the future of research in food and health. The participants came from all relevant sectors and stakeholder groups, including representatives of industry associations, companies from the food production sector, scientists, public authorities, and NGOs working in the field of food and health. The conference aimed to develop new topics for future research across countries and stakeholder groups in the field of food and health related techno-science, to allow participants to share insights and experiences and, thus, encourage mutual learning and to facilitate the formation of new partnerships.

The event commenced with all the participants sitting in a circle with the main facilitator standing in the middle of the room. At the beginning, the facilitator introduced the theme of the conference and explained the format of

the event, as well as the rules to be followed during the day. One of the specific features of Open Space Technology conferences is that the agenda setting, the facilitating of group discussions, and reporting are all in the hands of the participants. The time-slots for the group discussions were also specified.



Source: INPROFOOD Book of proceedings

The next phase of the method's application was 'agenda setting'. The participants were invited to suggest topics related to food and health according to their interests and expertise. These suggestions were written down on a piece of paper and pinned on the bulletin board in the room. After a number of suggestions were made, the rest of the participants could enlist themselves in the group discussions which they prefer. At the end, the agenda was set with 18 workshops.

The workshops covered different themes related to food and health, including "Why do we eat what we eat?", "Vegetarianism & Health",

What is open space technology?

What to know more?

Information on the method, please, see our fact sheet:



information on the pros and cons of the method:



¹ A podcast from the Open space conference can be found here.

“Animal Welfare”, “Organic Food and Health”, “Nanotechnology and Development of Coatings and Encapsulating Systems”. The sessions were conducted without any formal facilitation and the issues discussed in each group depended on the preferences, interests and expertise of its members. Each participant was allowed to leave a discussion and join another one at any time during the event, depending on the dynamics of the group, the interests and expertise of the person. This flexibility helps keeping the participants motivated during the whole event and allows them to make the most of their time at the conference.

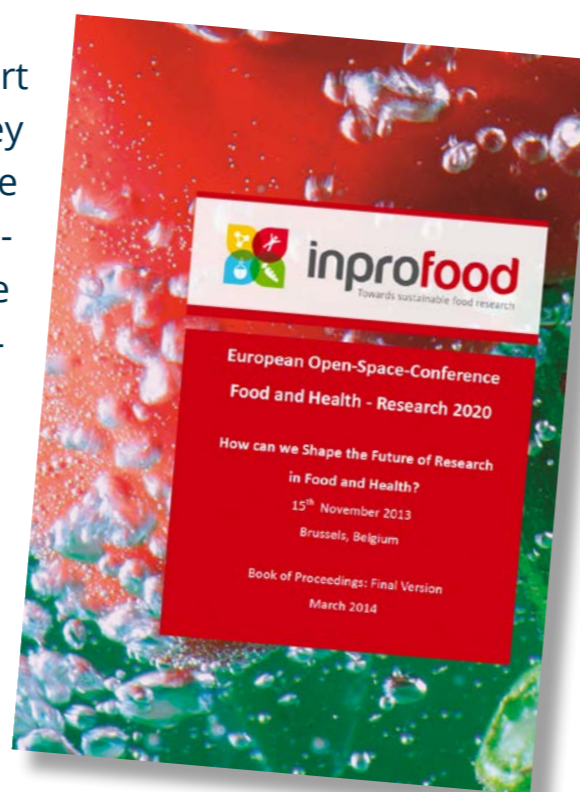
The groups were asked to prepare a report with the results of the discussion, which they had to hand over to the organisers. At the end of the day all participants gathered together again in the plenary to discuss the issues that emerged at the different workshops, to share their visions and to give their feedback to the organisers.

Considering the specifics of the method, it is important to inform participants in advance about the method and its objectives, otherwise their expectations might not be met, which might lead to disturbances in the method’s dynamics of self-organisation through commitment. For this purpose, besides the usual information about travel, accommodation, venue and hosting organisations as part of an information package, in the introductory material distributed to partic-

ipants prior to the event, the method itself was shortly explained.

Results and impacts

A major output of the conference was a “Book of proceedings” (released in March 2014), which included introduction to the method of ‘Open Space Technology’, its facilitation and structure, information about the topics and participation rate of the workshops during the conference, key messages from each workshop, as well as a summary and overall conclusions from the discussions.



importance of adjusting the governance of research and innovation on food and health to facilitate sustainable and inclusive solutions, which take into account the perspectives, needs and concerns of relevant stakeholders.

Book of proceedings

European Open-Space-Conference Food and Health - Research 2020

How can we Shape the Future of Research in Food and Health?



Tap here to download
the PDF-document



Sources: Image courtesy of xedos4 at FreeDigitalPhotos.net

What was the purpose of this engagement process?

In 2001, a German wind park was put into operation at around 400m from the Dutch border. Following the standard procedure, the wind park hired a consultancy company to estimate the sound emissions based on the noise measurements provided by the company operating the park. Using the official Dutch model to calculate wind turbine noise, the consultancy company estimated that the noise is within the limits allowed by the German as well as by the Dutch regulations. Nevertheless, soon after building the wind park the residents in the area started complaining of excessive noise caused by the wind turbines, especially at night. From the local authorities' point of view, if the noise emission calculations are based on the official model and they are within the permissible limits, then there is no problem with noise. After

Case study 5

Science Shop project on Wind Turbine Noise

The case study of the Wind Turbine Noise at the University of Groningen in the Netherlands proves how research projects can be initiated by citizens and civil society organisations and developed together with scientists to respond better to society's demands and views. This demand-driven approach is typical of Science Shop method. In this case citizens helped scientists and policy makers rethink standard procedures to estimate sound emissions and noise measurements.

bringing the case to the German court and failing on procedural grounds, a group of citizens contacted the Science Shop at the University of Groningen to do research on the issue on their behalf. The scientists' role in this argument was to be critical of the standard procedures, models and assumptions for calculating the sound emissions and find out what causes the excessive noise that citizens are complaining about. A research project was initiated by the scientists at the university and research questions were formulated from the point of view of the complaining citizens.

Applying the method

After the citizens contacted the Science Shop, the research objectives were defined and a time frame for the research was agreed. Parts of the research were conducted by student groups and individual students, supervised by

Facts about the Engagement method

URL: <https://www.rug.nl/...>

What is a Science Shop?

URL: <http://engage2020.eu/media...>

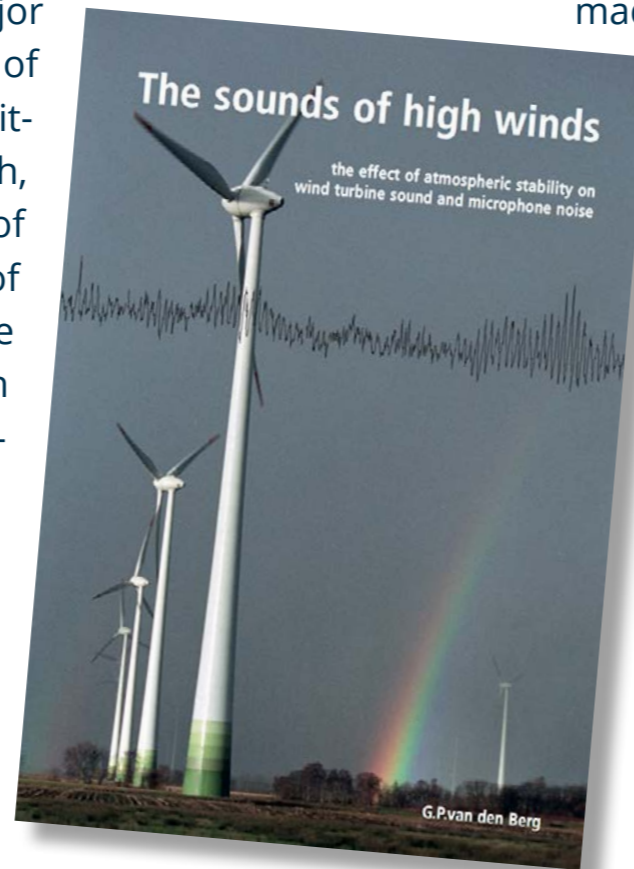
the coordinator of the Science Shop for Physics. The coordinator himself finally turned all the joint work into his PhD thesis [Van den Berg, 2006].¹ Considering the multi-disciplinary knowledge needed to respond to the raised questions, additional support was provided by the coordinator of the Science Shop at the Faculty of Medical Sciences, whose major objective was to understand the impact of different types of noise on people. The citizens were not charged for the research, since it was included in the core work of the university, which is a typical feature of Science Shop projects. Small grants were obtained from the Province, the British Renewable Energy Foundation and (in-kind) from the meteorological institute KNMI.

Results and impacts

The results of the research showed that the main cause for the high sound level perceived by residents is the fact that at greater height wind speed at night can be higher than expected. The models had been calibrated for turbines of 30 to 60m, whereas current ones are up to 100m. At that altitude wind speed at night is often higher – without background noise of wind at ground level to

¹ G.P. van den Berg (2006): *The sounds of high winds the effect of atmospheric stability on wind turbine sound and microphone noise*, PhD Thesis, University of Groningen.

mask any sounds from the turbines. Furthermore, the pulsating character of the sound contributed to the noise produced by the turbines. When turbines operate synchronously, they can produce sound that resembles “an endless train”, as put by one of the residents. In addition, it became clear that measurements



made during day-time do not predict nightly noise.

A major added value of the research was that it raised the awareness on the issue of wind turbine noise, which proved to be more complex than previously known. The conclusions from the research project

had immense commercial and policy implications. With regard to the location of wind turbines in a densely populated country such as the Netherlands, it was recommended that they should be built offshore. Another specific recommendation was made with regards to the official Dutch National Model for calculating wind turbine noise. A new model was constructed on the basis of the respective research project, which was eventually adopted by the Dutch government as an official Nat-

The sounds of high winds

The effect of atmospheric stability on wind turbine sound and microphone noise,

PhD Thesis, University of Groningen.



Tap here to download the PDF-document

onal Model.¹ The design of wind turbines proved crucial to decreasing the sound power and minimise sound fluctuations produced by the turbine.

The project's outcomes demonstrated that citizen-initiated, independent research conducted at universities is of great benefit to citizens, scientists and students, as well as policy-makers and society at large. Firstly, the co-creation of knowledge at universities and the research initiated by citizens and civil society organisations can help scientists to fulfil universities' mission to contribute to their local communities by addressing societal problems. Similar projects also help motivate the involved students as they see their knowledge applied in practice. Secondly, civil society can rely on independent research for solving the issues they face. Last but not least, in this particular case, positive effect on the economy in the region is also to be expected as residents' welfare is improved which in turn can increase their productivity at work. Resistance to wind turbine parks by citizens may also decrease if they are less audible.

¹ *Besluit van 14 oktober 2010 tot wijziging van het Besluit algemene regels voor inrichtingen milieubeheer en het Besluit omgevingsrecht (wijziging milieuregels windturbines), Nota van Toelichting, punt 4, Staatsblad van het Koninkrijk der Nederlanden (Nr. 749).* (<https://zoek.officielebekendmakingen.nl/stb-2010-749.html>)

Similar projects

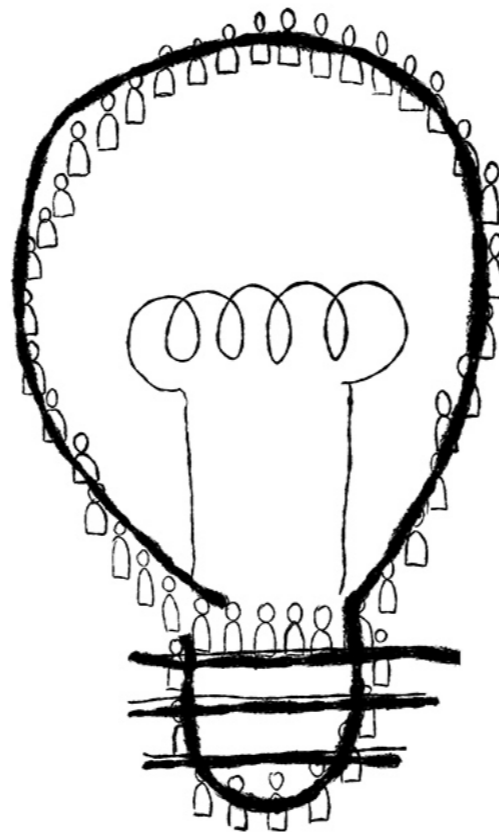
The project led to a follow-up FP6 project called Windfarm Perception

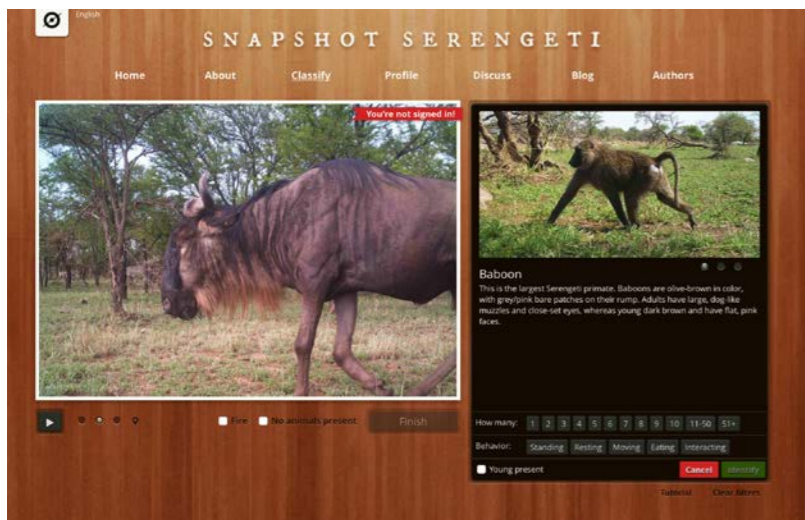
by the Science Shop at University of Groningen, the Science Shop at the University Medical Centre Groningen, and the University of Goteborg (Sweden):

<http://www.ucc.ie/en/scishop/>

<http://www.cam.ac.uk/public-engagement/voluntary-sector/community-knowledge-exchange>

<http://www.rug.nl/science-and-society/science-shops/beta-wetenschapswinkel/kennisdossiers-beta/windfarmperceptionproject/?lang=en>





Source: Snapshot Serengeti website

Case study 6

Snapshot Serengeti - Citizen Science project

In 2012, a citizen science project was launched to help researchers analyse data on Africa's species living in the Serengeti National Park, Tanzania. A grid of cameras was installed in the park, generating millions of images of moving animals. In order to process the images and identify the animals on the pictures, volunteering citizens were involved through an interactive online platform, which assists in identifying the animals on the pictures. The project's main contribution is strengthening the ties between science and society and raising awareness on scientific work among the wider public.

What was the purpose of this engagement process?

In order to increase the available knowledge on some of Africa's species living in the Serengeti National Park, Tanzania, and study how these are distributed across the landscape and how they interact with lions and with one another, the University of Minnesota initiated a citizen science project, named the Snapshot Serengeti project. A grid of 225 camera traps were distributed around the area, generating millions of pictures of moving species. Due to the huge amount of images taken, their classification would be too demanding on the scientific team behind the project. Since researchers could not rely on computer scanning for image identification, they considered public support. An interactive online platform was launched in 2012, where volunteers from all over the world can access the images taken by the cameras

in Serengeti and help with the classification by identifying the animals on the pictures. In this way, citizens help scientists to sort the photos and use them as scientific data. This data helps scientists find which of the millions of pictures they can use to observe how antelopes interact with each other, for instance, or how predators and prey co-exist in the area. Thousands of citizens have already taken part in the project providing enormous support to the team of researchers.

Applying the method

A grid of 225 camera traps were set out in the Serengeti National Park, covering an area of about 1100 square kilometres. Using infrared sensors, cameras take a sequence of three photographs each time a motion is detected, building up a huge database of images. The pictures are available on the Snapshot Serengeti

Facts about the Engagement method

URL: <http://www.snapshotserengeti.org/#/home>

What is a Citizen Science?

URL: <http://www.audubon.org/conservation/science/christmas-bird-count>

URL: <http://www.galaxyzoo.org...>

URL: <http://engage2020.eu/media...>

web platform, which is part of the Zooniverse web portal. The site provides a brief tutorial on how to use the platform. Once volunteers register in the portal, they can access the images and start classifying them. Since lay persons usually cannot identify all kinds of animals which appear on the pictures, the web platform helps them do this by describing physical characteristics (such as colour, size, shape of the horns, etc.), in order to narrow the search down. Based on the described characteristics, the web platform helps citizens identify the exact type of animal they see on the picture.

Results and impacts

Citizen science projects can offer a major contribution to science and the advance of scientific knowledge. The most direct result is that interested researchers obtain processed scientific data, which they can use and analyse.¹ Based on the classified images generated in the Snapshot Serengeti project, scientists can study how large mammals co-exist in their habitat and how different animal species interact across a large area.

The project further helps volunteers to improve their knowledge of the species living in the Serengeti National Park, learning how the different kinds of animals look, where they

¹ Three papers were published based on data provided in the Snapshot Serengeti project. These can be accessed on the website of the project.

live, how they interact with each other. By being involved directly in research, citizens can learn what research entails in terms of methods, skills and reasoning. Citizen science, thus, strengthens the ties between science and society and raises awareness on scientific work among the wider public.



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Pattern	Color	Horns	Tail	Build
Aardvark	Genet		Porcupine	
Aardwolf	Giraffe		Reedbuck	
Baboon	Guinea fowl		Reptiles	
Bat	Hare		Rhinoceros	
Bat-eared fox	Hartebeest		Rodents	
Bird (other)	Hippopotamus		Secretary bird	
Buffalo	Honey-badger		Serval	
Bushbuck	Hyena (spotted)		Steenbok	
Cattle	Hyena (striped)		Topi	
Caracal	Impala		Vervet monkey	
Cheetah	Insect/Spider		Vulture	
Civet	Jackal		Warthog	
Dik dik	Kori bustard		Waterbuck	
Duiker	Leopard		Wildcat	
Eland	Lion (female or cub)		Wildebeest	
Elephant	Lion (male)		Zebra	
Gazelle (Grant's)	Mongoose		Zorilla	
Gazelle (Thomson's)	Ostrich		Human	

Source: Snapshot Serengeti website

What to know more?

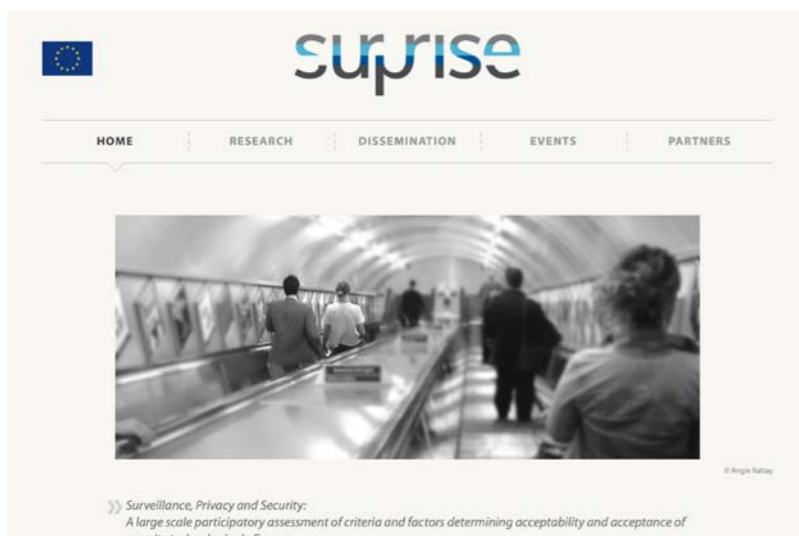
Snapshot Serengeti

- Citizen Science project

<http://www.snapshotserengeti.org>

Zooniverse web portal

<https://www.zooniverse.org>



Source: surprise-project.eu website

What was the purpose of this engagement process?

Surveillance-oriented security technologies (SOSTs) are commonly regarded as security enhancing and at the same time privacy infringing. Citizens are expected to trade some of their privacy for higher security. Although security and surveillance measures (employed on national and European level) affect citizens directly, their views and opinions on these issues are rather understudied.

For this project, European citizens were provided with the opportunity to express and discuss their perceptions related to security technologies and their implications at twelve citizen summits in nine countries in Europe. The method Citizens' Summit was used to have citizens in simultaneous debates with the aim of providing policy advice to politicians and

Case study 7

Citizen Summit on Surveillance-oriented Security Technologies

In the first half of 2014, twelve informed debates with citizens were conducted in nine European countries, as part of the SurPRISE project. Around 2000 European citizens took part in Citizens' Summits, which recorded participants' ideas and recommendations on how to maintain or increase individual citizens' privacy and security.

policy-makers on the EU (and possibly national) level. This method allows for the engagement of high numbers of citizens from different backgrounds and gives them the opportunity to discuss issues in small groups, which allows for idea sharing and deeper deliberation of the respective topics.

Engaging citizens in these crucial policy decisions can increase the democratic base of policy making processes and improve the acceptability and effectiveness of the implemented policies.

Applying the method

Large-scale public events were held at the beginning of 2014 in Austria, Denmark, Germany, Hungary, Italy, Norway, Spain, Switzerland and the United Kingdom. Around 2000 lay citizens interested in the topic of security took part in

Facts about the Engagement method

URL: <http://surprise-project.eu/>

What is SurPRISE?

the meetings. They were selected to be of different age, gender, location, education, and occupation, in order to represent the diversity of views among European citizens.

Before and during the summit, citizens were provided with information materials – e.g. an information booklet, containing information about SOSTs. Videos were shown to the participants which presented the topic of discussion in an accessible way, in order to introduce citizens to the topic and ensure they were well prepared to participate in the debates and make informed decisions.

During the full-day public consultations citizens engaged in face-to-face discussions about SOSTs. During the meetings, participants were divided into groups of six to eight people, sitting at different tables, with a moderator facilitating the group discussions on each table. In order to expand the data collected during the events, note takers were present at some tables documenting the questions raised and the ideas shared. Both table moderators and note takers were instructed prior to the event about the design of the method and their specific tasks.

Each event consisted of three discussion rounds. The first and the second rounds were devoted to discussing SOSTs in different countries and were focused on the perceived benefits and risks in relation to the particular form of surveillance. During the third round partici-

pants developed suggestions and recommendations targeted at policy makers at the national as well as the European level.



Source: surprise-project.eu website

Participants also voted electronically on the general aspects of the relation between surveillance and security and on specific surveillance technologies. At the end of the event, the results were shown to all the participants on a big screen.

What is a Citizens' Summit?

URL: <http://engage2020.eu/media...>

Results and impacts

The main output of the Citizens' Summits were sixteen policy recommendations for security measures and technologies that respect human rights and European values. The results from the summits were delivered to representatives of the European institutions in August 2014 and were made publicly available to the media, national governments and the general public.



Source: surprise-project.eu website

Some of the major benefits from applying the Citizens' Summit engagement method are:

- The method's application contributed to raising public awareness on the topic of security and privacy. The summits contributed to addressing the need to improve the understanding of the issue among the wider public and supporting governments to identify measures in the field of education which raise awareness on the advantages and disadvantages of social networks or emerging information technologies;

- The engagement process helps policy makers better understand citizens' views, which contributes to better policy making that responds to societal needs and values;
- The overall feedback from the organisers in all countries was that citizens were eager to participate in the discussions and many expressed their willingness to participate in such engagement activities in the future. Sharing their experiences with their families and friends, these citizens would serve as ambassadors of public engagement;
- The organisers of the citizen consultations in the different countries gained valuable experience and skills in applying the method, engaging citizens in policy making and developing policy recommendations. The organisations involved built capacity in public engagement activities, which they can use in their future endeavours.

Similar projects

The BaltCICA Project:

<http://www.baltcica.org>

PACTICA:

Citizen Consultations on Sustainable Consumption

<http://citizenconsultation.pacitaproject.eu/results/>



Source: Oxygen StartUps website

Case study 8

Hackathon on Transport

On 17-18 October 2014 more than 60 entrepreneurs gathered in Birmingham to take part in a 48-hour challenge to develop a mobile app aiming to improve the system of public transportation in the region of West Midlands, UK. Ten applications were developed and one was selected by a judging panel to be further supported and showcased in front of top experts from various European cities.

What was the purpose of this engagement process?

The goal of the Hackathon was to produce usable software applications in the field of transportation which could contribute to improving the public transport in the West Midlands, UK (including the cities of Birmingham, Coventry, Dudley, Sandwell, Solihull, Walsall and Wolverhampton). “How would you improve public transport?” was the question posed by the authority responsible for the delivery of public transport in West Midlands to the Hackathon participants.

Applying the method

The organiser of the Hackathon was the Oxygen Startups, which supports individuals or teams with a business idea and a basic business plan and a prototype that has not been launched yet. The ‘pre-accelerator’ facilitates the development of a road-map for the next

steps to be taken by the entrepreneurs to realise their ideas and provides mentors’ advice by experienced professionals.

At the beginning of the meeting, the Director of [Carbon Voyage](#) – a London based company helping organisations and individuals manage transport needs for passenger and freight transport - shared his experience with launching a startup company. The talk was followed by a workshop which aimed to prepare the participating entrepreneurs to present their ideas in the most effective and concise way – a skill they needed to demonstrate later on during the Hackathon’s application.

The presentations were followed by team work on developing the software apps. On the first day, 60 ideas for transport apps were presented. Out of these, 36 ideas in total were pitched, after which voting took place, narrowing down the shortlist to the final 16. At the end of the first day, 10 ideas were chosen to be further

Facts about the Engagement method

URL: <http://blog.oxygenstartups.com/tag/birmingham-transport-hackathon/>

What is Hackathon?

developed on the following day and teams were formed based on individual interests and skills. After the work sessions during the second day of the Hackathon's application, 5-minute demonstrations on the team results were made in front of a panel of experts. Among the developed applications were an app for assisting visually impaired individuals in transport and Green Cred – an app gamifying public transport (i.e. points are given for reducing CO2 emissions through using alternative travel arrangements such as cycling, lift sharing and using public transport). At the end, one of the applications was chosen to be showcased at a conference in front of a team of top transport chiefs from various European cities.

Results and impacts

Beside the immediate output of the Hackathon, which is a usable software application, the method is also a social opportunity for participants to network and create partnerships for future collaboration. In addition, it allows participants to further develop their ideas and individual skills and benefit from the advice of experts at a relatively little cost. Last but not least, it stimulates innovation by gathering individuals and teams with various ideas in one place and encouraging their creativity to develop joint solutions.

Similar projects

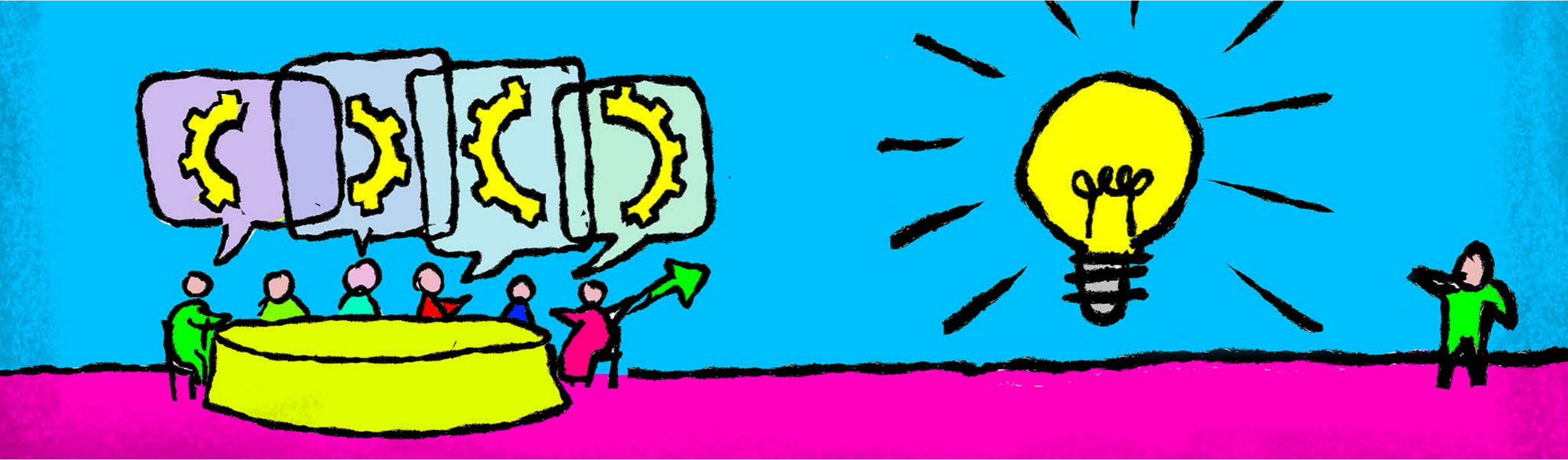
Open Glasgow

Hack to the future

<http://open.glasgow.gov.uk/hackathon/>

NSW Roads Hackathon

<http://www.nswcodeworks.com/>



7 Facilitation methods

by Edward Andersson and Sonia Bussu

7.1 What do we mean by facilitation?

Meaningful engagement requires new ways of working and interacting. Attempting to bring in citizens, NGOs and users in the meeting styles institution have used to engage with experts is unlikely to yield good results. For engagement to allow a level playing field engagement practitioners must be aware of power dynamics and how the structure of meetings can help or hinder active participation of diverse partic-

ipants. Many forms of engagement involve the creation of 'mini publics' –groups of citizens who have never worked together before, and many of whom may have very limited experience of speaking and discussing in front of others. This means that the creation of a safe space for discussions is especially important for these types of processes.

Expert [facilitation](#) is important to guarantee as much as possible a level-playing field within the public engagement space and to manage issues of power, accessibility and confidence in

the context of public engagement. This is particularly relevant in the case of mini-publics (i.e. citizen juries and panels) based around deliberative methods, to ensure everyone feel comfortable speaking and have their voice heard, while ensuring the conversation is constructive and objectives are met. To facilitate literally means "make easy". Public Engagement requires new ways of running meetings and organizing decisions. This requires new skills and the development of new ways of working on a day to day level. This chapter explores some of the issues surrounding this.

A facilitator ensures clear thinking, good participation and full buy-in from everyone involved. A facilitator should keep as much as possible a neutral stance, which entails stepping back from one's own personal views and focus on the group dynamics to get the best out all members and create a conducive environment where views can be exchanged and new solutions developed. The design of the process and choice of facilitation methods will depend on the objectives of the public engagement initiative, whether it is about agenda-setting or evaluation for instance.

In many cases the facilitator of a science engagement process will come from the organizing institution itself. In many cases this is an acceptable approach. The benefits are reduced costs and that the facilitator understands the context of the process very well. There are however situations where an external facilitator works better; for example in cases where the participants do not trust the organizing institution, or where conflict is widespread.

7.2 Facilitation do's and don't

So what <i>do</i> facilitators do?	So what <i>don't</i> facilitators do?
<ul style="list-style-type: none"> • focus energy on a task • suggest methods and ways for accomplishing tasks • ensure balance of participation • help to develop solutions • problem solve • guides discussion • ask the right questions • encourage two-way communication • they adapt to the room and people 	<ul style="list-style-type: none"> • evaluate • teach • present information • provide the right answers • train • lead the room • allow one-way communication

Source: <http://ilpworldwide.org/the-dos-and-dont-of-a-facilitator/>

7.3 Methods

Some common 'off the shelf' facilitation methods include:

Open Space

This approach sets the stage for the meeting's participants to create their own agenda, in the

first 30–90 minutes of the meeting or event. Typically, an "open space" meeting will begin with short introductions by the sponsor and usually a single facilitator. The sponsor introduces the purpose; the facilitator explains the "self-organizing" process called "open space." Then the group creates the working agenda, as individuals post their issues in bulletin board style. Each individual "convener" of a breakout

session takes responsibility for naming the issue, posting it on the bulletin board, assigning it a space and time to meet, and then later showing up at that space and time, kicking off the conversation, and taking notes. These notes are usually compiled into a proceedings document that is distributed physically or electronically to all participants. Sometimes one or more additional approaches are used to sort

sort through the notes, assign priorities, and identify what actions should be taken next. Throughout the process, the ideal facilitator is described as being “fully present and totally invisible”, “holding a space” for participants to self-organize, rather than managing or directing the conversations.

Learn more here:

<http://www.openspaceworld.org/>



Fish bowl

Fishbowls involve a small group of people (usually 5-8) seated in circle, having a conversation in full view of a larger group of listeners. Fishbowl processes provide a creative way to include the “public” in a small group discussion. They can be used in a wide variety of settings, including workshops, conferences, organizational meetings and public assemblies. Fishbowls are useful for ventilating “hot topics” or sharing ideas or information from a variety of perspectives. When the people in the middle are public officials or other decision-makers,

this technique can help bring transparency to the decision-making process and increase trust and understanding about complex issues. Sometimes the discussion is a “closed conversation” among a specific group. More often, one or more chairs are open to “visitors” (i.e., members of the audience) who want to ask questions or make comments. Although largely self-organizing once the discussion gets underway, the fishbowl process usually has a facilitator or moderator. The fishbowl is almost always part of a larger process of dialogue and deliberation.

Learn more here:

<http://www.kstoolkit.org/Fish+Bowl>

<http://betterevaluation.org/evaluation-options/fishbowltechnique>

Scenario Workshop

A Scenario Workshop is a participatory method encouraging local action with a mix of scenario and workshop which aims to solve local problems and anticipate future ones[1]{C}{C}{C}. Scenarios involve narrative descriptions of potential future problems that emphasize relationships between events and decision points. In addition, scenarios direct attention to causes, areas for development and the span of exigencies that may be met in a local community issue2. The workshop is the approach aspect of this method in which participants from a local community engage in discussion, produce



some sort of action through deliberative discussion and act as decision-makers or create a communal plan of action. The goal of a Scenario Workshop is to create a dialogue among policy-makers, experts and ordinary citizens around a local and communal matter such as water resources or transportation2. Scenario Workshops involve a group of citizens interacting with other participants to exchange knowledge, experience, develop common visions, debate,w provide criticism and produce a plan of community action for potential future developments3. The Scenario Workshop is used

so local communities are involved and find solutions to local problems. This method is also utilized by large organizations, such as the United Nations and the European Union to address social and environmental concerns¹. A Scenario Workshop typically has three stages of involvement which includes: the critical



phase, the visionary phase and the implementation phase. During the Scenario Workshop time is allotted for brainstorming, discussion, presentations and voting.

Learn more here:

<http://participedia.net/en/methods/scenario-workshop>

There are a number of facilitation methods and techniques here:

http://www.teindia.nic.in/files/teacher_trg_module/8_creative_facilitation_techniques.pdf

Want to know more?

Facilitation techniques and methods:

<http://www.ksl-training.co.uk/free-resources/facilitation-techniques/group-facilitation-techniques-and-methods/>

Group facilitation methods:

<http://www.ica-uk.org.uk/group-facilitation-methods/>

Facilitation and participatory methods:

<http://www.participatorymethods.org/task/facilitate>

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A communication perspective for public engagement practitioners, Edinburgh: Edinburgh Beltane -UK Beacons for Public Engagement.

(REPRINTED IN APRIL 2012)

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8 Moving forward - The Future of Engagement

by Edward Andersson, Sonia Bussu and Houda Davis

Engagement is an innovative practice which is under constant development. For this reason it is very useful to look at the future of engagement and what it might hold.

There are a number of key drivers that have increased the need for participation and engagement in the past decade, and which are likely to continue to do so in the future. These include the proliferation of online technologies, an increasingly informed and demanding citizenry and the rise of complex challenges which require some form of collaborative working to

deal with. These factors are likely in some cases to accelerate in the future. These factors will not affect all European countries equally, but it is likely that we will see the growth of engagement across Europe, albeit in different ways and at different speeds.

Societal engagement in research and innovation is likely here to stay. However the engagement is likely to be significantly different in the coming years. There are a number of factors which will shape how engagement is done in Europe in the future.

1. New technologies will continue to reshape how collaboration and communication can happen. Online forums are on the rise, and it is increasingly possible for citizens to self-organize and pool resources through micro donations and the aggregated actions of many dispersed actors (see for example Snapshot Serengeti and other citizen science websites ([Chapter 6 Case studies](#))). There are growing expectations in some quarters that engagement will largely move online, and that this will lead to reduced costs and increased efficiencies.

2. Changing social factors are also important. How and where people are willing to engage with organizations will change, often in unpredictable ways. Across many different countries citizens feel increasingly 'time-poor' and this has created a demand for short forms of engagement which can happen in venues where citizens gather anyway.

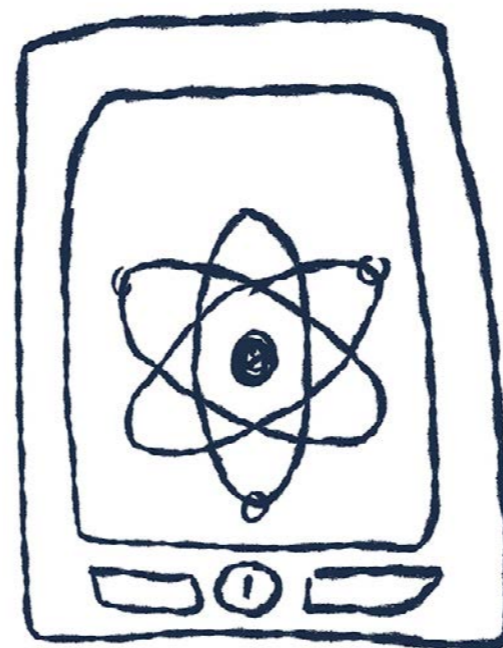
3. The ongoing economic and political turmoil which has been affecting Europe for the past years will also continue to shape the future of engagement. Economic austerity will create pressures on developing cheaper forms of engagement.

This chapter summarises some of the findings of an [Engage2020 report link](#). This considered trends affecting future practice. It involved a series of workshops and webinars and conversations with a range of experts. The research highlights some key findings:

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- The first thing to note is that new methods are not the priority at this time. There is already a wide range of public engagement methods and the 'toolbox' is hard for policy makers to make sense of. There are functioning methods for creating a myriad of outcomes and while these do need development there is not a pressing need for completely new methods.

- Delivering the actual engagement processes is becoming less of a problem as the pool of practitioners grows. This varies of course across different European countries, but through the growth of networks like the Living Knowledge Network we can see the beginnings of a European engagement community.
- The challenge ahead is less about developing new methods and more about applying the ones we have more effectively. This does require innovation, but at the institutional rather than the methodological level.
- The areas of Europe which currently see very limited amounts of engagement do not necessarily need new methods, but a wider application of methods already in use elsewhere. There is a key role for the European Union to facilitate this sharing of know-how and practice.



8.1 Deliberation in the future

Deliberative methods have a long history in science engagement. The research of Engage 2020 has identified several challenges to deliberation in science engagement in Europe today:

1. Deliberative methods are not widely known, outside of a few select areas, despite the long history of these methods. In S&T deliberative methods are predominately used in Technology Assessment contexts but have not spread widely beyond this. There is a methodological challenge to see the methods adapted for and used in different settings. Deliberative methods could add real value in a number of fields (and at all four levels of engagement) where they are not widely used today.
2. Many policy makers feel that deliberative methods are too expensive and too time consuming for the current context. There is sometimes pressure on practitioners to deliver quicker and cheaper deliberation (whilst still delivering high quality dialogue). There are severe risks with this approach, as deliberative processes on a budget can compromise quality. The engagement communities need to become better at resisting and challenging undue pressures on time and cost.

3. Deliberative engagement has traditionally been a face to face and analogue affair. A more innovative use of digital technology in this respect brings new opportunities, as well as presenting challenges. There are growing pressures to move many engagement events online. There are however some qualities of face-to-face deliberation which is hard to replicate online (at least yet). For this reason online deliberation is likely to complement, rather than replace, face-to-face deliberation.

4. Deliberative processes have traditionally been quite centralized, requiring a large budget and specialized skills. A growing number of practitioners are looking at 'distributed' approaches to deliberation, whereby events are organised by community members, NGOs and other actors, instead of or in parallel with centrally run deliberative events.

5. Deliberation has not been widely used in academic research as a research tool. We believe that there is a potential to use these tools more in the research process, from defining the research question and the methodology to monitoring applications. For widespread use of these methods in an academic context there will need to be a dual process of methodological adaptation and awareness raising.

In short deliberation has been a pioneering field for science engagement. It will remain rel-

evant in the future due to its unique strengths, but it is likely that deliberative processes will increasingly interact with other forms of engagement. These 'Hybrid spaces' might combine deliberation with online forums, or a distributed model with a more traditional citizens jury. These experiments will hopefully spread the deliberative methodologies more widely across Europe.



8.2 Time and costs

Time and costs in particular emerged as important aspects to consider when discussing the future of engagement, but one should always pay attention to the potential impacts of these cuts. Reducing the costs and time for engagement might have a negative effect on the overall process and turn out to be a false economy. For example, among engagement mechanisms deliberation is a high quality, resource and time consuming approach, but it yields high quality and hard to obtain re-

sults, which many other forms of engagement struggle to provide. Perhaps practitioners need to become better at communicating clearly that deliberation takes time (to carry out an effective recruitment process that ensures high inclusivity and diversity and give participants the space and time to develop well-informed views and deliberate with their peers) and if sufficient time is not available, then maybe other forms of engagement need to be considered instead.

Attempting to turn deliberative methods into a fast and cheap approach may play to its weaknesses and not its strength. The European engagement field is not served by low quality 'knock-offs' of deliberation.

8.3 Distributed dialogue

Controlled spaces require significant resource and limit the number of people who can take part. As a response to these challenges, some practitioners have started talking about 'distributed' models of deliberation, where the organiser provides the event format and questions for the events, but where at least some of the actual events are organised and run by third parties (be they active citizens, NGOs or other actors). This is distinct from (but related to) 'multi-site processes', such as the World Wide Views or CIVISTI, where the events are run by different organisations, but where these are more tightly controlled and scripted.

In our workshops there was agreement that ideally there would be a combination of structured processes and unstructured processes –building on the strengths of each. This would allow for the control and more scientific approach of centralised deliberation and the wider reach of unstructured approaches. This ‘hub and spoke’ approach could also lead to a larger number of people being engaged, whilst retaining the trust of policy makers and researchers in the methodology. In the future we will need to see more flexibility on methods, groups and different frames for methods in deliberation. An underexplored aspect is the relationship between participants and receivers of the results of engagement and here distributed models of engagement provide us with new avenues to disseminate results and increasing impacts.



What could deliberation look like in the future?

In the future we want to see:

- An EU where deliberative methods are more widely used, where these methods have seen widespread use in the parts of Europe where today they are barely known;
- Communities of practitioners with skills and knowledge of deliberative methods in each EU country and networking around common international agendas at a European level;
- Better knowledge among the academic community about deliberative methods and an increased use;
- A number of Horizon 2020 calls explicitly including mention of deliberative methods and efforts to train academics in how best to use these methods in their work;
- PhD programmes teaching deliberative methods as part of research methodology courses.
- The EC holding a deliberation on the R&I Agenda itself, and inspiring national research councils and funders to follow suit;
- Research funders providing funding for deliberative research; particularly in designing new programmes;
- Policy makers better at planning from the outset how they will make use of the results from deliberative engagement. Results included as part of a larger evidence base, and fed back to participants in a

clear and transparent way;

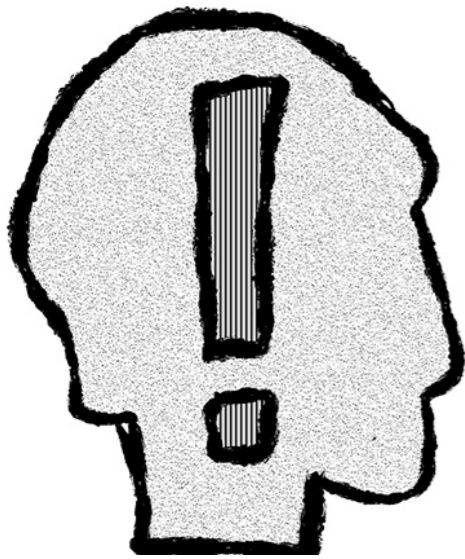
- Practitioners are using more distributed methods of deliberation to enhance their existing processes and also to tap into ongoing conversations about scientific issues and ideas;
- A permanent funded centre of excellence at European level, much like the UK’s Sciencewise Expert Resource Centre;
- Systematic research into the long term effects of deliberative processes.

8.4 Digital engagement

We live in the midst of a large scale technological revolution. Digital technologies are rapidly reshaping many facets of society. However, when it comes to societal engagement digital technologies have been applied in a patchy way. In the case of Citizen Science a lot of activity is carried out online, and indeed in many cases it would be impossible to deliver any other way. When it comes to deliberative methods and science shops, methods which have tended to rely heavily on face to face meetings, digital technology is only used sparsely.

On the one hand online methods have been criticised by a number of practitioners for lacking in deliberative quality or being unable to provide a representative selection of overall society (the digital divide argument). On the other hand some deliberative practitioners

have incorporated digital and online tools into their work (see for example the previous work of AmericaSpeaks). Increasingly digital media (webcasting/electronic voting) are used in face to face events to bring together numerous separate sites, or to enhance the quality of the conversations. Attempts have also been made to include social media channels in face to face events. There are also growing attempts at replicating the deliberative experience in an online only format. There is an ever growing list of on-line engagement providers. However to date most successful engagement online has been along the lines of consulting or informing. This is one field where methodological innovation is both likely and hard to predict.



As digital technology evolves it seems clear that new opportunities will constantly arise. The increased use of smart phones and pervasive access to the internet could potentially change engagement on a fundamental level; the question really is just how. Predictions about what the future will hold are difficult.

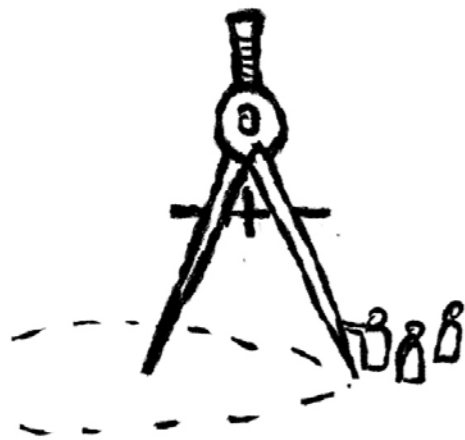
Further development of translation and voice to text software could make international processes in the future more manageable. Participants will also have instant access to increase amounts of relevant information and will be able to record, analyse and transmit relevant data to aid engagement.

8.5 Citizen science and participatory research

Citizen science is an area which has received a lot of attention and interest in the last few years. This has recently led to the establishment of the European Citizen Science Association (ECSA). The success of crowdsourced research efforts and mobile apps has shown that these methods could increase their impact and power in the coming years. Whatever definition is used for Citizen Science and participatory research it is clear that so far most projects have involved citizens in data collection or processing and not in defining the research questions or shaping the projects. There is now growing interest in science shops and other forms of participatory research as part of a wider move towards societal engagement in academic research. There has been a noticeable increase in number and geographical spread of Science Shops across Europe. Most processes are initiated from the top down and there is scope for more crowdfunded and crowd initiated processes, with lessons learnt from participatory research in the global South.

Innovative uses of digital technology

The heart of the problem is that the fields of citizen science, science shops, action learning, service learning (and others), which are all related, work largely independently, with little support and cross-learning. There is a need for new structures and a culture shift to move towards a more holistic approach, which combines service learning, science shops, living labs as well as an overarching international network to combine these schools of practice. Currently, there is a lot of discussion going on – there are many international activities, networks which are linking universities. We need openness to learn from each other. There is a clear role for the EU in funding and supporting such a network, but there needs to be influence and drive from the grassroots as well.



We also need to move from one-off projects to engagement being ongoing processes with clear feedback loops to both policy makers and participants. A key requirement for this to happen is culture change in research organisations, including work to raise awareness of the value of citizen science and the value of different types of knowledge.

It is also important to understand the motivations of different actors in taking part and in particular looking at “reciprocity”, or what the different partners involved can offer each other. The EU is in a privileged position to support facilitators of engagement, by for example organising a conference or investing in the relevant organisational structures within research institutions and civil society organisations and ‘brokering structures’.

8.6 Participants of the future

The inhabitants of Europe are also constantly changing. In ten years’ time the citizens, residents and users of Europe will on average be:

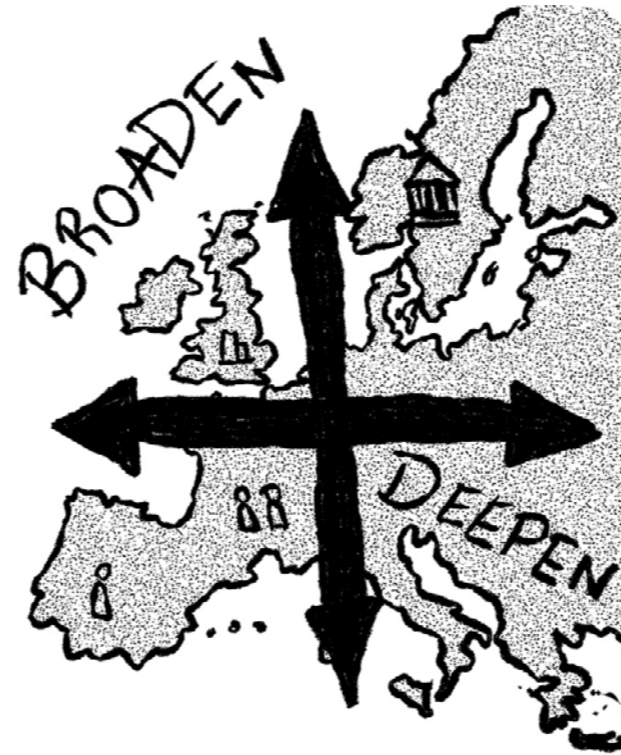
- More individualistic – Single person households will continue to increase and collective organisations, such as trade unions and political parties face continued falling membership. Individualistic citizens expect to be able to dip in and out of engagement. If this trend continues it will also be harder to motivate participants to take part based on purely altruistic motives or appeals to a sense of civic duty.
- Less deferential – Over the past decades the population as a whole has become less respectful towards figures of authority. The public are more likely to be critical when things go wrong and are less likely

to give politicians and decision makers the benefit of the doubt on controversial topics. The number of issues where participation becomes contentious and hard to manage will increase in the future.

- More educated – The last decades have seen a dramatic increase in the level of education amongst the population. In the future lifelong learning and skills development will become increasingly important. Many participants will have a high level of understanding of an issue, in some cases perhaps even higher than those who are running the process. But this is not just a case of how much people know; the way in which people process knowledge and information is also changing. Clearly more educated and confident participants make it possible to get more from them, but equally they will have higher expectations of.
- Older – The demographic transition towards an older society is happening across the world. The ageing population will have an impact on participation. Currently a lot of focus is on youth engagement. This makes sense given the low turnout rates amongst the young, but also means that the public sector is ill prepared for the challenges of engaging with an increasing number of older people. A sharp drop off rate in participation is commonly seen for those above the age of 70.

- More mobile – On the global scale populations are becoming increasingly mobile. The trend is for more people to move temporarily, and to stay longer in the host country before eventually returning to their country of origin. Frequent relocation presents challenges for engagement professionals. Participants who move frequently build fewer connections with their geographical communities, impacting on their willingness to take part at the local level. For short-term migrants there are few incentives to get involved in a community where they do not expect to spend much time. For government, a lot of thinking will need to go into how to make the prospect of participating more attractive to these groups.

ternational institutions, such as the European Commission and the European Environment Agency, have embraced societal engagement in research and innovation. There is however much work to be done.



icy makers who are skeptical, if not downright hostile, towards the idea of engagement. However there are new important challenges for societal engagement today. The challenge of institutionalizing and systematizing the practice of engagement so that it becomes business as usual is an area where much further work is needed. There is a real need to develop a collaborative and supportive European community of practice around engagement.

Today thousands of researchers and policy makers, as well as tens of thousands of European citizens, have direct experience of societal engagement each year. There is growing body of practice to draw on and engagement is increasingly becoming a requirement of large R&I funding institutions. Concepts like RRI make engagement all the more important in the future. We hope that this anthology has been useful for you, as a source of knowledge, advice and inspiration, to go out there and make the vision a reality.

8.7 Engagement in the future

Europe faces a challenging period up to -and beyond - 2020. The European Commission has rightly identified that science and technology are crucial to dealing with the societal challenges we face. However many researchers have rightly pointed out that science on its own cannot solve these problems. Without the consent and active involvement of the citizens, NGOs, users and residents affected by (and in some cases causers of) these challenges solutions will be hard to come by. It is heartening to see how over the last few years national and in-

Over the past decades practitioners have developed an increasing number of engagement methods and approaches. These cover a wide range of areas and levels of governance, including deliberative mini publics, science shops, citizen science, user-led innovation and many others. In the past decades the key challenge was often to develop the methods and to convince reluctant institutions to trial engagement. These challenges remain in the future; in large parts of Europe societal engagement is infrequent (and in some cases non-existent). There remain large capacity and skills gaps, and there are still many researchers and pol-



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