



Executive summary from the NANOPLAT project
*Development of a Platform for Deliberative Processes on
Nanotechnology in the European Consumer Market*

by

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1. Objectives and introduction: the concept of deliberative processes

The objectives of the NANOPLAT support action was formulated in the following way:

- *Evaluate selected deliberative processes i Europe, both at the EU and national level. These evaluations will both have a general NS&T perspective, but will concentrate on the value chain of consumer goods and services.*
- *Identify the needs and interest of relevant stakeholders along this value chain, especcially focusing on NGOs and the civil society.*
- *Develop a deliberate and science based platform for a stakeholder dialog in Europe and beyond in this area, where the main elements for the platform are: a) the content, b) the participants, c) the physical and techinal solutons and arenas and at last d) the responsibility for the platform*
- *Formulate Recommendation for research and political actions*

These objectives are also reflected in the design of the project, divided into work packages. This NANOPLAT summary will follow the structure of the work packages.

The first challenge we met before we could start the project was to agree on a definition of the central concept of *deliberative processes*. This was done in WP3, *Theoretical and empirical clarifications*

The concept of deliberative processes was originally coined by Bessete in his book *Deliberative Democracy* (1980), however, the concept can also be linked to the work of Habermas (1989) and his attempts at defining the model for public debates. Furthermore, for a decision to be called deliberative, Renn (1999) emphasises that it is essential that it relies on mutual exchange of arguments and reflections rather than on decision-making based upon the status of the participants, power or political pressure. In addition, deliberative processes should be governed by established rules of rational discourse (Elster, 1998). The idea behind embracing deliberation as decision aid, is that collective decisions reached by arguing may be considered as reasonable solutions to given problems because they are based upon convincing reasons.

However, we ended up using the criteria developed by Cohen as our operative definition. According to Cohen (1989) there are four criteria for an ideal deliberation:

- It is a free discourse; participants regard themselves as bound solely by the results and preconditions of the deliberation process.
- It is reasoned; parties are required to state reasons for proposals
- Participants in the deliberative process are equal
- Deliberation aims at rational motivated consensus.

This definition inspired our guidelines for selection of deliberative processes in Europe and beyond. It is possible to identify a large number of initiatives on deliberation related to nano-technology, and this definition helped us to make a necessary limitation. However, this definition also created some problems we had to deal with.

First of all we had to distinguish our concept of deliberative processes theoretically from two rather similar concepts; *new governance* and *the stakeholder approach*. Deliberative processes, the stakeholder approach and new governance have one element in common. They all represent an alternative or a supplement to the representative numerical democracy along a common dimension. While the representative democracy is constituted around voting behaviour and the relationship between voters and their representatives, the three models build their legitimacy “*on the degree to which those affected by it have been included in the decision-making processes and have the opportunity to influence the outcomes*” (Young, 2000). This is taken care of in the representative democracy by rules of hearings and by organised lobbyists, but the three other models take the involvement of stakeholders further.

However, it is also possible to identify differences between deliberative processes on the one hand, and the representative democracy, the stakeholder approach and new governance on the other. The three last models are all constructed around majority decisions or bargaining solutions based upon power of the majority, while the deliberative democracy’s ideal is decisions based upon arguments and public discourse.

Secondly, this had also empirical consequences, it guided our selection of cases. We had to leave out interesting stakeholder involvements. However, we made some exceptions. We included standardisation in our selection, because of strong recommendations from the evaluators. Secondly, we also included the EU Code of Conduct in our selection, because it has strong relevance for the research community.

2. Overview of the work-packages

Work package 4

The main insights of the review of all these exercises in public engagement in the domain of nanotechnologies can be summarised as follows:

There is a *wide spectrum of organisations driving public engagement on nanotechnologies*, such as academia (universities, research institutions, etc.), policy consultants and policy advising research bodies, professional engagement facilitators, public authorities, research councils, etc. The initiators show varying scope in their decision-making – from informing the general public and/or stakeholders to funding research – which, of course, influences the potential *impacts* of the deliberative process.

There are different *purposes* on which deliberative processes are enacted. It can be about a general identification and assessment of public attitudes towards a certain technology, about experimenting with a new form of public dialogue in order to learn about its potentials and shortcomings, about informing a specific decision, e.g. on research funding, from a citizens' perspective, etc. In some cases the idea of *experimentation* with novel forms of public engagement was important. Hence, the question of how the process can be organised in an appropriate fashion comes into the focus. This reveals that public participation and deliberate processes actually do not follow a given format. Rather, different *forms* of deliberate processes are used: from a two hour card game on nanotechnologies, one evening events, focus group discussions of three hours length to processes running over half a year with three weekends (face to face) and interaction between the meetings. Accordingly, there is a *variety of tools employed to stimulate interaction* between participants, such as working groups, public hearings, plenary discussions, presentation plus questions and answer session, scenario techniques, card games, etc.

The *results* of the deliberative processes reviewed are numerous: the *direct and tangible* ones encompass votes, recommendations, reports, etc. The *indirect and intangibles* ones are learning of participants: awareness and sensitivity with respect to the chances and risks of nanotechnologies; learning on how to manage and employ deliberative processes; building trust into public risk assessment and management; etc. The *actual impact(s)* of the depicted deliberations, however, are difficult to assess due to a lack of data; a lack of goal specification and a lack of (information about) dissemination activities. If *policy-makers* are not or only loosely linked to the deliberative process the actual impact on (their) decision-making is obviously very small. This appears to be the case in particular for deliberative processes driven by academia (e.g., US National Citizens Technology Forum). Hence, a *prerequisite* for a significant impact would be a description of a clear avenue on how the deliberative process is going to influence policy-making; often one encounters a lack thereof.

Work Package 5

WP5 situates between WP4 and WP6 chronologically, methodologically and conceptually. Chronologically, it was timed to follow on from the insights gained from reviewing a very diverse range of deliberative process initiatives, that being the key aim of WP4. Methodologically, it investigated some of the theoretically informed issues raised in WP4 through the lens of depth interviews with stakeholders ; and at the same time provided material and a base of potential participants to access the Nanoplant web pilot.

Through 58 interviews at the same time, WP5 provides a novel empirical contribution, knowledge and insights into nanotechnology governance in its own right, as a result of the

rich empirical material collected by all the Nanoplatform partners across Europe, a method which has not, to our knowledge, been undertaken before. findings and insights because the main research component – obtaining in-depth interviews with 58 actors representing a very wide range of stakeholder perspectives from across *production-consumption-governance landscapes of Nanotechnology in four sectors where nano- consumer products and processes are reaching shop shelves, namely, cosmetics, textiles,*

WP5 Methodology

Undertook 58 qualitative interviews across the partners:

- Production-consumption-governance actors
- Rich empirical material, by country, by actor variety, by sector: gives value to the WP separate from situation between WP4, WP6 :
 - multi-sectors
 - ‘constellation’ of actors
 - At EU scale..
 - » Not done before

Interview questionnaire/Template data capture – 5 sections:

- Section 0 – Background to respondent & organisation and their role in the organisation.
- Section 1 – Organisations Engagement with Nano?
- Section 2 – Organisations Engagement with DP? (drawn widely to capture consultation methods of all kinds)
- *Section 3 – Triangulate: Engagement with Nano and DP?*
- *Section 4 – Prospective Futures,*
 - *the ‘next big issues’ a) Nano & b) DP*
- *Section 5 – Interest in being re-contacted about NANOPLAT pilots? Interested in findings & Brussels meeting?*
- *Considering Nanoplatform positioning vis-à-vis other DP. We have moved:*
 - *From abstract to concrete*
 - *From general to specifics*
 - *From bi-polar to plural*
 - *From extremes to middle*
 - *From long-term futures (20-50yrs) to mid-term (5-10years)*

WP6 A platform for deliberative processes

The following part will present the key concepts retained by the Nanoplatform consortium to define a permanent deliberative platform on NS&T. The Nanoplatform consortium proposed to take Cohen (1989) four criteria for an ideal deliberation as a starting point to transpose the deliberation as an online tool. The proposed deliberative process supported by the platform is based on two steps:

Kick-off sessions

The purpose of the kick-off sessions is to prompt the emergence of key issues involving a reduced circle of experts in a quick interaction process.

These sessions are based on short online conference and a chat-like tool (regular key-board based - no audio or video) allowing short written fluid exchanges between 5 to 10 participants. The purpose of such setting is to slow down exchanges between potentially

antagonist parties on burning subjects. On the one hand, the very fact of having to type a text to interfere in the discussion induces participants to a more composed attitude. Body languages and tone of voice doesn't appear and moods appear only through inflexion of the written formulation. On the other hand, the written contributions require by essence more rational thinking. Texts are perceived as less volatile and tend to involve their authors.

All together, the affordance of these interaction settings is to induce participants to a more reasoned debate, balancing the dynamic of a round table with the argumentation of the written paper and meeting the second criteria of Cohen. The end result is a 8 to 12 pages written dialogue that remains available online as an evidence of the exchanges and a ready to use material to prepare a synthesis for the next step.

Open revision sessions

The purpose of the open revision session is to facilitate the emergence of an agreement within a larger circle of stakeholders.

This second type of sessions is based on free access online revision of synthesis emerged from the kick-off sessions. The process is based on a wiki-like tool displaying the synthesis and offering to visitors the possibility to edit them and substitute the former version by a new one. The tool offers also the history of all previous versions, the possibility to restore them, to compare between different version and evidences also changes that have been made. The purpose of this setting is to foster the achievement of a consensus between divergent points of view and interests. The proposed synthesis already tends to propose a possible balanced/reasonable position to have more chances to meet all stakeholders' agreement. For visitors, the effort required to disagree is higher than to agree: the editing of an already structured text need some time and attention and only consistent controversy will be sustained. Small divergences will induce only fine-tuning of the text or even acceptance as it is. Polemic attitudes and ego valorisation are discouraged. The affordance of these interaction settings is to facilitate consensus meeting the fourth criteria of Cohen.

The log of the visits allow the moderating institution to follow easily the number and type of visitors and to acknowledge their agreement to the synthesis whatever if they make changes in the synthesis or if they simply read the text and approve it. The final result is the last version of the synthesis agreed by all participants reducing drastically the monitoring work whatever is the number of participants.

Two other important settings of the platform have to be mentioned to show how it meets the two other criteria of Cohen.

Invited visitors

Stakeholders invited to take part to both kick-off and open revision sessions are invited. The invitation described the conditions of the exchanges in generic terms without mentioning any time the identity of the stakeholders and so leaving them free, apart from the actors mutual influence and then meeting the first criteria of Cohen.

Anonymous participants

Participants receive a specific login and password but their identity is not disclosed. Their login only state the category of stakeholders they belong to facilitating interpretation and mutual understanding during the exchanges and meeting the third criteria of Cohen.

WP7

In the public discourse on deliberative processes in nanotechnology we have identified three arguments against further development of such processes:

- New processes will not create more knowledge, it will more or less be more of the same
- An increased use of deliberative processes will raise public expectations, and these expectations will not be met by occasional processes where nobody has a more permanent responsibility
- An increased use of deliberative processes will be a treat to the numerical democracy. They move the power of decisions from governmental institutions to non-representative processes not designed to make political decisions.

In this conclusion we will discuss these arguments because our answer to these questions will have a substantial impact on the future of deliberative processes.

More of the same? In the overview of selected deliberative processes we have seen a movement from the first to the second generations of deliberation. Besides a difference in points in time at which the processes have been conducted, the distinction between first and second generation deliberative processes on nanotechnologies is most evident in terms of sophistication of the applied methodology.

Second generation public exercises are more elaborated than the early approaches. The second generation processes are also, to some degree, more specific processes. They are dealing more with applications than with the general relationship between science and society. The responsibility is moved from the research community to the industry. This also has to be reflected in the third generation of deliberative nano-technology processes. As we see it, the next generation of deliberative processes need to be even more specific. The reason for this is the fact that we not anymore are talking about nano-*technology*, but about *technologies*. This means that it is not meaningful, from an ELSA perspective, to carry out general processes.

Secondly, during the last years a large number of “nano-products” are found on the consumer market. In the updated version from the Woodrow Wilson Centre, more than 1000 products are listed. They vary from sports equipments to textiles and from cosmetics to car polish products. This is also an argument for more specific processes, where strategic parts of the consumer market could be a topic. In the Danish citizens’ consumer conference from 2004 the participants were not at all interested in the nano consequences for the consumer market; this would probably not be the case in 2009. One important emerging area is nano-food and another related area is nanotechnology for food packaging. However, as innovation takes place, other product categories may soon be relevant.

Unfulfilled expectations? In terms of impact, however, a clear-cut distinction between the two generations is difficult to draw. The lack of respective knowledge is obvious and the link to political decision-making does remain fairly weak.

One of the challenges for the deliberative processes is that they create substantial expectations among citizens, especially among the participants. What will happen with our input? Who is responsible for the voice of the public in the future? This is a real argument because some of the processes are parts of research projects, and the deliberation ends with the project. Others are parts of public programmes, which also close at the end of the program. As an example,

the Danish Technology Board carried out deliberative processes or stakeholder involvement in 2004, 2006 and 2008, but involvement of citizens was not the agenda in the other years.

Future deliberative processes have to deal with these challenges. We have established a platform for deliberation of more permanent character and this platform may be used in future processes. The simple web-tool, developed in NANOPLAT, makes this possible.

Engagement in social computing processes is facilitated when participants may find forms of gratifications. The first level of kick-off sessions assumes the form of a round table allowing participants to debate with peers on a European basis and benefit from the exchanges. The second level of open revision sessions gives access to an up-to-date level of consensus between the stakeholders in place.

These two elements are already promising benefits to foster engagement of the participants. To complete these incentives to engage in the deliberation platform, the Nanoplat consortium proposed to add to the different levels of written synthesis, visual forms of representation showing scenarios that may result from the deliberative process.

The scenarios developed for the platform propose a visual synthesis through the design of some hypothetic products in line with the agreement reached by the deliberative process. They intend to express a balanced position, somewhat challenging compared to the current situation but reasonable and justified.

The purpose of these visualisations is then two fold: On the one hand, it should tease the contributors to the deliberative process facing them with concrete expression of consequences for the future resulting from what they agreed. On the other hand, it should facilitate access to the debate to larger share of stakeholders on the topic translating the debate into the form of concrete products hypothesis.

A treat to numerical democracy? We are aware that there may be a dualism of deliberative processes in general and linked to the development of nano-technology more specific. On the one hand these processes represent increased citizens' involvement in democratic processes. Both in USA and Europe we have during the last decades witnessed several deliberative processes and stakeholder approaches within both gmo- and nano-technology. The Danish Board of Technology developed already in the 80-ties a model for public involvement in complicated technological processes. This model has created legitimacy around similar deliberative processes.

On the other hand we have also seen a new discussion about the relationship between the democratic and deliberative processes. In the public and scientific discourse we have witnessed an increasing scepticism to many aspects of these deliberative processes. Who participates and what is the goal of the processes? Within political science this has relevance for the classical discussion on *numerical democracy and corporate pluralism* (Rokkan, 1969).

It is possible to identify at least three key challenges for an inclusive, democratic debate and decision-making process on new technology, 1) Knowledge deficit among participants and stakeholders. 2) The discrepancy between visions and commercial products and 3) How and if the outcomes of such debates are brought back into the decision-making processes

The lack of knowledge about nano-technology is also documented in scientific research. This is surely the case for the public in general, but also among political actors and other stakeholders. The consequences are that there are a limited number of voices to be heard in the public discourse.

While the predominant representation of nanotechnology in popular science and the media appears as fiction, relating to micro machines and assemblers (Drexler, 1986; Gibson, 1996;

Chrichton, 2002), the presence of nanotechnology in ordinary life today is more about carbon nanotubes in sport equipment, nanoparticles in cosmetics and antibacterial clothing and kitchen equipment. This discrepancy between nanovisions and nano-reality makes it difficult to define a set of themes around which to organise a debate. However, experiences has shown that is it possible to engage public in relatively complicated scientific discourses.

One last challenge is the link to the democratic decision-making processes. Is the deliberative process a part of inputs to decision-making processes, and are the results brought directly and formally back into this process? Or is it more a part of research-projects where the results are inputs into political and scientific discourses, - but not directly parts of formal processes? We find both processes in our sample.

We have witnessed a critique from both participants and organisers of deliberative processes that it is problematic that the deliberation is not a part of formal political processes. It is easy to understand this critique. On the other hand, when we are talking about numerical democracy and deliberative processes, it is also problematic when the results are brought directly back into political processes because of the diversity of the subject, lack of knowledge, and the biased representations in these processes.

The answer to this critique is that we have to distinguish between the public discourses and the formal decision-making processes. The deliberative processes have given a positive contribution to the democratic discourses on science in general and linked to nano-technology more specific. This represents no treat to democracy, the opposite is actually the case because it increased public involvement and represent a democartisation of science. However, when we move to the formal decision-making, - we have to take all decisions within the framework of three representative democracy; where one man and one women have one-vote.