

## Methods of the co-creation methodology: Citizen workshops

This document is an excerpt of the Methods and manuals for the pilot studies which was developed in the GoNano project. It describes the methodology of the citizen workshop in the co-creation process

### Citizen workshops

The citizens come together to commonly reflect on nanotechnology and to provide their views about how to integrate them into the development of ideas for future applications of nanotechnology that are aligned with citizens needs and values, as illustrated in Figure 2. The approach builds on participatory integration of citizens to opine on pressing issues (e.g. WWViews, Pacita on sustainable Consumption) and co-creative exercises (e.g. NanoDiode).

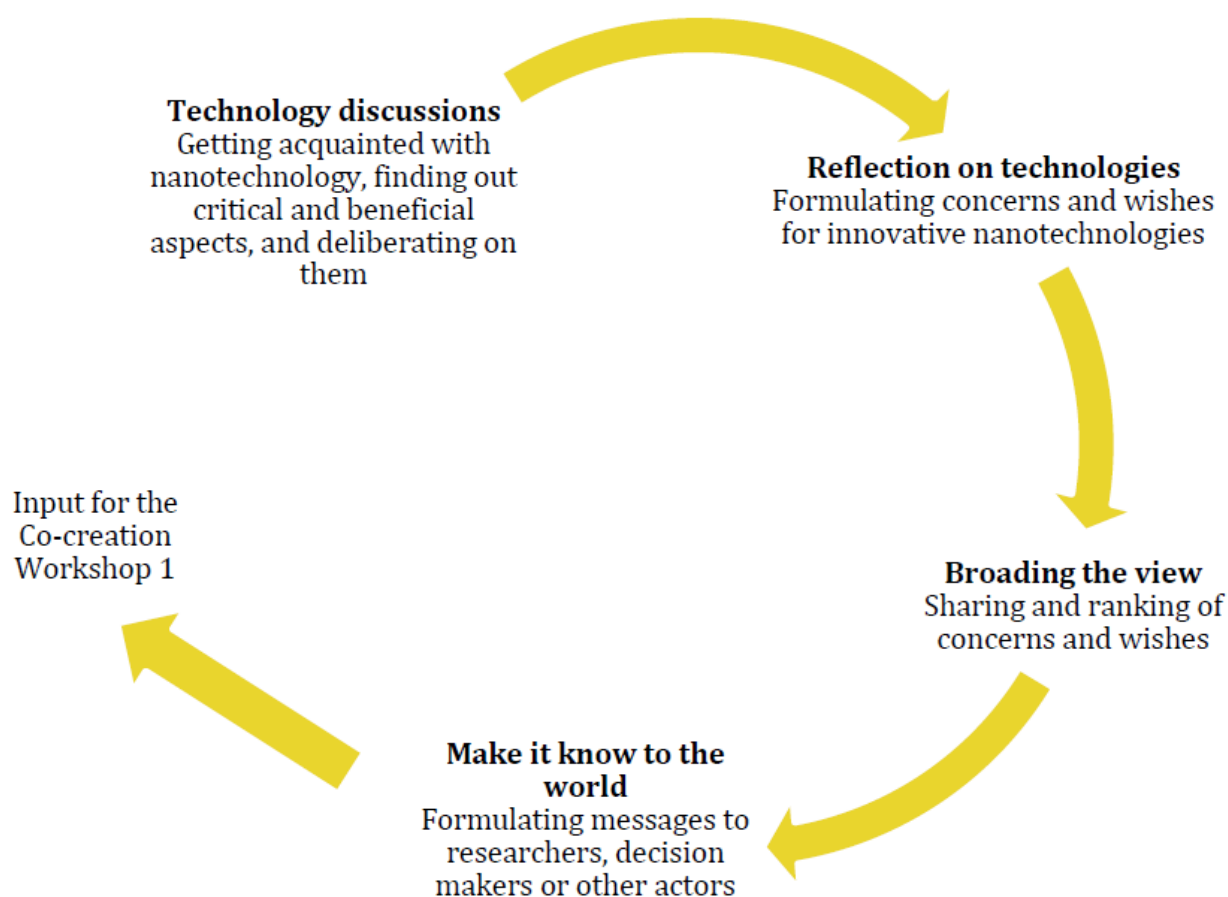
After a general introduction that clarifies the role of citizens and introduces the whole day, the workshop consists of three repetitive rounds in which citizens discuss a specific technology application setting (based upon scenarios or application examples) which they might already know from the information material. The discussions are free, but the facilitator sees to it, that they are also covering a list of prepared questions. The technology-oriented start provides an opportunity to investigate a stakeholder-coined technology setting and creatively dive into opportunities and concerns about nanotechnologies. Although we might not be able to lead the participants away from their everyday routines and troubles (one might have been too late and hence really stressed in the morning of the event, another one might have had an annoying phone call just before entering the room) as easily as if we started with opening up for the future and lead them away from their everyday-life (as it is the case when visions are prepared), starting with technologies serves to make sure that the citizens have enough time to get familiar with Nano-applications and their implications and that their own thoughts relate to areas of interest of the stakeholders. Numerous experiences of participatory projects and their critical analyses (Rask, Worthington and Lammi, 2012; Gudowsky and Bechtold, 2013; Capari and Sothoudeh, 2014, Sotoudeh et al. 2014, Bechtold, Gudowsky and Capari, 2017, Rask et al. 2018) and reviewing engagement experiences (Shelley-Egan et al. 2018)<sup>10</sup> show that such an approach serves well to provide a deliberative setting for citizens, which allows them to express their own views while also widening their own perspective, listening to each other, learning from each other and digesting the new information received. The initial deliberation part of the citizens was also inspired by focus groups (Krueger and Casey, 2000).

Thereafter the citizens have the opportunity to reflect upon those discussions and take these a step further: in respect to these technology application settings, they should think of wishes and concerns that are important to them. They write down these wishes and concerns and after a plenary presentation the participants vote upon them individually. In doing so, they provide valuable information on how they perceive they acceptability and desirability of nanotechnology applications, for the next step of the co-creation process in the first workshop with the professional stakeholders.

In the next step, citizens are asked to think about what they would like to make of their picture – in other words, what would they like decision-makers and researchers (and maybe other actors) to do. The result of

this final round of intensive work will be written messages with a clear addressee. They should explicitly refer to the round of wishes or concerns but these messages can still be diverse in their nature: it could be concrete proposals of a next generation of nanotechnology applications or products, a concrete instruction of what the decision makers should take care of, or what the researchers should consider in the future, when they elaborate on these technologies.

This format, which is reminiscent of recommendation writing, is well elaborated and was tested in numerous participatory TA-projects (e.g Rask, Worthington and Lammi, 2012). The messages display the second important outcome for the following stakeholder-workshop. The third pillar of input therefore will be prepared by the project team ex-post as they will look into the concerns and wishes and see what needs, preferences and values are inherent to them. Thus, the input we gain from the citizen workshops is threefold: a (ranked) list of wishes and concerns directly received from participants; clear ideas around the issue of nanotechnology development addressed to specific actor groups (also from participants) and results from analysis (done by partners) with regard to underlying needs, preferences and values.



**Figure 2: Illustration of different steps of the citizen workshop**