

# Responsible nanotechnology R&I – Societal engagement practices

## NanoTrust

### Introduction

**NANO2ALL** is an initiative funded by the European Union's Horizon 2020 Research and Innovation programme under the Grant Agreement Number 685931. It supports the establishment of Responsible Research and Innovation (RRI) policy and governance on nanotechnologies. NANO2ALL also aims to identify RRI practices, with a focus on societal engagement in nanotechnology research and innovation (R&I) across Europe and beyond, with the purpose to share knowledge, experience and recommendations with other nanotechnology stakeholders and motivate a wider application of such mechanisms in Europe.

RRI is an approach that anticipates and assesses potential implications and societal expectations, with regard to R&I, with the aim to foster the design of inclusive and sustainable R&I<sup>1</sup>. As a dimension of RRI, societal engagement implies interactions between relevant stakeholders (companies, research organisations, policymakers, civil society organisations, consumers, affected citizens and others) in order to align research, development and innovation with the values, expectations and needs of the society. Such interactions can take various shapes, such as brainstorming, scenario workshops, user committees, online forums, dialogues, informal / formal meetings, or other formats.

This short report provides brief insights into the nanosafety project **NanoTrust**. Data for this report were gathered via desk research<sup>2</sup> as well as through an interview with André Gaszó, coordinator of the NanoTrust project and Chairman of the Austrian Nanotechnology Information Commission (Austrian Ministry of Health).

### NanoTrust scope & development

NanoTrust is a Technology Assessment project carried out by the Institute of Technology Assessment of the Austrian Academy of Sciences. It is dedicated to assist policy-makers in issues surrounding the safety of nano applications. Its aim is to support the establishment and maintenance of a governance network and to take a more active role in contributing to pre-emptive risk management and the initiation of new governance processes – especially in risk and safety assessment and management.

It was established in 2007, following the Austrian Nanotechnology research program, “NANOinitiative” of 2003, as a consequence of the need to have a profound research activity on nano risk governance issues. NanoTrust was originally coordinated and funded by the Ministry of Transportation, Innovation and Technology (BMVIT),

<sup>1</sup> <https://ec.europa.eu/programmes/horizon2020/en/h2020-section/responsible-research-innovation>

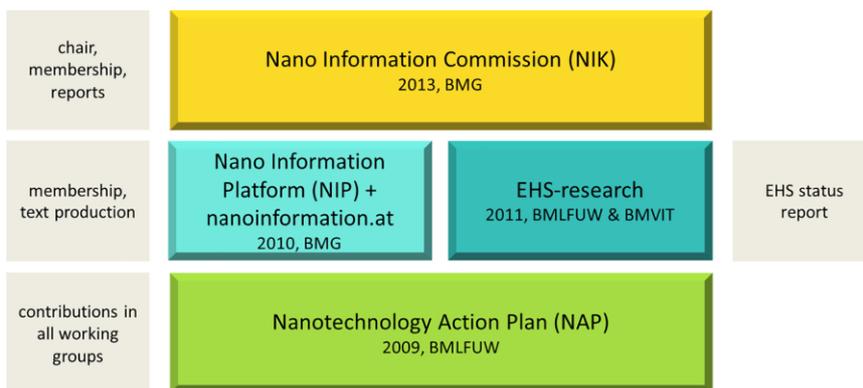
<sup>2</sup> Gaszó, A., Fuchs, D. :Nano Risk Governance: extending the limits of regulatory approaches through expert dialogues  
Rose, G., Technological Forecasting & Social Change (2018), <https://doi.org/10.1016/j.techfore.2018.06.024>



with the idea to serve as an interpreter of scientific findings – provided that they are concerned with safety issues – for all sorts of recipients (e.g., scientists, science journalists, public authorities, and the interested public). The foremost task was **to identify research and regulatory deficits and to provide reliable information on safety and risk-relevant topics**. NanoTrust fulfilled that task through the formulation of a **community of stakeholders** interested in safety and risk and at the same time, through the production of a body of reliable, sound knowledge on safety and risk issues. Soon the project’s initial character evolved due to the interest and implication of several ministries, safety agencies, and research institutions, its new task being the formulation of a **national Nano Action Plan for Austria (NAP)**. NanoTrust would provide the knowledge base for political decision embedded in the Action Plan and would engage relevant stakeholders in the working groups which led to NAP’s creation. Four different NAP working groups, consisting of around ten people each, were dedicated to the following topics: health and worker safety, environment, economy and research and development.

Those working groups, bringing together stakeholders from various organisations<sup>3</sup> were open to whomever interested and met regularly over the course of approximately 12 months with multiple NGOs being initially present but most of them eventually withdrawing from the process. The reasons of that withdrawal, as speculated by the NanoTrust members, is that i) those meetings were too resource – intensive for a long-term commitment, ii) the NGOs wished to stay independent avoiding thus the active participation/contribution to a network serving the aims of public administration. Nevertheless, the working groups were still accessible for all interested parties and all documents were publicly available.

**The contribution of NanoTrust in the Austrian nano risk governance landscape**



Source: G. Rose, A. Gazsó

In autumn 2009, the document was published for public consultation. The remarks were collected and integrated by the Ministry of Environment and the NAP was finally adopted by the Council of Ministers in 2010 being since then an official guidance document to the Austrian Nanotechnology policy. Within NAP, NanoTrust is named as an existing structure to serve as a technical pillar of a communication platform between **policymakers, ministries and social partners**. The project has since been extended several times, having developed into **an organisational process embedded in the regulatory system**, its role having expanded to include the tasks of **initiating joint activities, coordinating and eliciting discussions and jointly organizing the generation of new knowledge concerning subjects with relevance to risk and safety**. Those roles are continuously re-examined given the ever-changing regulatory situation of the Austrian nano risk governance landscape.

<sup>3</sup> ...including Representatives of the Austrian Ministry of Environment (BMLFUW) and of several other federal ministries and authorities (science - BMWF, technology and innovation - BMVIT, social affairs including worker protection - BMASK, and health - BMG), the Austrian Environmental Agency, the Chambers of Commerce (WKO and Labor AK), and the Austrian Food Safety Agency (AGES), the University of Vienna, the University of Agriculture, the Austrian Academy of Sciences and others

One of the concrete outputs of the NAP was the foundation of a **Nano Information Platform (NIP)** aiming to bring together experts from a wide variety of fields to establish transparent public communication on the safe use of nanomaterials. The NIP is a non-formalised, open (people participate on a voluntary basis and they are free to come and go whenever they want) yet stable (as in the sense of committed people who participate from the onset) group of around 10 – 12 stakeholder representatives (ministries, safety agencies, NGOs and research organisations), coordinated by the Ministry of Health. NanoTrust has taken part in this public communication network from its very beginning in 2010.

The result of these NIP expert discussions was the establishment of a **nano-information portal** ([nanoinformation.at](http://nanoinformation.at)), hosted by the Austrian Ministry of Health yet being a common project of all the concerned ministries<sup>4</sup> and other organisations such as the Austrian Academy of Sciences and Austrian Food Safety Agency. Since 2012, it **ensures transparent public communication on the safe use of nanomaterials** through a continuous information flow between experts and the interested public. It gives people the option to interact with regulatory authorities and experts in case there are questions and concerns. Consumers' questions are collected through the portal and answered within a 2-week timeframe after establishing an intercommunication process among collaborating experts. Material for this public information platform is developed in **different self-organized**



**working groups**. A stable working group on worker safety was established in June 2011, under the responsibility of the Austrian Worker Compensation Board "AUVA", the biggest<sup>5</sup> insurance company for work places in Austria. NanoTrust has initially suggested to install such a permanent working group and has since then been part of it and regularly takes part in their meetings until today. The nano – information portal establishes a **two-way communication process** by i) producing nano safety and risk relevant info addressing the interested public and ii) answering the consumers' questions. The NIP has been active since 2010, convening 2 or 3 times per year, being responsible up to date for the following tasks: operation and maintenance of the portal, public communication (consumers and the interested public), publication of risk and safety relevant documents produced by its members for use on the portal.

NanoTrust has been especially involved, from the onset, in the creation of the **Nano Information Commission (NIK)** of the Austrian Ministry of Health which represents the most formalised element of the Austrian nano risk governance landscape. The NIK was founded in 2013<sup>6</sup> as an advisory board to the Minister of Health. It consists of 23 members from ministries, agencies, universities as well as two NGOs. It convenes two to three times a year having as main tasks i) to provide all members with information on the current research and developments in the field of nanotechnology safety, ii) to offer an opportunity to discuss and evaluate these findings and iii) to foster safety-relevant research concerning the use of nanomaterials in Austria. **The NIK is concerned with the implementation of the Austrian Nano Action Plan and represents the diversity of opinions and the professionally sound state-of-knowledge of various scientific experts.** In contrast to the NIP, the NIK is not an open network: Proposals for new members can be made by the plenum. ITA designates one full membership and a substitute to the NIK. The chair is hosted for 5 years and currently held by the Coordinator of the NanoTrust project.

## The societal engagement in NanoTrust governance network

From the different working groups having led to the creation of the National Action Plan, to the Nano-Information Platform (NIP), the Nano-Information Commission (NIK) and the various working groups formed to work on specific subjects on safety and risk in nano, NanoTrust has decidedly contributed to building a

<sup>4</sup> Ministries of Health, Environment, Technology, Science, and Social affairs

<sup>5</sup> 4.3 million insured people

<sup>6</sup> according to §8 of the Austrian Federal Ministry Act



functional **governance network** reflected in all those platforms, commissions and working groups described above. Currently, the NanoTrust project, in collaboration with stakeholders of this governance network, holds four **different modes of events** i) **scientific conferences** on nanosafety topics: events which are open for the interested public and stakeholders to attend, such as the NanoTrust annual conference held since 2007 at the Austrian Academy of Sciences or conferences in collaboration with other organisations (such as the Ministry of Health).ii) **informational events**, open events partly organised in cooperation with a ministry or other involved organisation (i.e. information evening on food safety and regulatory issues co-organised with the responsible ministries), iii) **ad hoc expert dialogues** on specific safety topics held on an invitation-only small group of people, (i.e. nano-regulation related questions addressed to experts in the context of controversial discussions such as nano waste), iv) **round-table events**: invitation-only events, with 5–20 participants, dedicated to specific tasks and questions. For instance: deliberations on topical subjects such as current trends in safety research or strategic meetings aiming mainly to prepare structured knowledge for decision-making purposes (i.e. shaping the next Austrian EHS research programme). Those events are initiated and co-funded by NanoTrust. One could also add to the above **the ongoing question/answer dialogue of the nano-information portal** which gives to laymen the opportunity of interaction with regulatory authorities and experts.

Through the governance network and those different types of events, NanoTrust maintains a community mainly comprised by academics, consumer organizations and representatives of various Ministries and Agencies (Austrian Food Agency, Austrian Environmental Agency). The industrial perspective is also incorporated through umbrella organizations<sup>7</sup>. It was consciously decided not to make special attempts to attract specific industries because the project focuses on common overarching goals and not particular individual interests. NGOs have been explicitly invited to participate, several times; while eager to contribute to the discussion process in the beginning, few of them merely made sporadic appearances during past events. Many of them left the working and implementation process and did not further contribute to the production of information material. Still, two of them are members of the NIK.

The project design does not include direct participation of the general public, this of course not reflecting a lacking need for or importance of participatory public discussions and engagement on the subject of nanotechnology. This is rather a result from the project design, methods and available resources: The different dialogue structures used within the project perform on a voluntary basis. Therefore, citizens and NGOs (with restricted resources) find it difficult to commit to providing time and effort in order to regularly follow the agenda of those groups. That said the sporadic participation of NGOs or citizens is not excluded. Over and above, one could argue that instead of addressing the broad public, the project focuses on attracting the interested citizens, in the sense of professional, educational or other interest which implies a prior minimum knowledge of the subject. This knowledge is open and accessible to the broad public through the information provided in different NanoTrust publications available online<sup>8</sup>. Another step towards the broad public though is the use of a public authority's premises (e.g. conference room in a Ministry building) in lieu of the Institute of Technology Assessment for the various meetings/events. Whilst the latter usually calls for strictly scientific public the former stresses the character of public interest and therefore more people are likely to attend.

## Project findings & recommendations

NanoTrust is more of a continuous accompanying process than a classic research project, this being a necessity born out of the need to develop a consultation process capable of addressing a moving target, seeing as the

<sup>7</sup> ...such as the Austrian Federal Economic Chamber (WKÖ), which represents Austrian businesses, and the Association of the Austrian Chemical Industry (FCIO), representing Austrian companies manufacturing chemical products on an industrial basis

<sup>8</sup> The project offers on an irregular basis "Dossiers", approximately three to six page summaries of the state of knowledge on current issues in the existing nano debate in an accessible language, but on a firm scientific base. The NanoTrust Dossiers are published in German and English language and can be visited at EPUB.OEAW.



technology matures and the regulatory situation changes over time. Initiating and maintaining a project like this requires a **common understanding between the main actors** concerning fundamental targets. The project has devoted its resources to **defining and realizing common goals**, such as the formulation of the Nano Action Plan, the creation of the NIP etc. The focus being placed on those overarching goals, the project avoids making individual interests (or their harmonisation) the main topic of discussion, circumventing thus the risk of paralysing conflicts.

**Stability and trust** built among the actors of the Austrian nano risk landscape – in the sense that the relationship between participants tends to be intimate and personal - need to be treated as the project's most important assets, as they are what enables the kind of dialogues required for the constructive and cooperative space that NanoTrust wishes to maintain. At the same time, the project tries to maintain a **continuous introduction of new actors** to help counteract the homogenization of ideas and viewpoints throughout time.

Finally, **incorporating a systematic reflection** of the process and **seeking input from other perspectives** (feedback from cooperation in other projects) offer valuable contribution to the project's continuous development.

