



Project No.: NMP4-CT-2004-516883

Acronym: Nanologue

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Instrument: Specific Support Action

Thematic Priority: NMP

Publishable Final Activity Report

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1. Project execution

1.1 Summary of activities and results

The Nanologue Project – A Dialogue on the Future of Nanotechnologies

The field of nanotechnologies has attracted widespread attention and funding in recent years. Some applications have already entered the market, and applications based on today's basic research are expected by many to form the next industrial revolution. The unique properties of nano-technological applications suggest potential to solve some of the world's most pressing challenges, but they come with uncertainties and risks as all new technologies. Taking advantage of technological progress and preventing adverse side-effects requires analysis, evaluation and guidance to ensure technology is developed in ways that benefits wider society and the planet. Nanologue was a dialogue on nanotechnologies funded by the European Commission bringing together a wide range of technological experts and civil society representatives. The dialogue was driven by the need to understand ethical, legal and social implications of nanotechnologies (ELSA) – and communicate this understanding by raising awareness and providing information to societal actors.

The project was part of the commission's response to the challenges highlighted in the Nanotechnologies and Nanoscience Action Plan for Europe. Nanologue comprised three main steps:

1. A mapping study on recent publications and developments regarding selected nanotechnology applications and ELSA to lay a common ground for the subsequent steps. With the aim of initiating a dialogue based on applications close to the market and with relevance to various ELSA, the areas materials, medicine & life-sciences as well as energy were pre-selected as priority areas for the project.
2. Moderated dialogue sessions for an inclusive and neutral platform for information and opinion exchange and discussion. Interviews were held with researchers as well as civil society representatives in order to substantiate findings and opinions.
3. Scenario and tool development to translate the insights gained for easy communication on the potential implications. The project partners developed three scenarios on the future of nanoscience by 2015. Insights gained throughout the project have also been used for the design of the NanoMeter- an internet-based tool assessing societal implications of nanotechnology.

The main findings of the project including the three scenarios were published in 2006 within the pamphlet: We Need to Talk – The Future of Nanotechnology. Further information as well as the NanoMeter are available on the Nanologue's website: www.nanologue.net.

Nanologue was a project of the Wuppertal Institute (Germany), Forum for the Future (UK), EMPA (Switzerland) and triple innova (Germany).

1.2 Description of progress towards objectives

Compared to the objectives outlined in the project proposal, Nanologue has achieved all of those. Project objectives Nanologue aimed at having been achieved after completion outlined in the proposal are:

Objectives	Progress
mapped 10+ generic studies on ethical, legal and social aspects of NT	Nanologue Mapping Study analysed 15 recently published reports/studies
identified 3 NT products and/or applications to be scrutinised in depth with regard to ELSA	3 applications energy conversion and storage, medical diagnosis and food packaging have been chosen. An in-depth analysis on ELSA for these applications has been published (Nanologue Background Paper)
set up an expert advisory board with up to 15 internationally renowned experts	EAB established with 9 internationally known experts
conducted interviews with 40+ representatives of research, business and the wider civil society	Interviews with more than 40 participants have been conducted
involved experts and civil society representatives from at least 10 EU countries and 3 major non-EU countries ;	Experts from the following countries have been involved in either the interviews, participation of the workshop or being member of the EAB: Australia, Austria, Bulgaria, Estonia, France, Germany, Ireland, Italy, Japan, Netherlands, Romania, Sweden, Switzerland, Turkey, UK, USA. Nanologue has been engaged with experts from many other countries.
held 3 international workshops with about 15+ experts and civil society representatives each;	Two international workshops have been conducted. One in Edinburgh, one in London. The third workshop would have been the meeting of the EAB, which has been merged with the scenario workshop.
developed 3 contrasting scenarios to demonstrate plausible, realistic and coherent futures on NT	Three scenarios have been developed and published (see Foresight Scenario report; Nanologue pamphlet – We need to talk).
developed an online tool for a quick assessment of a NT proposals	The NanoMeter is available online at the Nanologue website and is mirrored at other sites, such as Nanoforum.org

<p>increased the awareness of hundreds of NT experts and professionals</p>	<p>Through a wide array of outreach activities in addition to the direct interaction through Nanologue workshops and interviews, Nanologue has already reached hundreds of NT experts. During the last month, the average number of visitors to the project website was between 3000 to 4500 visitors, with a peak of more than 6000 in October 2006.</p>
<p>presented the benefits and potential ethical, legal and social impacts of NT at 2 international media workshops</p>	<p>Two outreach workshops have been conducted. One at the Deutsches Museum in Munich at the 7th of October and one at the Science Museum in London, on October 27th.</p>
<p>produced and disseminated 1000 copies of a pamphlet summarising the projects findings; presented Nanologue's findings at least 3 international scientific conferences.</p>	<p>The pamphlet has been published and 2000 copies printed. Nanologue has already been presented at more than 10 conferences</p>

2. Plan for using and disseminating the knowledge

All project partners have worked on various new-technology related projects in the past (e.g. ICT, BioTech). Along these lines, the experience gained during the Nanologue project should be seen as another piece of research and experience on societal and environmental implications of new technologies. It is expected, that research on these topics will continue at all project partners. E.g. the FP7 is expected to offer numerous opportunities to engage in future research activities and to ensure take-up of work done in this project.

Beside research empA is involved in teaching activities at universities. It is planned to use and disseminate Nanologue results (esp. scenarios) as input for lectures and case study activities on “Opportunities and risks of nanotechnology”. Furthermore it is planned to use Nanologue results for the development of workshops in strategic planning. Target audience will be start-up companies, communication and strategy units of SMEs and larger businesses. As well paper contributions for specific SCI-Journals are in preparation for dissemination of Nanologue results to a wider scientific audience.

Partners closely working with R&D and businesses plan to use the knowledge on NT-related ELSA and in particular the NanoMeter to assist NT spin-offs, R&D centres and businesses to identify stakeholder concerns and reflect these in upcoming products. We will also seek to promote the NanoMeter concept at international and national project funding organisations to stimulate the integration of ethics into public funding. An application area specific adaptation of the NanoMeter is planned if sufficient funding can be secured. The Nanologue website as well as the NanoMeter will stay online for at least another 3 years, ensuring the availability of the project results for the years to come.

The project consortium will also pay close attention to use the Nanologue results in future conference presentations and speeches. By updating and further developing the material, Nanologue results will be used for the years to come in the scientific, general public, political and business domain. Examples for such activities include e.g. presentation of project results at Nanotechnology working group at the North-Rhine Westphalia Ministry for Environment or the European Nanotechnology Trade Alliance in February/March 2007.

For a more detailed elaboration on the dissemination of the project’s results a “Final plan of using and disseminating the knowledge” has been put together .