

# **Identified stakeholders and their interests in the field of HSE impacts of nanomaterials**

## **Month 12 update report**

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11.06.2009

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NanoImpactNet is a Coordination Action under the European Commission's 7<sup>th</sup> Framework Programme. It is coordinated by Michael Riediker, Institute for Work and Health, Lausanne, Switzerland.

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## List of abbreviations

CEA - Commissariat de l'Energie Atomique (France)

DG - Directorate General

EC - European Commission

EHS - Environmental, health and safety

EMPA - Swiss Federal Laboratories for Materials Testing and Research

EU - European Union

FP7 - Seventh Framework Programme for research

ILO - International Labour Organisation

IOM - Institute for Occupational Medicine (UK)

IST - Institute for Work and Health (Institut de Santé au Travail, Switzerland)

JRC - Joint Research Commission on the EC

MEP - Member of the European Parliament

NGO - Non-Governmental Organisation

REACH - Registration, Evaluation and Authorisation of Chemicals

SMEs - Small and Medium-sized Enterprises

SMUC - St.Mary's University College

UN - United Nations

WHO - World Health Organisation

WP - Work Package

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# 1 Summary

This Month 12 report is the second of four to the European Commission and to the NanoImpactNet members about identified stakeholders that are active and/or have an interest in the environmental, health and safety (EHS) aspects of nanomaterials.

NanoImpactNet is a coordination action - coordination which requires effective two-way communication between researchers and other stakeholders. Under the direction of Work Package 4 (WP4), such a researcher-stakeholder dialogue has been initiated between the European research institutes, scientists and universities with demonstrated research knowledge of the environmental, health and safety impacts of nanomaterials, and all the other stakeholders in this field. NanoImpactNet is to be the mouthpiece for these researchers and also a means for stakeholders to reach out to them.

WP4's members have continued to promote NanoImpactNet: through presentations in conferences, symposia, workshops and meetings; via links on the ever-growing number of Internet sites concerned with nanotechnology; and via partners' web sites.

This has led to an increasing number of contacts and dialogue with:

- larger, well-known, international companies;
- many small and medium-sized enterprises (SMEs);
- major industry associations;
- public and private policy makers;
- national government ministries and agencies concerned with the implications of nanotechnology for EHS and regulation;
- supra-national and international organisations mandated to set standards;
- civil society and non-governmental organisations (NGOs)

The initial identification of stakeholder needs and interests, in relation to researchers on the EHS implications of nanotechnology, has been confirmed by discussions around the 2009 integrating conference. There is need for work in the following fields:

- the potential toxic and safety hazards of nanomaterials throughout their lifecycles;
- the fate and persistence of nanoparticles in humans, animals and the environment, and thus the associated risks of nanoparticle exposure;
- the preparation of nomenclature, standards, methodologies, protocols and benchmarks and thus the development of best practice guidelines;
- databases of materials, research topics and themes, but also of expertise.

This can be summarised by stating that all stakeholder groups are in agreement that there is a need for more scientific knowledge on the EHS impacts of nanomaterials.

Disagreement exists surrounding regulation, with civil society and Members of the European Parliament (MEPs) leaning towards nano-specific regulation and industry calling for nano to be embraced by existing regulatory schemes, for chemistry, pharmacy or food-stuffs, etc. There is also some dispute over what constitutes openness, transparency and information exchange with regards to industry sharing data with academic researchers and civil society.

NanoImpactNet (NIN) continues to expand the number of individuals and organisations with which it communicates on the EHS impacts of nanomaterials. One of WP4's goals is to contact at least 1,000 companies from FP7 member states. Finding them is relatively easy in Switzerland, Norway and in long-standing EU members. It becomes a far more difficult proposition in the ten latest members of the EU, but also in Portugal, Greece and in FP7 'Third Countries'. These countries seem to have less developed high-technology sectors and less information in English or French easily accessible via the Internet. Fifty representatives of European stakeholder groups from civil society have been contacted. Real success will come as stakeholders become active network members, and participation in face-to-face discussions at NanoImpactNet events is key.

## 2 Communications activities carried out since the report for Deliverable 4.1, August 2008

NanoImpactNet continues to disseminate information on the results of its work and to announce its planned activities to a wide range of stakeholders. Feedback from the various stakeholder groups is a continuous process.

### 2.1 *NanoImpactNet events, workshops and meetings*

During this reporting period there have been several NanoImpactNet events:

- Workshop on ‘Strategies to standardise nanomaterials for environmental and ecotoxicological research’, 3 September 2008, Zurich;
- Workshop on ‘NanoLifeCycle: Development of approaches and methodologies for assessing the whole life-cycle of nanomaterials and nanoproducts’, 4 September 2008, Zurich
- Workshop on ‘Nanomaterial Environment Health and Safety Research in the EU: Building a sustainable multi-stakeholder dialogue’, 5 September 2008, Zurich;
- Training School on ‘Handling Protocols and Toxicological Testing Strategies’, 23 March 2009, Lausanne;
- Workshop on ‘Protocols for Assessing Biological Hazards’, 24 March 2009, Lausanne;
- NanoImpactNet’s 2009 integrating conference, ‘For a healthy environment in a future with nanotechnology’, 25 and 26 March, Lausanne, which included a stakeholder session on ‘Risk communication and management’;
- Workshop on ‘Strategies to assess the occupational health effects of nanomaterials’, 27 March 2009, Lausanne;
- Workshop on ‘How to make industrial data available’, 27 March 2009, Lausanne.

### 2.2 *Internet site, e-newsletters and e-mail*

NanoImpactNet’s image is being built around its web site, and although its content management system has posed some technical problems, this will often be the first stop for stakeholders who wish to learn about the network or who want to more detailed information after an initial contact has been made by WP4 partners.

NanoImpactNet is committed to producing seven electronic newsletters over the 4 years of the project, however it has already sent out six as there has been enough news to warrant them in members’ in-boxes. The WP4 partners believe it is better to distribute more frequent short newsletters, than rare, dauntingly long ones. Given the current recession, electronic contact must be effective in replacing face-to-face contacts at events, as travel budgets have been restricted, if not cancelled, in many companies.

### **3 From SMEs to multinational companies and industry associations**

#### ***3.1 A stakeholder database for one thousand enterprises involved in nanotechnology***

Task 4.1 of NIN's WP4 is to identify and contact representatives of selected stakeholders with an interest in the health, safety and environmental impact of nanotechnologies and nanomaterials. One of the goals within this task is to contact at least 1,000 SMEs and other companies involved in nanotechnology. This goes beyond those involved in research, manufacturing or incorporation of engineered nanoparticles into their products, and also includes banks and venture capitalists, insurers, consultants and lawyers.

However, to simply inform them of the project outcomes near the end of year four would not help the project to meet the Work Package's broader objectives, specifically:

- To establish two-way communication with the selected stakeholders (researchers, industry, public and private policy makers, social scientists, NGOs): to get input from and give output to these stakeholders.
- To contribute to meeting the communication needs expressed in the EC Action Plan on Nanosciences and Nanotechnology, especially in the field of EHS aspects.

A database of companies has thus been established to aid the flow of information to and from these firms. Once a company becomes known, its contact details must be collected and the correct interlocutor must be found. The number of persons receiving regular updates on the network's activities, including the electronic newsletter, is steadily rising. The database comprises: a necessary contact person's job title, personal title, first name, last name, e-mail address and telephone number; the company's full name, address, fax number and web site; the type of economic activity; and how NIN found out about them.

Since the first report on identified stakeholders, an ever-expanding database of contacts and potential contacts has been assembled. The industrial stakeholder database now has approximately 950 entries. This has been built by using information from:

- Desk and web-based research of important chemical, pharmaceutical and engineering companies;
- Participant lists from nano-conferences and exhibitions around Europe;
- Participation and networking activities by NIN partners at these conferences;
- Articles from subscriptions to nano-magazines, web sites and newsletters;
- Membership lists of various industry associations on the Internet;
- Contacts sent to IST by other WP4 partners in the NIN consortium and members of the network;
- Industry associations.

However, due to the time that building this database consumes, some of these 950 entries are still simply a web site and the accompanying name of the firm involved. Also, there are not as many companies as there are entries on the list because most important

multinationals such as Solvay, Unilever, Philips or Merck, have a large number of people across different departments involved in nanomaterial development, occupational safety, toxicology and ecotoxicology, or regulatory affairs.

The 950 entries are for 810 different companies: nano-manufacturers, nano-users, law firms, consultancies, banks, etc., and detail over 550 professionals in these fields.

There seems little doubt that NanoImpactNet will soon meet its target of 1,000 enterprises and probably significantly pass it. The current list involves many market leaders and household names and brands in chemistry, pharmaceuticals, cosmetic products, engineering and electronics. As well as some very small firms spun out of university research laboratories, there is a good proportion of SMEs with niche-nano activities.

### **3.2 Industry associations**

NIN's first points of call for contacting firms were the European Nanotechnology Trade Alliance (ENTA), based in Scotland, and the Nanotechnology Industries Association (NIA), based in Brussels. ENTA has over 50 members from 12 EU member states. NIA represents approximately 100 companies in seven European countries, plus India, Australia and the USA. These two organisations have become important interlocutors for NanoImpactNet. Dr Steffi Friedrichs, NIA's managing director, subsequently gave a presentation at the NIN integrating conference during the session on Risk Communication and Management, and presented and debated in the session on 'Making Industrial Data Available'. These associations' membership lists gave an initial insight into which companies felt the need for specific nano-lobbying and representation.

NIN has explained its *raison d'être* to the Swiss and German chemical industry associations, both of which have designated staff working on the nano-issue. NIN also spoke with European Chemical Industry Council (CEFIC) representatives in Brussels, at the FramingNano workshop. Lena Perenius, CEFIC's director of product stewardship, subsequently made a presentation on transparency at NIN's 2009 integrating conference. NIN also wrote to each of the national chemical industry associations that go to make up CEFIC membership, such as the Chemical Industries Association (UK), Federchimica (I) and Verband der Chemischen Industrie (D). CEFIC will be a key interlocutor for the future of the NanoImpactNet project as it directly and indirectly represents around 29,000 companies.

A total of 56 national industry associations and European federations of associations have been contacted by NIN. Other industry associations involved in nanoscience and nanomaterials that have been contacted by NIN are:

- the International Federation of Pharmaceutical Manufacturers and Associations (IRPMA) and 21 of its national associations;
- the European Cosmetic, Toiletry and Perfumery Association (COLIPA), which sent a representative to the NIN integrating conference;
- Fédération des industries des peintures, encres, couleurs, colles et adhésives (FEPIC) ;
- the Confederation of the Food and Drink Industries in the EU (CIAA);
- Business and Industry Advisory Committee to the OECD (BIAC).

These industry associations, which act as platforms for putting forward or defending their members' positions or actions, are unanimous in not wanting nano-specific regulation. For CEFIC, REACH is the right framework within which to deal with nano. COLIPA members do not currently market any goods containing fullerenes or nanotubes, as the appropriate scientific studies do not guarantee no side-effects. Any nanomaterials used by their members fall within current regulations for cosmetic products regulations. Associations which do not have firm positions regarding nano-regulations do agree that there remain many questions which must be answered by scientific research.

### **3.3 Large companies and SMES**

A little over 450 companies were contacted and invited to NIN events, mainly by e-mail, but also by letters to 500 or so specific persons dealing with nanomaterials, and if possible dealing with the HSE and regulatory aspects of nanotechnologies.

All NIN's communications activities aim to bring people together to discuss the effects of nanomaterials on health, safety and the environment. Representatives from Intel, Shell, Arkema, Xirrus, SGCI Chemie Pharma Schweiz, SwissRe and Evonik Degussa attended the 5 September 2008 workshop in Zürich entitled, "Nanomaterial Environment Health and Safety Research in the EU: Building a sustainable multi-stakeholder dialogue".

NanoImpactNet's flagship communication activity was the March 2009 integrating conference in Lausanne. This was attended by representatives from BASF, Beneq Oy, CEFIC, Ciba AG, COLIPA, Credit Suisse, DuPont, EDF, Grimm Aerosols, Matter Engineering, Naneum Ltd, NIA, Novartis, NovioNano, Omya International, SwissRe, SUVA and TSI. Three SMEs exposed their latest measuring equipment at NanoImpactNet's integrating conference: Grimm Aerosol, Matter Engineering and TSI.

The integrating conference session on 'Making industrial data available' featured presentations from L'Oréal, BASF, CEFIC and Novartis, thus giving examples from major players in the consumer and personal care products, chemical and pharmaceutical industries. Other than the food industry, these industries' products are where the man in the street might feel he is most likely to come into contact with nanoparticles or nanomaterials, and is thus most likely to be worried about them. A representative from DuPont also gave a presentation on the most pressing current issues in *ex-vivo* testing.

In light of the current economic crisis, WP4 partners consider twenty-five people participating in the NIN integrating conference on behalf of eighteen companies or industry representative organisations, to be a fair result. Many firms have drastically reduced budgets for 'non-essential travel' or are currently operating strict no-travel policies. According to NIA, some nano-specific conferences have been postponed due to a lack of attendees. Spending three days at a conference where there is no money to be made could be considered a luxury, especially if the information generated will be freely available on the Internet afterwards. The opportunities for participation, interaction and discussion with important actors in the nano field have to be highlighted.

Larger companies do not expect to make money at conferences such as NIN's integrating conference, but they do come to conferences on nanosafety in order to stay at the forefront of current knowledge, thus making sure that they can keep their in-house occupational safety up with the state-of-the-art and also guaranteeing customer safety. This equates to added value for the whole chain of business. Also important is staying informed and getting a current view of the status of the nano-aspect in national &

international legislation, toxicological research, and occupational health and safety awareness, as well as public opinions and perceptions.

The development of relationships with all these SMEs, companies, industrial federations and associations is ongoing and will continue to the end of the life of the project. There are currently over 800 companies researching, developing, manufacturing, using, financing, insuring, or advising on nanomaterials in NanoImpactNet's database.

### Perceptions of risk

Industry believes that it has the knowledge and skills to evaluate and effectively and safely manage the risks involved with nanomaterials. However, it is worried about risk perception. Consumers do not generally have the expertise to evaluate product safety; they do not know the chemicals in their bottle of shampoo or the active ingredients in their medicines, and yet they trust manufacturers and regulators to sell them safe products. One example given by Dr B l of the German Federal Institute for Risk Assessment, is of pseudo-serious petitions to have dihydrogen monoxide banned (i.e. H<sub>2</sub>O, water). Many people also equate hazard to risk. Engine failure is a serious hazard (for an aeroplane), but there is very little risk, because of the likelihood and frequency of an engine failure occurring are small.

Industries most certainly do not want mandatory labelling, such as 'Contains nanoparticles'. This is seen as a sop to the politicians and NGOs, but realistically is rather uninformative and could potentially scare people away from using certain products. "Why not label all products with 'Contains molecules'? This gives just as much information on risk." This is the opinion of Dr Hertel, also of the German Federal Institute for Risk Assessment.

Industries are also against possible labelling as 'Nano-hazard' (potential labels have already been designed) on the basis that size is not an indicator of risk. The Globally Harmonized System of hazard pictograms is currently replacing national warning symbols and these could be used should a nanomaterial possess explosive, toxic or corrosive characteristics.

Companies agree that there is a lot of communication work still to be done to support their view that they are doing everything legally required of them - and often more - to make sure that nanomaterial impacts on health, safety and the environment are minimised.

However, companies also generally agree that freely giving their data does not necessarily increase trust and cooperation. A critical point is how to present often complex toxicological and ecotoxicological data to the media - often the public's first port of call when worried about new products. Simply making data available is no good to either the giver or the receiver unless there is context. Giving out all possible information to all stakeholders does not necessarily increase knowledge. NGOs never ask for 1,000-page REACH submissions or full pharmaceutical submissions to the FDA.

Discussions at NIN's integrating conference in a workshop session on 'Making industrial data available', kept returning to the theme of 'Communication and risk management', which had been discussed in a session the day before. Access to industrial data on toxicology seems not to be a problem limited to nanomaterials and technologies.

The variety of nano reporting schemes complicate matters significantly for multi-national companies as each type stakeholder or regulator requires a different type of information. Furthermore regulations are localised - whether American, EU or national. Companies and

industry associations therefore see great advantages in internal or industry-wide codes of conduct. These can be applied by companies or industries world-wide, and raise the EHS bar across the board.

It is of course recognised that as these schemes are voluntary, certain companies can decide to operate outside industry codes of conduct, and there is thus a possibility of reputational damage to other nanotechnology industries.

Companies and industry associations realise that technological breakthroughs in nanomaterials are running ahead of legislation, and they feel that they are already making commitments which go beyond REACH, or current government requirements. Industry associations can bring standardised safety data sheets, for example.

Yet for these data sheets to be useful, the nomenclature, classification, description, definition, and characterisation of nano have to be agreed internationally. OECD and ISO actions are therefore highly laudable because they are internationalising pertinent standards and definitions adapted to various industrial applications. Also, applying REACH means that all the necessary information is sent to and available from one place.

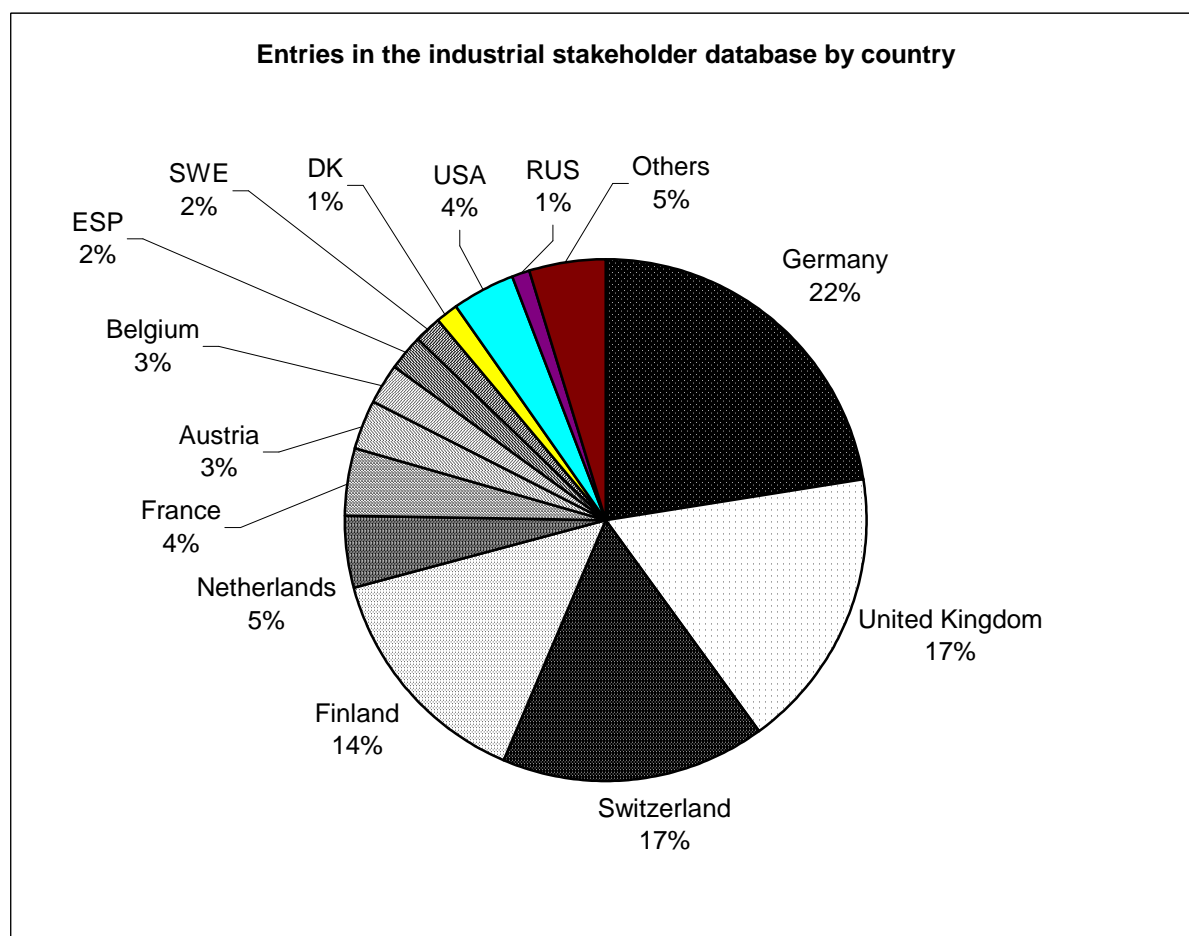
#### Geographical spread of industrial contacts to date

One of NIN's goals is to contact at least 1,000 companies involved with nanomaterials, either headquartered in an FP7 country or with important activities in those countries. These include the 27 European Union countries, plus the 'Third Countries': Switzerland, Israel, Norway, Iceland, Liechtenstein, Turkey, Croatia, Macedonia, Serbia, Albania, Montenegro, and Bosnia & Herzegovina. The geographical spread of industrial contacts to date is heavily weighted towards:

- Finland - because of large numbers of SMEs listed in the micro and nano fields;
- Germany - because of its established and extensive chemical, engineering and pharmaceutical industries;
- Switzerland - because it has a relatively dense population of nano-related industries that was closely examined in the Swiss Nano-Inventory<sup>(1)</sup> study (of companies manufacturing or using nanomaterials). It was thus easy to invite participants to NIN's events held in Switzerland;
- the United Kingdom - because documentation and web sites are easiest to find in English.

The geographical gaps in companies contacted will be progressively filled in (NIN still has a series of national nano-lists to examine). There are still some smaller, developing European countries where nano-industries have yet to be specifically found or searched for, for example Albania, Serbia or Macedonia, but also in Iceland, no nano-industries have been come across as yet.

(1) Schmid, K; Danuser, B; Riediker, M. "Swiss Nano-Inventory" final report: an assessment of the usage of nanoparticles in Swiss industry", Lausanne: IST, 2008, 55 p.



## 4 Other important stakeholder groups

### 4.1 National government ministries and agencies

NanoImpactNet is in contact with representatives of national government ministries and agencies across the continent. They have been sent invitations to NanoImpactNet events and are updated on results published on its web site. The types of government ministry or agency which have been targeted are:

- The former and current members of the Competent Authorities on New and Existing Substances, Sub-Group on Nano.
- The National Coordinators for testing methods in the 27 EU countries, plus Norway, have been informed about NanoImpactNet. These representatives work in Ministries of Health or Environment, Public Health Institutes, Chemical Notification Centres, Departments of Environmental Health, or Health and Safety Authorities.
- Ministries of research, science or education
- Ministries of industry, employment, innovation or technology
- Ministries of health or social affairs

- Ministries of food, agriculture or the environment
- Representatives of various government ministries or agencies attended NanolImpactNet's September 2008 workshops in Zürich and 2009's integrating conference including some from Austria, Germany, Switzerland, the Netherlands, the United Kingdom and France.
- National institutes of occupational health or risk assessment.

The current database of civil service contacts lists 157 different government ministries, departments or agencies and contains over two hundred e-mail addresses. There remain quite a number of gaps in the information, however, such as names without contact details or ministries known to be following the topic, but which have no contact with NanolImpactNet as yet. From now on, by filling in the gaps rather than actively searching out new contact persons, NanolImpactNet sees this list reaching 350 key people around the continent.

There has also been interest in NanolImpactNet work outside of Europe, for example from the US Environmental Protection Agency and the National Institute for Occupational Safety and Health.

Since the last report the Swiss government has released its Precautionary Matrix for Synthetic Nanomaterials. Though neither a law nor a fully-fledged regulation, it is proving to be a valuable aid for industry to measure possible sources of risk. EU or Swiss nano-specific legislation is still absent; it cannot currently keep up with nanotechnology's leaps and bounds, further attested to by the proliferation of, and industries cooperation in, voluntary schemes.

#### **4.1.1 Continuing strategy for developing contacts with national government ministries or agencies**

Via the Competent Authorities Sub-Group on Nanomaterials, NanolImpactNet has reached at least one appropriate civil servant in each EU member state, yet finding the full extent of government interest in theme of the safety of engineered nanomaterials remains a challenge. There is more information to be found via the snowball effect of new NIN members in less well represented countries.

Naturally enough, the level of interest in NanolImpactNet's work from government ministries or agencies appears to be correlated to the amount of nanomaterial research being conducted in a country's universities and the size of its industrial sectors tied closely to nanotechnologies.

## ***4.2 Supra-national and international organisations***

NanolImpactNet now communicates with twenty-seven distinct EC directorates, UN agencies, or other supra-national and international organisations such as ISO. At the European Union level, staff in a number of European Commission Directorate Generals are very interested in NanolImpactNet's work and are being kept informed of its actions. Several MEPs are also being kept informed. These include:

- DG Research and Technological Development (NanolImpactNet's 'home' directorate);

- DG Health and Consumer Protection;
- DG Enterprise and Industry;
- DG Environment;
- the Joint Research Committee;
- MEPs involved in the NanoCap project.

European agencies with a close interest in NanoImpactNet's activities include:

- The European Chemicals Agency;
- The European Medicines Agency;
- The European Food Safety Authority;

A wide variety of UN agencies and their departments are kept in contact with NIN events and participants from the WHO and the ILO were present at the NIN integrating conference in March 2009.

### ***4.3 Non-governmental and civil society organisations***

At NanoImpactNet's workshop in Zürich in September 2008 Dr. Samantha Dozier, Policy Advisor on Nanotechnology & Medical Testing Issues with People for the Ethical Treatment of Animals (PETA), presented the NGO perspective on the theme of "Building a sustainable multi-stakeholder dialogue".

In 2009 the world economic downturn is affecting civil society's ability to travel to events such as NanoImpactNet's integrating conference. Thirty-seven NGOs known to have previously participated in NanoImpactNet, FramingNano and/or NanoCap events, or to have been signatories of the World Social Forum declaration on nanotechnologies were invited to Lausanne. Only one animal welfare NGO and one consumer association managed to attend the first integrating conference; two others asked for financial assistance to attend. Consumer rights organisations are apparently currently facing drastic budgetary constraints. Free registration for civil society and NGOs was suggested by one of the attending NGOs and will be considered for 2010's integrating conference.

Another point to consider is that NGOs such as Greenpeace or Friends of the Earth are concerned by a multitude of issues of which the environmental, health and safety effects of nanomaterials is just one. There are to date no 'single-issue' NGOs working in the field of nanomaterial safety, although some organisations working exclusively in the field of nanotechnology are able to claim non-profit status. Bigger, more existential and newsworthy issues, such as global warming, that are affecting people today and highly likely to put billions of livelihoods at risk, quite naturally receive greater attention. Even if a nano-scandal on the scale of asbestos emerged, it would be a drop in the ocean compared to the human difficulties already being caused by global climate change.

The civil society organisations contacted include five concerned with animal-rights, thirty consumer-rights groups, eighteen environmental NGOs, four public and human-health NGOs and eight trade union organisations. The NanoCap project was important to NGOs because it enabled them to participate in the nano safety debate at a European level and to formulate their positions within their own policy contexts. Now that this project is being wound up it is hoped that NanoImpactNet will attract more NGO attention.

NanoImpactNet has thus now reached its goal of contacting 50 representatives of ‘other’ European stakeholder groups such as non-governmental and civil society organisations across all EU member states. As mentioned earlier, no new NGO protagonists to the nano-debate will be actively sought, and any time devoted to searching out further NGO contacts will be filling in the gaps in the database: putting full contact details to a concerned NGO’s e-mail address or finding contact details of the appropriate person.

Both NIN events dealing with the issue of engagement and communication with the public have confirmed that although the man or woman in the street has a generally positive perception of nanotechnology, they have very little actual knowledge about it - perhaps of science in general - and unless it can be shown that nanomaterials provide real benefits and not just increased profits, they will remain extremely wary of nanotechnology. There is an important role here for the media and civil society in not just transmitting ‘maybes’ but firm facts. The major informational desire of NGOs and civil society in general is transparency and the application of the precautionary principle. They are rather on the side of nano-specific legislation and seem to have support from certain MEPs on this. The European Parliament is probably the place to get regulation passed most quickly, and indeed has recently released an opinion on this topic.

The question was asked at NIN’s integrating conference, “Who could be against nanotechnology as a whole if it was part of a cure for breast cancer?” A blockbuster drug developed using nanotechnologies and incorporating an important nano-effect in its delivery would be an enormous boost to the nanotechnology industries as a group. This would put NGOs such as GreenPeace, and others demanding bans on development of products unless a strict precautionary principle is applied, in a difficult position.

## 5 Continuing contact, communication and networking with stakeholders

Since the first stakeholder report, hardly any contact names or addresses have been forwarded to the Communications Officer (Government, industry and civil society), by NanoImpactNet members. This is surely a sign that there are few resources devoted to expanding interaction between academics and industry. Nevertheless NanoImpactNet now has a quite large database of stakeholder contacts from the major industrialised EU countries. In the more nano-developed countries there is constant nano-news about new companies or participants in the nano-debate. This is thus where nano manufacturers and users are most easily found.

NanoImpactNet has proactively searched out companies in countries or industrial sectors where it has had little coverage. The same goes for representatives of government agencies or civil society. Most research time will be spent filling in the information gaps on existing, known stakeholders and attempting to find the precise person in each company with regards to the health, safety and environmental effects of nanomaterials. Future communication activities will be aimed at encouraging participation in NanoImpactNet and especially in the promotion of its reports and its 2010 integrating conference.

Data collection on stakeholders contact details is ongoing. This will also go on in parallel with the preparation of other communications materials (information leaflets, membership application forms, [www.nanoimpactnet.eu](http://www.nanoimpactnet.eu)) for workshops and conferences.

## **5.1 WP4's human resources in communication**

The personnel involved in NanoImpactNet's Work Package 4 are unchanged since the last report:

- Dr. Michael Riediker, Coordinator, Institute for Work and Health (IST - Switzerland)
- Nathalie Boschung, Work Package Leader and Communications Officer for the Science and Research Community, (IST - Switzerland)
- Juan Riego Sintes, Work Package Co-leader, European Commission Joint Research Centre (JRC - Italy)
- Darren Hart, Work Package Communications Officer for Industry, Governments and Civil Society, (IST - Switzerland)
- Dr. Daniel Bloch, Partner in task, Commission de l'énergie atomique (CEA - France)
- Dr. Lang Tran, Partner in task, Institute of Occupational Medicine (IOM - United Kingdom)
- Bryony Ross, Partner in task, (IOM - United Kingdom)
- Prof. Geoffrey Hunt, Partner in task, St. Mary's University College (SMUC - United Kingdom)
- Dr. Harold Krug, Partner in task, Swiss Federal Laboratories for Materials Testing and Research (EMPA - Switzerland)
- Dr. Peter Wick, Partner in task, (EMPA - Switzerland)

## **5.2 Promoting NanoImpactNet at conferences, symposia, etc.**

Since the first Stakeholder Report, NanoImpactNet members and partners in WP4 have presented and/or promoted the project at the following scientific conferences, symposia, forums and meetings around Europe and further afield:

- CCMX Technology Aperitif, Materials for Pharmaceutical Applications, Basel, 26 August 2008
- NanoEurope, St. Gallen, 16-17 September 2008
- NanoTox 2008 Conference, Zürich, September 2008
- Swiss Occupational Hygiene Association exchange of experience meeting, 24 September 2008
- NanoTech Northern Europe, Copenhagen, 23-25 September 2008
- Austrian Academy of Science conference on Nanotechnologies: the present state of regulation, Vienna, 29 September 2008
- INM Summer School "Chemische Nanotechnologie", Saarbrücken, 8 October 2008
- Nano-Débat, Facing nanoparticle-risk now and in the future, Grenoble, 9 October 2008

- Symposium on Polymer Nanostructures, Bayreuth, 9-10 October 2008
- Nano4All, Utrecht, 15 October 2008
- OECD workshop on Exposure Assessment and Mitigation, Frankfurt, 20 October 2008
- NanoRisk Conference, Paris, 21-22 October 2008
- Meeting on Work and Health, Institute for Social Medicine, Zürich, 23 October 2008
- UK NanoForum, London, 28 October 2008
- Fachmesse Arbeitssicherheit Vortrag Nano, Basel, 6 November 2008
- NanoThailand Symposium , Bangkok, 6-8 November 2008
- NanoSafe Conference, Grenoble, 7 November 2008
- Technology Aperitif, Empa Akademie , Dübendorf, 24 November 2008
- DG Research CSA Workshop, Brussels, 28 November 2008
- VDI Citizens' Forum, Dresden, 29 November 2008
- Casino Society, Burgdorf, 1 December 2008
- European Approaches to Safe and Healthy Work with Nanomaterials, Taipei, 22 December 2008
- National Institute for Materials Science symposium, Tokyo, Japan, 13 February 2009
- National Institute of Health Sciences symposium, Tokyo, 20 February 2009
- FramingNano workshop, Brussels, 26 February 2009
- NanoCluster meeting, Brussels, 26 February 2009 - N.B. this is an extra deliverable, as not in the budget, but with travel pool money
- German Society for Experimental and Clinical Pharmacology and Toxicology meeting, 11 March 2009
- 56th Congress of the Swiss Society for Optics and Optometry, Bern, 23 March 2009

This effort is ongoing and will continue throughout the life of the project. This list does not include NanoImpactNet's own training school sessions, workshops and conferences.

NanoImpactNet's communication activities are also supported by its electronic newsletter that is sent to almost 500 interested parties (from academic researchers, to representatives of government and industry).

### **5.3 NanoImpactNet events**

NanoImpactNet's training school sessions, workshops and conferences are essential for strengthening relationships with attending stakeholders. Actually meeting participants face to face makes a vast difference for carrying out networking activities and for gathering further information about potential participants in project activities. As well as promotion

via the Internet, the WP4 partners have prepared flyers for the promotion of NIN events, including:

- 2009 and 2010 integrating conferences in Lausanne;
- workshops on Metrics, scenarios and routes of exposure; Risk assessment; and Fate and behaviour in the environment, in Bilthoven, the Netherlands, in October 2009
- training workshop for young researchers on ‘Life-cycle-based methods for assessing nanomaterials’ in Bratislava, Slovakia, in November 2009;

#### **5.4 Other nano-events**

All conferences, congresses, trade fairs or meetings are opportunities for NanoImpactNet’s 24 consortium partners to present or promote the network and the project. However, since the first stakeholder report, the amount of feedback to WP4 communications group from industry via this means has been limited. Consortium members will be reminded of the importance of this task and encouraged to do more outreach work for NanoImpactNet. Abstract books for the 2009 integrating conference have been sent to various important stakeholders that NIN would especially like to take an active role in the network and to attend future NIN events.

#### **5.5 Other Internet sites**

There is a lot of competition between Nanotechnology web sites hungry for content and news. They are proving to be an excellent means of diffusing information. NIN will continue to use them as a method of reaching interest groups with sub-interest in the health, safety and environmental effects of nanomaterials.

A rapid Google search for NanoImpactNet’s 2009 integrating conference found that it was being promoted on *at least* the following 47 web sites, many of which had picked up the story from other web sites. Most of these are in addition to the web sites mentioned in the first stakeholder report.

French Federation for Chemical Sciences: [http://www.ffc-asso.fr/fichs/doc\\_pdf/nano\\_hse/NanoImpactNet\\_description\\_2008-05-29.pdf](http://www.ffc-asso.fr/fichs/doc_pdf/nano_hse/NanoImpactNet_description_2008-05-29.pdf)

Swiss Federal Laboratories for Materials Testing and Research: [http://www.empa.ch/plugin/template/empa/\\*/69986/---/l=2](http://www.empa.ch/plugin/template/empa/*/69986/---/l=2)

Nanoforum.org, the European Nanotechnology Gateway: <http://www.nanoforum.org/nf06-modul-searchevents-eventid-1847-.html?action=longview&moreaction=&idauswahl=&>

The International Nanoscience Community: <http://www.nanopaprika.eu/events/1st-nanoimpactnet-integrating>

Euresearch: [http://www.euresearch.ch/index.php?id=224&tx\\_ttnews\[tt\\_news\]=2185&cHash=776d1e2a25](http://www.euresearch.ch/index.php?id=224&tx_ttnews[tt_news]=2185&cHash=776d1e2a25)

Die Innovationsgesellschaft:

<http://www.innovationsgesellschaft.ch/index.php?section=error&id=404>

European Agency for Health and Safety at Work:

[http://osha.europa.eu/en/riskobservatory/nanoimpactnet\\_multidisciplinary\\_european\\_network\\_health\\_environmental\\_impact\\_nanomaterials\\_01.30102008](http://osha.europa.eu/en/riskobservatory/nanoimpactnet_multidisciplinary_european_network_health_environmental_impact_nanomaterials_01.30102008)

Nanotechweb.org: <http://nanotechweb.org/cws/event/13673>

The A to Z of Nanotechnology:

<http://www.azonano.com/events/EventDetails.asp?EventID=538>

IST World: [http://www.ist-](http://www.ist-world.org/ProjectDetails.aspx?ProjectId=7737615b21ff4ece88a42d6d3221fa1b&SourceData)

[world.org/ProjectDetails.aspx?ProjectId=7737615b21ff4ece88a42d6d3221fa1b&SourceData](http://www.ist-world.org/ProjectDetails.aspx?ProjectId=7737615b21ff4ece88a42d6d3221fa1b&SourceData)  
[baselId=9900e74f1158484985c6bf0d2aa3cc2a](http://www.ist-world.org/ProjectDetails.aspx?ProjectId=7737615b21ff4ece88a42d6d3221fa1b&SourceData)

NanoSafe.org:

[http://www.nanosafe.org/home/liblocal/docs/Accueil/NanoImpactNetConference\\_AnnouncementAbstractCall.pdf](http://www.nanosafe.org/home/liblocal/docs/Accueil/NanoImpactNetConference_AnnouncementAbstractCall.pdf)

Swiss Society for Occupational Hygiene:

<http://www.sgah.ch/downloads/nanoimpactnet.pdf>

NanoSafe 2008 conference:

[http://www.nanosafe2008.org/home/liblocal/docs/Oral%20presentations/O10-7\\_NanoImpactNet.pdf](http://www.nanosafe2008.org/home/liblocal/docs/Oral%20presentations/O10-7_NanoImpactNet.pdf)

Nano Foundries and Fine Analysis project:

<http://nffa.tasc.infm.it/pmwiki/pmwiki.php?n=NFFA.NanoImpactNet>

NanoWerk LLC: <http://www.nanowerk.com/news/newsid=7980.php>

Centre for BioNano Interactions:

<http://www.cbni.ie/sections/ProjectsFunding/NanoImpactNet>

The Gregor Wolbring Nano blog:

<http://wolbring.wordpress.com/2008/11/03/nanoimpactnet-for-a-healthy-environment-in-a-future-with-nanotechnology/>

Euro Training:

[http://www.eurotraining.net/view\\_course.php?course\\_number=142639\\_07\\_11\\_2008\\_81](http://www.eurotraining.net/view_course.php?course_number=142639_07_11_2008_81)

NanoColors - the nanotech 2.0 hub:

<http://nanocolors.wordpress.com/2009/02/10/nanoimpactnet/>

NanoConference.com: <http://nanotechnologyconferences.com/index.php?id=177&h=1>

Universitat Duisberg-Essen:

[http://www.spp1313.de/website/news/veranstaltu/nanoimpactn\\_107/de/de\\_nanoimpactn\\_univer\\_1.php](http://www.spp1313.de/website/news/veranstaltu/nanoimpactn_107/de/de_nanoimpactn_univer_1.php)

Business Week magazine's Business Exchange:

<http://bx.businessweek.com/nanotechnology-companies/nanoimpactnet---for-a-healthy-environment-in-a-future-with/12240003031783848088-1de1243a3712e015c2dab86dec64e122/>

NanoTEST: [http://www.nanotest-](http://www.nanotest-fp7.eu/Home/tabid/1552/ctl/Details/mid/3611/ItemID/792/language/en-US/Default.aspx)

[fp7.eu/Home/tabid/1552/ctl/Details/mid/3611/ItemID/792/language/en-US/Default.aspx](http://www.nanotest-fp7.eu/Home/tabid/1552/ctl/Details/mid/3611/ItemID/792/language/en-US/Default.aspx)

Nanobiotechnology: Responsible Action on Issues in Society and Ethics: <http://nanobio-raise.org/groups/editors/menus/resources/40/view>

Dechert LLP: <http://www.masstortdefense.com/2008/12/articles/nanotechnology-conference-set-for-march-2009/>

Nanotechnology Industries Association: <http://www.nanotechia.org/events/>

Belgian Institute for Occupational Safety and Health:  
<http://fr.prevent.be/net/net01.nsf/p/609DE028CAD8FBCDC1257513003FA829>

Italian Life-Cycle Assessment Network: <http://www.reteitalianalca.it/info/news-1/nanoimpactnet-abstract-submission>

French public health data bank:  
<http://www.bdsp.ehesp.fr/Colloques/Default.asp?Frame=http%3A//www.bdsp.ehesp.fr/Colloques/Scripts/Show.bs%3FbqRef%3D3493>

NanoTrust project of the Institute of Technology Assessment of the Austrian Academy of Sciences: [http://nanotrust.ac.at/nano08/slides\\_riediker.pdf](http://nanotrust.ac.at/nano08/slides_riediker.pdf)

Center for Nanotechnology in Society, University of California, Santa-Barbara:  
<http://www.cns.ucsb.edu/clips/for-a-healthy-environment-in-a-nanotechnology-future-nanowerk-2-10-08/>

Polish Nanotechnology Gateway:  
[http://www.nanonet.pl/index.php?option=com\\_jcalpro&Itemid=82&extmode=flat](http://www.nanonet.pl/index.php?option=com_jcalpro&Itemid=82&extmode=flat)

International Labour Office:  
<http://www.ilo.org/public/english/protection/safework/cis/oshworld/events.htm>

Japanese Network of Advanced Nanotechnology Research Centres:  
[http://nanonet.mext.go.jp/modules/calendar/index.php?action=View&event\\_id=000000761](http://nanonet.mext.go.jp/modules/calendar/index.php?action=View&event_id=000000761)

German Network of Excellence for Chemical Nanotechnology: <http://obsolet.cc-nanochem.de/Kalender.php>

Framing Nano project:  
[http://www.framingnano.eu/index.php?option=com\\_content&task=blogcategory&id=39&Itemid=63](http://www.framingnano.eu/index.php?option=com_content&task=blogcategory&id=39&Itemid=63)

Gradient Corporation, EH&S Nano News: <http://www.ehsnanonews.com/>

NanoHelp: <http://www.nanohelp.info/euprojectsf7.html>

Jawaharlal Nehru Centre for Advanced Scientific Research: [www.jncasr.ac.in](http://www.jncasr.ac.in)

Swiss Automated Public Health Information Resources:  
<http://www.saphirdoc.ch/permalien.htm?saphirid=67468>

NanoDialog:  
[http://nanodialog.eu/index.php?option=com\\_content&task=view&id=56&Itemid=44](http://nanodialog.eu/index.php?option=com_content&task=view&id=56&Itemid=44)

Danish Nanotechnology Network:  
<http://www.nanet.nu/Nyheder/Arkiv.aspx?guid={030B6A32-2314-44BA-8124-F0B7A29381F9}>

NanoRisk 2008 Conference:  
<http://www.upperside.fr/nanorisk2008/nanorisk2008program.htm>

Austrian Academy of Sciences: <http://epub.oeaw.ac.at/ita/ita-projektberichte/d2-2c21-2.pdf>

Center for NanoIntegration Duisberg-Essen: <http://www.uni-due.de/cenide/conf.shtml>

The Dartmouth Undergraduate Journal of Science: <http://dujs.dartmouth.edu/winter-2009/turning-to-nanotechnology-for-pollution-control-applications-of-nanoparticles>

The Impart-NanoTox project: [http://www.impart-nanotox.org/related\\_projects.html](http://www.impart-nanotox.org/related_projects.html)

## **5.6 Traditional media: magazines, newspapers, radio, TV, journals, etc.**

In its first stakeholder report, NanoImpactNet stated that it wished to search out print journalists in both specialist scientific magazines and journals, but also in more popular print media, including the daily national press. However time simply did not allow for this ambitious plan during the first activity period.

Personal relationships with journalists are hard to build up and are time consuming. A journalist from Swiss daily, le Temps, attended the NIN integrating conference, but no article ensued. Because IST is known to Swiss media and some interviews of its staff have been conducted recently, it is hoped that they can be convinced to cover the 2010 integrating conference.

### **Appendix:**

#### **Summary of numbers of companies, government departments/agencies and NGOs in the NIN communication database by country (March 2009)**

EU and FP7 third countries

Country	Companies	Government	NGOs/CSOs
Austria	22	12	2
Belgium	23	5	7
Bulgaria	1	4	1
Croatia	0	0	1
Cyprus	1	1	1
Czech Rep.	3	3	1
Denmark	12	6	1
Estonia	0	3	1
Finland	120	6	2
France	33	7	4

Country	Companies	Government	NGOs/CSOs
Germany	156	10	2
Greece	1	2	1
Hungary	1	2	1
Iceland	0	0	1
Ireland	4	0	2
Italy	25	7	6
Latvia	0	1	2
Liechtenstein	1	0	0
Lithuania	0	2	0
Luxembourg	3	1	1
Malta	0	0	1
Netherlands	32	3	4
Norway	3	2	3
Poland	2	4	2
Portugal	2	1	1
Romania	1	2	1
Russia	5	0	0
Slovakia	0	2	1
Slovenia	1	3	1
Spain	15	5	2
Sweden	13	2	2
Switzerland	130	6	2
Turkey	1	0	0
United Kingdom	151	13	8
Ukraine	2	0	0

## Outside EU and FP7 third countries

Country	Companies	Government	NGOs/CSOs
Australia	7	0	1
Canada	1	0	0
India	3	0	0
Israel	3	0	0
Japan	3	0	0
Saudi Arabia	2	0	0
South Africa	1	0	0
USA	27	2	2

For more details of a particular group of stakeholders, please contact:

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