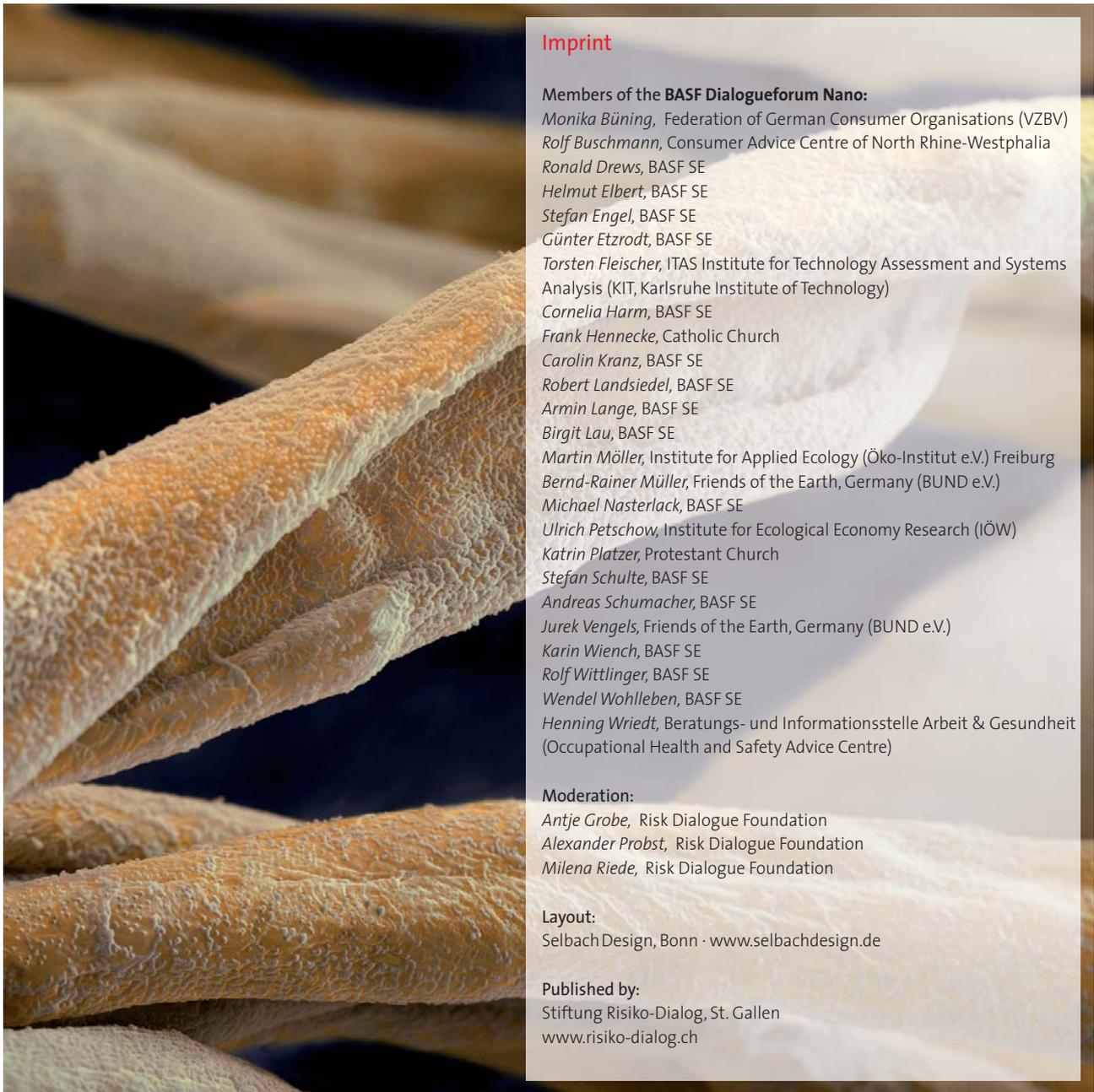


BASF Dialogueforum Nano

2009 | 2010

Information and Transparency Along the Product
Life Cycle of Nanomaterials – Final Report



Imprint

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Nanotechnologies makes textile fibers dirt repellent. (photo: BASF)

Information and Transparency Along the Product Life Cycle of Nanomaterials

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Information tools for **Manufacturers**

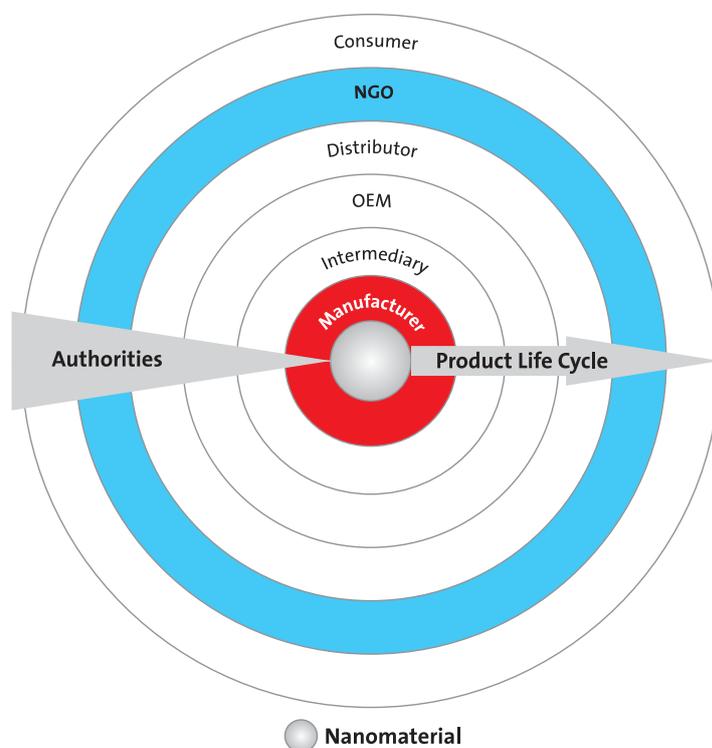
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Level of communication:

Manufacturers of nanomaterials
and
Civil Society Organisations / **NGOs**

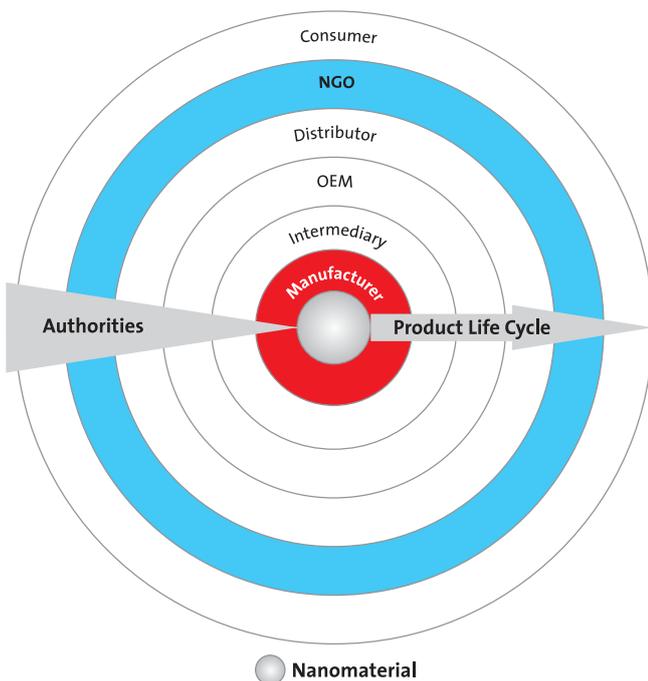


In the BASF Dialogueforum Nano, representatives of environmental and consumer organisations, trade unions, scientific institutes and churches (Civil Society Organisations / Non Governmental Organisations / NGOs) work together with employees of the chemical company BASF SE on various issues related to the subject of nanotechnologies. The 2009 / 2010 dialogue forums, led by the Risk Dialogue Foundation, St. Gallen, resulted in recommendations on how transparency and information can be guaranteed along the product life cycle.

The background to this is that the call for more information on nanotechnologies from policy-makers, authorities, NGOs, the media and consumers is becoming more and more insistent in the current nano debate – both within Germany and internationally. The BASF Dialogueforum Nano takes up these sometimes differing information requirements and focuses on issues

From nanomaterial to end product

Levels of communication along the product life cycle



of occupational health, environmental safety and consumer protection along the entire product life cycle of nanomaterials¹. Current political discussions and the question of how to deal with limited knowledge have also enriched the dialogue.

The starting point for the dialogue was the key question:

“Who should be provided with what kind of information, by what means, from whom, for what purpose and when?”

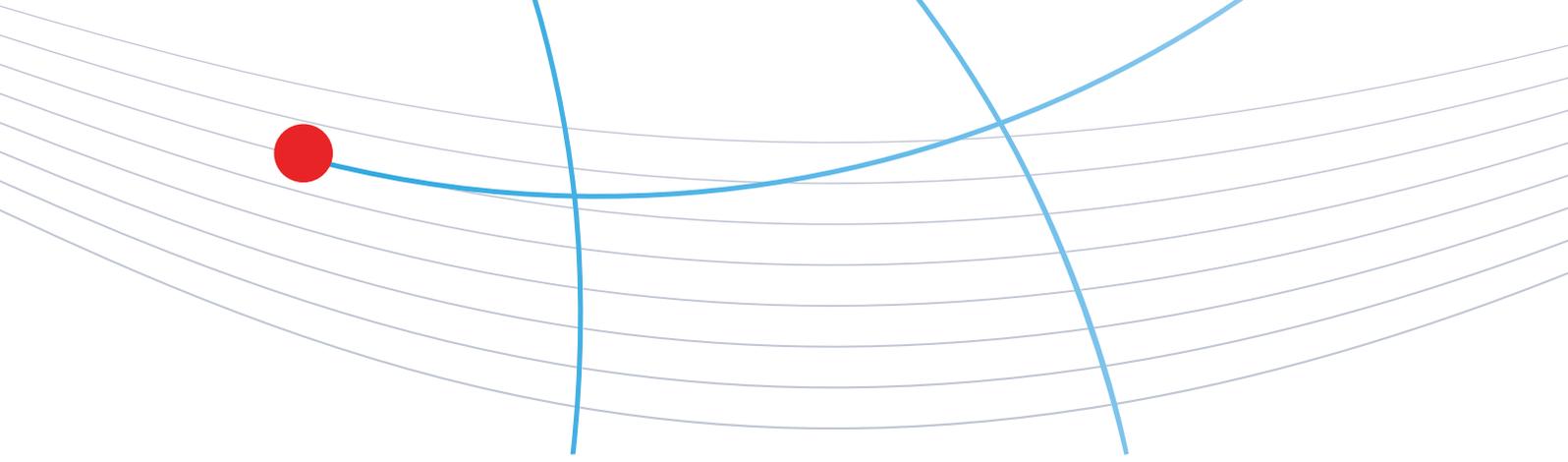
The following stakeholders play a central role in the sharing of information: manufacturers of nanomaterials, processing companies manufacturing intermediate products (intermediaries), companies manufacturing end products/brand name products (original equipment manufacturers/OEMs), Civil Society Organisations / Non Governmental Organisations and the consumers themselves.

However, there are also other players, such as authorities, disposal companies and the scientific community, who have not been given detailed consideration in this phase of the dialogue. Since the subject of information requirements of authorities under REACH is currently being discussed at EU level, it was relegated to the background within the dialogue group.

The objectives of the Dialogueforum were as follows:

- Recommendations on information and transparency along the supply chain.
- Critical review of the existing practice of providing information, on the basis of specific examples of BASF SE products.
- Results derived from this: development of models to demonstrate what information should be made available, processed and organised along the product life cycle, and how this should be implemented.

¹ There is still no conclusive definition of nanomaterials. The group refers to the ongoing consultation processes in the relevant committees.



Because of the constellation of the group, the BASF Dialogueforum Nano concentrated on the communication requirements of the manufacturing companies and NGOs in this phase. The specific questions that resulted were as follows: What information should the manufacturer pass on? How can NGOs inform consumers, and what information enables the consumer to make a sound and autonomous purchase decision (informed choice)?

The “onion skin” model has been developed to illustrate the different levels of communication. At the centre of the ideal “onion” is information on nanomaterials that has to be made available by the manufacturer and passed on to the processing company or intermediary. The company processing the nanomaterial communicates in turn with the original equipment manufacturer (OEM), who then communicates with the distribution sector. With a focus on the consumer, NGOs contribute to shaping public opinion on an individual level and within society as a whole by providing consumer-oriented information about aspects related to health and safety. In addition they describe the opportunities and risks of nanotechnologies, and point out gaps in the research or regulatory instruments, for instance. Works councils and trade unions play an essential role in all phases of the product’s life during which employees handle nanomaterials and nanoproducts.

The result of the BASF Dialogueforum Nano is a table with recommendations in which appropriate measures are listed. The entries in the table are supplemented by examples and comments. Since it was not possible to reach consensus on all points in the dialogue process, additional issues of the discussion and open questions are also presented.

Notes regarding the table:

- The recommendations below on particular information tools may not be applicable to all companies and materials / products, and their suitability must be checked on an individual basis.
- For all information to be published, it should be checked to what extent intellectual property rights or patented in-

formation must be protected. Here, the need for transparency must be weighed against this.

- Information related to safety must always be passed on to intermediaries and OEMs.
- In addition, it should be ensured that the safety-related data required to form a fact and problem-oriented opinion is made available to the NGOs.

Specification of the NGOs in the second section of the table:

- Since the various stakeholders have different target groups and objectives, the participants suggested a distinction to be made between the various players classified as NGOs (environmental organisations, churches, consumer organisations and trade unions). Consequently, specific recommendations have been formulated for churches and trade unions.
- The table is therefore divided into an initial general part followed by two subsections with specific recommendations.

Integration into the dialogue

- The focus of this report is on specific information tools regarding nanomaterials and nanoproducts along the product life cycle. Moreover, all participants are integrated into dialogues in various ways at regional, national and sometimes international level. These dialogues play an essential role both for the general information exchange between the stakeholders and for creating transparency regarding backgrounds, values and interests.

Level of communication:

Manufacturers of nanomaterials

Information tool: **Safety Data Sheet (SDS)**

Addressees: **Intermediaries / OEM / Authorities**

Recommendations of the group

Additional information about nanomaterials should be included in the SDS if these contain nano-objects or agglomerates/aggregates.

This also applies to:

- Substances/mixtures containing mainly agglomerates or aggregates of nano-objects.
- Substances/mixtures in which there are nano-objects embedded or suspended in a solid or liquid matrix.
- Substances/mixtures containing agglomerates or aggregates of nano-objects which disintegrate when used for the intended purpose.

Specific information to be provided:

- Details of the proportion of nano-objects in products (in percent).
- Where applicable, information on the composition, surface coating and / or functionalisation.
- More detailed, precautionary information about safe handling.
- Voluntary information concerning occupational health and safety, physical and chemical properties (particularly stability and reactivity, morphology), toxicology, ecotoxicology, transport and disposal, differentiated according to the field of application.
- List indicating the suitability of the material for specific applications.
- Known limitations.
- Indication of the technical information, also accessible via the Internet.

Notes | examples

Look into the options for putting the SDS on the Internet as a signal of transparency, possibly with access upon request.

See, e.g.: <http://www.eusdb.de/en>

Many of BASF's SDSs are put on the Internet, with each division making its own decisions about this.

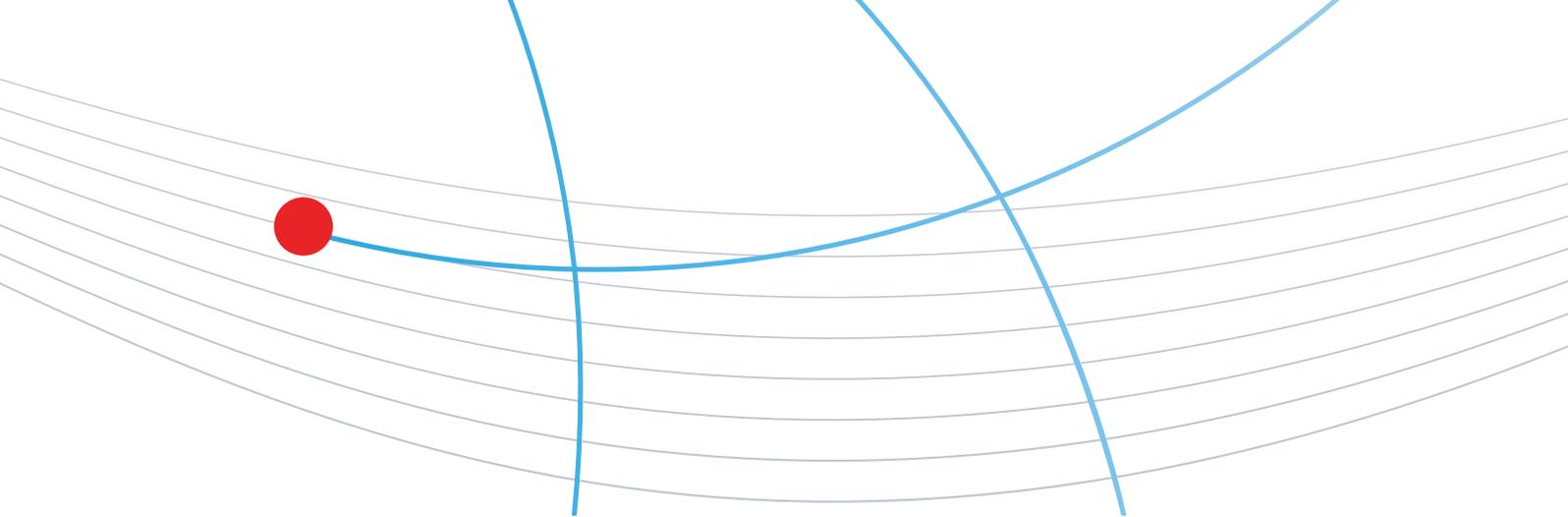
e.g.: Note in the SDS: "may contain particles < XXX nm".

e.g.: Precautionary information in the SDS: "Textile finishing: the material must not be sprayed, further processing should use the dipping method only."

e.g.: Note regarding disposal: "Waste textiles must be incinerated, not recycled".

e.g.: Ultraform® (plastic with anti-static effect, used in the automotive industry): special note in the SDS about toxicology and handling.

e.g.: ICCA has launched an initiative called GPS (Global Product Strategy) to make available safety summaries (information about safety in layperson's terms) by 2018. BASF is participating in this voluntary initiative: <http://www.icca-chem.org>



Questions for discussion / comments:

- There is some disagreement in the group as to whether the recommendation for the SDS should only relate to bioresistant nano-objects (in accordance with the maximum allowable concentration (MAC)). In BASF's view, the fact that soluble nano-objects are at the nano-scale does not mean they hold any potential additional risk. There is consensus in the group that persistent and accumulating materials and some particular forms (e.g. fibrous materials) require special attention. Here, further work still has to be carried out on defining the criteria.
- Since the criteria for SDSs were outlined, there has been continuous further discussion of the definition at BASF. The current basis for BASF measures is the definition adopted by the International Council of Chemical Associations (ICCA) in October 2010. Key elements are: "solid particulate substances, intentionally manufactured at the nano-scale, consisting of nano-objects on the basis of ISO and their aggregates and agglomerates, with a cut-off either 10 wt% or more of nano-objects or 50 wt % or more of aggregates and agglomerates consisting of nano-objects".
- There is disagreement in the discussion concerning the reference value for percentages of the weight or the number of particles.
- The question of information about surface coating and functionalisation still has to be discussed in more depth.
- One matter discussed was that data on environmental behaviour must be reinforced where necessary to enable relevant statements to be made in the SDS.
- The NGOs recommend generally developing exposure scenarios in accordance with the REACH Regulation and communicating them in the SDS.
- The NGOs hold the view that the significance of the life cycle aspects is to be emphasised in particular.
- Information on nanomaterials can generally be published in both the SDS and the Technical Information. There is the option of using the SDS only for safety-related information and to communicate the optional additional information to the user in the Technical Information.
- In line with the ICCA's Product Stewardship Guideline, BASF has specified that all products are delivered with Safety Data Sheets and thus goes beyond the legal requirements. The Technical Information is to be seen as an additional information tool.
- Inclusion of additional information on nanomaterials in the SDS is being discussed in the course of the regulatory debate. The NGOs recommend putting all the information together in one document.

Level of communication: Manufacturers of nanomaterials

Information tool: **Technical Information**
Addressees: **Intermediaries / OEM**

Recommendations of the group

- As far as possible, provide Technical Information directly to the relevant department in the client company.
- Specific information about processing, handling and storage.
- Information on the resulting nano-specific properties and effects (such as conductivity, stability, no nanoparticle formation).
- Publication on the Internet.

Questions for discussion / comments:

- The group points out the problem that the structures of the subsequent information-sharing are the responsibility of the intermediary.

Notes | examples

e.g.: PCI Nanolight® / Nanofug® (grout).
PCI is a subsidiary of BASF. Some of the products are also supplied to DIY superstores and used in private homes. PCI publishes the Technical Information and SDSs for its own products on the PCI website. The Technical Information on the “nano” product line includes, for instance, the fact that “nano” does not refer to nanoparticles but to nanostructures.
<http://www.pci-augsburg.eu/en/products/product-information/a.html>

Information tool: **Customer Support**
Addressees: **Intermediaries / OEM**

Recommendations of the group

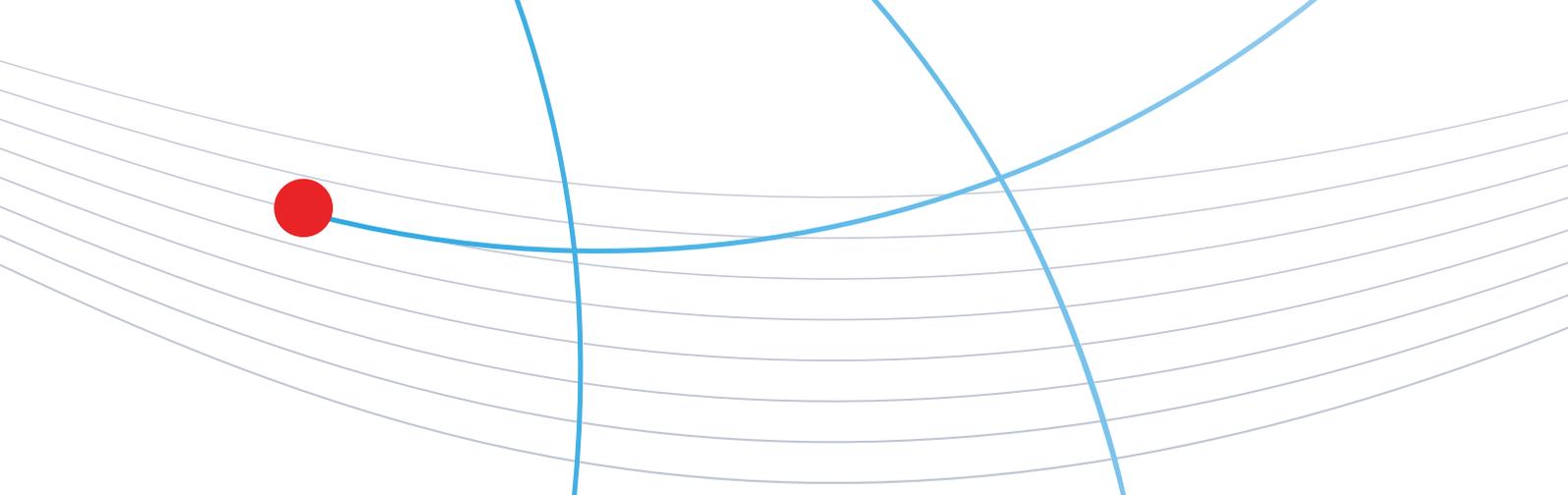
- Information on product benefits, public perception, political debates and regulation.
- Optional customer support in application development.
- Discussion on measures within the framework of Product Stewardship.
- When system solutions are provided, Product Stewardship aspects should be integrated so as to reduce the risk of misuse.
- Discussion of environmental health & safety issues, also with the EHS experts of the client.

Questions for discussion / comments:

- In general, a structured approach is required, particularly when dealing with other industries.

Notes | examples

e.g.: In addition to standard customer advice, for various products BASF also provides a wide range of information, consultations and services in the fields of environment, safety, energy and sustainability management.



Information tool: **Training / Instruction**

Addressees: **Company Employees, Intermediaries / OEMs / Possibly Distributors**

Recommendations of the group

At the client's company:

- Specialist presentations
- Workplace inspections at the special request of the client

In-house:

- Specialist presentations (incl. issues of political discourse and effects on society)
- Dialogue events
- Individual consultations and risk assessment
- Communication via internal media

Questions for discussion / comments:

- The NGOs expressly welcome the above-mentioned activities of BASF which go beyond the legal requirements, and recommend that other companies emulate these.

Notes | examples

e.g.: BASF implements various communication initiatives aimed at its own employees which go beyond the legal requirements. The objectives are to involve the employees, raise their awareness for the subject and learn from them.

e.g.: Intensified trade union activities. The works councils play a particular role internally. Exchange between works councils.

- Measures that go beyond standard customer management can improve customer relations.

Information tool: **Internal database**

Addressees: **Internal**

Recommendations of the group

- Compiling an internal "nano-register". The purpose of this is to collect information on substances used, employees, production sites, measurement results and thresholds as a basis for future epidemiological studies.

Questions for discussion / comments:

- For an in-depth discussion, the group recommends broad participation of industry in the collection of epidemiological data, in order to create a database which is as reliable as possible.
- The group would like to see the findings published.

Notes | examples

e.g.: BASF has decided to start a nano-register.

Level of communication: Manufacturers of nanomaterials

Information tool: **Web**
Addressees: **General public**

Recommendations of the group

Publication of the following information promotes transparency and contributes to an objective, political and social dialogue:

- SDSs
- Statements by the company's management
- Risk assessment
- Methods used for risk assessment
- (Independent) tests
- Codes of Conduct
- Dialogue activities
- FAQ
- The group recommends including links to other websites.

Questions for discussion / comments:

- The group is currently considering integrating the results of the risk assessment into the website and making published studies on this subject available for download from the Internet.

Notes | examples

Transparency and information are fundamental prerequisites for public confidence in a company and its products.

e.g.: BASF has a detailed website on the subject of nanotechnology:
<http://www.basf.com/group/corporate/en/sustainability/dialogue/in-dialogue-with-politics/nanotechnology/index>

Information tool: **Sustainability Report / Corporate Social Responsibility Report**
Addressees: **General public**

Recommendations of the group

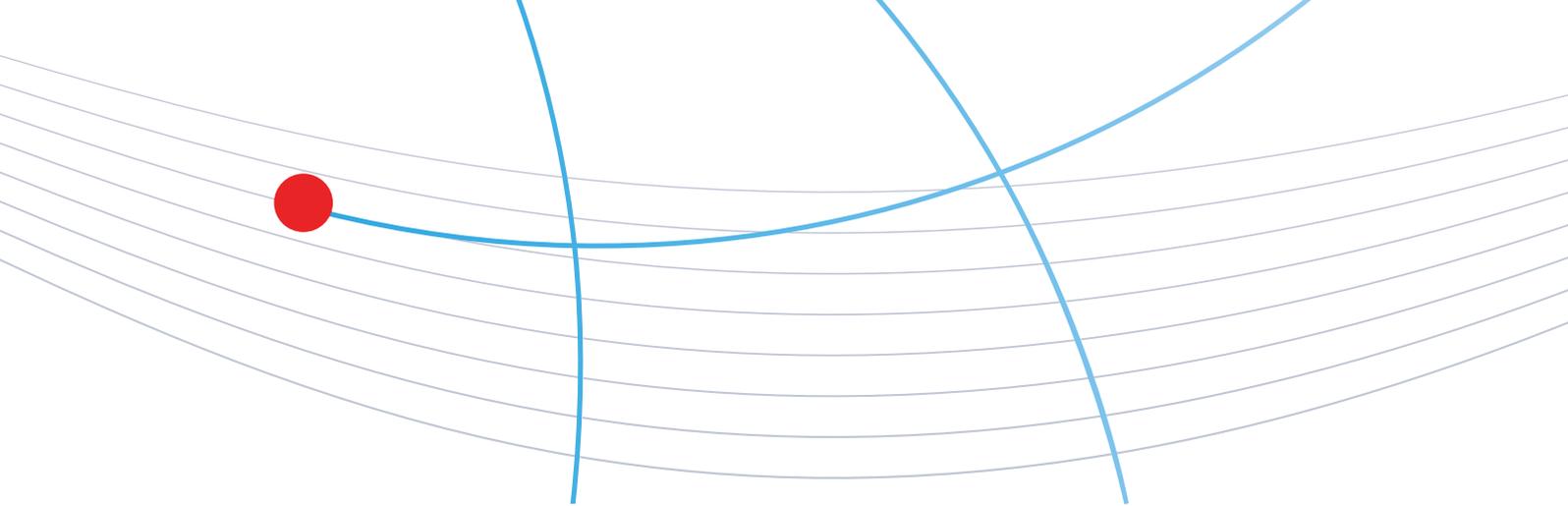
- Statement of activities in the field of nanotechnologies.

Questions for discussion / comments:

- There is consensus in the group that transparency and information are fundamental prerequisites for public confidence in a company and its products.

Notes | examples

e.g.: BASF has been reporting on its nanotechnology activities for years in the chapters headed "Research and Development", "Product Stewardship" and "Dialogue" of its corporate report. The statements in the corporate report are externally verified.



Information tool: **Hotline**
Addressees: **General public**

Recommendations of the group

General information:

- Central company hotline

Areas of responsibility:

General enquiries. Target group: general public

Procedure:

The caller is put through to the relevant unit / person.

Product information:

- Product hotline (number on SDS or product)

Areas of responsibility:

Product information, problems with the product, environmental issues. Target group: customers and distributors.

Procedure:

- Telephone consultation
- Sending an expert adviser
- Work on site carried out by experts with special technical equipment (e.g. for taking measurements)

Emergency information:

- 24-hour emergency number (number on SDS or product)

Areas of responsibility:

Emergencies related to health and environmental issues, chemical products and plants.

Procedure:

Implementation of appropriate measures

- Citizens' enquiries

Areas of responsibility:

Activated in the event of malfunctions with an external impact (at production sites) or during product recall.

Notes | examples

Examples of BASF SE hotlines:

Switchboard:

<http://www.basf.com/group/corporate/en/contact>

Environmental hotline: (Plant: Ludwigshafen)

http://www.basf.com/group/corporate/site-ludwigshafen/de_DE/about-basf/worldwide/europe/Ludwigshafen/Site/Umweltzentrale

<http://www.basf.com/group/corporate/site-ludwigshafen/en/about-basf/worldwide/europe/Ludwigshafen/Safety/index>

Level of communication:

Civil Society Organisations

Information tool: **Web / Print**
 Addressees: **General public**

Recommendations of the group

Clarify general conditions of communication about nanotechnologies internally:

- Definition: What is nanotechnology? Which definition of nanomaterials / nanotechnologies is used?
- Which safety objectives or assets (health, environment, material goods, etc.) are referred to?
- Which data sources should be referred to?
Essential elements of assessment / assessment criteria to be made transparent, also with regard to incomplete state of knowledge (e.g.: precautionary principle).

General information on nanotechnologies:

- Introduction to the subject
- Presentation on the topic (possibly with graphics / film)
- Critical review of the opportunities / risks of nanotechnologies
- Information tailored to the specific target group

Application-oriented as required:

- Critical review of the opportunities / risks of specific products / applications / production:
 - Safety assessment on the basis of information available, if applicable, for particularly vulnerable groups of people
 - Highlight characteristics/specific functionality
 - Inclusion of alternatives
 - Production and working conditions (occupational health and safety / labour and social standards / plant safety)

Notes | examples

e.g.: through listing the data sources in a bibliography for publications.

e.g.: Community editing of 12 Internet consumer advice centres: consumer information „Nanotechnology: In the Realm of the Minute“

<http://www.vz-nrw.de/nano>

e.g.: Consumer organisation „which“? in the UK:

<http://www.which.co.uk/campaigns/technology/what-youneed-to-know-about-nanotechnologies/>

e.g.: Federation of German Consumer Organisations (vzbv): „Nanotechnologies – New Challenges for Consumer Protection“:

<http://www.vzbv.de/go/dokumente/880/6/30/index.html>

Position paper:

http://www.vzbv.de/mediapics/positionspapier_nanotechnologien_oktober_2009.pdf

Consumer study:

Available in German only:

Nanotechnologien: Was Verbraucher wissen wollen („Nanotechnologies: What consumer want to know“)

http://www.vzbv.de/mediapics/studie_nanotechnologien_vzbv.pdf

- Links to further information available, guidance, recommended action / positions / requirements
- Policy-makers / science / industry: pinpoint gaps in research
- Policy-makers: pinpoint regulatory deficiencies
- Consumers: question consumer behaviour
- Industry:
 - Benefits or improvements of products responsible handling of production processes and products

Questions for discussion / comments:

- There was a heated debate in the group about the usefulness and feasibility of formulating specific statements on the various NGOs. As a result, specific recommendations were formulated for the trade unions and churches (pp. 15 – 19).

Notes | examples

e.g.: the European Consumers' Organisation – BEUC: position paper:

<http://www.anec.org/attachments/ANEC-PT-2009-Nano-002final.pdf>

EU BEUC/ANEC nano product list:

„How much nano do we buy?“

<http://www.beuc.org/BEUCNoFrame/Docs/2/EPHGNNIAGAAKBIPJFLLGOOBPDWD9DBNG1>

e.g.: Extraction of raw materials – Disposal – Preventive healthcare for children – Consumer tips for safe application of specific nanoproducts

Information tool: Answering individual queries

Addressees: **General public**

Recommendations of the group

- Answers based on internal quality management measures (QM).
- Forwarding telephone inquiries and written inquiries to the relevant member of staff.

e.g.: QM at consumer advice centres: positions of consultants

For example:

Nanotechnologies in cosmetics – in washing and cleaning agents – in textiles – in foods and consumer goods – guidelines – checklists for consultants – Consumer Advice Center (VZ Northrhine-Westphalia) handbook – quality standards of environmental consulting

Information tool: Employee / Member information

Addressees: **Internal**

Recommendations of the group

- Internal information about
 - own position
 - activities
 - existing QM
- Further training opportunities if available

e.g.: Presentation of the topic at internal events
Reports in members' magazine or other internal media

(VZ Northrhine-Westphalia) handbook – quality standards of environmental consulting

e.g.: Further training courses run by the consumer advice centres:

Nanotechnologies in consumer products (2011)

Nanotechnologies – opportunities and risks for consumers (2009)

Nano- and nanobiotechnology, bionics (2008)

New scientific discoveries in food technology – nanotechnology (2007)

Preface to the section on representatives of the churches:

Church responsibility

The Church considers it has a responsibility to act if new technologies not only have advantages but also pose potential hazards to people and to the environment as God's creation. Therefore, the Church is participating in the public discourse about possible dangers (e.g.: NanoDialogue) and in the debate on setting of legal standards. After assessing the different interests, the Church assumes an ethical position on a case-by-case basis according to its core beliefs.

Planned action

Through its members and its administrative structures (e.g. the Church as a proprietor; the Church as an institution providing welfare facilities) the Church also participates in the product market. When products have a potential risk, or their production and consumption is ethically questionable, the Church is able to influence the market through demand for the product and relevant demand management (e.g.: no demand for products from developing countries produced there under socially or ecologically irresponsible conditions). Appropriate initiatives within the Church have already been introduced (e.g. „Fair einkaufen“ – fair shopping).

Level of communication: Church

The group's further recommendations for the churches

Discourse:

- Participation in the general societal discourse on nanotechnologies:
 - Risk potentials for people's health
 - Impacts on nature and environment as God's creation
 - Social and economic consequences
 - Problem-oriented technology assessment
 - Achieving the right balance in terms of practical criteria (functionality, safety and profitability) and ethical criteria (human, social, environmental and viability for the future)
- Participation in stakeholder dialogues
- Ethical positioning

Web:

- Publication of statements, handouts
- Events

Print:

- Book publication
- Position paper and statement
- Event documentation
- Church press

Events:

- Invitation to public discourses such as, for instance, academic conferences, Kirchentag (Church Congress).

Spiritual welfare / church proclamation / community work:

- Nanotechnologies could be a focus of the Church's work in the future.

Information for employees / administration of church-related properties:

- Adjustment of the internal organisation structures (e.g. guidelines for purchase)

Consumer recommendations

Notes | examples

e.g.: Presentation of know-how and guidance, helping people form an informed opinion

Statement by the Protestant Church in Germany (EKD) on the Internet:

http://www.ekd.de/bevollmaechtigter/stellungnahmen/070927_nanotechnologie.html

e.g.: "Nanotechnologien nachhaltig gestalten: Konzepte und Praxis für eine verantwortliche Entwicklung und Anwendung", (Make Nanotechnologies Sustainable: Concepts and Practice for Responsible Development and Application), in: "Tagungsprotokolle - Institut für Kirche und Gesellschaft" (Published by Ev. Akademie Iserlohn);

e.g.: Different print media such as: Der Pilger, Stimmen der Zeit, Protexzte, evangelischer Kirchenbote

e.g.: Ecumenical Forum of Rhineland-Palatinate

e.g.: Ecumenical campaign „Zukunft Einkaufen“ (Future Shopping)

Level of communication: Trade unions

The group's further recommendations for trade unions

General conditions:

The work of the trade unions is characterised by legal foundations of worker co-determination, which include specific information rights.

Activities of trade unions as direct players:

- Setting up a website on the subject of nanotechnologies.
 - Listing the union-related activities/dialogue activities.

- Writing a position paper and publishing this, also on the Internet.

- Writing and publishing a newsletter, also on the Internet.

- Producing an information brochure for works councils.

- Providing technical and political assistance to works and staff councils on issues related to nanotechnologies as part of their rights of co-determination on all questions of health and environmental protection at the workplace.

Notes | examples

Nano-website of the Mining, Chemical and Energy Industrial Union (IG BCE):
<http://www.igbce.de/portal/site/igbce/menuitem.44b7cf42b013e37c9d37a210c5bf21ca/>

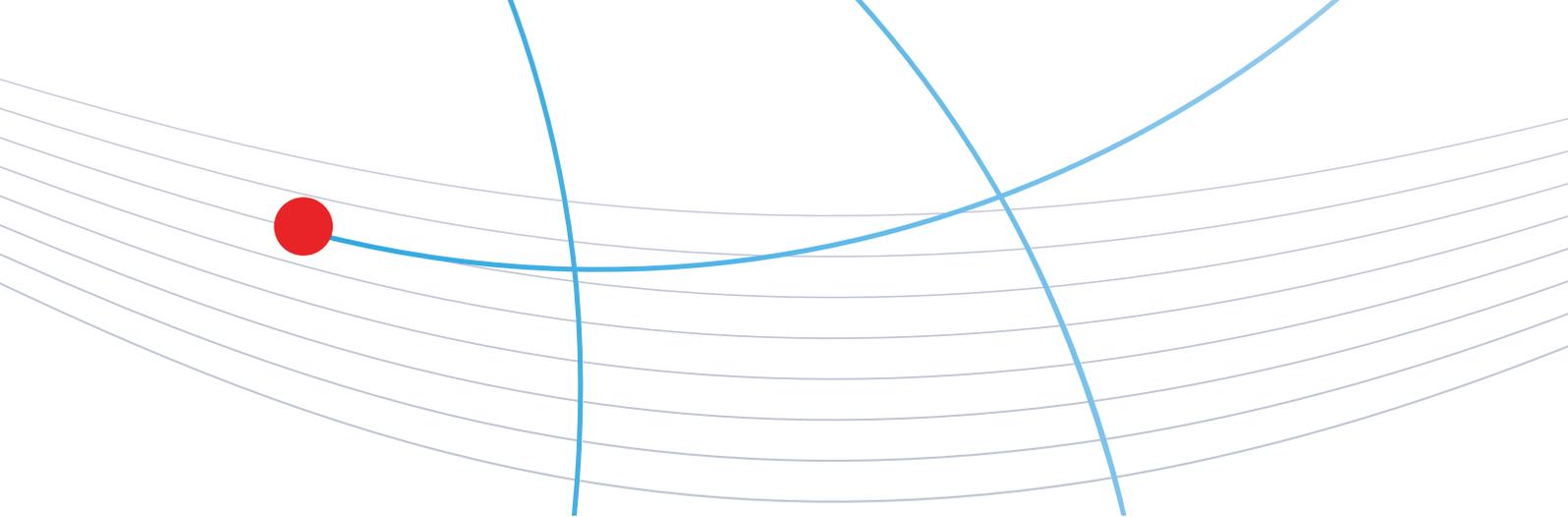
Position paper by IG BCE:
http://www.igbce.de/portal/site/igbce/nanotechnologie_igbce-position/

IG Metall's newsletter:
http://www.igmetall.de/cps/rde/xbcr/internet/wirtschaft%20aktuell%2014-2007%20Nanotechnologie_0026369.pdf

„Nanomaterialien – Herausforderung für den Arbeits- und Gesundheitsschutz“ (Nanomaterials – Challenges for workplace safety and occupational healthcare)
http://www.igbce.de/portal/binary/com.epicentric.contentmanagement.servlet.ContentDeliveryServlet/site_www.igbce.de/static_files/PDF-Dokumente/Schwerpunktthemen/Nanotechnologie/d343dc332c78e5258ecea71035bf21ca.pdf

e.g.: Information on nanotechnologies provided by IG BCE through the Working Group on Occupational Health and Safety (AK ASU) in Rhineland-Palatinate / Saarland.

e.g.: Work at European level by the EMCEF (European Mine, Chemical and Energy Workers' Federation) on nano issues. Here, the focus is often on issues related to REACH.



- Seminars with the aim of representing employees' interests and educational leave for members:
 - On occupational health and safety
 - On industrial environmental protection

- Further training for a company's employees:
 - On new technologies
 - Occupational health and safety and environmental protection

- Initiating scientific studies

- Public presentation of the results of the studies

- Joint organisation of public events together with the social partner.

Notes | examples

e.g.: Conducting a seminar in 2008 of the German Society for Informing Works Council Members about Environmental Protection in the Chemical Industry (GIBUCI). GIBUCI is the IG BCE's mouthpiece for industrial environmental protection

<http://www.chemie-sozialpartner.de/institutionen/gibuci/wir-ueber-uns/>

e.g.: IG BCE seminar: November 2007 under the title: „Small, Smaller – Nano!”

e.g.: Hans Böckler Foundation: launched the study „Carcinogenic Effects of Nanomaterials at the Workplace”

e.g.: Hans Böckler Foundation with IG BCE (eds.) (2010) „Nanotechnology – Driver of Innovation for Germany”

http://www.igbce.de/portal/site/igbce/tagung_nanotechnologie/

e.g.: Stakeholder dialogues, parliamentary evenings, etc.

e.g.: IG BCE and VCI (German chemical industry association) under the title: „Responsible Handling of Nanomaterials”,

http://www.igbce.de/portal/binary/com.epicentric.contentmanagement.servlet.ContentDeliveryServlet/site_www.igbce.de/static_files/PDF-Dokumente/Schwerpunktthemen/Nanotechnologie/960afe0003200889cd9931a135bf21ca.pdf

The group's further recommendations for trade unions

Activities of trade unions as indirect players:

- Initiating and influencing statutory regulations at national and European level:
 - Actively participating in state committees
 - Assisting in the committees of the accident insurance providers

- Developing guidelines

Notes | examples

e.g.: The IG BCE has two seats on the Chemical Advisory Council of the Ministry for the Environment, Forests and Consumer Protection of Rhineland-Palatinate. Here the trade union has the opportunity to table issues and has already initiated an event on nanotechnology.

Position paper of statutory accident insurance providers:
<http://www.dguv.de/inhalt/presse/2010/Q2/nanopapier/index.jsp>

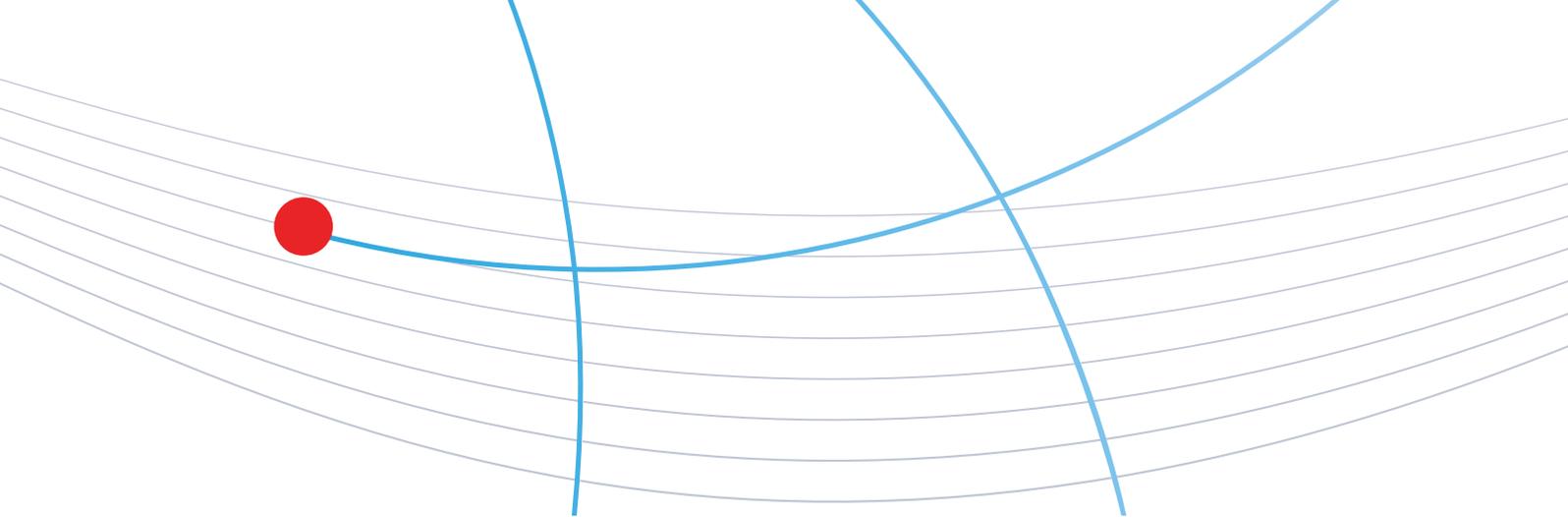
e.g.: 2009, initiation of guidelines on occupational health and safety within the framework of the working group „Chemicals at the Workplace“ of the Advisory Committee on Health and Safety at Work, Directorate-General for Employment.

e.g.: Special publications:

- Chemical industry (09/2010)
- Glass and ceramics industry (11/2010)
- Pulp and paper industry
- Energy industry
- Mining
- Pharmaceutical industry
- Plastics, rubber and leather industries
- Industrial technologies are working more closely together.

e.g.: 2008, initiated the subject „Activities that Involve Nanomaterials“ in the Committee on Hazardous Substances (AGS), a progress report was adopted, „notification“ regarding implementing the guidelines of the Ordinance on Hazardous Substances regarding activities that involve nanomaterials was approved. This forms the basis for Technical Regulations to be drawn up at short notice if necessary.

e.g.: 2010, initiated the adoption of a resolution on the subject „Responsible Handling of Nanomaterials“ at the general meeting of the association of the German statutory accident insurance system, DGUV.



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Risk Dialogue Foundation, St. Gallen, designs and accompanies stakeholder dialogues and citizen conferences in controversial societal issues. As a neutral platform it is our task to encourage societal dialogue processes and fostering the communicational exchange between the actors.

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