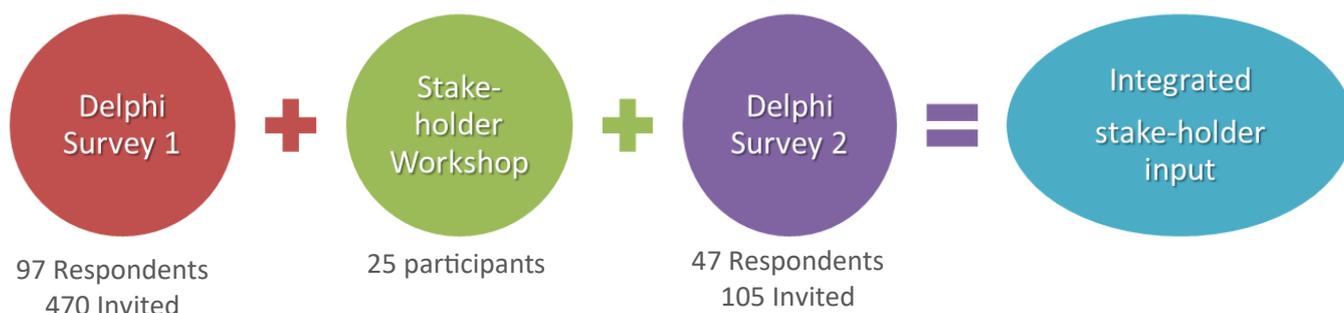


Stakeholder needs and perspectives for development of a nano-risk governance framework

Establishment of a web-based nano-risk governance portal with well-documented tools and guidance is one of the key products of the caLIBRAte project. It was pivotal for the project to identify the needs, expectations, and priorities for the establishment of a nano-risk governance framework within different stakeholder groups and the barriers for its application to guide our work and meet their needs.

Stakeholders from business, government, research, insurance and other organisations were approached through a two-round Delphi survey and an international workshop. The workshop was established to explore specific requirements and topics identified. Participating stakeholders were identified as competent in and/or involved in the field of nano-technology and nano-innovation and covered at least 15 declared countries.



Desired capabilities and functions of a framework:

Stakeholders suggested that the framework should:

- 1) Be flexible to allow assessment of different materials, products and scenarios
- 2) Allow for human and environmental exposure, hazard and risk characterization considering different exposure and release scenarios
- 3) Allow for comparative or quantitative risk-benefit analysis in comparison with alternative materials that are not nanomaterials
- 4) Have tools that are easy to use (simple and clear) and also applicable for risk governance in laboratories conducting research and development

5) Have built-in databases/libraries and link-out access toxicological data

6) Enable user access to information on e.g. regulatory requirements, standards (OECD, ISO, CEN) safety guidelines, standard operational procedures for data generation

7) Have all tools documented with information about algorithms in use, plus which parameters influence the results and decisions

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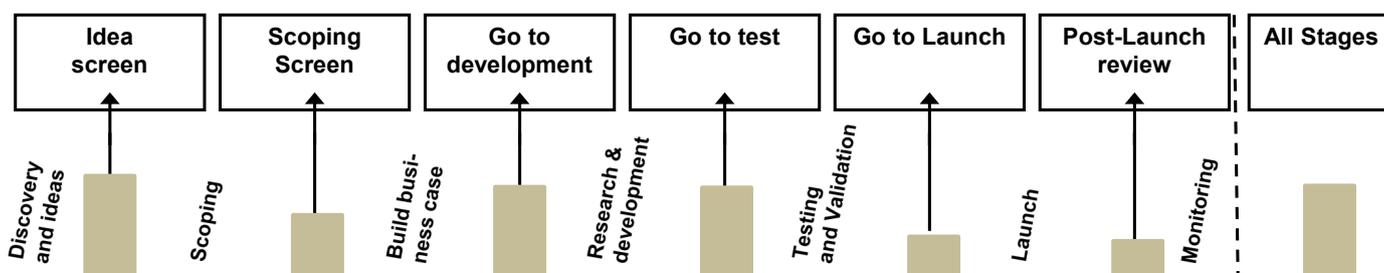
When should nanospecific risk assessment be applied?

Ninety percent of the stakeholders responded that it is important to very important to establish nano-specific risk assessment procedures to manage the potential risks of nanomaterials for workers, consumers and the environment.

Within the context of the Cooper Stage-gate® model, the idea that risk assessment should be prominent at early stages of innovation is gaining ground amongst the stakeholders addressed. This result indicates a change in risk management behaviour with a willingness

to apply results from safety assessments for decision making earlier during initial stages of innovation of nanomaterials and nano-enabled products.

Consequently, the tools in the prospective nano-risk governance framework must be able to provide risk assessment information based on limited (early stages) to comprehensive (final stages) data sets on nanomaterials, hazard, exposure and environmental release.



Stages in a Cooper Stage-Gate® Idea to Market Model. The bar heights illustrate the number of times respondents who indicated that nano-specific risk assessment should be done at the given stage (multiple answers allowed).

How can nano-risk governance be improved?

Recommendations from stakeholders included:

- 1) Monitoring of risks posed by nanomaterials should be made and periodically amended on the basis of scientific progress.
- 2) Risk communication and guidance on safe use of nanomaterials, with transparent risk information should be ensured, considering both business-to-business and business-to-

consumer interactions. The creation of an internet-based nanosafety knowledge platform is envisaged.

- 3) User-involvement by stakeholders in the development of nanomaterials and nano-enabled products could increase user acceptance.

This fact sheet is based on caLIBRAte Deliverable 11: *Report on stakeholder needs and perspective* produced as a result of collaboration between Assozione Italiana par la Ricerca Industriale (IT), Steinbeis Advanced Risk Technologies GmBH (DE), National Research Centre for the Working Environment (DK), Dialogik Gemeinnuetzige Gesellschaft für Kommunikations- und Kooperationsforschung GmbH (DE) and Research Triangle Institute (USA).

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