i-NANOTool

**Development of an interactive tool for the implementation of environmental legislation in Nanoparticle manufacturers**

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**Abstract**

On 18 October 2011 the Commission adopted the Recommendation on the definition of a nanomaterial. According to this Recommendation a "Nanomaterial" means:

“A natural, incidental or manufactured material containing particles, in an unbound state or as an aggregate or as an agglomerate and where, for 50 % or more of the particles in the number size distribution, one or more external dimensions is in the size range 1 nm - 100 nm.”

Nanomaterials have reshaped many facets of modern science. The use of nanomaterials is widely seen as having huge potential to bring benefits to many areas of research and application. This concept is accepted in general industry, as way to produce new materials with novel functionalities and improved characteristics.

As consequence of this potencial, the nanomaterials production has increased in quantity and volume from few kilograms to thousands of tones over the last fifteen to twenty years and in the coming years this trend is expected to continue. The fact in 2011 the worldwide production of nanomaterials have been estimated approximately in more than 230,000 tons, a tenfold increase from 2002. Then, the production volume in 2016 is conservatively estimated to reach 350,000 tons. (Source: The global Market for Nanomaterials 2002-2016, Research and Markets 2012).

Similarly, the number of companies engaged to nanomaterials production and R&D companies producing nanomaterials have increased significantly, and therefore, the effects on environmental impacts produced during nanomaterials manufacturing process have been increasing and is anticipated to grow dramatically in future.

The objective of i-NANOTool project is to contribute to the efficient implantation of the environmental policy and legislation in nanomaterials manufacturers companies, especially SMEs.

i-NANOTool will develop an interactive platform (e-tool) for environmental self diagnosis addressed to nanoparticles manufacturers in European countries with the objective of contributing to the efficient implantation of European environmental legislations and policies and environmental management practices.

Specific objectives of the project are:

* To provide to European nanoparticles manufacturers with updated information related to the environmental impact of their activity.
* To provide to European nanoparticles manufacturers with updated information related to the current applicable environmental legislation.
* To provide to European nanoparticles manufacturers with information related to the improvement of the environmental management practices.
* To improve the environmental situation of European nanoparticles producers industries.
* To extend the e-tool in the Europe Union.

All of these goals will contribute to consolidate knowledge, implementation, updating, monitoring and evaluation of the environmental policy and legislation, at regional, national and European level of the nanoparticles manufacturers. The developed eTool is estimated to be implanted in about 20 nanomaterials manufacturers in Europe. Then there will be an accumulative positive impact of the eTool after the life of the project. i-NanoTool is estimated to be disseminated to about 50% of the nanomaterials manufacturers in Europe because of the dissemination capabilities of the consortium members, from 4 different European countries and its contacts in other countries, creating an environmental improvement possibility in around 150 companies.

The project methodology to develop is expected to produce an environmental impact reduction of the manufacture process for nanoproducts.

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