Nanosciences and nanotechnologies: an action plan for Europe 2005-2009

2006/2004(INI) - 07/06/2005 - Non-legislative basic document

PURPOSE: to present a European Action Plan for nanotechnologies, 2005-2009.

CONTENT: this action plan is being presented on the back of a 2004 Commission Communication "Towards a European Strategy for Nanotechnology", which highlighted the need for Europe to reinforce its leading position in N&N technologies, whilst at the same time addressing any environmental, health, safety and social question raised in connection with the use of nanotechnologies. It is also a response to a conclusion issued by the European Competitiveness Council, in which it welcomed the Commission's intention to draw up a nanotechnology action plan.

In preparing this action plan, the Commission has defined a series of inter-connected actions for immediate implementation based on a safe, integrated and responsible N&N strategy. To begin with the action plan focuses on Europe's need for knowledge, hence priority being given to research and development. In order to achieve this goal the Commission will reinforce the role of N&N in the EU's 7th Framework Programme by doubling the budget in comparison to the 6th framework programme. It also proposes to support specific research into nanoelectronics in order to stimulate industrially relevant research in a technologically mature field and to provide for the foundation for a next generation of electronics. It will also boost support for collaborative research into "particular engineered nano-scale entities" and their possible effect on human health and the environment through toxicological and eco-toxicological studies. The Commission will also foster the development of European Technology Platforms in the field of, for example, nanomedicine. In return, the Commission calls on the Member States to increase public investment in N&N research, corresponding to increased R&D expenditure to match the 3% Barcelona objectives, to try and minimise a duplication of effort (possibly through the ERA-NAT scheme), and to promote N&N activities by raising awareness for nanotechnology amongst universities and R&D institutes.

A second action is to focus on a nanotechnology infrastructure and the establishment of "Poles of Excellence". To achieve this aim the Commission will establish a map of existing European N&N infrastructure and explore ways in which this can be improved upon through an exchange of best practice. Special attention will be given to the role of SME's. In addition, the Commission will offer support to trans-national networking as well as the integration of resources across the university and research institute spectrum. Member States are being called upon to launch the construction of new inter-disciplinary N&N infrastructures as well as encourage the creation of Poles of Excellence

A third action being proposed is the interdisciplinary nature of human resources and Europe's need to foster creativity. Under this heading, the Commission recognises that the generation of knowledge depends very much on up-to-date education, training and life-long learning. As such the Commission will promote the dissemination of educational and training best practice, explore ways in which to encourage the development of cross-border thematic networks and promote the creation of an interdisciplinary European N&N award. Marie Curie actions such as the creation of fellowships stimulating trans-national, doctorate-level programmes will also be encouraged. Member States, in turn, are called upon to foster interdisciplinary training and education with a particular focus on physics, chemistry, biology, toxicology and eco-toxicology.

Under the heading "Industrial Innovation: From Knowledge to the market", the Commission is hoping to encourage a better dissemination of results so that N&N research can translate into commercially viable,

inherently safe products for processing. To do so, the Commission will foster the industrial exploitation of N&N research by bringing stakeholders together to exchange best practice for the commercialisation of N&N technology. It also intends to increase industrial involvement in EU R&D projects and to support the creation of a web-based “Digital N&N Library”. A further proposal is the establishment of an N&N “Patent Monitoring System” to work through the European Patent Office. As far as the role of the Member States are concerned, the Commission calls on the Member States to reach an agreement, as soon as possible, on the adoption of the Community patent.

As well as focusing on the research aspect, the Commission recognises the importance of integrating social concerns relating to the use of nanotechnologies and wants to encourage the development of a society where the public, scientists, industry and financial operators feel comfortable in dealing with issues associated with N&N. A further area in need of examination under the action programme relates to public health, safety and environment/consumer protection. Here, the Commission wants to guarantee that all N&N applications must comply with the highest level of public health and safety. The Commission also notes that some nanotechnology applications may cover certain aspects of the REACH legislation. Lastly, the Commission action plan, includes an international dimension.

To conclude, an integrated strategy can not be implemented in a linear fashion but requires coherent and co-ordinated action. In light of increased societal interest in nanotechnologies, it is important that any action be as visible as possible. As such the Commission proposes that it focus on:

- Monitoring and overseeing the implementation of the actions plan.

- Report on progress made within the plan every two years.

- Perform a range of activities to foster a useful as well as profitable exploitation and application of nanotechnology in the EU.