"Strategic impact, no revolution."- press release

Oxford Research AS from Norway together with the Austrian Institute for SME Research conducted evaluation of the strategic value and impact of thematic priority "Nano-technologies and nano-sciences, knowledge-based multifunctional materials, and new production processes and devices" (NMP) in Framework Programme 6 (FP6) in its wider European and international context.

One of the most important findings of the evaluation is that the programme strategically affected Europe's competitive position and also influenced Member States' policies and research agendas in the area of NMP. However, it cannot be directly linked to a revolution with regard to creating substantial scientific or industrial breakthroughs although these were among the explicitly targeted objectives. The programme strengthened Europe's position as one of the world leaders in the respective scientific and industrial fields, but did not enable Europe to outperform other key actors, such as the United States or Japan.

In sum, the objectives assigned to NMP FP6 have been achieved to different extents in different areas and by different instruments. NMP FP6 was quite successful with regard to the production and strengthening of excellent and new knowledge (but not necessarily 1st class knowledge), critical mass, shifts in research, and education/career chances/mobility of/for researchers. The evaluation revealed that the impact on environmental sustainability was positive and substantial.

A more general increase in the market-orientation of R&D was achieved, as well as an increasing cooperation between academia and industry. However, the programme showed significant difficulties involving SMEs, which partially were inherent in the complex design of the programme, and lack of knowledge in companies.

The allocated funds in NMP FP6 seem to have reached a critical mass in the nanotechnology area. Although a high relevance of the priorities and the key scientific and technological challenges identified in NMP FP6, safety regulations, toxicity-, health risks and ethical issues related to NMP – were not promoted strongly enough either at the national level or in NMP FP6.

On the other hand, the promotion of nanotechnologies in Europe is considered to be strategically important. Through the promotion of nanotechnologies, development of an Action Plan and efforts towards a European Strategy for Nanotechnologies, which are major outcomes in their own rights, the NMP FP6 programme has contributed to mainstreaming national programmes and to facilitating the development of a European Research Area as well as triggering the member states to establish own agendas and strategies for nanotechnologies nationally.

Among the general findings regarding the relevance and effectiveness of NMP FP6 was the conclusion that the design-related aspects were more effective than the administration-related implementation aspects of the programme. Opportunities to cooperate with international partners, the expected higher level of research and a better thematic adequacy offered by NMP FP6 have been found to be among the most important factors which triggered participation in the programme.

The choice of priorities and focus in NMP FP6 and those in national NMP-related programmes influenced each other in different ways and to a different extent. The hypothesis that NMP frontrunners, which also are the biggest countries in Europe, influenced the priorities and focus in NMP FP6, while an inverse influence being the case for the second-movers and follower

countries, which include smaller countries and new MS, seems to have got some support in this evaluation. Analyses of existing measures and their results in Member States indicate three groups of countries – both in a technological and in political context: front runners, fast second movers and followers.

The overall contribution of NMP FP6 to the issue of transforming Europe into a more attractive working place for researchers from outside Europe (Lisbon Agenda) was assessed to be rather weak, while the contribution of NMP FP6 projects to an increased mobility *within* Europe and the attraction of skilled employees / researchers from EU countries was considered to be quite substantial.

The recommendations from the evaluation underline the necessity for a wide number of actions, related directly to NMP priority as well to general Framework Programmes' implementation aspects. Among the most important ones, relevant for wide portfolio of stakeholders, we may list the propositions to:

- include quantitative and qualitative technology mapping and foresight studies in NMP to identify key fields of European expertise in the NMP area, and to adjust funding levels according to identified key development research fields,
- simplify application procedures and provide support measures aimed at enhancing participation of new research teams,
- open a debate on the creation of a system of NMP-related regulations, assuring a safe and responsible approach to research in NMP areas in Europe,
- create a new type of policy instrument with the primary aim of bringing European technologies to the market, e.g. a European NMP Commercialisation Platform gathering stakeholders committed to commercialisation, should be set up to enable action upon the ECs wish to increase commercialisation,
- include infrastructure as an important planning dimension for shaping future research priorities in Europe. Coordinate with structural funds implementation,

and finally to

- intensify investigation into the reasons behind the scarcity of inventions being transformed into innovations and eventually protected by means of IPR.

Full version of the report may be found at:

http://www.oxford.no/nyheter/2010/ex-post-evaluering-av-nmp6