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REPORT

on Nanosciences and nanotechnologies: An action plan for Europe 2005-2009
(2006/2004(INI))

Committee on Industry, Research and Energy

Rapporteur: Miloslav Ransdorf

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MOTION FOR A EUROPEAN PARLIAMENT RESOLUTION

on Nanosciences and nanotechnologies: An action plan for Europe 2005-2009 (2006/2004(INI))

The European Parliament,

– having regard to the Communication from the Commission to the Council, the European Parliament and the Economic and Social Committee entitled 'Nanosciences and nanotechnologies: An action plan for Europe 2005-2009' (COM(2005)0243),

– having regard to the joint report by the Royal Society and the Royal Academy of Engineering of 29 July 2004 entitled "Nanoscience and nanotechnologies: opportunities and uncertainties",

– having regard to the Presidency Conclusions of the Competitiveness Council of 24 September 2004,

– having regard to the opinions of the European Economic and Social Committee[1],

– having regard to Rule 45 of its Rules of Procedure,

– having regard to the report of the Committee on Industry, Research and Energy and the opinions of the Committee on the Environment, Public Health and Food Safety and the Committee on Legal Affairs(A6-0216/2006),

A. whereas the Commission has adopted an Action Plan for the immediate implementation of a safe, integrated and responsible strategy for nanosciences and nanotechnologies,

B. whereas nanosciences and nanotechnologies have the potential - as multidisciplinary sectors - to benefit society hugely by the development of new products, materials, applications and services, thereby raising the productivity and the quality of life in the EU as a whole,

C. whereas the Council recognises the important role of nanotechnologies in many areas and stresses the importance of continuing to generate scientific and technological knowledge in this area and to encourage its use in industrial applications,

D. whereas the European Economic and Social Committee believes nanotechnologies could go a long way towards helping the EU to achieve the objectives set by the Lisbon European Council,

1. Welcomes the Commission's Action Plan, defining a series of concrete and interconnected actions for the immediate implementation of nanosciences and nanotechnologies, based on priority areas determined according to future needs;

2. Recognizes the important role that nanosciences and nanotechnologies can play as breakthrough technologies in stimulating the achievement of the economic, social, and environmental goals of the EU; acknowledges that nanotechnologies can address the

[1] OJ C 157, 28.6.2005, p. 22 and INT/277 - CESE 1237/2005.

needs of citizens (public health, energy, transport, sustainable development, etc), as well as contribute to the EU's competitiveness and sustainable development objectives;

3. Notes that Technology Platforms, Expert Advisory Groups, and Action Plans are useful instruments for helping to develop commonly agreed research agendas and deployment strategies in the field of nanotechnologies and nanosciences, and thereby creating new jobs and enhancing economic growth;

4. Supports the objectives and initiatives set out in the above-mentioned Commission Communication; welcomes the clear focus in the Communication and Action Plan;

5. At the same time, stresses the need to increase publicly funded investment in R&D; realises that the fragmented nature of the European research landscape reflects the easy availability and relatively low cost of nanoscience research, but is also aware that funds need to be set aside for the establishment and maintenance of the necessary large-scale facilities including, in particular clean rooms, lithographic processes and very costly analytical procedures; in this respect, expresses its concern with the current level of European public investment in nanosciences and nanotechnologies, recommends that the ambitions set out in the Action Plan will be appropriately matched in financial terms and supports the Commission's readiness to very substantially increase the resources devoted to research in this field, which is of fundamental importance to Europe's future development;

6. Considers that Europe needs a coherent system of world-class R&D infrastructure in order for the EU to remain competitive in the field of nanosciences and nanotechnologies; draws attention to the fact that, in order to enjoy possible 'economies of scale' and owing to its interdisciplinary and complex nature, the infrastructure for R&D in nanotechnologies requires a critical mass of resources that are beyond the means of local governments and industry; recognizes, on the other hand, that smaller-scale national R&D policies may often be in a better position to react adequately to changing opportunities and market developments; therefore, urges the Commission and the Member States to reinforce and coordinate their R&D efforts in this field; to this end, recommends the creation, in each Member State and on the basis of each country’s characteristics, of a minimum critical mass of infrastructure and scientists with specific expertise in nanosciences and nanotechnologies, leading ultimately to the creation of specialised centres of excellence in some countries which would be coordinated at EU level;

7. Draws particular attention to nanomedicine as a promising interdisciplinary domain with breakthrough technologies such as molecular imaging and diagnostics, which can offer impressive benefits for the early diagnosis and smart and cost-effective treatment of diseases such as cancer, cardiovascular problems, diabetes, Alzheimer's and Parkinson's; urges the Commission and national and regional authorities to boost their R&D investments in this domain and to coordinate their efforts by means of the Nanomedicine European Technology Platform proposed in the Seventh Research Framework Programme (FP7), and by means of other instruments, including the proposed FP7 Regions of Knowledge, so as to achieve critical mass in this field;

8. Stresses the major role to be played by nanosciences and nanotechnologies in developing molecular biology;

9. Is convinced that multidisciplinary nanosciences and nanotechnologies should be geared to the development of hydrogen energy, including the development of new and effective means of storing hydrogen and efficient fuel cells, as well as information-carrying technologies with much greater capacity than at present;

10. Stresses the considerable progress made in Europe in the field of nanotechnologies, based on a 'top-down' approach, particularly in areas such as abrasion - and corrosion - proof coatings and layers, and also the production of catalysers and photodiodes, including the so-called blue laser, as well as in the field of nanomedicine, nanocosmetics and nanodiagnosis of diseases;

11. Believes that the level of basic European research can make it possible to find technological tools that will enable a 'bottom-up' approach to be adopted, particularly in nanoelectronics;

12. Believes that actions to accelerate technology development must be complemented by policy measures to ensure the market penetration of existing technologies; notes that standards can provide a level playing field for markets and international trade and are prerequisites for fair competition, comparative risk assessments and regulatory measures; calls therefore on the Commission and the Council to remove any roadblocks in the form of lack of standards and unclear legislation, which unnecessarily hold back the adoption of nanotechnologies and nanosciences in Europe, and to do so without imposing any new bureaucratic hurdles;

13. Stresses the importance of generating the 'triangle of knowledge' needed for the European Research Area; considers that in order to achieve the necessary synergy between research, education and innovation, a comprehensive knowledge transfer approach, and also the development of cross-sector human resources, are needed; calls therefore on Member States to develop strategies to improve knowledge transfer and to address the skills shortage by increased emphasis on natural science training and by attracting more students into nanoscience and science-related, multidisciplinary subjects; welcomes the Commission’s effort to support Research Training Networks in nanotechnologies and calls on the Member States to create, both individually and in close cooperation with each other, multidisciplinary networks to combine nanotechnologies with a broad spectrum of research areas, with the aim of developing new hybrid technologies;

14. Considers that industry, research institutes and financial institutions should work together to ensure that excellent R&D in nanosciences and nanotechnologies is translated into new products and processes; points out that Member States should accelerate and stimulate this process by focussing on improving the business climate for companies in the nanotechnology sector in their country, especially 'start ups', SMEs and innovative companies; considers, in this respect, that the protection of intellectual property rights is essential for innovation, both in terms of attracting initial investment and for ensuring future revenue; calls on the Commission to develop standards for the protection of intellectual property rights and models for licensing agreements;

15 Regrets the fact that patenting of nanoscience and nanotechnology inventions in Europe is developing slowly; calls on the EU to create a nanoscience and nanotechnology patent monitoring system governed by the European Patent Office;

16. Encourages general reforms in the field of the European patent system in order to cut the costs of patenting and to improve the accessibility of patents for SMEs; stresses the need for greater transparency and clear limits to the scope of patent protection;

17. Is convinced that Europe's chances of being and staying at the forefront in this field hinge upon its capacity for coordination; reiterates the need for a single Community focal point for coordination and the importance of the EU 'speaking with one voice' on the international stage, particularly in the light of the challenges presented by patent protection in China; calls therefore on the Commission and Members States to devise mechanisms to effectively coordinate actions in this field; urges the Commission to take into account in it's policy making all activities within the OECD (e.g. definitions, nomenclature, risk management) and UNESCO (ethics);

18.Recognizes that an essential element of a responsible strategy is the integration of social, health and safety aspects into the technological development of nanosciences and nanotechnologies; in this respect, urges the Commission, Member States and European industry to engage in an effective dialogue with all stakeholders, so to steer developments along a sustainable path;

19. Stresses that assessment of the technological risks posed (from conception to disposal or recycling) to human health, consumers, workers and the environment must be carried out throughout the life cycle of nanoscience and nanotechnology products;

20. Recommends that the lists of ingredients in consumer products identify the addition of manufactured nanoparticulate material;

21. Emphasises the need to respect high ethical principles and welcomes the planned reviews on issues such as non-therapeutic human enhancement and links between nanosciences and nanotechnologies and individual privacy; expects the reviews to be public and to include a thorough analysis of nanomedicine;

22. Supports the setting up of ethical committees which, by providing independent scientific advice, will help ensure that the public is properly informed and help create a climate of trust based on awareness of the possible risks and the benefits associated with the use of discoveries in the field of nanotechnologies;

23. Welcomes the consultation conducted for this proposal and encourages the Commission to continue improving its work in order to respond to the increasing demand for better regulation;

24. Welcomes the intention of the Commission to develop appropriate multilingual information material for different age groups in order to raise awareness of the progress and expected benefits of nanosciences and nanotechnologies; encourages the Commission to do so in close collaboration with Member States; urges the Commission to devise a communications strategy to raise the public's awareness of the enormous opportunities offered by nanotechnology, and to allay their fears; considers that, as part of this communications strategy, the Commission should also make use of ideas such as a roadshow (featuring a Nanoscience Truck) or a nanotechnology award;

25. Calls on the industry to share in the joint effort and urges it to participate in developing

nanotechnologies, taking into account their wider economic, societal, health, safety and environmental impacts and acting in accordance with the principles of corporate social responsibility; in this respect, stresses that businesses should help disseminate objective information about scientific discoveries in the nanosciences and nanotechnologies field, their intended uses, and their risks and benefits for society;

26. Emphasises that all applications and uses of nanosciences and nanotechnologies must comply with the high level of protection for human health, consumers, workers and the environment prescribed by the European Union and insists on the need for the codification of nanomaterials, which will lead to the drawing up of standards, which will in turn boost efforts to identify any risks; calls on the Commission to take the necessary initiatives to this effect;

27. Emphasises the importance of miniaturisation of products with regard to helping reduce waste and ensure better use of energy;

28. Emphasises that understanding of the potential damage to health and the environment of new, synthetic nanoparticles is still limited and, consequently, the effects of nanoparticles that are not readily soluble or biodegradable should be investigated, in accordance with the precautionary principle, before such particles go into production and are put on the market;

29. Considers that, within the framework of the new Community legislation concerning the registration, evaluation, authorisation and restriction of chemicals (REACH), nanoforms of existing materials should be treated as new substances, because of their unique properties; in particular, the question of whether the threshold levels for production and import laid down within that framework are also adequate for nanoparticles should be investigated;

30. Calls on the Commission to pay special attention to the development of nanosciences and nanotechnologies in the new Member States, by providing them with the means to define research profiles of their own, while at the same time further enhancing the cutting-edge position of the main European locations with a view to creating a leading global role for Europe;

31. Stresses the importance of international cooperation in the field of nanosciences and nanotechnologies; calls on the Commission to intensify further the already excellent relations with Russian scientists in particular and to investigate the possibilities and limitations of cooperation in this area with the USA, Japan, China and India; asks the Commission to enhance international cooperation with a view to harmonising nanosciences and nanotechnologies patent application processing between the EU, the USA and Japan; stresses that dialogue should be intensified in compliance with the WTO obligations;

32. Instructs its President to forward this resolution to the Council and Commission, and to the governments and parliaments of the Member States.

EXPLANATORY STATEMENT

Introduction

Nanotechnology is the manipulation or self-assembly of individual atoms, molecules, or molecular clusters into structures to create materials and devices with new or vastly different properties. The prefix 'nano' comes from a Greek word for 'gnome' or 'dwarf'. In more technical terms, nano equals a billionth and therefore a nanometre is one billionth of a meter. To illustrate this, 1 nanometre is about 1/80,000 of a human hair, a virus is approximately 100 nanometres in size, and one paper-sheet is 100.000 nm thick.

At that miniature scale, components and structures exhibit revolutionary new physical, chemical and biological characteristics. For example: materials from carbon nanotubes are 100 time stronger than steel, but 6 time lighter; silver nanoparticles on the surfaces of refrigerators, air conditioners and laundry machines act as antibacterial and antifungal agents; the biomedical field is manufacturing artificial bone composites stronger than stainless steel. Other novel products based on nanosciences are: anti-graffiti paints, long lasting batteries, self cleaning textiles, advanced coatings, and flexible display systems. Nanotechnologists are also investigating ways in which new medicines can be discovered and administered, and how new security techniques can help in crime prevention.

Nanotechnologies combine different technological disciplines (micro-electronics, microsystem technology, chemistry, physics and biotechnology) in a single multidisciplinary field. Therefore, where these technologies meet, existing technological barriers can be approached from various angles and a wide range of new possibilities can be developed. Nanotechnology is therefore, a superb multidisciplinary arena and opens a new world of opportunities and solutions in all kinds of areas and industries.

Nanosciences and nanotechnologies are expected to have an impact on nearly every industry and are therefore considered to be one of the key technologies for the 21st century. It already has a predicted market potential of several hundred billion euros and the U.S. National Science Foundation even estimates that the global market for nanotechnologies will reach one trillion dollars within 10 to 15 years[1].

The Commission's Communication

The Commission's Action plan, adopted on 7 June 2005, is a concrete implementation of the strategy for nanotechnology that the Commission has adopted in 2004[2]. The Action plan defines a series of interconnected actions for the immediate implementation of a safe, integrated and responsible strategy for nanosciences and nanotechnologies at EU level.

[1] Roco, C. and Sims Bainbridge, W. (ed.), Societal implications of nanoscience and nanotechnology, National Science Foundation, 2001.
[2] Towards a European Strategy for Nanotechnology (COM(2004)338).

The Commission envisages:

- Boosting funding for nanotechnologies in the Seventh Framework Programme;
- Developing world-class competitive infrastructure for research and poles of excellence;
- Creating favourable conditions for EU industry to turn research into useful products and services;
- Ensuring that ethical principles are always respected and citizens' concerns and expectations are taken into account;
- Addressing public health, safety and environmental risks at the earliest possible stage;
- Reassessing existing EU legislation;
- Supporting the creation of an open archive of scientific publications in the field;
- Promoting the inter-disciplinary education & training of researchers and engineers;
- Strengthening international dialogue on common issues.

Putting up efforts

Your Rapporteur supports the objectives and actions set out in the Action plan. Nanosciences and nanotechnologies are an area with highly promising prospects for the future. Successful innovations in this sector open the door to applications which address the needs of the citizens and contribute to the Union's competitiveness and sustainable development objectives.

At the same time, your Rapporteur stresses the fact that a decisive leap in (coordination of) investment for research and innovation is needed. Due to its interdisciplinary, complex and costly nature, the infrastructure for R&D and innovation in nanosciences and nanotechnologies requires a certain critical mass of resources that are beyond the means of regional and often even national governments and industry. However, at the same time, Member States should ensure that on national scale nanotechnology R&D policies are in place that allow a more rapid reaction to changing opportunities than is possible from the Europe-wide programmes. Currently, research in the field of nanosciences is too scattered in the EU without a clear coordination of resources. R&D in nanosciences and nanotechnologies, both on Community level and at the level of the Member States, should thus be reinforced and coordinated in order to achieve the necessary economies of scale without losing the necessary flexibility.

Overall spending at global level on R&D in the field of nanosciences and nanotechnologies is estimated to stand at around € 8 billion per year, of which approximately 37% was spent in the US, 28% in Japan and 24% in Europe. The per capita public investment in the EU-25 in 2004 was € 3, compared to € 4½ in the US and € 6 in Japan. In the field of private investment, Europe lags even more behind with approximately € 1½ per capita private investment, compared to almost € 6 in the US and more than € 12 in Japan.[1]

Future spending will not change this picture drastically. The amount proposed in the 7th Framework Programme for 'Nanosciences, Nanotechnologies, Materials and new Production Technologies' is € 4270 million for 7 years (thus € 610 million per year). In comparison: The

[1] "Some figures about Nanotechnology R&D in Europe and beyond", European Commission staff working paper, December 2005.

USA government is intending to spend in 2006 alone more than $ 1 billion on R&D in the field of nanotechnologies. Further cuts on R&D-funding in the EU will bring Europe even further away from meeting the Lisbon-goals.

According to your Rapporteur, world-class R&D infrastructure and 'poles of excellence' are essential for the EU to remain competitive in this highly promising sector. But this is not enough. European industry, R&D organisations, universities and financial institutions should work together to ensure that excellence in research is translated into commercially viable and inherently safe products and processes. Without this 'commercialisation of knowledge', Europe does not fully reap the synergy between education, research, and innovation, the 'triangle of knowledge' so desperately needed for the European Research Area. A weak knowledge transfer has a negative impact on both the corporate funding of academic research and on start-up activity.[1]

To fully reap this synergy between education, research, and innovation, it is necessary to address the skills shortage and lack of trained personnel by increased emphasis on natural science training and by attracting more students into science-related and multidisciplinary subjects. Furthermore, it is important to further improve the business climate for nanotechnology companies by strengthening the market for venture capital and by defining markets in terms of a clear regulatory framework and a good protection of intellectual property.[2]

Standards provide a level playing field for markets and international trade and are prerequisites for fair competition, comparative risk assessments and regulatory measures. The protection of intellectual property rights is essential for innovation both in terms of attracting initial investment and for ensuring future revenue. Also, regulatory clarity is necessary to strengthen innovation. All applications and use of nanosciences and nanotechnologies must of course comply with the current high level of public health, safety, consumers and workers protection, and environmental protection. However, unclear toxicology- and liability-regulation unnecessarily holds back the adoption of nanotechnologies in Europe.

Furthermore, international cooperation in nanosciences and nanotechnologies is needed, both with countries that are economically and industrially advanced, as with those less advanced to secure their access to knowledge and avoid any 'nano divide' or 'knowledge apartheid'. Particular attention must be paid to cooperation with countries covered by the European Neighbourhood Policy and those with existing S&T cooperation agreements.

Public concerns

Nanotechnology is leaping technical hurdles, but ultimately its success will depend on winning over consumers. The very aspects that make nanosciences so exciting - novel properties emerging at this scale and the ability to subtly and precisely modify these properties - raise questions about how these new substances will behave in the environment, including the human body. Uncertainties by the general public about health, safety and

[1] It's ours to lose: An analysis of EU Nanotechnology funding and the sixth Framework Programmes, European Nanobusiness Association, 2002.
[2] The 2005 European NanoBusiness Survey, European Nanobusiness Association, 2005.

environmental effects can restrict available capital and prevent companies from launching products involving nanotechnologies. The coming years will therefore be decisive in demonstrating that researchers and industry take those concerns seriously.

An essential element of a responsible strategy for nanosciences and nanotechnologies is to integrate not only the economic and environmental elements, but also the social, health and safety aspects to the technological development of nanotechnologies. Industry should be encouraged to take into account the wider impact of their commercial activities in nanotechnologies according to the concepts of Corporate Social Responsibility and the 'triple bottom line'-reporting of the Global Reporting Initiative. An effective dialogue should be established with all stakeholders, informing about progress and expected benefits, and taking into account expectations and concerns, both real and perceived, so to steer developments on a path that avoids negative societal impact.

It is necessary to prepare an appropriate multilingual information material for different age groups to raise awareness for nanosciences and nanotechnologies and to further develop the dialogue with the public at appropriate level, in particular via the media.

International

Currently, the US is the acknowledged leader in nanotechnologies R&D at global level, with annual public and private investment of US $ 3 billion, accounting for more than one third of world spending. The US also comes first in the number of business start-ups, publications and patents. Over the five years between the end of 2000 and the present, the federal government of the US has invested more than $ 4 billion in nanotechnologies and for 2006 the yearly figure will go up to more than $ 1 billion.

Annual spending in Japan in 2003 stood at about € 630 million, with 73% provided by the Ministry of Education and 21% by the Ministry for the Economy, Trade and Industry. Research is focused primarily on nanomaterials, for example applications of nanocarbon materials in the field of energy, environment, IT, and biomedical. In terms of nanotechnologies venture capital, Mitsui has decided to invest almost € 700 million over the next four years, while the Critical Technology Fund will channel some € 30 billion to nanosciences and nanotechnologies research.

The rapid development of China's nanotechnology industry in the past 5 to 10 years is due in large part to the intervention of the central government. Added to a list of priority technologies at the end of the 1990s, nanotechnology has enjoyed state funding since then through a national R&D plan, providing significant investments for nanotechnology projects from both the central and local governments, mainly in the field of nanomaterials. On-going projects include mass production of nano-diamond coating materials, carbon nanotubes and nanowires, sensor network systems for security monitoring, nanomaterials for energy-saving, self-cleaning, chemical and bio sensor systems and network for environment monitoring and disease diagnosis. According to the Chinese authorities[1], the country is one of the world's leaders in terms of new nanotechnology business registrations, publications and patents, with an internal market for nanotechnology products and systems estimated at more than € 4.5

[1] Beijing Report 2005 on Nanotech Development to 2010-2015.

billion, and set to grow to more than € 120 billion by 2015. However, the industry is still in an early stage, with considerable challenges in the field of research commercialization, infrastructure and human resources.

30.5.2006

OPINION OF THE COMMITTEE ON THE ENVIRONMENT, PUBLIC HEALTH AND FOOD SAFETY

for the Committee on Industry, Research and Energy

on Nanosciences and nanotechnologies: An action plan for Europe 2005-2009
(2006/2004(INI))

Draftsman: Philippe Busquin

SUGGESTIONS

The Committee on the Environment, Public Health and Food Safety calls on the Committee on Industry, Research and Energy, as the committee responsible, to incorporate the following suggestions in its motion for a resolution:

1. Emphasises the advances which the development of nanosciences and nanotechnologies (N&N) has the potential to help bring about in a significant number of policy areas directly affecting citizens (public health, energy, transport, sustainable development, etc);

2. Supports the Commission's readiness to very substantially increase the resources devoted to research in the field of N&N, which is of fundamental importance to Europe's future development;

3. Emphasises the importance of creating the conditions for a genuine dialogue between all of the stakeholders associated with N&N and between the latter and the public in general;

4. Stresses the need for ambitious and balanced information campaigns aimed at improving the public's level of knowledge, in order to enable the challenges and implications associated with N&N to be better understood;

5. Supports the setting up of ethical committees which, by providing independent scientific advice, will help ensure that the public is properly informed and help create a climate of trust based on awareness of the possible risks and the benefits associated with the use of discoveries in the field of nanotechnologies;

6. Stresses that corporate social responsibility must be shown by businesses, which must help disseminate objective information about scientific discoveries in the N&N field, their intended uses, and their risks and benefits for society;

7. Emphasises that all applications and uses of N&N must comply with the high level of protection for human health, consumers, workers and the environment laid down by the European Union and insists on the need for the codification of nanomaterials, which will lead to the drawing up of standards, which will in turn boost efforts to identify any risks; calls on the Commission to take the necessary initiatives to this effect;

8. Emphasises that understanding of the potential damage to health and the environment of new, synthetic nanoparticles is still limited and, consequently, the effects of nanoparticles that are not readily soluble or biodegradable should be investigated, in accordance with the precautionary principle, before such particles go into production and are put on the market;

9. Stresses that assessment of the technological risks posed (from conception to disposal or recycling) to human health, consumers, workers and the environment must be carried out throughout the life cycle of N&N products;

10. Considers that, within the framework of the new European legislation concerning the registration, evaluation, authorisation and restriction of chemicals (REACH), nanoforms of existing materials should be treated as new substances, because of their unique properties; in particular, the question of whether the threshold levels for production and import laid down within that framework are also adequate for nanoparticles should be investigated;

11. Emphasises the importance of miniaturisation of products with regard to helping reduce waste and ensure better use of energy;

12. Supports the Commission's intention to address problems at an early stage with a view to the development of these promising future technologies;

13. Supports the efforts made by the Commission to take part, and speak with one voice, in the debate at the international level, to ensure a balanced discussion of N&N.

PROCEDURE

Title	Nanosciences and nanotechnologies: An action plan for Europe 2005-2009
Procedure number	2006/2004(INI)
Committee responsible	ITRE
Opinion by Date announced in plenary	ENVI 19.1.2006
Enhanced cooperation – date announced in plenary	
Drafts(wo)man Date appointed	Philippe Busquin 7.2.2006
Previous drafts(wo)man	
Discussed in committee	3.5.2006 30.5.2006
Date adopted	30.5.2006
Result of final vote	+: 41 –: 5 0: 2
Members present for the final vote	Adamos Adamou, Georgs Andrejevs, Johannes Blokland, John Bowis, Frieda Brepoels, Dorette Corbey, Chris Davies, Avril Doyle, Mojca Drčar Murko, Matthias Groote, Françoise Grossetête, Satu Hassi, Gyula Hegyi, Marie Anne Isler Béguin, Caroline Jackson, Dan Jørgensen, Christa Klaß, Eija-Riitta Korhola, Holger Krahmer, Urszula Krupa, Aldis Kušķis, Marie-Noëlle Lienemann, Caroline Lucas, Jules Maaten, Linda McAvan, Roberto Musacchio, Riitta Myller, Péter Olajos, Miroslav Ouzký, Vittorio Prodi, Frédérique Ries, Guido Sacconi, Karin Scheele, Carl Schlyter, Horst Schnellhardt, Richard Seeber, Jonas Sjöstedt, Antonios Trakatellis, Evangelia Tzampazi, Thomas Ulmer, Anja Weisgerber, Åsa Westlund
Substitute(s) present for the final vote	Dariusz Maciej Grabowski, Jiří Maštálka, Miroslav Mikolášik, Ria Oomen-Ruijten, Alojz Peterle, Bart Staes
Substitute(s) under Rule 178(2) present for the final vote	
Comments (available in one language only)	...

31.5.2006

OPINION OF THE COMMITTEE ON LEGAL AFFAIRS

for the Committee on Industry, Research and Energy

on Nanosciences and nanotechnologies: An action plan for Europe 2005-2009 (2006/2004(INI))

Draftswoman: Piia-Noora Kauppi

SUGGESTIONS

The Committee on Legal Affairs calls on the Committee on Industry, Research and Energy, as the committee responsible, to incorporate the following suggestions in its motion for a resolution:

1. Welcomes the Commission's Communication and emphasises that new approaches are needed to research and development in nanosciences and nanotechnology (N&N);

2. Stresses the importance of N&N for the Lisbon Strategy and notes that they can contribute to EU competitiveness and sustainable development objectives;

3. Emphasises the need to promote better public understanding of N&N, especially among young students, in order to increase scientific vocations in the EU;

4. Welcomes the consultation conducted for this proposal and encourages the Commission to continue improving its work in order to respond to the increasing demand for better regulation;

5. Emphasises the need to respect high ethical principles and welcomes the planned reviews on issues such as non-therapeutic human enhancement and links between N&N and individual privacy; expects the reviews to be public and to include a thorough analysis of nanomedicine;

6. Shares the Commission's view that protection of intellectual property rights (IPR) in the field of N&N is essential for innovation, both in terms of attracting initial investment and ensuring future revenue; calls on the Commission to develop standards for the protection of IPR and models for licensing agreements;

7. Regrets the fact that patenting of N&N inventions in Europe is developing slowly; calls on the EU to create a N&N patent monitoring system governed by the European Patent

Office;

8. Encourages general reforms in the field of the European patent system in order to cut costs of patenting and to improve the accessibility of patents for small and medium-sized companies; stresses the need for greater transparency and clear limits to the scope of patent protection;

9. Asks the Commission to enhance international cooperation with a view to harmonising N&N patent application processing between the EU, the USA and Japan; stresses that dialogue should be intensified in compliance with the WTO obligations.

PROCEDURE

Title	Nanosciences and nanotechnologies: An action plan for Europe 2005-2009
Procedure number	2006/2004(INI)
Committee responsible	ITRE
Opinion by Date announced in plenary	JURI 19.1.2006
Enhanced cooperation – date announced in plenary	
Drafts(wo)man Date appointed	Piia-Noora Kauppi 30.1.2006
Previous drafts(wo)man	
Discussed in committee	21.3.2006 19.4.2006
Date adopted	30.5.2006
Result of final vote	+: 20 –: 2 0: 0
Members present for the final vote	Maria Berger, Rosa Díez González, Monica Frassoni, Piia-Noora Kauppi, Kurt Lechner, Klaus-Heiner Lehne, Katalin Lévai, Antonio López-Istúriz White, Hans-Peter Mayer, Aloyzas Sakalas, Francesco Enrico Speroni, Gabriele Stauner, Diana Wallis, Rainer Wieland, Nicola Zingaretti, Jaroslav Zvěřina, Tadeusz Zwiefka
Substitute(s) present for the final vote	Alexander Alvaro, Hiltrud Breyer, Brian Crowley, Janelly Fourtou, Manuel Medina Ortega, Michel Rocard
Substitute(s) under Rule 178(2) present for the final vote	
Comments (available in one language only)	...

PROCEDURE

Title	Nanosciences and nanotechnologies: An action plan for Europe 2005-2009
Procedure number	2006/2004(INI)
Committee responsible Date authorisation announced in plenary	ITRE 19.1.2006
Committee(s) asked for opinion(s) Date announced in plenary	ENVI IMCO JURI 19.1.2006 19.1.2006 19.1.2006
Not delivering opinion(s) Date of decision	IMCO 21.2.2006
Enhanced cooperation Date announced in plenary	no
Rapporteur(s) Date appointed	Miloslav Ransdorf 23.11.2005
Previous rapporteur(s)	
Discussed in committee	20.2.2006 20.3.2006 18.4.2006 20.6.2006
Date adopted	20.6.2006
Result of final vote	+ 40 - 2 0 0
Members present for the final vote	Šarūnas Birutis, Jan Březina, Renato Brunetta, Jerzy Buzek, Joan Calabuig Rull, Pilar del Castillo Vera, Jorgo Chatzimarkakis, Giles Chichester, Den Dover, Lena Ek, Nicole Fontaine, Adam Gierek, Norbert Glante, András Gyürk, Rebecca Harms, Erna Hennicot-Schoepges, Ján Hudacký, Romana Jordan Cizelj, Anne Laperrouze, Vincenzo Lavarra, Eugenijus Maldeikis, Eluned Morgan, Angelika Niebler, Umberto Pirilli, Miloslav Ransdorf, Vladimír Remek, Herbert Reul, Teresa Riera Madurell, Mechtild Rothe, Andres Tarand, Britta Thomsen, Patrizia Toia, Catherine Trautmann, Claude Turmes, Nikolaos Vakalis, Alejo Vidal-Quadras Roca, Dominique Vlasto
Substitute(s) present for the final vote	María del Pilar Ayuso González, Peter Liese, Vittorio Prodi, John Purvis, Esko Seppänen
Substitute(s) under Rule 178(2) present for the final vote	
Date tabled	22.6.2006
Comments **(available in one language only)**	