Ministero dell'Istruzione, dell'Università e della Ricerca

ITALIAN CONTRIBUTION TO THE DEBATE ON THE FUTURE OF EUROPEAN RESEARCH POLICY

This document represents the Italian contribution to the debate on the European research strategy and the objectives of the 7th Framework Programme (FP7), as outlined in the European Commission (EC) communication of 16 June 2004. In addition to explaining the Italian position on particular aspects highlighted by the EC communication, we intend to present a few general ideas on aims and strategy for European research and development.

An analysis of growing worldwide trends in research and development constitutes a necessary step in order to define future European programmes. The first issue we should take into consideration is the appearance on the world scene of emerging actors, whose influence is already evident, and will become even more so in the next few years. It is clear that in the relatively long timeframe spanning from now to the completion of FP7 (seven years), the position of China, India, and other world regions, whose development will be strongly spurred by sizeable investments in technological innovation and related human capital, will have a deep impact on the research and development of other regions, starting from Europe.

Therefore, Europe will have to consider not only how to tackle its gap with the United States in terms of knowledge and efficiency, but also the rising competition – at the economic as well as at the scientific level – with a group of emerging and strongly motivated countries. The strategy of these countries, centred on a scientific policy tightly linked to research, technology, and economic development in specific high-tech sectors, will have significant and probably negative effects on European competitiveness in strategic areas.

We hope the Commission will analyse this new international scenario within a specific study, whose results could significantly contribute to the definition of FP7. Accordingly, we should also consider a strengthening of European scientific cooperation with neighbouring countries, particularly in the Mediterranean area.

Focusing on the FP7 discussion , we find that the convergence of Community instruments, the specialisation of intervention areas, and the reduction of duplications at all levels have to be considered key elements for European research and development policy. Italy has been following this course of action for some years already, redefining its objectives and reducing the number of its public research institutions.

Public investment in research deserves a specific consideration. A comparative analysis between United States, Japan and European Union (EU), has evidenced a gap between Europe and the United States and Japan in public expenditure in research and development. Moreover, fragmentation of European public expenditure is a significant issue.

Public expenditure investment in research represents an effective political action in order to increase a country's R&D efforts , but it will not allow by itself European industry and economy to compete, in the short and medium term, with the combined efforts of public and private investment of other major regions of the world. By way of illustration, we can mention the gap between the United States and EU in terms of private investment, amounting in 2000 approximately to 80 billion Euros in absolute value, equivalent to about 1% of that year's European GDP. This gap corresponded to the total investment on industrial research in the United States. This fact indicates clearly the need for Community policy on research to give the utmost importance to the creation of more favourable conditions to encourage private investment on research and innovation, also through structural funds.

To change this negative situation we need to make a thorough analysis of the determining factors. In this perspective, it can be already said that the aggregate, at regional level, of technological high quality activities can provide new impetus to a European action aimed at achieving the Lisbon objectives. To this end, from 2002 Italy defined a strategy leading to the establishment of "technological districts", that is, initiatives through which the collaboration between scientific and technological actors and companies capable of developing competitive research projects, effective in causing strong innovation effects on the production sector , is institutionalised, using public and private funding. The aim is to achieve research, innovation and technological entrepreneurship capacities at a level of international excellence.

Generally speaking , the pursuit of the objective of a Europe characterised by a dynamic knowledge-based development, an objective fully shared by all Member States but still not fully implemented through coherent actions by everyone, requires actions capable of strengthening European research through a leverage effect on national investment. To this end , European funding should be oriented and concentrated mainly on the actions with the greatest potential of stimulus and drive for public as well as private national investment. In that perspective, it is important that the EC should envisage to double the current research budget; this should be obtained through a redistribution of Community resources, aimed at rationalising expenditure in the context of a global negotiation on financial perspectives.

1. ARCHITECTURE AND GENERAL OBJECTIVES OF FRAMEWORK PROGRAMMES

We share the overall approach outlined by the Commission for FP7, since it promotes research with the use of instruments taking more into account – compared to the past – European innovation and competitiveness (and then economic development) needs. The

European subsidiarity principle is correctly translated into the need to create a critical mass of agents mutually necessary for the success of the projects. The concentration of the interventions and the indication of new action axes are a positive aspect of the Commission's approach; the proposal relating to FP7 will have to make explicit the objectives to achieve and the relevant implementation instruments.

Possible outsourcing of the management of single Community actions can be accepted, as long as this does not turn out in procedural, administrative and financial overburdening. However, we must take into account that radical changes could confound a part of the research community, in the public as well as in the private sector. We deem therefore that operative procedures of possible innovations introduced in the next FP should be defined at its beginning, and not during its execution. In particular, it is not advisable to introduce in the FP instruments presenting open questions or demanding solutions too difficult to implement operationally.

Recognising the validity and the necessity of new funding procedures, including the large-scale activation of European Investment Bank loans, it is hoped that the Commission could play a role of promotion and support for their factual utilisation.

The role of transnational collaboration must be absolutely safeguarded and promoted in FP7 too. It hinges on the subsidiarity principle, standing at the foundation of EU and one of the founding elements of European integration. Transnational research represents an added value; it brought about a change in the European research world, creating the natural prerequisites for the development of collaborations between integrated competences, now and in the future: the groups participating in a successful project will be partners in successive projects too, generating a solid network of exchanges and collaborations between local expertises.

2. INSTRUMENTS OF COLLABORATION

The structure of FP6 turned out to be complex, and did not favour the access of small and medium operators to Community programmes. The language used to define thematic areas often did not correspond to the traditional organization of scientific disciplines (for example, the sixth priority – "Sustainable Development, Global Change and Ecosystems" – includes transports, non-nuclear energy, and climatic change). The drawing-up of proposals required the acquisition and examination of a mass of voluminous and complex documents: call for tender, work programme, guidelines for participants, assessment manual , financial guidelines, contract forms.

Integrated Projects (IPs) and Specific Targeted Research Projects (STREPs) turned out to be the instruments most appreciated by the scientific community. The former are aimed at more ambitious research goals, responding to the need to develop and integrate innovative technologies. Due to the diversity of expertises, duties and roles of participants, they have sometimes succeeded in generating, increasing, and consolidating relationships and interdependences potentially capable of creating fruitful and long lasting European links between enterprises and universities. The STREPs proved to be

valid instruments, more flexible than the IPs and more adaptable to limited solutions. The dimension of such projects ended up being effective from the standpoint of flexibility, coordination, uniformity and achievements, and consequently of coherence and excellence of the proposed research. We therefore reckon that a larger share of the funding should be assigned to the STREPs. Nevertheless, we must point out that in some cases the IPs differed from a STREP only because of their dimension, and not – as it should have been – because of their structural characteristic. In such cases, the desired differentiation between these two instruments was not attained; besides, the high number of participants to the IPs raised in general management costs, and sometimes deterred industrial participation. Opportunities offered by the possible extension of the partnership of ongoing IPs should be more easily available and accessible to the entire scientific community.

Regarding the Coordination Actions (CAs) and the Specific Support Actions (SSAs), these are two valid instruments providing support to FP thematic priorities. We must however point out that sometimes the distinction between these two typologies does not seem clear, particularly when going into the details of these activities: feasibility studies, workshops, etc. can be often performed through either instrument.

We deem that the Networks of Excellence (NoEs) should be improved, also because the concept of enduring integration is difficult to substantiate. Besides, the European Research Area (ERA) goals of "structuring and integrating", which are FP6 key pivots, can be achieved through projects of a smaller size than the current standard; in particular, partnerships of 35/40 actors very seldom allow to reach a real integration of participant groups. Funding and financial reporting rules should be clear and without interpretation ambiguities. However, should the NoE instrument be retained, new research activities produced by the network and training should have more relevance.

3. PROCEDURES

The question of the high costs involved in setting up the proposals, together with the low rate of success of the projects presented in the various tenders, brings out the need to simplify the drawing-up procedures of proposals, in order to avoid wasting human and economic resources. To that end, it is proposed to streamline the initial stages of drawing-up, favouring the submission of more compact and simpler proposals, as provided for in the first stage of a two-step procedure (in which the second stage would be reserved only to the competitors selected in the first stage). It would also be desirable to unify style and contents of the web pages of the different thematic priorities, to facilitate the research and usability of information by users.

The success rate of the projects proved to be too low, also in consequence of the large financial dimension of some of the accepted proposals. For example, the high cost of some IPs resulted in the exclusion from the funding of a certain number of STREPs, in spite of their positive evaluation.

In a few cases, the project's evaluation stage evidenced an insufficient technical background of some of the assessors. Sometimes, diverging evaluations emerged not only

between evaluators and project proponents, but also between the evaluators themselves. Besides, the negotiation stage pointed out a few problems: the poor knowledge by some project officers of the new rules regulating the project's management; the occasional lack of coordination and information between the various Commission Directorates; the decision of cuts on the budget requested by the proponents, in such a way as to imply a deep alteration of some projects. Lastly, the time elapsing between the approval of the project and the signature of the contract remains quite long (about 8-9 months).

The information given to Member States by the various Commission Directorates was often not consistent, and was provided with different procedures, criteria and times. Consequently, this hampered the information management by Member States.

It is worth noting that from the round of consultation carried out to elaborate this position paper, evaluations and recommendations emerged, relating to instruments and procedures, that broadly match those expressed in the Marimon Report.

PROPOSALS

Research performed in transnational collaboration between research centres, universities and enterprises has characterised all the previous European Union FPs, and has traditionally represented the main component from the point of view of resources engaged and activities performed. It must maintain a key role in FP7 too.

It seems appropriate to ensure continuity between FP6 and FP7, preserving both the instruments that have proved to be valid and the topics. This does not exclude that specific new needs could prompt changes; these should however be justified and documented, to avoid confusion in the community of participants to the projects, both in the public and in the private sectors. We deem it opportune not to leave space to solutions that are still open or difficult to implement. The introduction of possible innovations and their clarification has to be tested at the beginning of the new FP, or at the end of the ongoing one (possibly with pilot actions), and in any case not during its execution.

It is necessary to adopt new measures aimed at simplifying access and management of the FP. We refer to the observations formulated above in this chapter.

The NoE (Network of Excellence) concept has to be reformulated, and should initially involve a limited number of actors representing the scientific excellence at European level in a given sector, with the aim to pursue the integration of their competences and capabilities, through the development of research and training projects on frontier topics in science and technology, allowing to entice the best researchers. Consequently, aims, proposals evaluation procedures, and funding and management rules have to be clearly redefined. Besides, it is desirable to adopt measures favouring the presence of industry and small and medium operators, that is currently insufficient, in this type of projects.

Relating to IPs (Integrated Projects), it appears desirable that they be simplified in their management, and that they involve a more limited number of partners, with ambitious and clearly identifiable research goals.

Also, we believe that STREPs (Specific Targeted Research Projects) should be used more widely in the future, supporting this instrument with adequate financial resources.

4. EUROPEAN TECHNOLOGY INITIATIVES

The general principles that inspired the Commission in proposing the creation of the Technological Platforms (TPs) – to reduce European research fragmentation, to involve stakeholders, to create a critical mass of financial and human resources, to define a common vision – are certainly shareable. In particular, the basic principle of a marked focus of research action on specific technological sectors with a strong impact on Europe's growth and competitiveness constitutes a real contribution of Community research to the Lisbon agenda.

The TPs have to be a strong answer to the major technological and scientific challenges, to form a precise strategic choice at European level, and they must have a great visibility at a political level. Given the vagueness of the information available today, and the lack of a precise definition of specific actions or mechanisms, that do not allow an accurate evaluation, we think nevertheless that this initiative should be supported, verifying that the most innovative small and medium enterprises and the national research centres are also involved.

Regarding the technological sectors which will be the object of future platforms, the process through which they will be determined should be clearly outlined, and the consultation should be extended. In fact, this process should involve explicitly the Member States, and lead to decisions shared by the industry and the research community.

It is believed that the criteria to use in order to identify these sectors should be the opening to collaboration of large industries, the international scientific and technological developments, the application fall-out and market potential of research results, the evaluation of environmental and social impact, the safeguard of environmental heritage, the valorisation of countries' expertises, the European international leadership and policy priorities.

Taking into account the above mentioned criteria, it is already possible to identify some sectors of relevant interest for Europe: hydrogen and fuel cells; nanoelectronics and components production; railway transports; water supply; plant genomics and biotechnologies; machinery and production processes; cultural heritage protection; study, prevention and mitigation of natural disasters' effects; mobile communication; aeronautics; space (see chapter # 10); textiles and clothing; embedded systems; robotics and mechatronics.

PROPOSALS

Technological Platforms (TPs) appear as fora to define medium and long term strategies, also far-reaching ones, in collaboration among subjects interested in a well-defined technological sector. Since the paramount interest should be of industrial nature, it is appropriate to ensure an easy access, within the reach of small-scale enterprises that could benefit of the long-term vision elaborated in the governance's frame of the TP. The organisational framework and the objectives of TPs proposed so far do not seem to facilitate the involvement of Small and Medium Enterprises (SME). Therefore, suitable measures allowing a larger participation of SME should be considered.

In their formation and operative stages, the TPs should facilitate the aggregation of main stakeholders, on behalf of Member States and of the various (industrial, public, institutional, etc.) components of the specific sector of interest. From this point of view, a closed-shop-type approach must be avoided, to avert the risk of favouring those research operators that are more equipped in terms of financial means, technological background, research skills; such an approach would not be consistent with the subsidiarity principle and with the objective of realising a European Research Area. Actually, this principle and this objective require the TPs to have a real European dimension, in particular those resorting to Article 171, whose implementation requires a complex decision-making procedure and a broad consensus.

It is desirable to evaluate the possibility to programme the realisation of new infrastructures supporting the activities provided for in the scope of the TPs, to avoid the dispersion of resources and to maximize the impact of the choices that will be made.

5. BASIC RESEARCH

In FP6, an action intended to support specifically basic research is not clearly identifiable because it appeared desirable, as research strategy, not to separate basic science from technology. Nevertheless, some measures exist within the 1st Specific Programme, aimed at projects in "New Emerging Science and Technology – NEST" and in "Future Emerging Technologies – FET", which have supported basic research and, though endowed with a limited funding, met the consensus of the scientific community. In FP7 too basic research must have clear connections with applied research and thus with innovation, albeit on a long term. Therefore, one should refrain from an institutional separation between the various stages of research, whose contiguity is nowadays deemed necessary, at world level, to provide adequate fuel to the technological innovation process.

The Commission proposes now to create a European Research Council (ERC) that, with structures still to be defined, should fund only basic research, in case also projects not based on a transnational collaboration. The proposal of this new funding instrument for

the Community research – as this is the matter – raises strong perplexity, for the following reasons.

1) About 95% of European expenditure in scientific and technological research occurs through the national programmes of Member States; a (scant) 5% is assigned to European projects. The anticipated budget for ERC is almost 1 billion Euros yearly, that is in the order of one fifth of the foreseeable FP7 budget. It is an amount representing a relevant part of the EC research expenditure. Since a distinctive characteristic of ERC would be the possibility to fund single national research groups, the percentage of EC funding dedicated to really European programmes could drop below 5 %, maybe to 4 %.

2) It is to be noted that, from the Community standpoint and in the Community scope, basic and applied research should not be separated: the first should have an integrated function in the second. Mission-oriented basic research can be of Community competence, while curiosity-driven research is generally financed by national programmes; the proposal of an autonomous space for basic research in the European frame could therefore be justified only by the realisation of an added value for European competitiveness, in compliance with the subsidiarity principle. It is not clear how the funding of national research groups could create this added value; the argument that it would be provided by the competition stimulus between European groups is not convincing: for researchers, funding is a means and not an aim, and all serious research groups do anyway their best to excel. It is difficult to imagine a research group making efforts – which otherwise it would not have made – only to obtain an ERC funding.

3) Besides, the funding of national groups would infringe the subsidiarity principle: since ERC funding should only go to high-level groups, it is likely that such groups would be already recognised – and thus properly funded – at a national level; this additional Community funding would not add to their ability to carry out research. Rather, it is to fear that it would partially replace pre-existing national funds. In other words, the creation of ERC would be in countertendency as regards the construction of the European Research Area.

4) Besides the possibility to fund national groups, the other characteristics of ERC would be: (a) the implementation of the sole excellence criterion in the project selection; (b) the direct management of ERC by the scientific community; (c) the use of supple and efficient administrative rules. It is proper to note that these particular operating procedures would be more difficult to realise than the proposal of this new instrument seems to imply. (a) The excellence criterion – which is certainly pivotal and should be applied in the widest possible extension – can be used to choose between projects belonging to the same scientific area, but not for projects relating to different areas: between the last ones priority criteria should also be applied which, above all in basic research, are difficult to determine (and, anyway, are not provided for in the Commission proposal); furthermore, the research of excellence should not be confined to basic research, as it is a necessary feature also of advanced technological development. (b) An ERC management by the sole scientific community seems to imply the exclusion of Commission and Member States from its steering bodies; on the other hand, the unavoidable priority choice between different scientific areas implies political decisions that cannot originate from people

personally engaged in the research work in a particular area. (c) Lastly, with regard to the administrative procedures, there are strict limits to their simplification, given mainly by the financial reporting rules of Community expenditures; moreover, it is true that there is a widespread demand to abridge the rules so as to simplify the administrative procedures, but certainly this is not related only to basic research funding, and is therefore not valid as a motivation for the creation of ERC.

5) The debate concerning the structure ERC should assume is still open, but it is foreseen that the management of the mobility of European researchers will be assigned to it. Since the Community actions on mobility have given good results, the option of delegating the management of mobility programmes to ERC does not seem to be justified. Furthermore, mobility concerns all types of researchers, not only those involved in basic research; therefore, such a decision would not be appropriate.

PROPOSALS

The proposal of funding individual basic research teams (even those belonging to a single Member State), distinguished by capacity and excellence of their work, may be shared, but only for targeted actions, as in the case of a lack of recognition or funding at national level of a high level research group. Nevertheless, since these situations constitute an exception rather than the rule, funding such activities should only concern a small percentage of European research funds. On the other hand, research funds of such a limited amount do not require the creation of a new body like ERC; this type of funding may be provided in the framework of the NEST programme (FET, in particular), whose participation rules should then be appropriately modified, in order to allow projects that would not comply with the rule of transnational collaboration. The Commission should make use of that tool preferably to increase the support of activities performed by small teams or single emerging young researchers, having outstanding and innovative ideas.

6. HUMAN RESOURCES

Taking in due account the success of the Marie Curie scholarships programme within FP6, which has seen a number of applications widely exceeding the existing budget , mobility must be given an appropriate status within FP7. It is therefore necessary to increase the funding dedicated to each action, rather than their number, since mobility of researchers represents a key element to achieve the goals set out by the Lisbon Strategy; as a matter of fact, mobility is considered an essential tool to form high-level international research teams. Moreover, in order to face the phenomenon of brain drain and to support brain gain, Community programmes should foster mobility in the fields of international cooperation, particularly with US and emerging countries, adopt measures for the

reintegration of European researchers in their countries of origin, and attract in Europe the best non-EU researchers.

It is also necessary to encourage intersectorial mobility, in order to support transfer of knowledge from academia to industry, not only within the framework of dedicated actions, but also within collaborative projects (STREPs, IPs and NoEs) and TPs.

PROPOSALS

The mobility of researchers should have an adequate space also within FP7. In particular, initiatives of intersectorial mobility and academia-to-industry transfer of knowledge should be more supported.

Community programmes should foster mobility in cooperation actions, with US as well as with emerging countries, and increase the means to reintegrate European researchers in their countries of origin and to make Europe more attractive to the best foreign researchers.

7. RESEARCH INFRASTRUCTURES

The creation of new research infrastructures of European interest should be encouraged, but, at the same time, it is important to guarantee that the new structures are complementary to the existing ones. In particular, the role EU should play is to support organisation, to guarantee a due allocation of resources, and to evaluate the real necessity of the proposed infrastructures. These should be duly justified by a European strategic interest in the concerned field, should ensure wide accessibility, and should not duplicate already existing structures. Research infrastructures of European interest must be open to researchers of all Member States, both for academic and industrial purposes, and for training activities. These conditions will be more easily met if the infrastructures are created by the aggregation of already operating and mature communities, that would express the need of the infrastructures, and be ready to provide scientific and technological support, and the services necessary to their operation.

In the process of selecting new infrastructures, in particular those which should provide the best perspectives for the development of key technologies, it would be important to agree on common guidelines for the identification of the sectors of foremost relevance to each Member State, as it is the case for the Trans-European Networks (TENs). It will obviously be mandatory to evaluate, for each infrastructure, the realisation, operational, and management costs, and the access quota for users. A major aspect is the creation of multidisciplinary infrastructures, that constitute centres of excellence and of intensive human resources development.

Complementarity between Community and national funds is mandatory. Italy has decided, by means of a recent Ministerial decision, to fund projects to develop large existing public or private-public research infrastructures. An example of such a procedure, also involving community resources, is the ongoing upgrading of the Elettra structure located in Trieste, for the construction of a Free Electron Laser. The combination of national and Community funds to realise an infrastructure is also at the base of the Italian proposal to create a system of two broadband satellites, one funded mainly by national resources, the other by European funds; this infrastructure would provide broadband multimedial services for fixed and mobile users, would support European public administrations strategic services, and would help in solving the digital divide problem.

A link between FP funds and Structural Funds, particularly in the framework of the new objective "Regional competitiveness and employment", is convenient, even though the operational mechanisms should be clarified. Cohesion and research policies are closely linked, since the regions do research and, at the same time, research supports the development of the regions. Structural funds may help regions to modernise and use to advantage their research infrastructures, strengthening in this way the European economic and social cohesion policy, and reducing the gaps among regions. Coherently with this purpose, a combined use of Structural Funds and Framework Programme would allow to shape an integrated financial tool able to guarantee an adequate (and necessary) development process of research capability, even in the regions concerned by the "convergence" objective.

PROPOSALS

An increased Community commitment for the creation of new infrastructures must be duly combined with the upgrade of the existing ones, and with the strengthening of traditional actions, like the access of European researchers to existing infrastructures, which played an important role in the process of integration of the European research.

It is also important to guarantee support, besides the main technological infrastructures, also to those dedicated to humanities and socio-economic disciplines (for example, large libraries and museums).

It is therefore important that the Commission ensures an optimal coordination between the creation of new infrastructures and the use of the existing facilities. From this point of view one should support the Commission's initiative to carry out a survey of existing infrastructures in Europe, in order to point out problems, possible overlapping, and areas not yet covered. This study should lead to the definition of a priority list of infrastructures that need a commitment both at national and Community level. In this framework an increase of the funds allocated by the Commission to infrastructures would be appropriate.

8. COORDINATION OF NATIONAL RESEARCH PROGRAMMES

We consider that a better coordination of national research programmes is necessary for the creation of the European Research Area, in order to avoid overlap and waste of funds, and consequently to optimize the results. This coordination may be undertaken either by a timely and mutual exchange of information on new national research initiatives (ERA-NET), with the aim of verifying the possibility of a joint realization, or by the participation of the Union in R&D programmes jointly undertaken by several Member States, in accordance with article 169 of the Treaty.

ERA-NET seems to be the tool that best fits this purpose, since it allows regional and national administrations, who manage research funding programmes, to exchange information, to develop common strategies, and to possibly activate processes to mutually open their respective programmes. A critical element of these projects is their excessive management rigidity, that has not allowed the participation, aside public administrations, of other subjects with management support tasks. In particular, it would be advisable to broaden the range of actors eligible to participate in the programme, which at present is limited to public research administrations and to national funding agencies. Such a limitation does not allow an adequate participation to ERA-NET of countries that do not have this kind of agencies, and should therefore be lifted.

The implementation of the procedure referred to in article 169 has been possible, until now, only for one project, due to the complexity of the legal procedure prescribed for this kind of action (co-decision of the Council and the European Parliament).

PROPOSALS

In implementing the "Open Method of Coordination", based on the free participation to the initiatives, we suggest a wider coordination of national programmes in order to realize the European Research Area, with the aim of avoiding duplications and waste of funds, and of optimizing results.

The ERA-NET measure is to be kept and broadened in order to allow the participation of more actors, in support of public administrations.

Concerning the implementation of article 169, this should be limited to areas in which a strong convergence of interests among Member States exists.

9. SMALL AND MEDIUM ENTERPRISES

FP6 put great emphasis on the participation of SME, and the objective of a 15% participation of SME to the thematic priorities funding has, so far, been partially reached. The participation of SME into large projects has however been somehow problematic. In fact, in order to reach the 15% objective, the procedures and modality of participation should be simplified (more rapidity and less bureaucracy). We reckon that the promotion

of a stronger integration of SME within large research projects is important, in order to boost their internationalization and their growth. The percentage rate intended for SME should however been considered a goal, not a constraint.

The integration of SME within large research projects should above all focus on the achievement of concrete results in terms of application of new knowledge, and on the improvement and development of new products, processes and services. To this purpose, more attention should be paid to the validation, technology transfer, and exploitation of results, by dedicating specific funds to SME.

By means of a greater financial support to technology transfer and dissemination activities within IPs and NoEs, SME could, in fact, take more advantage of research results. At the same time, they need at local level an operational support that could be systematically provided by the Innovation Relay Centres and/or other organs created for the promotion of research and innovation activities.

On the other hand, it is advisable to maintain and broaden specific measures dedicated to SME, such as CRAFT and collective research actions.

PROPOSALS

In general, the support policy to SME in the research field should be realized by providing instruments and objectives in the FP that meet the needs of this enterprise category, and promote a convergence with research centres and universities in order to set the best conditions to reach the 15% objective of the participation to the Community programmes.

In order to promote SME's future scientific and technical competence, it is suitable to foresee measures that favour training and awareness of traditional SME on innovative technologies.

It would be advisable to favour the participation of SME also in ongoing IPs and NoEs, to let them benefit from technology transfer and training on the project results, acquiring better innovation capabilities. IPs specifically tailored for SME, used so far only within the thematic priority "Nanotechnologies and nano-sciences, knowledge-based multifunctional materials and new production processes and devices", have proved to be very successful. It would be useful to extend the application of this type of instrument to all the thematic priorities.

At the same time, it is important to increase significantly the funds dedicated to specific measures for SME, such as CRAFT, in case by determining new, specific, dedicated schemes, and measures able to favour technology transfer.

10. SPACE AND SECURITY

The communication of the Commission gives positive attention to both these sectors, to which our country ascribes great importance. As far as the space sector is concerned, this has always been an instrument for policy, strategy and technological development, and its presence within the Framework Programmes certainly represents a clear step towards the establishment of a real European space policy. The European Constitution and the framework agreement between ESA and the EC signed in 2003 represent important reference points, and set the foundation of a space policy intended as shared competence between the EU and the Member States. This European space policy is based on the request of services and applications (space navigation, earth observation, with specific reference to GMES, and satellite telecommunications), and is focussed on scientific research and development of technologies for space and security applications, and for an independent access of Europe to space.

European competitiveness in this sector will only be achieved by the convergence, at European level, of the single Member States efforts, and by the coordination of national space programmes with that of ESA. Following the line defined in the framework agreement mentioned above, the complementarity will be maintained of the own actions, respectively, of ESA and of the EC. These actions should be put in synergy and developed as a whole, in order to strengthen the European position in this domain and, on one side, to aim at the development of a European space industry, and on the other, to improve the services (telecommunications, earth observation), to guarantee a European autonomy with respect to the access to space by advanced systems, and to improve the solar system exploration capability.

It is important that both ESA and the EC act in accordance with the mentioned framework agreement and in compliance with their internal rules, to seek common goals: the EC action will therefore aim at the identification and assessment of the European users' real needs for space applications and services, at the promotion and grouping of the demand for the implementation of community policies as a whole, as well as to the investment of resources. The activity of ESA will aim on one side at the development and production of spatial infrastructural elements according to the EC requirements for application and services, and on the other at space research and technological innovation. It would be advisable that the various actors interested in space matters meet and coordinate as representatives of research, technological development, industry, end users, and policy makers. The comparison among ESA, the EC, and other stakeholders could take place in the framework of a new technology platform dedicated to space within FP7.

As far as security is concerned, we agree on the intention to introduce this subject within the FP, as it involves the security of states, individuals, cultural heritage, communication and transportation networks. The protection against the threat of terrorism and of environmental dangers represents a common concern to Member States, even though to different degrees. Taking into account the multidisciplinary nature of this subject, the modalities by which the actions for research, for technological development, and for the application of security measures will be implemented should be investigated and clarified.

The research goals should be the development of new technologies for security and the increase of industry competitiveness.

Apart from the industrial and technological aspects, it seems advisable that the EU investigates the social and political phenomena – also outside Europe - which are at the origin of the security problems. To this aim a further, separate research would be important, in order to reach a better understanding of this matter, and should be carried out with the scientific cooperation of all Member States.