SPEECH
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LADIES AND GENTLEMEN,

I am very pleased to have been invited to participate in this conference which takes place in the context of the Year of Creativity and Innovation.

This conference is about the knowledge triangle.
Let me first underline that the knowledge triangle is not about three separate entities i.e. Research, Education and Innovation, as it is too often miss-interpreted.
It is about actors, stakeholders, institutions, policy-makers, that are working together to foster innovation and social and economic progress.
It is about Research, Education and Industry, which are concrete public and private actors that work together to foster knowledge and its transformation into innovations.
This approach has direct consequences for research policies and in particular for the so-called ERA-European Research Area. In this perspective, Research must not be seen as a stand alone activity that takes place for its own benefit, but as an enabler for the sustainable development of Europe.

The challenges in this context, are:

- are we investing enough in research?
- are we investing in the most efficient way?
- are we creating the most favourable conditions for the exploitation and diffusion of the results of our research activities?

1. Are we investing enough in research?

The response to this question is unfortunately that European
investment in R&D is insufficient. However, although we are
clearly investing less than our main competitors European efforts in this respect have not been without results:

- R&D investment in the EU grew by 14% between 2000 and 2006, compared to 10% for the US in real terms;
- 17 out of 27 Member States increased their intensities of R&D investment;
- EU corporate R&D investment has outperformed GDP nominal growth;

- according to the EU Industrial Scoreboard 2008, the growth rate of R&D investment by European business has increased for the fifth year running,

Even countries with very high R&D intensities, such as Japan and South Korea, have continued to rapidly increase their investment in research, during recent years. This means that the levelling off of research intensity in Europe is not inevitable.
In the case of China R&D intensity already exceeds the level in 19 Member States and overall business R&D is at the same intensity as in Europe.
We cannot afford to stop our efforts. And this is particularly true in times of crisis.

The main reason for our stagnation, is the absence of sufficient growth in business R&D. The low intensity of private investment is linked to the EU's industrial structure, where the high-tech sector accounts for a smaller share than in the US. Even in the high-tech sectors, the R&D intensity in Europe, is 20% lower than in comparable sectors in the US.
The question is therefore: why is the EU industrial structure not
changing more rapidly?
The European economy needs, as a matter of priority, to create conditions for better and smarter innovation and for fast growing knowledge intensive SMEs.

2. Are we investing in the most efficient way?
Investing more has never been the sole objective of the Lisbon strategy supported by the ERA agenda.
We need also to invest better and where it is needed. The first challenge is to invest in the most efficient way.
What does that mean? Specifically, four lines of activity are necessary:

1- avoid duplication of efforts, among others by cooperating more at the European level for example through the Joint Programming initiative or the Community legal framework for European Research Infrastructures

2- promoting excellence in research and a better competition between researchers, for example in the context of the European Research Council, as well as by the support provided by the EURAXESS portal. And here, I wish to underline that the reform of universities and measure designed to facilitate the mobility of researchers are key axes in this very demanding task of making Europe more competitive. The creation of the European Research Council, as a "flagship" for competitive funding is also an example of what can be achieved at EU level in this respect.

3- We also need *to adapt the governance mechanisms to facilitate specialisation strategies*, in order to address the structural fragmentation of Europe.

4- And finally, *we need to be more open to internationalisation,* which implies more cooperation between Member States in their international scientific relations and actions.

3. Are we creating the most favourable conditions for the exploitation and diffusion of the results of our research activities?

This is a crucial aspect.

If the EU is not moving rapidly enough towards a knowledge intensive economy, it is because it is not changing the sectoral composition of its economy quickly enough.

To this end, the following objectives need to be pursued :

- Facilitating the birth and growth of new technology-based firms, including reducing the cost of patents;
- Assisting the emergence of future markets;
- Increasing university-industry cooperation links;
- Supporting knowledge-based clusters and research services that will facilitate the development of open innovation strategies

Meeting these challenges is also raising the issue of whether research will be concentrated in the domains where it is the most needed.

- More concretely, we need to do more to address Global Challenges such as ageing of population, climate change, urbanisation and security;
- We need a diversified policy mix to address specific weaknesses identified in each country (NRPs).

The use of the European structural funds and the choice of the thematic priorities of the national and Community research programmes are, of course, crucial in order to have a leverage and coordinating effect.

The EU recently gave an example of this coordinating role by launching three new public-private partnerships in the context of the Recovery Plan against the crisis. These partnerships concern respectively,

- A **"European green cars initiative"**, involving research on a broad range of technologies and smart energy infrastructures to stimulate renewable and non-polluting energy sources.
- A **"European energy-efficient buildings initiative"** , to promote green technologies and energy-efficient systems and materials in new and renovated buildings.
- A **"Factories of the future initiative"**, to help manufacturers increase their technological base through enabling technologies of the future.

To conclude on this European strategy, I would like to stress that we cannot progress without the support of the Member States.
For instance, progress on Community Patenting has been held up for more than 10 years, for reasons linked to the use of languages. Recently, and also as part of the Recovery Plan, the Commission urged the Member States to cut by 75% the costs of the deposit and maintenance of patents. The Member States have not made any commitment in this respect, in the recent Council conclusion on the "crisis". This is certainly not helpful if we want to foster the development of high technology based SMEs in times of crisis.

Ladies and Gentlemen, I would also like to take this opportunity to share with you the results of the work that the Commission is doing in the context of the Lisbon Strategy, and our findings and recommendations concerning Italy.

Italy
Like all systems, the Italian R&D system shows positive and negative aspects. Two types of structural weaknesses have been identified:

- The first one is the existence of some inertia regarding modernisation within the public research system
- and the second weakness within the industrial system is a degree of stagnation in innovation.

R&D expenditure in Italy has been stagnating over the last years at around 1.1% GDP. There is a considerable gap between this value and the 2010 national target of 2.5% of GDP, 2/3 of which is to be financed by the private sector. R&D expenditure as a % of GDP in Italy is well below the values of Germany (2.53%), France (2.09%) and the UK (1.78%).

The difference between Italy (1.1%) and the EU-average (1.83%) is mainly concentrated in industrial R&D (Business R&D is 0.55% of GDP compared to an EU-27 average of 1.17%).

However, I do not wish to be discouraging. There are many **positive** aspects. These include:

- Measures to enhance public private partnership, at local level
- Tax credit schemes to support innovation
- New measures, in tune with the Lisbon strategy, such as the strategic **Action Industria 2015**, which with a potential structuring effect and using a policy mix approach, was launched by the government in 2007
- The creation of a National Agency for the Evaluation of Research (ANVUR)

The **negative** side remains however worrying.

Besides the low level of research spending, insufficient human resources are a concern.

- The population with tertiary education (11.6%) and participation in life-long learning (6.8%) are below the EU averages of 22.8% and 9.8% respectively. As a result, the number of S&E graduates is below the EU average

- The total number of researchers (FTE), grew on average by 4,5% between 2000 and 2005 (from 66.110 to 82.489), but the number of researchers per one thousand labour force, though growing on average by 3.7% over the same period, is still well below the EU average (3,37 researchers versus 5,57, in 2006). Recent plans to increase the recruitment of new researchers are, of course, welcome, but one may wonder whether they should not be stepped-up?

- The number of foreign researchers that choose Italy as a place to perform research is inferior to the number of Italian researchers choosing to work abroad.

Ladies and Gentlemen, we all know that Italy is a centre of design and creativity. Italy might also be considered one of the most successful countries for its **"industrial clusters".**
However its weakness in R&D is not without consequences, in terms of employment and growth.
Italy has 50 companies in the ranking of the top 1000 EU companies by level of R&D investment, compared with 289 for the UK, 189 for Germany and 113 for France.
These companies represent only 4,33% of the total R&D, performed by the EU top 1000 firms.
This share is extremely low considering that Italy accounts for 12,2% of GDP in the EU. The implication is that the total of large high-tech firms in Italy is only 1/3 of the weight one might have expected.
This is a result of the structure of the business sector. In Italy high R&D intensity sector is well below its equivalents in countries like Finland, Denmark or the Netherlands.

What then is missing to make things change? Italy needs to renew its previously successful cluster model and shift towards "knowledge-based" clusters, open to the world and able to combine the traditional creativity of Italian entrepreneurs with the research skills that are needed to face modern challenges.
To achieve this purpose, a closer interaction between education and research and the business world is required. As I mentioned in my introduction, the knowledge triangle should not be a

vague concept, but must imply the development of joint strategies between the three categories of actors.
Italy has to become more attractive as a place to perform research. Researchers need better, more flexible and more secure careers, both in the academic world and in Public Research Organisations and strong cooperation between universities and industry must be developed.

The European Commission is providing support to Italy to help address these modernisation challenges:

a) The participation of Italy in the **FP6** has been considered very positive: Italy is 4th in the number of projects, after Germany, France and the UK, with 420 proposals accepted. The number of researchers involved in the Integrated projects is the third highest, after France and Germany.
b) Regarding the **FP7**, the first results are also very promising with more than 17.000 applicants in around 9.000 eligible proposals, with a total requested contribution amounting over 5,3 billion euros, after 110 calls for proposals.
c) Large networks of research infrastructures have been formed in the context of FP6, in all scientific domains: Italy is in fourth position with almost 80 research infrastructures representing 7,9% of the total. In relation to the Road Map of **ESFRI**, Italy is involved in 24 of the 32 new pan European RIs that are to be built.

Ladies and Gentlemen, the present times are too often characterised by a lack of confidence in the future.
But, in this Year of Creativity and Innovation, we precisely need to prepare for the future. The European Commission is preparing its post 2010 strategy for competitiveness. Let me stress that the objective of investing in the construction of a knowledge intensive and innovative Europe, will be at the heart of this strategy.

Italy needs to increase the efficiency of its research system and to accelerate change in the structure of its industrial system.
Italy is characterised by great potential and by a culture of creativity and reactivity that no doubt will make the chances of success very high. Let me express the wish that this will be the case and that these efforts will bring tangible fruits in terms of growth and social benefits for your country and for Europe.
Thank you.