

**Remarks by Prof. Maria Chiara Carrozza
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“Transatlantic Research & Innovation Cooperation - A View from Italy”

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Ladies and Gentlemen,

It is an honor to be here today. I would like to especially thank Ms. Joëlle Attinger, President of the European Institute for providing me with the opportunity to talk to you. I look forward to engaging with you in a fruitful conversation about the scientific relationship between the EU and the USA.

It is of great importance to keep the transatlantic science & technology dialogue strong, because, even if we are living in a world which is becoming more and more multipolar, the fact is that the special relationship that exists between the United States and Europe is the oldest, most fruitful, most important asset for the exploration of science endless frontier.

Building on the relevance of scientific and technological cooperation between Europe and the US is the leading thread of my speech that I am going to articulate along the lines of four main points.

First, I want to provide you my perspective over the Centrality of Transatlantic Scientific Relationships. In a more and more interconnected and diffused world of research, the EU and the US should consider themselves as preferential partners, and they should work together to become the backbone of a richer, more inclusive framework. In my mind, what we should aim for is a close but not closed relationship. This is very relevant for Italy as the US is its main scientific international partner.

Second, I wish to emphasize the growing importance and achievements of the European Research Area (ERA), which leads Europe towards a Stronger European Science and Technology Union. Significant progress towards the completion of a substantial ERA is going to be central for the Italian presidency. It is important that, also when it comes to international relationship, Europe's research speaks with one single voice. Much can be learnt from the US, where a continental research area already exists.

As a third point, I will talk about the Italian Presidency: a bridging role between two Commissions. The Italian presidency happens at a very important junction: various flagship programs, very relevant for S&T Policy (in the framework of Horizon2020), are entering in a delicate phase of implementation. The Italian presidency will be bridging the work of the old Commission, which has designed these tools and the new Commission, which is going to implement them. It is important to grant continuity and encourage critical debate.

Lastly I would like to discuss about areas of joint interests. When it comes to global scientific collaboration, research should be focused on large, long-term, ambitious research programs. The exploration of Space and the study of the Brain are two examples of the fascinating scientific challenges of our century requiring international networking and joint efforts, these research areas would be ideal candidates for joint transatlantic projects to expand science's endless frontier. The scientific pillars of Horizon2020 include also research issues that require multidisciplinary approaches and joint efforts intended at pushing social innovation. Social innovation can be stimulated only by a collaborative efforts among different scientific communities of social and human scientists, engineers, life scientists and other specialists focused on problem solving: production of energy, climate change and food production an distribution are some examples of technical and scientific problems with high social impact which motivate new generation of students and scholars to develop novel solutions. We must explain to our citizens that the investment in science means long term investment to face the challenge of social innovation for proving better quality of life all around the world. The dissemination of the importance of science and technology innovation is one of our present and future responsibilities.

Strengthening the Centrality of Transatlantic Scientific Relationships

If we look back at the 20th century, Most major inventions and scientific discoveries benefitted from collaboration between the two sides of the Atlantic Ocean: from the telephone and the automotive, going through the transistor, the internet, to cloud computing and the DNA.

Fruitful dynamics of collaboration and competition, both at scientific and commercialization levels have nurtured transatlantic interactions that contributed to the peaceful progress of mankind. As Europeans and Americans, we can say that we are the most wealthy, informed, educated, connected and peaceful generation of human history. The joint exploration of science's endless frontier greatly contributed to this impressive achievement.

Today, while Europe is for America the main scientific partner and America is for Europe the main scientific partner, this relationship is integrated in a much more complex geography of science and technology.

The visits during 2013 to your institute of Robert Jan Smits, the Director-General for Research, as well as of the Commissioner responsible for Research, Innovation and Science, Máire Geoghegan-Quinn, emphasized the pivotal role which transatlantic scientific and technological relationships should continue to play in a more and more interconnected world as the traditional powerhouses of the United States, Europe and Japan will account for a shrinking share of the production of science, knowledge and new technologies.

They insisted that EU-US relationships should reach new highs.

Also, the U.S. is Italy's main scientific & technological partner. If we look at Italian scientific publications, the U.S. comes first (almost 14%), way before the U.K. and

Germany (less than 9.5%), in terms of share of total joint papers with at least one Italian and one foreign author.

It has been so for decades, and it is very likely to continue to be so. It is therefore obvious for me to say that it is in the best interest of Italy to strengthen transatlantic relationship in science and technology. (Analysis conducted by Henk Moed, Elsevier and Cinzia Daraio, Univ La Sapienza, 7 Nov 2013, based on Scopus data).

I therefore also think that it is going to be important to preserve and strengthen the centrality of this fruitful relationship, as so much Europe and the U.S. have gained from their interaction. Still, this will be a close relationship but it must not be a closed one. Transatlantic scientific partnerships need to become the preferential backbone of a global scientific and innovation ecosystem.

Let me share with you how Italy intends to pursue this strategy throughout 2014, and in particular through the Italian Presidency to the European Union (second part of 2014).

Towards a Stronger European Science and Technology Union

I strongly believe that in order to enhance Innovation Union's main recommendation, in order to create a competitive European innovation ecosystem, and to become a strong and reliable international partner, we need to strengthen the European Research Area.

The Italian Presidency of the Council of the European Union (second part of 2014) will work very hard to provide significant enhancement towards the implementation of ERA. I intend to pose this at the center of our semester, to keep up with the ambitious plan to realize an integrated ERA by the end of 2014 in particular with the goal to empower and grant mobility at a continental level to the European researcher: the real key asset of ERA.

Europe is interrogating itself about its identity and European bureaucracy is perceived to be clumsy and distant. Enhancing the scientific ties within Europe, strengthening collaboration, encouraging creative and talented people to freely move and work across Europe will enhance our continental identity, provide real "substance" to the European dream.

Back in Italy, I am working very hard to align our national research strategy and innovation policy with the measures and priorities discussed in Brussels. This, first of all, has the advantage to create synergies; second it helps to be closer and better able to contribute to the debate that is happening in Brussels.

European science and technology should learn to speak with one voice also when it comes to transatlantic cooperation.

This right now it is not happening yet! Individual member states have developed their own strategies and pursue their individual interaction. This is obviously inevitable, given the current configuration, and huge variety within our national S&T systems.

Still, as ERA becomes a reality, as our research efforts (and budgets) become more and more integrated, the role of a European perspective towards other S&T and Innovation ecosystems become important. This should be reflected also when we interact with our international partners.

What should we learn from the US, as we work towards the implementation of ERA?

I found very interesting a piece I read on the website of your institute, by Prof. Michael Nelson of Georgetown University. He emphasized that we should be careful at ignoring certain dimensions of innovation when we devise innovation policy. Too much attention is given to specific areas, and only certain forms of innovation.

He writes: "The focus on R&D, science and engineering education, R&D tax credits and patents is necessary but not sufficient. Not all innovators and entrepreneurs are computer science majors, under 30, and working at a startup".

Along the same line, I believe that when we look at the US we are learning and we are trying to replicate technology transfer and high-tech entrepreneurship practices, but we miss out on other very important aspects of the US innovation ecosystem.

Given the centrality of the implementation of ERA, I believe we should consider other dimensions.

In the course of the past century, the U.S. had been able to achieve a balance between federal and state, between lab-based and extramural research, between private and public funding.

The results have been formidable, with shrinking budgets and with expanding ones.

We should pay closer attention to these dynamics, and learn from the governance of the US research system and more in general to the governance of the "U.S. Research Area".

I think that, from its achievements and missteps, we can learn a great deal for ERA.

The Italian Presidency: a bridging role between two Commissions

The Italian Presidency is going to be a unique one and it is important to be aware of this fact. Italy takes the stage as new elections will put in place a new European Parliament, and therefore a new Commission. This happens as significant changes are taking place with the governance of science technology, and innovation both at European level and at Italian level. Important programs for science and technology enter in a delicate phase of implementation and result validation.

Let's consider Horizon 2020.

As you know, this is the most ambitious program to date to support science, technology and innovation in Europe, with a budget of over 100 billion USD spent

around three pillars: excellence science, industrial leadership and societal challenges.

I think that giving continuity to H2020 is going to be fundamental.

The Italian presidency will be a bridge between the commission that devised and engineered H2020 and the commission that will be responsible for its implementation. As the first results will come in, it is going to be fundamental to engage (fast) in consultation on what went wrong and what worked well.

A conversation that should not only engage technical competence, but also political authorities in Member States, and the public at large.

H2020 starts off with great expectations, but we should not at all keep for granted that a convincing strategy and a catchy communication lead to effective results, nor that its consensus remains high through time (remember the Lisbon Strategy?).

To keep H2020 alive and well, the Italian presidency should foster the continuation, the critical continuation of the trilogue in Brussels and across Europe.

Identify Areas of joint interest: Space, Brain, Individuals and Societies

On one hand, I think that global collaboration should be focused on ambitious research challenges. On the other hand I see that national innovation systems come into play when it comes to exploit and eventually commercialize the results of these efforts.

In other words, I think that international efforts should be directed towards large research projects, highly demanding, risky but leading to fundamentals milestones towards the exploration of science's endless frontier.

I see many promising lines of collaboration between Italy and the US, some of them are already fully developed into important research projects. Others could be further explored and exploited.

There are opportunities to develop joint work already existing in fields such as energy (green energy and sustainability), neurosciences, physics, advanced manufacturing, and when it comes to the many things we have to learn from the US Research and Innovation System, I would welcome opportunities to discuss ways to increase students' interest in science and technology.

More in general, I see three areas where joint international collaboration should focus its attention, in order to solve global research challenges: what is really big, SPACE, what is really small, BRAIN, and what is focused on INDIVIDUALS and SOCIETIES.

The exploration of Brain and Space share the need of huge investments in research and they are extremely promising, even though results will only be available in the long run. These are areas where both Europe and America are extremely fit to work

together, as they have already invested significant resources and developed scientific and industrial excellences.

Also, the centrality of individuals and the respect for our truly unique cultural heritage characterizes American and European societies. Hence our research and transatlantic collaboration should focus on the possibilities offered by human sciences and humanities in general.

These could very well be the most interesting destinations for the exploration of science endless frontier that - I am convinced - Europe and America will continue to pursue together.

Thank you for your attention, I would be happy to take any questions you might have.