Science and Technology in Society *forum*
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Dialogue between scientists and political leaders
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Mr. Chairman, dear colleagues, ladies and gentlemen

To start my presentation I should say that dialogue between scientist and political leaders is a rather new phenomenon in Argentina.
As scientists who spent almost thirty tears at the lab bench and finds himself as a member of the cabinet as the first Minister of Science and Technology I am still surprised.
Relationships between scientists and governments in Argentina have not been always easy. The 50´s and 60´s , the so called golden era, corresponded to the creation of the National Research Council (CONICET) and several mission oriented institutions such as the National Institute of Agricultural Technology amongst others.

During the periods of military rule there was an open hostility towards scientists and intellectuals in general, and many of them left the country.
Surprisingly, some of these scientists were received by other Latin-American countries that were also ruled by militaries. In fact Argentinean scientists have contributed to contribute to create research schools throughout the region and several of them still occupy key positions in prestigious institutions in Europe and the U.S.A.
Democracy was recovered in 1983 but the economy was not flourishing and the R&D budgets were scarce.

Then in the 90´s in spite of the economic growth the prevailing view of the conservative political leaders was that science was not necessary and technology could be imported.
Even in the absence of political support Argentinean scientist managed to produce significant contributions. Argentina is the only Latin American country with three Nobel laureates (in medical and chemical sciences). This long standing tradition of excellence is still reflected in the quality of the young researchers and can be objectively measured by their publications in top journals.
Argentinean companies are able to export experimental nuclear reactors, satellites, recombinant human proteins. Argentina is one of the few countries capable of generating cloned transgenic cows that can produce recombinant human hormones in their milk-

However, it is only after 2003 that Argentina experiences a period of sustained economic growth (8% per year) that last until today as is in fact the longest period of continuous growth in 200 years of existence.

This economic growth was accompanied by a marked increase in R&D expenditure, both public and private. As an example, the budget destined to competitive grants for basic science and innovation in private companies increased 6-fold between 2003 and 2007.

This period of recovery set the stage for a key decision taken by the then newly elected President Cristina Fernández de Kirchner: the creation of the Ministry of Science, Technology and Productive Innovation (MINCYT).

This Ministry was created with the purpose of putting Science and Technology to the service of social and economic development and was a clear signal indicating that Argentina had finally decided to advance into knowledge based economy.

The fact that this decision was applauded by the full political spectrum is a strong indication that all political leaders are now convinced that S&T are a requirement for economic development.

What the political leaders are not aware off is that this ministry is run by scientist and that in fact we are conducting an experiment. That means that we are trying to apply the scientific method to the managements of public affairs.

We have a general theory that says that it is possible to create wealth out of knowledge provided research activities are coupled to social and economic demands.

Having accepted this theory we have formulated some particular hypothesis aimed at identifying the bottle necks that limited this coupling between science and economic growth in Argentina. We are then trying to verify these hypotheses by implementing specific interventions in the system.

The first hypothesis is that in order to have a transforming impact either in the advancement of knowledge or in innovation a critical mass of human and financial resources is required.
Therefore we:

- Increased the number of fellowships and positions for full time researchers.
- Repatriated more than four hundred scientist that were working abroad.
- Substantially increased the funding for networks of scientist or "clusters of knowledge". In the constitution of these networks we required the presence of the potential recipient of the technology and of representatives of the regulatory bodies if pertinent.
- We also gave priority to programs partially supported by state or local governments.

The second hypothesis is that in order to have a significant impact with limited resources it is necessary to set up a limited number of priorities-

Accordingly we selected four areas were our country has structural problems and /or opportunities for development of new productive chains. These areas are: energy, health, agricultural industry and social development. Research and innovation in these areas will be funded by a specific sectoral fund.

The third hypothesis Diversification of the economy and the creation of high quality jobs can be promoted to the creation of technology based enterprises (TBE).
A new program aimed at promoting the creation of TBEs has been launched on September 2008. This program will be funded by a U$S 150 million loan from the World Bank and contemplates different aspects of the process ranging from the

formation of technology managers to the establishment of public-private venture capital funds.

The fourth hypothesis is that, since science and technology are globalized significant developments require intense international cooperation.

Argentina has signed agreements on scientific cooperation with more that 100 countries. However, in the present administration we are focusing our international cooperation on two sectors. On one hand we are restructuring the bilateral agreements on a limited set of subjects agreed upon with each country. On the other hand we are actively participating in regional programs. Examples of the first type of agreements are the ones signed with the Max Planck Society for the establishment of a partner institute of biomedical research in Buenos Aires and on the second type the leading role Argentina has taken on the participation in projects of the 7th Frame Work Program of the UE. And the coordination by our country of the UE- Mercosur Platform on Biotechnology-

Is in this context that I want to stress the importance of the STS Forum as an instance for the promotion of scientific cooperation and an opportunity to bench mark our policies.

Therefore I would like to thank once more the organizer of this event, Koji Omi for his kind invitation to participate in this forum.