Interview with Luciano Maiani, President, CNR

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Since 1982, CNR has been the Italian public body which most contributed to the creation of inventions and innovations.

What have been the main strategies behind such a success in sustaining Italy’s evolution towards a more knowledge based economy?

CNR, which used to act as a funding agency in the past, is now a multidisciplinary research performance institute. Following its last governance reform in 2003, it is now relying on a 50% state funding, the remaining resources deriving from contracts with the industry, local bodies, regions, ministries, and the European Union- which reinforces the body’s vocation to transmit and spread innovation at all levels of the territory.The activities of CNR in biomedicine are mostly concentrated in pre-pharmaceutical research in the case of the healthcare sector- aiming at transferring later the knowledge developed to the industry. For this reason, only very few compounds are CNR-branded. Indeed, the contribution of CNR to promoting innovation is mainly expressed through collaboration with various industrial sectors and creation of spin off companies- CNR currently has about five hundred patents and 38 spin-off, three of which are in the pharmaceutical sector. As in the rest of western countries, more public investments in research are required in Italy as well. For this reason, the CNR covers the marginal costs externally by putting forward its infrastructure and personnel when establishing collaborations with other entities, in order to cover the marginal costs externally. So has been my predecessor’s strategy, on which I will keep building over the coming years.It is worth highlighting that CNR has been the breeding

ground of many essential Italian discoveries, all scientific sectors considered. Some branches have grown and developed to the extent of becoming independent as specific National Institutes. It has been the case of Nuclear Physics in the early fifties, followed by Space Science which was born in CNR before becoming what is now the Agenzia Spaziale Italiana, and more recently the Astronomy and Astrophysics segment, very successful in building the first radio-telescopes in Italy. Overall, the centre is the originator of innovations. And at a later stage, the most specialized fields or investment-intensive sectors can earn their independence.In the same way that Universities do, it is aiming at covering a wide range of sectors. However, the CNR's main differentiating asset is its ability to rely on a network of 108 connected Institutes spread over the territory, and organized in 11 departments. This governance system, comparable to a 'machinery', has been introduced in 2003 and has proved to work reasonably over the last 5 years- there is, of course, still room for improvement, but I am personally convinced that a long-lasting system has been found.

Among the activities of this multi-disciplinary 'machinery', how would you assess and reinforce the importance of innovation in the pharmaceutical sector?

Medical research is essentially carried out in three departments -Molecular Design, Bioscience and Medicine- which are the destination of 35% of CNR' s resources.In these fields, the strongest sectors of CNR research are neuroscience (to which institutes in Pisa, Milano, Padova and Sardegna are dedicated) together with the cardiovascular area, oncology, and virology- especially in the field of HIV, in which Prof. Giovanni Maga and Prof. Maurizio Botta just made a very promising discovery.Inside this consistent activity in basic pre-pharmaceutical research, the accent has recently been put on several directions linked to therapeutic security, in connection with biosciences and genetic approaches.Another current trend followed by CNR is the interest in translational medicines, especially regarding the connections between neuro-pathologies and genetics. In this regard, the Bioform project has been launched in Naples in collaboration with the Telethon Institute, relying on funding from the Campania Region. Other regions such as Sardegna and Calabria are providing financial support to similar initiatives.In parallel to these successful programs, three spin-offs have been set up. Academical Lifescience focuses on the niche of nutritional strategies; Lipinutragen is concentrated on personalized diagnostics solutions; and Research for Drug Development (RE.D.D.) is looking for new molecules obtained from natural or chemical sources.

As the relative lack of strong governmental policies in the past years left the industry with a major role to play in dealing with the lack of public funding- what is the current level of synergies between public and private institutions and organizations, and which actions could be taken to

enhance Public Private Partnerships?

Some positive signals are now being launched, such as the Industria 2015 plan. And on its side, CNR is developing agreements with regions, such as the last one signed with the Lombardia Region providing Euro 40 million over three years, partly designated for projects based on nanotechnologies, for which CNR will provide personnel and infrastructures. Other initiatives are being developed with Southern Regions, which will always be based on this kind of collaboration between public and private- CNR, companies and the industry.

In this context, what is and will be the role of the CNR?

CNR is a major player which can, unlike Universities, be more concentrated and rely on a wide network of Institutes. In the field of Neurosciences for instance, connection can be made between the Calabria, Pisa and Milan Institutes- while such synergies are very difficult to establish for Universities.At the same time, CNR has a long tradition of excellent relations with the industry itself. Overall, its role is to act as a facilitator, connecting public and private and creating bridges between the main stakeholders.

Looking at the environment for conducting research in Italy, what are the main challenges for researchers, and what could be done to improve the country’s attractiveness?

I am personally a theoretical physicist, coming from a discipline where working internationally is very common. And I don’t feel any specific difficulty for foreign researchers to come and work in Italy- as far as the research laboratories are concerned. However, many obstacles can be found in terms of bureaucracy, which should be eradicated.Assessing the attractiveness of Italy for young Italian researchers is a different topic. In the past year, we have suffered from a very challenging recruitment situation, combined with declining investment in research. However, efforts are being made from the Government’s side: the budget dedicated to research increased to 2,5% in 2008, following years of steady decline. Therefore, CNR is able to start new recruitment processes and wishes to offer interesting perspectives to young Italians willing to invest in Italy.

What are Italy’s advantages as to be a globally competitive destination for future investments in R&D?

In principle, Italy should be an ideal place to invest, thanks to its stable conditions and a friendly and lively environment. But surely the current level of bureaucracy, restriction, taxes, can be discouraging.The current government is working in the right direction, and the state administration should soon become more transparent and understandable, which is very promising for the future

of Italy.

Which main projects on CNR’s upcoming agenda would you highlight as representative of the scope of work CNR is carrying to secure the future of Italian research?

First of all, a considerable work will be dedicated to reducing bureaucracy, therefore improving the administrative and recruitment systems, in order to provide young talents with some regular opportunities to become part of the CNR.The second goal is to manage and attract an increased level of financial resources.Last but not least, CNR will develop its synergetic contacts with the industry, which are already well developed but have to be further expanded. Final message of Prof. Luciano Maiani to the readers of Pharmaceutical Executive CNR has gone through difficult years, but is now coming back as a first class player relying on suitable governance and a very wide network of institutes integrated into the territory, able to cover all possible disciplines and create strong bonds with the industry.Relying on these strengths, CNR will become the main contributor to the revival of Italian research.

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