THE INTERNATIONAL IBERIAN NANOTECHNOLOGY LABORATORY OPENS ITS DOORS

Portugal and Spain want to play a major role among the nations leading on nanotechnology

Braga, 17th of July 2009 – Less than four years after Portugal and Spain signed the agreement to create the institution, the International Iberian Nanotechnology Laboratory facilities were shown today for the first time. This will be the first nanotechnology laboratory in the world with an international legal status and having nations as members, enabling it to offer the best conditions for the most talented researchers from all over the world to develop top level research in nanotechnology. It is also the first international laboratory in the Iberian Peninsula in any area of research. Present at the ceremony were the King of Spain, the President of Portugal, the President of the Spanish Government, the Prime Minister of Portugal, the Spanish Minister of Science and Innovation and the Portuguese Minister of Science, Technology and Higher Education.

By the hands of the King of Spain, King Juan Carlos, and the President of Portugal, Aníbal Cavaco Silva, and the President of the Spanish Government, José Luis Rodríguez Zapatero, and the Portuguese Prime Minister, José Sócrates, the International Iberian Nanotechnology Laboratory (INL) facilities were inaugurated today. The building will be the working place where 200 scientists from all over the world will have the opportunity to carry on top level research in nanotechnology. Present at the ceremony were also the Spanish Minister of Science and Innovation, Cristina Garmendia, and the Portuguese Minister of Science, Technology and Higher Education, Mariano Gago.

INL was first created as a partnership between the Governments of Portugal and Spain, although any other country can now apply to join as member. INL is the first laboratory of its kind, having a legal framework similar to CERN, the international particle physics laboratory in Genève, which is well known for its many contributions to particle physics and also for the invention of the WWW – World Wide Web, and to the EMBL, the European molecular biology laboratory in Heidelberg (and also to a small number of other laboratories in other areas). The idea was first launched in November 2005. It was developed during 2006; the laboratory statutes were approved by international treaty during 2007, while the design of facilities was being prepared. The construction works began by mid 2008, and is now reaching the end of its first phase of implementation, less than four years after the original idea was put forward. This is practically a global record in the creation of this type of institutions.

INL is designed to lead on the development of an innovative economic and entrepreneurial ecosystem, unique in this research field. INL will work closely with universities, research centers and business incubators from all over the world to identify projects in four areas related to nanotechnology that need greater research and development: nanomedicine, environment monitoring and security and food quality control, nanoelectronics (beyond CMOS) and nanomanipulation.

“Combining human capital with technology and knowledge, INL will work on a strategy focused on results, taking advantage of its international legal status to deliver results of value”, states José Rivas, INL’s Director-General. “We believe that, with the contribution of all, the laboratory can spread top level scientific results around the world with consequences for the economy and society.”

The work that will be undertaken in the INL facilities and within INL’s partnerships across the world has the ultimate goal of contributing to cutting-edge science; it also intends to generate spin-off companies and other commercial results. In this way, R&D is connected to real economy, healthcare and society. Working closely with companies, researchers and investors, INL is due to generate return and impact in how the future is created.

From the total of 400 people that will be working in the INL facilities, 200 of them will be scientists conducting projects under the four main research areas. INL has now started its recruiting process. Scientists to be recruited will join the

approx. 40 PhD students and Post-doctoral researchers who are already working at universities and research centers in Portugal, Spain and other European, North American and Asian countries.

Due to the highly specialized requirements needed for each project, the scientists to be hired as leaders of research teams will take part on the design of special laboratories and on the selection and acquisition of most of the equipment that will be used in these laboratories.

“We strongly believe that our state-of-the-art facilities, one of the most advanced in the world, will enable us to bring research in nanotechnology into a new level”, states José Rivas. “Working closely with the Portuguese National Civil Engineering Laboratory (LNEC) and leading international design companies specialized in nanotechnology facilities, we have tested and applied construction techniques that were never used before in the Iberian Peninsula.”

Occupying a constructed area of about 26.000m2, the research building includes the following research areas: the central micro- and nanofabrication cleanroom (1200m2 of class 100 and class 1000, bay and chase area), the central High Accuracy Laboratories (controlled vibration and EMI environment for electron microscopy and structural analysis, scanning probe laboratory, interface and surface analysis laboratory, NMR, and others), the central biology and biochemistry laboratory, and two aisles with 40 PI laboratories.

The research facilities were built taking into consideration the severe vibration limitations imposed by the scope of work to be undertaken. This has led to the simulation of multiple real work situations during the different phases of construction to ensure that the building complies with all the required specifications. In order to ensure that all work is undertaken under the safest and cleanest conditions, a strong effort was applied on reducing electromagnetic fields, on energy supply systems, on connections to electrical ground and on purification of the air.

Nanotechnology can be seen as engineering at an atomic and molecular scale. Investing in nanotechnology can have a large economic and social impact in a near future. Research fields can produce outcomes to be applied to multiple areas such as medicine, data storage or new ways of producing and storing energy.

The structure and facilities for start-up personnel are now concluded, but, bearing in mind that the future is uncertain, the research building won’t be fully occupied by the end of the year, when it is expected to be fully operational, but will have just an initial part of all the researchers for which it was planned. In fact, as the hiring of its intended 200 researchers will take place over a period of about 5 years, the facilities were built having in mind flexibility for future occupation and adjustments. Some of the rooms will be equipped during the next 5 years according to new scientific developments still unknown today and to future research activities whose details cannot be anticipated. In fact, the building is prepared not only for our current reality but also for different future needs.

Portugal and Spain want to play an important role as two of the few nations that will lead this important technological area, attracting some of the best talent in nanotechnology and opening new opportunities for their researchers to work at the world top level in this area and to influence the future of this crucial technology.