Speech at the Reception for the inauguration of Vigyan Samagam, including an exhibition from CERN

Residence

21 January 2020

Esteemed dignitaries, dear guests, ladies and gentlemen,

It is my pleasure to welcome you to the Embassy of Switzerland and to this reception on the occasion of the Delhi inauguration of Vigyan Samagam, an exhibition of mega science projects with Indian participation. It also includes one from the European Organisation for Nuclear Research (CERN), also referred to as the European Laboratory for Particle Physics.

You may wonder why the Swiss Embassy should host such a reception, when there is no obvious Swiss connection. Well, there is!

I come from a small, landlocked country, without many natural resources - water and brains basically being the only ones. With this '*handicap'*, Switzerland has focused hard on the latter to create an extremely innovative and competitive economy. The focus on brainpower has also led to the creation of world-class universities and research institutions, which are leaders for innovation and generating new knowledge. Switzerland also participates in major international research projects, which are beyond the capacity of any country to carry out alone.

CERN is one such example. At the end of the Second World War, when European science was no longer world-class, a handful of visionary scientists imagined creating a European atomic physics laboratory, which would not only unite European scientists but also allow them to share the increasing costs of nuclear physics facilities. Given Geneva's central location in Europe, Swiss neutrality and the fact that it already hosted a number of international organisations, it was selected as the site for the laboratory. As you know, Switzerland loves referenda and the citizens have to be consulted for any major decision. When asked, 70% of the voters in the canton of Geneva approved of the choice and construction began on the Meyrin site near Geneva in May 1954.

Starting with 12 member states, CERN has grown, and today, almost 90 countries have links with it in some form or other. India became an Associate Member Sate in January 2017. However, the country's relations with CERN go back to the 1960s and today Indian scientists contribute to most experiments at CERN. The Large Hadron Collider, the world's largest particle accelerator, buried 100 meters under the Swiss and French countryside, has led to key breakthroughs in science, including the discovery of the Higgs boson in 2012, the theoretical prediction of which had earned Peter Higgs and François Englert the Nobel Prize for Physics in 2013.

CERN is truly international and Switzerland is very proud, together with France, to be one of its host countries. Swiss researchers from all universities and many research institutions are active in CERN experiments, primarily in the fields of particle physics, medicine and technological research. It is Geneva's top tourist attraction, welcoming almost 145,000 visitors per year.

While the results obtained at CERN have been truly impressive, it has not rested on its laurels and is actively looking into what the future of particle physics will be. The Future Circular Collider Study is developing designs for a higher performance particle collider to extend the research currently being conducted at the Large Hadron Collider (LHC), once the latter reaches the end of its lifespan. This study has fed into the elaboration of the European Strategy for Particle Physics, which, I understand will be updated in the coming months and will guide the direction of the field to the mid-2020s and beyond. An important step in the process is taking place with a meeting taking place in Germany as we speak.

Researchers from Switzerland also participate in other mega science projects such as the International Thermonuclear Experimental Reactor, the Square Kilometre Array and the Laser Interferometer Gravitational-Wave Observatory, which are all showcased in the Vigyan Samagam exhibition.

The journey of Vigyan Samagam through India over the past nine months has been truly impressive. I had the privilege of being part of the inauguration in Mumbai in May of last year. Since then 550,000 visitors over three sites, including almost 300,000 in Kolkata, have visited the exhibition. We can only wish in Switzerland for these impressive numbers for our scientific outreach events. I am convinced that the Delhi leg will see similar success.

The official Swiss network has developed many activities within the framework of Vigyan Samagam. We have organised Science Slams, a public lecture, a

scientific symposium and film screenings. We will organise a festival of scientific films from Switzerland at the National Science Centre later this week.

Scientists are very comfortable speaking to each other, as they share a common language. However, the general population, which pays for scientific initiatives, including the mega science projects covered by Vigyan Samagam, often doesn't share that language and is at a loss as to understand what they are paying for. Vigyan Samagam makes some attempts at bridging the gap. At the Swiss Embassy, we too have made some efforts in that direction. We have organised a filmmaking competition, where scientists have mentored film and communications students to tell science stories. You will judge the results. We will also hear from some students from Mumbai, who had a chance to perform experiments they had devised at the CERN.

I look forward to an exciting evening with you.