

Elettra Synchrotron, inaugurated two new experimental stations co-financed by the Government of India

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It will deal with new materials, pharmaceuticals and biotechnology, and they will reinforce even more the scientific cooperation between India and Italy. Are the **two new experimental stations, or lines of light**, inaugurated the research center Elettra Synchrotron Trieste.

The inauguration follows by one day the meeting that the **Italian-Indian Joint Commission** has had at the Foreign Ministry in which they were approved a **series of initiatives for the immediate resumption of relations between Italy and India** in the fields of science, of **technology** and of **innovation**.

Xpress and XRD2, these are the names of the new Elettra beamlines, were co-financed by the Indian government through the Department of Science and Technology (DST) in New Delhi. Access to Indian researchers at Elettra was also funded in recent years by the Ministry of Foreign Affairs and International Cooperation (broadcasted on RAI) Italian and the aforementioned Indian Department, within the Executive Program for Large Projects Relevance Italy-India and the International Center for Theoretical Physics World.

The ceremony was attended by a delegation of the **Department of Science and Technology (DST)**, chaired by Secretary Professor Ashutosh Sharma, and **broadcasted on RAI the delegation**, headed by the Head of Unit for Scientific and Technological Cooperation, Minister Plenipotentiary Fabrizio Nicoletti.

At Elettra, the opening event of the two lines began with the intervention of the Chairman and Managing Director of the research center Alfonso Franciosi, which was followed by the greetings of the Mayor of Trieste Roberto Piazza and Councillor University and Research of the Region Friuli Venezia Giulia Loredana Panariti. DD Sarma, a professor at the Indian Institute of Science in Bangalore, has instead acted as coordinator of the project of construction of beamlines for the Indian side. The full satisfaction for the success of the collaboration was finally emphasized jointly by Ashutosh Sharma and Fabrizio Nicoletti.

The line of light Xpress was constructed to study the structure of materials in conditions of high pressure and uses of the **X-ray diffraction technique** on samples subjected to the action of diamond presses that can reach higher pressures to 500,000 atmospheres. The main areas of research and application are the synthesis of new compounds, such as ceramics or alloys, mineralogy, geophysics, the study of material properties.

The line of light XRD2 is dedicated to **determining the three-dimensional structure of proteins** and biological macromolecules with applications in biology, medicine, pharmaceuticals and biotechnology.

Like other Elettra beamlines, constructed and operated in collaboration with international organizations (the International Agency for Atomic Energy at the Technical University of Graz, until the Academy of Sciences of the Czech Republic), the two new lines will be open to both Indian users, both Italians and international users, based on the scientific merit of the proposed research project and its possible repercussions, according to the "peer-review system."

The Xpress start and XRD2 falls in a context of already **established collaboration between Elettra Synchrotron Trieste and several Indian research groups**, born in 1998 and grew up to the decision of the government in New Delhi, in 2010, to participate in the construction of the two lines light with a loan granted by the DST via the IIS-Bangalore, under the responsibility of Professor Sarma. Elettra Synchrotron has contributed a loan of the same value, by providing the project The most advanced superconducting X-ray source and other equipment to the state.

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