

## **ELECTRA: TWO NEW EXPERIMENTAL STATIONS CO-FINANCED BY THE GOVERNMENT OF INDIA**

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### **THEY WILL BE DEDICATED TO RESEARCH INTO NEW MATERIALS, PHARMACEUTICALS AND BIOTECHNOLOGY**

Inaugurated two new beamlines of the Elettra Synchrotron Laboratory in Basovizza campus. They are the result of an Italian-Indian partnership which represents a major leap forward in relations between the scientific communities of the two countries. It will deal with new materials, pharmaceuticals and biotechnology.

Xpress and XRD2, these names for new lines of light, were co-financed by the Indian government through the Department of Science and Technology (DST) in New Delhi. The access of Indian researchers in Electra is also 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 line of light **Xpress** was built to study the structure of materials in conditions of high pressure and uses 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 the determination of the three-dimensional structure of proteins and biological macromolecules with applications in biology, medicine, pharmaceuticals and biotechnology.

Like the others, the two new lines of Elettra 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.