Announcement N. 001

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IPN will strengthen the connectivity of the Interoceanic Corridor through telecommunications

With an investment of 40 million pesos, the Instituto Politécnico Nacional (IPN) inaugurated the Laboratorio Nacional en Telecomunicaciones y Antenas (LaNTA), which will collaborate to form the telecommunications and digital services platform of the Interoceanic Corridor of the Isthmus of Tehuantepec (CIIT), promoted by the Government of Mexico to detonate the economic growth and social welfare of the region, within the framework of the collaboration agreement between the CIIT and the IPN.

In the facilities of the Escuela Superior de Ingeniería Mecánica y Eléctrica (Esime) Unidad Zacatenco, the General Director of the IPN, Arturo Reyes Sandoval, stated that the Polytechnic reinforces its social commitment by collaborating, through the LaNTA, in a project of great magnitude and importance, such as the Interoceanic Corridor, with the development of the Telecommunications Master Plan and the technical, commercial, legal and financial studies necessary for its adaptation and operation.

He said that one of the essential parts of the project is to bring telecommunications and the internet to the most marginalized communities in Mexico. "For that, the Polytechnic paints itself and that is what we like to do, to bring this development to those who need it most," he said.

He assured that the technical study includes 79 municipalities, 33 in Veracruz and 46 in Oaxaca, of the Development Program for the Isthmus of Tehuantepec, which will make it possible to bring communications to the most unprotected areas.

Mr. Reyes Sandoval emphasized that the laboratory is the only one in the country with frontier technology, is a benchmark for the development of telecommunications in Mexico, and is a node of the Polytechnic that articulates teaching, research, and links with society, the government, and the productive sector; all of this to trigger technological development, innovation and, therefore, the welfare of Mexico.

He specified that the construction of LaNTA required an investment of 20 million pesos, and another similar amount to equip it.

The LaNTA began in 2015 within the facilities of the Directorate of Prospective and Technological Intelligence (TecnóPoli). In 2019, to enhance its capabilities, steps were initiated to relocate it to Esime Zacatenco.

"Since its creation and to date, as part of LaNTA's research and teaching work, 22 undergraduate and graduate theses have been directed, and seven articles have been published in prestigious foreign national research journals," he said.

Nine related projects have also been formalized in the areas of specialized training, development of National Technical Standards, antenna characterization services for mobile communications, as well as the construction and launching into the orbit of a nanosatellite system, property of the Secretariat of National Defense (SEDENA).

The head of the Polytechnic indicated that LaNTA has links with Telecomm-Telégrafos, the Secretariat of Infrastructure, Communications, and Transport (SICT), Mexico City International Airport (AICM) "Benito Juarez", the Mexico City government, the Metro Collective Transport System, Telcel-América Móvil, AT&T and Huawei, among other companies.

He said that the laboratory has a patent in the process of registration by the IPN before the Mexican Institute of Industrial Property (IMPI), for the invention called Method to calculate the radiation pattern of antennas from measurements in the Rayleigh region.

He announced that LaNTA will collaborate with the State of Sonora for the design of a backbone network administered by this entity, to optimize communications resources and bring this service to communities with high social backwardness. "This project originated from the great interest that arose when a similar project was completed in Chihuahua," he said.

Reyes Sandoval gave special recognition to LaNTA's general coordinator, Jorge Sosa Pedroza, and the laboratory's operations coordinator, Fabiola Martínez Zúñiga.

The director of Esime Zacatenco, Mauro Alberto Enciso Aguilar, said that LaNTA operates under the standard issued by the Mexican Accreditation Entity and the provisions of the Federal Telecommunications Institute (IFT):

"Esime is at the forefront by having a unique laboratory of its kind, which will contribute to the training and experience of hundreds of future engineers at the undergraduate and graduate levels who will become agents of change within and beyond our borders."

The Laboratorio Nacional en Telecomunicaciones y Antenas has an anechoic chamber, which has special isolation, and which allows measuring the performance and potential of electronic devices and antennas. It also has antennas, designed by students and professors, capable of transmitting large amounts of data and devices to measure the transmission of devices via Bluetooth and Wifi.

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