Comunicado 207
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IPN prepares third suborbital mission with NASA

- **A multidisciplinary group of scientists led by the Polytechnic developed a standardized platform where they will conduct experiments in near space**

- **The Secretary of Public Education, Delfina Gomez Alvarez, stressed that the Government of Mexico strengthens the areas of science, technology, engineering and mathematics for the country´s progress**

- **The Polytechnic has scientists and technologists with the ability to work to align with new technological trends: Arturo Reyes Sandoval**

Scientists and students from the National Polytechnic Institute (IPN) collaborate with an inter-institutional group in the development and integration of a standardized platform to participate in the FY22-FTS mission, during the first half of 2022, with the contribution of the Suborbital module EMIDSS-3 (Experimental Module for Iterative Design of Satellite Subsystems, version 3), coordinated by the scientific balloon program of the National Aeronautics and Space Administration (NASA).

The Secretary of Public Education, Delfina Gomez Alvarez, stressed that Mexico´s Government recognizes the importance of strengthening the areas of science, technology, engineering and mathematics for the students be able to participate in projects that contribute to the country´s progress.

In turn, the IPN´s General Director, Arturo Reyes Sandoval, has pointed out that the institution has scientists and technologists with international certifications and work capacity to align with new technological trends.

Dr. Mario Alberto Mendoza Barcenas, researcher at the Aerospace Development Center (CDA) of the Polytechnic and leader of the project, reported that the future suborbital mission will include mechanical and electronic designs adhering to NASA standards.

He commented that experts from the National Autonomous University of Mexico (UNAM) and the Technological Institute and Higher Education of Occident (ITESO) participate in this task, and it has the support of the private initiative.

He added that the mechanical and electronic designs of the EMIDSS-3 will be standardized to have a reusable technological tool in future missions of the aerospace program, which will include multivariable commercial sensors, as well as computer systems based on fixed and reconfigurable architecture devices.

The polytechnic scientist added that the module will carry a secondary payload to carry out experiments in near space that will allow evaluating the operating conditions and performance of electronic devices for the development of ITESAT-1 remote sensing satellites and TEPEU-1 geophysical research.

He also pointed out that social service students of the Higher School of Mechanical and Electrical Engineering (ESIME), Culhuacán and Azcapotzalco units, developed a standardized parameterizable platform where they will install a Cubesat type prototype (10x10x10) that will have computer subsystems, solar panels, thermal protections, mechanical devices, batteries, as well as navigation sensors for the reconstruction of the trajectory of the module, among others.

Dr. Mendoza Barcenas said that, once the project is concluded, the engineering group of the U.S. space agency will carry out evaluations of the payloads, as well as environmental certification tests to ensure their safety on board the next mission.

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