

## SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)

## Ignition - Primary Space Education (1)

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THE ROLE OF THE MEXICAN SPACE AGENCY IN THE DEVELOPMENT OF HUMAN CAPITAL  
IN THE SPACE FIELD IN MEXICO.

**Abstract**

The recent creation of the Mexican Space Agency (AEM), signals the entrance of Mexico to the Space Era. This, coupled with the fact that the Mexican aerospace industry is growing at a double digit rate during the past 10 years, presently exporting more than 5 Billion dollars annually, puts pressure on the development of qualified human capital in the space field in Mexico. On the other hand, Mexico's population is young as compared with developed countries and starts to be well educated. Furthermore, Mexico is becoming a country of engineers: on a per capita basis it graduates 3 times more engineers than United States, thus having an invaluable asset to develop the space industry. On the down side, Mexican students have consistently attained the lowest performance among the OECD students on the PISA test, an standardized tool to assess mathematics literacy and language skills among junior high school students. This represents a challenge to develop the highly skilled workforce required by the space sector.

Taking all this into account, AEM developed a plan to create human capital in the space field to suit both the current needs of the Mexican aerospace industry –mostly aeronautic- and the future needs of the space industry -guided by a vision that aims to have the capability of designing and constructing Mexico's space infrastructure with Mexican technology by 2030. The plan emphasizes starting at K-12, highlighting STEM education, practical training, resource sharing, intensive use of educational technology, focus on regional development, and international cooperation, among other strategies. The plan also aims to increase appreciation of science and technology among the young and improving scientific literacy among the general population.

Partial actions already taking place are the development of an assessment of the state of space education in Mexico, the implementation of cooperation programs with NASA in the US, and JAXA Education Center and UNISEC in Japan, to develop CanSat and CubeSat training; the development of experimental high altitude balloons for educational purposes; and a national program to include space curricula in elementary education.

Given the limited resources to launch a national space educational plan for Mexico, the most important role identified for AEM in the implementation of the plan is to be an articulator of efforts and use space as a motivator to develop skills in science and engineering.

An assessment of preliminary results of the implementation of the plan and lessons learned is presented.