European (ESA) - Mexican Space Cooperation Agreement Signed.

The Mexican Space Agency, Agencia Espacial Mexicana (AEM) signed an agreement on February 14, 2023 with the European Space Agency (ESA) in a "historical" alliance that aims to support Mexican talent, as both agencies highlight their commitment, for more-intensive cooperation in joint projects in the future.[1]

The agreement was signed at AEM premises in Mexico City by Eric Morel de Westgaver, ESA Director European, Legal and International Matters, and Salvador Landeros Ayala, General Director of AEM, in the presence of Rogelio Jimenez, Mexican Sub Secretary of Infrastructure, Communications and Transportation.

ESA – Mexican Agreement signature on February 14, 2023. Signatories are left to right, Salvador Landeros Ayala, Director General AEM, Rogelio Jimenez, Mexican Sub Secretary Ministry for Infrastructure, Communications and Transportation, Eric Morel de Westgaver, Legal and International Matters, ESA.

ESA explained that during the last five years, the relationship with AEM has intensified through meetings, exchanges, training-, and space application projects. For example, AEM has supported Earth observation projects for the monitoring of the Sargassum algae devastating the Mexican coast, among others.

Both agencies also worked in integrated applications that included ESA's TransparentSea project, which has pushed for sustainable management of fishery resources worldwide. ESA explained that supporting fishery certification issuers, while enforcing the value and credibility of certified seafood products using space-based technologies, has allowed the industry to advance.

ESA experts and European doctors have also been sharing telemedicine experiences in astronaut training with Mexico for the past few years. Since February 2019, ESA has also been working with AEM via a GNSS sensor station in Queretaro. "ESA is looking forward to developing new joint activities with Mexican space entities," concluded the agency. [2]

History

The Mexican Space Agency (AEM) is a relatively new player in the global space industry, having been founded in 2010. However, since its inception, the AEM has made impressive strides in the field of space research, contributing to a variety of projects and initiatives with the aim of advancing Mexico's technological capabilities and exploring the final frontier.

Mexico's interest in space exploration has been demonstrated earlier by participating in US Space Shuttle flights and the "Space for Humanity"-flight with the following astronauts [see also Wikipedia.org].

	Rodolfo Neri Vela Mexican	STS-61-B, Nov 27, 1985
	Ricardo Peralta y Fabi Mexican	STS-61-B, backup for astronaut Rodolfo Neri Vela
	José Moreno Hernández American/Mexican	STS-128, August 28, 2009
	Katya Echazarreta Mexican	Space for Humanity flight Blue Origin NS-21, June 4, 2022

One of the primary goals of AEM is to develop Mexico's capacity for space-based observation and data analysis. As an example the ERIS (Estación de Recepción de Imágenes de Satélite) station in Chetumal, Mexico is a joint project of a Mexican consortium coordinated by the agency. This satellite receiving station is now operating since October 2007 and was donated by the German Space Agency (DLR) to the agency in 2015.
Its operation started with receiving Landsat-5 and MODIS (Terra/Aqua) signals, and still receives United States Global Survey (USGS) Landsat-8 data. These remote sensing activities are crucial for monitoring natural disasters, managing natural resources, and providing critical information for government and private-sector decision-making.

The agency has developed and launched also several own satellites, including the *Morelos-3* satellite (launched Oct 2, 2015) of the Morelos-series which is equipped with cutting-edge technology for mobile 3G+ user communication.

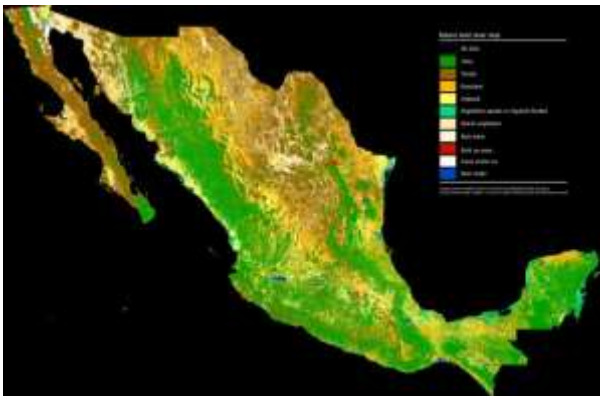
The agency's first spacecraft, the *AztechSat-1*, was launched in 2019 and was designed and built by Mexican students in collaboration with AEM and NASA. The AztechSat-1 is a cube satellite equipped with a high-frequency transmitter that will enable communication between ground stations and other spacecraft. It will be followed by AztechSat-2 built by *the Mexican Federation of the Aerospace Industry (Femia).*

Another important goal of AEM is to promote collaboration and cooperation between Mexico and other countries involved in space exploration. The agency has signed cooperation agreements with several other nations, including the United States, Canada, and Russia, to share knowledge and resources and work together on space-based projects. Mexico emphasized after the start of the Russian invasion of the Ukraine that the cooperation agreement with Russia is solely for “exploration and use of outer space for peaceful purposes”.[3]

AEM has also been involved in international initiatives such as the International Charter "Space and Major Disasters," which provides satellite imagery to support emergency response efforts in the event of natural disasters or other crises. This emphasizes the agency's commitment to using space-based technologies for the betterment of society as a whole.

AEM's efforts have not gone unnoticed, as the agency has been recognized by the International Astronautical Federation for its support of the local space industry. In addition, the agency's work has inspired a new generation of Mexican scientists and engineers to pursue careers in space research and technology.

In conclusion, the Mexican Space Agency has made impressive progress in the field of space research since its founding in 2010. Its focus on developing space based communications, observation and data analysis capabilities, building its own spacecraft, promoting international collaboration, and using space-based technologies for the betterment of society has established the agency is acknowledged as an important player in the global space industry.[4].



As part of a scientific collaboration with the Mexican Space Agency, ESA has combined images from the Copernicus Sentinel-2 mission to produce a detailed view of the different types of vegetation growing across the entire country. The high-resolution land-cover map combines images captured by Copernicus Sentinel-2 between 2016 and 2018.[5]

References

[1] https://www.esa.int/ESA_Multimedia/Images/2023/02/Cooperation_Agreement_with_Mexico

[2] [https://mexicobusiness.news/aerospace/news/aem-signs-agreement-esa-train-mexican-talent]

[3] https://tech.hindustantimes.com/tech/news/mexico-denies-russia-space-deal-will-aid-spying-71665477355903.html

[4] chatGPT and own research: „Mexican Space Activities and Goals”

[5] https://www.copernicus.eu/en/media/images/mapping-mexicos-land-cover