

# In orbit! Young people participate in space innovation competition



Four students at [Tecnológico de Monterrey's](#) Querétaro campus had the honor of representing Mexico in the international stage of the **Hackathon Space Challenge**, an aerospace innovation competition set up by the [European Space Agency](#).

The students from the **School of Engineering and Sciences** will now compete against **universities in 49 other countries** with their project to **continually maintain satellites** using a **probe placed in orbit and anchored to an International Space Station**.

The **Huitzil Aerospace** team, made up of **Eduardo Leonardo, Noé Sandoval, Sergio Ruiz, and Juan Pablo Murrieta**, presented their **HUITZIL-1 SERVICE Probe** project, which was the winner of the national stage of this event, to a panel of judges.

*"There are 50 countries in total: Mexico and 49 others. It's a very important event. We're going to receive mentoring prior to the event to improve our idea,"* said Sergio Ruiz, a Mechanical Engineering Management student, in an interview with [CONNECTA](#).



# HUITZIL-1 SERVICE PROBE

## HUITZIL AEROSPACE

- Noé Sandoval (IID)
- Eduardo Leonardo (IMA)
- Sergio RuizOllóqui (IMA)
- Juan Pablo Murrieta (IM)

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### The project

According to the team, the competition included a total of **50 different challenges related to aerospace industry innovation**, which gave participants the freedom to choose one that matched their skills and interests.

*“There are a number of **issues related to this endeavor** and you have to find a solution to these challenges. They give you 24 hours to come up with ideas and a well-planned proposal,”* explained Juan Pablo Murrieta, a Mechanical Engineering student.

*“We had first chosen something to do with composite materials. In the end, we decided on the **continual maintenance** proposal because it’s a challenge that allowed us to develop innovative ideas and be imaginative, but for which you can also find stakeholders who can pay for the project,”* added Eduardo, a Mechanical Engineering student.

In this way, it is possible to extend the life of satellites, which translates into both a reduction in financial expense and space pollution.

*“It has its own tools to reach a **satellite in geostationary orbit** and provide necessary maintenance, such as changing batteries or fuel, or inspecting solar panels, and this means that the **satellite can last another 5 to 10 years in orbit**,”* Juan Pablo said.

The project seeks to start a trend in the market by producing new modular satellites, beginning an ecological and economic change by using a single probe.



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### **Their experience at the Hackathon Space Challenge**

Due to the nature of the challenge, a variety of obstacles and difficulties arose during development of the idea. The greatest difficulties included turning the project into a profitable business proposal, and the limited time they were given to present it.

*“**Organizing your ideas** and **developing** them in just a few hours, perfecting them, reaching the end of the event with enough energy to present them, and dealing with fatigue, were important challenges that had to be overcome,”* said Sergio.

However, the diversity of knowledge within our team and our teamwork abilities created a synergy between the team members which eventually allowed us to come up with the **winning project**.

*“In those 24 hours, we learned that it is difficult to work as a team, but at the same time we realized that everyone has particular skills that they can contribute. As a whole, the synergy produced a very good team. I think that’s why we were successful,”* Eduardo added.

### **En-route to the international competition**

The team is preparing to represent Mexico at the next stage of the competition, the international hackathon called **ActInSpace**, presenting its innovative project with some possible improvements a well-established business plan to make it economically viable.

*“We’ll be receiving mentoring in the weeks prior to the event so that we can further refine our idea and present it,” Sergio said.*

As a result of the **COVID-19** pandemic, the event is expected to take place virtually in February 2021, organized by the **European Space Agency** and the **Toulouse Agency** in France.

*With contributions from: Karen Tovar, Renata Chavez, and Jose Luis Espinosa*

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