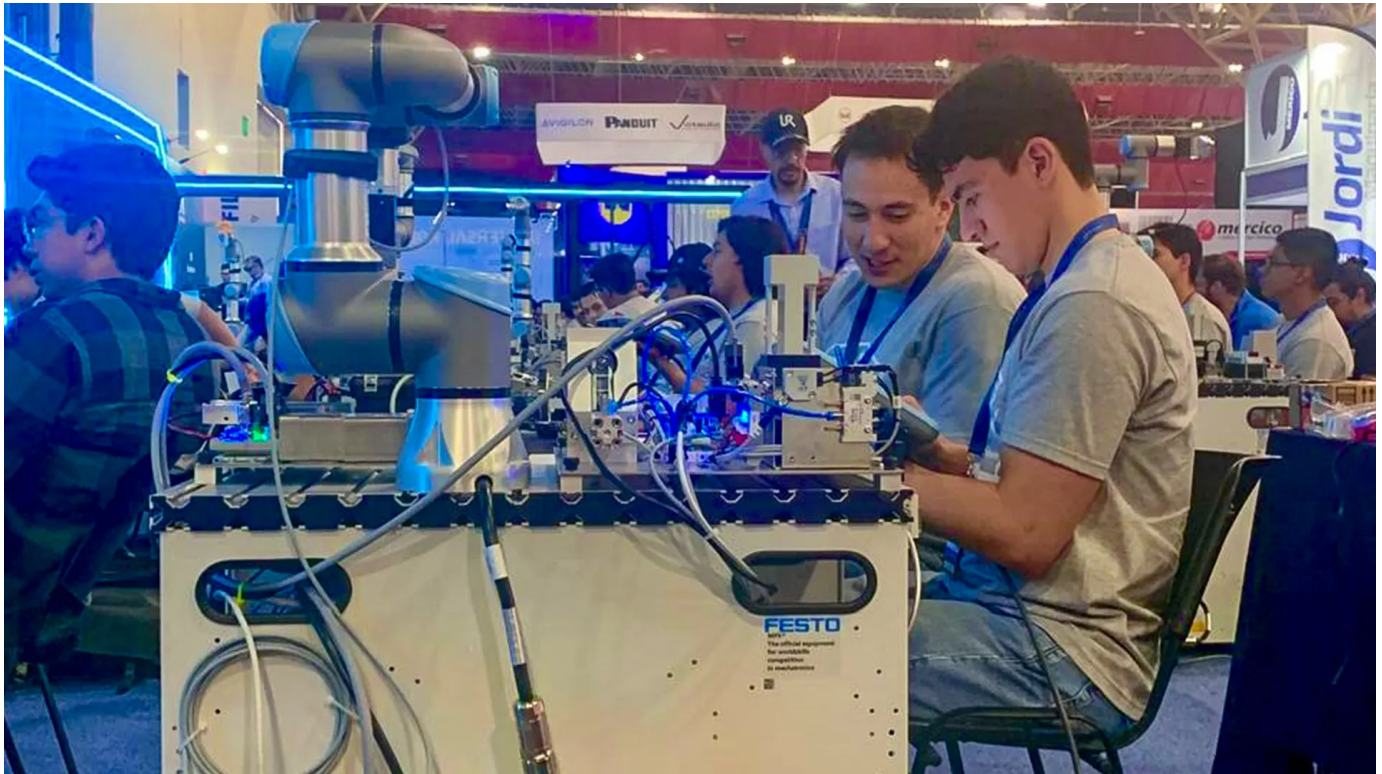


Mexicans crowned winners of global collaborative robotics tournament



Luis Eduardo and Camilo have won first place at COBÓTICA 2025 after overcoming technical challenges, illustrating their collaborative robotics skills.

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Cortesía

Eighth-semester **Mechatronics Engineering students** Luis Eduardo Maldonado and Camilo Lozoya have won first place at global robotics tournament **CÓBOTICA 2025**.

COBÓTICA is an **international collaborative robotics competition**, held this year from February 11 to 13 during Monterrey's Expo Manufactura.

In this competition, teams from various universities and countries competed in technological challenges that were *"highly demanding,"* according to Luis.

The competition even included the participation of students from other countries,

such as the **United States and Colombia.**

"There were people who came from other places... like the United States and Colombia," Luis Maldonado shared with CONECTA.



Luis Eduardo Maldonado and Camilo Lozoya fine-tune their project system at COBÓTICA 2025, where they won first place after overcoming technical challenges. Photo: Courtesy of the participants

The main challenge was to assemble a circular box incorporating a spring and a lid, using a robotic arm and a PLC that had been evaluated for accuracy and assembly quality.

During the first two days, the team worked on programming and sensor management, ensuring the correct assembly of the elements.

However, a technical problem arose on the third day: the system wouldn't save the programming they'd coded, forcing the students to reprogram from scratch and

compromising their time.

In the face of this adversity, the judges granted them extra time, recognizing the team's ability to react to unexpected events and fix the error.

Technical challenge of the robotics competition

The challenge was to achieve accurate and high-quality assembly.

Synchronization between the robotic arm and the PLC was crucial to meeting the conditions set by the judges.

"It involves using the robot together with a PLC, connecting them, and making the entire station work to carry out assembly," said Camilo Lozoya, highlighting the importance of technological integration.

"It involves using the robot together with a PLC, connecting them, and making the entire station work to carry out assembly." - Camilo Lozoya.

The rules of the competition emphasized that the winner would be determined by the quality of the assembly. In the event of a tie, this would be determined according to time.

"The rules of the competition, as such, aren't about doing it faster, but rather doing it well... time is more like the tiebreaker," Luis explained.

Programming problems

During the competition, the team faced programming complications.

“The second day, the positions used by the robot were in the programming... but they weren’t saving on the third day,” Camilo said.

This inconvenience generated a software problem that forced them to reprogram from scratch, affecting work synchronization.

Given the situation, the judges granted them extra time.

“Basically, the work we did the second day was erased,” shared Luis.

After overcoming technical setbacks and demonstrating their adaptability, Luis Eduardo and Camilo were crowned winners of COBÓTICA 2025, representing the Chihuahua campus in the competition.

About COBÓTICA

COBÓTICA is an international collaborative robotics competition that brings together mechatronics students from different universities and countries.

The competition focuses on the integration of advanced technologies, where the combination of robotics and programming is crucial to achieving accurate, high-quality assembly.

This event fosters innovation and teamwork, key factors for the technological development of future engineers.



Camilo and Luis in their workspace during international robotics competition COBÓTICA 2025 in Monterrey. Photo: Courtesy of the participants

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