1st place in MIT challenge for Tec SLP engineering team

Students from the School of Engineering at **Tec de Monterrey's SLP campus** have won **1st place in the 2022 MIT Low Income Firms Transformation (LIFT) Lab Fest,** with their **cash conversion analysis** project for a local pastry business.

The project was carried out by Sara Aguilar and Montse Naif from **Industrial and Systems Engineering (IIS)** with Caro Vidales from **Business Transformation Engineering (INT)**, along with the support of IIS program director Gina Martínez as advisor.

The San Luis Potosí team collaborated with **Postres Lili**, a small local business looking to **consolidate its position in the city's marketplace**, hoping to **increase its profits and decrease its losses**.

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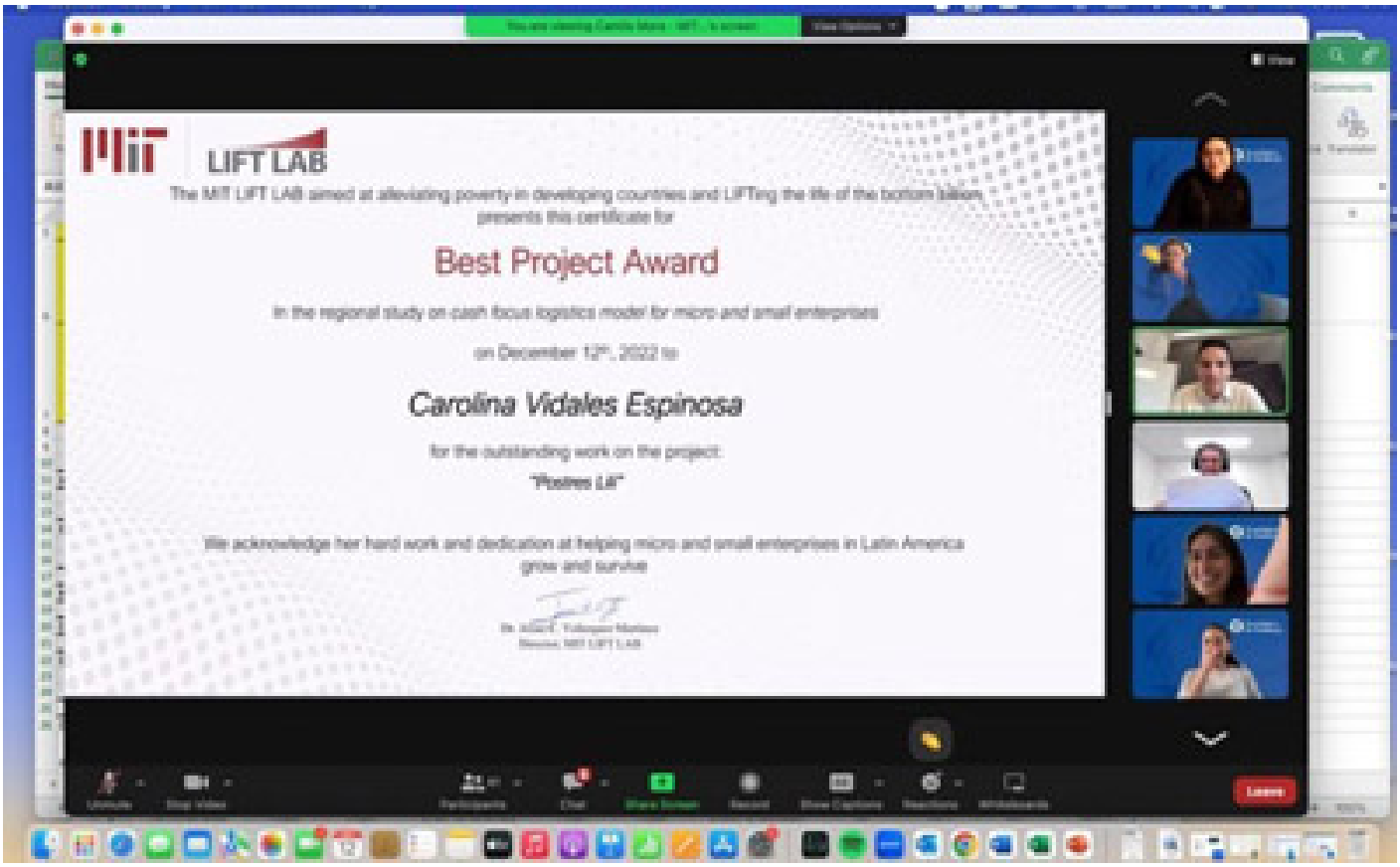
After researching Postres Lili’s overall sales for the **February-June 2022** period, the students conducted a cash conversion analysis to find a solution to meet the business’s goal.

At the end of 2022, the team presented its initiative at MIT LIFT Lab Fest, a competition that students from 10 Latin American countries participate in to help develop microenterprises and low-income communities.

Their solution consisted of **dynamic tables and dashboards** that function as a management system built on the **Power BI** application, a data visualization tool.



/> width="400" loading="lazy"> **The challenge: supply chain development in Latin America**

“The economy of many families in Mexico depends entirely on the success of microenterprises, businesses such as fruit and vegetable sellers, convenience stores, and office supply stores,” says Camilo Mora, MIT LIFT LAB project manager.

“The economy of many families depends entirely on the success of microenterprises.” - Camilo Mora

MIT LIFT Lab is a new research lab led by **Tec graduate** Josué C. Velázquez and founded in 2022 with the intention of leveraging supply chain management capabilities.

The laboratory has more than **20 partner institutions**, such as the University of Montevideo and the Pontifical Catholic University of Rio de Janeiro. As one of these institutions, **Tecnológico de Monterrey** invites its students to participate in the competition.

The contest consists of two stages, the first of which is to **compete and win at the national level** by competing with projects from their university.

The second stage consists of **competing with the national winners** of the MIT LIFT Lab Fest, in which everyone is looking for a solution to boost SMEs in Latin America.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A path to victory

“This project was created with the purpose of applying the knowledge we’ve acquired in our undergraduate studies and with the objective of helping a small business in our community,” said Sara Aguilar, a member of the project.

The San Luis Potosí team worked in the **Engineering Laboratory** subject, collecting general **sales and supply** data from the pastry shop. From there, they were able to collect the information needed for a cash conversion cycle analysis.

The cash conversion cycle is a key metric used to **evaluate the efficiency of a company’s operations and management** by assessing how long it takes to convert inventory investments and other resources into cash through sales.

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The data were recorded in applications provided by the MIT program, such as **Fulcrum, Excel, and Python**, which they used to create dynamic tables and dashboards.

“We found important insights and ways to increase profits and decrease waste in the business with these tools, without having to make major changes,” said Montse Naif, a member of the team.

Tools such as dashboards work as a **management system** in which they can analyze the sales of the business after updating the data each month and **make the best decisions for the business** based on these.

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