

Tec student and team win global contest with sustainable irrigation



Marianne Barrenechea from the Tec's Toluca campus and her team have won the **sixth annual [LABESDESIGN](#) contest** by using **ancestral irrigation techniques** combined with **technology**.

This **international design competition** encourages people to provide **solutions to real problems**. She and her team presented "**Kollüna**", a sustainable irrigation system.

The team's approach was to focus on an issue **related to agriculture** that will help those not using **sustainable irrigation systems**.

Kollūna



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“We knew that there’s a drought, and not only in Mexico, so we set out to solve this crisis in marginalized farming communities,” she said.

“**Kollūna**” is a **system designed** with a water storage tank in the center that uses humidity sensors to know when to open its floodgates and **release water to the crops** surrounding it.

What’s more, it incorporates **technologies** such as:

- **Rainwater harvesting**
- **Vertical irrigation**
- **Drip irrigation**
- **Underground irrigation, and**
- **Individual greenhouses to save as much water as possible.**

The prize for **winning this contest** was a **mentoring session** for their personal brand or professional portfolio.

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Their project, Kollüna, innovates on irrigation systems.

This proposal was based on the “**Suka Kollus**” agriculture system that was used in South America before colonization, which gave the project its name.

“**Kollüna** is a **fusion** between “**Suka Kollus**” and “**Lacuna**”, which means lake in Latin,” she explained.

Marianne says she was able to use her **knowledge** from her **digital modeling class** on this project, as she was the one who made the **virtual model** of the system.



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The **first day** she met her **team**, which was made up of **students** from different universities and **different professional backgrounds**, was the first challenge.

“It was a **multidisciplinary team**, ranging from an industrial designer to a fashion student.

It was difficult to communicate ideas but **including everyone’s opinions** was what made our project worthwhile,” she explained.

The ninth-semester architecture student was invited thanks to her experience **with these types of “flash” competitions**, in which you don’t have long to design the project.



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On the last day, **Kollüna** went through to the **final stage** by vote of the panel. Days later, it was chosen as the **winning project** of the **sixth annual LABESDESIGN contest**.

Despite the fact their project is only a prototype, Marianne emphasizes how **rewarding** these types of **competitions with social purpose** are.

“Design has the power to change the lives of many people.

*If we focus our projects on social issues, our **work** becomes **valuable** on a **personal** level, but also on a **community** level,”* she pointed out.

What is LABESDESIGN?

LABESDESIGN is an international design competition organized by the [Barcelona School of Design \(ESDESIGN\)](#).

It was created to **solve real problems** through design and this year’s contest took place from May 10 to 13, 2021.

Students from **7 different universities** in **Mexico, Spain, Argentina,** and **Colombia** took part in the competition, including the following:

- [Tec de Monterrey](#)
- **ESDESIGN** (Spain)
- **Argentine University of Enterprise** (Argentina), and
- **Pontifical Xavierian University** (Colombia).

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