Team ID: U16

## "Solea"

| <u>Name</u>                 | <u>Year</u> | <u>Major</u>               |
|-----------------------------|-------------|----------------------------|
| Savina Velasco Ochoa        | Junior      | Chemical Engineering       |
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| Andrea Hernández Hernández  | Junior      | Chemical Engineering       |
| Marianela Hernández Munguía | Senior      | Nutrition and Food Science |

Advisor(s): Claudia Verónica de Lourdes Florin Torres

**Topic Title:** "Solea" Sustainable shoe sole.

Audience: Nike's CEO.

## **Sustainable Development Goal**

SDG #13: Take urgent action to combat climate change and its impacts

SDG #12: Ensure sustainable consumption and production

## **Executive Summary**

This project aims to develop and commercialize sustainable shoe soles made up from biopolymers derived from agave bagasse, a plentiful byproduct of Mexico's tequila industry. This initiative responds to the continuous scrutiny Nike faces over its environmental impact and ethical footprint.

Nike generates large amounts of plastic waste and pollutant emissions. With 90% of shoes ending up in landfills, taking hundreds of years to decompose and the continued reliance on fossil-fuel-based materials, the need for a sustainable shoe is urgent.

Solea offers an alternative to the current production methods, these high-performance shoe soles derived for agave bagasse, an abundant byproduct of México's tequila industry. Tackling key sustainable changes such as: Reducing waste and pollution due to its biodegradable materials offering a low environmental impact alternative, strengthening Nike's circular economy practices by enhancing the impact that the line "Move to Zero" has, reinforcing the use of biodegradable materials only instead of adding synthetic elements to the mix

Solea emerges as an ecological proposal that reduces agro-industrial waste and promotes a circulatory economy. Nike's commitment to sustainability is under constant scrutiny, with concerns about waste management, supply chain ethic and greenwashing persisting despite corporate initiatives. Addressing these challenges by incorporating agave bagasse-based shoe soles gives Nike the opportunity to take meaningful action in reducing its environmental impact, increasing transparency. Solea provides a solution that aligns with Nike's goals while reinforcing its responsibility as an industry leader, proving that the company is serious about tackling the real, systemic issues behind its sustainability challenges.

By embracing biodegradable soles, the company can move beyond symbolic gestures and take genuine step toward ethical, sustainable action