Electromagnetic engine: Tec student project for sustainable cars

With information from: Daniela Durán and Alejandro Gómez

Emilio Muñoz, a Mechatronic Engineering student from the **León campus of Tec de Monterrey**, **has earned third place nationwide** in the call for **scientific research** projects from **Falling Walls, for his proposal to convert automobiles** to having **electromagnetic engines.**

Falling Walls is a competition organized by the **German Academic Exchange Service** (DAAD), **Goethe-Institut**, and the **German embassy**, which was held virtually on August 17.

What makes the project innovative is that **you don't need to buy a new car with an electromagnetic engine**, as **you can adapt your vehicle's existing engine.**

*"We were given the possible **scenario that there wouldn't be any more gasoline by 2050**, so we thought: **what would we do with all the internal combustion engines that already exist** so that they wouldn't be wasted? That's where the idea came from."*

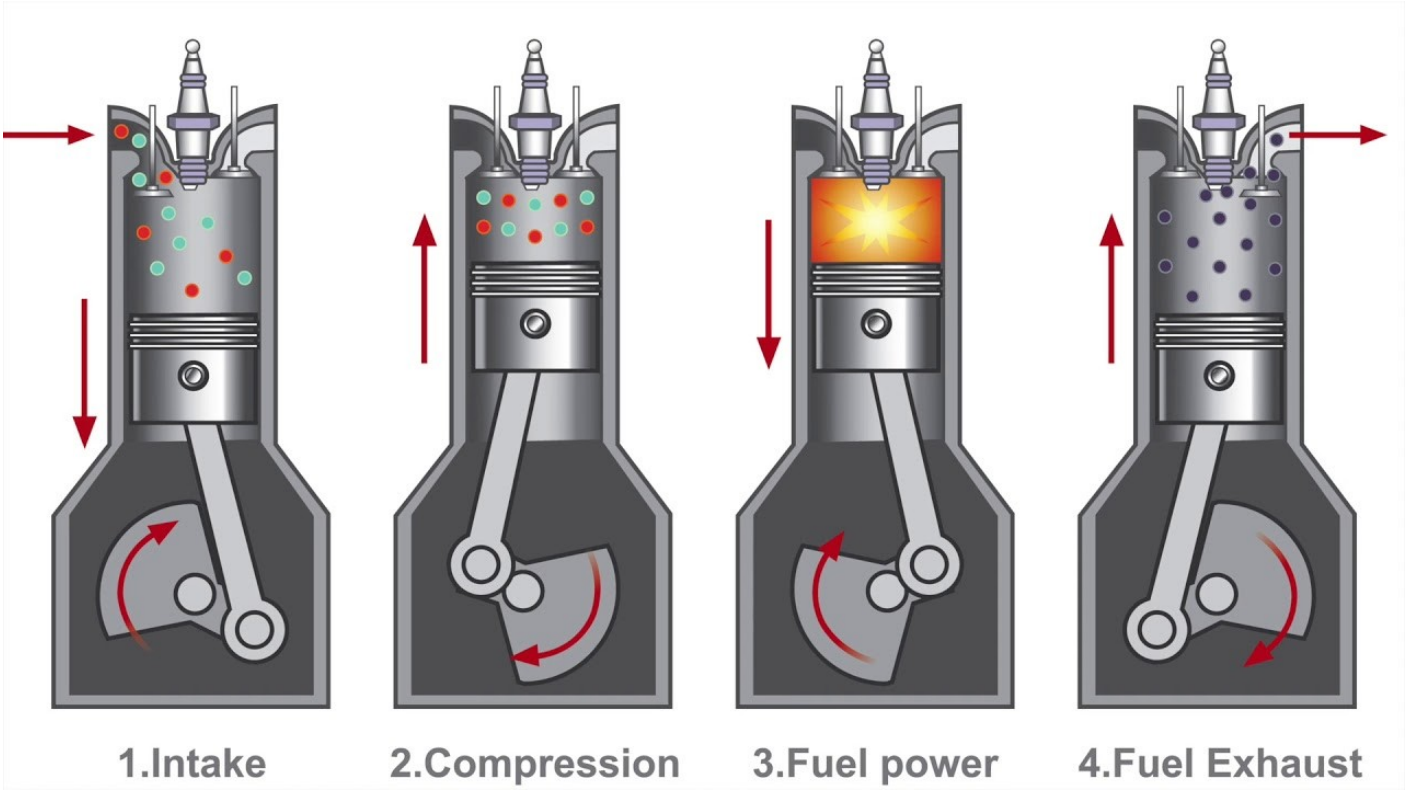
width="5876" loading="lazy">

Muñoz's project was one of the **20 selected in Mexico** to present their proposals to an international panel in a **3-minute pitch.**

*"**I happened to be the youngest competitor.** Most of them were already researchers or PhD students,"* said Emilio to CONECTA.

THE IDEA OF AN ELECTROMAGNETIC ENGINE

The idea preserves how the engine normally runs, **adding a computer that changes the polarity of the pistons** without combustion, thus allowing energy to be generated.



width="1280" loading="lazy">

*"**We would improve engines** with this innovation, as the rest of the automobile would continue to work the same as before. We'd only remove the gasoline combustion system."*

Advantages of adapting engines:

- *An engine with **zero emissions** of carbon dioxide*
- *An improvement **in performance***
- *An increase in **power***
- ***Affordable***
- ***No need for a physical modification** to the existing engine*

The project came about as a solution to **Global Challenges**, which presented the possible scenario that there wouldn't be any more gasoline by 2050.

width="4955" loading="lazy">

“This type of initiative is necessary and important, but ***they depend on an ecosystem*** *in which* ***all the parts of the puzzle are solved by putting different initiatives together****,”* said Germán Enríquez, a climate change professor from León campus.

Emilio is looking to patent his project and find sponsors to support him in modifying vehicles to make them free of **carbon emissions** and solve the future problem of gasoline scarcity.

“I was quite pleased with my place on the podium. I’m sure that ***this will encourage me to enter more competitions,*** *so I can make more noise and generate social change in Mexico,”* concluded Muñoz.

YOU’LL SURELY WANT TO READ:

https://tec.mx/en/news/queretaro/research/seize-opportunity-young-mexicans-medical-study-visit-harvard