

THE ELECTRIC CAR BUILT RECYCLING PLASTIC WASTE IN THE NETHERLANDS

In October 2020 the TU/ecomotive students team at the Eindhoven University of Technology in The Netherlands, [presented an electric car they built using waste plastic](#) fished out of the sea, plastic bottles, and household garbage.

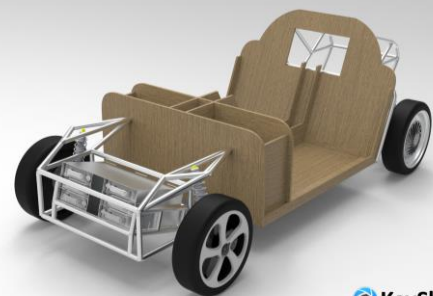
The TU/ecomotive students team highlighted that their goal was not only to create a car, but also to create a story that inspires people from all over the world. The car was designed and built by 22 students in just under 18 months.

Presenting the new car, the [Eindhoven University of Technology](#) highlighted that Europe produces about 58 million tons of plastic every year. In addition, Europe also produces nearly 25 million tons of plastic waste, of which only 30% is recycled, 39% is incinerated, and 31% is disposed in landfills. With this extraordinary project, the students wanted to draw attention to the exponential increase of waste on our planet and demonstrate concretely that waste is not only a problem but also a great resource. Mobility is one of the most important aspects in our modern life and by adopting a circular economy approach and recycling a variety of waste, it is possible to build efficient and attractive tools, meeting people's needs and even dreams.

The result of their project is a two-seater electric car, called Luca, attractive to sports car lovers and suitable not only for cities but also for travel. At the same time, the design of the new car used a series of technologies capable of contributing to a new sustainable mobility for a sustainable future.

To know more about the features and performances, an effective presentation made by the team is available in the tuecmotive.nl website. Information about the type of recycled materials used in the different components of the car is also available in the press-package of this website.

Luca is a light, efficient and compact car with two electric motors placed in the rear wheels. The car reaches a top speed of 90 kilometers per hour and a range of 220 kilometers. Converting this electric range to what would be obtained by fuel, the car would provide an approximate range of 180 kilometers per liter of petrol. Besides the efficiency provided through its electric drive, a great deal of Luca's efficiency comes from its lightweight construction: the car only weighs 360 kg without batteries, that is half of the weight of comparable cars. Besides, this car only requires a total of 60 kg of batteries, which in comparison to the hundreds of kilograms for other electric cars, stands as another attribute to its resourceful design.



The chassis consists of a unique sandwich panel developed by the students in collaboration with several companies. The exterior is made of flax fibers combined with plastic which was fished from the ocean. Although this plastic was often in the ocean for several years and consists of different varieties, it is able to give the chassis sufficient strength when combined with the natural fibers. The core of the plastic material is made mainly from recycled PET-bottles whose useful life can be used in a car. The body, finish, windows and interior are also made out of recycled materials like PET-bottles and recycled ABS, a hard plastic used in lots of consumer products, like toys, televisions and kitchen products. The seat cushions consist of coconut and horse hairs.

Eindhoven University of Technology is the home institution of TU/ecomotive and supports their work giving a place to create and develop the car, equipment, knowledge, expertise and promotion. TU/ecomotive has been created in 2014 and Luca is the sixth car built by the student's team at the Eindhoven University of Technology.

The project to conceive, design and build the new electric car was carried out by [a team of 22 students](#), with the support of a wide range of partners. [These partners have given their contribution](#) in almost every discipline involved in the project as electronics and mechanics and in all phases of the design, implementation, communication and promotion.

The goal of attracting the attention of public opinion and the world of industry to the innovative new electric sports car has already been achieved by the TU/ecomotive team. Several articles have been published by newspapers and specialized magazines in The Netherlands and at international level.

[TU/ecomotive team made an important contribution](#) with its extraordinary prototype of car and underlines that now it is up to the industry to make mobility greener in every way possible. Meanwhile, TU/ecomotive invites other students [to join the team](#).

To know more

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[Presentation by the Eindhoven University of Technology](#)

[TU/ecomotive in Eindhoven University of Technology](#)

[Story un tuecomotive.nl website](#)

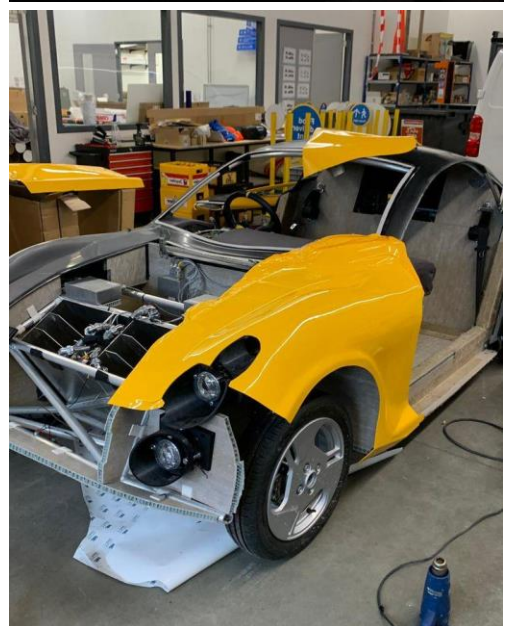
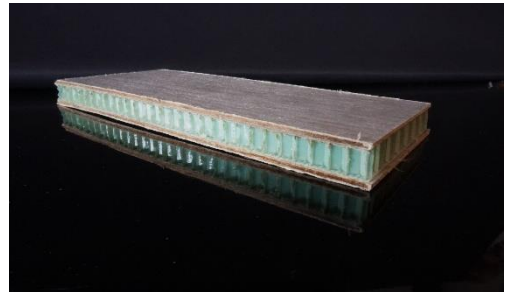
[Luca in tuecomotive.nl website](#)

[Article in innovationorigins.com website](#)

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