

Vehicle with the highest fuel efficiency sets new world record

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ETH Zurich set itself a goal to construct a vehicle that used as little fuel as possible and provided the highest possible fuel efficiency. So they gave the so-called PAC-Car a fuel cell that produces electrical energy from hydrogen and drives two electric motors. The only "emission" from PAC-Car is pure water. The car is lightweight, weighing in at only about 30 kilograms.

And, PAC-Car has now achieved its goal: it finished the course at the Shell Eco-Marathon taking place on the Michelin test track at Ladoux, France, using only 1.07 grams of hydrogen. This converts to about 5134

kilometres per litre of petrol, a new world record in economical fuel consumption. This means that PAC-Car would only use eight litres to drive around the globe.

Student project

PAC-Car is a collaborative project of ETH Zurich and the Federal Office for Energy (financial support), the Paul Scherrer Institute, the University of Valenciennes, France and the industrial partners ESORO, RUAG and Tribecraft. About 20 ETH students worked on the project, most of them from the Department of Mechanical and Process Engineering. The two drivers, both women, are also students at ETH Zurich.

Also a model for economical passenger cars

The ETH engineers integrated current developments in fuel cell and propulsion technology, aerodynamics, lightweight construction, and control technology as well as other areas into PAC-Car. They tested the system intensively together with their partners from science and industry, which means there is a good chance that some of the ideas and applications from the project could be integrated into street vehicles in future. This should contribute to a reduction in fuel consumption and pollutant emissions from passenger vehicles.

Next day PAC-Car was even better and improved the world record. It now stands at 5385 kilometres per litre of petrol.

Web page: www.paccar.ethz.ch

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