

Press release

Swiss E-racing car breaks world record

From zero to one hundred in 0.956 seconds

Zurich, 12 September 2023

Students from ETH Zurich and Lucerne University of Applied Sciences and Arts have broken the previous world record for acceleration with their hand-built electric racing car, *mythen*. The vehicle accelerated from zero to 100 km/h in 0.956 seconds over a distance of 12.3 metres.



A year of hard work finally pays off: *mythen* breaks the world record. (Photograph: Alessandro Della Bella / ETH Zurich:)

The members of the Academic Motorsports Club Zurich (AMZ) are absolutely thrilled. For the better part of a year, these students from ETH Zurich and the Lucerne University of Applied Sciences and Arts have spent every spare minute working on their electric vehicle, which they named *mythen*, overcoming setbacks and going back to the drawing board time and time again for certain components. Now, Guinness World Records has confirmed that *mythen* broke the previous world acceleration record for electric vehicles. On the military airfield in Duebendorf, Switzerland, directly opposite the students' workshop, their racing car accelerated from zero to 100 km/h (zero to 62.15 mph) in just 0.956 seconds, accomplishing this feat over a distance of merely 12.3 metres. At the wheel was Kate Maggetti. This beats the previous world record of 1.461 seconds, set in September 2022 by a team from the University of Stuttgart by more than a third.

“Working on the project in addition to my studies was very intense. But even so, it was a lot of fun working with other students to continually produce new solutions and put into practice what we learned in class. And, of course, it is an absolutely unique experience to be involved in a world record,” says Yann Bernard, head of motor at AMZ.

Press release

Lighter, stronger, more traction

All of *mythen*'s components, from the printed circuit boards (PCBs) to the chassis and the battery, were developed by the students themselves and optimised for their function.

Thanks to the use of lightweight carbon and aluminium honeycomb, the race car weighs in at only around 140 kilos (309 pounds). Four-wheel hub motors that the students developed themselves and a special powertrain give the vehicle its impressive power of 240 kilowatts, or around 326 hp.

"But power isn't the only thing that matters when it comes to setting an acceleration record – effectively transferring that power to the ground is also key," says Dario Messerli, head of aerodynamics at AMZ. Conventional Formula One cars solve this through aerodynamics: a rear or front wing pushes the car to the ground. However, this effect only comes into play when the car has reached a certain speed. To ensure strong traction right from the start, the AMZ team has developed a kind of vacuum cleaner that holds the vehicle down to the ground by suction.

Hotly contested world record

The AMZ team had set the world acceleration record for electric cars twice before – in 2014 and again in 2016. In the following years, their record was broken by a team from the University of Stuttgart. Now the world record is back in Swiss hands, and the ETH Zurich students are confident they will not relinquish it again any time soon.

Image and video material

[Download](#) →

Further information

www.amzracing.ch →

Contacts

ETH Zurich, Media Relations,
Phone: +41 44 632 41 41, mediarelations@hk.ethz.ch

Yann Bernard, Academic Motorsports Club Zurich,
Phone: +41 79 424 83 12, yabernar@ethz.ch

Matthias Rohrer, Academic Motorsports Club Zurich,
Phone: +41 79 961 47 10, matrohre@ethz.ch

About the Academic Motorsports Club Zurich (AMZ)

AMZ was founded by ETH Zurich students in 2006. Since then, its 30, or so, members have developed a new race car each year, which they have entered into various international design competitions – known as Formula Student in Europe. After initially developing three vehicles powered by an internal-combustion engine, since 2010 AMZ has been building purely electrically powered race cars. The club offers students the opportunity to put their acquired theoretical knowledge into practice in an extraordinarily complex, technical environment. AMZ is financially independent and is supported by numerous sponsors as well as various Swiss universities.