

About AMZ

The Academic Motorsports Club Zurich (AMZ) was founded in 2006 by students of ETH Zurich. It has since produced numerous prototypes to compete in various «Formula Student» competitions. After producing 3 combustion engine cars, AMZ decided to move to electric racing cars.

Two years ago, they created a buzz by breaking the 0 to 100kph world record for an electric car. The vehicle reached 100kph in only 1.513 seconds! For comparison, the typical range for modern day F1 cars is between 2.1 to 2.7 seconds.

VIDEO: <https://youtu.be/I-NCH8ct24U?t=1m57s>

Last year, the team decided to participate in the first «Formula Student Driverless» competition within Formula Student Germany. As the name suggests, this category opposes race cars driven without any human intervention.



The Gotthard



4x 39 kW

AMZ's latest car, named after the famous Swiss mountain pass, weighs only 181 kilograms. With 156kw, the power-to-weight ratio is 0.86 kW/kg, a value that exceeds even supercars and gives the prototype its tremendous acceleration.



181 kg

Formula Student Driverless competition being an autonomous race, IMU and GPS are among the most important components. That is why, after trying different brands, AMZ selected Advanced Navigation **Spatial Dual**, a ruggedized miniature GPS aided INS and AHRS that provides accurate position, velocity, acceleration and orientation (click here to find out more).



1.9 s



120 km/h

"The Advance Navigation Spatial dual we used in our driverless racing car this season was a great choice" said AMZ Chief Technical Officer Miguel de la Iglesia Valls.

The team was amazed by the performance of Advanced Navigation's Inertial Navigation System "First of all, its gyros and accelerometers have very low noise, which allowed us to have an accurate motion model for our Simultaneous Localization and Mapping (SLAM) module. In addition, thanks to its two antennas, the heading accuracy is extremely high even at standstill. This accuracy combined with the

velocity measurements from the GPS, and its IMU, allowed us to get robust velocity estimates even when the car is drifting or performing non-standard manoeuvres ” continued the CTO.



At Advanced Navigation, we are very proud to have been selected by AMZ and we wish them good luck for this year's competition.