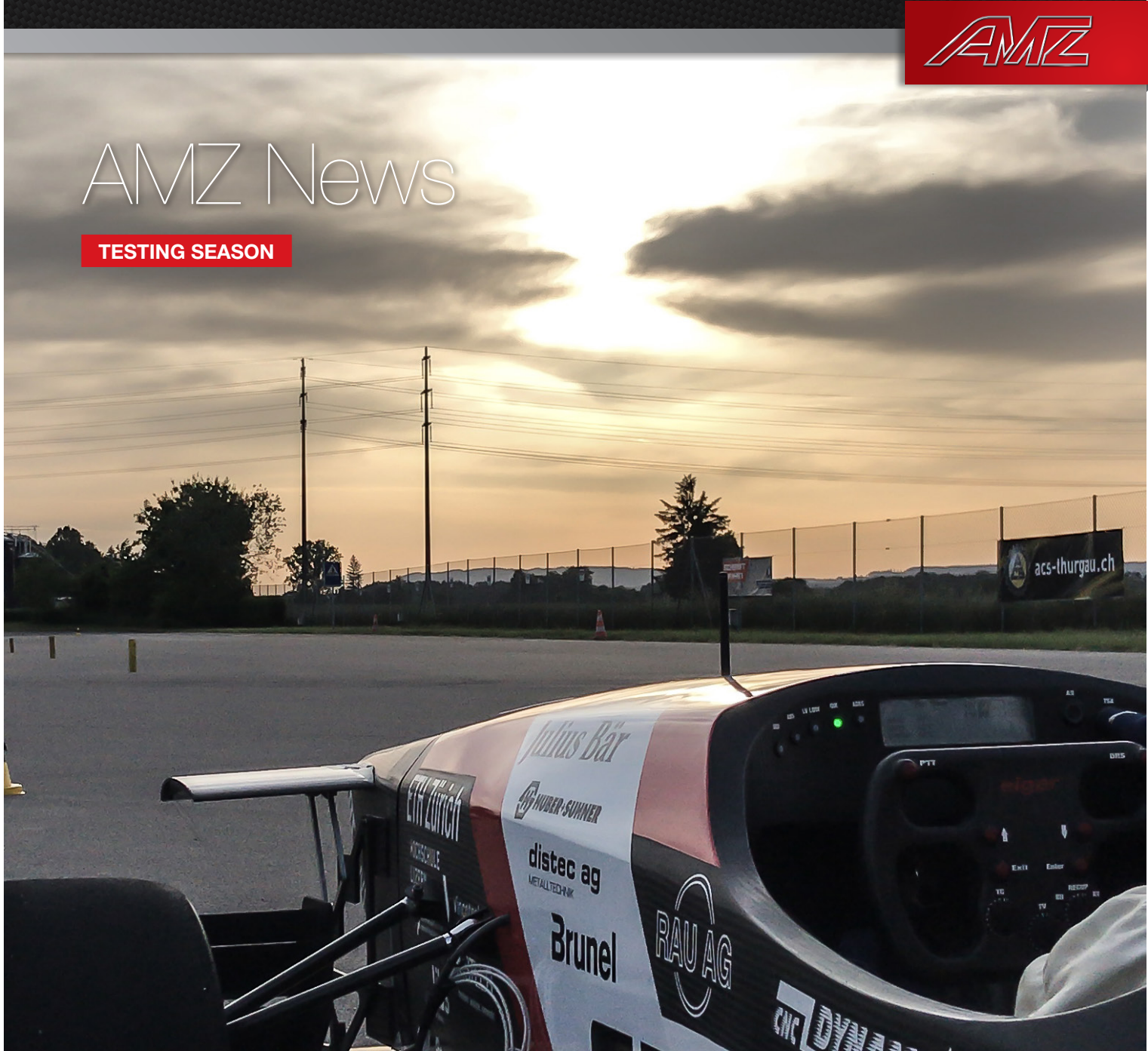




# AMZ News

TESTING SEASON



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Almost every day, **eiger** undergoes extensive testing ©AMZ

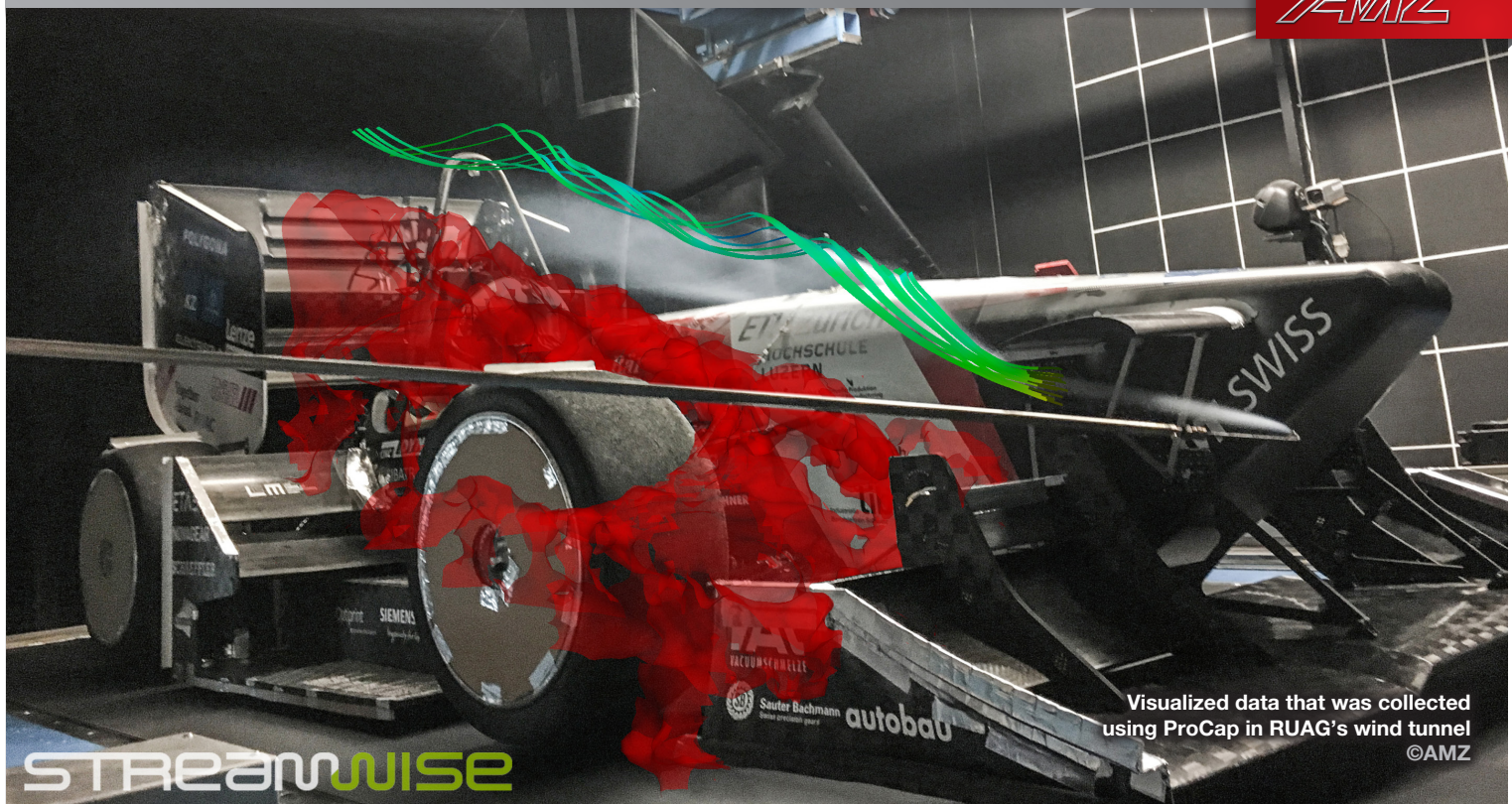
## Testing

Testing Season is currently going on – almost every day, «eiger» is taken to a testing site. Not only reliability but also the countless parameters are tested and optimized. Additionally, sensors are taken into operation and drivers are trained on the car – the testing season is one of the most intense phases in the project. Every morning starts with the regular checks on the car to ensure functionality of critical systems. After all, it's not unusual that people are working on the car overnight. The team then departs for the test site, usually a military airbase or a driving safety center, where a well-established process takes place: While the track is being laid out, the rest of the team conducts the last checks on the car and puts up the pit including computers, telemetry to the car, Wi-Fi connection to the workshop and lapti-

me triggers. Only now the predefined tests can be started and will, on some days, last until late in the evening.

However, testing does not only consist of a running car. Testing is pure teamwork that starts with loading the cars early in the morning and also contains cleaning and maintaining eiger, charging radios or of course daily dinner with the whole team. Only with a full stomach, the test day can be closed with the mandatory debriefing.





Visualized data that was collected using ProCap in RUAG's wind tunnel ©AMZ

STREAMWISE

### Wind Tunnel Tests

An important event in the past weeks were the four days eiger spent in the wind tunnel. Like in the years before, we had the opportunity to validate and refine the car's aerodynamics in the Automotive Wind Tunnel Emmen of our main sponsor RUAG. It was highly interesting, seeing the aerodynamics work how in real life how it was designed over the past nine months in more than 1400 computational fluid dynamics (CFD) simulations. Such efficiency in the design workflow was only possible thanks to the collaboration with ETH's Scientific IT Services and their high performance computing resources.

Along with conventional force measurement, we had the chance to use a brand new measurement technology on our car. Streamwise GmbH, a Zurich based company founded by two ETH engineers, offers consulting in fluid- and thermodynamics. They use their Pro-Cap (short for Probe Capture) technology already in wind tunnel experiments

with athletes like skier Dominique Gisin to analyze and improve their aerodynamics. In the operation, a probe is manually guided in the airflow. Thanks to the retroreflective markers on the probe, four cameras mounted in the wind tunnel can capture the exact position of the probe in space. The results are mapped on the computer and then can be analyzed using the right tools. With this technology, Streamwise accompanied us in the wind tunnel for one day and we gathered promising data on eiger's aerodynamics. This way, wind tunnel tests can be visualized in a completely new approach but most importantly, the data can be used as direct comparison between CFD-simulation and wind tunnel, what's particularly useful for the further development of our CFD model. Not only for us was it a great experience: «We had a lot of fun and the results look very promising» says Dr. Benjamin Rembold, co-founder of Streamwise GmbH.

### Julius Baer Zurich E-Prix

The time has come – after more than 60 years, circuit racing returned to Switzerland with Formula E! About 160'000 spectators at the tracksite and over 400'000 more on TV watched the exciting race. Right in the middle of the event: Three cars of AMZ Racing – pilatus, flüela driverless and gotthard driverless. Throughout the weekend, flüela driverless was on display at the ETH Pavillon right next to pilatus and gotthard driverless which found their place at the booth of Julius Baer and BMW. The interested public visiting the Allianz E-Village could thereby take a glance at how the future of E-Racing might look like. On raceday, we even had the opportunity to show what's hidden inside our racecars with pilatus driving on the track.

Many thanks to ETH Zurich, Julius Baer and BMW for this unique and exciting platform!

### norelem Race Camp

As another highlight on the program was the norelem race camp in June. For the first time this season, the current team could meet other Formula Student teams and gather some experience prior to the first event. The race camp started off with the static disciplines where the team had the chance to present their Engineering Design, Cost Analysis and Businessplan Presentation. With the judges' feedback, we can keep improving our statics until the first event. At the end of the day there was a scrutineering where the car was checked for rules compliance. On day two and three, a test track was built up to test the dynamic capabilities of the car.

Due to a defect, we were not able to participate in the dynamic tests. The lesson is clear: There is still a lot to do for the first Formula Student event, but the team is on a good path.

Thanks a lot norelem for this unique experience!

### Formula Student Events

Things are about to get serious – starting July, eiger will compete at Formula Student Netherlands (July 9-12), Formula Student Austria (July 29-August 2), Formula Student Germany (August 6-12), and Formula Student Spain (end of August). After nine months of designing, manufacturing, assembling

and testing, the team can eventually show what their car is capable of!

Feel free to accompany us at one of the events. You will have the unique opportunity to see teams from all around the world, talk to future engineers in the pitlane, see their cars compete, and of course, cheer on us! If you are interested, you can contact us any time.

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