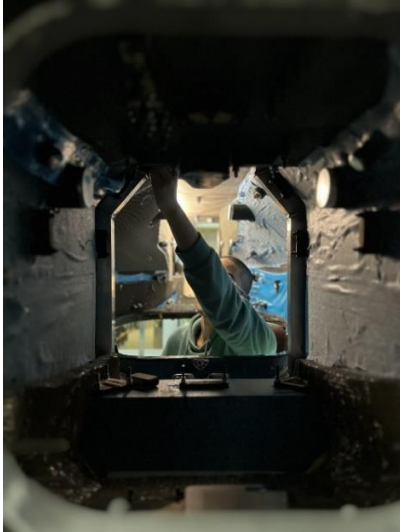


Newsletter

High-Octane Motorsports e.V.



Dear sponsors, dear friends of the club,

The last exams have been written, the new semester has begun and now there are only 2 weeks left until our rollout. The preparations for this are already in full swing and we can hardly wait to finally present the result of our countless hours of hard work to you.

But it is not only in the workshop that we are working incessantly. Between the tripod and the microphone, we are also busy shooting videos and collecting material so that we can offer you an entertaining rollout programme.

But now quickly back to the workshop, so everything will be ready in time! We look forward to welcoming you soon and hope you enjoy reading!

APRIL 2023

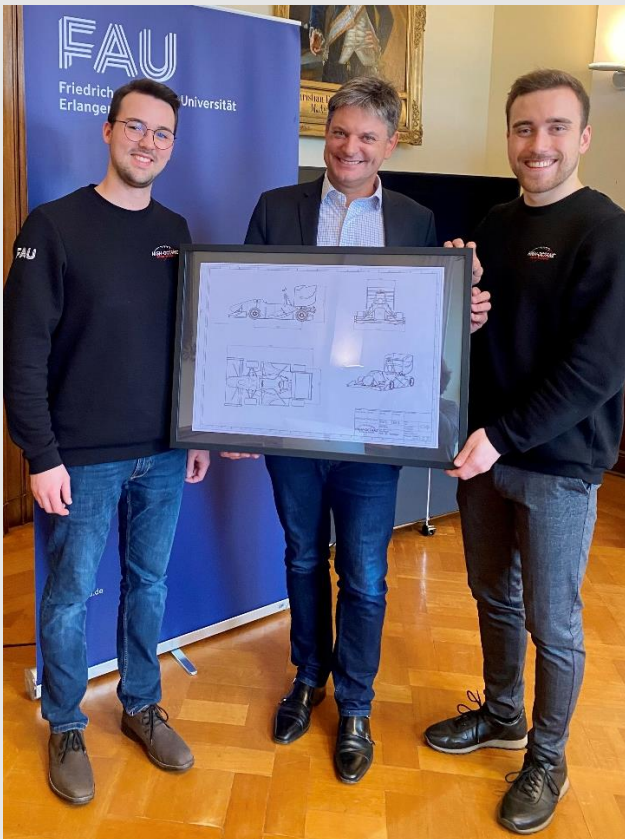
ALUMNIBARBECUE

This semester we had another great evening full of interesting conversations and good food at our alumni barbecue. It is always a pleasure to talk to old friends and former team members about past seasons and to get some advice. We are very grateful to have you by our side!

A look at our non-technical sub-teams

Businessplan - The business plan is now approaching the final stage. We are currently thinking about the cost structure in order to calculate the profits from it. After that, we will start preparing the actual presentation.

Cost Report - In the past weeks, the Cost and Manufacturing Team developed a concept to evaluate the investments in the respective assemblies (e.g. driveline, steering, etc). Through this Key Performance Indicator (KPI), the costs can be shown in relation to the effectiveness of the measures and expenditures. The latter are reflected in the achieved score per discipline. In addition, relevant information was successively gathered in several coordination rounds at the same time as the race car was produced. This information was then used in the newly developed cost understanding posters.



With our university president Prof. Hornegger

Mechanical development



Chassis - All preparations for the manufacturing of the monocoque are done. We are currently laminating the last layers of the inner skin so that our monocoque will come back from the autoclave in the next few days. After that, the other sub-teams can attach their assemblies.

Powertrain - In the powertrain, all preparations are being made to assemble our battery as soon as our stack frames arrive. When our new aluminium printed inverter cooling plate and motor cooling jackets arrive, we will be able to commission the entire powertrain.

Suspension - In the suspension, most of the components have already been manufactured or are currently being manufactured. Almost all the necessary parts for the wheel assemblies are already available and will be assembled soon. The steering and braking system - also necessary for the autonomous disciplines - will also be fitted in the coming weeks.

Aerodynamics - In aerodynamics, we have started manufacturing. Our wooden moulds for the aero elements have been milled and painted thanks to our sponsors, so that we could now start with the in-house production. Currently, the final preparations for our upcoming rollout are underway in aerodynamics.

Between boards and software

Electronics - In the electronics department, the circuit boards have been produced in the last few months. The boards are first assembled by a pick & place machine and then the last components are placed by hand. Parallel to the production, our cable harness was also planned and manufactured. This is divided into a front, a rear and a separate wiring harness for the driverless system. Now the circuit boards are put into operation and then loaded with the right software and tested.

Driverless - Since the last newsletter, we have successfully implemented a SLAM algorithm in the Driverless team, which is responsible for the localisation of the vehicle and the creation of the race track map. Furthermore, we are benchmarking our neural networks to find and test the best model for hat detection. To further improve our race time, we have developed an algorithm that finds and maintains an optimal racing line while driving.

Finally, a few words from our overall team leader

We are currently in the middle of the manufacturing phase. As our rollout is imminent, the pressure to get the car ready on time is naturally very high at the moment. Due to some unforeseen problems, the pressure has increased immensely in the last few weeks. However, we are currently receiving many parts back from sponsors and manufacturers, which means we can start final assembly. In the next newsletter, I should be able to report on a finished and road-ready vehicle according to current planning.

