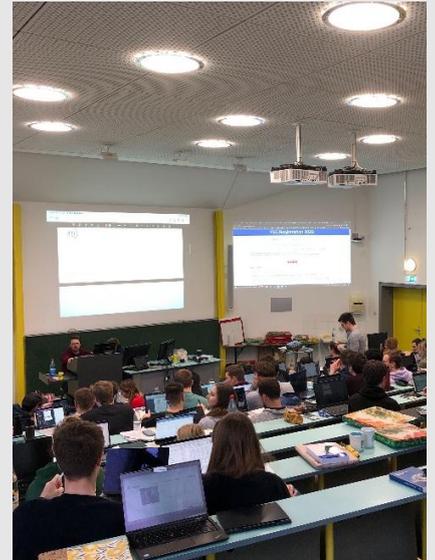


# Newsletter

High-Octane Motorsports e.V.

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## Dear sponsors, Dear friends of the club,

In the past few weeks, not only a new year has started, but also our manufacturing phase. This means that our daily routine is no longer in the office, but in the workshop again. Between carbon, resin and hardener, the different sub-teams are currently helping each other. Some sponsor visits and factory tours were also on the agenda in the last few months.

Finally, the date for our rollout this year has been set. On the **3rd of May 2023**, we will present our new race car to you! We are already looking forward to spending this day together with you. To make sure everything is ready in time, we are now getting back to work energetically and hope you enjoy browsing through the contributions of our individual sub-teams.

### FEBRUARY 2023

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#### RULES QUIZ

In order to qualify for the events in the summer, our annual rules quiz took place on 27.01.2023. For this, our entire team met in the lecture hall and diligently answered the quiz questions throughout the day. We were particularly proud of our good results in the Formula Student Germany quiz, so that nothing can stand in the way of our participation.

# A look at our non-technical sub-teams

**Businessplan** - Before Christmas we filled out a Lean Canvas to create a better overview of our business for ourselves and others. Then in January we discussed the first concepts for corporate identity and looked at the Business Plan Presentation Finals from previous years to take notes from the competition.

**Cost Report** - With the completion of the parts lists for the Steering and Powertrain subsystems approaching, the Cost Team will soon start to cost the individual production steps and processes. In addition, this will allow further material usage and environmental analyses to be started, which will also be helpful for the individual additional challenges for the Cost & Manufacturing teams at the Formula Student events. In the past weeks, among other things, presentation documents for the Cost Understanding have already been updated, revised and new ideas refined.



*Our negative mould during lamination*

# Mechanical development



**Chassis** - We have made great progress in the last two months: We have now finished the first half of the carbon negative mould of our monocoque. In addition, the laminate structure has also been completed. In the next few weeks, the second half of our mould will also be manufactured and various material tests of the laminate structure will be carried out.

**Powertrain** - Our test stack is currently at the Fraunhofer Institute for testing two different cell connection methods. Unfortunately, there was a change in the rules for our battery, which presented a challenge this month, but has now been solved by a completely insulating battery container. On the gearbox, it was also finally decided to have our gearbox housing 3D-printed from titanium again. Furthermore, all manufacturing tasks were successfully distributed. Many thanks to our sponsors!

**Suspension** - The design of the chassis and the driverless mechanism components has been completed. Already, the first parts have been manufactured or are in the process of being manufactured. For example, the 3D-printed wheel carriers and emergency braking system components have arrived and are being reworked. Further parts of the active chassis and autonomous steering are currently in preparation.

## Between boards and software

**Electronics** - In the electronics department, the circuit diagrams for our circuit boards were first created over the last few months. We used our experiences from the previous season and then they were checked by our experienced alumni. Afterwards, we designed the layout of our circuit boards. After finishing the design phase, we started to order our components, sensors, actuators and everything else that is necessary for our electronics in the car. At the same time, we had several workshops about the programmes we use, e.g. for designing the boards or for loading the boards with the respective software.

**Driverless** - The Driverless team focused last month on successfully preparing the car from the previous season for further testing, improving the structure of the in-house code base and updating the software to the latest version. In parallel, we are working on setting up a new simulation with improved functions. We have also started implementing our localisation algorithm.

## Finally, a few words from our overall team leader

With the end of the design phase, we started directly into the manufacturing phase in January. Thanks to the active support of the whole team and excellent planning, we have been able to keep to our schedule so far. With the achievement of one of the first milestones, the production of the monocoque negative moulds, we will now start with the production of the monocoque in the next few weeks. Work is also progressing steadily in the other sub-teams, so that the first parts are already coming back from our production sponsors and can be reworked.

