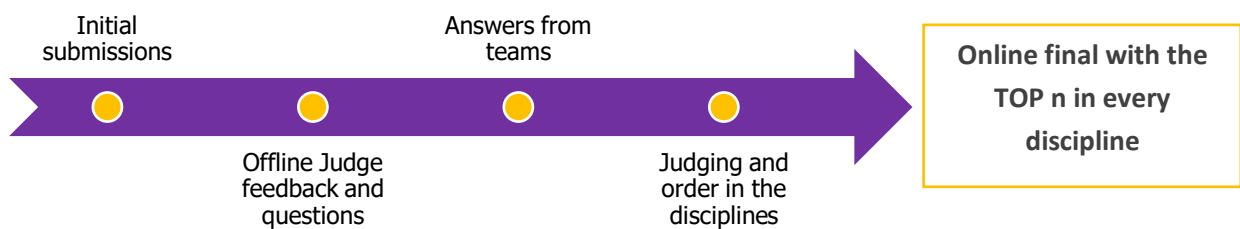


# DEAR TEAMS,

It's us again... Thanks for the feedback and for helping us to create something from our situation in 2020. Let us start with a bit of philosophy. Obviously, no one expected the situation we are in right now. We think there is no sane person who would choose an online event rather than a real Formula Student week. Everybody will miss the atmosphere of the pits, the camping site, the track and the whole journey as it is. Everyone would like to see their car roaring (or whining) around the track, there is no question about that. But this is not an option in the situation we are facing at the moment. We must choose between an online event or having nothing in the season at all. It's a whole different perspective, something like the half empty or half full glass... Something was taken from us, but we always have the opportunity to make the best from the resources available. Also, possibly you have your designs for 2020, we guarantee, you can reuse these designs and your 2020 car, ready yet or not in 2021. With the online event we would like to offer you an opportunity to evaluate your design and make you more competitive in 2021.

## OUR ONLINE VISION



Let's start from the end of the process! How would an online FS event look like? Imagine a whole day, a show, what you can watch live from your home. There will be multiple hosts to make the whole experience smoother. The finals will be online meetings with the judges. Just like on those Saturday evenings, each team will face the questions real time and have a limited amount of time to get the answers. In the meantime, you can watch your drivers racing virtually in a simulator contest.



**OKAY, BUT WHAT CAN I BENEFIT FROM THIS?**

Yes, there will be no direct comparison between the cars on the track. For the drivers and the dynamic, it is more for your drivers, For your team, the judge feedback has to be important, even in this case, when you can use your current design in the next season. Don't be afraid, we also have real prizes for the competition. Our offer is the following:

- The first one third of the competition will be **pre-registered for FS East 2021**
- The first five teams will have **scrutineering priority on FS East 2021**
- **The TOP 3 Teams will have 100% discount from the registration fee of FS East 2021**
- **Real life awards**, which will be sent to the teams addresses

**AND THE SCORING WILL BE DIFFERENT AS WELL, RIGHT?**

Right! The static events will be more emphasized, they can be more objectively judged within the frames of an online event than the dynamic, and we have adjusted the ratios because of that. The maximum number of points will be 1000, just like in a real event. It will be not counted as a world ranking list event, because it's a whole different one.

	EV and CV Teams	DV Teams
<b>Static</b>	70 %	60 %
<b>Dynamic</b>	20 %	30 %
<b>Fun Activities</b>	10 %	10 %





**REGISTRATION FEE REFUND**

This is a hard topic. We understand, that under these circumstances every bit of resources are valuable for you to keep going. In order of this we investigated our possibilities and set as our goal to refund as much as possible of the registration fees. However we ask you to understand, that we had to make certain expenses during the preparations of the event, also had to pay penalties due to contract cancellations, transfer and exchange fees.

Of course, the new endeavor of creating an online competition will also mean some expenses. Those teams, which registered for FS East 2020 can decide to attend the online competition without a new registration process and get a different refund according the table below. We hope we can give you an attractive alternative with this event.

<b>Refund with not choosing the online event</b>	60 %
<b>Refund with participating in the online event</b>	40 %
<b>Registration without slot in FS East 2020 for the online event</b>	750 EUR

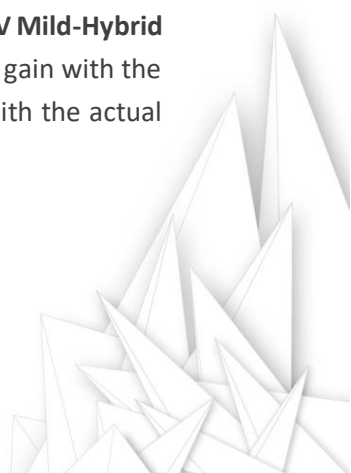
We are not sure when we can start the refunding process, we have to check the legal and the accounting framework, we haven't done anything like that before...

**HOW WILL THIS SEASON AFFECT MY 2021 SEASON?**

Apart from the gains with the possible prizes, there will be no difference in 2021 even if you are entering or not. The two seasons will be completely independent

- You have to register again for 2021
- The rules will not change between the season.
- You can use the 2020 car in 2021 as a first year car.

Spoiler Alert! We are planning to shake the CV category a bit in 2022. No worries, the category will remain in the competition, it will be extended! **We are planning to allow the usage of 48 V Mild-Hybrid systems in the CV category.** It will be an option, not mandatory. You can achieve some gain with the cost of added system complexity and weight, and the category will be more aligned with the actual industry trends. Win-win! The rules will come later this year.



## STATIC AND DYNAMIC DETAILS

### HOW CAN YOU IMPLEMENT THE STATICS IN AN ONLINE ENVIRONMENT?

We have adopted the format to the new framework. A little tweaking here and there to make it more convenient for you and for our judges as well. It is our goal to make it interesting for spectators as well. The finalist teams will present live on the race day. All the events will be conducted in multiple steps and stretched out for around two-three weeks. The categories are the following:

#### VIRTUAL ENGINEERING DESIGN EVENT

The following method is applied for all the three categories (CV, EV, DV):

- 1.** You must submit a **video presentation about your project (5-10 mins)** and **video demonstrations (15-20 mins) about each specific design areas** (which we define in advance) individually 2-3 weeks before the online finals. Just imagine as you prepared a presentation to one member of a judging group during the Design Event.
- 2.** After that our judges will evaluate the submissions and give you **some questions**.
- 3.** In order to simulate a real time event, you will have **max. 1 day to answer** those questions.
- 4.** We are going to evaluate the answers and create the scoreboard. **The top teams will be invited for the final.**
- 5.** Regardless of the final, all the teams are going to get a **detailed feedback**.
- 6.** The final will be held online.

#### VIRTUAL BUSINESS PLAN PRESENTATION EVENT

The following method is applied for all the three categories (CV, EV, DV)

- 1.** You have to submit a **summary of your business ideas**.
- 2.** You will be assigned to judge teams prior the event
- 3.** You will have to present your business plan.
- 4.** The scoreboard will be created, and the **top teams will be invited for the final**.
- 5.** Regardless of the final, all the teams are going to get a **detailed feedback**.
- 6.** The final will be held online.



## CONCEPT DESIGN CHALLENGE

We want you to think outside of the box for a bit. Not follow the rules but form then and create something new.

1. You must submit a **Concept Evaluation** document, maximum **2 A4 pages** long.
2. The submission will be reviewed, you will have a feedback, and the **5 best concepts will be selected for finals.**

### FOR CV TEAMS:

How would you integrate a 48 V Mild-Hybrid system in a Formula Student Racecar? (Yes, there are no more restrictions)

### FOR EV TEAMS:

How and which type of alternative energy storage would you use in an EV Formula Student racecar? If you see no benefit over conventional batteries, support it!

### FOR DV TEAMS:

If the team is competing with a CV based car, then they have to enter the challenge for CV teams.

If the team is competing with an EV based car, then they have to enter the challenge for EV teams.

## AND SOME MORE...

We have some more ideas which we need a bit of time to elaborate. However, we wanted to provide you a baseline to give you a feeling about what you can expect from us on static side.

## SOUNDS GREAT! BUT I'M PRETTY SURE YOU CAN'T REPLACE THE DYNAMIC

Well yes, it's a bigger challenge, and we are not ready with the technical details yet. We are sure about a few things, however. We are going to select a good simulation platform, and there will be an online competition with the same virtual car. You will be able to tweak the settings, but not allowed to change the vehicle model and parameters. The conventional dynamic is more about the performance of the car, but this form is more about the driver, so here is the time to shine your talents. This will have some hardware requirement on your side as well, but we really hope, you can find a simulator enthusiast around an FS Team.





Saying that, acceleration, skid pad and efficiency is more or less pointless, but the autocross and the endurance can be fun. It will compare the performance of the drivers, not the teams, therefore we lowered the ratio in scores.

## AUTO-X

We are going to release the layout of the FS East 2020 track, and you have to submit your best time to us, with the video about that run, prior the event.

## ENDURANCE

The endurance will be modified a bit. The track will be widened to allow wheel-to-wheel racing. Based on the Auto-X Times you will be arranged in smaller groups and you can prove yourself against other teams in multiple races, in a straight knockout between the races. At least there is an advantage of going online and you can try something, what would be never possible due to safety reasons in real life... ;)

## DRIVERLESS

The direction here is clear as well, please be patient with the technical details. The driverless is interesting because in this discipline we can actually get closer to cutting-edge industry technologies. It is common practice to try out automated driving algorithms in simulated environments. We have to define an interface to the common simulator platform, maybe the same used in dynamic, and your driverless software can control the virtual car. Yes we hear you, it's nothing near as seeing your car going on the track with an empty cockpit, but you know, the glass is half full.

## HAVING FUN!

All the above are here to discuss it with you. I hope now you can see our vision; we really think this direction could work, but the devil is in the details. We are open for your feedback, and we can form this idea together!

As you saw 10 % of the scores will be added for Fun activities. These will be short submission prior and during the event, without strict boundaries, judged completely subjectively. You always come up with some stupid-funny-anything during the event, now you will be rewarded for it! 😊

**LET'S CREATE SOMETHING GREAT TOGETHER!**

