Best Pre-Event EU West

VDE E-Race

Schwedt/Oder

10. - 13. June 2027

Version 1.0

Table of contents

Changelog **3**
0 Contact **5**
1 General Information **5**
1.1 Location and Date 5
1.2 Important Dates 6
1.3 Directions 6
1.4 Event Schedule 7
1.5 Pink Shirts 8
1.6 Event Control 9
2 Registration **10**
2.1 Teams 10
2.2 Team Registration 10
2.3 Team Member Registration 11
2.3.1 Team Member Swap 12
2.3.2 Team Member Limit 12
2.4 Registration Fee 12
2.5 On-Site Registration 14
2.6 ESO / ASR Assignment 14
2.7 Driver Assignment 14
3 General Rules **15**
3.1 General Technical Requirements 15
3.2 Competition Categories 15
3.2.1 DriverMore 15
3.2.2 DriverLess 16
3.2.3 DriverOld 16
3.3 Charging and Working on the Car 16
3.4 Team Captains, Drivers, and ESOs / ASRs Briefings 16
3.5 General Guidelines 17
3.5.1 Alcohol 17
3.5.2 Smoking 17
3.5.3 Pit and Dynamics Ground Conditions 18
3.5.4 Campground 18
3.5.5 Harbor 18
4 Technical Inspection **19**

4.1 General Information and Procedure..... 19
4.2 Special aspects of Technical Inspection at the VDE E-Race..... 19
4.3 Order of technical checks..... 20
4.4 Tilt test..... 20
4.5 Rain test..... 20
5 Static Disciplines..... 21
5.1 General Information..... 21
5.2 Business Plan Presentation..... 21
5.2.1 Objective..... 21
5.2.2 Business Plan Executive & Financial Summary..... 21
5.2.3 Procedure..... 22
5.3 Engineering Design..... 22
5.3.1 Objective..... 22
5.3.2 Engineering Design Documents..... 23
5.3.3 Content..... 23
5.3.4 Procedure..... 23
5.4 Cost and Manufacturing..... 23
5.4.1 Objective..... 23
5.4.2 Cost Report Documents..... 24
5.4.3 Content..... 24
5.4.4 Procedure..... 24
6 Dynamic Events..... 25
6.1 Access to Dynamic Area..... 25
6.2 Testing..... 25
6.3 Vehicle Status Video..... 25
6.4 Dynamic Disciplines..... 26
6.4.1 DriverOld Dynamics..... 27
7 Scoring..... 28
7.1 Static Disciplines Scoring..... 29
7.2 Static Disciplines Penalties..... 30
7.3 Dynamic Events Scoring..... 31
7.4 Dynamic Events Penalties..... 31
7.5 General Penalties..... 31
7.6 Publishing Results..... 31
7.7 Protesting..... 31

Changelog

This section lists the changes compared to the last published version of the rules (VDE E-Race Rules 2026, Version 1.0) and all changes made during the current season. Editorial changes such as corrected spelling, wording or links are not listed individually.

We recommend reading through the complete rules every season to ensure that mistakes are avoided.

Chapter	Version	Release Date	Change
-	1.0	11.11.2026	Initial release
1.1	1.0	11.11.2026	Event dates updated
1.2	1.0	11.11.2026	Deadlines updated
1.5	1.0	11.11.2026	Officials updated
2.1	1.0	11.11.2026	Active teams EV only, number of alumni teams corrected
2.2	1.0	11.11.2026	Registration process changed
2.4	1.0	11.11.2026	Payment deadline changed, event shirts added
2.7	1.0	11.11.2026	No driver registration for DriverOld
3.2.1	1.0	11.11.2026	Combustion vehicles no longer admitted
3.5.2	1.0	11.11.2026	Smoking areas moved to Site Plans
3.5.3	1.0	11.11.2026	Waste disposal added
3.5.4	1.0	11.11.2026	New section Campground
3.5.5	1.0	11.11.2026	Former section 3.5.4
4	1.0	11.11.2026	No Technical Inspection for DriverOld vehicles
4.1	1.0	11.11.2026	Sticker description updated, car numbers added
4.3	1.0	11.11.2026	Inspection order changed
5.4	1.0	11.11.2026	Adapted to FS Rules 2027 (CCBOM only)
6.1	1.0	11.11.2026	Media vests added

6.3	1.0	11.11.2026	New section Vehicle Status Video
6.4	1.0	11.11.2026	Conditions for the autonomous disciplines added
6.4.1	1.0	11.11.2026	New section DriverOld Dynamics
7	1.0	11.11.2026	Points distribution slightly changed
7.1	1.0	11.11.2026	Cost scoring adapted to CCBOM, static event points adjusted

0 Contact

If there are any questions regarding the event, please visit our homepage (www.vde-erace.de) or contact us via e-mail: info@vde-erace.de.

1 General Information

The VDE E-Race is a Formula Student style, international design competition which takes place in Northern Germany every year.

The main target of the VDE E-Race is to give the participating teams the possibility of advanced preparation for the official Formula Student events in summer. Therefore, we offer Technical Inspection, Static Disciplines and Dynamic Events, where teams can test their skills, receive professional feedback, compare themselves to others, and gather experience. Additional “not-FS-related” activities during the event help to strengthen the network between the participants of different teams.

Check our website (www.vde-erace.de) and follow us on social media (@vde_erace) to stay up to date if any announcements or updates are available for our event. Shortly before the event, a Final Information Document with further practical information will be published on our website.

The official event language is English. You may approach us in German for organisational topics, but everything related to the competition should be in English.

1.1 Location and Date

The VDE E-Race takes place in Schwedt/Oder (Germany) from 10 June 2027 to 13 June 2027. For detailed information about the location see Directions and the separate Site Plans document on our website.

1.2 Important Dates

The following table provides an overview of important dates and deadlines for the VDE E-Race 2027. Every team is responsible for meeting the competition deadlines.

Start	End	Designation	Rule
Registration Deadlines			
14.02.2027	28.02.2027	Team Registration	Team Registration
-	04.03.2027	Publication of Registration Results	Team Registration
07.03.2027	28.03.2027	Main Team Member Registration	Team Member Registration
-	1 week after receipt of invoice	Registration Fee Payment	Registration Fee
28.03.2027	01.06.2027	Late Team Member Registration	Team Member Registration
-	07.06.2027	Team Member Participation Freeze	Team Member Registration
-	09.06.2027	Late Registration Fee Payment	Registration Fee
Competition Deadlines			
-	27.05.2027	Static Disciplines Document Upload	Static Disciplines

Note: All information about a certain deadline can be found in the rules. The deadline time is 13:00 CET until 27 March 2027 and 13:00 CEST from 28 March 2027 onwards.

1.3 Directions

Address Campground and Pit Area (Main Area)

Regattastraße 1
16303 Schwedt/Oder
Germany

Address Dynamic Area (Harbor of Schwedt)

Neuer Hafen
16303 Schwedt/Oder
Germany

1.4 Event Schedule

The following section should provide a rough idea of the event schedule and how the different disciplines are distributed over the days. A detailed event schedule will be published in an additional document shortly before the event.

Thursday

- Start of the event (around noon)
- On-site registration (first 3 hours of the event)
- Technical Inspection (afternoon and evening)
- Static Disciplines Judging (afternoon and evening)

Friday

- Static Disciplines Judging (whole day)
- Technical Inspection (whole day)
- Testing Area (afternoon and evening)
- DV Acceleration (evening)
- Manual Night Acceleration (evening)

Saturday

- Technical Inspection (until noon on request)
- Testing Area (whole day)
- DV / Manual Skid Pad (morning)
- DV AutoX & Trackdrive (morning)
- Manual AutoX & Endurance (afternoon)
- Award Ceremony & Party (evening)

Sunday

- Clean up (morning)
- Departure (when clean up is finished)

The pits at the campsite will be open 24 hours but the dynamic area at the harbor will be closed for the time when no Dynamic Events are scheduled.

1.5 Pink Shirts



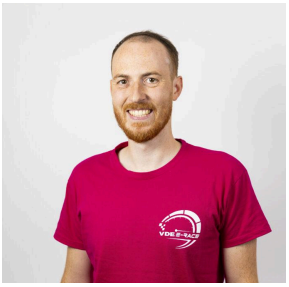
Carl Johann Giest
Organisation



Nicole Geier
Organisation



Janine Giest
Organisation



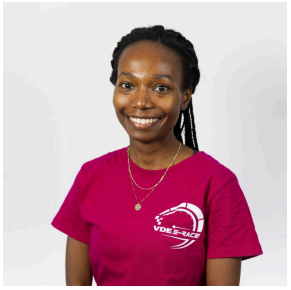
Victor Lubkowitz
Print Media, Stickers



Jenny Stratmann
BPP



Hanna Werner
Cost and Manufacturing



Inès Tchimou
Engineering Design



Torge Möller
Infrastructure



Björn Tranta
Dynamics



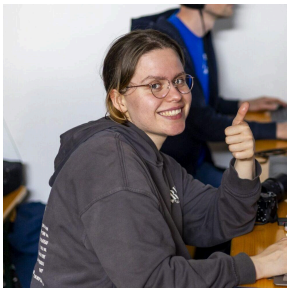
Christian Schappmann
Timekeeping



Bjarne Schwarz
Dynamics



Jannek Alpen
Infrastructure



Magdalena Daubitz
Social Media



Timon Suhk
Media

1.6 Event Control

There will only be a permanent event control available during the On-site registration on Thursday. It will be placed in the party tent on the campground and pit area. Afterwards everyone who is wearing a pink shirt may be approached to ask general questions. If there are specific questions e. g. concerning specific disciplines, try to find a pink shirt who is responsible for this context or use the event Messenger group.

2 Registration

2.1 Teams

The event is limited to 10 active (DriverMore + DriverLess) and 3-4 alumni (DriverOld) teams.

The active teams should aim to participate with their current car and take part in all Static Disciplines and Dynamic Events.

The alumni teams only participate in the Dynamic Events. Alumni team members are welcome to support the judging of the Static Disciplines and the technical inspection.

Category	Drivetrain	Number
DriverMore [DM]	EV	10 (8 reserved slots)
DriverLess [DV]	EV	
DriverOld [DOld]	EV / CV	3-4

2.2 Team Registration

The registration for the VDE E-Race consists of the following steps:

1. **Team registration:** The team registers in two steps, an initial registration and a second form with the registration details, during the Team Registration period (see below).
2. **Publication of Registration Results:** All teams are informed by e-mail whether they have received a slot or have been put on the waiting list, and how many team member slots they have (see Team Member Limit).
3. **Team member registration:** Every team member who wants to participate registers individually on our homepage during the Main Team Member Registration period (see Team Member Registration).
4. **Payment:** After the Main Team Member Registration, every team receives an invoice for the registration fee, which has to be paid within one week after receipt. Late registrations are invoiced separately (see Registration Fee).
5. **On-site registration:** On the first day of the event, the team captain or his/her deputy completes the registration at the event control (see On-Site Registration).

The team registration consists of two steps, which both have to be completed during the *Team Registration* period (see Important Dates):

- **Initial registration:** The team registers on our homepage (www.vde-erace.de) with the team name, the category, the contact person and the contact details. The time of submission of this form is decisive for the first-come, first-served principle.
- **Registration details:** After submitting the initial registration, the team receives a link to a second form by e-mail. In this form, the team provides further information, e.g. the estimated number of participating team members (see Team Member Limit), the billing address, the participating vehicles including their car numbers and whether it prefers to present Engineering Design and Cost and Manufacturing directly after each other or with a break in between. We try to consider these preferences when creating the schedule for the Static Disciplines. The registration is only confirmed once the second form has been submitted by the end of the *Team Registration* period. Otherwise, the initial registration expires.

The registration slots will be assigned based on the first-come, first-served principle (time of submission of the initial registration), however all Teams sponsored by the VDE Region Nord have their slot guaranteed. If a sponsored Team does not register during the *Team Registration* period the slot will be given to a non-sponsored team.

The option to register a team will be available on the competition website as soon as the registration period starts. As mentioned before, it is recommended to register quickly after the start of the registration, as slots are limited and order is based on first-come, first-served principle.

On the *Publication of Registration Results* date, we will inform all teams who submitted the initial registration about the state of their registration through their provided contact e-mail address. If the number of registrations exceeds available slots we will open a waiting list. We will also publish the results on the competition website.

2.3 Team Member Registration

Team members must register themselves on the competition website. In the registration process, each person is asked to choose their team. The list of registered team members will be accessible via an individual link provided to the team's contact e-mail address.

It is the responsibility of each team to regularly check the list of registered team members and inform the officials (info@vde-erace.de) if there are any false registrations.

The registration period for team members is split into the main registration and the late registration period. The times of these periods are given as *Main Team Member Registration* and *Late Team Member Registration* in section Important Dates of the VDE E-Race rules.

2.3.1 Team Member Swap

After the *Late Team Member Registration* it is not possible to register any new team members, however, it is possible to swap team members equally until the *Team Member Participation Freeze* (see section Important Dates). Equally means without inflicting additional costs, which means

- VDE member only with VDE member
- Non-VDE member with Non-VDE member or VDE member

In order to swap participants, the new team member must register using the registration form and the team captain needs to request the change. Information about the exact request procedure will be provided to registered teams after the start of the team member registration period.

2.3.2 Team Member Limit

We have to limit the number of participants to 250 due to the infrastructure on the campground. As there are larger and smaller teams, we do not want to set a fixed maximum number of team members per team. Instead, every team is required to provide an estimation on how many of their team members are planning to attend the event. This estimation has to be provided during Team Registration.

Based on the estimations of all teams, the officials will define a fair amount of team member slots for each team. All participating teams will be informed about their individual number of slots in the *Publication of Registration Results* e-mail. If a team from the waiting list is moving forward to be registered, it will get the same amount of slots as the withdrawn team.

2.4 Registration Fee

The registration fee for the VDE E-Race is € 15,00 per person for VDE members and € 30,00 per person for non-members. The minimum registration fee is € 150,00 per team.

Based on these amounts, an individual registration fee is calculated for every team, as soon as the main team member registration period is over. The payment has to be completed within one week after receipt of the invoice (*Registration Fee Payment* deadline, see Important Dates). The invoices are issued by the VDE, therefore we cannot give a fixed date in advance.

The registration fee for team members registered during the *Late Team Member Registration* period given in Important Dates is € 50,00 regardless of the membership state in the VDE. So it is really recommended to meet this deadline of the *Main Team Member Registration*. If there are late registrations for a team, an additional invoice will be created. The payment has to be completed until the *Late Registration Fee Payment* deadline given in Important Dates.

The following examples illustrate the calculation of the individual registration fees:
Example 1: A team registers 20 VDE members (€ 300,00) and 5 non-members (€ 150,00) → This team has to pay € 450,00 after the *Main Team Member Registration* (*Registration Fee Payment*).
Example 2: A team registers 5 VDE members (€ 75,00) → This team has to pay € 150,00 after the *Main Team Member Registration* (*Registration Fee Payment*).
Example 3: A team registers 10 VDE members (€ 150,00) and 5 non-members (€ 150,00) and additionally 2 VDE members and 3 non-members during *Late Team Member Registration* (€ 250,00) → This team has to pay € 300,00 after the *Main Team Member Registration* (*Registration Fee Payment*) and € 250,00 after the *Late Team Member Registration* (*Late Registration Fee Payment*).

Registration period	Fee	Corresponding Payment Deadline
Main Team Member Registration	€ 15,00 per VDE member € 30,00 per non-member Minimum € 150,00	Registration Fee Payment
Late Team Member Registration	€ 50,00 per person	Late Registration Fee Payment

Note: VDE membership is only available for people living in Germany. International teams please contact the officials before the *Main Team Member Registration* period to figure out a suitable solution (info@vde-erace.de).

There will be no refunds of any registration fee for any reason. Late payment may cause losing the guaranteed starting place and being listed at the end of the waiting list.

If a team is withdrawn e.g. due to missing a payment deadline, the team can request to be registered again and will be added to the end of the waiting list.

Event Shirts: Event shirts may be offered together with the team member registration. Whether event shirts are available in a given year, and how they can be ordered and paid for, is communicated to the teams by e-mail. There is no guarantee that event shirts will be offered.

2.5 On-Site Registration

On-site registration takes place at the event control and is possible on the first day of the competition (usually Thursday). Only the team captain or his/her deputy will be able to register the team.

At the event control, every team will receive a VDE E-Race Event Package including registration passes, dynamic area vests, the printed Technical Inspection sheet etc. In addition, teams can sign up for their Technical Inspection slots at the event control.

2.6 ESO / ASR Assignment

Each team has the possibility to assign as many ESOs / ASRs as they want. All assigned ESOs / ASRs need to meet the requirements given in the current Formula Student Rules. The assignment is done by the team without explicit supervision by the officials. However there might be random checks of the qualification documents conducted at any time.

Each EV team has to assign at least one ESO.
Each [DV] team has to assign at least one ASR.
If there is only one ESO / ASR assigned by a team, this person must not be a driver.

2.7 Driver Assignment

Except for DriverOld teams, every team member who is driving a car under its own power needs to be registered during Technical Inspection. An individual driver must not drive in more than two Dynamic Events (does not apply to DriverOld teams). In order to limit the time during Technical Inspection, it is guaranteed that each team has the option to register 4 drivers. Additional drivers can be registered depending on the availability of technical inspectors.

It is recommended to register all drivers in one egress test session. Every team's first egress session has priority. In general, a split registration is possible, but the availability of the responsible pink shirts might be limited during the event. Drivers need to bring their student ID and driver’s license for registration.

3 General Rules

3.1 General Technical Requirements

Every team could bring a self-constructed single-seated race car in order to participate in the competition. It is also possible to participate without a complete car in the Static Disciplines only.

Every participating vehicle must be built according to FSAE or Formula Student Rules (valid in the year when the vehicle first participated in an official event). Except for DriverOld vehicles, it must pass the Technical Inspection before it is allowed to drive on the test track and participate in the Dynamic Events.

We strongly recommend participating with the current vehicle (even if it is not finished and ready to race) to get the maximum experience and benefit out of this pre-event - especially through the feedback on Static Disciplines and Technical Inspection.

3.2 Competition Categories

There will be three competition categories at the VDE E-Race:

- DriverMore [DM]
- DriverLess [DV]
- DriverOld [DOld]

In general, the purpose of the competition is to prepare teams and their current vehicles for the official competitions later in the season. However, it is also possible to join the event with an older car and get feedback and training on Static Disciplines and Technical Inspection. All disciplines taken with a non-first-year vehicle may be scored in the DriverOld category.

3.2.1 DriverMore

The DriverMore category is open for first year vehicles built according to the current version of the Formula Student Rules. Only electric vehicles (EV) are admitted to the DriverMore category. DriverMore category will be conducted due to Formula Student Rules, which means that Acceleration and Skid Pad need to be run autonomously as well in order to get the maximum points.

All cars which have not participated in an official World Ranking List Formula Student event (see https://www.formulastudent.de/world/competitions/) are considered to be first year vehicles.

3.2.2 DriverLess

The DriverLess category is equivalent to the Driverless Cup. This means that it will be required to participate in the DriverLess with *the same* car that is used in DriverMore.

3.2.3 DriverOld

The DriverOld category is meant to encourage alumni to experience the joy of VDE E-Race and "*show the young jumpers how the rabbit is running*". Because as we all know: *"Earlier was everything better"*.

If you are interested in joining the VDE E-Race with your alumni team, feel free to register during the registration periods specified in the section Important Dates. If you have questions, feel free to contact us via e-mail at info@vde-erace.de. It is much appreciated when participating alumni teams support us in judging the Static Disciplines and Technical Inspection. The special rules for the Dynamic Events of the DriverOld category are described in section DriverOld Dynamics.

3.3 Charging and Working on the Car

There will be a charging area where the HV accumulators can be charged. The charging area will be available on a regular basis during the day and in special cases on request.

If the tractive system is activated in the pit, all necessary safety precautions have to be met. This includes closing the pit with suitable caution tape to reduce the number of people in the pit to a minimum and to lift all driven wheels from the ground and remove the tires.

It is only allowed to open the accumulator in the charging area during the opening hours. This must be approved and / or supervised by an official.

3.4 Team Captains, Drivers, and ESOs / ASRs Briefings

The team captains, drivers, and ESOs / ASRs briefing will take place every morning.

This briefing is mandatory for all ESOs, and ASRs who are responsible for the car on that particular day (no matter if it is for Static, Dynamic Events or Technical Inspection). It is also mandatory for all drivers who want to drive the car on that day. It is optional for team captains, however it is highly recommended to attend.

Drivers, ESOs, and ASRs who do not attend the briefing or arrive late, are not allowed to operate the car in Technical Inspection, Dynamic Events and on the test track for that particular day.

3.5 General Guidelines

The officials reserve the right to revise the schedule of the competition and/or interpret or modify the competition rules at any time and in any manner that is in their sole judgment to ensure a safe and efficient operation.

All team members are required to cooperate with and follow all instructions of the officials. Official announcements shall be considered part of these rules.

All guidelines and clarifications posted in the *Rules and Important Documents* sections on the competition website for the current season are considered part of the rules.

Questions concerning the meaning or intent of the rules will be resolved by the officials.

3.5.1 Alcohol

Alcohol, cannabis, or any other recreational drugs are strictly forbidden at the harbor and in the pit area (this includes the pits of other teams).

You are not allowed to bring alcohol, cannabis, or other legal recreational drugs to the pit area and the harbor – even if they are inside your body. Illegal drugs are banned on the complete event.

Along with the fun, we want a safe competition. Therefore, we might conduct alcohol testing (breathalyzers) during the event. The permitted alcohol level in the aforementioned areas for any participant is 0 ‰. Every team member tested with an alcohol level higher than 0 ‰ in the pit area or at the harbor will lead to a penalty for the whole team which is determined by the officials. A second team member of the same team tested with more than 0 ‰ in these areas will lead to the disqualification of the team.

3.5.2 Smoking

Smoking (including Shisha) is only allowed in designated smoking areas. They are marked in the Site Plans, which are published on our website before the event.

3.5.3 Pit and Dynamics Ground Conditions

It is the responsibility of every team to leave the pit ground in the same or a better condition as it was in the beginning of the competition. It is required that no dirt or fluids leave residues on the ground and that the nearby river does not get contaminated by any kind of fluids like oil, degreaser or brake fluids. Therefore, it might be required to cover the pit ground with a suitable underlay. Any accidents or contaminants should be directly removed and reported to the officials.

The same requirements are valid for the condition of the dynamic area. If a car is losing fluids anywhere at the harbor, it is the team's responsibility to clean up the contaminated area and to take actions to prevent leakage in the future.

Every team is responsible for disposing of its waste, including deposit bottles, in the bins provided. This also applies to the dynamic area and the harbor.

3.5.4 Campground

Arrival at the campground is possible from 12:00 on the first day of the event. Vehicles may only enter the campground after the team captain has successfully completed the on-site registration. The roads in front of the campground must be kept clear at all times.

The areas for pits and tents are assigned by the officials during the on-site registration. Reserving areas in advance, e.g. by marking them with barrier tape, is not allowed.

Teams may only leave the event after their pit and the shared areas, including the party tent, have been cleaned up and approved by the officials. The deposit for the media vests (see Access to Dynamic Area) is only refunded after this approval.

3.5.5 Harbor

It is strictly forbidden to enter the water at and around the harbor. It is not allowed to dispose of any kind of waste into the water.

For your own safety, you are not allowed to climb any kind of harbor equipment (like cranes) and lamp posts.

A violation of the rule will lead to a disqualification of the whole team.

4 Technical Inspection

The Technical Inspection at the VDE E-Race will be according to Formula Student Rules and aims to prepare all teams for the requirements at the official events. Therefore, it is recommended to participate with the current car to gather some valuable feedback from official scrutineers.

DriverOld vehicles do not take part in the Technical Inspection. DriverOld teams are responsible for the safe condition of their vehicles and may inspect their vehicles themselves or each other.

4.1 General Information and Procedure

The VDE E-Race Technical Inspection will be based on the FSG Inspection sheets of the current year. Every DriverMore and DriverLess car needs to pass the Technical Inspection successfully in order to participate in the Dynamic Events. Each team will receive a printed copy of the current FSG inspection sheet valid for the respective vehicle type at the on-site registration.

Teams can sign up for Technical Inspection slots at the on-site registration. Further details on the procedure will be announced during the first Team Captains, Drivers and ESOs / ASRs briefing at the competition.

The static parts of Technical Inspection will take place in the pits. Brake and EBS tests will take place at the harbor.

Every vehicle receives a VDE E-Race Technical Inspection sticker. DriverOld vehicles receive the sticker to document their self-inspection. The sticker has a field for each inspection step (Accumulator, Electrical, Mechanical, Autonomous, Rain, Brake and EBS), which is marked as soon as the vehicle has passed the respective step. The sticker has the following dimensions: 50 mm height x 150 mm length. It should be positioned such that it is clearly visible while standing next to the car.

Every vehicle must display its car number clearly visible on both sides of the vehicle. The car number is chosen by the team during the Team Registration.

4.2 Special aspects of Technical Inspection at the VDE E-Race

It is possible to pass the Technical Inspection and compete in the Dynamic Events of the VDE E-Race or use the test area without having all boxes checked in the Technical Inspection Sheet.

The technical inspectors will decide whether a vehicle is in a safe technical condition that allows it to be operated at the event.

It is each team's decision to fix the non-safety-critical open points and present the car to re-inspection. Once the car has started in the first dynamic discipline no more open points will be checked. To ensure a fair competition, 5 points will be deducted from the team's dynamics score for each open checkbox on the inspection sheet.

4.3 Order of technical checks

The Accumulator Inspection, the Electrical Inspection and the Mechanical Inspection can be done in any order and in parallel.

The Rain test can be skipped on request (see Rain test). It should be completed before the Brake test. The Brake test can only be done after the inspections above have been passed, and it has to be done before the EBS test (DV only).

4.4 Tilt test

There will be no weight and tilt test conducted at this year's competition.

4.5 Rain test

Every DM team has to pass the rain test to participate in the dynamics without disadvantages.

If the weather conditions are very good, it might be allowed to participate in the dynamics, even if the rain test is not passed. Skipping the rain test needs to be requested of the officials. If that request is approved and no rain test is carried out, the following restrictions apply to ensure a safe and fair competition:

- 25 points will be deducted from the team's overall dynamic scoring.
- The officials monitor the weather situation and will stop the car whenever they assess the risk of rain too high (latest as soon as the track is declared damp/wet).
- If the car is stopped during a dynamic discipline, the current run is scored DNF and no re-run will be granted.
- If the car is operated on the test track, it is the ESO's responsibility to stop the car as soon as it starts to rain.

5 Static Disciplines

5.1 General Information

As the aim of the E-Race is to prepare you as well as possible for the Formula Student events, we put a special focus on the Static Disciplines. That's why the points distribution for the Static Disciplines is relatively higher, so it pays off even more to be prepared (see Scoring).

In case of any questions, you can reach out to the Static team via e-mail (statics@vde-erace.de).

Note: Teams not competing in the dynamics with a first year vehicle may still present Static Disciplines in accordance with their first year vehicle to receive some feedback or may use the time for a detailed Q&A session with the judges. Contact the officials **before** the competition to enable the judges to prepare the session accordingly.

5.2 Business Plan Presentation

5.2.1 Objective

The objective of the Business Plan Presentation (BPP) is to evaluate the team's ability to develop and deliver a comprehensive business model showing how their product could become a rewarding business opportunity. The judges should be treated as if they were potential investors or partners for the presented business model. The business plan must relate to the specific prototype race car entered in the competition. The actual quality of the prototype itself will not be considered part of the BPP judging.

The BPP at the VDE E-Race will be slightly different from the official Formula Student events. The most important change is that there is **no** Deep Dive Topic for the BPP. Due to that, the presentation time is only 8 minutes.

You can use any presentation tool you want. We will provide a projector or display with an HDMI or VGA port, so make sure you are prepared for both. Before your presentation starts, please check if all of your devices are compatible with the given equipment. Teams planning to use other presentation equipment are responsible for bringing it themselves.

5.2.2 Business Plan Executive & Financial Summary

The Business Plan Executive & Financial Summary (BPEFS) should be submitted before the competition. All information can be found in the FSG Rules (Formula Student Rules – S 2.3.) and in the additional information on FSG website. If your team is not participating in FSG and requires

a judging based on a different competition-specific ruleset, reach out to the Static team via e-mail (statics@vde-erace.de) as early as possible.

As soon as the team registration phase is closed and it is published who will be taking part in this year's VDE E-Race, the form for uploading the BPEFS will be published. Submit it through the form (using this link) by the *Static Disciplines Document Upload* deadline specified in the section Important Dates. In case of problems with the form, send a request via e-mail to statics@vde-erace.de.

We try to provide feedback for late submitted documents but to guarantee a fair competition, you will receive zero points for the *BPEFS* (see Static Disciplines Scoring).

5.2.3 Procedure

Presentations are limited to a maximum of 8 min. After the presentation has started, it will not be interrupted by questions. There will be a question and answer session immediately following the presentation.

One or more team members may present the business concept. All team members involved in the BPP must be in the podium area and must be introduced to the judges at the beginning of the presentation. Team members who have been introduced, may answer the judges' questions even if they were not presenting.

Teams that fail to start their presentation within their assigned time slot, will receive zero points for the BPP and get a penalty (see Static Disciplines Penalties).

It will be possible to bring additional team members (from your team or another) to see the presentation and take notes.

5.3 Engineering Design

5.3.1 Objective

The concept of Engineering Design is to evaluate the students' engineering process and the effort that went into the design of a vehicle, meeting the intent of the competition (Formula Student Rules – S 4.1.).

5.3.2 Engineering Design Documents

As soon as the team registration phase is closed and it is published who will be taking part in this year's VDE E-Race, the form for uploading the Technical Vehicle System Documentation (TVSD) (according to Formula Student Rules – S4.2) will be published. Submit it through the form (using this link) by the *Static Disciplines Document Upload* deadline specified in the section Important Dates. In case of problems with the form send a request via e-mail to statics@vde-erace.de.

We try to provide feedback for late submitted documents, but to guarantee a fair competition you will receive zero points for the *TVSD* (see Static Disciplines Scoring).

5.3.3 Content

The Engineering Design discipline at the VDE E-Race will be similar to the one at the official Formula Student Events (Formula Student Rules – S4). Prepare everything as you would do it for any other event. Bring supporting material like drawings, pictures, videos, and similar to support your arguments and to visualize your design process to the judges.

5.3.4 Procedure

The Engineering Design discipline will take place in the pits.

You will present your construction and design decisions to the judges next to the race car. In a question-answer-discussion they evaluate the design process of the race car. The discussion is limited to a maximum of forty minutes.

After the discussion you will get a short feedback and some hints on how you can improve for the upcoming events.

5.4 Cost and Manufacturing

5.4.1 Objective

The objective of this discipline is to evaluate the team's understanding of the manufacturing processes, costs and greenhouse gas emissions associated with the construction of a prototype vehicle. This includes trade-off decisions between content and cost, make or buy decisions and understanding the differences between prototype and mass production (Formula Student Rules - S 3.1.1).

5.4.2 Cost Report Documents

All Cost Report Documents (CCBOM, Supporting Material File and Cost and Emissions Explanation File) are required for participating in this event (Formula Student Rules – S 3.3.1). The CCBOM should be created with the online tool on the FSG website and exported as PDF.

As soon as the team registration phase is closed and it is published who will be taking part in this year's VDE E-Race, the form for uploading the documents will be published. Submit them through the form (using this link) by the *Static Disciplines Document Upload* deadline specified in the section Important Dates. In case of problems with the form send a request via e-mail to statics@vde-erace.de.

We try to provide feedback for late submitted documents, but to guarantee a fair competition you will receive zero points for the *CCBOM and CCBOM discussion* (see Static Disciplines Scoring).

5.4.3 Content

The Cost and Manufacturing discipline at the VDE E-Race will be similar to the one at the official Formula Student Events (Formula Student Rules – S 3.2). Therefore, we ask you to prepare yourselves as you would do it for every other judging. The systems for the CCBOM are defined in the Formula Student Rules, see S 3.4.6.

5.4.4 Procedure

The Cost and Manufacturing discipline will take place in the pits. You will present your CCBOM and manufacturing decisions to two judging groups next to the race car. In a question-answer-discussion they evaluate the manufacturing process of the race car.

After the discussion you will get a short feedback and some hints on how you can improve for the upcoming events.

6 Dynamic Events

The Dynamic Events will take place in the dynamic area. Every aspect that is not specifically defined in the following section will be conducted according to the current Formula Student Rules.

6.1 Access to Dynamic Area

Access to the dynamic area is only allowed to a limited number of participants per team. Every team will receive four dynamic area vests. With these vests, four team members may enter the dynamic area.

Drivers may take them off while sitting in the car and give them to another team member already wearing a vest.

In addition, teams can receive media vests against a deposit at the on-site registration. Team members wearing a media vest may take photos and videos in the dynamic area, but only within the media zones marked in the Site Plans. The number of media vests per team and the amount of the deposit will be announced in the Final Information Document.

6.2 Testing

Testing is only allowed in the testing area after passing the Technical Inspection (does not apply to DriverOld vehicles).

If the tractive system is activated or the IC engine is fired up in the pit lane, make sure that all necessary safety precautions are met as stated in section Charging and Working on the car.

6.3 Vehicle Status Video

The testing area may be used to film a Vehicle Status Video (VSV) during the opening hours of the harbor (see detailed event schedule), regardless of the Technical Inspection status of the vehicle at that time. Filming a VSV has to be registered with a pink shirt beforehand. This is an exception to the rule given in Testing.

6.4 Dynamic Disciplines

The following dynamic disciplines will be part of the VDE E-Race:

Dynamic Discipline	Category
Acceleration	[DM] / [DV] / [DOId]
Skid Pad	[DM] / [DV] / [DOId]
AutoX	[DM] / [DV] / [DOId]
Endurance	[DM] / [DOId]
Trackdrive	[DV]
Efficiency (optional)	[DM] / [DV]

The running order procedure for Endurance and Trackdrive will be announced in the respective Team Captains, Drivers and ESOs / ASRs briefing.

Autonomous Disciplines: The autonomous disciplines only take place if at least one active team is able and willing to compete in them. Otherwise, the changes for the autonomous disciplines are not set up and the free time slots are used for the manual disciplines. The exact changes to the schedule will be announced on site in the briefings and in the messenger group.

The times set in autonomous Skid Pad and Acceleration will also be scored in the [DM] overall result (as given in the FS Rules).

There may be an Efficiency scoring at the VDE E-Race. This depends on whether an official Formula Student event would like to test its Energy Meters at the VDE E-Race. If so, Energy Meters will be provided on site and an Efficiency score will be calculated. The final decision will be announced in the Final Information Document. So please consider the space and connections in your car.

Acceleration Lighting: For driverless vehicles (DV), the discipline is held in the early evening so that daylight conditions prevail.
For vehicles with drivers (DM), the discipline takes place during and after sunset. Sufficient lighting will be provided so that the discipline can be carried out safely. A night race is based on an interesting light show. So think back to your tuning time at *Need for Speed* and show everyone how a vehicle is displayed properly. There might be special awards for the most impressive lighting again.

6.4.1 DriverOld Dynamics

In general, the DriverOld vehicles participate in the same dynamic disciplines as described in section 6.4. However the following special rules and exceptions apply:

Acceleration: The Acceleration is conducted in the same way as for DriverMore.

Skid Pad: The order of the laps is not fixed. Each circle (right and left) has to be driven twice, and only the second lap on each circle is timed. For example, it is possible to drive one lap on the right circle, then two laps on the left circle and finally the second lap on the right circle.

AutoX: The AutoX is conducted in the same way as for DriverMore.

Endurance: To enable the Endurance experience for the really old Rentner-Karren, each DriverOld team has one Endurance run. The run consists of several stints, and two consecutive stints have to be driven by different drivers. The run is scored if it covers at least 25% of the DriverMore Endurance distance, and the time is extrapolated to the complete distance. To also take into account the age of the drivers, the number of driverchanges is not limited. A stint consists of at least 3 consecutive laps driven by the same driver, and there needs to be at least one driverchange during the Endurance. The total number and frequency of driverchanges is the team's strategy decision. In order to give the DriverMore teams the chance to successfully drive their Endurance, a DriverOld Endurance may be interrupted during a driverchange and continued after the DriverMore team has finished. The time is stopped during the interruption.

7 Scoring

In the following tables, maximum points per discipline are listed. For the detailed calculation, refer to the concerning chapters.

DriverMore	Points
Engineering Design	200
Cost and Manufacturing	125
Business Plan Presentation	125
Autonomous Acceleration	75
Acceleration	50
Autonomous Skid Pad	75
Skid Pad	50
AutoX	100
Endurance	200
Efficiency	100
Total	**1100**

DriverLess	Points
Acceleration	75
Skid Pad	75
AutoX	100
Trackdrive	250
Efficiency	100
Total	**600**

DriverOld	Points
Acceleration	200
Skid Pad	200
AutoX	200
Endurance	400
Total	**1000**

7.1 Static Disciplines Scoring

Engineering Design	
Overall Vehicle Concept and Innovation	20
Software	15
Vehicle Performance / Aerodynamics	30
Mechanical / Structural Engineering	15
Tractive System / Powertrain	30
LV-Electrics / Electronics / Hardware	15
Autonomous Functionality	45
Driver Interface	15
Technical Vehicle System Documentation	15
Total	**200**

Cost and Manufacturing	
Format and Accuracy of Documents	10
Knowledge of Documents and Vehicle	10
CCBOM and CCBOM discussion	40
Discussion Part 2 “Cost Understanding”	40
Part 3 “Real Case”	25
Total	**125**

Business Plan Presentation	
Preparation	10
Executive & Financial Summary	15
Content	25
Finances	15
Demonstration and Structures	15
Delivery	15
Questions	10
General Impression	20
Total	**125**

7.2 Static Disciplines Penalties

If a team does not show up for a judging session for any Static Discipline, there will be a penalty of 50 points. It is possible to deregister from a Static Discipline or change slots until 24 hours before the VDE E-Race on-site registration starts.

Any change request needs to be communicated to statics@vde-erace.de.

7.3 Dynamic Events Scoring

The scores for the Dynamic Events are calculated based on the formulas given in the current Formula Student Rules section D9.

Note that there is an individual P_{max} for the VDE E-Race (see Scoring).

7.4 Dynamic Events Penalties

After a discipline, various aspects of the technical regulations may be checked again. Deviations will result in penalty points. The penalty points will be calculated according to Formula Student Rules (see Formula Student Rules IN12).

Penalty points for driving errors or wrong/late queuing (only Endurance) are also assessed according to Formula Student Rules (see Formula Student Rules D10).

7.5 General Penalties

Every violation of the rules during the competition may lead to a penalty for the team. The amount and nature of the penalty shall be determined by the officials.

7.6 Publishing Results

The results will be published on the event website. Additionally there might be announcements on the event social media accounts.

All scores are rounded to whole points.

7.7 Protesting

To protest a rule, score, judge's decisions, time, or any other aspect of the competition, the team must present the issue to the officials for discussion, and possible resolution before the protest is lodged.

To lay a protest, send an email to info@vde-erace.de. Protests can only be handed in by the team captain or his/her deputy.

Protests must be lodged within one hour after the action being protested has occurred or the scores for the activity involving the protest's subject are posted.

The protesting team must post a 25-point bond to be deducted from their score if the protest is denied. The decision of the officials regarding any protest is final.