

# FORMULA STUDENT EAST COMPETITION HANDBOOK 2024

ver. 0.1

#FORMULASTUDENTEAST

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## ABBREVIATIONS

<b>FSEast</b>	Formula Student East 2024 organized by the Association of Automotive Engineers
<b>FS Rules</b>	Formula Student Rules 2024 published by Formula Student Germany
<b>ADR</b>	Autonomous Design Report
<b>BPPEC</b>	Business Plan Presentation Electronic Copy
<b>ESD</b>	Evening Storage Documentation
<b>DV</b>	Driverless Vehicle
<b>DVSV</b>	Driverless Vehicle Status Video
<b>FTO</b>	Fuel Type Order
<b>HIC</b>	Health Insurance Certificate

## FSEAST DOMAINS

<b>fseast.eu</b>	FSEast official website
<b>quiz.fseast.eu</b>	FSEast quiz website
<b>login.fseast.eu</b>	FSEast team and participant management, documentation upload

## EA 1 GENERAL REGULATIONS

### EA 1.1 INQUIRES AND FEEDBACK

EA 1.1.1 Inquiries and feedback must be raised via [rules@fseast.eu](mailto:rules@fseast.eu) (regarding FSEast rules) or [hello@fseast.eu](mailto:hello@fseast.eu) (regarding general event information).

### EA 1.2 FSEAST RULES

EA 1.2.1 FSEast will follow FS Rules. This document describes changes and additions to FS Rules. In case of any contradiction between this document and FS Rules, FSEast rules supersede FS Rules.

### EA 1.3 OFFICIAL COMMUNICATION

EA 1.3.1 All announcements made by the officials in person, via speakers on the venue or via the official Telegram channel shall be considered part of these rules.

### EA 1.4 PROTEST PROCEDURE

EA 1.4.1 To initiate a protest as per FS Rules A 3.7 teams must submit a formal protest to [rules@fseast.eu](mailto:rules@fseast.eu) within the announced protest deadline.

EA 1.4.2 If no explicit protest deadline is announced, the deadline is 24h after the respective incident.

EA 1.4.3 Officials reserve the right to postpone protest review if the review process would likely jeopardize the start time of the award ceremony. Final results will be withheld until all protests are closed.

### EA 1.5 COMPETITION PROCEDURE

EA 1.5.1 In addition to CV (including HY) and EV FSEast is available in DV class.

EA 1.5.2 The achievable points in each class are listed in Table 2.

EA 1.5.3 FS Rules A 1.2.6 and A 1.2.7 are void.

### EA 1.6 COMPETITION DATE AND LOCATION

EA 1.6.1 Competition date and location will be published in this document at a later date.

## EA 1.7 COMPETITION TIME

EA 1.7.1 The competition date/time format is “YYYY-MM-DD hh:mm” in 24 hours format.

EA 1.7.2 FSEast official time follows Central European (Summer) Time based on the table below:

From	Till	Time zone
2023-10-29 00:00	2024-03-31 02:00	CET
2024-03-31 03:00	2024-10-27 03:00	CEST

Table 1: Official competition time

## EA 1.8 PERSONAL TRANSPORT

EA 1.8.1 Use of any small vehicles on the competition site, either self-propelled or not, is prohibited.

	CV & EV	DV
Static Events:		
Business Plan Presentation	75 points	75 points
Cost and Manufacturing	100 points	100 points
Engineering Design	150 points	250 points
Dynamic Events:		
Skidpad	75 points	100 points
Acceleration	75 points	100 points
Autocross	100 points	125 points
Endurance	325 points	-
Efficiency	100 points	-
Trackdrive	-	250 points
Overall	1000 points	1000 points

Table 2: Maximum points awarded

## EA 1.9 [EV ONLY] WORKING IN THE PITS

EA 1.9.1 TS cannot be activated in the pits without prior approval of an electrical scrutineer. The approval must be asked for by the ESO who will oversee the work done during TS activation. He/She must be able to clearly explain the goal and necessity of the activation, and the details of the planned work from start to finish.

## EA 1.10 [EV ONLY] TS ACCUMULATOR RULES

EA 1.10.1 Whenever the TSAC is installed in the car in the pits, the car shall be on the ground with all wheels mounted and must be easily removeable from the pits. Exemption is granted in cases when the team performs approved work on the TS in the pits as per EA 1.9.1.

EA 1.10.2 Whenever the TSAC is stored in the pits outside of the car, it must be stored on the TSAC Hand Cart, with the Hand Cart stationed by the unobstructed pit exit, with the handle facing outside.

EA 1.10.3 TS Accumulators must be left to rest for 60 minutes after charging. A resting area will be available near the charging area for this purpose. The AMS must be live and monitored by at least one team member during the resting period.

## EA 1.11 [EV ONLY] TSAC EVENING STORAGE

EA 1.11.1 Storing the TSAC in the pits during the evening is prohibited. Teams must choose one of the two following options:

**Option A)** The TSAC will be stored in open-air in front of the team's pit. The team must bring their own weatherproof container to protect the TSAC (on or off the TSAC Hand Cart). The requirements of this container will be available in a separate document on the FSEast website. ESD must be submitted if the team chooses this option.

**Option B)** Teams can store their TSAC in a 20-foot weatherproof container provided by the officials along with up to 7 other teams. A rental fee applies if the team chooses this option. This fee will be published later and must be paid at Event Control in cash on the first day of the event.

## EA 1.12 CAMPSITE RULES

EA 1.12.1 Playing excessively loud music between midnight and 05:45 is prohibited.



## EA 2 REGISTRATION

Details about the registration process will be published here in a later release of this document. The expected date for the registration quiz is 2024-01-26.

## EA 3 DATES & DOCUMENTS

### EA 3.1 DEADLINES

EA 3.1.1 The following documents must be submitted to FSEast by their respective deadline. Documents not listed in this table are not required.

Document	CV	EV	DV	Deadline
ASF			●	2024-03-29 13:00
ESF		●	O <sup>1</sup>	2024-03-29 13:00
HSF	O <sup>2</sup>		O <sup>3</sup>	2024-03-29 13:00
SES & SE3D	●	●	●	2024-03-15 13:00
IAD	●	●	●	2024-03-15 13:00
TMD & HIC	●	●	●	TBA
EDR	●	●	●	TBA
ADR			●	TBA
DSS	●	●	●	TBA
CRD	●	●	●	TBA
BPPV	●	●	●	TBA
VSV	●	●		TBA
DVSV			●	TBA
ESD		●	O <sup>1</sup>	TBA
FTO	●		O <sup>4</sup>	TBA
BPPEC	●	●	●	TBA

Table 3: Required documents

<sup>1</sup>Mandatory for teams with DV cars with EV powertrain.

<sup>2</sup>Mandatory for teams with Hybrid CV cars.

<sup>3</sup>Mandatory for teams with DV cars with CV-HY powertrain.

<sup>4</sup>Mandatory for teams with DV cars with CV powertrain.

## EA 3.2 SHARED DOCUMENTS WITH OTHER EUROPEAN FS EVENTS

EA 3.2.1 ASF, ESF, SES & SE3D and IAD must be submitted through the FSG website. Teams who will participate at FSEast, but not FSG, also need to register their team on the FSG website. Registration for the end of the FSG waiting list is sufficient and no payment to FSG is required.

## EA 3.3 LATE SUBMISSION

EA 3.3.1 FS Rules A 5.3.3 and A 5.4.1 are void. See rules below for details.

EA 3.3.2 Penalty points are applied for each started 24 hours period after the submission deadline. See Table 4 for the daily penalty points for each document.

EA 3.3.3 Penalties applied due to late submission of EDR, ADR, DSS, CRD, BPPV and BPPEC will be deducted from the team's final score of the respective static event(s). The minimum achievable final score in each static event is 0.

EA 3.3.4 If a tie occurs in TOP3 positions due to EA 3.3.3, the team with the least penalty points will be ranked in the higher place. Teams in tie out of TOP3 positions will be ranked in the same place.

EA 3.3.5 The maximum possible sum of all penalty points applied due to late submission of the ASF, ESF, HSF, SES & SE3D, IAD, VSV, DVSV and FTO is the total achievable points in all dynamic events. Penalty points applied for the late submission of these documents are deducted from the team's overall score, up to the team's achieved final points for all dynamic events.

EA 3.3.6 The maximum penalty points applied for late submission of the ESD is 50 points, which are deducted from the team's overall score.

EA 3.3.7 Penalties applied for the late submission of TMD and HIC are deducted from the overall score of the team.

EA 3.3.8 Submission penalties are applied separately in all classes the team competes where the respective document is required.

EA 3.3.9 [CV only] Teams who opt out of using the hybrid system will not receive any penalty points for the HSF. This choice will be recorded in the scrutineering sheet and is irrevocable.

## EA 3.4 DE-REGISTRATION

- EA 3.4.1 FS Rules A 5.4.2 is void. See rules below for details.
- EA 3.4.2 Teams who fail to submit a VSV, DVSV, ESF, ASF, IAD or SES & SE3D until 24 hours after the respective deadline will be de-registered from the competition.
- EA 3.4.3 If the corrected version of VSV, DVSV, ESF, ASF, IAD or SES & SE3D does not completely contain all requested corrections, the team will be de-registered from the competition.
- EA 3.4.4 FS Rules A 5.5 applies to the process of re-registration, except that the “24 hours after notification” deadline is raised to 168 hours in case of VSV and DVSV. The deadline remains the same for all other documents.

Document	Daily penalty points
ASF	10
ESF	10
HSF	10
SES & SE3D	10
IAD	10
TMD & HIC	5
EDR	5
ADR	5
DSS	5
CRD	5
PV	5
VSV	10
DVSV	10
ESD	5
FTO	5
BPPEC	5

Table 4: Late submission penalties

## EA 3.5 TMD & HIC

- EA 3.5.1 The team captain must provide a list of participating team members with their personal information on the FSEast team management website. Completion of this process is considered as TMD submission.
- EA 3.5.2 A proof of valid health insurance in Hungary at the time of the competition (HIC) must be submitted for each participating team member.

## EA 3.6 ESOQ & ASRQ

- EA 3.6.1 FS Rules A 4.3.8 and A 4.4.7 are void. Neither ESOQ nor ASRQ are required.
- EA 3.6.2 ESOs and ASRs must produce a signed liability statement upon onsite registration.

## EA 3.7 VSV & DVSV

- EA 3.7.1 DVSV is defined as a VSV which complies with FS Rules A 5.6.2 with [DC only] remarks considered.
- EA 3.7.2 VSV and DVSV must be uploaded to YouTube as a public or non-listed conventional (not Shorts) video. The submitted file must only include the link of the video.

## EA 3.8 [EV ONLY] EVENING STORAGE DOCUMENTATION (ESD)

- EA 3.8.1 Teams who choose *option A* from EA 1.11.1 must submit an ESD. Content requirements for the ESD will be available on the FSEast website.
- EA 3.8.2 Teams who choose *option B* from EA 1.11.1 must submit a one-liner txt document indicating their choice.

## EA 3.9 [CV ONLY] FUEL TYPE ORDER (FTO)

- EA 3.9.1 Teams must indicate their fuel choice on the FSEast team management website. Completing this process is considered as FTO submission.

## EA 3.10 [DV ONLY] AUTONOMOUS DESIGN REPORT (ADR)

- EA 3.10.1 The ADR should contain a description of the autonomous system with a review and derivation of the team's design objectives. Any information to scope, explain or highlight design features, concepts, methods or objectives to express the value and performance of the autonomous system to the judges shall be included at the team's discretion.
- EA 3.10.2 The ADR must not exceed five A4 pages of content (text, which may include pictures and graphs).
- EA 3.10.3 Any portions of the ADR that exceed five A4 pages of content will not be evaluated.
- EA 3.10.4 The ADR must be written as a scientific paper.

## EA 4 TECHNICAL REGULATIONS

### EA 4.1 DRIVER EQUIPMENT

- EA 4.1.1 The underwear (long pants and long sleeve t-shirt) and socks must be certified to one of the following standards and labeled as such: SFI Spec 3.3, FIA Standard 8856-2000 or FIA Standard 8856-2018.

### EA 4.2 FIRE EXTINGUISHERS

- EA 4.2.1 [EV only] One of the fire extinguishers required by FS Rules T13.4 may be replaced by a fire extinguisher designated to contain lithium battery fires. This fire extinguisher must accompany the TSAC wherever it is moved (excluding the dynamic area), either in the vehicle or on the Hand Cart.
- EA 4.2.2 Fighting a TSAC fire is permitted only until imminent danger to human life is abated.

### EA 4.3 DATA LOGGER

- EA 4.3.1 Data Logger specifications will be available on the FSEast website. These specifications may differ from the ones listed in FS Rules EV 4.6 and supersede them in case of conflict.
- EA 4.3.2 [CV only] CV vehicles will not be equipped with a Data Logger.

### EA 4.4 [DV ONLY] REMOTE EMERGENCY SYSTEM (RES)

- EA 4.4.1 The RES that has to be used for the competition is a GF2000i-codec/T53R98 combination from GrossFunk GmbH.
- EA 4.4.2 No CAN logging is required. Proper configuration and CAN communication with RES is the team's responsibility. No rerun is granted for RES failure.

### EA 4.5 [EV ONLY] ACCUMULATOR INSPECTION

- EA 4.5.1 No official temperature logging device will be installed at FSEast.

### EA 4.6 TECHNICAL INSPECTION STICKER

- EA 4.6.1 A 100x180 mm (WxH) spot shall be reserved on the upward-facing bodywork between the front bulkhead and the front roll hoop.

## EA 5 STATIC EVENTS

### EA 5.1 BUSINESS PLAN PRESENTATION EVENT

- EA 5.1.1 Teams cannot submit the same business plan that they presented in a previous FSEast Event, regardless of class. (E.g., 2023's DV business plan cannot be an EV business plan in 2024.)
- EA 5.1.2 Teams must submit the final version of their presentation (BPPEC) no later than the given deadline. Teams cannot change their presentation (except minor changes, like correcting typos) for the initial judging after their electronic copy is submitted.
- EA 5.1.3 BPPV must be uploaded to YouTube as a public or non-listed conventional (not Shorts) video. The submitted file must only include the link of the video.
- EA 5.1.4 The BPPV should be considered as the first impression of the business idea and has to contain the relevant investment figures **and the business idea itself**.
- EA 5.1.5 The BPP will be evaluated on the categories specified below.

Category	Points
Pitch Video	5
Content	25
Finances	20
Deep Dive Topic	10
Demonstration	5
Structure	5
Delivery	10
Q&A	15
General Impression	5
Total	100

Table 5: BPP evaluation categories



- EA 5.1.6 If one or more team members read the presentation, the maximum achievable score in the Delivery category for the team is 5 points.
- EA 5.1.7 The information that the team shares in the Q&A session will only receive points in the Q&A category, not in other categories.
- EA 5.1.8 If the business proposition (what kind of partnership the team is looking for) is not clear, the maximum achievable score in the Finances category is 5 points.
- EA 5.1.9 Teams have the opportunity to use supporting materials (e.g., handouts, mockups, etc.). If a team chooses to use such materials, these materials will be evaluated only to the extent it is used/presented during the presentation and/or the Q&A. All supporting materials must be collected after the Q&A.
- EA 5.1.10 Finalist teams will receive an additional Deep Dive Topic on the finalists' briefing that they should incorporate into their presentation on the Finals.
- EA 5.1.11 If there are 0 finalists in a class, the 70 in FS Rules S 1.4.6 is replaced by 75.

## EA 5.2 COST AND MANUFACTURING EVENT

- EA 5.2.1 A DBOM for the Suspension system must be submitted.
- EA 5.2.2 A CBOM for the Engine and Drivetrain system must be submitted.
- EA 5.2.3 The scoring of non-finalists is calculated as followed:

$$COST\_SCORE = \left( \frac{P_{team}}{P_{max}} \right) * (100 - n)$$

Where:

$P_{team}$  is the score awarded to the team.

$P_{max}$  is the highest score awarded to any team not participating in the finals.

$n$  is the number of finalists in the class (can be 0).

- EA 5.2.4 The scoring of finalists is calculated as followed:

$$COST\_SCORE = 100 - (n - 1)$$

Where:

$n$  is the place achieved in the Cost and Manufacturing Event final.



## EA 5.3 ENGINEERING DESIGN EVENT

- EA 5.3.1 FS Rules S 3.1.3 does not apply for CV and EV class.
- EA 5.3.2 The EDR must only consist of A4 pages.
- EA 5.3.3 Evidence of information mentioned in the ADR should be brought to the competition and be available, on request, for review by the judges.
- EA 5.3.4 FSEast specific DSS template will be available on the FSEast website. This template must be used for submission of the DSS.
- EA 5.3.5 The maximum scores listed in Table 6 apply for the Engineering Design Event.

Category	CV & EV Points	DV Points
Overall Vehicle Concept	30	40
Team & Project Management	20	20
Chassis & Ergonomics	20	20
Vehicle Dynamics & Suspension	20	20
IC Powertrain / Electric Powertrain	20	20
Electronics & Control System	20	20
Aerodynamics	20	20
Perception	-	30
Mapping and Motion Planning	-	25
Trajectory Tracking	-	20
Actuators	-	15
Total	150	250

Table 6: Maximum scores in Engineering Design Event

**EA 5.4**     **STATIC FINALS**

- EA 5.4.1     Finalists will be notified in-person.
- EA 5.4.2     Finalists must attend a Finalists' briefing where officials will explain the procedure of the final. Finalists will be informed of the time and location of this briefing. The number of team members who may attend the briefing may be limited. Failure to attend the briefing will result in disqualification from the final.
- EA 5.4.3     The Engineering Design and Cost and Manufacturing finals are not public.
- EA 5.4.4     Maximum one team member per team may enter the judging area of the Engineering Design and Cost and Manufacturing finals for photography purposes. This team member must wear the *Media* identification which will be distributed during the finalists' briefing and must be returned to the officials after the final has ended.
- EA 5.4.5     The team's photographer must not speak to anyone in the judging area except officials (excluding judges). Violation of this rule will result in disqualification of the photographer's team from the final.
- EA 5.4.6     Nobody (except presenting team members) may enter the judging area (the area between the stage and the judges) of the Business Plan finals.

## EA 6 DYNAMIC EVENTS

### EA 6.1 DYNAMIC EVENTS GENERAL

- EA 6.1.1 [CV and EV only] In total, a minimum of four and a maximum of six drivers are allowed for each team.
- EA 6.1.2 [DV only] In total, a minimum of one and a maximum of two drivers are allowed for each team for the purpose of the Brake Test.
- EA 6.1.3 All team members in the dynamic area must wear long pants (trousers reaching to the foot) and closed shoes.

### EA 6.2 AVAILABLE FUEL TYPES

- EA 6.2.1 The available fuel types may differ from what is stated in FS Rules CV 2.1.1 due to regional availability. Specification of available fuel types will be available on the competition website.
- EA 6.2.2 Measuring ethanol content during the competition is prohibited.

### EA 6.3 FLAGS

- EA 6.3.1 In addition, and partially replacing FS Rules D 2.1.9, the following flag signals must be obeyed.
- EA 6.3.2 STATIONARY YELLOW FLAG – Danger, the driver must slow down, something has happened beyond the marshal post, no overtaking unless directed by the track marshals.
- EA 6.3.3 WAVED YELLOW FLAG – EA 6.3.2 + the driver must be prepared for a sudden stop.
- EA 6.3.4 WAVED YELLOW FLAG + STOP SIGN – The driver must immediately stop and perform an egress. Reserved for burning vehicles.

### EA 6.4 [DV ONLY] START-UP PROCEDURE FOR AUTONOMOUS RUNNING

- EA 6.4.1 If the vehicle does not enter “ASReady” state within **3 minutes** after being staged, the team may be sent back to the preparation area by the officials. In this case any priority is lost.

### EA 6.5 [CV AND EV ONLY] SKIDPAD EVENT

- EA 6.5.1 Each team has four runs, driven by two drivers with two runs each.
- EA 6.5.2 Each driver has the option to make a second run immediately after their first run.

EA 6.5.3 3.5 points are awarded to every team that finishes at least one run without DNF or DQ.

EA 6.5.4 If a team's run time including penalties is below  $T_{\max}$ , additional points based on the following formula are given:

$$SKIDPAD\_SCORE = 71.5 \left( \frac{\left( \frac{T_{\max}}{T_{\text{team}}} \right)^2 - 1}{0.5625} \right)$$

$T_{\text{team}}$  is the team's best run time including penalties.

$T_{\max}$  is 1.25 times the time of the fastest vehicle including penalties.

## EA 6.6 [DV ONLY] SKIDPAD EVENT

EA 6.6.1 25 points are awarded to every team that finishes at least one run without DNF or DQ.

EA 6.6.2 If a team's run time including penalties is below  $T_{\max}$ , additional points based on the following formula are given:

$$DV\_SKIDPAD\_SCORE = 75 \left( \frac{\left( \frac{T_{\max}}{T_{\text{team}}} \right)^2 - 1}{1.25} \right)$$

$T_{\text{team}}$  is the team's best run time including penalties.

$T_{\max}$  is 1.5 times the time of the fastest vehicle including penalties.

## EA 6.7 [CV AND EV ONLY] ACCELERATION EVENT

EA 6.7.1 Each team has four runs, driven by two drivers with two runs each.

EA 6.7.2 Each driver has the option to make a second run immediately after their first run.

EA 6.7.3 3.5 points are awarded to every team that finishes at least one run without DNF or DQ.

- EA 6.7.4 If a team's run time including penalties is below  $T_{\max}$ , additional points based on the following formula are given:

$$ACCELERATION\_SCORE = 71.5 \left( \frac{\frac{T_{\max}}{T_{team}} - 1}{0.5} \right)$$

$T_{team}$  is the team's best run time including penalties.

$T_{\max}$  is 1.5 times the time of the fastest vehicle including penalties.

## EA 6.8 [DV ONLY] ACCELERATION EVENT

- EA 6.8.1 25 points are awarded to every team that finishes at least one run without DNF or DQ.
- EA 6.8.2 If a team's run time including penalties is below  $T_{\max}$ , additional points based on the following formula are given:

$$DV\_ACCELERATION\_SCORE = 75 \left( \frac{T_{\max}}{T_{team}} - 1 \right)$$

$T_{team}$  is the team's best run time including penalties.

$T_{\max}$  is 2 times the time of the fastest vehicle including penalties.

## EA 6.9 [CV AND EV ONLY] AUTOCROSS EVENT

- EA 6.9.1 5 points are awarded to every team that finishes at least one run without DNF or DQ.
- EA 6.9.2 If a team's run time including penalties is below  $T_{\max}$ , additional points based on the following formula are given:

$$AUTOCROSS\_SCORE = 95 \left( \frac{\frac{T_{\max}}{T_{team}} - 1}{0.25} \right)$$

$T_{team}$  is the team's best run time including penalties.

$T_{\max}$  is 1.25 times the time of the fastest vehicle including penalties.

## EA 6.10 [DV ONLY] AUTOCROSS EVENT

- EA 6.10.1 FS Rules D 6.4 apply with the exception(s) detailed below.
- EA 6.10.2 Each team has a minimum of two, a maximum of four runs consisting of one single lap. The exact number of runs available will be uniform among teams and will be announced before the start of the event.

EA 6.10.3 25 points are awarded to every team that finishes at least one run without DNF or DQ.

EA 6.10.4 If a team's run time including penalties is below  $T_{max}$ , additional points based on the following formula are given:

$$DV\_ACCELERATION\_SCORE = 100 \left( \frac{T_{max} - T_{team}}{T_{max} - T_{min}} \right)$$

$T_{team}$  is the team's best run time including penalties.

$T_{max}$  is the time for driving the lap with 6 m/s.

$T_{min}$  is the fastest  $T_{team}$  of all teams.

## EA 6.11 ENDURANCE EVENT

EA 6.11.1 D 7.1.2 is void.

EA 6.11.2 There might be multiple heats within morning and afternoon sessions to accommodate teams with double class registration (who have to participate in DV dynamic events on the same day). If possible, double class teams will be placed in the morning session of the running order.

EA 6.11.3 The running order will be published on the competition website the night before the Endurance event.

EA 6.11.4 Teams will be informed in advance about the latest time they must arrive to the dynamic area.

EA 6.11.5 The exact time of arrival to the dynamic area will be recorded for each team. Out-of-order penalties as per FS Rules D 9.2.1 will be applied if a team is late.

EA 6.11.6 If a vehicle's forward movement is physically blocked by an immovable obstacle for any reason, but otherwise the vehicle is capable of continuing the run, officials will power down the vehicle using shutdown buttons, push the vehicle to a safe location, and reset the shutdown buttons. The one lap period as per FS Rules D 7.7.3 starts when the officials confirm to the driver that he/she may restart the car.

EA 6.11.7 25 points are awarded to every team that finish their run without DNF or DQ.

EA 6.11.8 If a team's corrected elapsed time is below  $T_{\max}$ , additional points based on the following formula are given:

$$ENDURANCE\_SCORE = 300 \left( \frac{\frac{T_{\max}}{T_{team}} - 1}{0.333} \right)$$

$T_{team}$  is the team's corrected elapsed time.

$T_{\max}$  is 1.333 times of the corrected elapsed time of the fastest vehicle.

## EA 6.12 EFFICIENCY EVENT

EA 6.12.1 If there is a significant difference in energy density between available fuel types as per EA 6.2.1, the conversion ratio will be announced here.

EA 6.12.2 Efficiency points are given based on the following formula:

$$EFFICIENCY\_SCORE = 100 \left( \frac{EF_{\max} - EF_{team}}{EF_{\max} - EF_{\min}} \right)$$

$EF_{team}$  is the team's efficiency factor.

$EF_{\min}$  is the lowest efficiency factor of all teams which were considered for efficiency.

$EF_{\max}$  is defined as  $1.5 \cdot EF_{\min}$ .

## EA 6.13 TRACKDRIVE EVENT

EA 6.13.1 FS Rules D 8.2 is void. There will be no Trackdrive running order. The starting order is based on the time the team arrives at the Trackdrive Event. Teams on their first run will receive priority.

EA 6.13.2 Each team has a minimum of one, a maximum of two runs consisting of ten laps each. The exact number of runs available will be uniform among teams and will be announced before the start of the event.

EA 6.13.3 25 points are awarded to every team that finishes at least one run without DNF or DQ.



EA 6.13.4 If a team's best corrected elapsed time is below  $T_{\max}$  and the run was not DNF or DQ, points based on the following formula are given:

$$TRACKDRIVE\_SCORE = 175 \left( \frac{T_{\max}}{T_{team}} - 1 \right)$$

$T_{team}$  is the team's best time including penalties.

$T_{\max}$  is 2 times the time of the fastest vehicle including penalties.

EA 6.13.5 An additional 5 points are awarded for every completed lap for the run with the most laps completed, independent of the corrected elapsed time. This is also applied for teams that do not finish either of their Trackdrive runs.