



# FSA Competition Handbook 2024

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## AT 1 Administrative Regulations

### AT 1.1 Formula Student Austria

Formula Student Austria (FSA) is part of the Formula SAE Competition Series and is open to entries with electric, combustion and combustion-hybrid powertrains.

This document contains the event-specific rules and procedures for the Formula Student Austria Competition.

If you have any questions regarding the Rules 2024:

- If you are registered for FSG, please use the FSG issue tracker <https://www.formulastudent.de/fsg/rules/faq/> - there are FSA officials monitoring this as well
- If you have any questions regarding the FSA rules or are not registered at FSG, feel free to contact the rules committee under [rules@fsaustria.at](mailto:rules@fsaustria.at)

#### AT 1.1.1 Inquiries regarding FS Austria

Inquiries must be raised via [rules@fsaustria.at](mailto:rules@fsaustria.at) (regarding FSA rules) or [info@fsaustria.at](mailto:info@fsaustria.at) (regarding the FSA event and anything related).

Only information from [rules@fsaustria.at](mailto:rules@fsaustria.at) or [info@fsaustria.at](mailto:info@fsaustria.at) is to be considered as an official response from FS Austria.

### AT 1.2 Formula Student Austria 2024 Rules

The Formula Student Austria (FSA) competition will comply with the ruleset known as “Rules 2024” which is published on the FSG homepage. Changes and additions specific to FSA are located within this document and supersede the respective sections of the published “Rules 2024” document.

The Formula Student Austria Competition Handbook is to be considered part of the rules.

In case of any contradiction between this document and “Rules 2024”, the FSA rules are to be considered valid.

### AT 1.3 Competition Language

The competition language is English.

### AT 1.4 Competition Date and Location

Formula Student Austria 2024 takes place from Sunday, 2024-07-21 to Thursday, 2024-07-25 at the Red Bull Ring in Spielberg/Austria.

### AT 1.5 Competition Time

The Formula Student Austria official time is:

From	Till	Time
2023-10-29	2024-03-30	CET
2024-03-31	2024-10-27	CEST

All dates are in the YYYY-MM-DD (ISO 8601) format.

### AT 1.6 Vehicle Classes and Scoring System

The event will be run with two classes – CV (including Hybrid) and EV – with all static and dynamic events being run together but scored separately. There will be no driverless (FSD) class and no Driverless Cup, see also [AT 1.8](#).

### AT 1.7 Distribution of Points (change of Rules 2024/A1.2.5)

Static Events	Maximum Points
Business Plan Presentation	75
Cost and Manufacturing	100
Engineering Design	150
<b>Dynamic Events</b>	
Skid Pad	75
Acceleration	75
Autocross	100
Endurance	325
Efficiency	100
<b>Overall</b>	<b>1000</b>

### AT 1.8 No Driverless Cup

There will be no Driverless Cup at FSA 2024.

#### AT 1.8.1 No Autonomous System Required

No autonomous system is required for any part of the competition. Autonomous system components may be removed from the car or left in the car at the team's discretion.

If autonomous system components are present, the following applies:

- the ASMS must be switched off at all times
- the ASB must be deactivated/discharged
- Rules 2024/T14.6 apply and will be enforced in scrutineering.

#### AT 1.8.2 Number of Drivers (Change of Rules 2024/D1.1.1)

In total, a minimum of four and a maximum of six drivers are allowed for each team.

### AT 1.9 Protests

Protests as per Rules 2024/A3.7 have to be submitted in writing to [info@fsaustria.at](mailto:info@fsaustria.at) within 48 hours of the announcement of the rule interpretation, score or official action which is the subject of the protest. Teams are encouraged to first submit a written inquiry to [info@fsaustria.at](mailto:info@fsaustria.at) before submitting a formal protest which includes the 25-point protest bond.

#### **AT 1.10 Rules 2024/A4.2.1 is void**

Requirements for personal insurance are waived, see <https://fsaustria.at/fsa-2024/hic-dl/> for details

#### **AT 1.11 Visitors**

##### **AT 1.11.1 Visitor Definition**

Any person at the competition affiliated with a team which does not conform to FS Rules section A 4.2 (e.g.: alumni, faculty advisor) are considered visitors in regard of these rules

##### **AT 1.11.2 Restricted Areas for Visitors**

Visitors must not participate in or enter the areas of: Statics, Dynamics, Tech Inspection and Practice Area.

#### **AT 1.12 Personal Transport**

Use of small vehicles on-site is allowed but teams are reminded to use them responsibly, especially regarding pedestrian safety and loud noise. Vehicles must not drive faster than 15 km/h on the event site or campsite and must be equipped with lights and reflectors if used in the dark

#### **AT 1.13 Unofficial Timing and Telemetry Equipment**

No unofficial timing and telemetry equipment (e.g. IR Transmitters, radio extenders, etc.) is allowed inside the dynamic area. Exempt from this rule is the driver change/preparation area, where team members with dynamic passes are allowed to remain during the course of the dynamic events if the equipment does not interfere with the conduct of the event.

#### **AT 1.14 Teams using Third-Party Shipping**

If a team is unable to ship the car and necessary equipment by road themselves, the team is required to find a local Formula Student Team, company or comparable organization which is able and willing to function as an intermediary for the logistics operations. FSA is unable to provide any help with logistics before and after the competition.

#### **AT 1.15 Working on the Campsite**

##### **AT 1.15.1 Pit Definition and Possible Activities for First Day of Competition**

FSA officially starts on Sunday 2024-07-21, the campsite is considered the official event site on this day. The team's camping area is considered to be the pits on this day and this day only, meaning that the same activities are allowed as in the actual pits.

Using Power tools on the campsite is possible. Cranking engines is allowed as per Rules 2024/A 6.8.3. There will not be an engine test or dynamic area on the campsite, so engine running is not possible on Sunday.

##### **AT 1.15.2 Environmental Protection on the Campsite**

Activities on the campsite must not cause unnecessary fire hazards and other people must not be negatively affected by them. A watertight protection layer (e.g.: tarpaulin) must be placed on top of the grass of the campsite under the working area so that debris or liquids cannot enter the environment.

##### **AT 1.15.3 Working on TSAC's**

As per FS Rule A6.11, Opening or working on TSAC's is only allowed in the provided workplaces in the charging area, which is situated in the main event tent on the campsite on Sunday and will be transferred to the Red Bull Ring from Monday onwards. Opening or working on TSAC's on the campsite before or after the competition is considered a violation of FS Rule A 6.4.3

### **AT 1.16 Clearing the Team's Box Areas**

Teams must clear their designated box area 2 hours after the team has finished the endurance (or forfeited its chance to participate in the endurance) at the latest. Failure to leave the box area in a timely and clean manner may result in disciplinary action.

## **AT 2 Registration & Eligibility**

### **AT 2.1 Registration Date**

The registration quiz for FSA 2024 starts on Friday, 2024-01-26 at 1900 CET. Keep in mind to register on [fsaustria.at](https://fsaustria.at) at least one day before the quiz starts. Refer to the FSA website for details.

### **AT 2.2 Registration Fee**

The registration fee for Formula Student Austria 2024 is 3.570,00 €. This includes:

<b>Item</b>	<b>Net</b>	<b>incl.VAT</b>
Handling Fee	600,00 €	720,00 €
Registration Fee (incl. 20 Team Members)	1.500,00 €	1.800,00 €
Camping Fee (x10)	no tax refund possible	1.050,00 €

Payment is accepted only by bank transfer. Bank details will be sent to every successfully registered team by email. Every team has to send a confirmation of the money transfer by email. Payment is due within 3 working days of successful registration. Failure to do so will result in the loss of your slot and your team being placed on the waiting list.

*Note: Faculty Advisors that attend the competition have to be registered as visitors*

#### **AT 2.2.1 Cancellation and Refunds**

In case a team withdraws or is deregistered from the competition, the “camping fee” share (and applicable taxes) of the registration fee will be rewarded.

If Formula Student Austria is canceled, all fees except for the handling fee (and applicable taxes) will be refunded.

#### **AT 2.2.2 Additional Team Members**

Additional team members can be registered for EUR 35 incl. VAT (non-refundable) each until the TMD ([AT 3.2](#)). After the TMD the fee increases to EUR 70 incl VAT.

Camping costs EUR 105 incl. VAT per person for the whole duration of the event.

Payment is possible in cash at the on-site registration; please be sure to have the exact amount ready.

#### **AT 2.2.3 Visitor Registration**

Any visitor participating in the award ceremonies must be registered at our website on the "Add Team Member" page with the corresponding “visitor” status. If this visitor plans to stay at the campsite, the “book camping ticket” has to be check-marked as well.

Visitors may freely enter non-restricted event areas at the Red Bull Ring without any registration.

### **AT 2.3 Registration Capacity and Waiting List**

Registrations will be given out in the order of the quiz results; afterward in the order of submission. FSA will limit the number of entries to 58 (38 EV / 20 IC). After this limit is reached, additional entries will be placed on the waiting list and will eventually become a registered entry if another registered team redraws or is removed. Slots may be moved between classes at a later time (i.e. if a waiting list “runs out”)

### AT 2.3.1 Slots

A certain number of slots at FSA 2024 are reserved. If a team fits more than one reserved slot it will take up the one listed higher up in this document.

Reserved slots will automatically be assigned to the respective teams. To allow for this, the team needs to be registered on the FSA website by the time the quiz starts. After this time the reservation expires.

### AT 2.3.2 2023 Top Finishers

Three (3) slots in each class are reserved for the top finishers of FSA 2023:

#### Combustion

- CTU Prague
- HS Karlsruhe
- Thessaly U

#### Electric

- WH Zwickau
- TU München
- Milano PT

### AT 2.3.3 Austrian Teams

Five (5) slots are reserved for Austrian entries

- TU Graz (TU Graz Racing Team)
- TU Vienna (TU Wien Racing)
- UAS Graz (Joanneum Racing)
- UAS Vienna (OS.car Racing Team)
- Uni Innsbruck (Campus Tirol Motorsport)

### AT 2.3.4 Wildcard slots

Up to three (3) slots, independent of class, will be available as “Wildcard” slots. Wildcard slots will be assigned by FSA based on the “Wildcard Application” which has to be completed before the registration starts. See the FSA website for details.

## AT 3 Dates & Documents

Note: Some of these details might be subject to change to react to changes and requirements by other events in the FSAE series. Check [fsaustria.at/fsa-2024/rules-2](https://fsaustria.at/fsa-2024/rules-2) regularly for updates

### AT 3.1 Required Documents (Change of Rules 2024/A5.1.1)

ASF, ASRQ and SESA are not required for FSA 2024. Accordingly, the following rule does not apply: A5.7. The SES will be checked and must be approved by the officials prior to the competition.

### AT 3.2 Submission Dates Summary

Document	group A	group B	Date	Document Template	submissiontool
Fuel Type [CV only]	•		at Registration	FSA website team profile	FSA page
SES/SE3D	•		2024-03-15 13:00	FSG / Rules 2024	FSG page
IAD	•		2024-03-15 13:00	FSG	FSG page
HSF [HY only]	•		2024-03-29 13:00	FSA page rules & documents	hybrid@fs-world.org
ESF [EV only]	•		2024-03-29 13:00	FSG online submission	FSG page

Business Pitch Video		•	2024-05-17 13:00	see <a href="#">AT 5.3</a> & <a href="#">AT 5.4</a>	FSA page
Event Program Team Page			2024-05-24 13:00	FSA page rules & documents	FSA page
EDR		•	2024-05-31 13:00	Rules 2024	FSA page
DSS		•	2024-05-31 13:00	FSA page rules & documents	FSA page
Team Member Designation			2024-05-31 13:00	FSA website team profile	FSA page
Vehicle Status Video	•		2024-06-21 13:00	Rules 2024	FSA page
ESOQ [EV only]	•		2024-06-21 13:00	single (merged) PDF file	FSA page
Cost Report Documents		•	2024-07-16 13:00	FSG online submission	FSG page

Documents not listed in this table are not required.

### AT 3.3 Late Submission or Non-Submission

Documents marked as “group A” in [AT 3.2](#) are subject to penalties as per Rules 2024/A5

Documents marked as “group B” in [AT 3.2](#) are subject to the following penalties: Submissions later than the respective deadline will be penalized with ten points for each overdue 24 hours. These will be deducted from the team’s respective static event score for each deadline independently until it reaches 0 points.

### AT 3.4 FSG Online Submissions

For certain documents, the use of online tools provided by FSG (Formula Student Germany) is required.

To use these tools, a team has to be registered for the current FSG event. For teams not attending both FSA and FSG, registration for the end of the FSG waiting list is sufficient and no payment to FSG is required.

### AT 3.5 Cost Report Documents

The BOM & CBOM is to be created using the FSG CR tool. The whole CR is then to be exported using the corresponding “PDF Export” function in the CR tool.

The exported PDF should be zipped together with the Cost Report Explanation file (CREF) and Supporting Material (SM) (e.g. drawings)

There are no rules regarding the style of the CREF other than it should be a comprehensive explanation of the assumptions and calculations that were used to derive the part/process costs used in the CBOM.

The file format of the CREF shall be PDF.

The ZIP archive containing all documents must be uploaded no later than the deadline listed in [AT 3.2](#).

All uploaded documents shall contain the car number in the filename (e.g. <car\_number>\_CBOM.pdf)

The submission should look like this:

```
[ZIP archive]
├─ [C/D/BOM] PDF exported from FSG
├─ [CREF] Cost Report Explanation File, PDF
└─ [SM] Supporting Material, PDF
```



### **AT 3.5.1 CBOM**

The CBOM must be created for the same “system” as defined in the FSG 2024 competition handbook.

### **AT 3.5.2 DBOM**

The DBOM must be created for the same “system” as defined in the FSG 2024 competition handbook.

### **AT 3.6 ESF**

The ESF has to be completed using the FSG online ESF tool. The upload of the ESF will not be possible on the FSA platform. Accordingly, any ESF checks, feedback and upload dates for possible upload penalties and de-registration will be handled via the FSG platform only.

### **AT 3.7 SES, SE3D & IAD**

The SES, SE3D and IAD documents must only be submitted using the FSG platform. The upload of these documents will not be possible at the FSA website. Accordingly, any document checks and feedback will be handled via the FSG platform only. For the purpose of possible upload penalties or de-registration for these documents, only the upload date(s) at the FSG platform will be considered.

## **AT 4 Technical Requirements and Inspections**

### **AT 4.1 Technical Inspection Sticker**

The sticker will be 150x100 mm (WxH). A suitable spot shall be reserved on the upward-facing bodywork between the front bulkhead and the front roll hoop.

### **AT 4.2 Ready-to-Drive Sound (Change of Rules 2024/EV4.12.3)**

Sound-type requirement waived

### **AT 4.3 [EV only] Accumulator Temperature Monitoring (Change of Rules 2024/EV5.8.6, IN3.1.2)**

The logging device will not be installed at FSA

### **AT 4.4 [EV only] Charging Connector (Supplement to Rules 2024/EV7)**

The power supply connector of the charger must be according to IEC 60309 (CEE-form plug) rated for 16A. Adapters are permitted.

### **AT 4.5 [EV only] Data Logger**

EV class Vehicles are required to install an FSA-provided data logger. The device is identical to the one provided by FSG – Specifications can be found on both the FSA and FSG homepage.

#### **AT 4.5.1 Removal of Data Logger (Change to Rules 2024/IN12.1.10)**

If the data logger has not been removed from the car by the officials directly after the endurance, it must be returned to the event control 30 minutes after the team has finished the endurance (or forfeited its chance to participate in the endurance) at the latest. Failure to do so will result in disqualification for the efficiency event.

### **AT 4.6 Transponder and Timekeeping**

In order to have the car be identifiable during dynamic disciplines, Timekeeping will stick three RFID tags to the car. There will be one tag on the front, center and rear of the vehicle (as shown in figure 1). They will all be on one side of the vehicle. The tags will be provided during the Cost and Manufacturing Event.

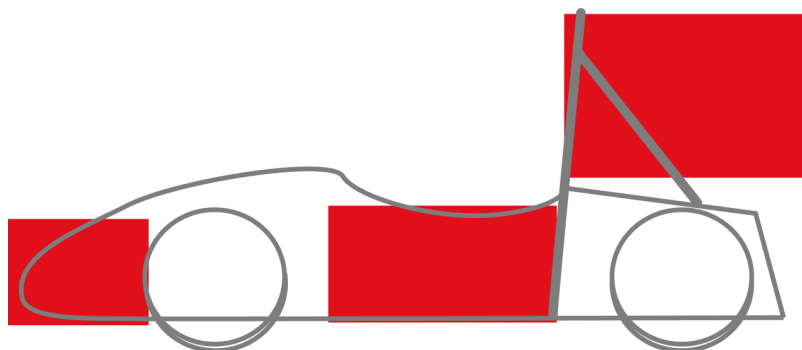


Figure 1: RFID Tag Placement Areas

#### **AT 4.6.1**

The location of the tags is decided by the officials. Areas where the driver will touch to get in or out and any sponsorship stickers will be avoided if possible.

#### **AT 4.6.2**

The area on the car will be cleaned (regular window cleaner) to apply velcro tape to mount RFID tags.

#### **AT 4.6.3**

If an RFID tag gets damaged, please contact Event Control. This will not result in a penalty.

#### **AT 4.6.4**

The RFID tags must not be fixed in any other way than done by the officials initially. This especially includes safety wiring or tape, as both interfere with the detection of the tags. In the unlikely event that a tag loosens from its mounting, this will never be treated as the team's fault.

#### **AT 4.6.5**

The RFID tags must be returned to the event control 2 hours after the team has finished the endurance (or forfeited its chance to participate in the endurance) at the latest.

#### **AT 4.6.6**

Live timing is provided at "link to be announced". The data shown is unofficial.

#### **AT 4.7 Fire extinguishers (addition to Rules 2024/T13.4)**

Additionally, to the two dry-powder extinguishers prescribed by the rules, teams may bring any number and type of fire extinguishers to the event site and use them in emergencies. This includes most notably CO<sub>2</sub>-type extinguishers and those specially designed for battery fires. We encourage fire safety schooling.

#### **AT 4.8 Clarification of "Part" for Rules 2024/IN12.1.6**

This rule will generally not be applied to "parts" such as minor amounts of tapes and adhesive film as well as insignificant parts that broke off due to collisions with cones or the track. (e.g., small part of a front wing endplate)

## **AT 5 Business Plan Presentation**

#### **AT 5.1 Applicable Rules (Change of Rules 2024/S1)**

Rules 2024/S1 is void and replaced by AT5

## **AT 5.2 Business Plan Presentation Objective**

### **AT 5.2.1**

The objective of the BPP is to assess the team's ability to develop and to present a comprehensive business case

### **AT 5.2.2**

The judges should be treated as if they were potential investors or partners for the presented business case.

### **AT 5.2.3**

This business case must relate to the team's specific prototype race car or a specific component (tangible and intangible components) of it. The business case must contain a product or service providing a rewarding business opportunity that creates a benefit for potential investors. This relation must be mentioned and explained in all Business Plan materials.

### **AT 5.2.4**

The quality of the actual prototype will not be considered as part of the BPP judging.

## **AT 5.3 Business Plan Presentation Procedure**

### **AT 5.3.1**

The Business Plan Presentation will consist of two parts:

Part 1: The Business Pitch Video

Part 2: The 10-minute Business Plan Presentation

*Note: FSA no longer requires an executive summary.*

### **AT 5.3.2**

Part 1 will be held virtually prior to the competition. The Business Pitch Video (AT 5.4) must be submitted beforehand according to the specifications in [AT 3.1](#)

### **AT 5.3.3**

Part 1 will be handled as a drop-out stage. You need to convince the judges of your idea, in order to progress to the second part. Teams that fail to do so, will not be eligible for points from or participation in the second part.

### **AT 5.3.4**

Part 2 will take place during the competition on site, as part of the static events.

### **AT 5.3.5**

Teams unable to attend within the assigned time period in Part 2 will receive zero points. The teams are responsible for the performance of their equipment and connectivity.

## **AT 5.4 Part 1: The Business Pitch Video:**

### **AT 5.4.1 Submission**

The Business Pitch Video must be uploaded to a public video platform (e.g. YouTube, Vimeo,...), and the judges must be able to access the video at any time until after the competition, without additional software or logins. The link to the video must be submitted via the FS Austria website, dates see [AT 3.1](#).

### **AT 5.4.2 Content**

Teams are not limited in the way they present the required content. Visual aids of any kind are allowed, but not required

### **AT 5.4.3 Target and Length**

The minimum length of the Business Pitch Video is 60 seconds, and the maximum is 90 seconds. After 90 seconds the judges will stop evaluating the content.

The Target of the Business Pitch Video is to showcase the required information and spark interest in the full 10-minute presentation. The Judges should be intrigued by the proposal but also convinced of profitability.

You can be as creative as possible. However, your video must include some mandatory components:

- General Content: the video must contain the Team Name, Car Number, Company Name, Company Structure, Business Idea, Target customer, and the USP (unique selling proposition).
- Business Case: the video should briefly answer the following three questions:
  - What is requested from the investors?
  - What is offered to the investors?
  - Why is the business proposal profitable?
- Delivery: regardless of the format itself, the video should have a cohesive storyline and be well-paced.

### **AT 5.4.4 Results**

Two weeks after the submission deadline, teams will be informed if they have qualified for part 2

## **AT 5.5 Part 2: The 10-Minute Business Plan Presentation**

### **AT 5.5.1 Procedure**

The 10-minute Business Plan Presentation will be part of the static events on site of the competition covering all areas of the business idea

### **AT 5.5.2 Time Limit**

Presentations are limited to a maximum of ten minutes. The judges will stop any presentation exceeding ten minutes

### **AT 5.5.3 Q&A Session**

The presentation will not be interrupted by questions. Immediately following the presentation there will be a Q&A session.

### **AT 5.5.4 Deep Dive Topic**

The purpose of the deep dive topic is to give the students the chance to enhance a certain aspect of their business proposal. In the best-case scenario, the topic is seamlessly integrated into the storyline. The Deep Dive Topic will be assigned to the teams together with the publication of the results of Part 1.

### **AT 5.5.5 Team Member Limit**

A maximum of three team members may present the business plan at the event. Teams can choose if they want to compete in person at the event site, virtually, or in any hybrid combination.

All team members that join the presentation virtually, must present their student and team member credentials prior to the Business Plan Presentation, if requested by event officials.

### **AT 5.5.6 Team Member Introduction**

All team members involved in the BPP must be introduced to the judges at the beginning of the presentation. Only team members who have been introduced may answer the judges' questions even if they were not actually presenting.

### **AT 5.5.7 Presentation Equipment**

The presentation equipment provided will be either a large-screen TV or a data projector. Available connections will be VGA and/or HDMI, depending on the equipment. The presentation rooms will be made available for inspection and testing before the BPP event starts.  
 The Teams are responsible for the performance of their equipment and connectivity.

### **AT 5.6 Business Plan Presentation Finals**

Some teams may be chosen to participate in the BPP finals to determine the BPP winner. The BPP finals will be held separately from the initial judging and teams will be informed about their participation during the event.  
 The Business Plan Presentation Finals will be live-streamed.

### **AT 5.7 Feedback**

After Part 2 is concluded, all teams can receive feedback. During the event, all teams will have the possibility to register for feedback slots.  
 There will be a special finalist feedback on the day of the finals at 9 am.  
 Details will be communicated during the event.

### **AT 5.8 Business Plan Presentation Scoring**

#### **AT 5.8.1**

The scoring of the two parts is subsequent. For example, if a team fails to participate in part 1, that team cannot score points in part 2.

#### **AT 5.8.2**

The maximum score for the BPP event is 75 points.

#### **AT 5.8.3**

The BPP will be evaluated according to the following categories:

<b>Stage</b>	<b>Category</b>	<b>Percent</b>
<b>Part 1</b>	General Content	5
	Business Case	10
	Delivery	5
<b>Part 2</b>	Content	10
	Finances	10
	Demonstration	10
	Delivery	10
	Structure	10
	Questions	10
	Deep Dive Topic	10
	General Impression	10
	<b>Total</b>	<b>100%</b>

#### AT 5.8.4

The scoring for the non-finalist is calculated as follows:

$$\text{PRESENTATION SCORE} = 71 \cdot \frac{P_{\text{your}}}{P_{\text{min-F}}}$$

Where:

“P<sub>your</sub>” is the score awarded to your team by the business judges in the initial judging

“P<sub>min-F</sub>” is the lowest score awarded to any team participating in the finals in the initial judging

#### AT 5.8.5

The scoring of the BPP finalists will vary from 75 to the highest non-finalist score and is scored immediately after the BPP finals by all judges.

## AT 6 Cost and Manufacturing Event

### AT 6.1 Cost Report Rule Changes and Clarifications

#### AT 6.1.1 No Real Case (Change of Rules 2024/S2.2.5)

There is no “real case” at the cost and manufacturing event at FS Austria

#### AT 6.1.2 Hard Copy of Cost Report Documents (Change of Rules 2024/S2.3.6)

Rules 2024/S2.3.6 is void. Hard copies are not mandatory but can be brought and presented in any way at the team’s discretion.

#### AT 6.1.3 Detailed Bill of Material (Change of Rules 2024/S2.5.7)

“Processes” are the necessary operations to produce the “part” out of the “material”, *create assemblies out of parts and assemble it to the vehicle.*

#### AT 6.1.4 Costed Bill of Material (Change of Rules 2024/S2.6.3)

The cost calculations must exclude research, development, and capital expenditures for real estate (e.g. plant or development hours of the team). *Space requirements for machines may be included*

#### AT 6.1.5 Cost and Manufacturing Vehicle Condition (Change of Rules 2024/S2.9.1)

Vehicles must be presented for cost and manufacturing judging in finished condition, fully assembled, complete, and ready-to-race. *If dry tires are not mounted to the car, they must be presented during judging.*

### AT 6.2 Cost and Manufacturing Scoring

#### AT 6.2.1 Scoring Table (Change of Rules 2024/S2.10.1 and S2.10.2)

The cost and manufacturing event will be evaluated on the categories specified in the table below. If items are missing from the BOM, points are deducted until zero points are scored for “Completeness of the BOM”.

Category	Points
Format and Accuracy of Documents	4
Knowledge of Documents and Vehicle	6
CBOM and DBOM discussion	40
Cost understanding	50
Total	100

### **AT 6.2.2 Number of Top Teams (Change of Rules 2024/S2.10.3)**

*An unlimited number of top teams* may be chosen to participate in the cost and manufacturing finals to determine the cost and manufacturing event winner. The cost and manufacturing finals will be held separately from the initial judging and teams will be informed about their participation during the event.

### **AT 6.2.3 Cost Finals Scoring**

Rules 2024/S 2.10.4 and Rules 2024/S2.10.5 are void

## **AT 7 Engineering Design**

### **AT 7.1 Engineering Design Scoring Criteria (change of Rules 2024/S3.7)**

Rules 2024\Table7 is void. The Judging Criteria for FS Austria are:

- Design Approach
  - Knowledge/Understanding
  - Execution/Build
  - Use of Resources
  - Creativity/Innovation
  - Presentation
  - Documentation & Management
  - Suspension
  - Frame & Body
  - Aero
  - Drivetrain (EV/IC)
  - Electronic Systems
  - Ergonomics
- in the engineering fields

for a maximum of 10 (intermediate) points each. The final design score will be calculated from the intermediate score through weighting and normalization to give the best team in each class 140 points. A maximum of 10 additional points can be gathered from the Engineering Design Report (EDR), which will be evaluated separately. Questions regarding Vehicle Performance and Overall Vehicle Concept will be asked in all engineering fields as those are common topics every team member should understand.

### **AT 7.2 Engineering Design Event Procedure**

The Engineering Design Event at FS Austria will take 40 minutes, with sharp start and end times according to the separately published schedule.

The best teams in the EV and CV classes will get the chance to participate in the Design Finals.

## **AT 8 Dynamic Events**

### **AT 8.1 Skid Pad**

Rules 2024/D4.3 & D4.5 are void

#### **AT 8.1.1 Skidpad Number of Runs (Change of Rules 2024/D4.2.1)**

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

#### **AT 8.1.2 Skidpad Priority (Change of Rules 2024/D4.2.3)**

Only the teams on their first run with their first driver will be given priority

### **AT 8.2 Acceleration Event**

Rules 2024/D5.3 & D5.5 are void

### **AT 8.2.1 Acceleration Number of Runs (Change of Rules 2024/D5.2.1)**

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

### **AT 8.2.2 Acceleration Staging (Change of Rules 2024/D5.2.3)**

The vehicle will be staged so that it breaks the timing beam after 0.30m of travel.

### **AT 8.2.3 Acceleration Priority (Change of Rules 2024/D5.2.4)**

Only the teams on their first run with their first driver will be given priority

### **AT 8.3 Definition of a Valid Run and Penalties**

A valid run is registered by completing the required event distance, starting by breaking the first timing beam and ending by breaking the (final) timing beam (the required number of times).

DOO and OC penalties apply during the whole time the car travels under its own power - as per D9.1.4.

DNF per Rule D9.1.15 can only be registered during a run.

### **AT 8.4 Endurance Running Order (Supplement to Rules 2024/D7.3)**

#### **AT 8.4.1 Running Order Goal**

The running order creation can deviate from a speed-based approach to accommodate organizational needs. Officials may allow or require cars to run out of order if needed to finish the endurance event within the given time limits.

#### **AT 8.4.2 Ready-by Time**

Each team will be assigned a “ready-by” time in the published running order document. This is the earliest time the team may be required to run (i.e. enter the track).

#### **AT 8.4.3 Out-of-Order Running (OOO)**

Running out of order occurs when (1) all teams ranked before the team in the running order either ran or forfeited their run and (2) the teams’ Ready-By time has passed. Running OOO will be penalized according to Rules 2024/D9.2.1

#### **AT 8.4.4 Running at a Later Slot**

All teams running out of order are required to inform the officials of their intent to run at a later time before the last car in the running order has entered the track. Failure to do so will result in a DNA for the run. There is no guarantee that a later slot will actually be available within the given time constraints.

#### **AT 8.4.5 OOO Running Order**

After the last car of the running order finishes endurance, all teams registered to run out of order are required to be in the endurance queue. Failure to do so will result in a DNA for the run. Teams will start according to the original running order

### **AT 8.5 Power and Voltage Violation Penalties (Change of Rules 2024/D9.4.2)**

A violation will lead to penalties according to Rules 2024/IN 12.1.4 group B. If data is not fully available for the endurance, this will result in disqualification for the efficiency event.



## AT 9 Document History

### Version Changes

Date	Version	comments/changes
2023-11-05	1.0.0	initial version
2023-12-19	1.1.0	AT 2.2 Registration Fee published AT 5.2.3 Business Plan Objective changed AT 5.4.3 Business Pitch Video Target and Length changed AT 5.5.4 Deep Dive Topic Rule moved and changed AT 5.5.6 Team Member limit changed AT 5.5.7 Presentation Equipment changed AT 5.7 Feedback changed AT 5.8.3 Scoring Details published AT 7.1 Engineering Design Scoring Criteria published
2023-12-20	1.1.1	AT 5.4 Corrections in Chapter Business Pitch Video
2024-01-28	1.1.2	AT 2.2 Payment is due within 3 working days of successful registration AT 5.5.5 deleted “physically” - maximum is 3 persons total
2024-02-20	1.1.3	AT3.2 Submission Dates Summary table expended with submission tool AT3.2 Submission Dates Summary document template updated AT3 Note link updated
2024-05-14	1.1.4	AT 5.4.1 Submission of Business Pitch Video clarified