



Formula SAE Italy 2024

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Formula SAE Italy 2024

A ADMINISTRATIVE REGULATIONS

A THE FORMULA SAE ITALY

The 19th edition of the Formula SAE Italy 2024 will take place at the "Riccardo Paletti" Circuit in Varano de' Melegari (PR) on September 4-8, 2024.

Formula SAE Italy will follow the [FS Rules 2024](#), with the exceptions and additions listed below.

A 1.2.1 Competition Procedure

The competition is split into the following classes:

- Internal Combustion Engine Vehicle (CV) including Combustion Hybrid Vehicle (HY)
- Electric Vehicle (EV)
- Driverless Vehicle (DV)
- Design review category: Class 3

Teams competing either in CV or EV class may compete also in DV class with the same vehicle, operated autonomously. In that case a team will score points for both classes (CV + DV or EV + DV).

A 1.2.5 Maximum points awarded

	Class 1CV-HY, 1EV	Class 1DV	Class 3
Static Events			
Business Plan Presentation	75	75	75
Cost and Manufacturing	100	100	100
Engineering Design	150	200	150
Dynamic Events			
Skidpad	75	100	
Acceleration	75	100	
Autocross	100	150	
Endurance	325		
Efficiency	100		
Trackdrive		275	
Overall	1000	1000	325

A 1.3.1 Competition Information

The competition specific rules and information are defined in the "FSAE Italy 2024 Information and Rules" document and in the competition handbook.

Formula SAE Italy news will be provided to students through the following communication tools:

- Emails to registered team leaders
- Communications published on-line on Formula-ATA website

A 2.2.3 First Year Vehicles: Class Driverless Vehicle (DV)

Vehicles which will compete in DV class only may adopt second year vehicles.



A 3.7.4 Protest Period

Protests concerning any aspect of the competition must be filed in the protest period announced by the competition organizers or **2 hours** after the posting of the scores of the event to which the protest relates.

A 4.1.1 Entries per University - FSAE-I Competition - Registering CV & Hybrid, EV and DV teams

For the purposes of registering and competing, a school CV & Hybrid, EV and DV teams are considered separate and independent entities. A university may register both a CV & Hybrid, EV and DV team in the same competition.

The Formula SAE Italy 2024 will admit 72 teams in Class 1 and 5 teams in Class 3 with following criteria. The Class 1CV will also include the Hybrid cars.

- Class 1CV & Hybrid Engine 33 (3 of which may compete in CV + DV)
- Class 1DV - Driverless 10, which includes: 4 DV only teams, 3 CV + DV teams and 3 EV + DV teams. They will have to declare their interest in taking part in both events during the competition registration
- Class 1EV - Electric Propulsion System.....35 (3 of which may compete in EV + DV)
- Class 3 both CV, Electric and Driverless..... 5

Each team must compete in the class of its registration. Teams that will compete in CV + DV or EV + DV classes will participate with one car in the events of two classes.

If CV + DV or EV + DV registered teams will exceed the maximum number of 3, the exceeding teams will be admitted to DV class only, within the maximum allowed number of DV teams (10).

A 4.2.11 Society Membership

Team members should be members of one of the FISITA member Associations (for example SAE International, IMechE, VDI).

A 4.3.9 ESO is not required for Class 3. In case no ESO is appointed, then the team is not allowed to have any accumulator container at the event site.

A 4.5 TEAM ADVISORS AND OFFICERS

A 4.5.1 Faculty Advisor

A 4.5.2 The Faculty Advisor must be present at the event for all the time. In case the Faculty Advisor will be not able to attend, the organizers will accept only a staff representative of the University.

A 4.5.3 The Faculty Advisor will have to communicate his/her absence and/or any other changes by sending an official letter with University head paper by **July 31, 2024**.

A 4.5.4 Electric System Advisor (EV Only)

A 4.5.5 The Electrical System Advisor (ESA) must be a professionally competent person(s) nominated by the team who can advise on the electrical and control systems that will be integrated into the vehicle. The faculty advisor may also be the ESA if all the requirements below are met.

A 4.5.6 The ESA must supply details of their experience of electrical and/or control systems engineering as used in the vehicle on the ESO/ESA form for approval by the organizers.

A 4.5.7 The ESA must be sufficiently qualified to advise the team on their proposed electrical and control system designs based on significant experience of the technology being developed



and its implementation into vehicles or other safety critical systems. More than one person may be needed.

- A 4.5.8 The ESA must advise the team on the merits of any relevant engineering solutions. Solutions should be discussed, questioned and approved before they are implemented into the final vehicle design.
- A 4.5.9 The ESA should advise the students on any required training to work with the systems on the vehicle.
- A 4.5.10 The ESA must review the Electrical System Form and to confirm that in principle the vehicle has been designed using good engineering practices.
- A 4.5.11 The ESA must ensure that the team communicates any unusual aspects of the design to the organizers to reduce the risk of exclusion or significant changes being required to pass Technical Inspection.
- A 4.5.12 ESA is not required for Class 3.

A 4.6 Design review category: Class 3

- A 4.6.1 Teams that participate in the "Design review category" will be admitted to the Design, Presentation and Cost events.
- A 4.6.2 A static presentation of the car, or part of it, can be conducted in order to better explain the project.
- A 4.6.3 A separate classification will be reserved for this category.
- A 4.6.4 Design, Presentation and Cost events follow the rules as per Class 1. In particular the Cost Report must contain an estimation of the cost of the actual car.
- A 4.6.5 Class 3 electric vehicles are not allowed to activate tractive system at the event site.

A 4.7 COMPETITION REGISTRATION

A 4.7.1 Registration Details

Registration for Formula SAE Italy 2024 is made into two phases: early registration for reserved slots and main registration for all teams:

Reserved early registration slots

The first 3 Class 1CV, the first 3 Class 1EV, the first 3 Class 1DV and the first 2 Class 3 classified teams at the Formula SAE Italy 2023 will have a granted *early registration* slot in 2024 event:

Class 1CV

- Race UP Combustion - Università di Padova
- UniBo Motorsport - Università di Bologna
- Scuderia Tor Vergata - Università di Roma Tor Vergata

Class 1DV

- UniNa Corse - Università di Napoli Federico II
- Global Formula Racing - Oregon State University
- MoRe Modena Racing Driverless - Università di Modena e Reggio Emilia

Class 1EV



- WHZ Racing Team - UAS Zwickau
- FS Team Tallinn - Tallinn University of Technology
- Dynamis PRC - Politecnico di Milano

Class 3

- Sapienza Corse - Università di Roma La Sapienza
- AMM Driverless Racing Team - Arab Academy for Science, Technology and Maritime Transport

Further *two early registration* slots will be granted for North and South America, Australia and rest of the world (non-European EFTA) teams.

The early registration will open on **February 1, 2024 at 10:00 AM CET (GMT + 1)** and will close on **February 2, 2024 at 1:00 PM CET (GMT + 1)**.

After *early registration* closure, no more slot will be granted for these teams.

Slots that are not allocated for *early registration* will become available for all teams during *main registration* period.

Registration must be completed on-line via the electronic form that will be available on the event website in each registration period. The registration will be confirmed only when the due amount will be credited on the ANFIA Service Srl bank account.

Formula SAE Italy 2024 will grant 3 registration slots to 2025 event to the first 3 Class 1CV & Hybrid, 1DV & 1EV winner teams of this year event and 2 slots to the first 2 Class 3 winner teams.

Registration Dates

Early registration for the Formula SAE Italy 2024 will open on **February 1, 2024 at 10 AM CET (GMT+1)** and will close on **February 2, 2024 at 1:00 PM CET (GMT+1)**.

Main registration for the Formula SAE Italy competition will open on **February 5, 2024 at 10:00 AM CET (GMT+1)** and will close on **March 5, 2024 at 1:00 PM CET (GMT+1)**.

Main registration is based on first come, first served basis. The list of admitted teams will be published on the website as soon as all the eventual double registrations will be cleaned up. All the updates will be available immediately after this action.

A 4.7.2 Registration Fees

A 4.7.2.1 Teams will have 48 hours, starting from registration time, to send us the proof of the bank transfer, certifying the payment date and time:

Class CV & Hybrid, 1DV, 1EV: € 1.638,52 + 22% VAT = € **1.999,00**

Class 3: € 1.189,65 + 22% VAT = € **1.451,37**

A 4.7.2.2 Registration fees are not refundable and are not transferred to a subsequent year's competition.

A 4.7.2.3 The registration fee includes 20 team members. Additional team member/guest can be registered by paying an extra fee of € 40,00 + 22% VAT = € 48,80 by **June 17, 2024** with bank transfer (See Appendix A-2 for further information).

A 4.7.2.4 ATM/Guest form is available [here](#)



A 4.7.3 Waitlist

A 4.7.3.1 Waiting list will not be published on the website, teams will be informed by e-mail about their possible admission to the main registration list.

New deadlines will be set for each team when it will be included in the official list.

A 4.7.3.2 The team will then have 48 hours to accept or reject its slot and to make the payment and send the proof of it.

A 4.7.4 Withdrawals

Registered teams that won't be able to attend the competition are requested to officially withdraw not later than **July 30, 2024**, by notifying the following e-mail:

- formula.sae@ata.it for CV & Hybrid & Class 3 teams
- formula.ei@ata.it for 1DV & 1EV teams

A 4.7.5 Italy Visas

Teams requiring visas to enter Italy are advised to complete the [list of team members](#) with their passports numbers, the arrival and departure dates and send it to the above mentioned email addresses by **July 21, 2024**.

Late requests will be not considered.

ANFIA will provide your team an official invitation letter, which can be used for your VISA application.

Teams that need VISA are advised to apply for it as soon as possible and to refer to the Italian VISA rules to determine the VISA requirements and applications.

ANFIA will not send personal letters or contact directly the Italian Embassies or Consulates for your team participation in the event. VISA information about required documentation can be found on the Italian Ministry of Foreign Affairs and International Cooperation's website at <https://vistoperitalia.esteri.it/home/en>.

A 4.7.6 Vehicle Shipping

Vehicle shipments by commercial carrier must comply with the laws and regulations of nations from which, and to which, the car is sent. Teams are advised to consult with their shipping company or freight forwarder to be sure their shipment fully complies with all relevant customs, import/export and aviation shipping requirements.

Shipments must be sent with the sending team or university listed as the receiving party. Neither the competition organizers nor the competition site (Riccardo Paletti Circuit) can be listed as the receiving party.

Stick labels on crates/containers must have the below receiving address permanently and clearly marked:

Receiving address

University and/or team name

Car number: 000

c/o Formula SAE Italy 2024

Autodromo Riccardo Paletti

Strada per Fosio 1

43040 Varano de' Melegari (PR) - Italy

Shipping documents All shipping documents and custom clearances must be completed and supplied by the University and/or Team. In order to avoid misunderstandings with customs,



it is recommended to obtain the A.T.A. Carnet, which is an international customs document that allows the temporary export of goods to contracted countries.

Damage Damage to the shipment is the sole responsibility of the University/Team. Be aware that the crates/containers will be stored outdoor without any shelter.

Team contact Please communicate to the organizers names and mobile numbers of at least two persons, who likely are the Team Leader and the Faculty Advisor, to be contacted in case of problems.

Delivery and collection dates

- Delivery: Monday 2 or Tuesday 3, 2024 from 9:00 AM to max 6:00 PM;
- Collection: the maximum date to pick up your car will be: Monday 9, or Tuesday 10, 2024 from 9:00 AM to max 6:00 PM.

Forklift service for loading and unloading cars will be only available on these dates. Out of these days, its availability and use are not guaranteed and, in case, teams should bear the cost.

Crates/containers must have a low access for fork lift maneuver. Crating and uncrating is the sole responsibility of the team.

A 4.7.7 Car Number

When choosing your car number, please consider the numbering listed here below:

Combustion & Hybrid cars

- From 1 to 59
- From 70 to 99

Driverless cars

- From 700 to 759
- From 770 to 799

Electric cars

- From 100 to 159
- From 170 to 199

Class 3 teams

- From 300 to 399

Take note that it could be already taken by another team. The acceptance order will follow the registered team list published on the Formula-ATA website.

In that case, you will receive an e-mail message asking for a new choice.

Any team will register in a specific class and **no switch among classes** will be allowed after the registration

A 4.7.8 Lists of team members

Preliminary & Final Lists: once a team have been registered for the competition, every team member has to upload within **April 15, 2024** its own personal data. All changes, cancellations, additions can be made to the preliminary list till **June 17, 2024**, when the final list will be due. After **June 20, 2024** no modifications will be accepted.

Payment for **Additional Team Members/guests** (more than 20 persons) can be made by bank transfer (See Appendix 1 for further information).



A5 DOCUMENTATION & DEADLINES

A 5.1 Required Documents and Forms

A 5.1.1 The documents supporting each vehicle must be submitted by the deadlines posted on the Event Website or otherwise published by the organizers.

A 5.1.2 Following document templates are located at FSG Website (<https://www.formulastudent.de/fsg/rules/>).

- Design Spec Sheet (DSS)
- Engineering Design Report (EDR)

A 5.1.3 Cost files are located at FSG Website Tool (<https://www.formulastudent.de/fsg/rules/>).

A 5.1.4 Please refer to the templates and forms which can be found on the FSAE Italy documentation website: (<https://docs.formula-ata.it/>):

- Structural Equivalency Spreadsheet (SES)
- Structural Equivalency Spreadsheet Approval (SESA)
- Structural Equivalency 3D Model (SE3D)
- Impact Attenuator Data (IAD)
- Electrical System Form (ESF)
- Fuel System Data (FSD)
- Electric System Data (ESD)
- Electrical Systems Officer Form (ESO/ASR)
- Electrical Systems Advisor Form (ESA)
- Business Plan Pitch Video (BPPV) must be submitted online on the Event Website

A platform to upload the documents is available for all admitted teams: (<https://docs.formula-ata.it/>), which will receive an email with the instructions to create its new account and password.

A 5.2 Submission

A 5.2.1 Submission Date

- The date and time of upload to the website. Uploading time will be considered till 11:59 p.m. CET of the deadline date

A 5.2.2 Submission Deadline /Mandatory first submission date

- The date and time by which the document must be uploaded or submitted

A 5.2.3 No Submissions Accepted After / Update allowed (with penalties) date

- The last date and time by which the document may be uploaded or submitted

A 5.2.4 Late Submission

- Uploaded after the Submission Deadline and prior to No Submissions Accepted After
- Submitted largely incomplete prior to or after the Submission Deadline

A 5.2.5 Not Submitted

- Not uploaded prior to No Submissions Accepted After
- Not in the specified form or format

A 5.2.6 Amount Late

The number of days between the Submission Deadline and the Submission Date. Any partial day is rounded up to a full day. Examples: submitting a few minutes late would be one day penalty; submitting 25 hours late would be two days penalty



A 5.2.7 Reviewer

A designated event official who is assigned to review and accept a Submission

A 5.2.8 *PART IC - IC.4.3.1 ETC - Notice of Intent* and *IC.4.3.2 ETC - Failure Modes and Effects Analysis (FMEA)* are not required.

A 5.2.9 *PART EV - EV11.2 Failure Modes and Effects Analysis* is not required for Class 1EV vehicle.

A 5.2.10 Submission Location

All documents shall be uploaded and filled in on the event documentation website (<https://docs.formula-ata.it/>)

A 5.2.11 Allowed formats are pdf, txt, zip, xls, doc, xlsx, docx, jpeg. It is allowed to upload a zip-archive containing files in the mentioned formats. Submitting files in other formats will be considered as “Not submitted”. Maximum file size is indicated on the website.

Notice: teams are not notified if a document is submitted incorrectly. Therefore, teams are advised to verify after the upload that their documents can be downloaded and can be read for entire and that deadlines have been met.

A 5.2.12 Submission Deadlines

Deadline / Mandatory First submission date	No submission* accepted after/ Updates allowed with penalties	
February 1, 2024	February 2, 2024	Early Registration opens on February 1 at 10.00 AM CET (GMT +1). It closes on February 2, 2024 at 1.00 PM CET (GMT +1)
February 5, 2024	March 5, 2024	Registration opens on February 5 at 10.00 AM CET (GMT +1). It closes on March 5, 2024 at 1.00 PM CET (GMT +1)
March 4, 2024	March 11, 2024	ALL CLASSES - Camping booking form
	August 22, 2024	CLASS 1E/1D - Electrical Systems Officer and Electrical Systems Advisor Form
April 4, 2024	April 4, 2024	ALL CLASSES - Acceptance of camping requests
	April 15, 2024	CLASS 1C - Fuel system data
	August 26, 2024	CLASS 1E/1D - Electric System Data
April 15, 2024	April 22, 2024	ALL CLASSES - Preliminary team member list
April 22, 2024	April 29, 2024	ALL CLASSES - Camping confirmation and payment
April 28, 2024	May 24, 2024	ALL CLASSES - Structural Equivalency Spreadsheet (SES) or Structural Equivalency Spreadsheet Approval (SESA) and Structural Equivalency 3D Model (SE3D). Teams using a monocoque chassis must submit the SES Autocertification, in addition to the SES deadline
May 17, 2024	August 26, 2024	CLASS 1E/1D/3 - Electrical System Form
June 17, 2024	June 17, 2024	ALL CLASSES - BBP Stage 1 - Business Pitch Video
	June 20, 2024	ALL CLASSES - Final team member list & payment for Additional Team Additional Team Members
June 24, 2024	July 4, 2024	CLASS 1C/1E/1D - Impact Attenuator Data
June 26, 2024	July 9, 2024	ALL CLASSES - Engineering Design Report & Design Spec Sheet
July 8, 2024	July 8, 2024	ALL CLASSES - BPP - Outcome of Stage 1 and acceptance to Stage 2
		ALL CLASSES - BPP - Publication of Deep Dive Topics
July 4, 2024	July 4, 2024	ALL CLASSES - e-Cost Report, e-BOM
July 21, 2024	July 21, 2024	ALL CLASSES - Invitation letters for VISA
July 30, 2024	July 30, 2024	ALL CLASSES - Team & camping withdrawal
July 31, 2024	August 3, 2024	ALL CLASSES - Change of Faculty Advisor
September 5-6, 2024	September 5-6, 2024	ALL CLASSES - BPP Stage 2 - Business Plan Presentation onsite

* First column indicates the mandatory date for the submission of the first version of documents. Second column indicates the date within the update of documents is allowed (WITH PENALTIES, following FSAE Italy A 5.2.15 rule). Please, check the rules.



A 5.2.13 Web Based Submission

Teams entering Formula SAE Italy 2024 must submit the documents online through <https://docs.formula-ata.it/>.

The upload date and time on the website constitute the official record for deadline compliance.

Documents may be uploaded on the website from the time your account has been created until the “**Mandatory First Submission Date**” deadline. Submissions may be replaced with new uploads at any point during that period without penalty.

Unless for changes specifically requested by the reviewers, documents uploaded after the “**Mandatory First Submission Date**” and the “**Updates allowed (with penalties) date**” deadline are classified as late submissions and the appropriate penalties will be applied.

No submissions will be allowed after the “**Updates allowed (with penalties) date**” deadline, even if the document is required to access technical inspections (IAD, SES, ESF, FMEA and ESO/ESA). In this case, teams may not be allowed to attend dynamic events.

A 5.2.14 Account Signup for Online Submission - FSAEI Event Only

After confirmation of team registration, teams will receive an email with the instructions to create their new account and password.

A 5.2.15 Submission penalties

Late Submissions will receive a point penalty as shown in following table, subject to officials discretion.

Penalty Group	Penalty Points per day	Maximum penalty points	Not Submitted
Tech (SES, IAD, ESO/ESA, ESF)	-10	-50	Removal of Team Entry - see FSAE rule DR.3.3
Business Plan Pitch Video (BPPV)	-10	-50	Removed from Presentation Event; Score -100 points in Presentation Event
Cost (Ebom, Report)	-10	-80	Removed from Cost Event Score -100 points in Cost Event
Design (DR, DSS)	-10	-100	Removed from Design Event Score -100 points in Design Event

A 5.6 Vehicle Status Video

Not applicable.

A 5.7 SES Submission

A.5.7.1 Teams using a monocoque chassis must submit a SES Autocertification as one document, in addition to the SES deadline.

A 5.7.2 The Structural Equivalency Spreadsheet (SES) must be checked and approved by:

- Validation/inspection organization (e.g. DEKRA, ...)
- Engineering firm for lightweight structures
- Engineering consultancy company



- Any other official competition

A 5.7.3 If any changes to the original SES become necessary due to the approval process, the updated final SES must be uploaded again on the competition website.

A 6.6.3 Smoking

Smoking - Prohibited

Smoking and e-cigarette use is prohibited in all competition areas, including the paddock.

A 6.9 Fueling and Oil

A 6.9.4 The fuels provided at Formula SAE Italy 2024 are expected to be 98 octane gasoline and E85. No other fuel will be supplied.

A 6.9.4.1 Fuel choice must be communicated per Fuel System Data form available on <http://formula-ata.it/docs> by **April 4, 2024**

A 6.9.5 Electric Supply

A 6.9.5.1 Electric vehicle teams must communicate per Electric System Data form available on <http://formula-ata.it/docs> by **April 4, 2024** the main information about their electrical system and charger.

A 6.14.1 Motorcycles, Bicycles, Rollerblades, etc. - Prohibited

The use of motorcycles, quads, bicycles, scooters, skateboards, rollerblades or similar person-carrying devices by team members and spectators in any part of the competition area, including the paddocks, is prohibited.

Self-propelled Pit Carts, Tool Boxes, etc. - Prohibited

The use of self-propelled pit carts, tool boxes, tire carriers or similar motorized devices in any part of the competition site, including the paddocks, is prohibited.

A 6.15.1 Trash Cleanup

Cleanup of trash and debris is under the responsibility of the teams.

- The team's work area should be kept uncluttered
- At the end of the day, each team must clean all debris from their area and help with maintaining a clean paddock

Teams must remove all of their material and trash when leaving the site at the end of the competition.

Teams that abandon furniture, or that leave a paddock that requires special cleaning, will be billed for removal an



APPENDIX 1: PAYMENT DETAILS AND INVOICE

PAYMENT DETAILS

- **Team registration:** teams will have 48 hours, from the shift to awaiting for payment status, to send us the proof of the bank transfer, certifying the payment date and time. Registrations to the Formula SAE Italy 2024 will be confirmed only when the due amount is credited on the ANFIA Service Srl bank account.
- **Camping confirmation:** teams will have to send the camping confirmation form and the evidence of payment within **April 22, 2024** to the respective email address.
- **Additional team member/guest:** teams will have to send the ATM/Guest form with the evidence of payment within **June 17, 2024** to the respective email address.

When making the payments, please consider these administrative regulations:

- 22% Italian VAT is **ONLY** required from European and non-European natural persons, who make the payment, i.e.: registration fee = 1,638.52 €+ 22% VAT = 1,999.00 € total amount to be paid.
- 22% Italian VAT is **NOT** required from European companies owing a VAT code, the Italian Public Administrations and from non-European companies, who make the payment, i.e.: registration fee = 1,638.52 € total amount to be paid.
- 22% Italian VAT is **ALWAYS** required from all Italian participants (natural persons/companies), i.e.: registration fee = 1,638.52 €+ 22% VAT = 1,999.00 € total amount to be paid.

Payments method

- Bank transfer to: ANFIA Service Srl - **Bank name:** BPER Banca - Turin Branch - Corso Vittorio Emanuele II, 48/F - Torino - Italy - **IBAN n.:** IT07T0538701002000038545602 - **Swift code:** BPMOIT22.

Please indicate on the bank transfer the following payment descriptions:

- Team name
- University name/company name

Payment must be received in full. ALL bank transfer charges must be covered by the payer.

INVOICE

It is mandatory to fill in all the fields for the invoice. Be sure to put the right heading:

- University name/company name, or natural person's surname and name
- Department (if needed),
- Address, post code, town, country,
- VAT number,
- "Codice Fiscale" field is ONLY FOR Italian Universities, companies and natural persons
- "Codice identificativo" field is ONLY FOR ITALY,
- Administration email address.

Particularly, in the field of "VAT number" please check to have a correct VAT NUMBER. Please do not insert any other data: i.e. tax identification number.

If you do not have got one, please write "Not in possession" in the field.

For Italian teams only

Following the rule on the electronic invoicing for all Italian bodies owing a VAT code, please note that we need to receive the "codice identificativo" of your company, which is an alphanumeric 7 digits code.

Public Administration invoicing will remain unchanged.

For natural persons or associations with only a "codice fiscale" we need to receive an email address to send the invoice.



APPENDIX 2: CAMPING

A camping site will be available for the event from **September 3, 2024 at 3.00 PM to September 9, 2024 at 2:00 PM.**

It will be located next to the circuit in Varano de' Melegari.

The camping check-in is foreseen on **September 3, 2024 from 3.00 PM to 7:00 PM.** It is **MANDATORY** for all teams to comply with the timetable. In order to avoid a huge crowd gathered at the campsite entrance, the Team Leader only will be allowed to register the team.

Interested teams have to send to ANFIA (formula.ei@ata.it) the [Camping Booking Form](#) within **March 4, 2024.**

Camping requests will be accepted in the order they will be received. The camping availability will be communicated to teams within **April 4, 2024.**

The fee for 6 days is **83.61 € + 22% VAT = 102.00 €/person**

Within **April 22, 2024** teams must send the evidence of payment, together with the list of members and their passport/IC numbers.

We will accept only single payment for each team.

The **payment** can be made with bank transfer to:

ANFIA Service Srl

Bank name: BPER Banca - Turin Branch - Corso Vittorio Emanuele II, 48/F - Torino - Italy - **IBAN**
n.: IT07T0538701002000038545602 - **Swift code:** BPMOIT22.

Please indicate on the bank transfer the following payment descriptions:

- Team name
- University name

Payment must be received in full. ALL bank transfer charges must be covered by the payer.

A refund of 50% of the overall amount of camping fee will be granted in case of team withdrawal, only if the communication is sent within **July 30, 2024.**

T GENERAL TECHNICAL REQUIREMENTS

On this chapter Formula SAE Italy 2024 will follow the “[FS-Rules 2024 v1.1](#)” with the exceptions and additions listed below.

T 5.2.1.1 Use of HANS / FHR systems

The use of HANS \ FHR spec. FIA is highly recommended.

Please check compatibility of HANS/FHR homologation with the helmet standard

Table for helmet and Hans/FHR compatibility

	FHR 8858-2010	Tether (with end fitting) 8858-2010	Helmet anchorage 8858-2010	Helmet 8858-2010, 8859-2015, 8860- 2010 and 8860-2018
HANS 8858-2002	X	YES	YES	YES
Tether (w/ end fitting) 8858-2002	NO	X	If mecha- nically compatible	YES
Helmet anchorage 8858-2002	YES	If mecha- nically compatible	X	NO
Helmet 8858-2002 and 8860-2004	YES	YES	NO	X

T 8.1.2 Aerodynamic Devices

No power device may be used to move or remove air from under the vehicle. Power ground effects are strictly prohibited.

T 11.1.2The maximum permitted voltage that may occur between any two electrical connections in the LVS is 60VDC or **25 VACRMS**.

T 14 AUTONOMOUS SYSTEM

with the exceptions and additions listed below:

T14.11.1 Ignore the text “[DC ONLY]”



CV INTERNAL COMBUSTION ENGINE VEHICLES

On this chapter Formula SAE Italy 2024 will follow the “[FS-Rules 2024 v1.1](#)” with the exceptions and additions listed below.



EV ELECTRICAL VEHICLES

On this chapter Formula SAE Italy 2024 will follow the “[FS-Rules 2024 v1.1](#)” with the exceptions and additions listed below.

EV 4.2 Tractive System Enclosures

EV 4.2.1 TS enclosures, see EV 1.1.2, must be labeled with (a) reasonably sized sticker(s) according to “ISO 7010-W012” (triangle with a black lightning bolt on yellow background). The sticker must also contain the text “High Voltage” if the voltage is more than 60 VDC or **25 VACRMS**.

EV 4.10 Tractive System Active Light

EV 4.10.2 The TSAL itself must have a red light, flashing continuously with a frequency between 2 Hz and 5 Hz and a duty cycle of 50 %, active if and only if the LVS is active and the voltage across any DC-link capacitor exceeds

- 60 VDC or **25 VACRMS**
- Half the nominal TS voltage

whichever is lower.

EV 4.10.3 The TSAL itself must have a green light, continuously on, active if and only if the LVS is active and ALL of the following conditions are true:

- All AIRs are opened.
- The pre-charge relay, see EV 5.7.2, is opened.
- The voltage at the vehicle side of the AIRs inside the TSAC does not exceed 60 VDC or **25 VACRMS**.

EV 5.5 Tractive System Energy Storage - Mechanical Configuration

EV 5.5.16 A sticker according to “ISO 7010-W012” (triangle with a black lightning bolt on yellow background) with the triangle side length of at least 100 mm and the text “Always Energized” must be applied on every TSAC. The sticker must also contain the text “High Voltage” if the voltage is more than 60 VDC or **25 VACRMS**.

EV 6.1 Shutdown Circuit

EV 6.1.5 If the shutdown circuit is opened, the TS must be shut down by opening all AIRs and the voltage in the TS must drop to below 60 VDC and **25 VACRMS** in less than five seconds. All accumulator current flow must stop immediately.

The action of opening the AIRs may be delayed by ≤ 250 ms to signal the action to the motor controllers and reduce the TS current before the AIRs are opened. The AIR supply must be abruptly switched off before reaching the minimum AIR supply voltage.

EV 6.3 Insulation Monitoring Device

EV 6.3.8 The indicator for “IMD” fault shall be mounted on non-removable bodywork. Approved equivalents for the 2024 competition year are the Bender IR425 or Sendyne SIM101MLQ.



IN TECHNICAL INSPECTIONS

On this chapter Formula SAE Italy 2024 will follow the “[FS-Rules 2024 v1.1](#)” with the exceptions and additions listed below.

IN 1.2 General rules

IN 1.2.4 The technical inspection sheet includes several inspection points and will be provided on site.

IN 1.2.8 (deleted)

IN.1.2.15 Presenting a vehicle for Technical Inspection constitutes a declaration by the team that they have determined by self-inspection that the vehicle complies with the Formula SAE Italy 2024 Rules.

IN 1.6 Technical Inspection Authority

Decisions of the Technical Inspectors and the Chief Technical Inspector concerning vehicle compliance are final and may not be appealed.

IN 2 PRE-INSPECTION: Pre-inspection will be performed as part of mechanical inspection.



S STATIC EVENTS

On this chapter Formula SAE Italy 2024 will follow the “[FS-Rules 2024 v1.0](#)”, with the exceptions and additions listed below.

S 1 BUSINESS PLAN PRESENTATION EVENT (BPP)

On this chapter, Formula SAE Italy 2024 will follow its own rule listed below.

1. Business Plan Presentation Event (BPP)

1.1. Business Plan Presentation Objective

- 1.1.1. The objective of the BPP is to evaluate the team’s ability to develop and deliver a comprehensive business model, which demonstrates their product could become a rewarding business opportunity that creates a monetary profit.
- 1.1.2. This business model must be linked to the prototype race car. In doing so, the business plan shall provide a rewarding business opportunity that creates a monetary profit.
- 1.1.3. The judges should be treated as if they were potential investors or partners for the presented business model

1.2. Business Plan Presentation Procedure

- 1.2.1. The Business Plan Presentation will be held in a two-stage process.
- 1.2.2. Stage 1 will be held virtually prior to the competition and will be handled as a drop-out stage. You need to convince the judges of your idea and profitability, in order to progress to the Stage 2. Teams that fail to do so, will not be eligible for points of the Stage 2.
- 1.2.3. Stage 2 will take place during the competition, as part of the static events. Teams can compete only in person at the event site
- 1.2.4. The teams in Stage 2 are responsible for the performance of their equipment and connectivity.

1.3. Stage 1: The “Pitch Video”:

- 1.3.1. To convince the potential investors or partners that the team’s proposal is worthy of their time, it is required to submit a Pitch Video
- 1.3.2. The Pitch Video should contain a description of the team’s idea and business plan key info
- 1.3.3. The Pitch Video shall be a pre-recorded 90-second video upload on YouTube (public domain) and it must be in a common video format, e.g. avi, mpg, mp4, wmv. After 90 seconds the judges will stop evaluating the content
- 1.3.4. The hyperlink of the Video must be uploaded into the Formula official website. No other way of submission is accepted for the Video. Teams who don’t have the Pitch Video link into the web site will be excluded from the Stage 2
- 1.3.5. Teams are not limited in the way they present these 90 seconds. Visual aids of any kind are allowed, but not required. Target of the Business Pitch Video is to showcase the required information and spark interest in the full 10-minute version.
- 1.3.6. Within 3 weeks after submitting the video the teams will be informed if they have made it to Stage 2.



1.4. Stage 2: The 10 Minute Business Plan Presentation

- 1.4.1. The 10 Minute Business Plan Presentation will be part of the static events onsite of the competition covering all areas of the business idea
- 1.4.2. Presentations are limited to exactly ten (10) minutes. The judges will stop any presentation exceeding the above-mentioned timing
- 1.4.3. The presentation will not be interrupted by questions. Immediately following the presentation, there will be a 5 minutes Q&A session.
- 1.4.4. A maximum of three team members, physically at the event, may present the business plan and answer the Q&A session
- 1.4.5. Other members of the team are allowed to attend the event as viewers, with a limit of 10 people

1.5. Business Plan Presentation Finals

- 1.5.1. At the end of the Stage 2, the three teams with the best ranking in every category will be eligible for the Finals
- 1.5.2. The BP Presentation Finals will be held only physically at the event site
- 1.5.3. The Finals will consist in a 15 minutes presentation on Stage without any Q&A session
- 1.5.4. The BP finals are a public event

1.6. Feedback

- 1.6.1. Feedback will be available to the teams upon request on the event site after the Finals, and only in person. If you drop out before stage three the respective teams will be informed additional about feedback possibilities.

1.7. Business Plan Presentation Scoring

- 1.7.1. The scoring of the stages is subsequent.
If a team fails to submit the Video in Stage 1, there is no possibility for that team to score points at stage 2. Teams that fail to attend their presentation at stage 2 within their assigned time period, will receive zero points.
- 1.7.2. The maximum scoring of the BPP event is 75 points.
- 1.7.3. The scoring for the non-finalist is calculated as follows:

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

Where:

“P_{your}” is the score awarded to your team by the business judges in the initial judging (all 3 stages added up together).

“P_{min-F}” is the lowest score awarded to any team participating in the finals in the initial judging (all 3 stages added up together).

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

Possible penalties could affect the final scoring.

Note: The intent of these changes is to avoid skewing the initial points distribution in events with non-uniform points distribution (more likely with fewer participants)



1.7.4. Stage 1 “Pitch Video” will be evaluated on following categories:

Category	Points
Business Case	10
Delivery	10
Total	20

1.7.5. Stage 2 “Business plan presentation” will be evaluated on following categories:

Category	Points
Finances	15
Content	10
Structure	10
Demonstration	10
Delivery	10
Deep Dive Topic	10
Q&A	10
General Impression	5
Total	80

S 2 COST AND MANUFACTURING EVENT

On this chapter, Formula SAE Italy 2024 will follow chapter S 2 of “[FS-Rules 2024 v1.1](#)” with the exceptions and additions listed below.

S 2.10 Cost and Manufacturing Scoring

S 2.10.3-4-5 The Cost Event will host no finals

Once a team completed the BOM, DBOM and CBOM files on the FSG Website Tool, all the documents must be submitted here: <http://formula-ata.it/docs>, together with the offline ones.

S 3 ENGINEERING DESIGN EVENT

On this chapter, Formula SAE Italy 2024 will follow chapter S 3 of “[FS-Rules 2024 v1.1](#)” with the exceptions and additions listed below.

S.3.1 [DV ONLY] Autonomous Design Report (ADR)

S.3.1.1 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.

S.3.1.2 Evidence of information mentioned in the ADR should be brought to the competition and be available, on request, for review by the judges.

S.3.1.3 The ADR must not exceed five pages of content (text, which may include pictures and graphs).



S.3.1.4 Any portions of the ADR that exceed five pages of content will not be evaluated.

S.3.1.5 The ADR must be written as a scientific paper.

S.3.1.6 [DV Only] The design event starts with the submission of the DSS and the ADR and their review respectively.

S.3.2 [DV ONLY] Teams need to show some simulation test data, where the judges can see how the algorithms work.

S.3.3 Design Judging Score Sheets are available at the FSAE Online website, except for DV Design Committee, which will judge following categories:

Vehicle Concept <ul style="list-style-type: none"> » Architecture » Target setting » Validation » Simulation / Testing » Development approach
Autonomous System <ul style="list-style-type: none"> » Perception » Localization » Mapping » Path planning » Path tracking
Vehicle System <ul style="list-style-type: none"> » Chassis » Actuators » Electrics / Electronics » Powertrain
Software Architecture <ul style="list-style-type: none"> » Controls » Real-time architecture » Calibration / Training » Safety / Security management
Documentation <ul style="list-style-type: none"> » ADR quality » Coherence with the vehicle » Innovation from previous years

S.3.4 Scoring may range from 0 to 150 points, at the discretion of the Chief Design Judge.

[DV Only] Scoring may range from 0 to 200 points, at the discretion of Chief Design Judge



D DYNAMIC EVENTS

On this chapter Formula SAE Italy 2024 will follow the “[FS-Rules 2024 v1.1](#)” with the exceptions and additions listed below.

D 4.2.1 Skidpad Number of Runs

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

D 5.2.1 Acceleration Number of Runs

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

D 1.3 [DV ONLY] Additional Rules for DV Dynamic Events

On this chapter Formula SAE Italy 2024 will follow the rules of the “[FS-Rules 2024 v1.1](#)” that are listed below and all the rules that are mentioned in the listed ones.

D 2.3.8 When driving in autonomous mode, an ASR has to be present at the race control with the RES. Additionally, one single monitoring device (laptop, tablet, ...) may be brought (no complicated antenna construction or similar!)

D 2.5 Cones & Markings for Autonomous Running

D 2.6 Start-up Procedure for Autonomous Running

D 2.7 Vehicle Break Downs and Usage of RES during Autonomous Running

D 2.8 Procedure After Completing a Driverless Dynamic Event

D4 SKIDPAD EVENT

with the exceptions and additions listed below:

D 4.2 Doesn't apply

D 4.4 Doesn't apply

D 4.5 Doesn't apply

D 5 ACCELERATION EVENT

with the exceptions and additions listed below:

D 5.2 Doesn't apply

D 5.4 Doesn't apply

D 5.5 Doesn't apply

D 6 AUTOCROSS EVENT

with the exceptions and additions listed below:

D 6.2 Doesn't apply

D 6.3 Doesn't apply

T_{\min} is the fastest corrected elapsed time of all teams



D8 TRACKDRIVE EVENT

with the exceptions and additions listed below:

D 9 DYNAMIC EVENTS PENALTIES

with the exceptions and additions listed below:

FSG-D9.2 Doesn't apply

FSG-D9.3 Doesn't apply