

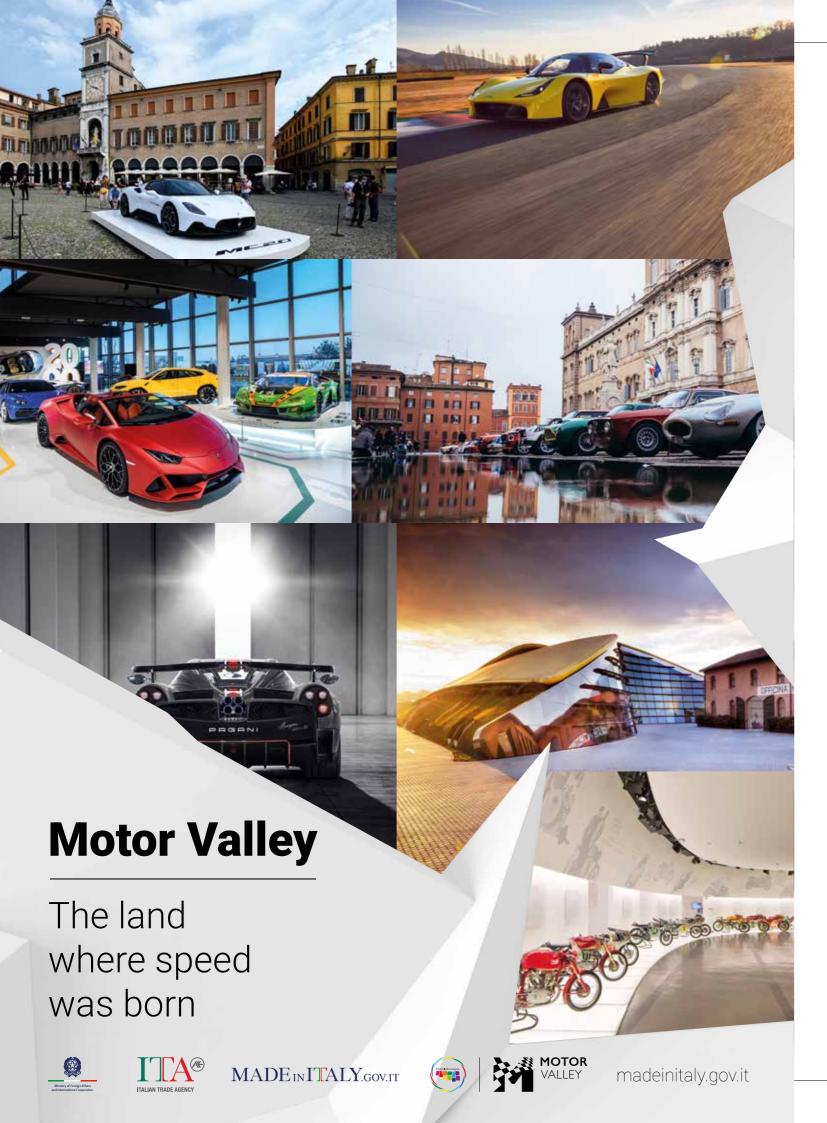
Formula SAE Italy 2021

Online Static Events: September 27 - October 1 2021 Dynamic Events on track: October 10-13 2021 Riccardo Paletti circuit Varano de' Melegari

HANDBOOK







Formula SAE Italy 2021

#FSAEItaly

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www.formula-ata.it

Formula SAE Italy & Formula Electric Italy is organized by ANFIA - Associazione Nazionale Filiera Industria Automobilistica www.anfia.it

Formula ATA Handbook

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Formula SAE Italy 2021

Online Static Events: September 27th - October 1st
Dynamic Events on track: October 10-13

@ «Riccardo Paletti» racetrack - Varano de' Melegari (PR)

Official Handbook

Introduction

The Formula SAE Italy 2021 will follow the official SAE rules valid for 2021. The Formula Driverless 2021 will follow FSG rules with few exceptions. The Cost event will follow FSG rules and a new rule for the Business Presentation event has been defined this year in collaboration with FS Austria.

The additional regulations, valid for the Italian event, are the ones reported on the official Formula ATA web site (www.formula-ata.it under the "Information & Rules" section).

These guidelines are written with the only purpose to help competitors and guests during the event. In case of doubt, please refer to the event officials.

Please remember that motorsport can be dangerous, take always the maximum care during the entire event.

Formula SAE is an educational event where all the students have the possibility to learn while having fun.

Formula SAE Italy is organised by

















Formula ATA Handbook

In case of emergency

In case of any emergency situation please refer to the officials/staff. During the dynamic events ambulance will be on site. In case of need, ask someone with a two-way radio.

In case of an emergency outside the event, call 112. This number is free of charge and works with both mobile and coin telephones.

Useful phone numbers are the following

General Emergency Number 112

Carabinieri Fornovo Taro office +39 0525 2114

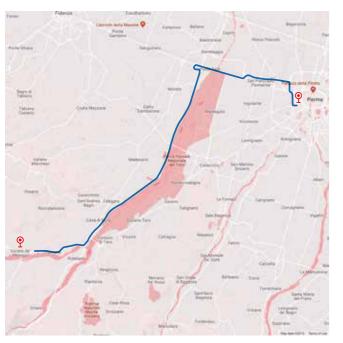
Parma Hospital +39 0521 702111 - 703111

-First aid service: +39 0521 703084

Borgo Taro Hospital +39 0525 9701

-First aid service: +39 0525 970216, ext. 4216

Parma Hospital direction



Borgo Val di Taro Hospital direction



COVID PROTOCOL

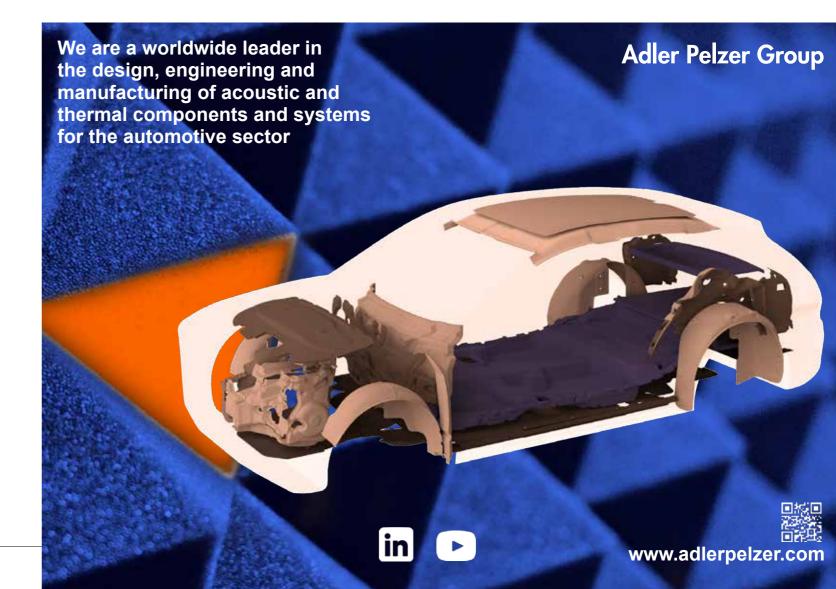
Since the Covid19 pandemic is still ongoing, last July, when infections were raising again, also because of Covid Delta variant spread and it was consequently necessary to keep on going the vaccination campaign, the Italian Government decided to extend until the end of 2021 the national emergency state.

The organizing committee of Formula SAE Italy drew up a Covid protocol in order to guarantee that the event will respect all present national regulations safeguarding all participants' health. This protocol is available on

the event website (www.formula-ata.it) and all team members are expected to read it carefully and to respect the rules during the event. To facilitate this, besides the information plaques reminding the basic Covid rules to be followed, some floor lamps in the paddock show the QR code of the protocol for your consultation. In case of further doubts, please ask to FSAE Italy Safety Manager or to ANFIA organizing committee representatives. The mandatory step before the teams' registration consists in green passes scanning by the circuit staff at the circuit desk at the entrance. Team leaders' green passes must be checked first; team members follow. The validation of green pass allows to go on with the normal registration of the team by the team leader. People without green pass or whose green pass is not valid must undergo a rapid antigen-test upon payment at the dedicated area at the entrance of the circuit. People who are not vaccinated against Covid19 have to undergo a rapid antigen-test every 48 hours.

WHAT SHOULD I DO IN CASE OF ELECTRIC SHOCK?

- Call for medical help. Ambulances are onsite for medical assistance.
- Push one of the emergency shutdown buttons and wait until the TSAL (Tractive System Active Light) is green. Don't act if light is red or turned off.
- Try to speak with the wounded and ask him/her about his/her health.
- Insulate yourself if you must move a wounded away from a live contact wear dry gloves or cover your hands with cloth and cover potential contact paths with the car with the HV isolation blanket.
- Watch your step to make sure that you do not slip or fall when trying to move the wounded.
- Do not move the wounded if there is a possibility of neck or spinal injuries unless it is absolutely necessary (for example from a path of live current).
- Cover burns with a sterile dressing. On the surface, electrical burns may not look serious, but the burn can be severe deeper in the tissue.
- Keep the wounded comfortable, warm and at rest, and monitor breathing.



Staff

ORGANIZING COMMITTEE

Steering **Committee**



Claudio Annicchiarico

Head of Formula Driverless

Anna Maria

Costa

Event Organization

Silvio

Head of Mechanical

La Tassa



Giampiero Brusaglino

Electric Technical Manager

Raffaele

Fregonese

Formula SAE

Italy Director

Francesco

Head of Formula

Electric Italy

Laviola



Paolo Mario Coeli

Formula SAE Italy Director of Operations



Miriam Gangi

Organization and Communication Manager





Selene Migliaccio

Event Organization and Responsible for relations with the teams



Roberto Prete

Safety



Francesco Ristori

Head of Formula Driverless **Dynamics**



Mariangela Sciorati

Event Organization and Communication



Dynamics Logistic Manager

Rosaschino

Massimo



manager Giacomo

Danisi



Carlo Giorgioni

Head of Cost



Head of Design Judges



Judges

Valentina Temporelli

Manager





Piero Ciadamidaro



Gabriele Vacchina

Dynamics Security Responsible



Nicola Rizzini

Volunteers Coordination Responsible



Business Presentation

Media Group



Daniele **Bottallo**

Photographer



Giuseppe Pagano



Fabrizio Giuliano



Andrea Napolione

Social Media



Giorgio **Perottino**

Video Make

Photographer



Formula ATA — Handbook —

Design Event Committee

Claudio ANNICCHIARICO Meccanica 42 - Chief Executive Officer

Franco ANZIOSO Free2Move eSolutions - Public Funding Responsible

Tiziano BADIA Silk-FAW Automotive Group Italy - Head of EE Architecture & SW Integrations

Alessio BATTIMAZZA Stellantis - Driveability & Emissions Calibrator Engineer

Giampiero BRUSAGLINO Electrical Vehicle Expert

Carlo CAMPANALE Maserati - 800V GranTurismo & GranCabrio Chief Engineer - Propulsion Systems

Pier Guido CASTELLI Sabelt - Product & Innovation Manager

Jacopo CECCONI Automobili Lamborghini - Chassis concept responsible, R&D, Chassis dpt

Giovanni CERIELLO Duerre Tubi Style Group - Product Engineering Staff

Alessandro Pietro CINÀ Stellantis - Physical & Functional Design and Integration - Vehicle Integration

Responsible

Marco CIPELLI Dayco - Testing Manager

Paolo COELI Stellantis - EE - Regional Planning - Cross-Carline & Diversity

Davide COLLOTTA Prysmian Electronics - Product Manager

Maurizio COLOMBO Automotive Expert

Nando CONCARI Dallara Group - Project Manager

Giacomo DANISI Danisi Engineering - Chief Executive Officer
Antonio DE LAURETIS Ferrari F1 - Manager - Aerodynamic Modelling
Luca DE VITA ANFIA - Technical & Regulatory Affairs Area

Daniela DE VIVO Automobili Lamborghini - Project Leader Huracan Family - Whole vehicle

development area

Andrea DI VINCI Eatron Technologies - Business Manager

Daniele ESPOSTO Dayco - Testing Supervisor

Filippo ESPOSTO DTS SpA - R&D - "Head of Tail pipe design and Oil tank specialist"

Ferdinando FERRARA Stellantis - Electrical/Electronic Engineering - Pomigliano Sub Unit Responsible

Raffaele FREGONESE Maserati - Electrified Powertrain Concept & Validation Responsible

Vincenzo FRUMUSA Stellantis - CX EEUR Reliability

Roberto GALANTE SKF Automotive - Manager, Sensing Bearings Applications

Giorgio GAMBERINI Italdesign - Product Responsible Engineer

Giacomo GIANSETTO AGLA Power Transmission - Product Responsible Engineer
Dario GOVERNATORI Maserati - Transmission&Driveline - Chief Engineer Axle&DL

Stefano GUCCIONE Automobili Pininfarina - E-POWERTRAIN & HV SYSTEMS - SYSTEM INTEGRATION LEADER

Francesco LAVIOLA PUNCH - Control Development Workgroup Leader
Francesco LILLI CRF - EMEA - Product Development - Head of Advanced E/E

Emanuele LOMBARDI Stellantis - GSE Turbo Engines Program Manager
Roberto MACERATINI CNH - FTP PE - Electrification - System Development

Marco MERLIN Ycom - Senior Composite Engineer

Francesco MONTI Podium Advanced Technologies - CEO - Head of e-Mobility Business Line

Giulio MORSONE Automobili Pininfarina - Head of Chassis
Miriam NARDONE Dayco - Global Product Coordinator

Andrea OCEANO CUNA - CUNA Representative - Technical Secretary for Italian Committee for

"Electric, hybrid and fuel cell vehicles", "Vehicles fuelled with gaseous fuels" and

"Fuel specifications"

Holger OEST SVOLT Energy Technology (Europe) - Key Account Director BMW & Daimler

Paolo OLLINO Stellantis - Manager of Manufacturing

Carlo RANCAN
Robert Bosch - Functional Safety engineer, Powertrain field support
Claudio RICCI
Roberto RICCI

Francesco RICCIARDI Bylogix - CEO

Luca RIVAGLI Dayco - CAE Lead Engineer

Walter SAVIO CRF - Responsible E/E Prototyping and Testing - E/E Innovation - PD

Raffaele TAMPOLLI
Andrea TOSO
Gabriele VACCHINA

Tampolli Engineering - Owner
Dallara - Head of Vehicle Dynamics
Danisi Engineering - Head of Road Testing

Cost Event Committee

Enrico ACTIS Dayco - Purchasing - Hybrid Solution Global Commodity Manager & Ivrea Plant

Purchasing Manager

Aldo CACOPARDI DocFinance - Marketing Manager
Giovanni CLEMENTE Speedline - Technical Project Manager

Cosimo COLANERI Stellantis - Global Cost Engineering Manager: Chassis System

Michelangelo D'ACUNTO Maserati - Engineering - R&D Cost Evaluation

Gerardo DI MARTINO Dallara - Accounting Specialist

Paolo DONDO Polo Mesap - Technical Manager - Polo Mesap "Smart Products and Manufacturing"

Carlo GIORGIONI Dallara - Plant Controller

Mariangela GIRIMONTE CNH Industrial - Product Development Purchasing Specialist

Agnese LAMORTE Johnson Controls - Regional Strategic Account Manager, Continental Europe
Christian LEUCCI Stellantis - xEV Capability & Vehicle Energy Management - Virtual Engineering

Ernesto MOGNI Stellantis - System Cost Engineering
Marco MONEGATTI Dallara - Commercial Office Jr Operator

Letizia MULE' Eldor - Project Manager Valerio PINTO Senior Design Engineer

Giovanni PRATI Dallara - Cost & Project Analyst

Filippo SCARANGELLA Robert BOSCH CVIT - Bosch Powertrain Solutions - Simulation and Design Engineer

Annalisa SCOTTO Altran - Vehicle Dynamics Engineer

Shalom SULEMAN Beamit - Quality System

Sebastian SZYMCZAK Consultant Smart Factory and Process Mining Filippo TREMAMUNDO Stellantis - Engineering - R&D Cost Evaluation

Dom WILLIAMS Dallara - Design Engineer

Business Presentation Event Committee

Giancarlo ALBIERO ANFIA - Aftermarket and Motorsport Area

Alessandro AMENDOLARA Robert Bosch - Calibration Italian Customers (PS-EC/EBC5)

Giovanni ASSETTATI Italdesign - Project Manager
Chiara BONELLO Stellantis - People Analytics Specialist
Matteo BONZI Stellantis - Institutional Relations

Monica CROWLEY Audi - Project & Process Manager - Product Line MQB

Andrea DEBERNARDIS ANFIA - Head of ANFIA Components Group
Laura DEITINGER Assoknowledge Confindustria - President

Silvio DONATO ANFIA - Data Analyst

Serena GARZULLI ION Trading - Business Analyst

Luca GRASSI Danisi Engineering - Technical Account Manager

Cinzia LOIODICE Bricks4Kidz - Country Head

Marco MELANI Head of Controlling - REA - Rosignano Energia Ambiente SpA

Giuseppe OLIVIERO Stellantis - Automotive Research & Advanced Engineering - Head of BCI Program

Management

Enrico REBAUDO Vitesco Technologies - BU Electronic Controls - Director CC FCA EMEA

Giuseppe SCARINGI Robert Bosch - Project Manager

Alessandro SCIOLARI Assoknowledge Confindustria - Scientific Director

Valentina TEMPORELLI Landi Renzo - Global OEM Sales & Business Development Director

Formula SAE Italy 2021

Sponsor Special Awards



Best lightweight solution in chassis

Award presentation by an Automobili Lamborghini executive spokesperson

Trophy



Award for the best Car/Resources balance

Award presentation by a Dallara executive spokesperson

- Trophy
- Cheque of € 750,00



Top Coating Award

Award presentation by Daryush Arabnia, Chairman, President & CEO di GeicoTaikisha

This recognition will be given to the team who will present the best coated car body, in terms of quality and innovation. In particular, GeicoTaikisha will consider the type of materials, the surface treatment, the aesthetics and the livery of the car.

• The awarded team will win a 6-month work experience at the Italian Headquarters of the Group for one of its members and a plaque



Electronics development process: innovative controls, methods and architectures award

Award presentation by Massimo MILIZIA - Teoresi Technology Leader

•Trophy + Intrepid Control Systems innovative tools for engineers in the vehicle networking, testing and embedded engineering fields

Special Awards



Online Static Events - Most Active Team Contest

Rewards for the 3 most active teams:

- 1st classified team: cash prize of 500 euros
- 2nd classified team: cash prize of 350 euros
- 3rd classified team: cash prize of 200 euros

Reward for the most active team member:

• FSAE Italy 2021 sweater

Reward for the most active team member on social media:

• FSAE Italy 2021 t-shirt

Overall event

Most Friendly Team Trophy

Best Class 1C Classified in the Cost Event Trophy

Best Class 1D Classified in the Cost Event Trophy

Best Class 1E
Business Presentation Event
Trophy

Best Class 1 C Design Winner Trophy

Best Class 1E Classified in the Cost Event

Best Class 1C Business Presentation Event

Trophy

Best Class 1D
Business Presentation Event
Trophy

Best Class 1 D Design Winner

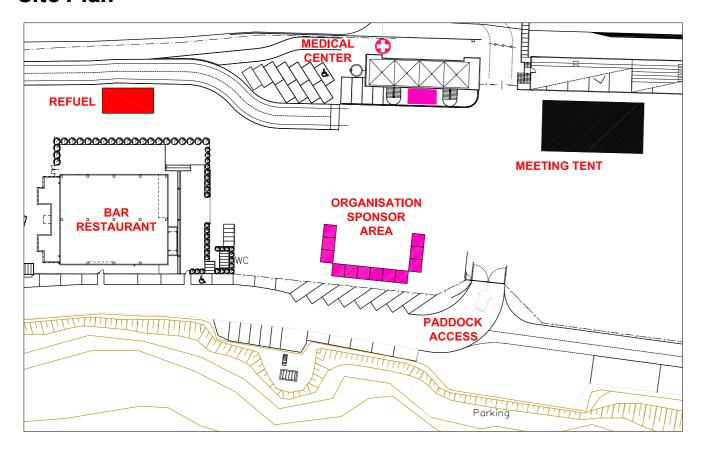
Trophy

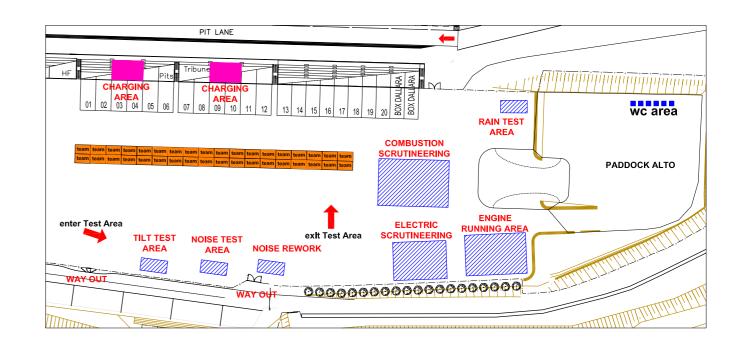
Other Special Awards

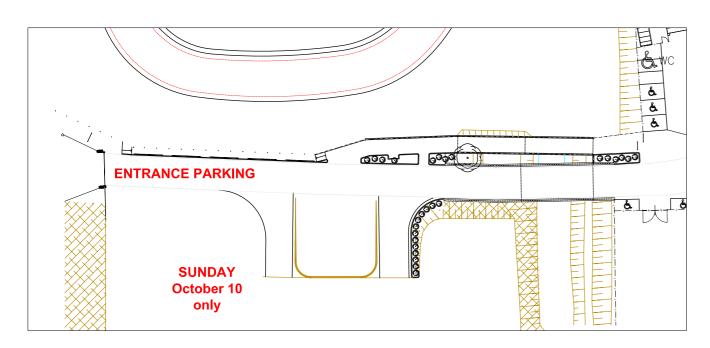


Best Class 1E Design Winner
Trophy

Site Plan









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Official Schedule (This programme could be subject to changes)

Online Static Events - September 11 and 27÷30

BUSINESS PRESENTATION EVENT PRELIMINARY SCHEDULE Saturday, September 11 - ALL DAY STAGE 2 BPE - Business Pitch Performance			
09:00 - 09:20 09:20 - 09:40 09:40 - 10:00 10:00 - 10:20 10:20 - 10:40 10:40 - 11:00 11:00 - 11:20 11:40 - 12:00 12:00 - 12:20 12:20 - 12:40 12:40 - 13:00 14:00 - 14:20 14:20 - 14:40	Team 1,2,3 Team 4,5,6 Team 7,8,9 Team 10,11,12 Team 13,14,15 Team 19,20,21 Team 22,23,24 Team 25,26,27 Team 28,29,30 Team 31,32,33 Team 34,35,36 Break Team 37,38,39 Team 40,41		
14:40 - 15:00 15:00 - 17:00	Team 42,43 End of session/Judges' discussion: Selection of teams for Stage 3		
	Monday, September 27 - AFTERNOON STAGE 3 BPE - Business Plan Presentation 4 PARALLEL SESSIONS		
13:00 - 14:00 14:00 - 15:00 15:00 - 16:00 16:00 - 17:00	Team 1,2,3,4 Team 5,6,7,8 Team 9,10,11,12 Team 13,14,15,16		
17:00	End of session/Judges' discussion: Results harmonization		
Tuesday, September 28 - AFTERNOON STAGE 3 BPE - Business Plan Presentation 4 PARALLEL SESSIONS			
14:00 - 15:00 15:00 - 16:00 16:00 - 17:00 17:00 - 18:00 18:00 - 19:00	Team 1,2,3,4 Team 5,6,7,8 Team 9,10,11,12 Team 13,14,15,16 Team 17,18,19		
19:00	End of session/Judges' discussion: Results harmonization		

DESIGN EVENT PRELIMINARY SCHEDULE Monday, September 27 - AFTERNOON 7 PARALLEL SESSIONS 12:00 - 12:30 **Design Judges Briefing** 14:00 - 15:00 Team 1,2,3,4,5,6,7, 15:00 - 16:00 Team 8,9,10,11,12,13,14 16:00 - 17:00 Team 15,16,17,18,19,20,21 17:00 - 18:00 Team 22,23,24,25,26,27 18:00 End of session/Judges' discussion: Results harmonization Tuesday, September 28 - MORNING **DESIGN EVENT** 6 PARALLEL SESSIONS 08:30 - 09:30 Team 1,2,3,4,5,6,7 09:30 - 10:30 Team 8,9,10,11,12,13,14 10:30 - 11:30 Teams 15,16,17,18,19,20 11:30 End of session/Judges' discussion: Results harmonization 12:00 Break 12:30 **Results harmonization**

COST EVENT PRELIMINARY SCHEDULE Wednesday, September 29 - AFTERNOON **COST EVENT** 5 PARALLEL SESSIONS 12:30 - 13:00 **Cost Judges Briefing** 13:00 - 13:45 Team 1,2,3,4,5 Team 6,7,8,9,10 13:45 - 14:30 14:30 - 15:15 Team 11,12,13,14,15 15:15 - 16:00 Team 16,17,18,19,20 16:00 - 16:45 Team 21,22,23,24,25 16:45 - 17:30 Team 26,27,28,29,30 17:30 End of session/Judges' discussion Thursday, September 30 - ALL DAY **COST EVENT** 5 PARALLEL SESSIONS 08:30 - 09:15 Team 1,2,3,4,5 09:15 - 10:00 Team 6,7,8,9,10 10:00 - 10:45 Team 11,12,13,14,15 Team 16,17 10:45 - 11:30 11:30 Break 12:00 Judges' discussion/Results harmonization

Formula ATA Handbook

Dynamic Events @ Varano Racetrack

Sunday, October 10

07:30	Site Opens
08:00 - 10:00	Registration for all Classes Team Leaders, Faculty Advisors, ESO/ASR, Drivers Registration @ Circuit entrance Energy Meters Delivery @ Circuit Entrance Registration for Volunteers, Technical Inspectors and Staff @ Circuit entrance
08:30 - 09:30	Briefing Volunteers & Technical Inspectors @ Entrance parking
09:30 - 13:00	Technical Inspections 1C/1D/1E @ Entrance parking
13:00 - 14:00	Lunch Break*
14:00 - 19:00 16:00 - 18:30	Technical Inspections @ Entrance parking Pit set up for those teams which have already ended the technical inspections
20:00	Site close

Monday, October 11

07:30	Site Opens
08:00 - 10:00	Registration for all Classes, Team Leaders, Faculty Advisors, ESO/ASR and
	Drivers @ Registration Office, Pits set up
	Registration for Volunteers, Technical Inspectors and Staff @ Registration Office
	Energy Meters Delivery @ Registration Office
08:00 - 13:00	Battery Charging Class 1D/1E @ Charging Area
08:00 - 08:30	Briefing Volunteers & Technical Inspectors @ Scrutineering Area
09:00 - 13:00	Technical Inspections 1C/1D/1E @ Scrutineering Area
09:00 - 13:00	Tilt, Noise & Rain Tests 1C/1D/1E @ Scrutineering Area
09:30 - 13:00	Engine Running Area Open @ Scrutineering Area
10:00 - 13:00	Brake Test 1C/1D/1E @ Brake Test
10:00 - 13:00	Practice Area 1C/1E @ Practice Area
13:00 - 14:00	Lunch Break*
14:00 - 19:00	Technical Inspections 1C/1D/1E @ Scrutineering Area
14:00 - 19:00	Tilt, Noise & Rain Tests 1C/1D/1E @ Scrutineering Area
14:00 - 19:00	Practice Area 1C/1E @ Practice Area
14:00 - 19:00	Brake Test 1C/1D/1E @ Brake Test
15:00 - 18:00	Emergency Brake Test 1D @ Straight between 2 turns
15:30 - 18:30	Engine Running Area Open @ Scrutineering Area
19:30 - 20:30	Opening Ceremony (with ANFIA) @ Acceleration
21:00	Site Closes

Tuesday, October 12

07:00	Site Opens
07.30 - 13:00	Battery Charging Class 1D/1E @ Charging Area
08:00 - 08:30	Briefing Volunteers & Technical Inspectors @ Scrutineering Area
09:30 - 13:00	Engine Running Area Open @ Scrutineering Area
09:30 - 13:00	Transponders Delivery @ Scrutineering Area - Noise test
09:30 - 13:00	Acceleration 1C/1E @ Acceleration
09:30 - 13:00	Acceleration 1D @ Straight between the hairpin
09:30 - 13:00	Skidpad 1C/1E @ Skidpad
10:00 - 13:00	Practice Area 1C/1E @ Practice Area
13:00 - 14:00	Lunch Break*
14:00 - 14:30	Autocross Course Walk @ Track Area
14:00 - 20:00	Battery Charging Class 1D/1E @ Charging Area
15:00 - 18:30	Autocross 1C/1E @ Track Area
15:30 - 18:00	Practice Area 1C/1E @ Practice Area
16:00 - 18:00	Skidpad 1D @ Skidpad
20:00	Site Closes

Wednesday, October 13

07:30	Site Opens
07:30 - 14:00 09:00 - 09:30 10:00 - 13:00	Battery Charging Class 1D/1E @ Charging Area Course Walk @ Track Area Autocross 1D @ Skidpad
10:00 - 18:00 10:00 - 19:30 13:00 - 14:00	Endurance Event 1C/1E @ Track Area Parc fermé Class 1C/1E @ Piazzale Driver Change Lunch Break*
14:30 - 18:30 20:00 - 21:00	Trackdrive 1D @ Skidpad Closing Ceremony @ Acceleration
21:00	Track Area closes

^{*} The restaurant of the circuit will be open from 11.45 to 14.30, in order not to be crowded inside. The lunch can be served to 48 seated persons at a time

Pits

Pit number

The pits of the circuit will be assigned to one team only which will enter from the Pit Lane side or from the Paddock side. Some additional gazebos will be placed inside the paddock.

Pit set up

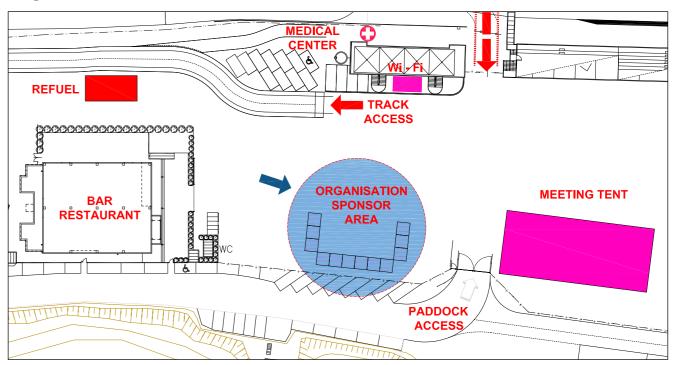
When: Sunday, 10th October, 16:00 - 18:30 and Monday 11th October, 8:00 - 10:00

All teams vehicles have to wait before entering the event site for unloading their cars and materials. Please follow the instructions of the officials. Walking speed is the maximum allowed speed in the venue.

ONLY 1 vehicle will be authorized to enter the paddock, but after the unload it shall be parked in the free parking area at the entrance of the Varano Circuit.

BEHIND YOUR SAFE BRAKING, THERE ARE THOUSANDS OF ACCELERATIONS ON TRACK. CHOOSE PIRELLI TYRES. OUTSTANDING GRIP TESTED ON TRACK FOR YOUR DAILY DRIVING. The Fil logo, Formula LIFL Grand Pitz and related marks are trademarks of Formula Temporary. All rights reserved.

Registration and information



Registration of team members

Upon arrival at the Varano Circuit every team member must do FIRST the COVID registration at the circuit desk at the entrance by:

- a) Show the Green pass or the negative swabs
- Leaving the COVID self declaration signed and measuring the temperature

<u>AFTER that, ONLY the Team Leader</u> must register the team at the Formula Reception Desk by:

- Bringing the ANFIA Limitation of Liability and signing the list of signatures IN FRONT OF the ANFIA Staff to confirm the correctness and validity of all other members' signatures;
- Communicating any changes in the list of team members, previously submitted, and in that case, filling out all the necessary registration documents for every new member and bringing

Then he/she will receive badges for all team members, the dynamic area passes for drivers, which must be worn at all times.

No pass will be handed to any team member except than the Team Leader.

When:

Sunday, 10th October, 8:00-10:00 and Monday 11th October, 8:00-10:00

Where:

Circuit Entrance on Sunday 10th October, Registration Office on Monday 11th

Event Organization:

Miriam Gangi - Selene Migliaccio - Claudia Rossi - Anna Maria Costa - Mariangela Sciorati

Energy meter delivery

The energy meter kit will be delivered on Sunday, 10th October - 8:00 - 10:00 at the Circuit Entrance on and Monday 11th October, 8:00-10:00 at the Registration Office.

The kit includes the energy meter box, a wiring harness set with connectors.

Trasponder Delivery

The car transponders will be delivered on Tuesday 12th October, from 9:30 to 13:00 at the Scrutineering Area - Noise test. They will be picked up by the officers in the Parc Fermé after the endurance. In case the car will not participate in the endurance event, it will be Team Leader responsibility to return it back at the registration office (before the Closing Ceremony).

Registration of Faculty Advisor

Faculty Advisors are kindly requested to register at the Reception Desk on Sunday 10th October, from 08:00-10:00 together with his/her team or on Monday 11th October, from 8:00 to 10:00.

Drivers registration

Every team must register as drivers at least 4 members.

Drivers will have to submit the R. Paletti Circuit release and waiver of liability completely filled out, together with the photocopy of a valid government issued driver's license.

Drivers are requested to present those documents at drivers' registration desk on Sunday 10th October, from 08:00-10:00 or on Monday 11th October, from 08:00 to 10:00.

Drivers will receive a written briefing and will sign it for receipt.

Drivers will have to pass the egress test and the main hoop height test to be allowed to drive the car; as soon as they pass the tests they will be handed a red wristband.

ESO / ASR registration

Electric teams, including driverless car equipped with electrical powertrain, must register at least 1 ESO (Electrical Safety Officer).

ESOs are requested to register at the Reception Desk on Sunday 10th and on Monday 11th October, from 08:00 to 10:00. ESOs will receive an orange wristband and an orange t-shirt/team, which must be worn during the team's dynamic events.

For driverless team, ESO will be registered also as ASR (Autonomous System Responsible).

ASR are requested to register at the Reception Desk on Sunday 10th and Monday 11th October, from 8:00 to10:00. ASRs will receive an orange wristband and an orange t-shirt/team, which must be worn during the team's dynamic events.

Certification of participation

A certificate of participation will be sent to the Team Leader for every team member after the event as a .pdf file.

Parking

At the entrance of Varano Circuit there will be a free parking area for all vehicles.

Formula Driverless

Formula Driverless (class 1D) debuted in the Formula SAE Italy during the 2018 edition, following the innovative technological trends of the automotive industry.

It follows the FSG DV Rules with some exceptions which you can find in the Information & Rules 2021. The division between Static and Dynamic events is maintained.

The cars will take part in all the dynamic events in autonomous mode only, without any human driver sitting inside. All the vehicles should allow for a human driven mode according to the rules for performing the brake test. The minimum number of human drivers is 1 for each driverless team.

Online Static Events

1D Statics Events are the same (Business, Cost and Design) of the other classes with a few differences and will be held online. The Cost event will follow FSG model and a new rule for the Business Presentation event has been defined this year in collaboration with FS Austria.

One only panel of judges is planned for the Design Event, that follows a precise list of evaluation items. The judgement of the design of the car isn't separated from the autonomous system judgement even if judges are focused on this latter. There aren't Design Finals for 1D class.

Track Marking

DE6.3.1 The markings of all dynamic events will have the following characteristics:

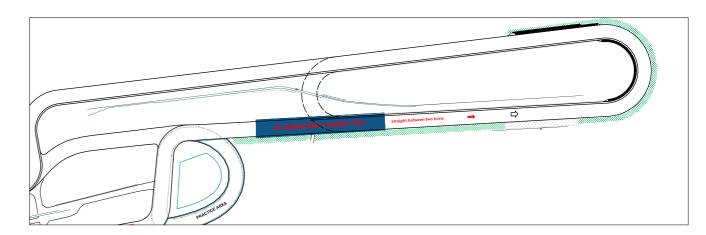
- · The track is marked with cones.
- The left borders of the track are marked with small blue cones.
- The right borders of the track are marked with small yellow cones.
- Exit and entry lanes are marked with small orange cones.
- Big orange cones will be placed before and after start, finish and timekeeping lines.
- If not defined otherwise in chapter D of the FSG rules, the maximum distance between two cones in driving direction is 5m. In corners, the distance between the cones is smaller for a better indication.
- The start, finish and time keeping lines as well as keep out zones around the time keeping equipment are marked with red, orange or pink paint.
- Additionally for skid pad, autocross and trackdrive, track limit lines on either side of the track and entry/exit lanes may be marked with yellow, green or white paint.
- There are no track limit lines for acceleration and Emergency Brake System (EBS)-test.

All lines chalk-marked.

Dynamic Events

Driverless cars compete in the following Dynamic Events:

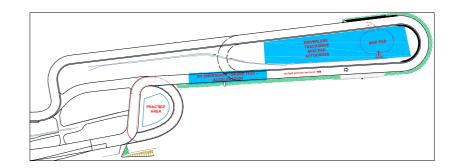
- Acceleration
- Skidpad
- Autocross
- Trackdrive



ACCELERATION

When: Tuesday. October 12th, 9:30 -13:00

Where: @ Straight before the hairpin



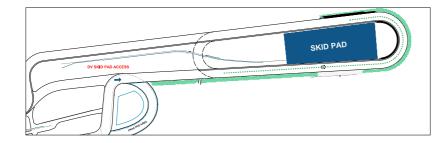
Formula ATA Handbook

SKIDPAD

When: Tuesday, October 12th, 16:00

18:00

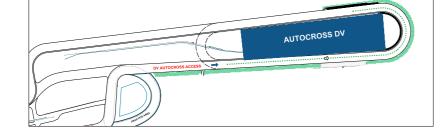
Where: @ Skidpad



AUTOCROSS

When: Wednesday, October 13th, 10:00 -

13:00 Where: @ Skidpad

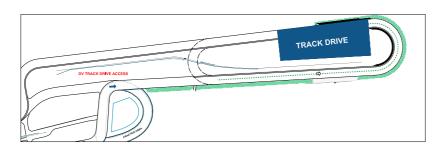


TRACKDRIVE

When: Wednesday, October 13th, 14:30 -

18:30

Where: @ Skidpad





General Rules

Pits are located inside the garage of the Varano Circuit.

Inside the whole area of the Varano Circuit all the rules stated by the official SAE regulation apply. It is forbidden to walk on the gravel traps of the Circuit.

Team members must leave the Circuit during the night at the scheduled hour.

Ask questions If you have a question - ask!

If you have any questions about any part of the competition, schedule, procedures, rules or anything else, just ask to the Team's relation Officer.

Rules questions may be presented to the technical inspectors.

It all starts with asking and remember, there are no dumb questions.

Please: do not fear to fail by asking anything you need or clarify any doubt

you might have!

Ask for help If you need help - ask the officials.

Announcements requesting parts, tools or assistance can be made by the

announcer.

Announcement Although there are loudspeakers, it could be difficult for announcements

to be heard everywhere, especially close to a running engine. You can help us make sure everyone knows what's being announced by passing the announcements along to your team mates and other teams in your area.

This is important and we appreciate your help.

Two way radios Two ways radio are used both by teams and by STAFF

Please, make sure to use CCTCS/DCS squelch and not to use the same

frequencies of the staff: point penalties may apply!

Be on time The schedule is included in the Student Handbook and posted online. Possible

modifications are communicated online and through announcements.

It's Team responsibility to be on time.

Be careful Don't take any risk when working on your car - follow safe working practices.

Bring your documentation

When Teams come to tech inspection must bring all the documentation and correspondence connected to SES submission, Impact Attenuator Data

Report and any Rules Questions submitted.

The inspectors do not have this material and Teams may need it to answer

questions about their vehicles design and construction.

The inspectors want you to pass tech, and pass it easily, but they need your

help to make it happen.

Don't run Running tells people there's an emergency. Don't run unless life is in danger.

Event Closing Times Remember that Acceleration and Skid Pad close at exactly the time

communicated by the officials.

Car must have crossed the starting line by that time or it can't run: it is

recommended to get in line early.

Keep the Officials Informed

Keep the officials informed if you run into any problems that need our attention or might push your team against a time limit.

It is Team responsibility to verify that the information has been received by the appropriate people.

Removing Cars Overnight Removing the car from the track overnight is forbidden.

Weather

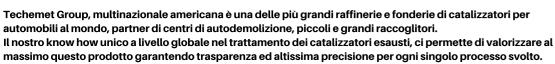
Weather is the main thing Organizers cannot force or control. It is good to be prepared for all weather types from sun to heavy rain. Pack long and short sleeve apparel, sun block, rain coats and comfortable closed-toe shoes.

Have Fun, Drive Safe, Use Common Sense



Ottieni di più dai tuoi catalizzatori









Nothing is more impressive than a clever idea that no one expected.
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Making complete electric motor ourselves may have been a surprise decision, but it was a logical one, too. We have comprehensive experience of mechanical components, production processes, and winding technology, as well as an understanding of how vehicles work as a whole. This enabled us to create a range of exceptionally efficient engines, something that surprised many people. we-pioneer-motion.com



Passes and Allowed Areas

Paddock & Track









Paddock Only













Handbook -

Bicycles, Skateboards, Rollers and other similar vehicles

They are NOT allowed inside the paddock. The security service is allowed to take badge away of the team member, who will not comply with this rule.

The badge return will be upon penalties to the team, depending on its gravity.

Alcohol

PLEASE NOTE: Alcoholic drinks are strictly forbidden inside the circuit during the event, under penalty of the team disqualification. Alcohol test can be done by any official at any time during the competition: 0.00 g/l is the allowable alcohol content during this event for everyone.

If ANY team member (driver or not) is found with an alcohol level higher than 0.00 g/l, the relevant team member will be immediately disqualified and the drivers of the team will be verified before any driving event.

Fires and Smoking

No open fires are allowed in the pits, track and engine running areas, cigarettes, camping stoves and microwave ovens included. Smoking is strictly forbidden in the pits, tracks, buildings and engine running areas.

Photographers

Authorization

The staff is solely responsible for authorizing photographers/spotters to enter the dynamic event area. Photographers/spotters must be registered for the competition, sign all required waivers, read any required material, agree that they understand and have no questions regarding the policies and procedures for photographers, and agree to abide by these policies and procedures at the risk of being escorted from the dynamic area. Videographers are classified as photographers. Photographers must have photographic equipment - cell phones are not cameras. Photographers and spotters are explicitly restricted to photographic activities.

Limit and penalty

Each university is limited to one (1) photographer/videographer. Additional photographers must remain outside the dynamic event area. Unauthorized photographers will lead to a penalization of their team:

-1st time: 5 points; -2nd time: 10 points; -3rd time: 50 points.

Access Policy

Properly accredited photographers/spotters representing universities may only access the dynamic events area while their teams are actually running in an event. University photographers/spotters will not be granted dynamic area access independent of their team.

Fuel

Only the fuel provided by the organizer may be used at the event. No fuel may be brought to the event. Unleaded gasoline with an octane rating of 98 RON and E85 will be the only fuels available at the competition. Every team should have communicated to ANFIA the exact tank capacity. The official marshals have the right to check fuel compliance during the entire event. Refueling will be carried out at the Fuel Station, located in a Fuel Area subjected to the following prescription:

- Only one car may enter the Fuel Area;
- To reach the refueling area the driver must be seated in the cockpit wearing a full safety suit while pushed to and from the area;
- The refueller must be able to accomplish to his job without any part removed from the car;
- During the refueling the driver must stand out of the car at a safety distance following the instructions of the official marshals. No other team member can enter the Fuel Area.

Any other vehicle must be at least 5 meters away from the Fuel Area.

It is forbidden to make use of any device producing flames, sparks or smokes near the Fuel Area. No cell phone is allowed in the area. Open fuel containers are not allowed. As soon as the car is refuelled for the first time, it must proceed with the engine turned off to the tilt table.

Working on Electric Cars

Any vehicle that has not passed E-Scrutineering needs to have HVD disconnected.

The team safety responsible and at least one more team member, who can intervene in case of emergency, must attend every activity on the tractive system.

In absence of the team safety responsible, none is allowed to act on the tractive system. Anytime the tractive system is turned on, all driven wheels shall be lifted off the floor (and all parts, such as nuts, near wheels must be tightened). After any activity on the tractive system during which seals were broken an E-Scrutineering is mandatory.

For activities on the inactive tractive system the team safety responsible shall follow this procedure:

- Lock out the tractive system master switch.
- 2. Check for zero-potential.
- 3. Disconnect HVD.
- 4. Install a green sign declaring the car as electrically secured (See image below). Sign shall include name of the safety responsible.
- 5. It is team's responsibility to expose the sign in A4 format near the car in a visible position.
- 6. At the end of activity, remove immediately the sign.

It is recommended lifting driven wheels off the floor during any maintenance activity.

In case of measurements on the active tractive system or an activation of the tractive system in the pit for testing please follows this procedure:

- 1. Be sure the team safety responsible is supervising the activity and a team member who is not involved in the activity is present and can intervene in case of emergency.
- 2. Separate the car with a red or orange tape (not provided by the organization).
- 3. Install a yellow sign declaring the high voltage hazard. (See the image below). The sign shall include the name of the safety responsible. It is team's responsibility to expose the sign in A4 format near the car in a visible position.
- 4. Remove all driven wheels of the car and tighten all parts, such as nuts, near wheels.
- 5. Wear compliant safety gloves and use appropriate tools.
- 6. Be prepared to push an emergency button at any time.
- 7. Turn on the tractive system only for the shortest time needed. The activation of the tractive system or the spinning of motors in the pit is only permitted if the car is lifted off and the driven wheels are demounted.

Basic maintenance and testing activities for the accumulator container is allowed in the recharging area following FSAE Italy Covid19 protocol; in case a team needs to perform advanced maintenance activity (e.g. grinding, drilling, etc.), the team may get authorization by a scrutineer who checks safe conditions are met in the pit area.

A car not having passed yet the E-scrutineering, when moved around or taken to the static events MUST have the HVD disconnected.

When moving around an electric car, the tractive system master switch must be turned off and the key must be kept by the safety responsible, who must always stand near the car moved around. If any of the above-mentioned instructions are not respected, it may result in a deduction of points or disqualification.

The tractive system master switch must be locked, whenever the team safety responsible has to go away from the vehicle, even during nights.

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SAFETY FIRST



THIS CAR IS **ELECTRICALLY SECURED**

SR

WARNING

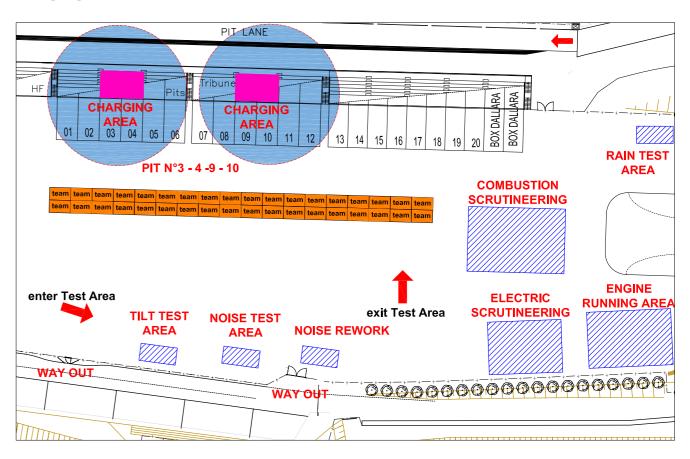


HIGH VOLTAGE MAINTENANCE



ONLY AUTHORIZED TEAM MEMBERS CAN CROSS LINE

Charging Electric Vehicles



Charging Areas

Accumulators can be recharged exclusively in the designated charging area. No charging is allowed during the night.

The team Safety Responsible and at least one more team member have to be present during the charging.

Only two team members of each team are allowed in the charging area.

Accumulators must be removed from the car for charging within a removable accumulator container and placed on the accumulator container hand cart for charging.

While charging, the accumulator container has to report a label with the following information:

- Team number
- Approximate time at which the recharge will end
- Name of Safety Responsible

Charging will be allowed only after the electrical technical inspection.

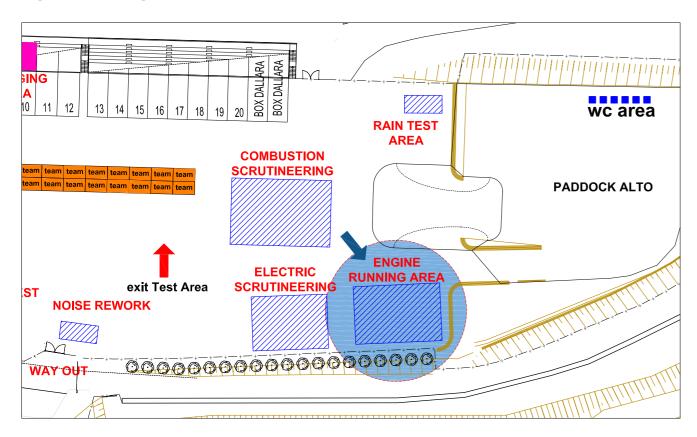
The charging area is equipped with the following AC socket-outlets:

- Three-Phase 400V 50Hz 16A IEC 60309, 6h (180°), 3P+N+E (Red 5 poles)
- Three-Phase 400V 50Hz 32A IEC 60309, 6h (180°), 3P+N+E (Red 5 poles)

Each team must verify that the AC plug of their charger is compliant with one of the available socket-outlet. If not, the team has to replace it with a compatible one or bring compliant

- Single-Phase 230V 50Hz 16A IEC 60309, 6h (180°), P+N+E (Blue 3 poles)

Engine Running



ENGINES CAN NOT BE RUN IN THE PIT GARAGES.

Engines may be run ONLY in the designated "engine running area" in the Engine Running Area paddock, provided that the car has passed technical inspections and the following conditions are satisfied:

- 1. The car is on an adequate stand (NOT on coke crates, plastic boxes etc.).
- 2. The drive wheels are at least 10.2 cm (4 in) off the ground or the drive wheels have been removed.
- 3. A fire extinguisher must be at hand.
- 4. Only the driver and 2 team members are allowed in the engine running area.
 - If an electric car is running the Safety responsible must be in the area.
- 5. The driver must be seated and belted in the cockpit, wearing a full safety suit.
- 6. The gearbox must be in neutral or the CVT disengaged.

The exhaust system may be very hot, pay attention.

Scrutineering

Know the Rules - Read the rules again: rules understanding is critical to success!

WELDING AND GRINDING PROCEDURES

Welding and grinding will be permitted inside each team pit provided that the necessary safety aspects have been taken into account.

Safety glasses and gloves must be worn during those operations; same procedure may be applied to other tool usage at the discretion of the organizers.

A fireman must be present when welding, call for them every time you need to weld. We remember you that it will be not present an official welder on site.

DYNAMIC AREA ACCESS

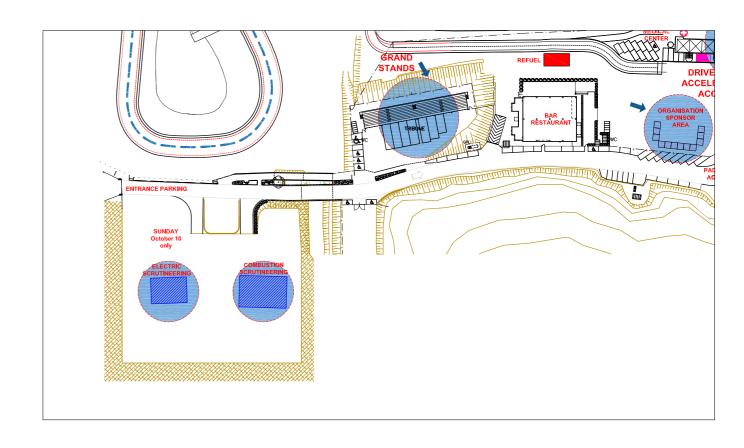
All the Track Area of the Varano Circuit will be defined as "Dynamic Area".

Only the cars waiting to attend the specific test may enter the "Dynamic Area".

Only team members with a valid "Dynamic Pass" may enter the "Dynamic Area" to follow the corresponding car: four (4) "Dynamic Pass" will be given to each team.

At any time, no more than four team members may enter the dynamic area, including the driver (or drivers).

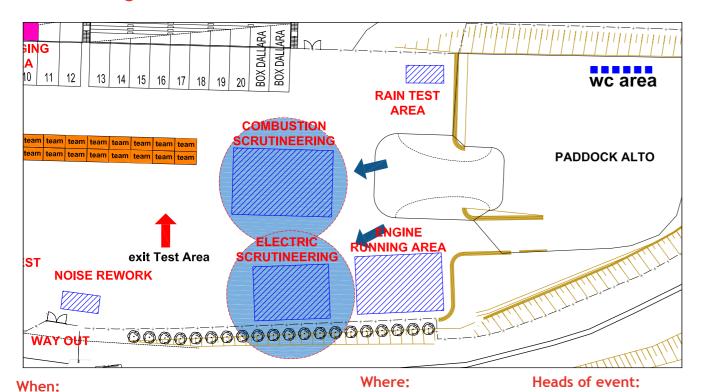
REMEMBER: CLOSED TOE SHOES!



Where:

Formula ATA Handbook

Scrutineering



Sunday 10th October, 9:30 - 13:00

Monday 11th October, 9:00 - 19:00

and 14:00 - 18:00

Pre-check the car.

During registration you will be informed about the order..... given your technical inspection number: the queue for the technical inspection follows these numbers.

Paddock

Silvio La Tassa -

Mechanical Inspections

Please fill the first part of the technical inspection sheet, regarding tires, before queuing and line up with everything you need.

What to bring to Tech. Inspections:

- Vehicle:
- Dry and wet tires:
- Driver's equipment including helmets, suits, gloves, eye protection, balaclava, socks, and shoes for all drivers (Note: This includes your arm restraints);
- Fire extinguishers:
- Push bar;
- Structural Test documents and supporting documentation or test pieces Technical Inspection form;
- EV only Data sheets for all used parts in the tractive system;
- EV only Approved technical document (ESF) signed by ESA;
- EV only Tools and protection equipment as defined in the FSE rules;
- EV only Spare accumulators:
- EV only Clear pictures of parts not reachable during inspection (HV fuse box, ...);
- EV only Spare samples of self-developed printed circuit with HV and LV;
- All of your team's drivers;
- Impact attenuator test piece;
- Monocoque test specimens if applicable;
- Tools to disassemble any parts of the car that the inspectors want to examine. This includes accessing your restrictor, removing body panels or any parts that are blocking inspection and to allow examination of your EV systems;
- Copies of your team's rules questions and Committee's answers;
- Material to record the inspectors' comments.

The technical inspections will be held inside the scrutineering areas of the circuit.

The only permitted modifications are according to rule SAE IN.14.2.2 otherwise the car must be rescrutinized and reapproved.

If your car isn't ready when your number is called, you'll lose your position and go to the back of the inspection line.

The Technical Inspectors wish every team to pass tech inspection as quickly and easily as possible. Many inspectors are former competitors and they know the amount of time and effort Teams invested in completing their car and preparing it for the competition.

Technical inspections take longer when scrutineers have to explain noncompliant items and the process is quicker if everything complies.

Please make inspection easier by yourselves, and for organizers, by understanding the rules, preinspecting your car and being prepared.

E-technical inspectors will mark different approved parts (i.e. insulation monitoring device, accumulator containers, energy meter, tires, rims etc.).

The car can be disqualified from any dynamic event if using unmarked parts or substituting marked parts: parts with broken seals are equivalent to being unmarked and seals must only be replaced by a technical inspector.

For E-cars, e-technical inspections will be held before the mechanical inspections to ensure everyone's safety.

However, Chiefs of Technical Inspection may allow exceptions to perform the mechanical technical inspection without having done the electric inspections, but only if the accumulator container is carried on the hand cart.

Car not passing e-tech will not be allowed to proceed with the other inspections and tests; moreover, the vehicle is not allowed to take part in any dynamic event if any of the e-tech seals are broken and until the IMD Test is passed again.

Device to be used for checking compliance to EV3.6.3 rule.

Regarding rule EV3.6.3 ANFIA will not use a special device to check the compliance to the temperature limits.

PLEASE NOTE: It is a team's responsibility to keep track of how quickly cars are going into Tech Inspection: It is suggested to have someone to keep an eye on how the numbers are progressing. No more than 3 cars will be allowed to gueue.

If you miss this window, you have to return your "old" tag and take a new number.

Before passing electrical inspection, the car may only be moved around on the event site with all master switches and shutdown buttons in off-position and the HVD disconnected. GLV-master switch, TS-master switch have to be turned off.

Please remember that the Safety responsible shall attend to E-technical inspection.

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SMART HINTS

Self-inspection - Teams must self-inspect their car and be sure that it complies with the Rules before bringing it to tech inspection: use the tech inspection form found on the FSAE Online website during your self-inspection.

It's Team responsibility to properly prepare and self-inspect their car; if inspectors discover a large number of rules violations, or an incomplete self-inspection, then they may suspend their work and send Team back to its paddock to make corrections.

Rules Question Documentation - If a Team submitted a rules question and received an interpretation from the Rules Committee, it has to bring copies of both the question and answer to technical inspection: without this, the inspectors won't know the Committee's interpretation and might make their own. Impact Attenuator Test Piece - Bring the Impact Attenuator Test piece, "Impact Attenuator Data Requirement", and also copies of Impact Attenuator Data report and any related correspondence with the officials (IN5.1.1).

Monocoque Test Specimens - Monocoque builders must bring the test pieces required by Rule IN5.1.1 "Monocoque Laminate Testing."

Restrictor Check - During inspection Team needs to disassemble air intake system to allow a no-go gauge to be inserted into the restrictor: bring the tools required (CV1.7.3)!

If you do not pass the inspection, please write down the name of the responsible of your inspector's team, so to be able to ask for him/her later.

Decisions of the inspectors and the Chief Technical Inspectors concerning vehicle compliance are final and are not a subject of any discussion or appeal.

Energy Meter delivery

The energy meter will be delivered during the registration.

The responsible will hand out the energy meter and needed connectors and he will help with the installation, if needed, and he will answer upcoming questions.

The energy meter must be mounted on the vehicle before the technical inspection. During the technical inspection, the energy meter will be checked.

The energy meter responsible will read out data from time to time to determine if the 80kW limit was obeyed during the dynamic events: data used to calculate the efficiency scoring will be read in the parc fermé. Any attempt to manipulate the intended function of the energy meter may

lead to a disqualification from the entire event. For any question about energy meter, ask for energy meter responsible at event control.

Please be aware that the energy meters NEED TO BE RETURNED to the registration desk before the closing ceremony of the event.

When:

Sunday, 10th October 8:00 - 10:00 and Monday, 11th October 8:00 - 10:00

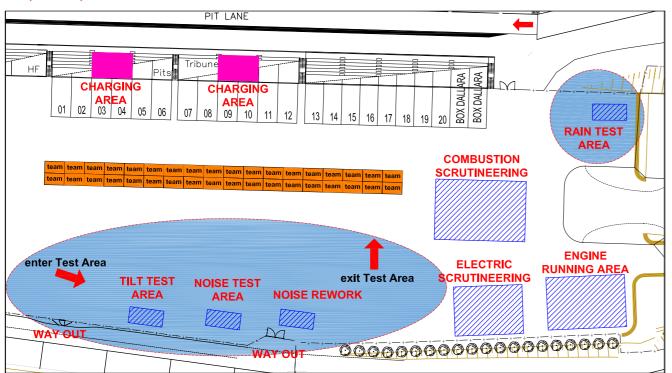
Where:

Registration Area
Heads of event:
FLAG-MS



Formula ATA Handbook

Tilt, Rain, Noise & Brake Test



TILT TEST

Before proceeding to the tilt test team must refuel.

Follow specific safety guidelines while in the fueling area:

- Engines must be off; cars are to be pushed to and from fueling.
- Only the vehicle push crew and the driver are allowed to enter the fueling station: the driver must be outside of the vehicle.
- Only the driver, in a driving suit, with vehicle fire extinguisher in hand, is permitted in the area as fuel is dispensed.
- A permanent line mark must be used to indicate the "full" level. NO TAPE
- Tank is to be filled to this level each time fuel is received.

No vehicle is permitted at this station until it has passed technical inspections. A maximum of four (4) team members with the dynamic pass, including the tallest driver, are allowed in this area; car must be completely filled with fuel, water and oils.

The tallest driver must be seated in the cockpit, completely dressed up (helmet, socks, gloves...) and belted in: if the test is passed another sticker is applied to the car.

RAIN TEST

The rain test is for e-cars only: vehicle will be rain-tested after having passed E-technical inspection, mechanical technical inspection and Tilt Test. During the rain test, the tractive system has to be active and none of the 9:00 - 19:00driven wheels may be in contact with the ground.

It is not allowed to have a driver seated in the car during the rain test and no one is allowed to stand in the water of the rain test during the test itself.

Monday, 11th October -

Scrutineering Area

When:

Monday, 11th October - 9:00 - 19:00 Where:

Scrutineering Area

READY-TO-DRIVE - SOUND -TEST

Ready to drive test sound will be checked during the e-technical inspections. In addition to sound characteristic, inspectors check Ready-To-Drive signal is emitted only if all requirements are fulfilled (no fault for GLV system, brake pedal is pressed...)

When:

Monday, 11th October -9:00 - 19:00

Where:

Scrutineering Area

NOISE TEST

A car is allowed to noise test area once it has the scrutineering and tilt table stickers.

In order to check the RPM value, every team must provide a tool to monitor RPM directly from ECU (i.e. dashboard, laptop).

The car must be compliant to the Rules at all engine revs up to the regulated

Noise level can be measured at any time during the dynamic events: penalties may be assessed if the sound level exceeds the mandated maximum, and noise sticker can be removed by officials.

Monday, 11th October -9:00 - 19:00

Where:

Scrutineering Area

BRAKE TEST EMERGENCY BRAKE TEST

When:

Monday, 11th October - 10:00 - 19:00

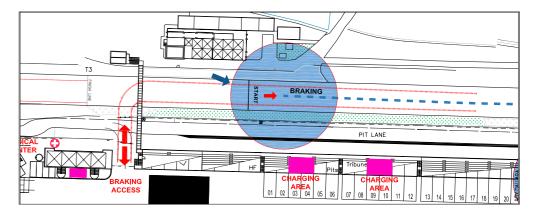
Where:

Afternoon: Practice Area (Zone C)

Monday, 11th October - 15:00 - 18:00

Straight between Parabolica and 1° Esse turns

Head of event: Francesco Ristori



COMBUSTION CARS - A car is allowed to enter the brake test area once it has the scrutineering and the tilt table stickers. The car must start its run and accelerate getting into the 2nd gear; as the car reaches the braking area the driver must brake strong enough to fully lock all four wheels. If the vehicle passes the test, another sticker will be applied and the vehicle can then proceed to the practice area or to the dynamic events.

The brake test can be repeated every time an official deems it necessary, and it can be repeated if modifications are performed on the system or after an accident.

ELECTRIC CARS - A car is allowed to enter the brake test area once it has passed the scrutineering (both), tilt test, rain testing and ready-to-drive-sound-testing. Each driver must be instructed as to the proper procedure for the brake test: if the vehicle passes the test, another sticker will be applied and the vehicle can then proceed to the practice area or to the dynamic events.

When braking, the tractive system has to be switched off by the driver and the brake pedal must be actuated as far as possible. The brake test is successful if all four wheels lock and within 5 seconds the Tractive System Active Light goes off. The brake test can be repeated every time an official deems it necessary. Re-certification may be required if work is performed on the vehicle's braking system or if the vehicle is involved in an accident that results in vehicle damage.

CHARGING OUR FUTURE





Online Static Events

All static events will be held on Cisco Webex digital platform from **September 11th to October 1st.** Teams will receive feedbacks directly by the judges, upon request by writing an email to: **formula.sae@ata.it**

Design Event

The 2021 design event will be completely virtual and held in different parallel virtual rooms.

For each team the design event will take up to 50 minutes.

It is suggested to prepare a general overview presentation about the project, lasting no more than 5/8 minutes, followed by monographic presentations for each project area. The total time available for team's presentations will be 40 minutes. The last 10 minutes will be dedicated to a Q&A session. The winner of the Design Event will get 150 points.

Please, be on time and have all engineering documentation with you. Make sure team members are well prepared.

First year cars: It is the teams' responsibility to prove to the judges that their vehicle is a first-year car: second year cars are not allowed. If the structure of the frame is not obviously a completely new design from previous years, then photo documentation should be provided to prove that

How to prepare: Students should bring any and all information they feel is relevant (charts, graphs, parts, photos, video, etc.) to support their design efforts.

The judges will give more credit (higher Design score) to documented engineering than to word of mouth: simply showing up with a great car is not good enough.

A high emphasis is placed on the student team's ability to design, build, refine & validate, and understand their own car.

DESIGN FINALS

Design finals will not be held on the digital event.

the car is new as defined by the rules.

Cost Event

The cost event will be held inside different parallel virtual rooms. The report will follow the guidelines set forth in the published rules. Teams have to present its vehicle at the designated time to the Cost Judges for Cost Report review; Team that miss cost appointment will potentially lose all cost points.

The schedule for these appointments will be in the registration packets. For each team the cost event will take about 45 minutes.

When:

Monday 27th
September, 14:00 18:00
Tuesday 28th
September, 8:30 13:30
Where:
Digital Platform
Head of event:

Giacomo Danisi

When:

Wednesday, 29th
September 13:00 17:30
Thursday, 30th
September 8:30 - 12:15
Where:
Digital Platform
Head of event:
Carlo Giorgioni

Formula ATA Handbook

Business Presentation Event

The business presentation event will be held inside different parallel virtual rooms, according to the schedule assigned to each Team; Teams that don't arrive on time for their assigned time-slot won't be allowed to make their presentation and consequently will get zero points for the event and be excluded for the following Stage (if applicable).

Competitors must convince the judges that their project represent a profitable enterprise for the manufacturer/investor tiding together all the aspects needed: marketability, manufacturability, technical aspects and product appeal.

BUSINESS PRESENTATION FINALS

Business presentation finals will not be held on the digital event.

When:

Saturday 11th September 9:00 - 16:00 for STAGE 2 BPE - Business Pitch Performance Monday 27th September, 13:00 - 18:00 for **STAGE** 3 BPE - Business Plan Presentation Tuesday 28th September, 14:00 - 19:00 for STAGE 3 BPE - Business Plan Presentation

Where:

Digital Platform

Head of event:

Enrico Rebaudo and Valentina Temporelli

Dynamic Events

GENERAL INFORMATION

The dynamics at Formula SAE Italy comply with the FSAE rules. The team will receive the car transponder on Tuesday 12th October, from 9:30 to 13:00 at the Scrutineering Area - Noise test.

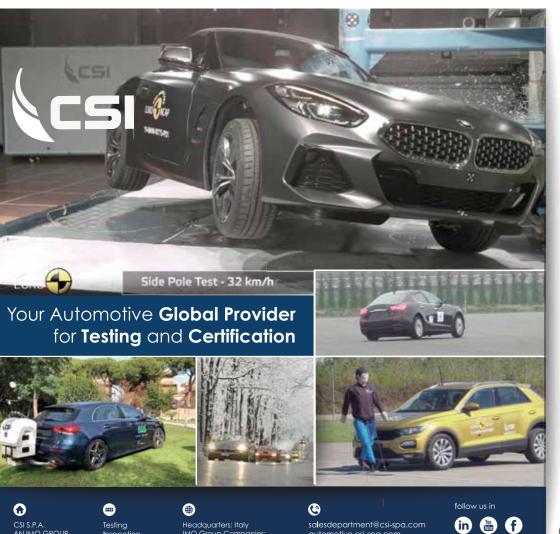
To be allowed to compete in the dynamic events of the day, all drivers must sign the written drivers' briefing for receipt during the registration. Drivers must read carefully this document.

The 4 team members need to have the dynamic pass to enter the dynamic area.

If the dynamic event captain declares damp or wet conditions, the announcements will be made at the dynamic area (at staging and alignment lines).

Closed-toed shoes are mandatory in all dynamic areas. Any team member with dynamic pass that fails to comply with this rule might be not allowed to enter the dynamic area.

After each dynamic event and before the following one, please check for leakages, broken parts and fasteners.





Type Approval &

Durability & RG

Fleet Management

System & Component







Hybrid & Full Electric Vehicle Testina



Data Acquisition & Predictive Product Behaviou

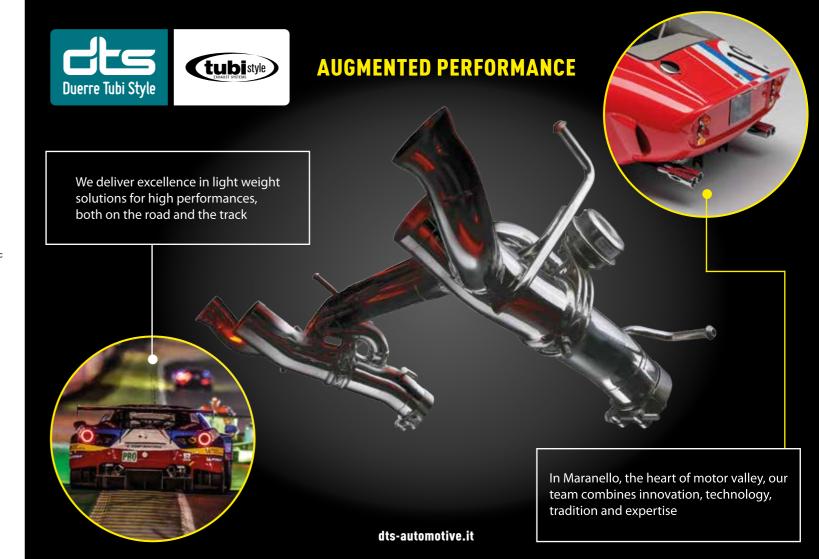




Euro NCAP & Green NCAP Official Laboratory

B 3





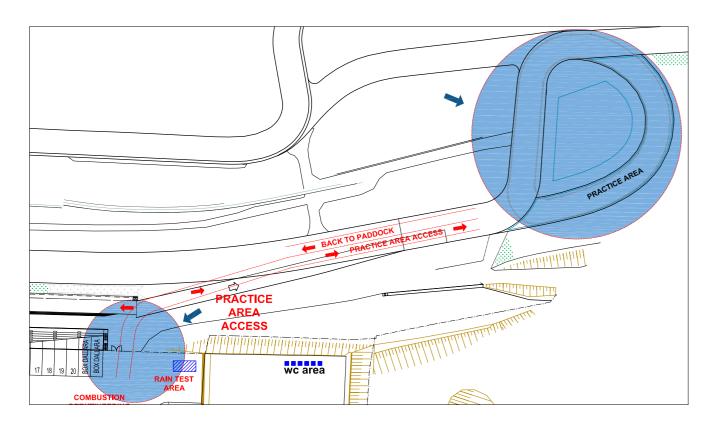
Practice Area

When and Where:

Class 1C/1E

Monday, 11th October - 10:00 - 19:00 Tuesday, 12th October - 10:00 - 18:00

@ Practice Area



During the scheduled time, a practice area will be available.

The practice area has the only purpose to check car's functionality and set it up, simulating the driving condition of the track, not to prove full performance of the car.

If other vehicles are waiting, any team may not run more than 5 (five) minutes inside the practice area, then the team may line up in the queue again.

Precedence will be given to teams running their first practice. Whenever the Team moves its car, the following rules must be followed:

- Driver inside the cockpit, dressed up with a safety suit
- Fire extinguisher in the push-pull bar or accompanying the car
- The car must be pushed-pulled around.

The Practice Area will not be available on Wednesday.

Flags

The following is a brief description of the flags that can be used with their meaning. Any variations from this list will be explained at the drivers' meetings.

Black Flag - Pull into the penalty box for discussion with the Chief Marshall/ Director of Operations or other officials concerning an incident. A time penalty may be assessed for such incident.



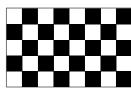
Black Flag - With Orange Dot - "Mechanical Black Flag" - Pull into the penalty boxfor a mechanical inspection of your car, something has been observed that needs closer inspection and that can be a fire that needs immediate extinguishing.



Blue Flag - Pull into the designated passing zone to be passed by a faster competitor. Obey the corner workers hand signals at the end of the passing zone to merge into competition.



Chequered Flag - YYour session has been completed: exit the course where signaled.



Green Flag or Italian Flag - Your session has started, enter the course under direction of the starter. (NOTE: If you stall the vehicle, please restart and await another green flag as the opening in traffic may have closed.)



Red Flag - Come to an immediate safe controlled stop on the course. Pull to the side of the course as much as possible to keep the course open. Follow marshal's directions.



Yellow Flag (Stationary) - Danger, SLOW DOWN, be prepared to take evasive action, something has happened beyond the flag station, NO PASSING unless directed.



Yellow Flag (Waved) - Great Danger, SLOW DOWN, evasive action is most likely required, BE PREPARED TO STOP, something has happened beyond the flag station, NO PASSING unless directed.

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Handbook -

Red & Yellow Striped Flag - Something is on the racing surface (e.g. oil) that should not be there. Be prepared for evasive maneuvers to avoid the dangerous situation.

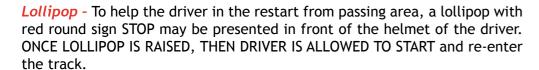


White Flag - There is a slow moving vehicle on the course that is much slower than you are: be prepared to approach it at a cautious pace.



Additional Signs

Fire on Board - Marshalls are warning driver about a fire or a severe risk of fire on his car, driver is required to stop as soon as possible off the track and close to a Fire Fighter or a Marshall.







We enable a world of reliable and sustainable rotation Our products and services are found everywhere in society. In fact, wherever there is movement, SKF's solutions may be used. This means that we are an important part of the everyday lives of people and companies around the world. When have you relied on reliable rotation today?

Weather Conditions

WET: Teams must fit rain tires to their vehicle if the course is declared wet.

DAMP: Teams have the option of dry or rain tires if the course is declared damp.

Teams are allowed 10 minutes to change their tires in the driver change area if a dry track is declared damp, or if a dry or damp track is declared wet.

If the tire change is happening at the same time as a scheduled driver change, the 10 minutes are in addition to the 3 minutes allowed for the driver change.

Teams are allowed to change their rain tires to dry tires if the course is dry or damp. However, this change is not permitted during the driver change, and the time taken to change the tires is included in the team's total time for the event.

The following chart summarizes the possible track condition changes, the team's options, and the time allotted for changes.

Track Initial Condition	Team's Current Tire Choice	Track Declared	Tire Change	Time Help	Allowed at Driver Change
Dry	Dry	Damp	Optional 10 minutes		Υ
Dry	Dry	Wet	Mandatory	10 minutes	Υ
Damp	Dry	Wet	Mandatory 10 minute		Υ
Damp	Rain	Wet			
Damp	Dry	Dry			
Damp	Rain	Dry	Optional	Zero	N
Wet	Rain	Damp	Optional	Zero	N
Wet	Rain	Dry	Optional	Zero	N

Acceleration Event

Acceleration will run in parallel with the Skid Pad event. There will be 2 lanes, one for the first driver and one for the second driver.

The event WILL STOP at the scheduled time, no matter how long Teams have been in the queue and how long the waiting line is.

Each driver can take the second run immediately after the first one without going back to the end of the queue.

The first driver line will have the priority over the second driver line.

The car must proceed slowly during the realignment for the second run. Excessive speed will be cause for disqualification.

Only team members with "Dynamic Pass" may stay with their car on the waiting line.

Class 1D:

When:

Tuesday, 12th October 9:30 - 13:00

Head of event:

Francesco Ristori

Class 1C, 1E:

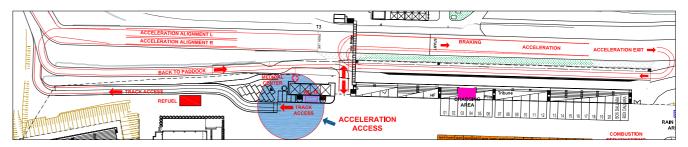
When:

e Tuesday, 12th October 9:30 - 13:00

Where:

Acceleration
Head of event:

Nicola Rizzini



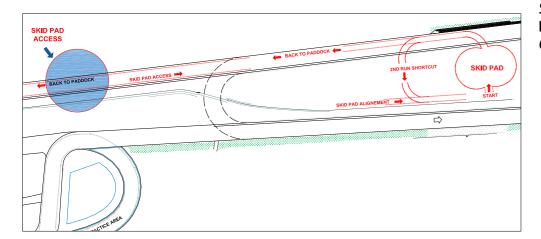
Skid Pad Event

Skid Pad will run in parallel with the Acceleration event.

There will be 2 lanes, one for the first run and one for the second run. The event WILL STOP at the scheduled time, no matter how long Teams have been in the queue and how long the waiting line is.

Each driver can take the second run immediately after the first one without going back to the end of the queue.

The first driver line will have the priority over the second driver line. Only team members with "Dynamic Pass" may stay with their car on the waiting line.



Class 1D:

When:

Tuesday, 12th October 16:00- 18:00 Head of event:

Francesco Ristori

Class 1C, 1E:

When:

Tuesday, 12th October 9:30 - 13:00

Where:

Skidpad

Head of event:

Caterina Secchieri



"We wish you an exciting competition and keep on racing!"

Tatiana Calderón & Ferdinand Habsburg

<u>AVL_RACING Ambassadors</u>



Autocross Event

The autocross event will be held on the racetrack.

There will be 2 lanes, one for the first driver and one for the second driver. The event WILL STOP AT 18:30, no matter how long Teams have been in the queue and how long the waiting line is.

Each driver can take the second run immediately after the first one without going back to the end of the queue.

The first driver line will have the priority over the second driver line. More than one car may be on the track at the same time; in case of delay due to yellow flag caused by other cars the run may be repeated immediately.

For safety reasons, at the Autocross start, one team member with "Dynamic Pass" and quick jack and fire extinguisher is allowed to assist the car, in case of need.

When:

Class 1D Wednesday, 13th

October 10:00 - 13:00

Where:

Skidpad

Head of event:

Francesco Ristori

When:

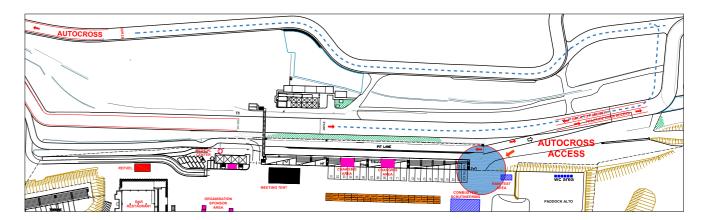
Class 1C, 1E Tuesday, 12th October 15:00 - 18:30

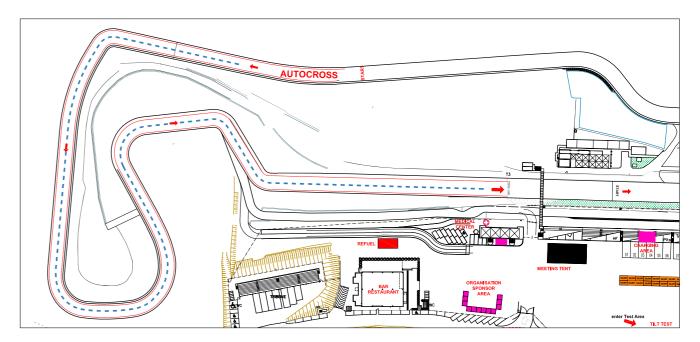
Where:

Track Area

Head of event:

Francesco Laviola and Giulio Morsone





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Endurance Event & Parc Fermè Procedure

The starting order for the event will be based primarily on the Autocross

The start sequence will be from the slowest to the fastest autocross times. If a team did NOT score in the Autocross event, the vehicle will run at the beginning of the Endurance event, with the order based first on the finishing order of the Acceleration event, and then on the finishing order of the Skid Pad event.

Teams without a score in any event used to determine the run order will run in the order established by the race direction

Teams must run in the assigned heat- morning or afternoon.

The circuit of the endurance event is shown in the following picture.

Only team members with a "Dynamic Pass" may follow their car up to the staging area.

Spectators may follow the event from the grandstands following FSAE Italy Covid19 protocol.

Following the established starting order, the starter will instruct the vehicles to be ready and line up at the entrance of the track.

An official will perform a safety check of the vehicle and of the driver restraint system.

The starter will stage the vehicle's front tires on a starting line.

When there is an opening on the track the starter will wave a flag signaling the go-ahead for the driver to start.

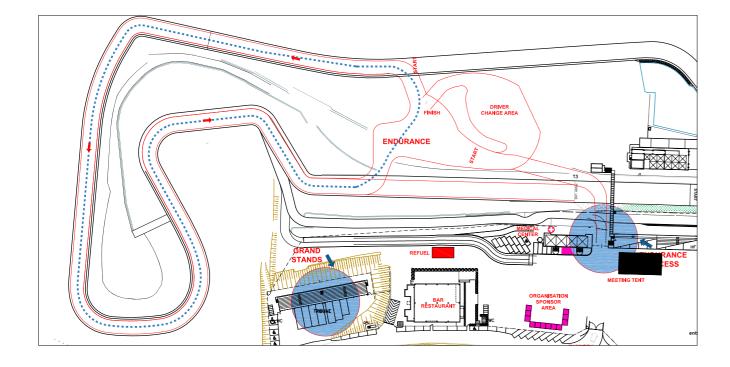
If vehicle stalls, the driver must wait for another flag before being allowed on the course.

When:

Wednesday, 13th October 10:30 - 19:30 Where:

Track Area Head of event:

Francesco Laviola and Giulio Morsone



PLEASE NOTE: IF THE VEHICLE CANNOT BE RESTARTED WITHOUT EXTERNAL AID, THE CAR WILL BE DEEMED DISABLED AND DISQUALIFIED FROM THE EVENT.

The vehicle is expected to be ready for competition with 1st driver at team's start time. If the endurance event is running late, the vehicle is still expected to be ready when its run order position is reached.

If the vehicle is not ready when the official starter motions the vehicle to the starting line, a twominute penalty will be assessed and the team will lose their time slot to run the event.

There will be more than one car on the track, so please pay attention to all the flags shown by the marshals and officials otherwise you may be penalized or disqualified.

On the last lap of the first driver, a chequered flag will be displayed and the vehicle directed to the driver change area.

It is the driver's responsibility to exit the track; any person directing the car off the course is an additional aid only.

Only three people (including drivers) are allowed in the driver change area at once. After the vehicle arrives in the driver change area, the team has three minutes to get the second driver belted in and rolling out of the driver change area.

Only adjustments to fit the second driver may be performed on the vehicle.

No other work is allowed.

During driver's change, car and safety equipment (i.e. suits and belts) will be checked by technical inspectors; only after this check the 2nd driver is allowed to enter the track.

In addition to D8.12 FSAE rules, the team of Electric Vehicle is not allowed to reset any control unit during Driver Change nor power cycling GLVS master switch.

In case vehicle requires power cycling GLVS master switch in order to activate tractive system, the team needs to request during technical inspection an exception for operating GLVS master switch during Driver Change.

PLEASE NOTE: NO REPAIRS OR WORK MAY BE PERFORMED ON THE VEHICLE DURING THE EVENT (with the exception of tire changes due to weather conditions).

If a blue flag is shown to your car YOU HAVE TO MOVE INTO THE SLOW LANE and slow down. Before entering the track again, YOU HAVE TO WAIT FOR THE GREEN FLAG or other sign (e.g. lollipop) being shown at the end of the slow lane: not respecting this flag/sign may lead, further to a time penalty, to serious accidents with injuries for you, for the other drivers and for the marshals! Be responsible!

All the cars that end the Endurance event will be taken directly at the refueling station. No team member except the driver may enter that area: after the fuel consumption measurement, all the cars will be conducted directly to the Parc Fermé.

Team members are not allowed to enter the Parc Fermé before Officials communication.

Additional Endurance Penalties

The Chief Marshall/Director of Operations may disqualify a vehicle if, for any reason including driver inexperience and mechanical problems, it is too slow or being driven in a manner that, in the sole opinion of the event officials demonstrates an inability to properly control the car.

Results

The results of the static events will be published on FSAE Italy website (www.formula-ata.it) at the end of the statics without revealing the order of the first 3 classified teams. They will also be published at the circuit, near the Registration Office.

The results of each dynamic event will be published as soon as they are ready near the Registration Office.

Protest

If a team has a question about any official action it must be brought to the staff's attention for an informal preliminary review before a protest can be filed.

Any team intending to protest decisions or results must present a written issue to the Formula SAE Italy 2021 organizers.

The protest may occur only in case something happened which they feel has caused harm to their team or has had a substantive effect on their score.

Teams may not protest for rule interpretations or actions that have not caused them any damage. In order to have a protest considered, a team must post a twenty-five (25) points protest bond which will be forfeited if their protest is rejected.

The protest period expires 30 minutes after the score has been published. Protest must be in written format and handed only by the team leader.

Failure of a team member to follow a decision directed specifically to that team or team member will result in a twenty five (25) point penalty.

Offensive Behavior

Any offensive behavior will be penalized with a penalty from 25 points to the exclusion from the competition.

Accommodations

The camping wasn't organised this year. Special discounted rates will be granted to participating teams by the hotels near Varano.

Please refer to the hotels list here annexed:

AYRI HOTEL

Strada Cornaccina, 53 - 43014 - Medesano (PR) - Phone: +39 0525 422045 - email: info@hotel-ayri.it

B&B

DUS 1 person: €50,00
 Double room 2 persons: €62,00
 Triple room 3 persons: €75,00

Prices per room/night with breakfast

HB

Fixed menu for dinner: +€18,00 with 2 courses, ½ l mineral water, a glass of wine and coffee.

HOTEL CAMPUS

Via Mulattiera 2 - 43044 Collecchio (PR) - Phone: +39 0521 802680 - email: info@hotelcampus.com

B&B

Double standard room: €35,00
Multiple Rooms (triple, quadruple): €28,00
City tax : €1,50

Prices per room/night with breakfast

H

Fixed menu for dinner: +€16,00

HOTEL CAVALIERI

Strada Prinzera,8 - 43045 Loc. Salita Fornovo di Taro (PR) - Phone: +39 0525 3100- FAX 0525 406808 - email: hotelcavalieri@virgilio.it

B&B

Single room: €55,00
 Double room: €95,00
 Triple room: €115,00

Prices per room/night with breakfast

HB

Fixed menu for dinner: +€20,00 per person with 2 courses, side dish, water and coffee

DAYTONA BUSINESS HOTEL

Via del Giardinetto, 6 - 43044 Collecchio (PR) - Phone : +39 0521 801162 - Mobile : +39 324 60 46 703 - email: info@daytonahotel.it

B&B

Prices <u>per room/night</u>, with breakfast, WI-FI or LAN connection available everywhere in the hotel, parking and 10% VAT included Each room is equipped with LED FHD TV, Sky, air conditioning, minibar, radio, telephone, hairdryer, safe and hydromassage shower, king size bed.

HB

Double Superior 2 persons: €55,00/person
Double with added bed 3 persons: €50,00/person
City tax: €1,50/person/night

Prices <u>per room/night</u>, with breakfast, dinner, WI-FI or LAN connection available everywhere in the hotel, parking and 10% VAT included Each room is equipped with LED FHD TV, Sky, air conditioning, minibar, radio, telephone, hairdryer, safe and hydromassage shower, king size bed. In case of half board rate the dinners not used are not reimbursed. To confirm the booking we ask for the details of a credit card (PAN code of 16 digits + expiry date) that will be used only as a guarantee.

ILGA HOTEL

Via S. Pertini,39, 43044 Collecchio (PR) - Phone: +39-0521-802645 - Mobile: +39-345-9679502 - email: info@ilgahotel.it

B&B

Prices <u>per person/night</u>, with breakfast, WI-FI or LAN connection available everywhere in the hotel, parking and 10% VAT included

HB

Double Standard 2 persons: €50,00/person
 Triple Standard 3 persons: €45,00/person
 City tax: €1,50/person/night

Prices <u>per person/night</u>, with breakfast, dinner, WI-FI or LAN connection available everywhere in the hotel, parking and 10% VAT included.

HOTEL SALUS

Piazza Ponci 7 - 43048 S. Andrea Bagni (PR)

Phone: +39 0525-431221 - info@hotelsalusparma.it

Rooms prices are for a minimum stay of 3 nights:

B&B and HB

- Multiple rooms (double, triple and quadruple): €32,50 per person/night (according to the hotel availability)
- Single room: €51,00 per night
- B&B supplement: €5,00 per person
- HB supplement: €22,50 per person

HOTEL SAN MARCO & FORMULA CLUB ****

Via Emila Ovest 42- 43010 Ponte Taro di Noceto (PR) - Phone +39 0521615072 - info@hotelsanmarcoclub.it

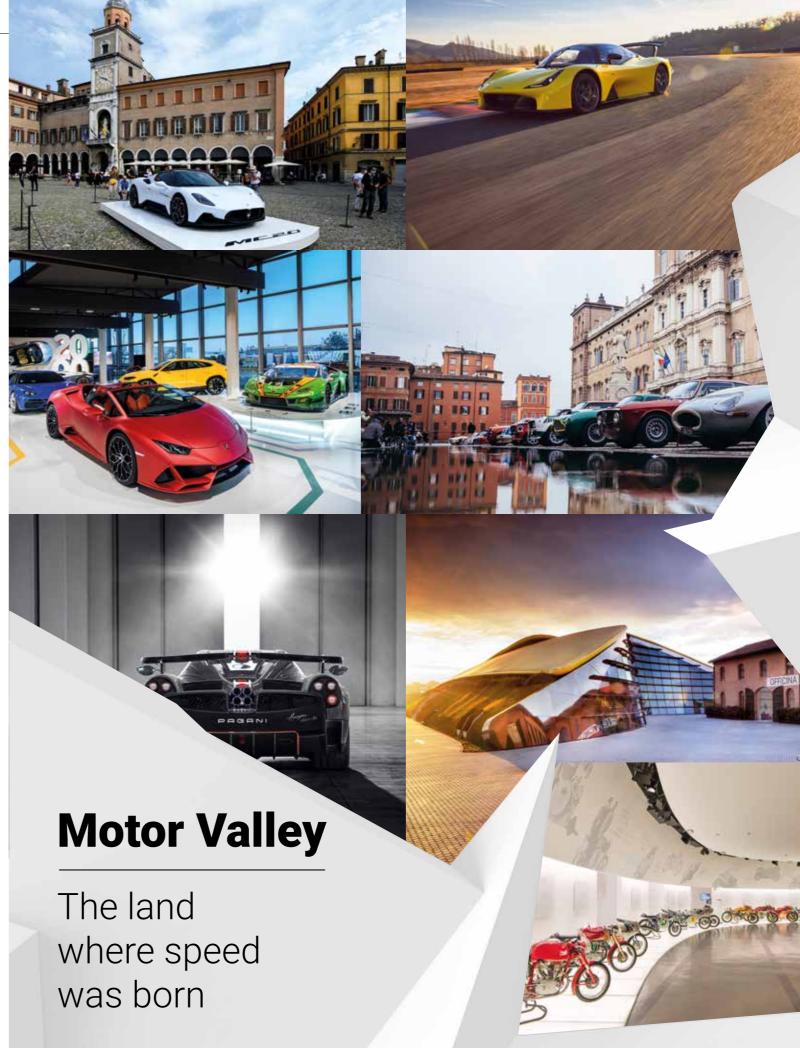
B&B

Single Classic room: €58,00
Double Classic room: €62,00
Triple Classic room: €75,00
Quadruple Classic room €100,00

• 8,00€ supplement for Superior rooms

Prices per room/night, with breakfast

HB supplement: starting from €16,00 single course with beer/water or soft drink. Detailed menus will publish soon











Formula ATA



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Volunteers

Sixteen years of event, thousands of engineering students from all over the World, hundreds of experts coming from F1, motorsport and automotive industry offering time, skills and experience for free: this is the Formula SAE/Student spirit!

Without you this event wouldn't be possible! Thank you!

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