

# EVENT HANDBOOK



**FORMULA  
STUDENT EAST**  
**WHO IS READY?**

**VERSION 1.0.1**  
RELEASE DATE: 10TH JULY 2018

#FSEAST2018 #EVENTHANDBOOK

# EMERGENCY INFORMATION



## MINOR INJURY

### MEDICAL CENTRE

Please accompany the injured person to the medical centre. Emergency aid is provided there. The medical centre is occupied every day round the clock.



## SEVERE INJURY

### CONTACT SOMEONE WITH A TWO-WAY RADIO

Most of the officials and security has a two-way radio. Ask them to call the medical centre or an ambulance on radio channel 5.

### CALL AN AMBULANCE YOURSELF

Call an ambulance yourself if someone is severely injured and requires urgent help. The emergency number for every landline and mobile phone is 112. (Also see information about emergency calls below.)

### DURING DYNAMICS

When the dynamic area is open, a special rescue team is on site. To contact them, ask someone with a two-way radio (official, security).



## HOSPITAL

### MAIN HOSPITAL

Zala Megyei Szent Rafael Kórház  
Address: 8900 Zalaegerszeg, Zrínyi Miklós street 1.  
Phone: +36 92 507-500  
Fax: +36 92 331 405  
E-mail: zmkorhaz@zmkorhaz.hu  
Homepage: [www.zmkorhaz.hu](http://www.zmkorhaz.hu)  
(Also see directions in Chapter 1.1)



## EMERGENCY NUMBERS

If an emergency occurs outside the times of the competition, call 112. This number works with all landlines, as well as mobile phones or coin-operated telephones as international GSM-standard. It is always free of charge, but should be used only in case of emergencies.

### OFFICIALS

In case of an emergency, please call one of them, no matter what time it is.

Event Manager:	Tamás Csütörtöki	+36 30 370 0733	0-24h
Event Support:	Daniel Várnagy	+36 30 487 9651	0-24h
Ticket Center:	Tamara Becze	+36 30 230 8383	7-20h
Event Control:	Zdena Kroupová	+420 605 209 323	7-20h

Regular emergency number: 112 0-24h



## BEHAVIOUR IN CASE OF REGULAR FIRES (FUEL, OIL, PAPER, WOOD, ETC.)

1. Call for help (firefighters/ambulance) by either finding an official with a radio or calling 112.
2. Assist injured people to leave the area, provide first aid if you can.
3. Try to extinguish the fire, if this is possible without risking your own safety. If an electric consumer is on fire, first cut the power to it.
4. Leave the area and instruct others to do so as well.
5. Wait for the firefighters/ambulance to arrive.
6. Handling of the situation by the firefighters, medical treatment provided by ambulance.



## BEHAVIOUR IN CASE OF ACCUMULATOR FIRES

1. Immediately leave the area in a radius of 5 meters and instruct others to do so as well. Assist injured people to leave the area. An overheated accumulator is extremely dangerous, so do not put yourself in danger by trying to put it out.
2. Provide first aid to the injured, if you can. See below section on what to do in case of electric shock – in any case, do NOT give the victim water or food.
3. Call for help by finding an official with a radio or by calling 112 yourself. Wait for the firefighters and ambulance to arrive, who will handle the situation.
4. Stay out of the way of fumes coming from the accumulator or the car; mind the wind direction.



## BEHAVIOR IN CASE OF ELECTRIC SHOCK

- Call for medical help by finding an official with a radio or by calling 112 yourself, preferably in parallel to the steps below.
- Push one of the emergency shutdown buttons and wait until the TSAL is switched off. Note that this can take up to 5 seconds, wait patiently.
- Try to speak with the victim and ask him/her about his/her health.
- Insulate yourself if you must move a victim away from a live contact – wear dry gloves or cover your hands with multiple layers of cloth and cover potential contact paths with the car with the HV isolation blanket.
- Watch your footing to make sure that you do not slip or fall when trying to move the victim.
- Do not move the victim if there is a possibility of neck or spinal injuries, unless he/she is in immediate danger.
- Do NOT give water or food to the victim.
- Give artificial respiration if the victim is not breathing.
- Give CPR if the victim's heart has stopped (only if you are trained in CPR) or use an Automated External Defibrillator.
- 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 victim comfortable, warm and at rest, and monitor his/her breathing until the ambulance arrives.
- The victim might undergo ventricular fibrillation several minutes after experiencing a shock.



ROUTE TO HOSPITAL  
ON NEXT PAGE





Greetings from the  
East village!

**CAMPING**  
ZALAEGERSZEG  
AIRPORT  
8900 ZALAEGERSZEG,  
HATHÁZI STREET 87-90.

#GPS  
46.891137  
16.790835

**FORMULA  
STUDENT EAST**

**EVENT SITE  
ZALAZONE**  
AUTOMOTIVE  
PROOVING  
GROUD

#GPS  
46.889281  
16.826614

**PHARMACY**  
8:00-15:30 only on weekdays

**"CSIGA" GROCERY STORE**  
Open from 8:00-14:00  
Saturday 8:00-12:00

**SCHLOSSER TYRE SERVICE**  
+36 70 9400 100  
[www.tehergumi.hu](http://www.tehergumi.hu)

**FORMULA  
STUDENT EAST**

**HOSPITAL**  
ZALA COUNTY SAINT  
RAFAEL HOSPITAL  
ZALA MEGYEI SZENT RAFAEL KÓRHÁZ

**8900 ZALAEGERSZEG,  
ZRÍNYI MIKLÓS STREET 1.  
+36 92 507-500**

#GPS  
46.835820  
16.846705

After leaving the event site turn left onto Ságodi street. At the first crossroad keep left on the same road and go ahead until you reach Gébárti street, then turn left. At the first opportunity turn right back to Ságodi street. Keep following the road and turn right at Kaszaházi street, which leads you into the city centre. When you reach Balatoni street, turn right onto the main road then take a left turn at Széchenyi tér to Kossuth Lajos street. At the end of the road, the hospital is going to be right in front of you. Go ahead to Zrínyi Miklós street to find the entrance on your right.

# EVENT SCHEDULE

# DAY #1

16TH JULY // MONDAY

- 17:00 - 21:00 Campsite Check-in & Moving in to the FS East Village

# DAY #0

17TH JULY // TUESDAY

- 08:00-20:00 Team Registration & Moving in to the Pits @Ticket Center
  - 08:00 - 20:00 Campsite Check-in & Moving in to the FS East Village

# DAY #1

18TH JULY // WEDNESDAY

- 08:00 - 20:00 Campsite Check-in & Moving in to the FS East Village
  - 08:00 - 18:00 Team Registration & Moving in to the Pits @Ticket Center
  - 08:00 - 19:00 Event Site is Open
  - 08:30 - 13:00 Scrutineering, DV priority
  - 08:00 - 18:30 Event Control is Open
  - 09:00 - Driver Registration, ESO Registration, ASR Registration, Fire Extinguisher Handout @Event Control
  - 13:00 - 17:30 Scrutineering, CV, DV priority, EV
  - 18:00 - 19:00 Team Welcome Presentation @Catering Tent
  - 18:30 Pits Close

# DAY #2

19TH JULY // THURSDAY

- 07:30 - 19:00 Event Site is Open
  - 07:30 - 18:00 Ticket Center
  - 08:00 - 19:00 Event Control
  - 08:00 - 08:30 Team Briefing
  - 08:30 - 17:30 Scrutineering, CV, DV, EV
  - 09:00 - Driver Registration, ESO Registration,  
ASR Registration, Fire Extinguisher Handout  
@Event Control
  - 08:00 - 12:00 Test Track Open, CV, DV, EV
  - 12:00 - 13:00 Lunch Break
  - 13:00 - 18:00 Test Track Open, CV, DV, EV
  - 16:00 - 16:30 Panoramic Photograph
  - 19:00 Pits Close

# MARKERS



DAY #3

**20TH JULY // FRIDAY**

- 07:30 - 19:00 Event Site is Open
  - 07:30 - 18:00 Ticket Center
  - 08:00 - 19:00 Event Control
  - 08:00 - 08:30 Team Briefing
  - 08:30 - 18:00 Business Event @ZalaZONE Technical Building
  - 08:30 - 18:00 Cost and Manufacturing Event & Engineering Design Event @Team pits
  - 08:30 - 17:30 Scrutineering, CV, DV, EV
  - 08:30 - 12:30 Test Track Open, CV, DV, EV
  - 08:30 - 12:30 Acceleration, DV
  - 08:30 - 12:30 Skid Pad, DV
  - 12:30 - 13:00 Lunch Break
  - 13:00 - 18:30 Test Track Open, CV, DV, EV
  - 13:00 - 18:30 Acceleration, DV
  - 13:00 - 18:30 Skid Pad, DV
  - 19:00 Pits Close



# SCHEDULE

\*PRELIMINARY



# DAY #4

**21ST JULY // SATURDAY**

- 07:30 - 22:00 Event site is open
  - 07:30 - 18:00 Ticket Center
  - 08:00 - 19:30 Event Control
  - 08:00 - 08:30 Team Briefing
  - 08:30 - 13:00 Scrutineering CV,EV
  - 08:30 - 13:00 Test Track Open, CV, EV
  - 08:30 - 13:00 Acceleration, CV, EV
  - 08:30 - 13:00 Skid Pad, CV, EV
  - 08:30 - 09:30 Practice Track Open, DV
  - 09:00 - 12:00 FS Alumni World Summit Workshops @Catering Tent
  - 09:30 - 10:00 Track Walk, DV
  - 10:00 - 13:00 Trackdrive, DV
  - 11:00 - 13:00 Business Event results @Event control
  - 11:00 - 13:00 Initial Cost and Manufacturing Event & Engineering Design Event results @Event control
  - 13:00 - 14:00 Dynamic Area Reconstruction
  - 13:00 - 14:30 Lunch Break
  - 14:00 - 16:00 Business Event protest / feedback period
  - 14:00 - 14:30 Track Walk CV, EV
  - 14:30 - 19:00 Autocross, CV, EV
  - 14:30 - 16:30 Cost and Manufacturing Event protest / feedback period
  - 15:00 - 17:00 Engineering Design Event protest / feedback
  - 17:00 - 19:00 Business Event Final @Catering Tent
  - 19:30 Pits Close
  - 20:00 - 22:00 Engineering Design Event Final @Dynamic Area

# DAY #5

**22ND JULY // SUNDAY**

- 07:30 - 01:00 Event site is open
  - 07:30 - 17:30 Ticket Center
  - 08:00 - 18:00 Event Control
  - 08:00 - 08:30 Team Briefing
  - 08:30 - 09:00 Track Walk CV, EV
  - 09:00 - 12:00 Endurance, Part 1, CV, EV
  - 12:00 - 13:00 Lunch Break
  - 13:00 - 17:30 Endurance, Part 2, CV, EV
  - 17:30 - 18:30 Dynamic Area Deconstruction
  - 17:30 - Moving out of the Pits
  - 21:00 - 00:00 Award Ceremony
  - TBD Farewell Party

# DAY #6

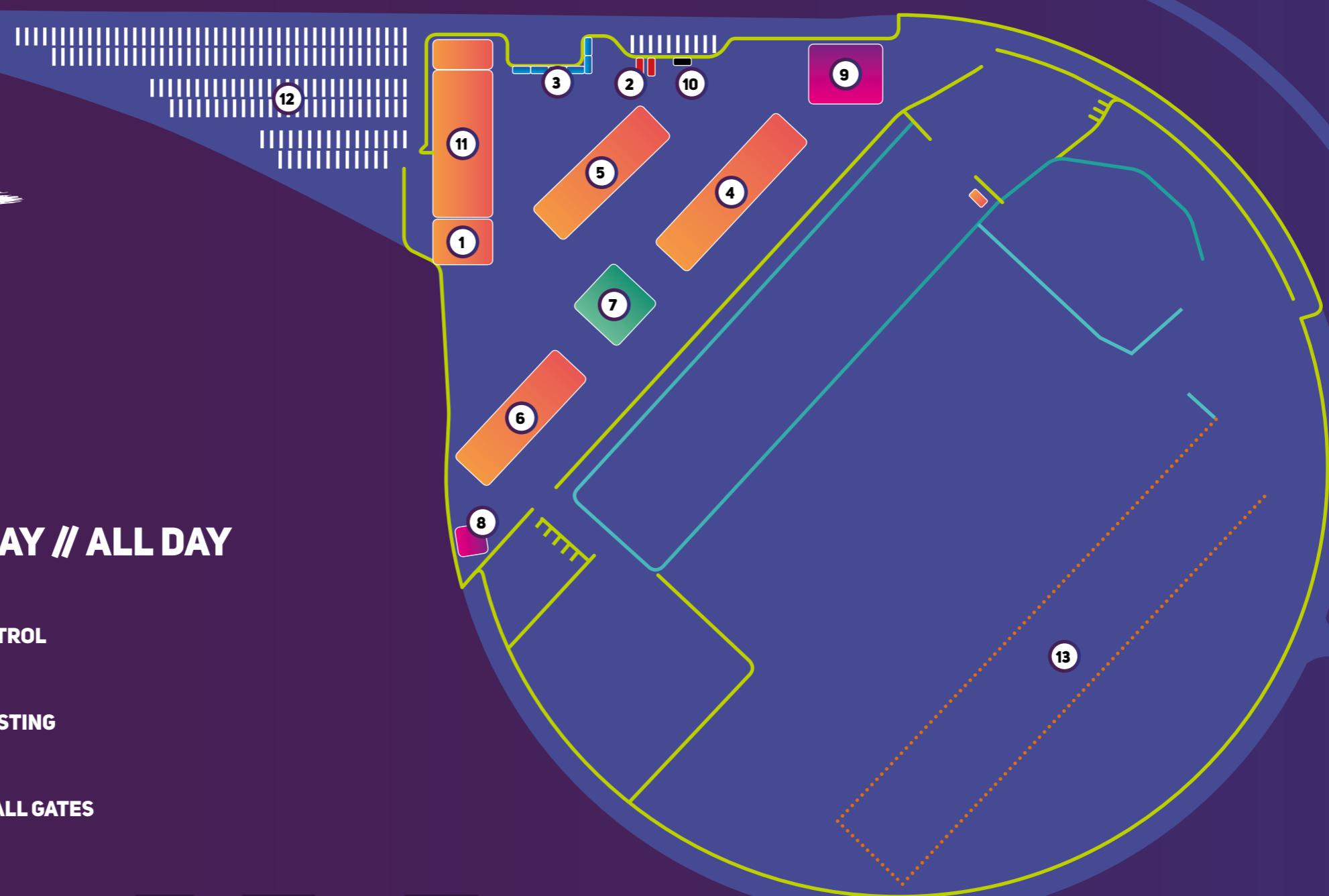
**23RD JULY // MONDAY**

- until 12:00      Moving out of the FS East Village

# FORMULA STUDENT EAST

DAY #1  
18TH OF JULY // WEDNESDAY // ALL DAY

- 1 ENTRANCE / TICKET CENTER / EVENT CONTROL
- 2 FIRST AID / RESCUE
- 3 TOILETS
- 4 TEAM PITS / SECTION A
- 5 TEAM PITS / SECTION B
- 6 TEAM PITS / SECTION C
- 7 SPONSORS
- 8 FUEL STATION
- 9 CHARGING & SCRUTINEERING
- 10 WELDING AREA
- 11 CATERING
- 12 PARKING
- 13 DV EBS TESTING



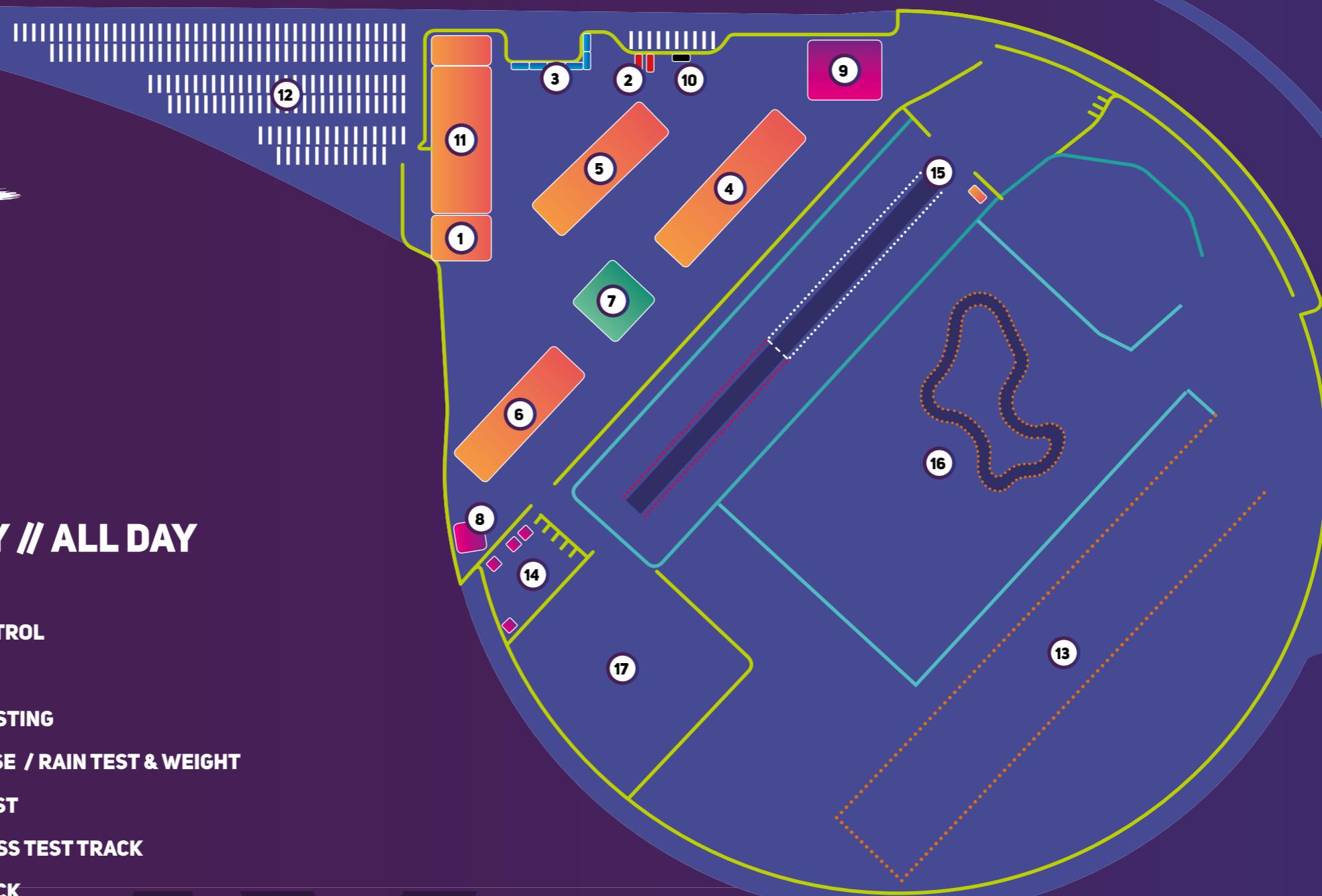
DAY #1  
#HEREISTHEWHEREIS

# FORMULA STUDENT EAST

## DAY #2

19TH OF JULY // THURSDAY // ALL DAY

- 1 ENTRANCE / TICKET CENTER / EVENT CONTROL
  - 2 FIRST AID / RESCUE
  - 3 TOILETS
  - 4 TEAM PITS / SECTION A
  - 5 TEAM PITS / SECTION B
  - 6 TEAM PITS / SECTION C
  - 7 SPONSORS
  - 8 FUEL STATION
  - 9 CHARGING & SCRUTINEERING
  - 10 WELDING AREA
  - 11 CATERING
  - 12 PARKING
  - 13 DV EBS TESTING
  - 14 TILT / NOISE / RAIN TEST & WEIGHT
  - 15 BRAKE TEST
  - 16 DRIVERLESS TEST TRACK
  - 17 TEST TRACK
- FENCE  
○ WATER WALL GATES  
○ CONES

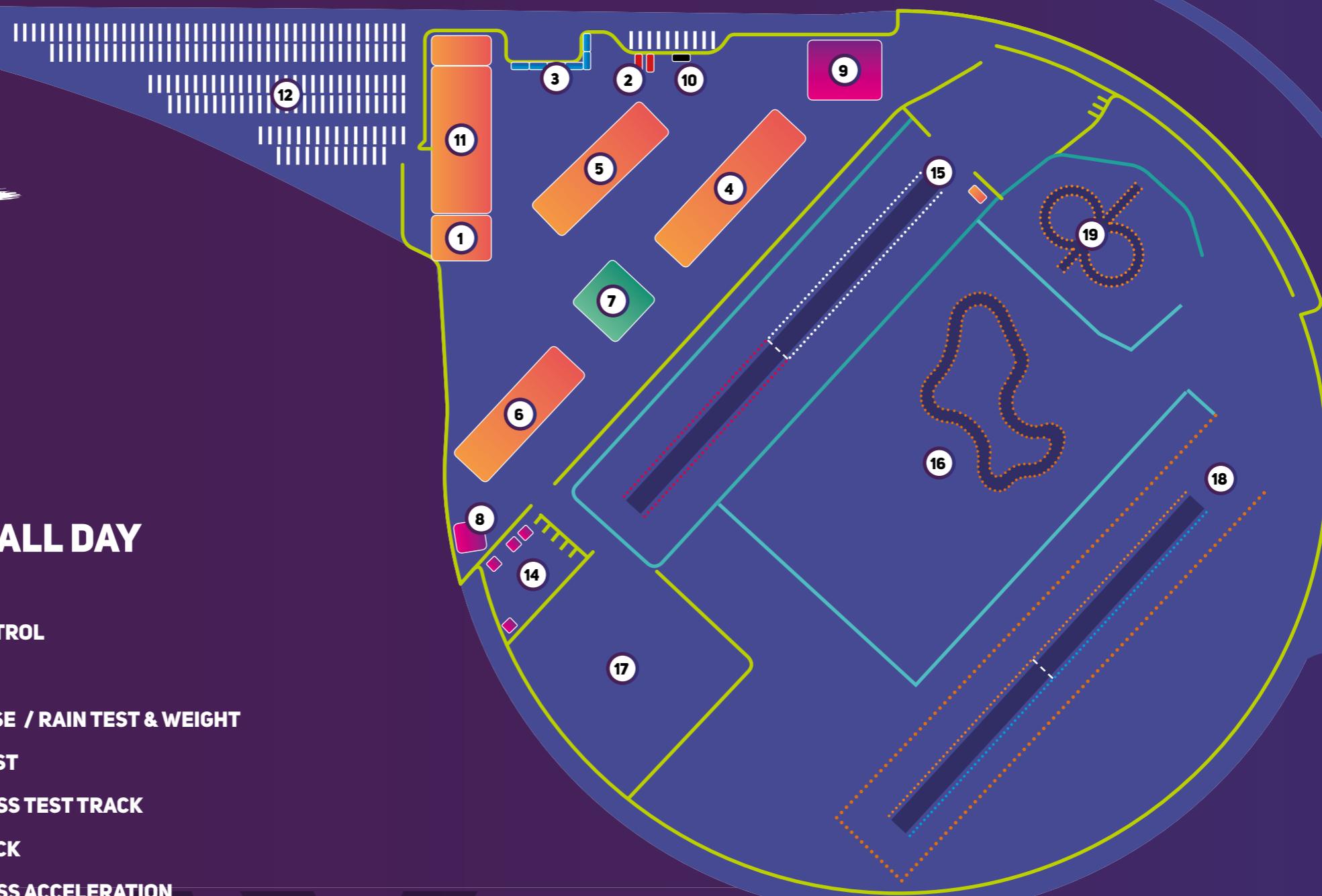


# #HEREISTHEWHEREIS

# FORMULA STUDENT EAST

## DAY #3 20TH OF JULY // FRIDAY // ALL DAY

- 1 ENTRANCE / TICKET CENTER / EVENT CONTROL
- 2 FIRST AID / RESCUE
- 3 TOILETS
- 4 TEAM PITS / SECTION A
- 5 TEAM PITS / SECTION B
- 6 TEAM PITS / SECTION C
- 7 SPONSORS
- 8 FUEL STATION
- 9 CHARGING & SCRUTINEERING
- 10 WELDING AREA
- 11 CATERING
- 12 PARKING
- 14 TILT / NOISE / RAIN TEST & WEIGHT
- 15 BRAKE TEST
- 16 DRIVERLESS TEST TRACK
- 17 TEST TRACK
- 18 DRIVERLESS ACCELERATION
- 19 DRIVERLESS SKID-PAD
- FENCE
- WATER WALL GATES
- CONES



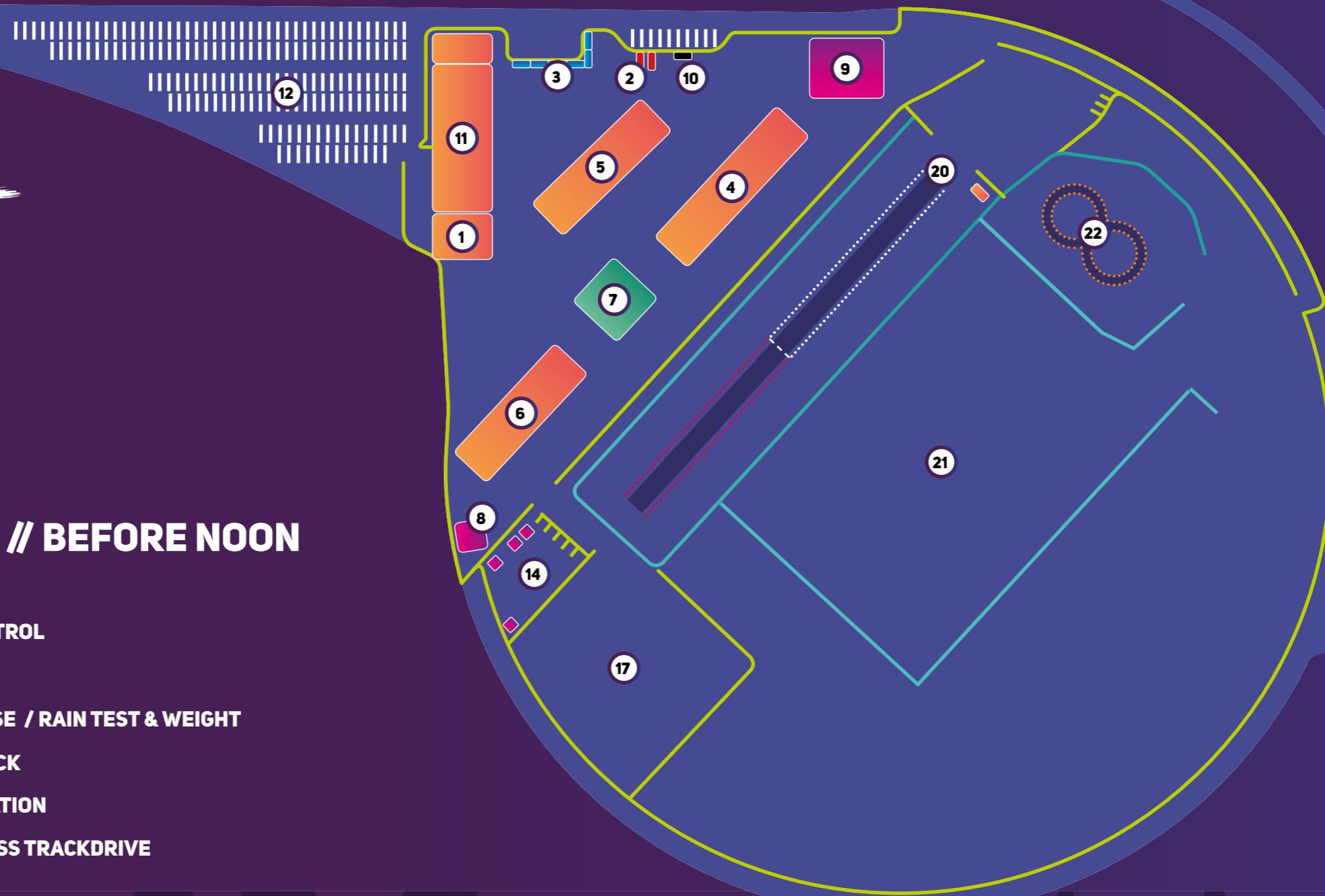
# #HEREISTHEWHEREIS

# FORMULA STUDENT EAST

## DAY #4

21ST OF JULY // SATURDAY // BEFORE NOON

- 1 ENTRANCE / TICKET CENTER / EVENT CONTROL
  - 2 FIRST AID / RESCUE
  - 3 TOILETS
  - 4 TEAM PITS / SECTION A
  - 5 TEAM PITS / SECTION B
  - 6 TEAM PITS / SECTION C
  - 7 SPONSORS
  - 8 FUEL STATION
  - 9 CHARGING & SCRUTINEERING
  - 10 WELDING AREA
  - 11 CATERING
  - 12 PARKING
  - 14 TILT / NOISE / RAIN TEST & WEIGHT
  - 17 TEST TRACK
  - 20 ACCELERATION
  - 21 DRIVERLESS TRACKDRIVE
  - 22 SKID-PAD
- FENCE  
○ WATER WALL GATES  
○ CONES



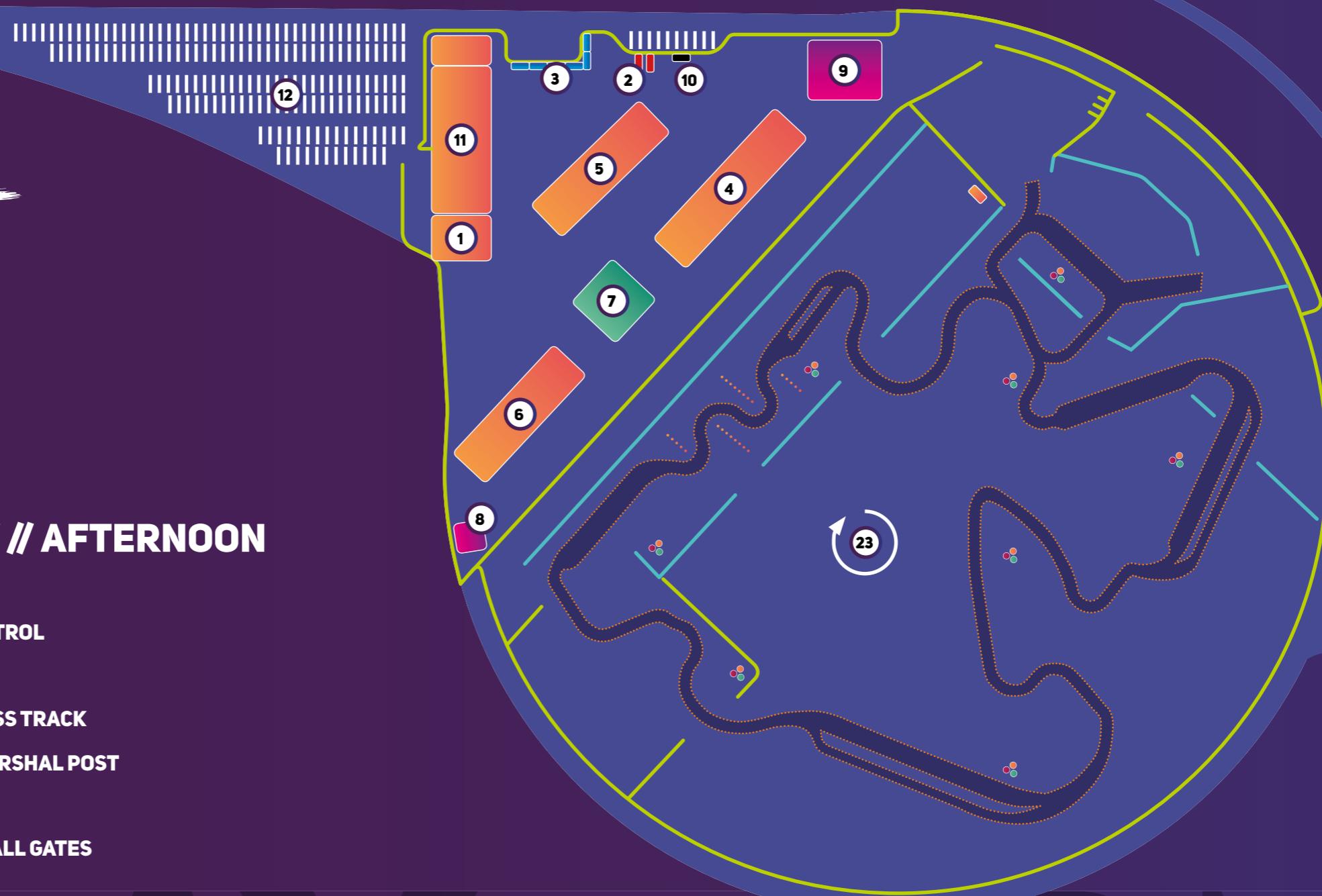
# #HEREISTHEWHEREIS

# FORMULA STUDENT EAST

## DAY #4

21ST OF JULY // SATURDAY // AFTERNOON

- 1 ENTRANCE / TICKET CENTER / EVENT CONTROL
- 2 FIRST AID / RESCUE
- 3 TOILETS
- 4 TEAM PITS / SECTION A
- 5 TEAM PITS / SECTION B
- 6 TEAM PITS / SECTION C
- 7 SPONSORS
- 8 FUEL STATION
- 9 CHARGING & SCRUTINEERING
- 10 WELDING AREA
- 11 CATERING
- 12 PARKING
- 23 AUTOCROSS TRACK

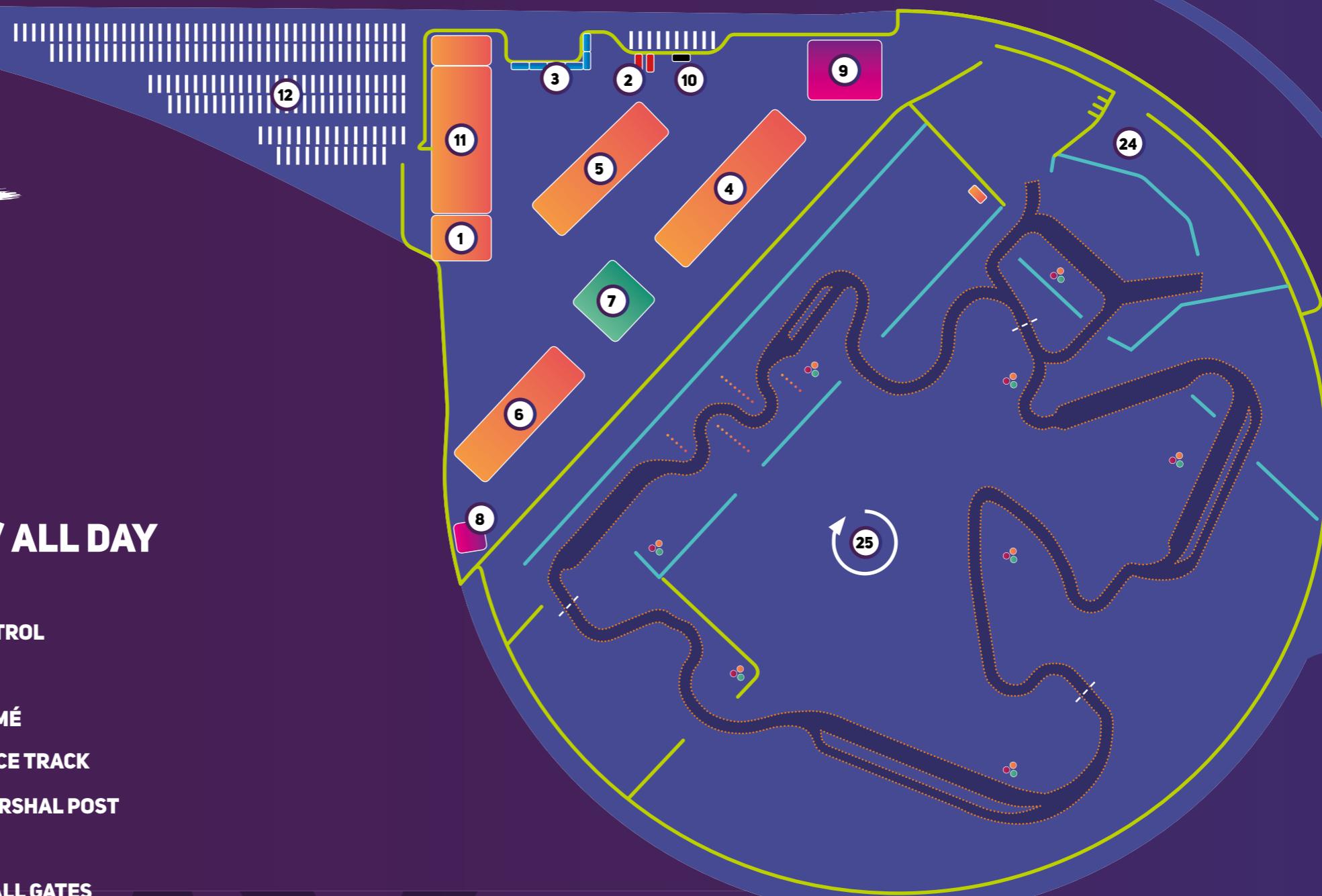


# #HEREISTHEWHEREIS

# FORMULA STUDENT EAST

DAY #5  
22ND OF JULY // SUNDAY // ALL DAY

- 1 ENTRANCE / TICKET CENTER / EVENT CONTROL
- 2 FIRST AID / RESCUE
- 3 TOILETS
- 4 TEAM PITS / SECTION A
- 5 TEAM PITS / SECTION B
- 6 TEAM PITS / SECTION C
- 7 SPONSORS
- 8 FUEL STATION
- 9 CHARGING & SCRUTINEERING
- 10 WELDING AREA
- 11 CATERING
- 12 PARKING
- 24 PARC FERMÉ
- 25 ENDURANCE TRACK
- TRACK MARSHAL POST
- FENCE
- WATER WALL GATES
- CONES



DAY #5  
#HEREISTHEWHEREIS



E-MOBI  
STAND  
e·mobi

## EVENT CONTROL

Audi  
Hungaria

AUDI STAND



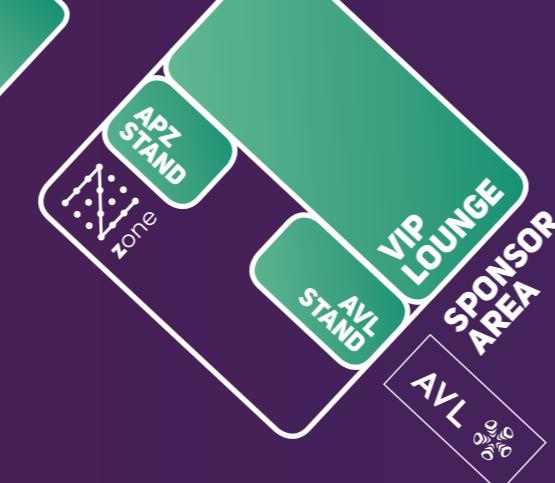
SCHAFFLER  
STAND  
SCHAFFLER

HAVE  
FUN  
WITH US

TEAM BOX B

TEAM BOX A

TEAM BOX C



# WELCOME TO YOUR NEW HOME

## TEAM BOX A

FS TEAM TALLINN ESTONIA	1	UNIVERSITY RACING EINDHOVEN NETHERLANDS	23
FORMULE SAE DE L'UNIVERSITÉ Laval CANADA	2	FORMULA STUDENT TEAM DELFT NETHERLANDS	22
AHG RACING ELECTRIC POLAND	3	GREENTEAM UNI STUTTGART GERMANY	21
STUBA GREEN TEAM SLOVAKIA	4	RENNTTEAM UNI STUTTGART GERMANY	20
TUW RACING AUSTRIA	5	KA-RACING CVTEAM GERMANY	19
KA-RACING EV TEAM GERMANY	18		
DJS THUNDERBOLT INDIA	6	KA-RACING DV TEAM GERMANY	17
SUPERIOR ENGINEERING SLOVENIA	7	DELTA RACING MANNHEIM GERMANY	16
UOP RACING GREECE	8	HORSEPOWER HANNOVER GERMANY	15
ARISTOTLE UNIVERSITY RACING TEAM ELECTRIC GREECE	9	ECURE AIX FORMULA STUDENT TEAM GERMANY	14
ARISTOTLE UNIVERSITY RACING TEAM CV GREECE	10	RACETECH RACING TEAM GERMANY	13
BME FRT EV TEAM HUNGARY	11	BME FRT DV TEAM HUNGARY	12

## TEAM BOX B

DART ELECTRIC GERMANY	1	TU DARMSTADT RACING TEAM GERMANY	19
UNI MARIBOR GRAND PRIX ENGINEERING DV SLOVENIA	2	E-GNITION DRIVERLESS GERMANY	18
UNI MARIBOR GRAND PRIX ENGINEERING CV SLOVENIA	3	TUFAST DRIVERLESS GERMANY	17
BEELECTRIC TURKEY	4	MUNICHMOTORSPORT GERMANY	16
FORMULA STUDENT TEAM WEINGARTEN DV GERMANY	5		
REVOLVE NTNU DRIVERLESS NORWAY	5	FORMULA STUDENT TEAM WEINGARTEN CV GERMANY	14
LUND FORMULA STUDENT SWEDEN	6	EFORCE FEE PRAGUE FORMULA CZECH REPUBLIC	13
HTW BERLIN MOTORSPORT GERMANY	7	CTU CARTECH CZECH REPUBLIC	12
MORE MODENA RACING ITALY	8	TU BRNO RACING CZECH REPUBLIC	11
SAPIENZA CORSE ITALY	9	UNIBO MOTORSPORT ITALY	10

## TEAM BOX C

FORMULA RACING MISKOLC HUNGARY	1	ARRABONA RACING TEAM HUNGARY	19
CERBER MOTOSPORT POLAND	2	CAT-RACING GERMANY	18
PUT MOTOSPORT POLAND	3	UPB RACING TEAM GERMANY	17
SHUKOV RACING TEAM RUSSIA	4	TEAM BATH RACING UK	16
LUMOTORSPORT UK	5		
EVENT OFFICIALS AND MEDIA	5	SUFST UK	14
YTU RACING TURKEY	6	FASTTUBE GERMANY	13
RITEH RACING TEAM CROATIA	7	HIGH-OCTANE MOTORSPORTS GERMANY	12
PROM RACING GREECE	8	RENNSCHMIEDE PFORZHEIM GERMANY	11
STES'S STALLION MOTORSPORT INDIA	9	ORION RACING INDIA	10

## ORGANISATIONAL ASPECTS

### ARRIVAL TO THE EVENT SITE

**Schedule:** Tuesday, 17th July (from 8:00)  
**Location:** Zala ZONE Automotive Proving Ground, Zalaegerszeg

### ARRIVAL AND REGISTRATION FOR THE EVENT

**Schedule:** Tuesday, 17th July (from 8:00 to 20:00)  
Wednesday, 18th July, 8:00 to 18:00  
**Location:** Ticket Center

The first moment for the teams of Formula Student East is arriving to the venue, to the Ticket Center. Our colleagues record your arrival, and give you any possible info about the next steps - registration, parking, unpacking the trucks, moving into the camping site etc.

**ONLY the Team Captain is allowed to register his/her team.** He/she can be accompanied by only ONE team member! During the first step of the registration procedure Team Captains submit a print version of the Standard Terms document signed by all team members which we send out to the Team Captains in advance via e-mail.

By signing the Standard Terms the teams state that they accept the rules of the event, that only team members will work on the car, also understanding and following the safety guidelines of the event. After that Team Captains are handed over the starter packages, which include an Event Handbook, dynamic pass wristbands and all passes for the registered team members.

If the registration procedure is over then the team is ready to enter the premises of the event.

You will also get your truck and car pass stickers at the Ticket Center, which you have to fill out with all necessary information and stick on all of your cars immediately.

Moving in to the pits is handled based on a reservation system, which offers pre-determined time slots for the teams that they can apply for. This enables a planned arrival and reduces the queue at the entrance. The time slots and details of the process are announced at [fseast.eu/logistics-2018](http://fseast.eu/logistics-2018) prior to the event.

Teams are able to move in to the pit in their designated time slot, which is coordinated by our logistics team. After you got your starter package, our colleagues will guide you to your pit for unpacking.

Useful contact: Nándor VARJU +36 31 784 2827

If you have to wait until you can enter the event site, our colleagues will show you the place to park your vehicle(s) and wait until you get the licence to enter.

### SAFETY REGULATIONS REGARDING ENTRANCE

Please pay high attention and **DO NOT block any emergency exits of the event.** Please follow our officials' instructions at all times. **DO NOT park your truck to the gates until the officials order you to do so.**

**NOTE:** The campsite registration is handled separately at the entrance of the FS East Village. Check the FS East Village Rules for further details.

### DRIVER REGISTRATION

**Schedule:** Thursday, 19th July from 9:00  
**Location:** Event control

Each team has to register at least 4 drivers. The drivers have to be registered in the Event Control where they have to show their valid driver's license. Each registered driver will get a numbered wristband.

### ESO REGISTRATION

**Schedule:** Wednesday, 18th July from 9:00  
**Location:** Event control

Electric teams also have to register dedicated members with thorough knowledge about the vehicle's electrical systems: at least one Electrical Safety Officer person (ESO), and at most 4 more team members who can enter the charging area

(altogether maximum 5 people). The ESOs also have to sign the registration document. The ESOs have to be presented in the ESO Form.

### ASR REGISTRATION

**Schedule:** Wednesday, 18th July from 9:00  
**Location:** Event control

Autonomous teams also have to register dedicated members with thorough knowledge about the vehicle's autonomous systems: at least one Autonomous Systems Responsible person (ASR), and at most 5 more team members who have to be present whenever the autonomous systems are operated (altogether maximum 5 people). The ASRs also have to sign the registration document. The ASRs have to be presented in the ASR Form.

### FIRE EXTINGUISHER HANDOUT

**Schedule:** Wednesday, 18th July from 9:00  
**Location:** Event control

For safety reasons you have to pick up a fire extinguisher at the Event Control. The deposit for the fire extinguisher is 25 euro, which you will get back after finishing the event. The fire extinguishers have to be returned to the Event Control by 19:00, 22nd July. **This is also the time when you get back your deposit for the extinguisher.**

### PARKING AND VEHICLE PASSES FOR THE EVENT

Every entering vehicle has to ask for a car/truck pass at the Ticket Center upon arrival. There are different parking places for different vehicles, please read our guide!

#### 1. CAR PARKING (CAR PASS)

You are able to leave your passenger cars and vans in the designated 'Car Park' areas out of the event site. The parking spaces are limited, the spots are filled on a first come first serve basis. Every team who is parking their cars in the parking zones has to have a valid car pass sticker on its front window. These stickers are handed out during team registration and also can be requested later at the Ticket Center. You can only enter the event site with a valid car pass on your car during moving in and out of the pits. The car pass has 4 fields: team name, driver's name, cell phone number, licence plate number. Each cell has to be filled out on the spot and stucked on the windscreen.

#### 2. TRUCK AND TRAILER PARKING (TRUCK PASS)

Trucks are only able to be parked temporarily at the event car park for the time of unpacking. Later the trucks have to be parked for the event days at the 'Truck and trailer park'. Trucks are only able to enter the event site with a valid truck pass during moving in and out of the pits.

#### 3. CARAVANS (CAR PASS)

In order to enter the FS East Village by a caravan you have to ask for a Camper Car Pass at Campsite Registration. The Camper Car Pass provides one-time access to the Village area, after you parked your caravan, you're not able to move it until you check-out. The security guards take the Camper Car Pass when the caravan leaves the FS East Village. If you might want to sleep in your car, the same rules apply, otherwise your car could be parked in the Village Car Park only.

**NOTE:** The exit routes have to be unobstructed all the time, that is why we need to rule the venue's traffic. Please follow our guides in any case - unloading your vehicles, leaving the venue, moving by car/truck at the venue.

The pits can be unpacked AFTER endurance. Teams who finish the competition earlier can ask our colleagues for help for early unpacking.

## ALL PARKING AREAS SHOULD BE LEFT UNTIL 12:00 ON MONDAY, 23RD OF JULY.

Inside the event area walking speed is the limit for cars too, 5 km/h maximum!

# FORMULA STUDENT EAST

## TICKET CENTER

**Schedule:** From July 18th, 8:00 to July 22nd 18:00  
**Location:** Event site entrance

Teams and visitors receive their passes for entering the venue at the Ticket Center.

## EVENT CONTROL

**Schedule:** from 18th July, 8:00 to 22nd July, 18:30  
**Location:** Event area

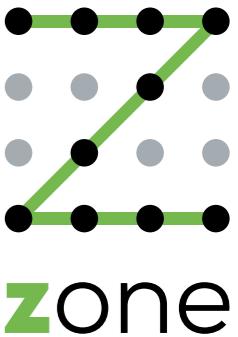
Event Control is the central contact point for teams and all issues concerning the event.

### Event Control provides:

- Information point for all competitors (concerning schedule, general questions etc.)
- Contact interface to the officials
- Registration of the drivers
- Registration of ESOs and charging area staff
- Team briefing wristband handout
- Fire extinguisher handout point
- Transponder handout point
- Data logger handout point
- Document submission point (printed copies)
- Lost and found
- Feedback



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### FEATURING:

- Dynamic Platform
- Braking Surface
- Handling Course(s)
- Connecting Road Testing
- High Speed Oval
- AV Smart City Zone
- 5G & ITS G5 Networks



# OFFICIALS (SELECTION)

At the venue, we will answer your questions directly.

To contact us before and after the event, please write us an e-mail to [hello@fseast.eu](mailto:hello@fseast.eu).

The fastest and easiest way to communicate with us is on-site.

# LVL. BIG BIG BOSS BOARD MEMBERS



Alexander DUDÁS  
Board | Technical Manager



Gergely LÁGLER  
Board | Technical Manager



Tamás CSÜTÖRTÖKI  
Board | Event Manager

# LVL. BIG BOSS EXECUTIVE COMMITTEE



Álmos Dávid TÓTH  
EC | Dynamic Area Leader Successor



Benjámin BRUNCSICS  
EC | Static Events Leader Successor



Dániel VÁRNAGY  
EC | Event Support Leader & Graphic Design



Dávid KISS  
EC | Technical Leader Successor & ESF Responsible



Fruzsina ZARNOCZKI  
EC | HR Team Leader



Imola DEBRECZENI  
EC | Business Event Leader



Krisztián BANA  
EC | Cost and Manufacturing Event Leader



Roland TARCSAI  
EC | Static Events Leader



Szandra HOFER  
EC | Communication Leader



Tamás BERKECZ  
EC | Score Counting Leader



Tamás LÉNÁRT  
EC | Engineering Design Event Leader



Zdena KROUPOVÁ  
EC | Event Control Leader



Zoltán BÁLINTDT  
EC | Technical Leader - Mechanical Scrutineering Responsible

# LVL. BOSS



András HORVÁTH  
OT | Dynamic Area Organiser & Purchasing Responsible



Ádám HALMOS  
OT | ASF Responsible



Ádám SZABÓ  
OT | ESF Responsible Successor



Csilla SZALAY  
OT | Static Events



Dénes VARGA  
OT | Track Designer



Dominika VARGA  
OT | HR Team & Ticket Center Assistant



Imola BERKECZ  
OT | Scoring Counting



János TÓTH  
OT | Data Logger Responsible



Judit VÁRNAGY  
OT | Visitor Registration Responsible



Júlia SZILVÁSSY  
OT | Cost and Manufacturing Event



Krisztina HORICSÁNYI  
OT | Event Control Assistant



Péter JAKUBOVICS  
OT | Dynamic Driverless Responsible



Nándor VARJU  
OT | Logistics Responsible



Szabolcs VERÉB  
OT | Driverless Scrutineering Responsible



Viktor GLATZ  
OT | SES and IAD Responsible & Dynamic Scrutineering Responsible



Zoltán VARGA  
OT | Business Event

# WE ARE THE VOICE



Dénes LOVÁSZI  
Speaker | #talkmachine



János KUN  
Speaker | #talkmachine



# YOU ARE THE REAL MVP WITHOUT THEM IT COULD NOT HAPPEN

**SCRUTINEERING:** ÁDAM SZABÓ, ÁDAM VALYON, ANIKÓ PÓCS, BÁLINT HANULA, BÁLINT HEREIN, BÁLINT KÁROLY, BOTOND CSATHÓ, DÁNIEL FÜLEKI, DÁNIEL SZABÓ, DESIREE SCHWEITZER, GÁBOR PROKSA, GERGELY HOLLO, IMRE KOVÁCS, IMRE PÁCSONYI, JÁNOS SIBINGER, JÁNOS SZALAI, JÁNOS TÓTH, KRISZTÁN KIRÁLY, LEONARD GEORGALA, MATHIAS GERHART, MÁTYÁS LEVENTE CSEPREGY, PETER ERNST KRAKOW, PETER JÓZSA, PÉTER PÁCSONYI, SEBASTIAN WAWERSIG, SIMON BELL, ZDENEK HOUF, ZOLTÁN SCHLENK, ZSOLT BÁTKAI, ZSOLT MAFTEI **TRACK MARSHALS:** ÁDÁM HORVÁTH, ÁDAM KERKAI, ÁDÁM PAULUSZ, ÁKOS TÓTH, ALEX CSKE, ÁRON MÁT HEÉ, BALÁZS KÖNYVES, BALÁZS VOGEL, BENCE SÁRKÁNY, BENJAMÍN RÉTI, BORSIKA LOTSI MOLNÁR, CSABA MIKLE, CSABA NAGY, DÁNIEL DOMINKÓ, DÁNIEL FÜLEKI, DÁVID FÜLÖP, DÁVID LENCSÉS, DENIS TATÁR, DÓRA CSEPREGY, ESZTRÉG, GÉRGŐ HURBÍZ, FABIÓ FEJES, FLÓRA LÁBÓDI, GÁBOR NAGY, GERGELY HOLLY, GERGELY SZAKÁL, GERGELY VÖLGYI, JÁNOS SZABÓ, JÁNOS SZÁMLE, KÁLMÁN KUSTÁNY, KINGA FAZEKAS, KRISZTÁN PINTER, LÁSZLÓ HOLIK, LEVENTE FÓTHI, MARCELL HUSZÁK, MÁRK KERESZTES, MÁRTON KÁROLY KOVÁCS, MÁTÉ BÉLÉNYESY, MÁTÉ SZARKA, MÁTYÁS VASS-VÁRKÓVI, MELITTA HORVÁTH, NOÉL NEMES, NORBERT VARGA, PATRIK KOVÁCS, RAMPRASANTH RAJKUMAR, RICHÁRD BAUMGARTNER, RÓBERT MAGAŁ SZABOLCS KRAMALICS, TAMÁS MÁRK DÖMÖTÖR, TIBOR ZALAVÁRI, VIKTOR RÓFÓS-HORVÁTH, WILHELM FRIZ, ZOLTÁN MAKK, ZOLTÁN SÜMEGI, ZSOLT HORVÁTH, ZSOLT TABAKOV, ZSOMBOR PÁNCÍS **JUDGES:** ABI ABHYANKAR, ÁDÁM JACSO, ÁDÁM SZABÓ, ÁKOS BERECKY, ÁKOS TÓTTÓSI, ALEKSANDAR ZIVANOVIC, ALEX ATHANASIADIS, ANDRÁS DOBOSZAY, ANDRÁS KÁDÁR, ANDRÁS SZOBOSZLAY, ANDRÁS VOITH, ANITA MEKLER, ATTILAKOVÁCS, BALÁZS SCHERER, BALÁINT HANULA, BÁLINT KÁROLY, BÁLINT SZABÓ, BARABÁS PERENYEI, BENCE ÁCS, CATHY D'SOUZA, CHRISTOPHER SIN, CSABA BÁKÓ, CSABA NAGY, DÁNIEL CSÁPO, DÁNIEL SALAMON, DÁVID GÖNCZY, DESIREE SCHWEITZER, DOMINIC CHENG, DR. DÁNIEL FESZTY, DR. ISTVÁN HÁBER, DR. BÁRNA HANULA, DR. ZOLTÁN PROHÁZSKA, DR. EDIT SÜLE, DR. ÁDÁM VARGA, DR. ISTVÁN VARJASI, ERVIN KERÉKES, ERZSÉBET GARISCSÁK, FERENC FORSTHOFFER, FREDERICO ALFATTI, GÁBOR BALATINCZ, GÁBOR MAGDICS, GÁBOR PÁL, GÁBOR PAHOLICS, GELLÉRT KATONA, GEORGE WATSON, GERGELY MATÍN, GERGELY SIKI, GERGELY HERÁNGI, GYÖRGY GARABÁN, IGOR FELC, IMRE SOMOGYI, IOANNIS GAVALAS, ISTVÁN KORDÁS, ISTVÁN MÁRTON, ISTVÁN SCHMIDT, ISTVÁN SPISAK, JAN KLINGER, JANI HATTUNEN, JÁNOS KUN, JÁNOS VÉGH, KRISTÓF MÁTRAI, KRISZTÁN KIRÁLY, LEONARD GEORGALA, MARCEL ARMANDO PURWANTO, MARKUS KETONEN, MARKUS NEZEL, MOHAMED BAYOMY, MUKIL HARIBHAI BARDAJ, NIKITA ASTRAVERKHU, NORBERT PÁZMÁNDI, NORBERT VARGA, NOWAK WOJCIECH, PÉTER KAKÁS, PÉTER KASLER, PÉTER KOVÁCS, PÉTER NAGY, PÉTER RÉVÉS, PÉTER NEMES, PÉTER RÉVÉS, PIOTR SZYMAŃSKI, RICHÁRD CSISZÁR, RICHÁRD KLÉRI, RICHÁRD KOZMA, RICHÁRD SZENTES, RUDOLF CSIKJA, SÁNDOR KISILLÉS, SÁNDOR KLING, SEBASTIÁN WAWERSIG, SIMON BELL, STAVROS PATINIOS, TAMÁS LÉNÁRT, TAMÁS RASOVSKÝ, TÍMEA LÁZÁR-FÜLÉP, TOMÁS GULAS, VIKTOR MAGYAR, VIKTRÓIA GÓDÉR, ZOLTÁN BENEDEK, ZOLTÁN DOBOS, ZOLTÁN MAKAI, ZOLTÁN VARGA, ZSIGMOND DACZÓ, ZSÓFIA BODÓ, ZSOLT MAFTEI, ZSOMBOR SÁPI

# WE ARE THE CORE

# FORMULA STUDENT EAST

## ANNOUNCEMENTS

The event will proceed according to the official time schedule as far as possible. Listen to the announcements and look out for the placards at the event control for changes in the schedule.

## PIT AND INFIL FIELD TIMES

The pits are open on all event days according to times determined in the Event Schedule.

## PIT EQUIPMENT

In every pit there is regular 230 V AC, 16 A power sockets. During the night the pits are guarded. You can see which team is in which pit from the team list and from the team stickers on the pit entrances.

## SURVEILLANCE

After closing time, there will be a security company for surveillance of site, pits and cars. During the day, the teams are responsible for the security of their car and the equipment in their pit. Do not leave any valuables open in your pit at any time. Security is unable to monitor everything all the time. Also keep in mind to close your pit shades at venue closing.

## TRANSPOUNDERS AND TIMEKEEPING

You get a transponder used for timekeeping at Event control in charge for 50€ deposit. You have to mount on your car yourself. The transponder must not be removed until the competition ends, since it is vital for the timekeeping system. At the end of the competition, please return the transponder to Event control, where you will get back your deposit. The exact time of handout will be announced at the site.

The transponder must be placed forward of the front roll hoop, on the right side of the driver, no more than 60 cm above the ground. There should be an unobstructed path between the ground and the antenna on the bottom. Please mount the transponder at a place where it is protected from obstacles.

If you are unsure of the position or orientation, or if a transponder comes loose or falls off, please contact a member of the timekeeping team at Event control.

Please note that the shown data is unofficial. No protests can be handed in based on the live-timing.

## RULES AND GUIDELINES

Everyone (participants, volunteers, & visitors) at Formula Student East would like to enjoy an accident free event. The following guidelines have been established to advise teams of potential unsafe practices in the paddock and pit area.

### ALCOHOL

**PLEASE NOTE:** Alcohol at the event site is strictly forbidden!

Along with the fun, we want a safe competition. There will be alcohol testing (breathalyzers) during the event.

0 % is the allowable alcohol content during this event for everyone.

If ANY team member (driver or not), is tested with an alcohol level higher than 0.0 %, he or she will be immediately disqualified for the rest of the event. The second person of the same team caught with an alcohol level higher than 0.0 % will result in the entire team being disqualified immediately.

For the Formula Student East Village (the campsite) other rules apply for alcohol consumption.

### FIRE AND SMOKING

No open fires are allowed in the pit area and in the engine test area. This includes BBQ grills, oxy-acetylene torches, heaters, cigarettes, etc. Smoking is strictly prohibited in the dynamic area, in all buildings, and in the pit area. Smoking is permitted only in the dedicated area of the event site and outside the ticket center.

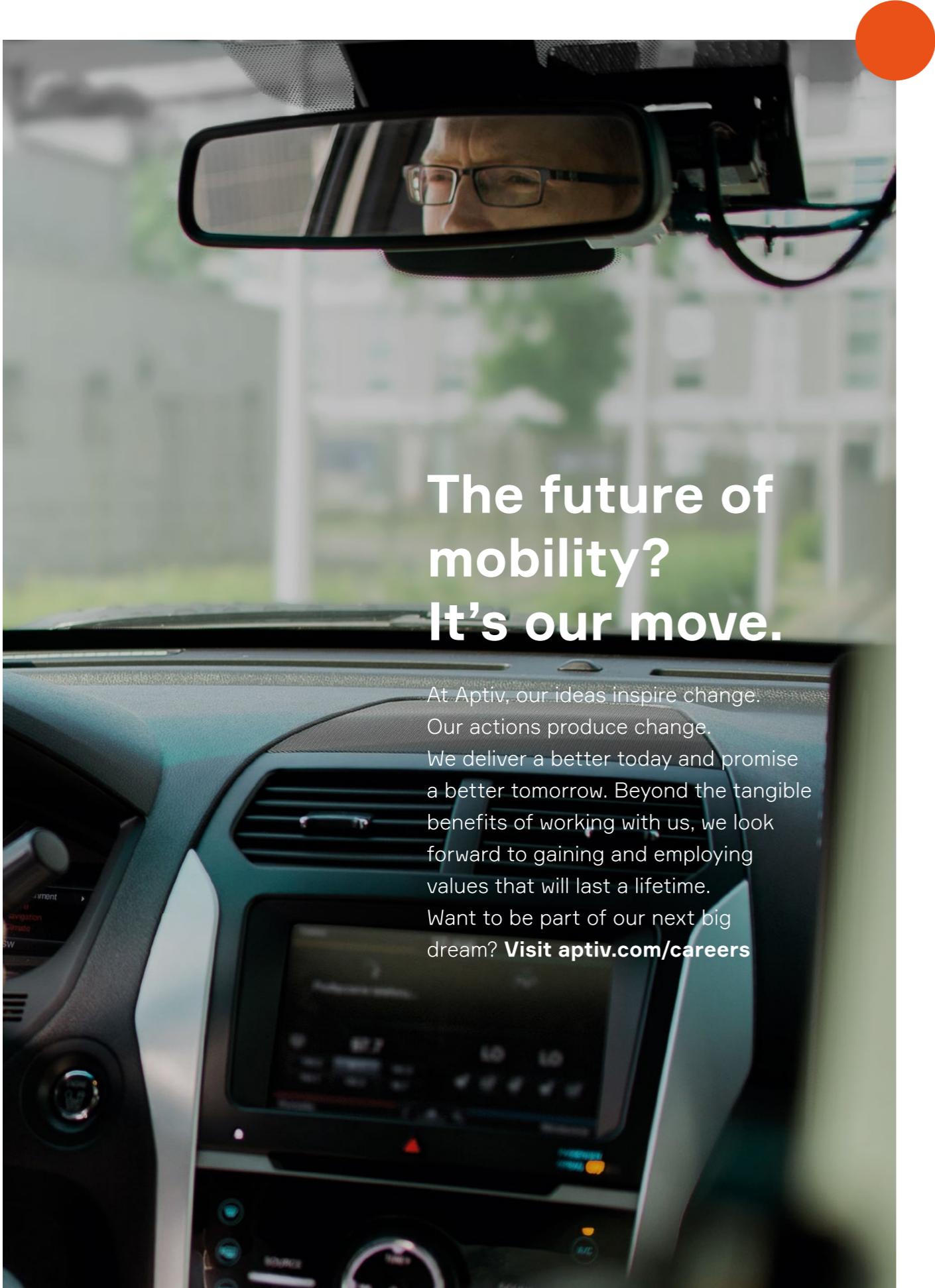


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• A P T I V •

### JACKING

When jacking your car up off the ground a safe, stable, load rated support device must be used.  
**The use of crates, piles of wood, or strong team members is NOT ALLOWED.**

### WORKING ON THE CAR

- Angle grinders can ONLY be used in the dedicated welding area.
- In case of using angle grinders, safety glasses are required.

When using metal cutting equipment that produces metal chips, eye protection is required for the operator as well as any team member assisting. During the use of loud power tools like drills or angle grinders, ear protection is required. Any operation producing litter or debris, e.g. cutting of carbon fibers, should not be performed in the pits.  
**Please take care about your environment by not littering.**

### WORKING ON THE TRACTIVE SYSTEM (EV AND E-DV)

An ESO and at least one more team member who can interfere in case of emergency must attend every activity which involves the tractive system.

Opening any tractive system enclosure is only permitted if it is de-energized and disconnected from any high voltage source. If the enclosure is within the vehicle, the accumulator container needs to be removed from the vehicle. Opening the accumulator containers is only permitted in the charging area, not in the pits.  
**Activation of the tractive system of the car in the pits is prohibited.**

The tractive system may only be activated in the dynamic and the scrutineering area for testing purposes under following conditions:

- Separate the car with a barrier tape, provided by FS East on request.
- The car must be jacked up and the driven wheels demounted.
- One team member must be prepared to push an emergency button at any time.
- Team members who take part in the measurement activities must wear compliant safety gloves and use appropriate measurement devices and tools.
- The tractive system must only be active when it is necessary.
- Only members of your team and Scrutineers are allowed to stay behind the barrier tape.

After any activity on the tractive system during which seals were broken, an E-Scrutineering is mandatory.

The FS East rules in sections 7.1 "Pit rules" and 7.2 "Charging area" must be adhered to when operating or servicing electric vehicles.

If any of the above mentioned instructions is not obeyed, it may result in deduction of points, ESO role disownment or disqualification.

### ELECTRIC VEHICLE FIRES

The organisers are aware of a number of incidents where prototype electric vehicles caught fire and were completely destroyed. In some cases fire extinguishers were used to control the fire, but they didn't have any effect. For this reason the organisers reserve the right to take any action in order to stop or control the fire. This can even include pouring lots and lots of water on the accumulator, which can have the effect of cooling the cells sufficiently to stop and control thermal runaway. If a team wishes to choose a preferred method for the case their electric vehicle catches fire, they can do so by discussing it directly with the chief of electrical scrutineering (Dávid Kiss) during the event by latest thursday 16:00. It is technically more difficult to handle electric vehicle fires in the pits, therefore the team must keep the possibility that the car can be easily pushed out of the pit. The HV accumulator must be observed for minimum one hour after it was charged. Any fire or accident must be immediately reported to the organisers.

### RUNNING ENGINES OR MOTORS

You are allowed to run engines (IC) or put the car into ready-to-drive mode (EV) ONLY in the designated engine test area, after passing scrutineering. Please read the applicable rules in section 3.1.5 attentively.

**!! FS ENGINES MAY NOT BE RUN IN THE FS EAST VILLAGE !!**



## DATA LOGGERS

The data loggers will be handed out at the Event control during opening hours, in change for a 100 € deposit. You have to install the data logger in the car prior to E-scrutineering, according to the data logger instructions available on the FS East website. You can find any necessary information in the Data Logger Specification. You can ask our E-scrutineers for help with the installation.

The proper functioning of the data logger will be tested during the second part of E-scrutineering. An E-scrutineer will read out your data logger data via a USB connection on Saturday evening and on Sunday if your car makes it past the driver change during the endurance.

The officials will check if the power consumption was higher than 80 kW, if the accumulator was higher than 600 V or lower than what your cell configuration allows in the ESF. According to FSG rules, a violation of any of the limits during any of the dynamic disciplines will result in a disqualification for the whole discipline. For example if too high power consumption was recorded at a single acceleration run, that means a DQ for all four acceleration runs.

After the data was read out after the endurance, the data logger has to be removed from the car and returned to the event control, where you get back your deposit. Please note that if your data logger is located inside the accumulator container, you have to remove it inside the charging area.

We encourage all teams to record own efficiency data for the unlikely event of a data logger failure during the endurance event. Any attempt to manipulate the intended function of the data logger may lead to a disqualification from the entire event.

If you have any questions regarding the data logger, please ask for the data logger responsible at the Scrutineering area, or contact directly to Szabolcs Veréb (+36-20/235-8911)

## WELDING

Formula Student East provides an approved welder. Welding is allowed in the designated welding area only.

## FIRE EXTINGUISHERS

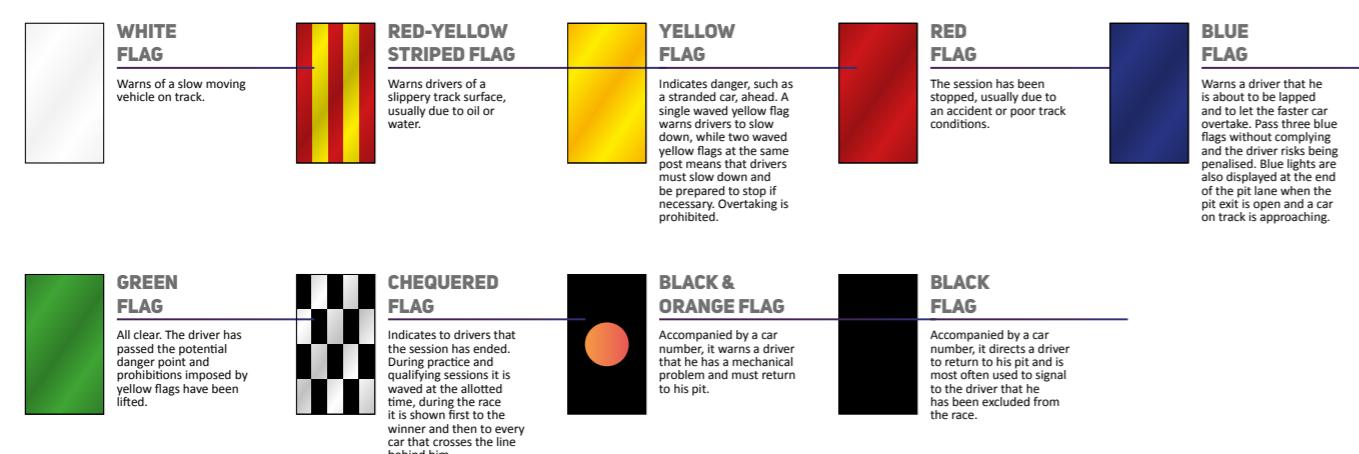
Your fire extinguishers are to be immediately accessible at all times. All team members must be familiar with their use. At least one fire extinguisher must accompany the car wherever it goes.

## VEHICLE MODIFICATIONS

If you make any major modifications to your car, cars must return to scrutineering for re-approval.

## FLAGGING

All drivers must know the competition-flagging signals.



## BEHAVIOUR

Alcohol and drugs have no place at this event. Alcohol is only allowed at the campsite and at the farewell party.

## TESTING

Driving practice is only allowed within the designated test area and at the designated times.

## HOW TO WHEEL THE CAR

Whenever a car is moved, please take care of the following:

- There must be a driver wearing a full safety suit seated in the cockpit.
- The car must be moved with a push bar (which must have a fire extinguisher attached).
- Cars with wings are required to have two team members walking on either side of the vehicle whenever the vehicle is being pushed.
- The detachable key of the primary master switch (IC) or tractive system master switch (EV) must be taken off completely.
- (For EV teams only.) In case the car has not passed all parts of E-Scrutineering, the HVD must be disconnected while the car is moved around on the event site, or while taking part in static events.

## SPECIAL NOTE FOR DRIVERS

All drivers should do a check of critical fasteners and components on their vehicles to assure complete control during the driving events. Fasteners come loose, parts break due to fatigue, and occasionally someone forgets to torque a nut – this may have serious consequences for your safety!

## REMEMBER:

USE THE KILL SWITCH IN CASE OF AN ENGINE OR BRAKE MALFUNCTION!  
HAVE FUN – DRIVE SAFELY – USE COMMON SENSE!

## DYNAMIC EVENTS

### GENERAL INFORMATION

The dynamics at FS East are compliant with the Rules 2018 Part D and additional FS East Rules. The following pages describe the additional procedures and key aspects. Other information will be provided at the morning briefings on site.

### TEAM AND DRIVER BRIEFINGS

There are team briefings every morning of the competition at the Catering tent at 8:00, on Thursday, Friday, Saturday and Sunday. All drivers and team captains for that day must attend. The briefing contains general event information and detailed information about the dynamic events of the day. Wristbands will be handed out to the participants of the morning briefings. Without these wristbands, attending the dynamic events is NOT POSSIBLE. Missing the briefing (or late arrival) means no entrance to the dynamic events.

### ACCESS TO THE DYNAMIC AREA

Every team will receive four rubber wristbands labeled "Dynamic pass". With these wristbands at most four team members may enter the dynamic area or the engine test area, including the driver and/or the ESO. Drivers may take them off for driving, but must put them back on afterwards. Cheating on handing out wristbands from the dynamic area is strictly forbidden and will be penalised!

### WEATHER

This is one of the factors which can not be influenced by the event organisation. So please be aware that the timetable will not be changed due to bad weather conditions. Under normal conditions, the track is declared dry. If it is necessary to declare damp or wet conditions, there will be signs and announcements at the dynamic area. Please read the rules for more information.

### SEALS

Scrutineers will mark or seal various approved parts (e.g. tires, rims, insulation monitoring device, accumulator containers, data logger...). The car can be disqualified from any dynamic event by using unmarked parts. Parts with broken seals are equivalent to being unmarked. Broken seals can only be replaced by a scrutineer.

### CAR SET-UP ALTERATIONS

Teams do not have to use the same car set-up for all the dynamic events and are encouraged to make adjustments (e.g. tyre pressure and suspension settings) to give the vehicle characteristics best suited to each specific event. However, the car must comply with the rules, and all the seals from technical inspection must be intact.

### TYRES

FS East provides a tyre changing service. For details please look up the event map.

### FUEL AND OIL

Open fuel containers are not permitted at the event. All fuel containers must be DOT approved. Waste oil is to be taken to the fuel station for disposal. Refuelling is only allowed at the fuel station, but not in the pits.

### ENGINE TEST AREA

Location: see site plan

This is a designated area for test running the engines or motors. Entering this area is only allowed with the Dynamic wristbands.

#### Your car must have passed scrutineering and you must follow these rules:

- The car must be in one of the designated engine test area slots.
- The car must be adequately supported, with the wheels at least 10.2 cm (4") off the ground.
- While the engine is on, a driver must be seated in the cockpit, wearing a full safety suit and with the belts fastened.
- There must be a fire extinguisher immediately available.
- The gearbox must be in neutral or the driven wheels must be demounted.
- No one is allowed under the car while the engine is running.
- Re-fueling is only allowed in the designated fuel area, not in the engine test area.

### FUEL STATION (CV AND C-DV)

Location: see site plan

The fuel station will provide standard RON 100 fuel and E85. No other fuel or additives are permitted.

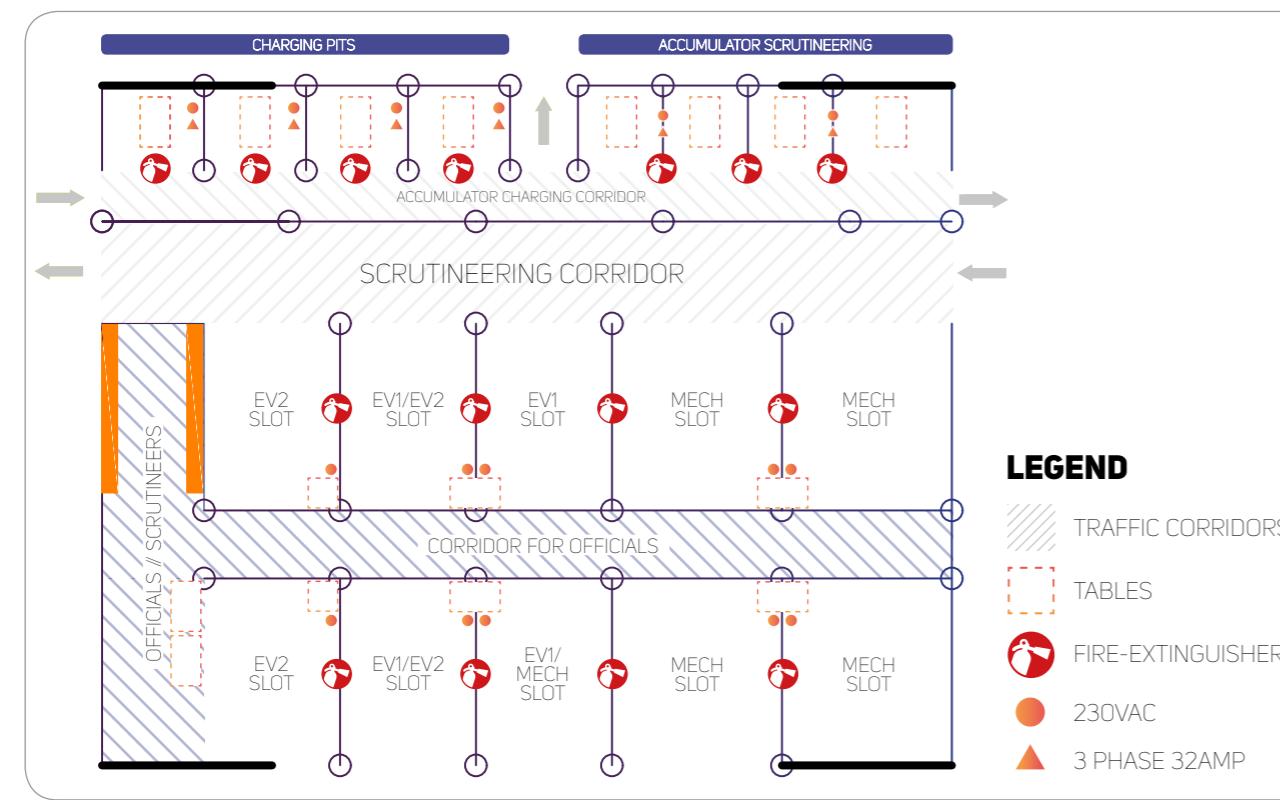
Be aware that no participant is allowed to bring fuel to the competition. FS East will provide all fuel for the competition at the fuelling station. No vehicle will be provided with fuel until it has passed scrutineering.

#### Follow these safety guidelines while in the fuelling area:

- All engines must be turned off; cars are to be pushed to and from fuelling.
- Only the driver, wearing a driving suit, is permitted in the area as fuel is dispensed.
- No mobile phones are allowed in the fuelling area.
- The tank is to be filled to the fuel level line each time the car is refueled.
- Re-fueling must be possible without the removal of any body parts of the car.

The first time the vehicle is fueled, the car must proceed (with the engine off) to the tilt table.

## TECHNICAL & SAFETY INSPECTION



### GENERAL INFORMATION

Opening of or working on the accumulator containers, including charging them, is only allowed in the charging and scrutineering area, during the opening hours.

- During charging, accumulators must be removed from the car and placed on the accumulator container hand cart. Only chargers marked after successful E-Scrutineering must be used. Three phase 32 A sockets will be available in the charging and scrutineering area.
- An ESO must be present at all times during charging and whenever an accumulator container is open. Safety glasses and safety gloves must be used whenever an accumulator container is open and the maintenance plugs not removed. If the accumulator container is opened, it is cannot be left unattended without covered with HV blankets and marked with the ESO's name and telephone number.
- No more than four members and only team members of any electric team are allowed in the charging area at the same time. The organisers reserve the right to declare the charging area "full".
- The charging and the scrutineering area is located in the same place. When you are in the Scrutineering tent be very careful, do not disturb others and take extra care to keep your tools and things in proper order. If someone's behavior is unacceptable, he or she can be banned from the area, and the team also may be penalized.
- The charging area and the scrutineering are accessible from one way corridors. Do not block or disturb this passages, they are emergency routes as well.
- In case of fire, if someone presses the emergency horn, or if the Officials ask for it, leave the area immediately on the shortest way through the corridors.
- During the Scrutineering, teams may make small repairs on the car, but the time spent in one attempt can't exceed 15 minutes total. If the time expires, the team has to leave the area, and be placed on the end of the scrutineering order.
- The times in the event schedule are strict. We do not start scrutineering after the area closes, but the ongoing inspections will be finished.
- It is the team's responsibility to make sure the acceptance of each test is properly documented.

### SCRUTINEERING STEPS

Cars have to pass a technical and safety inspection before being allowed to practice or take part in the dynamic disciplines. The car has to be presented at each step of the inspection in the following order.

#### EV CARS:

1. E-scrutineering part 1\*
2. Mechanical scrutineering
3. Accumulator scrutineering\*
4. EV2 Scrutineering
5. Autonomous Scrutineering (DV only)
6. Driver Egress and Safety Test
7. Tilt test
8. Rain test
9. Brake test
10. Autonomous Brake test (DV only)

#### CV CARS:

1. Mechanical scrutineering
2. ETC test (if applicable)
3. Autonomous Scrutineering (DV only)
4. Driver Egress and Safety Test
5. Tilt test
6. Noise test
7. Brake test
8. Autonomous Brake test (DV only)

\*EV1 and Accumulator Scrutineering can be exchanged or taken simultaneously.

If the team uses the HV battery to generate the LV supply, the team has to start with Accumulator Scrutineering.

Passing any of the above steps is marked with a sticker on the technical inspection sticker.

**Cars which have not finished scrutineering by the lunch break on Saturday will not be allowed to compete in the dynamic events.**

### E-SCRUTINEERING PART 1 (EV AND E-DV)

**Location:** Charging & Scrutineering area

Scrutineers will check that your car fulfills the EV rules without activating the tractive system.

Cars are inspected in the order of registration quiz results. When your car is ready for E-scrutineering, let the organisers know at the Event control, and a scrutineering team will come to your pit as soon as they are available.

#### You must have the following items available:

- The vehicle with operable LV system (either with or without the tractive system battery)
- Documentation (either printed or electronic format)
- Firewall sample
- Every self developed PCB which are interfacing with the tractive system (spare PCBs)
- At least 2 but maximum 4 team members (one of them has to be ESO)

### MECHANICAL SCRUTINEERING

**Location:** Charging & Scrutineering area

Scrutineers will check if your car meets the rules.

Cars are inspected in the order of registration quiz results. When your car is ready for mechanical scrutineering, let the organisers know at the Event control, and a scrutineering team will come to your pit as soon as they are available.

#### You must have the following items available:

- The car in finished condition
- Camera mounts installed on the car, if they are to be used at the event
- Printed copy of the Structural Equivalency Spreadsheet
- Printed copy of the Impact Attenuator Data Report
- A test piece from the impact attenuator
- Teams with monocoque: Laminate test specimen
- All the tyres you plan to use at the event
- 2 fire extinguishers
- Quick jack and push bar
- All driver suits and other safety gear: arm restraints, helmets, suits, gloves, eye protection, balaclavas, socks and shoes

If your car fails scrutineering, you do not lose your scrutineering spot. However, if the scrutineers are on the opinion that the car is not in „finished condition“, the inspection process will be halted.

The inspection form will be retained by the scrutineers. If you have items that need to be rectified, the form will be returned to the team, you will not get your sticker, and you will have to present your car for scrutineering again. The scrutineers reserve the right to spot check any car at any time during the event.

## ACCUMULATOR SCRUTINEERING (EV AND E-DV)

**Location:** Charging & Scrutineering area

During the accumulator scrutineering teams have to bring their batteries in the charging area. You will have to open the accumulator container, and the scrutineers will check the inside of the accumulator.

**The followings will be checked:**

- The accumulator is built as in represented in the ESF
- There are no obvious mistakes or inadvertencies
- The AMS connections, the location of the thermal measurements, and the accuracy of the voltage measurements.

**You must have the following items with you:**

- The HV Accumulator
- Protective gear and isolated tools to work on the accumulator
- Laptop or something to connect to the AMS
- Anything else you will need to present the working of the AMS
- At least 2 but maximum 4 team members (one of them has to be ESO)

After the successful scrutineering process the accumulator will be sealed and the team will be rewarded with the accumulator scrutineering sticker.

## E-SCRUTINEERING PART 2 (EV AND E-DV)

**Location:** Charging & Scrutineering area

During the second part of electrical scrutineering it will be checked that your car fulfills the EV rules with the tractive system active. Among other aspects, the correct working of the BSPD will be tested, so please have the BSPD test tool ready. The Ready-To-Drive-Sound test will be performed here as well. The data logger will also be tested in this step.

After your car passes E-scrutineering, critical parts of the tractive system will be sealed. The scrutineers reserve the right to spot check any car at any time during the event, even after endurance.

**The followings will be checked:**

- The working of the BSPD
- The working of the Safety Circuit
- Data logger connection

**You must have the following items with you:**

- Documentation (either printed or electronic format)
- BPS test device
- The vehicle (in fully assembled, ready-to-race condition including mounted data logger (see DV 1.3))
- At least 2 but maximum 4 team members (one of them has to be ESO)

## AUTONOMOUS SCRUTINEERING (DV ONLY)

**Location:** Charging & Scrutineering area

During the second part of autonomous scrutineering it will be checked that your car fulfills the DV rules with the tractive and the autonomous system active.

**You must have the following items with you:**

- One ASR
- The vehicle (in fully assembled, ready-to-race condition including mounted data logger (see DV 1.3))
- Documentation (either printed or electronic format)
- Data sheets for all perception sensors (attached to the ESF)
- Documents to proof that all perception sensors meet local legislations (attached to the ESF)
- RES remote control
- Tools needed for the (dis)assembly of parts for DV inspection

## DRIVER EGRESS AND SAFETY TEST

**Location:** Charging & Scrutineering area

During scrutineering maximum four team members can be in the pit.

The driver egress test has to be done for all drivers before they are allowed to use the car in the dynamic area, but it can take place any time during the event. Ask for the egress test assistants at the Event control. Driver egress and checking of safety gears will be held at separated section.

Please begin scrutineering with the tallest driver in the car, belted, and prepared for roll bar height and egress check. Your other drivers might be checked as well upon request of the scrutineers.

**You must have the following items available:**

- The car in finished condition
- Camera mounts installed on the car, if they are to be used at the event
- Quick jack and push bar
- All driver suits and other safety gear: arm restraints, helmets, suits, gloves, eye protection, balaclavas, socks and shoes

## TILT TABLE TESTING

**Location:** Dynamic Area

Tilt testing checks if the vehicle complies with the liquid spillage and rollover stability rules. Please present the car in ready-to-race condition, meaning all the liquids of the car should be filled properly, and all components of the car are mounted.

The vehicle will be placed upon the table with the tallest driver aboard. The vehicle should be oriented on the tilt table in the direction that is most likely to create spillage. The table will then be tilted to an angle of 45 degrees. There must be no fluid leakage at this angle. If the vehicle passes this test, the angle is increased to 60 degrees, representing a cornering force of 1.7G. If the upper wheels remain on the table, the vehicle passes. (Some vehicles may lift one wheel. The station manager should be consulted if this occurs.) The person in charge at the tilt table will sign the inspection form, which travels with the car. A sticker is applied on the car, to indicate it passed the tilt table test.

Should the vehicle fail at either of the two angles, the car must be repaired and re-tested. Vehicles may be asked to return to this station for re-certification at the discretion of the officials.

**Safety guidelines for the tilt area:**

- All master switches off at all times. They can be removed from the car.
- Push the car on and off the table, taking care to avoid damage to the vehicle.
- Inside wheels are to be placed against the guard of the tilt table.
- Attach a strap to rollover hoop and side of table which is to be elevated. Allow a little slack.
- Use absorbent material to soak up leaks (may be obtained at fuel station). Keep a fire extinguisher at hand.

## RAIN TESTING (EV AND E-DV)

**Location:** Dynamic Area

Teams have to pass a special rain test during scrutineering, according to the rules before and after the rain test an IMD test will be performed. During the rain test, the tractive system has to be active and the driven wheels removed. It is not allowed to have a driver seated in the car during the rain test.

## NOISE TESTING (CV AND C-DV)

**Location:** Dynamic Area

The vehicle will be checked for compliance with the sound level restrictions.

Teams must bring a laptop to show the engine speed monitored from the ECU on the laptop.

FS East will apply the rule "CV3.2 Maximum Sound Level" of the FS Rules 2018.

If the vehicle is unable to pass in two attempts, the car must be repaired and then brought back for retesting.

The noise level can be measured at any time during the dynamic events. Penalties may be given if the sound level exceeds the mandated maximum. Vehicles may be forced to return to this station for re-certification should the officials deem it necessary. Re-certification may be required if work is performed on the vehicle's exhaust system or if the vehicle is involved in an incident which results in vehicle damage.

## BRAKE TESTING

**Location:** Dynamic area

Brake Testing checks that the vehicle can be brought to a controlled stop.

Each driver must know the proper procedure of the brake test.

With the car at the start line of the station a green flag (or similar signal) should be used to signal the start of each run.

The driver must accelerate on a short straight (typically getting into 2nd gear) until reaching the braking area, which is a box defined by pylons.

For electric vehicles, the tractive system has to be switched off by the driver before entering in this box.

The car fails the test if the TSAL is still blinking 5 seconds after shutting down the tractive system.

Once inside the box, the driver must apply the brakes with enough force to demonstrate full lock-up of all four wheels at the same time.

If the vehicle passes the test, the person in charge signs the approval form and provides the team with the last tech sticker.

The vehicle is now free to proceed to the practice track or to the dynamic events.

If the vehicle is unable to pass the brake test in two attempts, the car must be repaired and then brought back for retesting.

Re-certification may be required if work is performed on the vehicle's brake system or if the vehicle is involved in an incident which results in vehicle damage.

## DRIVERLESS BRAKE TESTING

**Location:** Dynamic area

Autonomous Brake Testing checks that the vehicle can be brought to a controlled stop remotely.

After the Go Signal, the vehicle have to accelerate to at least 40 km/h in a straight line and stop when the RES button is pressed. Once the RES triggered, the vehicle have to stop within 10 meters, and have to switch off the tractive system. (Shutdown the engine in the case of CV cars, or switch off the HV in the case of EV cars.)

Car Num	Scrut. Order	Team Name	University Name	Country	Fuel Type
26	1	GreenTeam Uni Stuttgart e.V.	University of Stuttgart	Germany	Electric
18	2	KA-Racing	Karlsruhe Institute of Technology	Germany	Electric
85	3	Formula Student Team Delft	Delft University of Technology	Netherlands	Electric
1	4	Rennteam Uni Stuttgart	University of Stuttgart	Germany	Combustion
7	5	FS Team Tallinn	Tallinn University of Technology	Estonia	Electric
70	6	CAT-Racing	University of Applied Sciences Coburg	Germany	Combustion
14	7	BME Formula Racing Team	Budapest University of Technology and Economics	Hungary	Electric
9	8	KA-Racing	Karlsruhe Institute of Technology	Germany	Combustion
60	10	Formula Student Team Weingarten	Hochschule Ravensburg-Weingarten	Germany	Combustion
431	11	TUfast driverless	Technische Universität München	Germany	Driverless
28	12	KA-Racing	Karlsruhe Institute of Technology	Germany	Driverless
463	13	Revolve NTNU Driverless	Norwegian University of Science and Technology	Norway	Driverless
478	15	e-gnition driverless	TU Hamburg	Germany	Driverless
42	16	DART Electric	Technische Universität Darmstadt	Germany	Electric
17	17	HorsePower Hannover	Leibniz Universität Hannover	Germany	Electric
79	18	Arrabona Racing Team	Széchenyi István University	Hungary	Combustion
414	19	BME Formula Racing Team	Budapest University of Technology and Economics	Hungary	Driverless
99	20	Ecurie Aix Formula Student Team RWTH Aachen e.V.	RWTH Aachen University	Germany	Electric
77	21	TU Darmstadt Racing Team	Technische Universität Darmstadt	Germany	Driverless
560	22	Formula Student Team Weingarten Driverless	Hochschule Ravensburg-Weingarten	Germany	Driverless Combustion
105	23	Cerber Motorsport	Bialystok University of Technology	Poland	Combustion
76	24	Racetech Racing Team TU Bergakademie Freiberg e.V.	TU Bergakademie Freiberg	Germany	Electric
40	25	University Racing Eindhoven	Eindhoven University of Technology	Netherlands	Electric
24	26	Prom Racing	National Technical University of Athens	Greece	Combustion
67	27	eForce FEE Prague Formula	Czech Technical University in Prague	Czech Republic	Electric
88	29	UniBo Motorsport	Alma Mater Studiorum- University of Bologna	Italy	Combustion
19	30	Sapienza Corse	Sapienza Università di Roma	Italy	Combustion
58	31	UPBracing Team e.V.	University of Paderborn	Germany	Combustion
34	32	YTU RACING	Yildiz Technical University	Turkey	Combustion
49	33	High-Octane Motorsports e.V.	Friedrich-Alexander Universitaet Erlangen-Nuernberg	Germany	Combustion
235	34	UNI Maribor Grand Prix Engineering	University of Maribor	Slovenia	Combustion
25	35	SUFST	University of Southampton	United Kingdom	Combustion
538	36	HTW Berlin Motorsport	Hochschule für Technik und Wirtschaft Berlin	Germany	Driverless Combustion
112	37	Aristotle Racing Team (ART)	Aristotle University of Thessaloniki	Greece	Combustion
13	38	municHMotorsport	University of Applied Sciences Munich	Germany	Combustion
69	39	Orion Racing India	K. J. Somaiya College of Engineering	India	Combustion
86	40	UoP Racing	University of Patras	Greece	Electric
218	41	PUT Motorsport	Poznań University of Technology	Poland	Combustion
113	42	FaSTTUBE	Technical University Berlin	Germany	Combustion
118	44	LUMotorsport	Loughborough University	United Kingdom	Combustion
6	45	Lund Formula Student	Lund University	Sweden	Combustion
74	46	TU BRNO RACING	Brno University of Technology	Czech Republic	Combustion
11	47	Aristotle University Racing Team Electric- Aristotle	Aristotle University of Thessaloniki	Greece	Electric
179	49	Rennschmiede Pforzheim	Hochschule Pforzheim	Germany	Combustion
37	50	MoRe Modena Racing	University of Modena and Reggio Emilia	Italy	Combustion
90	51	STUBA Green Team	Slovak University of Technology in Bratislava	Slovakia	Electric
3	52	Team Bath Racing	University of Bath	United Kingdom	Combustion
435	53	UNI Maribor Grand Prix Engineering DV	University of Maribor	Slovenia	Driverless
51	54	RITEH RACING TEAM	University of Rijeka	Croatia	Combustion
81	56	DJS Thunderbolt	Dwarkadas J. Sanghvi College of Engineering	India	Electric
21	57	CTU CarTech	Czech Technical University	Czech Republic	Combustion
91	58	Superior Engineering	Univerza v Ljubljana	Slovenia	Electric
16	59	Formula Racing Miskolc	University of Miskolc	Hungary	Combustion
200	60	BeElectric	Istanbul Technical University	Turkey	Driverless
84	61	Formule SAE de l'Université Laval	Université Laval	Canada	Electric
168	62	Delta Racing Mannheim	Hochschule Mannheim	Germany	Electric
18	63	AGH Racing Electric	AGH University of Science and Technology	Poland	Electric
56	64	STES'S STALLION MOTORSPORT	STES Smt Kashibai Navale College of Engineering	India	Combustion
80	65	SHUKHOV RACING TEAM	Belgorod State Technological University named V.G.Shukhov	Russian Federation	Combustion
41	66	TUW Racing	Technische Universität Wien	Austria	Electric



## TESTING

**Location:** see the map of the venue

On Thursday and Friday the whole day long, and on Saturday before the lunch break, part of the dynamic area is available for testing.

The ground is made of asphalt. Teams may use the test area to set up and test their cars. The testing time per team depends on the waiting queue and will be 3 to 5 minutes per run. For additional testing, teams have to go to the end of the queue.

**NOTE:** If no other team's are waiting for testing, it's allowed to use the test track continuously.

## ACTION CAMERAS ON THE CAR

As the rule D 2.2.1. states, "During driving, the mechanical integrity of the vehicle must be maintained."

Teams may register they action cameras at the event control. Losing a registered action camera will not lead to disqualification from a specific event, if the team agrees to share all recorded data with the organisers at the Event Control each day until the Event Control's closing time.



## DYNAMIC DISCIPLINES

All of the dynamic disciplines are carried out in the dynamic area. For more details, please check the site plan in section.

### SKID PAD

There will be a two lane queue for this event. Lane one is for the first driver of the team, lane two for the second driver. The queue closes 15-30 minutes before the end of the event, depending on the number of cars waiting.

Each driver can choose to drive one or two runs in a row. The second run may be performed immediately after the first run without re-entering the queue.

### DV SKID PAD

Each team will have two runs. There will be a two lane queue for this event. Lane one is for the first run of the team, lane two for the second run. If the vehicle does not enter "AS Ready" state within 1 min after being staged, the team may be sent back to the end of its initial row by the officials. If this happens five times with the team, they may be sent back to end of the second row.

### ACCELERATION

Similar to the Skid Pad event, the waiting queue for the Acceleration event is a two lane queue: lane one is for the first driver of the team, lane two for the second driver. The queue closes 15-30 minutes before the end of the event, depending on the number of cars waiting.

After passing the finish line of the Acceleration, there is a big slow down area before you have to turn right to return to the start for the second run. While passing the spectator area on your way back, please maintain a slow car speed for your safety and that of the spectators.

Each driver can choose to drive one or two runs in a row. The second run may be performed immediately after the first run without stepping back to the end of the queue.

There will be 2 acceleration tracks next to each other, teams can decide, which track they would like to use

### DV ACCELERATION

Each team will have two runs. There will be a two lane queue for this event. Lane one is for the first run of the team, lane two for the second run. If the vehicle does not enter "AS Ready" state within 1 min after being staged, the team may be sent back to the end of its initial row by the officials. If this happens five times with the team, they may be sent back to end of the second row.

### AUTOCROSS

**Coursewalk:** non-motorised vehicles are allowed to use in a safe manner.

Cones are used for the track boundary and for the slalom turns. The track direction is clockwise. Each run comprises one lap with a flying start. Each driver can choose to drive one or two runs in a row. The second run may be performed immediately after the first run without re-entering the queue. If the runs are performed separately, the driver must exit the course after the first run and drive through the driver change area slowly back to the start for the second run. The queue closes 15-30 minutes before the end of the event, depending on the number of cars waiting.

## ENDURANCE

**Coursewalk:** non-motorised vehicles are allowed to use in a safe manner.

The endurance track will be set up for Sunday. The track direction is clockwise. The colour of the cones is similar to the Autocross event. The additional overtaking lanes are marked with blue cones.

The starting order for Endurance results from the Autocross event. The starting order will be displayed at the Event Control.

The IC and EV cars race together, with the slowest car starting at the starting time of the Endurance event. The next car starts about 3 minutes later. Maximum three cars will be on the track at the same time. During the driver change, two scrutineers check the car. After successful driver change, the second driver drives to the entrance gate. If a marshal causes the driver change to take longer than 3 minutes, the time caused by the marshal will be subtracted. Timekeeping is watching for these incidents.

**IMPORTANT:** In order to have equal and fair conditions during the Endurance event at least 3 cars have to be on the track during the whole time of the Endurance event.

Therefore the Organisers will maintain a waiting queue of 3 teams. It is the team's responsibility to arrive in the waiting queue before the deadline -which will be announced for each team in the loudspeakers 15 minutes before the deadline.

A delay will be penalised with 2 minutes penalty and the team will be able to start only at the end of the endurance event.

**NOTE:** According to experience of earlier years Formula Student events, it is expected to have sudden need for new teams in the waiting queue in the first section of the endurance event due to early DNFs. Please be prepared to attend the queue on time!

If you get a blue flag while driving, please drive into the next overtaking lane. Please start slowing down when you are in the overtaking lane, NOT before. For the faster car, it is important not to follow the car in front too closely, otherwise serious accidents may be caused if the cars touch each other. Rear-ending a slower car will definitely lead to a disqualification of the faster car!

Vehicles that successfully finish Endurance and those that make it past the driver change must report to the Parc Fermé upon request of scrutineers. They will stay there until passing the post-endurance scrutineering.

## DV TRACKDRIVE

**Coursewalk:** non-motorised vehicles are allowed to use in a safe manner.

During the course walk no equipment (e.g. antennas, sensors, cameras, etc) other than analog measurement devices (i.e. measurement wheel or measurement tape) is allowed.

The Trackdrive track will be set up for Saturday. The track direction is clockwise.

The starting order for Trackdrive results from the Skid Pad and Acceleration event. There will be one run consisting of ten laps. The starting order will be displayed at the Event Control. If the vehicle does not enter "AS Ready" state within 1 min after being staged, the team may be sent back to the end of the starting order by the officials.



## AVL – powertrains fueled by passion

**AVL is the world's largest independent company specializing in the development, simulation and testing technology of powertrain systems.** With annual R&D spending of EUR 120 million, AVL is a catalyst of progress in the global automotive industry.

AVL is committed to the Hungarian market on multiple levels and its local subsidiary, AVL Hungary, is the **proud sponsor of Formula Student East 2018**.

Over the last 16 years AVL Hungary has become a center of R&D excellence for the global AVL group. **It employs over 350 experts in R&D and related simulation, testing, software development, calibration and production engineering across high-tech facilities in Budapest, Zalaegerszeg and Kecskemét.**

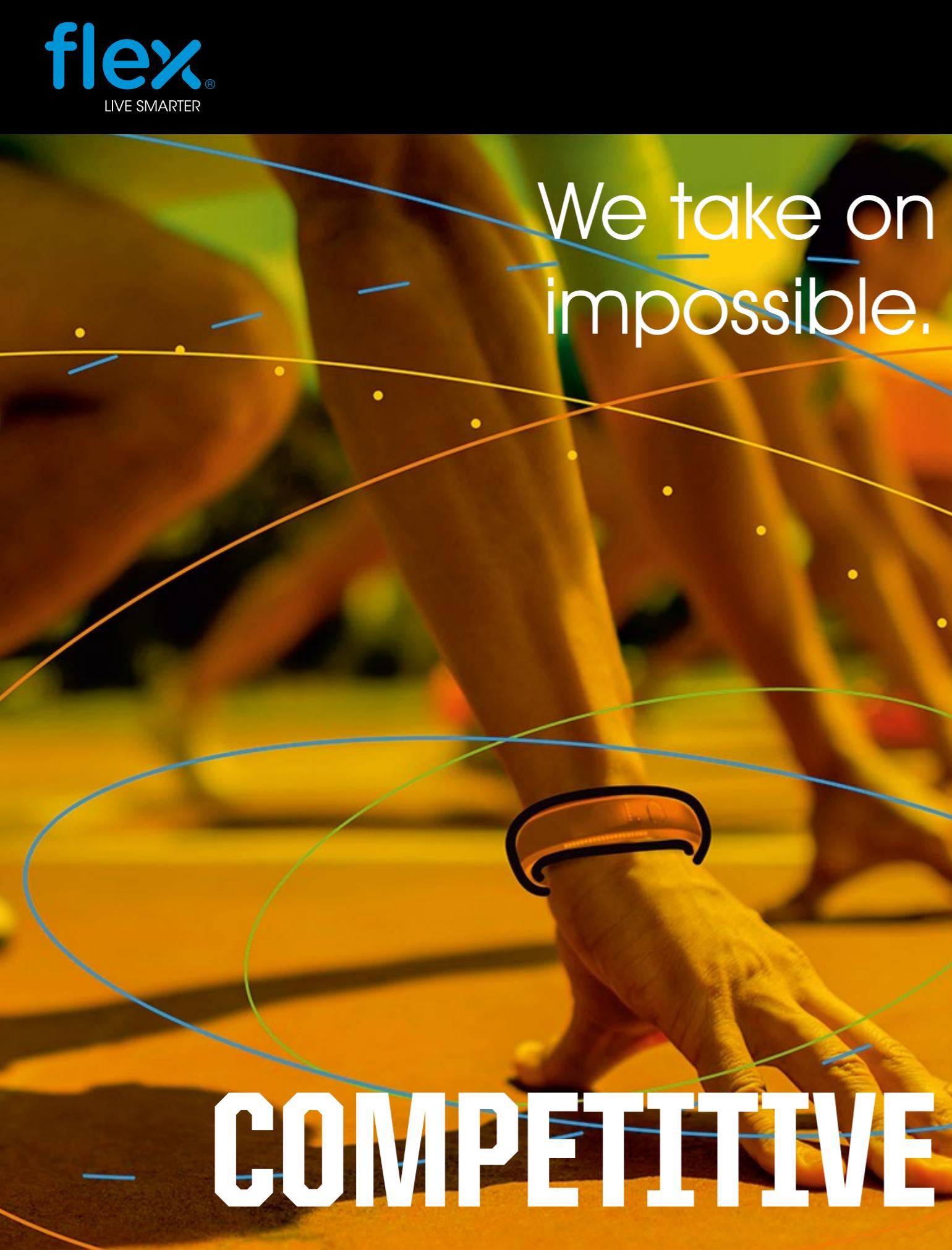
Our achievements have contributed to **Hungary becoming a key regional player in vehicle development and automation**. The fruits of AVL Hungary's R&D labors are visible in the passenger cars, commercial on road, construction equipment and large engines industries on five continents, as well as in the domestic auto industry.

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**or give us a call at** +36 (1) 382-1484



# COMPETITIVE

[flex.com](http://flex.com)

 Flex-Hungary

[talent@flex.com](mailto:talent@flex.com)  
[csatlakozz@flex.com](mailto:csatlakozz@flex.com)

## STATIC EVENTS

### ENGINEERING DESIGN EVENT

**Location:** Team's pits (Engineering Design Event)  
Dynamic area (Engineering Design Final) // in case of rain: Catering Tent

During the competition, a discussion with the judges will take place, next to the team's vehicle.  
For DV category the design judging includes the judging of both the "base vehicle" and the autonomous system.

Here are some tips to help you score higher in the engineering design event:

- Be on time.
- Make sure your car is in race-ready condition and your team members are well prepared.
- Bring all engineering documentation with you. Read and understand the rules.

The exact time of your team's design judging can be found in the Static Events Schedule.

### JUDGING SEQUENCE

At Formula Student East, design judging will involve two parts:

- Initial judging of all teams,
- Final judging, ranking the top teams (from CV and EV category).

You should start with a 3-5 minute overview presentation of the car. It is up to you how you use this presentation time: introducing the team, the car or the design goals etc. This presentation time will be followed by around 35 minutes discussion with the judges. You are done after 45-50 minutes.

To score high in the design event, we would suggest you to bring all necessary papers and sample parts with you, which underline your engineering work. If you have done any tests, bring the results with you. Judges only believe what they see, not what you tell them. Read the Carroll Smith "Everything You Wanted to Know about Design Judging" paper available on the Formula SAE website.

The judges will be around on Friday. Feel free to ask them about your car and your project. They will be more than happy to answer all your questions.

### ENGINEERING DESIGN FINAL

Top teams from CV and EV will qualify to the Engineering Design Final. There is no time limit in the design final. The design final is not public. A briefing for the participating teams will be held about the practical information regarding the design final on Saturday afternoon in the Event Control. The location of the design final will be announced on the briefing. DV teams will be evaluated only based on the initial judging. Final judging will not be held for them.

### COST AND MANUFACTURING EVENT

**Location:** Team's pits

During the competition, a discussion with the judges will take place, next to the team's vehicle.  
The discussion is split into two parts: The Bill of Material (BOM) Discussion and the Cost Understanding .

### THE BILL OF MATERIAL DISCUSSION

Three Cost Report Documents (CRD) were submitted to the competition website by three weeks prior the competition. A printed copy of the report must be submitted in person at the registration, which has to be identical to the uploaded Cost Report Documents. The report will follow the guidelines set forth in the published rules. From this analysis the judges will determine if all parts and processes were included. The Cost Report is judged on the accuracy, quality of the cost report. The judges will add penalties if errors are detected, or if items are omitted.

### THE COST UNDERSTANDING

A discussion to evaluate the general cost and manufacturing knowledge of the team.

## GENERAL INFORMATION:

### Schedule of the Cost, Manufacturing and Sustainability Event for Judging (max. 55 minutes):

- 5 min for introductory presentation of the car and/or team,
- 20 min for discussion and questions about CRD,
- 20 min for the discussion of the Cost Understanding,
- 5 min for consultation of the judges,
- 5 min for feedback to the teams

The final scores are posted until the next day afternoon for the public. Once posted, the scores may be protested for only one hour, after which time, all scores become final.

## BUSINESS PLAN PRESENTATION EVENT

**Location:** Business Rooms (Presentation),  
Catering (Business Finals)

The key point of the Business Plan Presentation Event is that the teams and judges go into a roleplay.

The presenting team members introduce themselves as employees of a company and not formula student teams.

The judges are treated as potential executives or managers of a corporation interested in either manufacturing the team's design or investing in the team as a company, and the approach is to obtain a deal from them. Teams have to keep in mind that the executives, managers represent different areas of a corporate organization, including engineering, production, marketing and finance, etc., thus may not all be engineers.

The presentation must relate to the car entered into the FS East 2018 Event, although the state of the prototype itself must not be considered (this means even if the car is not working or finished, at this static event it does not matter).

## EXECUTIVE SUMMARY

Prior to the Event it is required that a one page Executive Summary has to be submitted until the given deadline. The Executive summary should contain a brief description of the team's business plan and must include one outstanding, innovative business model idea (why is your BP better?) and one outstanding car technical feature with the anticipated production costs of the car. If not compliant with the rules the received penalty points will be deducted from the final BPP score.

## THE PRESENTATION

Competing teams have to keep a presentation to potential investors or partners for the presented business model.

The presentation should tie together all factors that would influence the marketability and manufacturability of their design and all risks conjuring this business idea.

The technical aspects of the vehicle design should be presented to reinforce or support performance claims but should be reduced to the minimum necessary for an investment decision. The competitors should show an understanding of the marketplace and the targeted customer. Furthermore they should show how their design fits into its expected market and how it is completed to a business model. Competitors must convince the Judges that their prototype and the related concept represents a profitable enterprise for the manufacturer/investor and that is simply an attractive investment.

## PART OF PRESENTATION: DEEP DIVE TOPIC (DDT)

All teams receive a given task prior to the event, a specific deep dive topic. This task has to be presented in the given presentation time and will be evaluated by the Judges.

## JUDGING PROCESS

The Business Plan Presentation Event is held in a three step approach. In advance, every team has to submit a Business Executive Summary before the event. The first presentation round (incl. Deep Dive Topic) is relevant for all eligible teams and the Finals is relevant only for the top teams decided by the Judges given by the results of the first round.

## FIRST PRESENTATION ROUND

During the first round, each team gets the opportunity to present to the Judges. Therefore, the overall group of Judges is divided into smaller groups, who will listen and judge the team presentations. At the end of each presentation, the judges are requested to ask relevant questions and after a little break of scoring to give feedback.

## Schedule for each presentation (max. 35 minutes)

- Max. 5 minutes for set-up & preparation
- 10 min for Business Presentation
- 5 min for Q&A on the presentation
- 5 min Judge time (for debriefing and scoring decision)
- Max. 5 min de-installation
- 5 min for Feedback to the teams

This time schedule needs to be followed strictly to not disrupt the overall time schedule for the whole day.

During the presentations only judges and the presenting team members can participate and special permission to official Press-staff. Special entry permission should be asked and decided by the Business Event Leader.

## BUSINESS FINALS

The top teams (from CV and EV category) decided by the Judges given by the results of the first round will reach the Business Finals. This Finals will be held on Saturday afternoon. The teams will present to the selected Judges and is open to all Visitors (i.e. other teams, guests etc.).

The finalist teams will present directly one after the other without any questions/interruptions by the Judges, based on order of drawing of lots prior to starting.

Afterwards, the Judges will hold a de-briefing and decide on the ranking of the finalist teams.

DV teams will be evaluated only based on the initial judging. Final judging will not be held for them.

## Schedule for each Final presentation:

- Max. 5 minutes for set-up & preparation
- 10 min for Business Presentation
- Max. 5 min de-installation

## BUSINESS PLAN PRESENTATION SCORING

### Non finalist

$$\text{Presentation Event score} = (P_{\text{YOUR}} / P_{\text{MAX}}) \times (75-n)$$

Where:

" $P_{\text{MAX}}$ " is the highest score awarded to any team not participating in the finals

" $P_{\text{YOUR}}$ " is the score awarded to your team

"n" is the number of finalists

### Finalists

"n" th Place 75-(n-1) points

- It is intended that the scores will range from near zero (0) to seventy-five (75) to provide good separation.
- If a team does not attend the Business Finals despite its nomination, it will automatically receive the last place in the Finals. If a team misses their allocated time, the team will receive zero presentation points. The team that makes the best business presentation (regardless of the quality of the car) wins the event.



# **STATIC EVENT SCHEDULE**

## RESULTS

The results will be posted on the results board at the Event Control as soon as they are available. Furthermore, they will be published online at the FS East website.

### PROTESTING OF RESULTS

#### REQUIRED REVIEW

Any team that intends to protest a rule interpretation, score, judge's decision or any other aspect of the competition, must present the issue to the FS East rules committee, represented by Gergely Lágler for discussion and possible resolution before the protest is filed. For locating him, please contact event control.

#### CAUSE FOR PROTEST

A team may protest any rule interpretation, score or official action (unless specifically excluded from protest) which they feel has caused some actual, non-trivial harm to their team, or has had a significant effect on their score.

Teams may not protest rule interpretations or actions that have not caused them any significant damage.

#### PROTEST PERIOD

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

#### PROTEST FORMAT

Protests must be handed in in a written form and submitted by the team captain to FS East rules committee.

#### PROTEST BOND

The protesting team must post a 25 points bond to be deducted from their score if the protest is denied.

#### DECISION

The decision of the officials regarding any protest is final.

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## FS EAST VILLAGE RULES

Those teams who booked their accommodation and intend to stay at the FS East village have to accept the following guidelines and rules. We created this list of rules to ensure all the necessary safety and comfort elements for the Villagers. In emergency cases the event site emergency scenarios are the normatives (see page 2-3). In any urgent cases you can call the emergency numbers.

### CHECKING-IN TO THE CAMP SITE

Checking-in to the campsite is handled at the entrance of the FS East Village between hours determined in the Campsite Schedule from Monday, July 16th to Wednesday, July 18th. Team members who arrive on days after Wednesday will be able to register at the Ticket Center of the event site.

In case you arrive after the opening hours of campsite registration, call us in advance!

All team members who booked their accommodation at the campsite must show up, sign the check-in form, and agree the FS East Village Rules in order to receive their wristbands that provides entrance to the campsite. We're only able to give out wristbands to the members of the teams who've already transferred the accommodation fee. Additional team members are able to pay by cash at check-in.

In case your wristband is lost or damaged you're able to request a new one both at the FS East Village entrance and the Ticket Center of the event site by showing up your damaged one and/or event pass or giving us your full name.

### RESERVABLE AREA

Based on the number of team members we provide a camping area of approx. 200 square meters for each team. Larger constructions (e.g. kitchen tents, pools, football field, etc.) should be mentioned in advance in the Accommodation Booking form. Constructions higher than 6 meters are not allowed to be built up on the premises of the campsite.

### PARKING IN THE CAMP SITE

Only caravans and cars with a Camper Car Pass can park in the campsite. After parking the vehicles, you can move it only when you leave the event. The Camper Car Pass assures that we're able to reach you on your cell if anything happens. Please note, that you can't park any cars in the Social area of the FS East Village.

**ATTENTION:** Make sure that your caravan or car is not dropping or flowing. Prevent it!

### COOKING, FIRES AND SMOKING

Using open fire (e.g. charcoal, gas stove, firewood) for cooking is restricted to the premises of the Fun & Grill area. Electric cooking devices can be operated at your own tents as well considering the limited power supply (1x16 A / team). If you need more, you can connect to the power supply of the Fun&Grill area - the additional power requirement has to be reported in advance.

**NOTE:** If you have any cultural or religious objections regarding these rules, please contact us in advance.

Smoking is strictly prohibited in the sleeping area, in all tents, in the parking slots, and in the toilet or shower containers.

### FOOD & DRINKS

The catering tent provides food and drinks on student-friendly prices all day at the event site, and we also prepare with snacks and a bar in the FS East Village. You can pay with Hungarian Forint or with Euro, in both cases you receive change in Hungarian Forints.

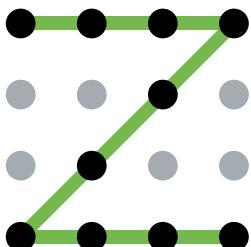
**NOTE:** Alcoholic drinks are forbidden at the event site - so just drink as much as you can "sleep out", to be perfectly fit for the next day.

### BATHROOMS

We provide separate bathroom containers for male and female participants at the campsite with showers.

### POWER SUPPLY

The electric network at the campsite is planned to provide 1x16 A for each team to consume. If you might need more power to supply your devices, please let us know prior to the event. You can also bring your own power supply - in that case you must prepare with one fire extinguisher for each of them.



MAGYARORSZÁG KORMÁNYA  
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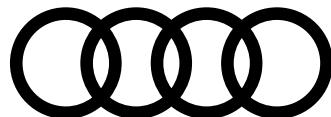
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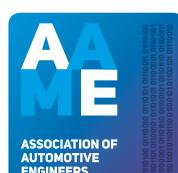
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ZALAEGERSZEG  
MEGYEI JOGÚ VÁROS

## CHANGELOG

Version	Date	Modification	Page
1.0	6th July 2018	Initial beta release	-
1.0.1	10th July 2018	Tent numbering changed	8 - 21



Részletek vagy az egész dokumentum felhasználása csak a Járműmérnökök Egyesülete (korábban MJMFE) előzetes írásos engedélyével lehetséges.

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