

FORMULA EAST
STUDENT
20TH TO 23RD JULY



elringklinger

handtmann
Ideen mit Zukunft.

EVENT HANDBOOK

WHO IS READY?

VERSION 1.0

RELEASE DATE: 13TH JULY 2017

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

Bács-Kiskun Megyei Kórház

Address: 6000 Kecskemét, Nyíri street 38.

Phone: +36 76 516-700

Fax: +36 76 481 219

E-mail: titkarsag@kmk.hu

Homepage: www.kmk.hu

(Also see directions in Chapter 1.1)

112

EMERGENCY NUMBERS

If an emergency occurs outside the times of the competition, call 112.

This number works with all land lines, 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: Szandra Hofer +36 30 596 0772 7-20h

Event Control: Zsolt Bojkovszky +36 30 361 7678 7-20h

Regular emergency number: 112 0-24h



BEHAVIOUR IN CASE OF REGULAR FIRES

(FUEL, OIL, PAPER, WOOD, ETC.)

1. Call for help (fire fighters / ambulance) by either finding an official with a radio or calling 112.
2. Assist injured persons 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 fire fighters/ambulance to arrive.
6. Handling of the situation by the fire fighters, medical treatment provided by ambulance.



BEHAVIOUR IN CASE OF ACCUMULATOR FIRES

- Immediately leave the area in a radius of 5 meters and instruct others to do so as well. Assist injured persons to leave the area. An overheated accumulator is extremely dangerous, so do not put yourself in danger by trying to put it out.
- 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.
- 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.
- Stay out of the way of fumes coming from the accumulator or the car; mind the wind direction.

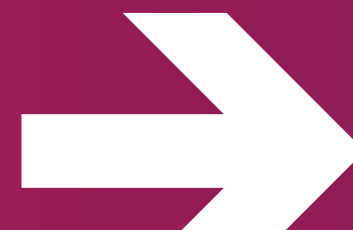


BEHAVIOR IN CASE OF ELECTRIC SHOCK

- 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 with patience.
- 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 arrive. The victim might undergo ventricular fibrillation several minutes after experiencing a shock.



ROUTE TO HOSPITAL
ON NEXT PAGE





FORMULA STUDENT EAST

EVENT SITE
FORMULA STUDENT EAST
47.1476703
19.4566583

DRIVING DIRECTION TO HOSPITAL

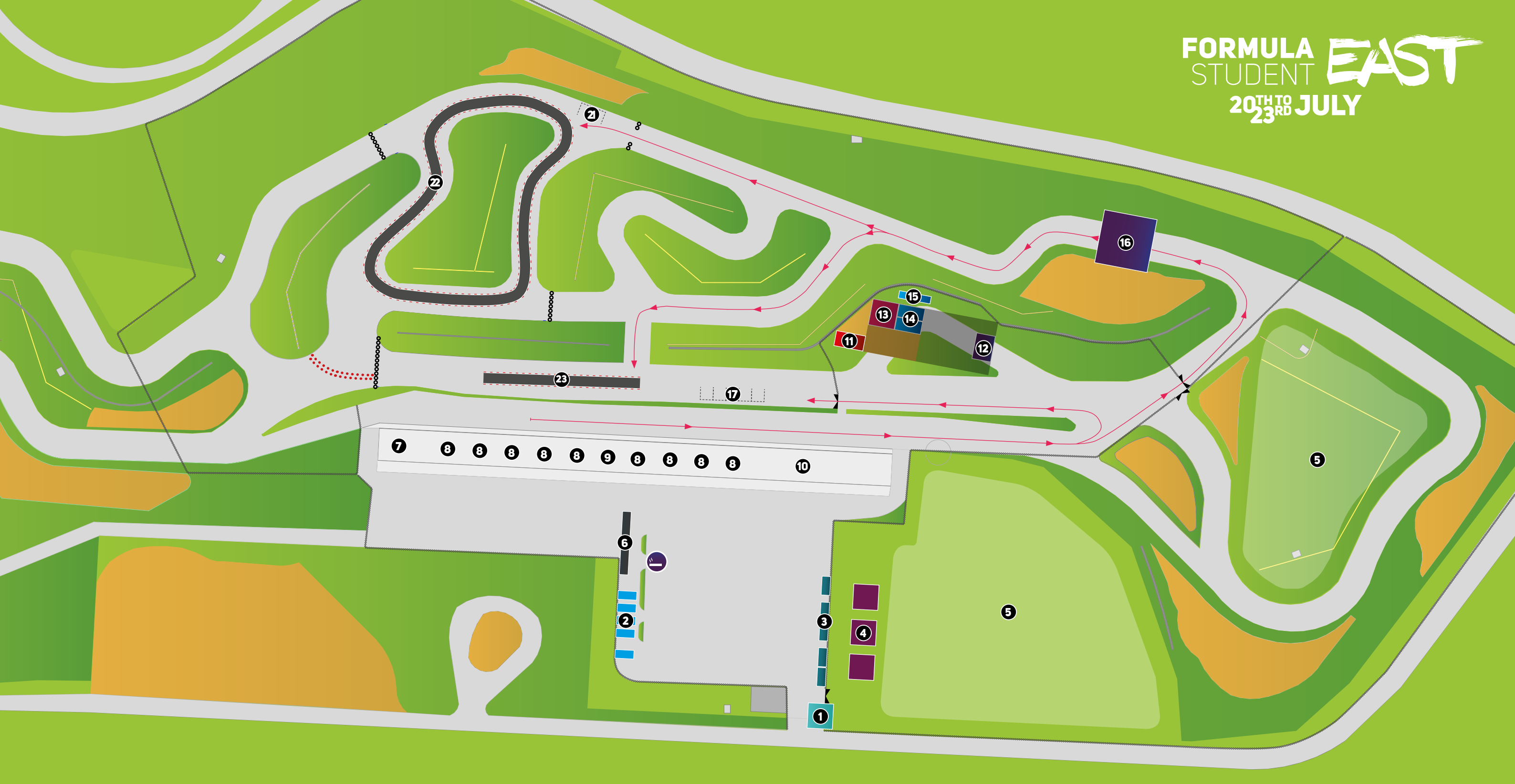
After leaving the event site turn left and get on the M5 highway.
Go straight ahead about 24 kms and take exit nr. 75 to Kecskemét.
Road 5 leads you to the city centre.
Keep following the road, and turn right at Március 15 street.
Keep ahead until the crossroads and turn left to Nyíri street.
Take a right turn at the first corner and the hospital is going
to be on your left.

BÁCS-KISKUN MEGYEI HOSPITAL



Address: 6000 Kecskemét, Nyíri street 38.
Phone: +36 76 516-700

47.671386, 17.649848

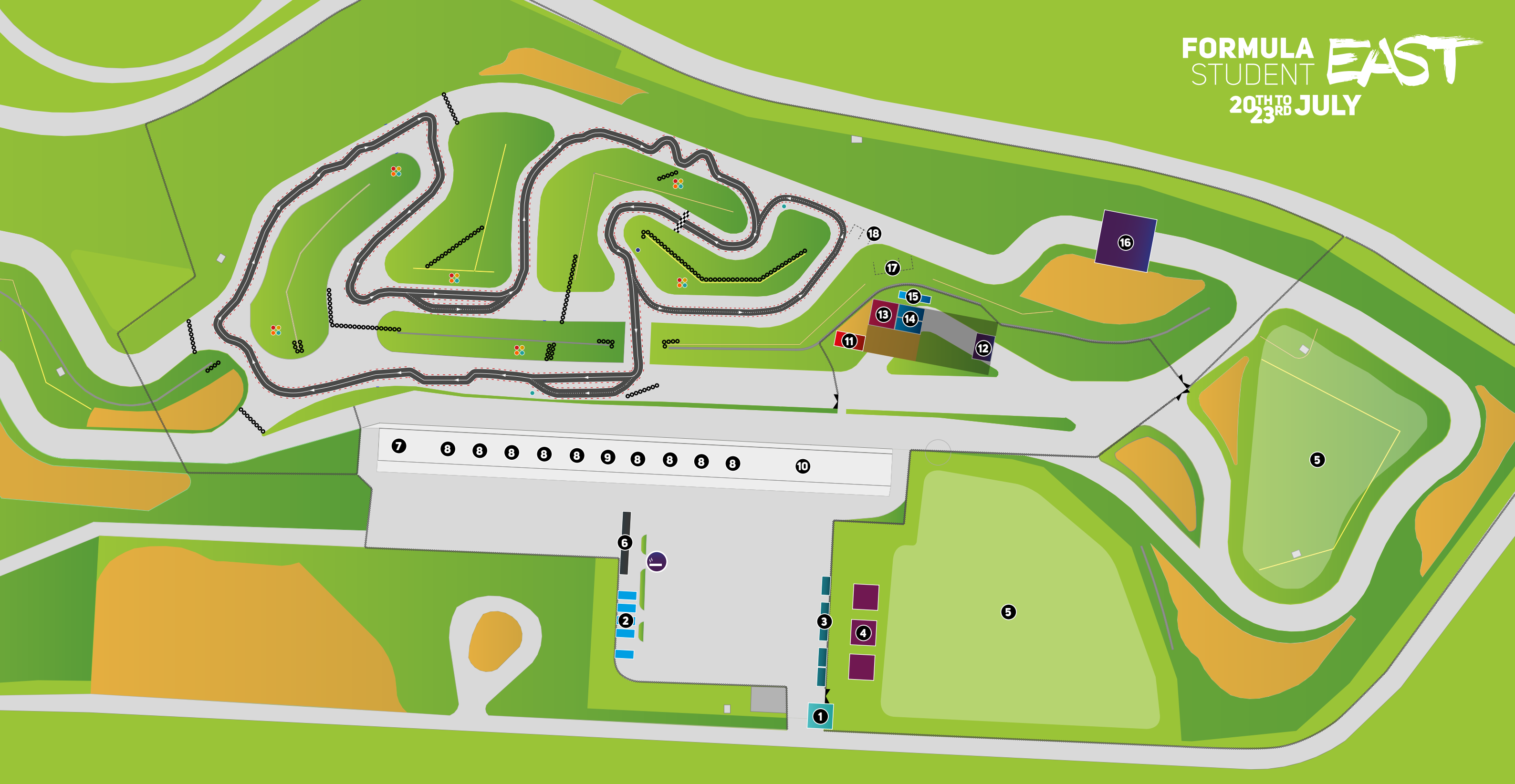


MAP LEGEND

- | | | | | | |
|---------------|-----------------------|-----------------------|------------------|-------------------------|------------|
| Green areas | Tyre wall | Capsite area | Sponsor stands | Tilt, rain & noise test | Break test |
| Sand | Track marshal outpost | Delft truck ;) | Concert stage | Driver change | |
| Asphalt | Ticket center | Charging area | VIP area | Acceleration | |
| Dynamic track | Shower & toilets | Team boxes | Catering | Skid pad | |
| Fence | Business containers | Welding & tyre change | Catering support | Engine test | |
| Cones | Official staff tents | EC & Rescue | Fuel station | Test track | |

DAY #1-2
20TH-21ST JULY 2017
THURSDAY - FRIDAY

- DAY #3**
22ND JULY 2017
NOON | SATURDAY



MAP LEGEND

- | | | | | | |
|---------------|-----------------------|-----------------------|------------------|-------------------------|------------|
| Green areas | Tyre wall | Capsite area | Sponsor stands | Tilt, rain & noise test | Break test |
| Sand | Track marshal outpost | Delft truck ;) | Concert stage | Driver change | |
| Asphalt | Ticket center | Charging area | VIP area | Acceleration | |
| Dynamic track | Shower & toilets | Team boxes | Catering | Skid pad | |
| Fence | Business containers | Welding & tyre change | Catering support | Engine test | |
| Cones | Official staff tents | EC & Rescue | Fuel station | Test track | |

DAY #4
23RD JULY 2017
FROM SATURDAY AFTERNOON

BOX ARRANGEMENT

The box arrangement is based on the registration order:

#	Teamname	Startnum	Engine type
1	CAT - Racing	70	ic
2	High Octane Motorsport e.V.	49	ic
3	BME Formula Racing Team	14	ev
4	KA-RaceIng	7	ic
5	Metropolia Motorsport	98	ev
6	KA-RaceIng e.V.	217	ev
7	eMotorsports Cologne	46	ev
8	AMZ Racing Team	33	ev
9	e-gnition Hamburg	78	ev
10	TUfast Racing Team e-Technology	21	ev
11	TUfast Racing Team Comustion	31	ic
12	Formula Student Team Delft	85	ev
13	TU Darmstadt Racing Team e.V.	69	ev
14	Team Starcraft e.V.	171	ev
15	TUW Racing - Rennteam der TU Wien	41	ev
16	Ecurie Aix Formula Student Team RWTH Aachen e.V.	w	ev
17	eForce FEE Prague Formula	67	ev
18	Arrabona Racing Team	79	ic
19	RIT Racing	1	ic
20	KEFO Motorsport	29	ic
21	GreenTeam Uni Stuttgart e.V.	26	ev
22	Formula Student Team Weingarten	60	ic
23	YTU Racing	34	ic
24	HTW Berlin Motorsport	38	ic
25	TU Brno Racing	74	ic
26	UJI Motorsport FS Team	12	ic
27	Akademische Motorsportgruppe Darmstadt e.V.	47	ic
28	Formula TU Ostrava	82	ic
29	HAWKS Racing e. V.	96	ic
30	Rennstall Esslingen	94	ic
31	Rennteam Uni Stuttgart	16	ic
32	Formula Dream Russia Moscow	252	ic
33	ATHENE RacingTeam e.V.	73	ic
34	UPBracing Team e.V.	58	ic
35	Bern Formula Student	107	ev
36	FaSTDa Racing	42	ic
37	STUBA Green Team	90	ev
38	CTU CarTech	30	ic
39	FSRUDN	87	ic
40	FS Team Tallinn	147	ev
41	UdG Racing Team	15	ic
42	Formula Electric MADI	677	ev
43	Formula ETS	50	ic
44	Evolution Racing Team Saar e.V.	25	ev

Obstructions	Team name	Car#	Fuel type	Pit	Team name	Car#	Fuel type		
Concrete wall									
Stairs									
Toilettes									
Concrete wall									
Charging area									
Charging area									
Charging area									
Passageway									
Concrete wall									
	Ecurie Aix Formula Student Team RWTH Aachen e.V.	199	ev	rear	24	front	BME Formula Racing Team	14	ev
	eForce FEE Prague Formula	67	ev	rear	23	front	Metropolia Motorsport	98	ev
	Bern Formula Student	107	ev	rear	22	front	eMotorsports Cologne	46	ev
	STUBA Green Team	90	ev	rear	21	front	AMZ Racing Team	33	ev
	FS Team Tallinn	147	ev	rear	20	front	e-gnition Hamburg	78	ev
	Formula Electric MADI	677	ev	rear	19	front	Formula Student Team Delft	85	ev
Concrete wall									
	Evolution Racing Team Saar e.V.	25	ev	rear	18	front	TU Darmstadt Racing Team e.V.	69	ev
	KA-RaceIng	7	ic	rear	17	front	KA-RaceIng e.V.	217	ev
Passageway									
	TUfast Racing Team Comustion	31	ic	rear	15	front	TUfast Racing Team e-Technology	21	ev
	Rennteam Uni Stuttgart	16	ic	rear	14	front	GreenTeam Uni Stuttgart e.V.	26	ev
	Akademische Motorsportgruppe Darmstadt e.V.	47	ic	rear	13	front	TUW Racing - Rennteam der TU Wien	41	ev
Concrete wall									
Stairs				Toilettes					
Concrete wall									
Welding					12	front	CAT - Racing	70	ic
Tire change					11	front	High Octane Motorsport e.V.	49	ic
	Formula TU Ostrava	82	ic	rear	10	front	Arrabona Racing Team	79	ic
	HAWKS Racing e. V.	96	ic	rear	9	front	RIT Racing	1	ic
	Formula Dream Russia Moscow	252	ic	rear	8	front	KEFO Motorsport	29	ic
Passageway									
Concrete wall									
	ATHENE RacingTeam e.V.	73	ic	rear	6	front	Formula Student Team Weingarten	60	ic
	UPBracing Team e.V.	58	ic	rear	5	front	YTU Racing	34	ic
	FaSTDa Racing	42	ic	rear	4	front	HTW Berlin Motorsport	38	ic
	CTU CarTech	30	ic	rear	3	front	TU Brno Racing	74	ic
	FSRUDN	87	ic	rear	2	front	UJI Motorsport FS Team	12	ic
	UdG Racing Team	15	ic	rear	1	front	empty box		
Concrete wall									
Tower									
Concrete wall									
Event Control									
Concrete wall									

SCHEDULE FOR THE STATIC EVENTS

[illegible]

FORMULA STUDENT EAST

20TH TO 23RD JULY

EVENT SCHEDULE

YES WE HAVE DAY #0

19TH OF JULY - WEDNESDAY

- 12:00 - 19:45 Team Registration & moving in to the pits
- 19:45 Pits close
- 15:00 - 20:00 Campsite Check-in & moving in to the FS Village
- 09:00 - 20:00 FS Alumni World Summit

ALUMNI WORLD SUMMIT

DAY #1

20TH OF JULY - THURSDAY

- 07:30 - 19:45 Ticket Center & Event site is open
- 07:30 - 19:45 Event Control & Driver Registration
- 09:00 - 18:00 Scrutineering
- Technical Inspection
- 10:00 - 18:00 Scrutineering
- @Dynamic Area
- Tilt, Brake & Noise test
- 11:00 - 18:00 Test Track open
- @Dymic area
- 16:00 - 16:30 Panoramic Photograph
- @Dynamic Area
- 18:00 - 19:00 Team Welcome presentation
- @Catering tent
- Greetings from the officials
- Basic information regarding the event
- 19:00 - 19:45 FS Village fun area opens
- Pits close

DAY #2 VIP & PRESS DAY

21ST OF JULY - FRIDAY

- 07:30 - 19:45 Ticket Center & Event site is open
- 08:00 - 08:30 Team Briefing
- @Catering tent
- 09:00 - 18:00 Scrutineering
- Technical Inspection
- 09:00 - 18:00 Scrutineering
- @Dynamic Area
- Tilt, Brake & Noise test
- 09:00 - 18:00 Test Track open
- @Dynamic Area
- 09:00 - 18:00 Static Events
- @Event Area
- Engineering Design Event, Cost and Sustainability Event, Business Presentation
- 19:00 - 19:45 FS Village fun area opens
- Pits close

SUPPLEMENTARY EVENTS

- 11:00 - 12:15 Press conference, VIP & Press Brunch
- @VIP tent
- 13:00 - 14:00 Vivien Keszthelyi Q&A
- @Audi stand

DAY #3

22ND OF JULY - SATURDAY

- 07:30 - 19:45 Ticket Center & Event site is open
- 08:00 - 08:30 Team Briefing
- @Catering tent
- 09:00 - 13:30 Test Track open
- @Dynamic Area
- 09:00 - 13:30 Scrutineering
- Technical Inspection
- 09:00 - 13:30 Scrutineering
- Tilt, Brake & Noise test
- 09:00 - 13:30 Skid Pad & Acceleration
- @Dynamic Area
- 14:00 - 14:30 Course Walk
- @Dynamic Area
- 15:00 - 19:00 Autocross
- @Dynamic Area
- 18:00 - Business Presentation Final
- @Catering tent
- 20:00 - Engineering Design Final
- @Catering tent
- 19:00 - FS Village fun area opens
- 19:45 Pits close

DAY #4

23RD OF JULY - SUNDAY

- 07:30 - 19:45 Ticket Center & Event site is open
- 08:00 - 08:30 Team Briefing
- @Catering tent
- 09:00 - 09:30 Course walk
- @Dynamic Area
- 09:30 - 17:00 Endurance & Parc Fermé
- @Dynamic Area
- with 1 hour lunch break
- 19:45 Event site & Pits close permanently
- (final deadline of moving out of the pits)
- 21:00 - 22:30 Awards Ceremony
- @FS Village
- 22:30 - 04:00 Farewell Party
- @FS Village

SCRUTINEERING ORDER

#	Teamname	Startnum	Engine type	Corrected submit time
1	CAT - Racing	70	ic	prereg
2	High Octane Motorsport e.V.	49	ic	prereg
3	BME Formula Racing Team	14	ev	prereg
4	KA-RaceIng	7	ic	2017 18th January 16:07:02
5	Metropolia Motorsport	98	ev	2017 18th January 16:07:34
6	KA-RaceIng e.V.	217	ev	2017 18th January 16:07:45
7	eMotorsports Cologne	46	ev	2017 18th January 16:08:04
8	AMZ Racing Team	33	ev	2017 18th January 16:08:16
9	e-gnition Hamburg	78	ev	2017 18th January 16:08:18
10	TUfast Racing Team e-Technology	21	ev	2017 18th January 16:08:21
11	TUfast Racing Team Comustion	31	ic	2017 18th January 16:08:40
12	Formula Student Team Delft	85	ev	2017 18th January 16:08:52
13	TU Darmstadt Racing Team e.V.	69	ev	2017 18th January 16:09:12
14	Team Starcraft e.V.	171	ev	2017 18th January 16:09:23
15	TUW Racing - Rennteam der TU Wien	41	ev	2017 18th January 16:09:33
16	Ecurie Aix Formula Student Team RWTH Aachen e.V.	199	ev	2017 18th January 16:09:48
17	eForce FEE Prague Formula	67	ev	2017 18th January 16:09:55
18	Arrabona Racing Team	79	ic	2017 18th January 16:10:00
19	RIT Racing	1	ic	2017 18th January 16:10:16
20	KEFO Motorsport	29	ic	2017 18th January 16:10:37
21	GreenTeam Uni Stuttgart e.V.	26	ev	2017 18th January 16:10:47
22	Formula Student Team Weingarten	60	ic	2017 18th January 16:10:56
23	YTU Racing	34	ic	2017 18th January 16:10:57
24	HTW Berlin Motorsport	38	ic	2017 18th January 16:11:06
25	TU Brno Racing	74	ic	2017 18th January 16:11:06
26	UII Motorsport FS Team	12	ic	2017 18th January 16:11:24
27	Akademische Motorsportgruppe Darmstadt e.V.	47	ic	2017 18th January 16:11:40
28	Formula TU Ostrava	82	ic	2017 18th January 16:12:28
29	HAWKS Racing e. V.	96	ic	2017 18th January 16:12:52
30	Rennstall Esslingen	94	ic	2017 18th January 16:12:55
31	Rennteam Uni Stuttgart	16	ic	2017 18th January 16:13:27
32	Formula Dream Russia Moscow	252	ic	2017 18th January 16:14:02
33	ATHENE RacingTeam e.V.	73	ic	2017 18th January 16:14:11
34	UPBracing Team e.V.	58	ic	2017 18th January 16:14:34
35	Bern Formula Student	107	ev	2017 18th January 16:14:34
36	FaSTDa Racing	42	ic	2017 18th January 16:14:37
37	STUBA Green Team	90	ev	2017 18th January 16:15:10
38	CTU CarTech	30	ic	2017 18th January 16:16:37
39	FSRUDN	87	ic	2017 18th January 16:17:10
40	FS Team Tallinn	147	ev	2017 18th January 16:17:24
41	UdG Racing Team	15	ic	2017 18th January 16:18:56
42	Formula Electric MADi	677	ev	2017 18th January 16:20:30
43	Formula ETS	50	ic	2017 19th January 00:46:12
44	Evolution Racing Team Saar e.V.	25	ev	-

ORGANISATIONAL ASPECTS

ARRIVAL TO THE EVENT SITE

Schedule: Wednesday, 19th July (from 12:00)
Location: Euroring, Örkény

ARRIVAL AND REGISTRATION FOR THE EVENT

Schedule: Wednesday, 19th July (from 12:00 to 19:00)
Thursday, 20th July, 8:00
Location: Ticket center

The first moment for the teams of Formula Student East is arriving to the venue, to the Ticket Center. Any member of each arriving team will get the team's own number - the number defines the queue for scrutineering - and the team's starter package (passes, armbands) in order of their arrival - this act is also the first step of the team's registration process. Our colleagues record your arrival, and give you any possible info about the next steps - parking, unpacking the trucks, moving into the camping site etc.

After you got your number and your starter package, our colleagues will help you guide you to your pit for unpacking. You may have to wait if the pit lane is busy. You will also get your truck and car pass stickers, at the Ticket Center, which you have to stick on all of your cars immediately. If you're not allowed to enter the event place immediately, our colleagues will show you the place to park your vehicle(s) and wait until you get the licence to enter.

During the other step of the registration procedure the team captains has to sign documents with standard terms. The team captain represents his/her own team with his/her signature. By accepting these documents 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.

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 5 more team members who can enter the charging area (altogether maximum 6 persons). The ESOs also have to sign the registration document. The ESOs have to be presented in the ESO Form.

ONLY the Team Captain is allowed to register his team. He can be accompanied by only ONE team member and by the ESOs! The Team Captain has to sign the registration document and will then receive an Event Handbook, a truck pass, and all passes for his registered team members. Please get ready for this procedure in advance for a more fluent registration. If the registration procedure is over then all team members are ready to enter Formula Student East.

SAFETY REGULATIONS REGARDING ENTRANCE

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

DRIVER REGISTRATION

Schedule: Thursday, 20th July from 9:00
Location: Event control

Each team has to register at least 4 drivers. The drivers has 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.

FIRE EXTINGUISHER HANDOUT

Schedule: Thursday, 20th 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 has to be returned to the Event Control by 19:00, 23rd July.

This is also the time when you get back your deposit for the extinguisher.

PARKING AND VEHICLE PASSES FOR THE EVENT

Every entering car has to ask for car pass at the Ticket Center immediately at arriving the venue. There are different parking places for different vehicles, please read our guide!

1. CAR PARKING (CAR PASS)

You can park your cars in our regular car park, at the 'Competitors parking' place. The parking spaces are limited, the spots are filled in first arrival queue. Every team who is parking their cars in the dedicated team parking zones has to have a valid car pass sticker on its front window. These stickers are handed out at team registration and also can be requested later at ticket center. You can only enter the event site with a valid car pass on your car. The car pass has 4 fields: team name, driver's name, cell phone number, car plate number. Each cell has to be filled out on the spot and stuck on the windscreen.

2. TRUCK AND TRAILER PARKING (TRUCK PASS)

Trucks only can be parked temporarily at the event car park for the time of unpacking. Later the trucks can be parked for the event days at the 'Truck and trailer park'. Please look up campsite parking section for details.

3. CARAVANS (CAR PASS)

The camping site can be approached by caravans as well. The caravans must be parked on the roadway nearby the camping place - our colleagues will inform you about the details. If you parked a caravan once, you're not able to move it until the end of the event!

ATTENTION: Only pre-announced caravans can park by the camping place! (Fill FS East 2017 Logistics Quiz!)

ATTENTION: If you want to sleep in your car, you need to know, that all the cars need to park in the 'Competitors parking' place!

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/caravan at the venue.

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

THE EVENT PARKING AREA HAS TO BE LEFT UNTIL 10:00 ON MONDAY (24TH OF JULY).

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

Useful contact: Nándor VARJU +36 31 784 2827
CONTACT INFORMATION

TICKET CENTER

Schedule: From July 19th, 12:00 to July 23rd 18:00
Location: Event site entrance

Teams and spectators, receive their passes for entering the venue at the ticket centre.

EVENT CONTROL

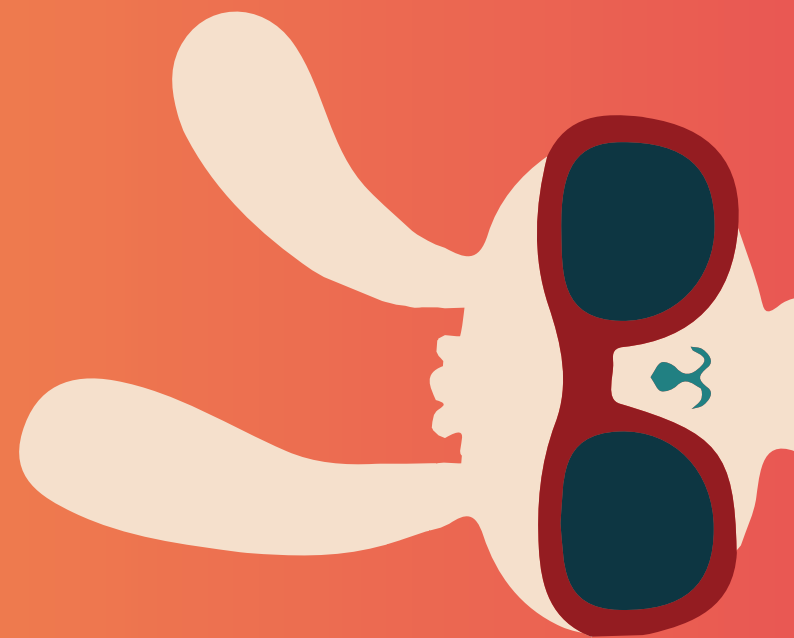
Schedule: from 20th July, 8:00 to 23rd July, 18:30
Location: Event control – middle of pitlane

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
- Fire extinguisher handout point
- Transponder handout point
- Energy meter handout point for electric teams
- Lost and found
- Feedback

GEORGE CLOONEY
IS COMING TO EAST
HELLO,
I AM
GEORGE



OFFICIALS (SELECTION)

At the venue, we will answer your questions directly. To contact us before and after the event, please write us via email at hello@fseast.eu (you can find the dedicated e-mail addresses on our website for specialized topics). The fastest and easiest way to communicate with us is on-site.



Alexander DUDÁS
Board | Technical Manager



Gergely LÁGLER
Board | Technical Manager



Tamás CSÜTÖRTÖKI
Board | Event Manager



Bálint HANULA
ET | E-scrutineering leader



Bence NÉMETH
ET | Mechanical scrutineering leader



Csilla SZALAY
EC | Static Events Leader



Dávid KISS
EC | E-scrutineering leader



Imola DEBRECZENI
EC | Business Event Leader



Markus KETONEN
EC | Engineering Design Event Final Leader



Máté BOGNÁR
EC | Dynamic Area Leader



Roland TARCSAI
EC | Manufacturing, Cost and Sustainability Event Leader



Tamás BERKECZ
EC | Score Counting Leader & Alumni World Summit Coordinator



Tamás LÉNÁRT
EC | Engineering Design Event Leader



Zoltán MAKAI
EC | SES & IAD Supervisor & Engineering Design Event



Zsolt BOJKOVSKY
EC | Event Control Leader



Ákos PAPP
OT | Dynamic Handyman



Álmos Dávid TÓTH
OT | Dynamic Area Coordinator



Anett PÓCZI
OT | Dynamic Area Organiser



Fruzsina KOVÁCS
OT | Dynamic Area Organiser



Orsolya SIMON
OT | Dynamic Area Organiser



Dániel VÁRNAGY
OT | Event Support Leader & Graphic design



Nándor VARJU
OT | Logistics Coordinator



Szandra HOFER
OT | Marketing & Team communication



Timea NAGY
OT | Event Coordinator



Zdena KROUPOVÁ
OT | Event Control Assistant



Attila BARATI
OT | Security Staff Leader



Benedek NAGY
OT | Speaker

OT | SCRUTINEERING

Ádám Szalai, Ádám Halmos, Ádám Szabó, András Ujjady, András Gugolya, Attila Gyenes, Balázs Varga, Bálint Herein, Bálint Károly, Barnabás Perenyei, Benjámin Bruncsics, Botond Csathó, Csaba Udvari, Dániel Csapó, Dávid Juhász, Desiree Schweitzer, Gábor Proksa, George Watson, Gergely Szabó, Viktor Rófös-Horváth, István Gajdos, Jan Klinger, János Tóth, Júlia Szilvássy, Károly Nagygyörgy, Kristóf Máté, Krisztián Szalai, László Treszkai, Leonard Georgala, Levente Szűr, Markus Nenzel, Márton Ádám Porkoláb, Péter Józsa, Péter Nagy, Philipp Bandow, Richárd Kléri, Sebastian Wawersig, Simon Bell, Stavros Patiniotis, Szabolcs Veréb, Zdenek Houf, Zoltán Bálint, Zoltán Schlenk, Zsolt Maftai, Zsombor Szalai

OT | BUSINESS EVENT

Imola Berkecz, Zoltán Varga

OT | EVENT SUPPORT

Andrea Illok, Dénes Varga, Henrietta Holló, Krista Arrasmith, Krisztián Bana, Krisztina Horicsányi

TRACK MARSHALS

Ádám Csuha, Ákos Kovács, András Horváth, András Nagy, Attila Gyuris, Bálint Károly, Bálint Ládi, Bence Glatz, Bence Pataki, Bendegúz Sass, Csaba Mikle, Dániel Füleki, Dávid Burkali, Eliz Illés, Gergő Soma Gallai, Habib Kirolos, Imbrahim Labib Youseff, Kinga Fazakas, Kinga Laskai, Kristóf Kovács, László Holik, Marcell Huszák, Mátyás Barta, Péter Sass, Réka Bálint, Roland Fábián, Roland Komlósi, Roland Székely, Szabina Kovács, Tamás Böszörményi, Tamás Rasovszky, Vivien Németh, Wilhelm Benedikt Friz, Zoltán Schlenk, Zsolt Bátkai

JUDGES

Ádám Czíkó, Ádám Szabó, Ákos Berceczky, András Székely, Anita Mekler, Árpád Kapitány, Attila Kovács, Balázs Varga, Balázs Jogg, Balázs Ifju, Balázs Scherer, Bálint Hanula, Bálint Szabó, Barna Hanula, Barnabás Perenyei, Bence Krausz, Benedek Szabó, Benjámin Bruncsics, Csaba Udvari, Csaba Gergály, Csongor Takács Udvari, Dániel Csapó, Dániel Fesztzy, Diána Szekeres, Domokos Szilágyi, Donát Csabai, Enikő Baracsi, Erzsébet Gariscsák, Eszter Molnár, Ferenc Forsthoffer, Gábor Paholics, Gábor Szűts, George Watson, Henrietta Holló, Igor Felc, Imola Berkecz, Imola Debreczeni, Imre Somogyi, István Varjasi, István Háber, Jan Klinger, Jani Hattunen, János Gál, Júlia Szilvássy, Kálmán Gergely, Krisztián Bana, Krisztián Dömötör, László Rumlper, Leonard Georgala, Mark Hoffmann, Markus Ketonen, Markus Nenzel, Márton Ádám Porkoláb, Miklós Szilágyi, Miklós Simon, Norbert Rajmon, Oliver Josef Richarz, Peter Krakow, Péter Nagy, Péter Brüller, Péter Kakas, Piotr Szymański, Richárd Kléri, Roland Tarcsai, Sebastian Wawersig, Shun Yao, Simon Bell, Stavros Patiniotis, Steffen Clement, Szabolcs Veréb, Tamás Berkecz, Tamás Lénárt, Tamás Turcsán, Tamás Jakubik, Viktor Mayer, Wojciech Nowak, Zdenek Houf, Zoltán Makai, Zoltán Weitzl, Zsolt Harkai

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 INFIELD TIMES

The pits are open from **Wednesday, 19th of July 12:00 to 19:45 and from 8:00 to 19:45 on every day until Sunday**. It is not allowed to stay or work in the pits any other periods.

Teams who remove their vehicle (EV and IC) or tractive system accumulator from the competition site after the competition has begun will be disqualified from the competition. **Violation of any of the above rules will result in a disqualification for the whole event.**

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 shaders at venue closing.

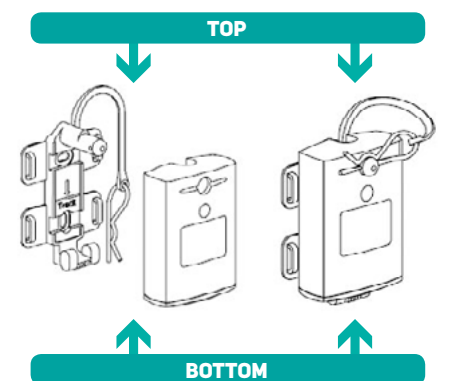
TRANSPONDERS AND TIMEKEEPING

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, & spectators) 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 on 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 Formulas Student East Village (the campsite) other rules apply for alcohol consumption.

FIRES AND SMOKING

No open fires are allowed in the pit area and in the engine test area. This includes BBQ grilles, 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 around the toilet containers and outside the ticket center.

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)

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.

For activities on the inactive tractive system, please keep to the following procedure:

1. Separate the car with a barrier tape, provided by FS East on request.
2. Remove the tractive system master switch.
3. Check that there is no voltage between the HV measurement points.
4. Open the HVD.
5. In case of leaving the car with TS parts accessible, install a sign that declares the car as electrically secured. Only the ESO who installed the sign may remove the sign and the barrier.

In case an activation of the tractive system in the pit is needed for testing purposes, please keep to the following procedure:

1. Separate the car with a barrier tape, provided by FS East on request.
2. The car must be jacked up and the driven wheels demounted.
3. One team member must be prepared to push an emergency button at any time.
4. Team members who take part in the measurement activities must wear compliant safety gloves and use appropriate measurement devices and tools.
5. The tractive system must only be active when it is necessary.
6. Opening the accumulator containers is only permitted in the charging area, not in the pits. Please read the applicable rules of the event handbook attentively.

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 !!

ENERGY METERS

The energy meters will be handed out at the Event control during opening hours, **in change for a 100 € deposit.** You have to install the energy meter in the car prior to E-scrutineering, according to the energy meter instructions available on the FS East website. The package contains all necessary crimps and connectors. You can ask our E-scrutineers for help with the installation.

The proper functioning of the energy meter will be tested during the second part of E-scrutineering. An E-scrutineer will read out your energy meter 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 FSAE 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 energy meter has to be removed from the car and returned to the event control, where you get back your deposit. Please note that if your energy meter 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 an energy meter failure during the endurance event. Any attempt to manipulate the intended function of the energy meter may lead to a disqualification from the entire event.

If you have any questions regarding the energy meter, please ask for the energy meter responsible at the event control.

WELDING

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

TYRES

FS East provides a tyre changing service, which is located in the pitlane. For details please look up the pit schedule.

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.

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 on the campsite and on 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 2017 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 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, energy meter...). 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.

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 (IC)

Location: see site plan

The fuel station will provide standard MOL fuel to each car as requested by the team (100+ Octane Racing 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:

1. All engines must be turned off; cars are to be pushed to and from fuelling.
2. Only the driver, wearing a driving suit, is permitted in the area as fuel is dispensed.
3. No mobile phones are allowed in the fuelling area.
4. The tank is to be filled to the fuel level line each time the car is refueled.
5. 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.

CHARGING AREA (EV)

Location: Charging Area – at the end of the pitlane (see site plan)

Opening of or working on the accumulator containers, including charging them, is only allowed in the charging 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 during E-Scrutineering may be used. Three phase 32 A sockets and single phase 16 A sockets will be available in the charging 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 with the maintenance plugs not removed.
- No more than four 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”.

Take extra care to keep your tools and thing in proper order. If you disturb other teams officials can ban you from the charging area.

TECHNICAL & SAFETY INSPECTION

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. E-scrutineering part 2
5. Tilt table test
6. Rain test
7. Brake test

IC CARS:

1. Mechanical scrutineering
2. ETC test (if applicable)
3. Tilt table test
4. Noise test
5. Brake test

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)

Location: in the pit of your team

The first part of the electrical scrutineering will take place in the pits, where 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:

- Accumulator charger,
- All accumulator containers to be used at the event,
- Accumulator container hand cart,
- Tools and protection equipment as defined in the rules,
- Laptop with connection to the AMS.

During scrutineering you have to show live cell voltage and temperature data from the AMS.

MECHANICAL SCRUTINEERING

Location: in the pit of your team

The mechanical scrutineering will take place in the pits, where scrutineers will check that your car fulfills 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: Laminare test specimen
- All driver suits and other safety gear: arm restraints, helmets, suits, gloves, eye protection, balaclavas, socks and shoes
- All the tyres you plan to use at the event
- 2 fire extinguishers
- Quick jack and push bar

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.

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.

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)

Location: Charging area, accumulator maintenance desks

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 inadvertences
- The AMS connections, the location of the thermal measurements, and the accuracy of the voltage measurements.
- The connection of the Energy Meter

You most have tthe 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)

Location: Electrical 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.

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.**

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)

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 (IC)

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 2017.
- 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.

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.

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.

AUTOCROSS

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

Red 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.

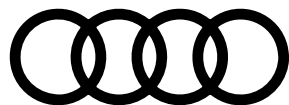
IMPORTANT: In order to have equal and fair conditions during the Endurance event at least 3 cars have to be on the track during the whole time of the Endurance event.
Therefore the Organisers will maintain a waiting queue of 3 teams. It is the team's responsibility to arrive in the waiting queue before 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.**

Audi
Hungaria



Audi Hungaria Stand activities 2017

**Audi bottled water
free to take!**

Audi Tattoos

Sunglasses & Sunscreen

**Popcorn bar
on friday & saturday**

Audi Chill Zone

**„Sign” the Audi Hungaria
Special Award 2017!**

CRAZY EXHIBITION CARS
R8 LMS ultra | Audi TT RS
RS3 Sedan | Q7

**Vivien Keszthelyi
comes to FS East**

This year's VIP guest at the Audi stand:
16-year old Hungarian racer girl VIVIEN KESZTHELYI!
Meet the racing prodigy of the Audi Sport Racing Academy at our stand
and inform yourselves about the world of DTM, Le Mans and Co.!

STATIC EVENTS

ENGINEERING DESIGN EVENT

Location: Team's pits (Engineering Design Event)
TBD (Engineering Design Final)
Date: 29th July (Engineering Design Event)
30th July (Engineering Design Final)

Formula Student East is an international design competition. This means that the design event is the most important static event. The winner of the design event will get 150 points.

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.

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 Carol 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

The Engineering Design Final starts at 20:00, Saturday, 30th July. There is no time limit in the design final. The design final are 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.

COST, MANUFACTURING AND SUSTAINABILITY EVENT

Location: Team's pits
Date: 21th July

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 CRD Discussion and the Real Case & Sustainability Presentation.

THE COST REPORT DOCUMENTS DISCUSSION

Three Cost Report Documents (CRD) were submitted to the competition website by two 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 REAL CASE & SUSTAINABILITY PRESENTATION

The Real Case & Sustainability Scenario was posted 3 weeks prior to the event. The teams are expected to give a 20-minute presentation on their results and solutions for the given problem during the Cost Event.

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 presentation of “Real Case & Sustainability Scenario”,
- 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 (BPPE)

Location:	Business Boxes (Presentation), Catering (Business Finals)
Date:	20th July (Presentation), 21st July (Business Finals-open to Visitors)

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 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 the executives. Teams have to keep in mind that the executives 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 2017 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 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.

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

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

Where:

- “ P_{MAX} ” is the highest score awarded to any team not participating in the finals
- “ P_{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.

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

A. 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.

B. 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.

C. 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.

D. Protest Format

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

E. Protest Bond

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

F. Decision

The decision of the officials regarding any protest is final.

Greetings from the East village!

CHECKING-IN TO THE CAMPSITE

Checking-in to the campsite is handled at team registration at the Ticket Center of the event venue from 15.00 PM on 19th July, Wednesday and all four days of the event between 7.30 AM and 19.00 PM.

In case you arrive before or after the opening hours of the ticket center, 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 FSEast 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 at 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

At the event site the camping place is limited. Based on the number of team members we provide a camping are between 150 and 300 square meters for each team. Please note that some constructions (kitchen tents, pools, football field, etc.) might not have a place to be built up.

PARKING IN THE CAMPSITE

Only pre-announced caravans and cars can park in the campsite. After parking the vehicles, you can move it only when you leave the event. Parking on the grass is strictly forbidden! You will get a sticker for your cars to assure that we're able to reach you on your cell if anything happens. Please note, that you can't park any cars in the Sleeping area and in the Social area.

ATTENTION: Make sure that your caravan or car is not dropping or flowing. Prevent it! Any additional cost caused by contamination is going be charged on the team.

COOKING, FIRES AND SMOKING

No open fires are allowed in the whole campsite area. This includes BBQ grilles, oxy-acetylene torches, heaters, cigarettes, etc. Smoking is strictly prohibited in the sleeping area, in all tents, in the parking slots, and in the toilet or shower containers. Smoking, cooking and BBQ (including electric cooking/grilling devices) is permitted only in the Fun&Grill at designated areas between 19 PM and 1 AM.

FOOD & DRINKS

The catering tent provides food and drinks on student-friendly prices all day as it remains open on the campsite after the event venue closes, so you'll be able to have dinner and snacks in the evening served by a warm kitchen. After a few bites you can slip a little. In the catering area we serve different kind of drinks including alcoholic and non-alcoholic beverages. You can pay with Hungarian forint or with Euro, in both cases you receive change in Hungarian forints. Please note that alcoholic drinks are forbidden on the event site - so just drink as much as you can "sleep out", to be perfectly fit for the next day.

BATHROOMS AND TOILETS

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

ATTENTION: The grass and other parts of the venue are not for sanitary issues! Only toilets are for that! Breaking this rule is going to be severely punished!

POWER SUPPLY

Please take it into consideration, that the electric network is planned to provide 2 kWh for each team to consume. If you may need more power to supply your devices, please let us know, and we will try to do our best to let you use them. (Thanks in the name of the organisers and the rest of the teams (:).

SECURITY

Our security guards check the wristbands and tickets when entering the Village all times. They're also going to secure the place at night. You're able to turn to them if you face an issue regarding your safety.

CHECKING-OUT FROM THE CAMPSITE

The campsite closes at 10.00 AM on Monday 24th of July at the latest, so please leave the premises of the FS East Village on time. Please note that you need to leave your own place in proper and clean condition.

Greetings from the East village!

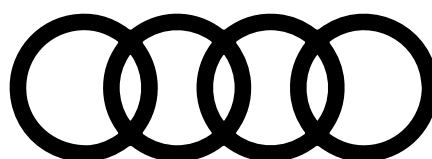
FS EAST VILLAGE RULES

Those teams who booked their accommodation and intended 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.

THANK YOU!

Audi
Hungaria



unicentral
C É G C S O P O R T



Aero
Metal



Formula Student East®
is organised by
EAHE Association

CHANGELOG

Version	Date	Modification	Page
1.0.0	13th July, 2017	Original document	-



Engineers for the Automotive
Higher Education Association

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