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VDI

Bezirksverein München  
Ober- und Niederbayern

# Technical and Sporting Regulations of the VDI Autonomous Driving Challenge



[www.vdi-adc.de](http://www.vdi-adc.de)

E-Mail: [adc@vdi-sued.de](mailto:adc@vdi-sued.de)

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## 1 Changes to previous releases

The following changes are made with respect to version v4:

- Changed regulation document to an english version only
- Added possibility to acquire ready-made car for both Cups
- Detailed dynamic disciplines
- Added dynamic disciplines: Lap Record, Pursuit Race.
- Added rule to use transponder
- Presentation session added
- Track specification chapter added

By the date of publishing this document, previous versions are no longer valid.

Munich, 4<sup>th</sup> May 2020

Your VDI Autonomous Driving Cup Team

## 2 General

The aim of the VDI Autonomous Driving Challenge is to give students the opportunity to gain experience in the modern field of autonomous driving and to prepare for future challenges together with other students in this competition.

To combine the ideas, demands and emotions of everyday driving and motorsport a set of disciplines and characteristics has been defined to form the Competition. The combination of disciplines derived from everyday driving on one side and from motorsport genes on the other is providing an interesting and highly self motivating base for any kind of technical and engineering competition. The VDI Bezirksverein München, Ober- und Niederbayern is the owner of the rights for this regulations.

Any points not expressly permitted in these regulations are prohibited unless the owner of the regulations has certified them.

### 2.1 Competition

The competition takes place on a circuit that has a lot of similarities to a real-world racetrack. The vehicles on a scale of 1:8 must not differ in their essential aspects (shape, geometry, height, etc.) from their derived originals. To adopt to possible different focus of competitors two classes inside the Competition are defined (see 2.2).

The Competition itself is divided into so called static and dynamic disciplines. The static disciplines cover the judging of engineering concepts and processes while the dynamic disciplines covering all driving activities. Some of the dynamic disciplines are derived from real-world applications of autonomous driving cars while others have their origin in motorsport. This two folded approach allows to consider a lot of different aspects of autonomous driving cars and also address the spirit and emotions of sport and competition. The area of real-world driving discipline covers, but not limited to parking and so called connected drive scenarios. The motorsport disciplines are focused on gaining consistent short lap-times. Both competition areas are subject to get involved to be prepared to introduce new ideas and to allow event organizers to adopt to his special needs.

### 2.2 Competition Classes

The competition is divided into two classes. Both classes follow perform the identical competition disciplines and are build on electric powered 1:8 scale model cars. However, they distinguish in the allowed degree of freedom concerning their hardware specifications. The classes are named VDI Cup and VDI Super Cup.

When register for a competition, the appropriate class must be chosen by the competitors.

### 2.3 VDI Cup

The VDI Cup car specification is simplified to allow a low threshold entry into the competition. Ready to run kits are available from MdynamiX, that include a basic application and access to tutorials and how-to's to allow a rapid development.

### 2.4 VDI Super Cup

The VDI Super Cup gives more degrees of freedom concerning the hardware specification of the car. Generally spoken almost all kind of components are allowed to be used. However, to prevent undesired high expenses the Super Cup cars need to be certified or homologated by the owner of the VDI-ADC Regulation. Therefore, it is strongly recommended to get in touch with the VDI long beforehand developing a car for this class.

Just as for the VDI Cup, MdynamiX offers a high-performance kit for the VDI Super Cup. This kit offers a high potential for any kind of control strategy and is already homologated.

## 2.5 Events

Competition events are organized several times a year. The corresponding calendar, including deadlines for registration is published on the website <http://www.vdi-adc.de>.

Before a Competition, there may be a pre-meeting online or onsite. The aim of this pre-meeting is to present the track at the venue that is similar or equal to the competition track and has its equivalent to a shake-down session in real world motorsport. The actual event is scheduled for one day.

## 2.6 Participation Fee and Deposit

For the registration, a deposit of 100€ with the team name must be transferred to a bank account defined by the organizer. The deposit will be refunded upon participation in the competition.

## 2.7 Participating Teams and Competition Vehicles

All teams must consist of a group of two to ten team members. Each team member must be enrolled at a school, college, or university. Several groups, coming from the same educational institution are possible. Groups that do not meet this definition can be accepted and are subject to the decision of the organizer.

In any case the team members have to be declared by name at the point of registering for an event.

Not more than one vehicle per registered team is allowed to start at a competition. Each team can present one spare vehicle (T-car) for its group. In this case both cars have to be technical identical.

# 3 Disciplines

## 3.1 General

Each team has to declare by name one of its members to be the team representative. This team member will be the contact person for the Jury for all disciplines. The person who is acting as team representative may change only from the Static to the Dynamic Disciplines.

The time table and order of the disciplines is announced in the team briefing on the day of the latest Competition. There may be a preannouncement in the event invitation. If a team cannot compete in one of the disciplines, it will not receive any points for it. If a team fails to perform well in a discipline, the Jury has the possibility to reduce the score of the achieved points to a minimum of one point. To attend the Static Disciplines is mandatory to follow the Competition. Each Discipline is rated separately. The distribution of points is given in the description of the different disciplines.

The Jury has the exclusive right to set the number of awarded points. On request by a team representative the Jury will explain its decisions. However, the decisions of the Jury cannot be questioned.

## 3.2 Static disciplines

### 3.2.1 Procedure

The teams present to the Jury their vehicle concepts. The model car that is meant to be used in the competition has to be brought with. The Jury evaluates the concept with regard to sections below. The duration of the team's presentation should take approximately 10 minutes. All team members has to be present. The presentation is followed by questions asked by the Jury. The Jury is allowed to ask the team to dismantle the car. The type of media, used for the presentation, is free to the teams. It's recommended to clarify with the organizer beforehand.

### 3.2.2 Software Concept

All relevant codes and algorithms should be presented in a comprehensible way. The idea as well as the implementation and application will be evaluated. If exist, difference between the dynamic disciplines need to be pointed out. The Jury can award a maximum of 50 points for each competitor.

### 3.2.3 Hardware Concept

The selection and interaction of the different components must be shown and explained in relation to the use in the dynamic disciplines. The Jury can award a maximum of 50 points for each competitor in the VDI Super Cup class and 30 points in the VDI Cup Class.

### 3.2.4 Design

The installation of the components and the external appearance is evaluated regarding installation and functionality quality as well as optical appearance. The Jury can award a maximum of 50 points for each competitor.

## 3.3 Dynamic Disciplines

### 3.3.1 Preconditions

Aspects that are violating the spirit or writing of the technical regulations must be removed immediately after being identified. In this case the Jury will inform the team representative accordingly. If parts of the Competition already has been completed the Jury reserves the right to raise a penalty, by reducing the number of awarded points, because of it. The Jury reserves the right to exclude model cars and teams from the ongoing Competition if the identified items are violating the regulations in an unacceptable way.

If not otherwise noted the performing car setup and software has to be unchanged during different attempts of each Dynamic Discipline. The use of the T-car has to be granted by the Jury.

The actual discipline may be pre-set in the vehicles control unit.

The movement of the model car is initiated in each discipline either manually or by a remote signal. In both cases it is initiated by the team representative upon Juries request. This request defines the start of the discipline.

For the disciplines where timing results are relevant an automate stop-watch system is used.

The Jury keeps the right to declare the discipline for the currently performing car to be finished at any time.

The pit-lane, parking spot locations, pit-stop area, acceleration race strip, circuit and connecting lanes scenario is described in the appendix.

All disciplines have to be performed by the model car autonomously. Nevertheless, the wireless or wired emergency stop mechanism has to be active all the time and operated by the team that is running the corresponding car. The Jury or the team representative are in power to command an emergency stop. A functional check of the emergency stop mechanism is performed at the beginning of the Dynamic Disciplines and upon request by the Jury at any time during the event.

The points system is structured as follows: the first place in a discipline is awarded the max. amount of points defined. For the other competitors eligible for scoring points the following rule is enforced.

$$P_R = P_{max} \cdot \left[ 1 - \left( \frac{R - 1}{N + 1} \right) \right]$$

$P_R$ : Points for the Rank

$P_{max}$ : maximum reachable points

$R$ : Rank

$N$ : number of qualified teams

### 3.3.2 Pit lane entrance and parallel parking inbound

The goal of this discipline for the competition car is to autonomously enter the pit-lane, coming from the circuit, and position itself in one of the available parallel parking spots.

- The Jury places the performing vehicle on the circuit at least 5m meters ahead of the sign 'pit lane entrance' and requests the start.
- A maximum duration of 120sec, beginning from the Jury's start request, for this discipline is allowed.
- As soon as the vehicle has reached its final position, the manoeuvre is declared to be finished. The position is understood to be final if the car is in the pit-lane is not moving for more than 10sec, a team representative is declaring it or the maximum time for this discipline is exceeded.
- Each team has up to three tries. The circuit and pit-lane setup is not changed between them.
- The Jury awards up to 20 points for each competitor.



### 3.3.3 Parallel parking outbound and pit lane exit

The goal of this discipline is to leave a parallel parking spot, followed by leaving the pit-lane autonomously. Possible surrounding traffic has to be considered to strictly avoid accidents.

- The Jury places the performing vehicle in a parallel parking spot of the pit-lane and requests the start.
- A maximum duration of 120sec, beginning from the Jury's start request, for this discipline is allowed.
- After leaving the park position, the vehicle must enter the circuit via the pit lane exit.
- At any time during the discipline, other vehicles that are manually controlled by members of the event organization, may share the pit-lane and the circuit. These vehicles always have right of way and the vehicle performing the discipline must avoid accidents. While the pit-lane exit is covered by a traffic light system that has to be respected the pit-lane is not.
- After driving onto the circuit, the vehicle must be stopped by the team representative upon request of the Jury. The stop command has to be issued by a remote control by one of the team members.
- There will be no communication between the performing vehicle and any manually controlled ones.
- If necessary, the performing vehicle can come to standstill during the manoeuvres.
- As soon as the vehicle has entered the circuit and the Jury ask to stop the performing car the discipline is closed. Alternatively, the discipline is closed if the team representative is declaring its finish or the maximum time for this discipline is.
- Each team has up to three attempts. The circuit and pit-lane setup is not changed between them.
- The Jury awards up to 20 points for each competitor.

### 3.3.4 Pit lane entrance and cross parking inbound

The goal of this discipline is to autonomously enter the pit-lane, coming from the circuit, and position itself in one of the available cross parking spots.

The procedure is similar to the parallel inbound parking (see 3.3.2) beside the parking spot is aligned orthogonal to the pit-lane driving directions.

The Jury awards up to 20 points for each competitor

### 3.3.5 Cross parking outbound and pit lane exit

The goal of this discipline for the competition car is to leave a cross parking spot followed by leaving the pit-lane autonomously. Possible surrounding traffic has to be considered to strictly avoid accidents.

The procedure is similar to the parallel outbound parking (see 3.3.3) beside the parking spot is aligned orthogonal to the pit-lane driving directions.

The Jury awards up to 20 points for each competitor

### 3.3.6 Acceleration Race

The goal of this discipline is to drive through a given straight from a standstill position as fast as possible. The acceleration race is carried out on the longest straight of the course. The organizer of the event defines an appropriate length of minimum seven meters. Each competition vehicle has stay inside the track limits. For the run-off area, the lane markings may be crossed.

- The Jury places the performing vehicle at the start position of the acceleration race discipline and requests the start.
- Each team has up to three attempts. Between the Jury's start request and the first attempt a maximum of 60sec delay is allowed. Between the attempts a maximum of 60sec is allowed that is measured from passing the end of the acceleration strip of the current attempt to passing the start of the acceleration strip of the following attempt.
- The wireless or wired emergency stop mechanism has to be activated after crossing the finish line, as described in 3.3.1.
- The fastest drive through is awarded with 20 points. Points are given as described in 3.3.1.

### 3.3.7 Time Trial

The goal of this discipline is to gather as many laps on the main circuit as possible during five minutes.

- The Jury places the performing vehicle either in the pit-stop area of the pit-lane or in front of the starting lane and requests the start.
- The team can decide between the start positions. For a start out of the pit stop area the team will achieve 5 point regardless of the Rank in the discipline.
- The five minutes duration is started either when the model car is crossing the start/finish line or one minutes after the Jury requested the start.

- The discipline lasts over the five minutes plus the time to complete the lap that is started before the end of the five minutes.
- In case two or more competitors complete the same number of laps the one, which completes its laps in shorter total time, is placed first. The duration between the end of the eight minutes duration and the final crossing of the start finish line is called overhang time.
- A lap is considered to be correctly driven if the model car is following the track and not leaving the track with more than the two wheels of one side of the vehicle at the same time.
- If the model car is leaving the track with more than two wheels the Jury will set a penalty time for the lap that the failure occurred.
- Each team has two attempts. The one with the highest number of valid laps is the attempt that is considered for the point allocation. In case of two attempts leading to the same number of laps the one with the shorter total time is chosen.
- If the model car is leaving the track or shortcutting parts of it, it is necessary to reposition it manually. The repositioning is only allowed by team members or staff working for and authorized by the event organizer. An offset to the reverse to the driving directions (e.g. to a straight element) is allowed, an offset towards the driving directions not. The reference point is the point of departure from the track. In case of doubt, the Jury owns the right to define the position.

The team members and staff that is authorized to reposition a model car have to stay in marked areas. The organizer defines the areas by judging potential critical parts of the track and guaranteeing that the marked areas are safe for the people working inside.

- Several categories are awarded within this discipline:
  1. Highest number of completed laps:
    - The ranking to award points in this discipline spans from the most successful car to the ones that complete at least 40% of the highest number of laps completed.  
For the calculation of the minimum number of laps needed the fractional part is ignored.
    - The competitor with the most completed laps gains 50 points. Points are given as described in 3.3.1.
  2. Fastest lap-time:
    - 10 points are awarded to the competitor, regardless his overall result in this discipline, that scores the fastest lap-time. Just the five fastest laps times are awarded points.
  3. Consistent lap-times:
    - The competitor that is within the group that with the smallest deviation between his lap-times gets 10 points. Just the five fastest consistent lap times are awarded points.

### 3.3.8 Lap Record

The goal of this discipline is to complete a full lap, within a seven minutes period, as fast as possible.

- During the discipline and changes to software and hardware may be made. For this setup changes the car need to stop in a specific area.
- The Jury places the performing vehicle either in the pit-stop area of the pit-lane or in front of the starting lane and requests the start.
- The team can decide between the start positions.
- If the starting position is selected from the starting lane, the car is allowed to stop in a marked area on the track for setup changes.
- If the starting position is selected from the pit lane, the car has to stop in the pit lane again for setup changes. The pit-stop area is defined in appendix y. For this higher difficulty the team will get a benefit: the fastest driven lap time will be multiplied by 0,95
- Entering the pit-lane has to be performed by the model car autonomously by reading the 'enter pit-lane' sign. The sign is described in the appendix y. The sign will be set by the team, when they want their car to enter the pit lane.
- Either the seven minutes duration is started the first time the model car is crossing the start/finish line or three minutes after the Jury requested the start.
- The definitions for a correctly driven lap and possible manual repositioning are identical to the discipline 'Time Trail'.
- A restart, either manually or remote, from the pit-stop area is allowed any time during the seven minutes duration.
- Every lap that started within the time limit of seven minutes is considered.
- The team whose model car has driven the fastest lap time receives 30 points.

### 3.3.9 Pursuit Race

The goal of this discipline is to conduct a pursuit race where the aim is to catch the opposing car. The race is terminated when 10 laps have been completed, one car catches or overtakes the other one, or the-time limit of 6 minutes is exceeded.

The race takes place on the short circuit. It is defined in the appendix.

- Two model cars from two different teams compete against each other.
- The selection of the two competing cars is done by qualification over the 'Time Trail'.
- Just  $2^{\lfloor \log_2 n \rfloor}$  teams can qualify for the 'Pursuit Race'. n is the total number of teams. This procedure ensures that the number of races tally.
- For example, if 8 teams are qualified for the pursuit race the first, the second, the seventh and eighth Rank of the time trail come in one group the rest in another group. In each group the matches will be decided in a lottery. The winning teams of group 1 are driving against each other and the teams of group 2 do the same. The winners will compete in the final.
- The Jury positions one car right before the start finish line, while the other is placed exactly at the half of the distance of the circuit and requests the start.
- Right after the start request of the Jury, the model cars try to catch up each other.
- If the trailing model car manages to pass the start finish line within 1sec after the leading one the trailing one wins the race. This is described as catching if performed successful.
- If one car can catch the other it might initiate an overtaking maneuver. Overtaking is only allowed on straights between the signs 'overtaking zone start' and 'overtaking zone end'. The signs are described in appendix y.
- After a completed overtaking maneuver, the race is over. The overtaken car lost.

- It is permitted that during the overtaking maneuver the overtaking car can leave the track limits with all four wheels in the overtaking zone.
- If a car leaves the track in context to a driving mistake, it may be replaced on the track again by team members. The rules for the position of the team is equal regulated as in the 'Time trail'.
- If no car catches up the other on the shorter time for completing the 10 laps wins.
- If in the time limit of 6 minutes no car can complete the requested amount, the car with the higher number of driven laps win. If the number of laps is equal, the one with the shorter time wins.
- In this competition, there are several rounds to play. After completing a game in one round, the winner advances to the next round, where only half of the players of the last round remain. This procedure is repeated until only one player – the winner – remains.
- The winner is awarded with 70 points.
- For a successful overtaking manoeuvre, the performing model car is awarded 30 extra points.

## 4 Track specifications

### 4.1 Driving lane

- The track consists of one lane, which is kept dark colour (if possible black).
- The track dimensions and the example of a circuit is given in appendix 4.3.
- The smallest inner radius is 250mm, the largest outer radius is 4000mm.

For a detailed geometric definition of the track see appendix 4.3.

### 4.2 Lane boundaries and markings

The track limit marking and all other types of lane marking is defined as a white stripe of 50 mm width.

### 4.3 Track Layout

The racetrack is composed out of three main segments. The pit lane area (2), the short circuit, and the main circuit (4). While the pitlane area is more precisely defined (see chapter 4.4), the layout of the main circuit rests open until the final event takes place. The main circuit is about 50 to 100 m long. The width remains at 750 mm constantly throughout the main circuit and is composed by one lane only. The track is constituted out of straights, curves, and chicanes. The fictitious middle line of straights is geometrically defined by a line. The middle line of curves is geometrically defined by a circular arc. The smallest possible inner radius of the circular arc is 250 mm, the largest possible outer radius is 4000 mm. Chicanes in this competition are all elements whose middle line's beginning tangent is parallel to its ending tangent. All elements can be combined by connecting the ends of the middle lines tangentially to each other.

The short circuit, where the pursuit race takes place, is composed out of the same geometric elements as the main circuit. The short circuit is about 20 to 40 m long. The short and the main circuit can share one segment of a road. In this case, lane boundaries at the intersection point are attached and replaced according to the track the discipline takes place in.

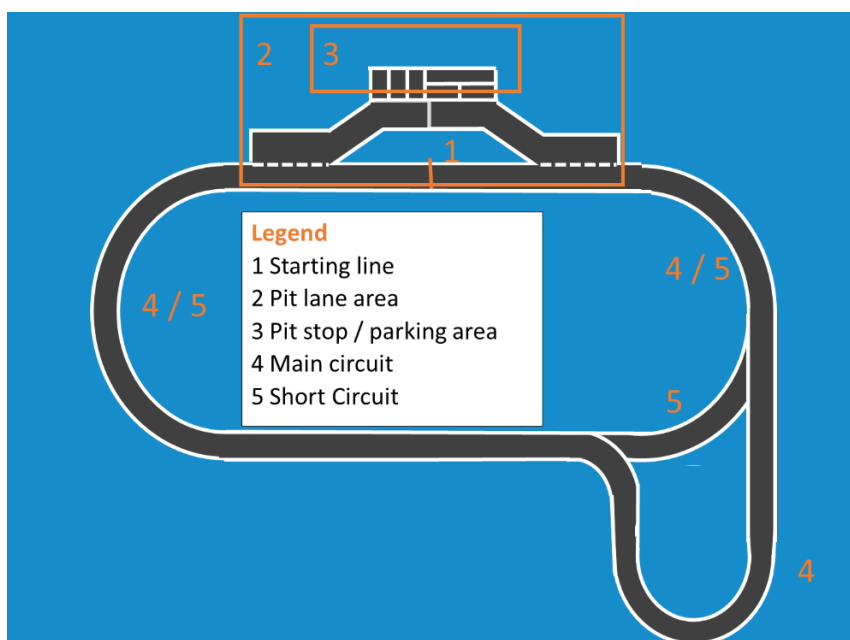


Image 1: Exemplary racetrack containing all relevant elements (not to scale)

#### 4.4 Pit Stop Area

The entrance to the pit stop area is positioned at the right-hand in relation to the travel direction of the main track. The main track is completely straight beginning at least 3 metres before the pit lane entrance and ending 2 metres after the pit lane exit. A detailed geometric definition of the entrance is given in Image 2. All visible lines in Image 2 are of width 50mm. The dashed line can be passed completely and is positioned for better navigation. The pit lane exit is a mirrored copy of the entrance. The 550 mm width of the track refers to the inner-to-inner distance between the to lane markings.

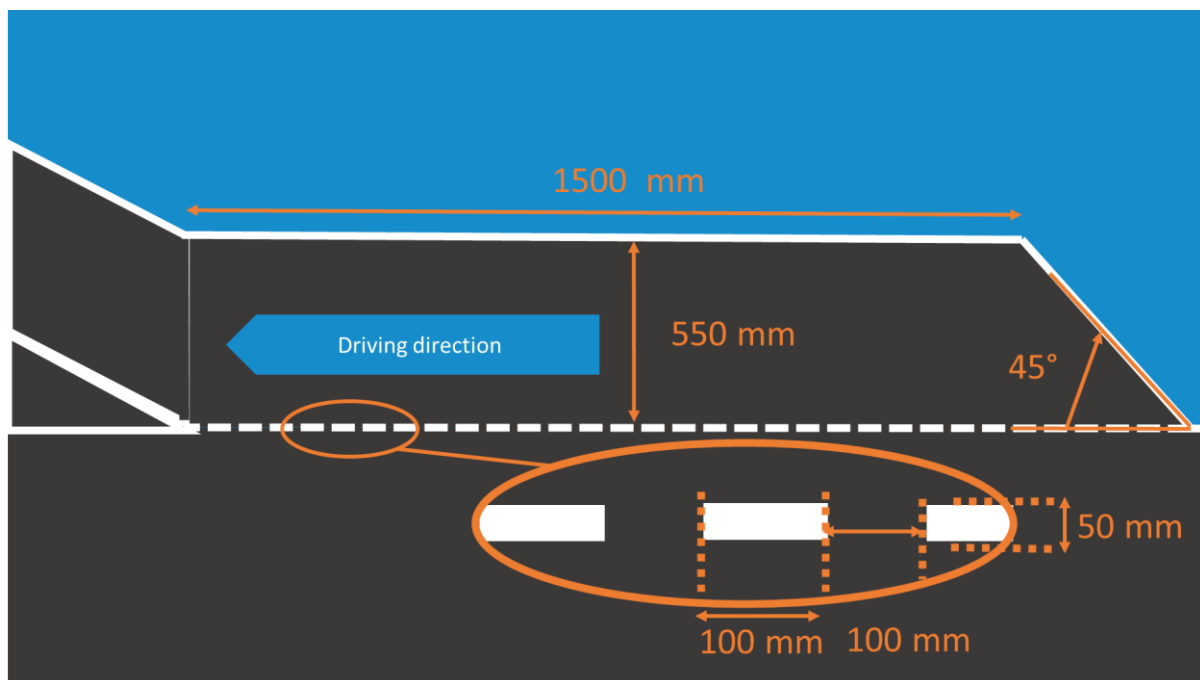


Image 2: Pit lane entrance (Image not to scale)

While the main pit lane is completely straight and parallel to the corresponding part of the race track, the pit lane entrance as well as the pit lane exit are connected to the pit lane by a chicane. The chicane is not further specified (the width of the track remains 550 mm constantly).

Starting with the main part of the pit lane, different parking spots are positioned along on the right-hand side in traffic flow direction. The longitudinal parking spots will always be placed first. There are three or more parking spots for both longitudinal and perpendicular parking. In both cases obstacles like other model cars or white Boxes will be positioned on different parking spots, so that at least one free parking spots remains free for each type of parking. The parking area is limited by a dashed line that can be crossed. At the end of the perpendicular parking spots there is positioned a dark wall of at least 300mm height.

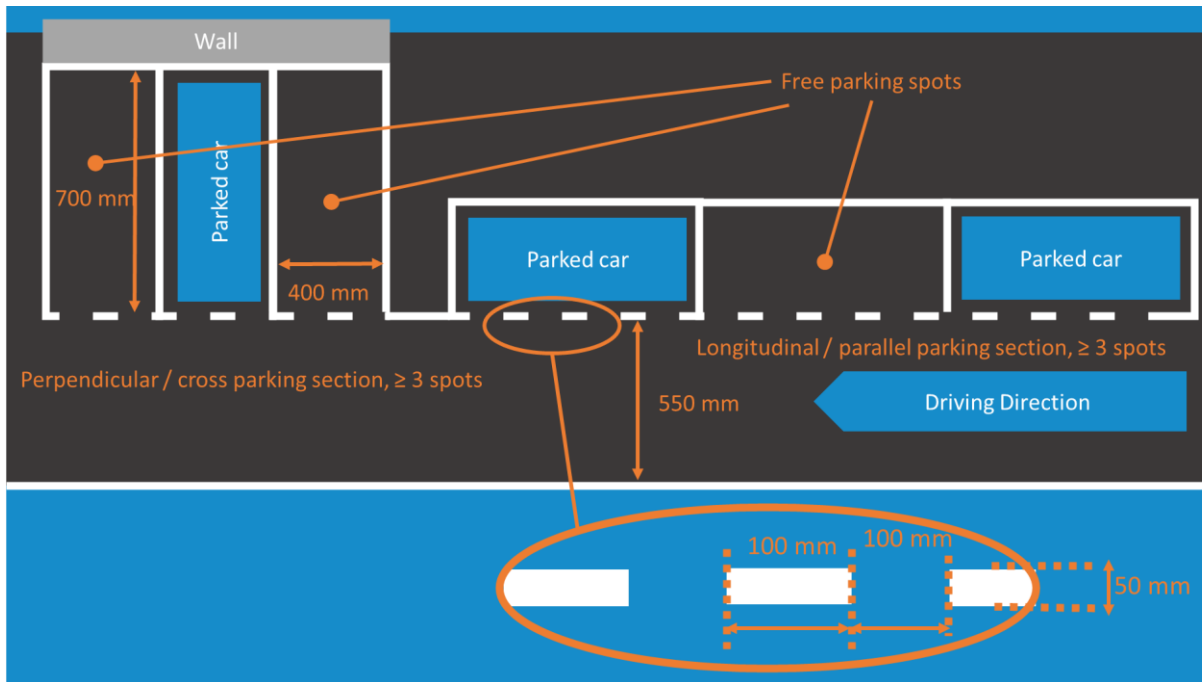


Image 3: Pit lane and parking positions (Image not to scale)



#### 4.5 Signs

The following contains a collection of mentioned Signs in chapter 3. All images of signs are not to scale

The sign *Enter Pit Lane* can be placed manually by the team, when the team desires that the car enters the pit lane for a pit stop. The sign is to be positioned 100mm before the actual pit lane entry. In some disciplines, performing this task successfully allows achieving additional points.

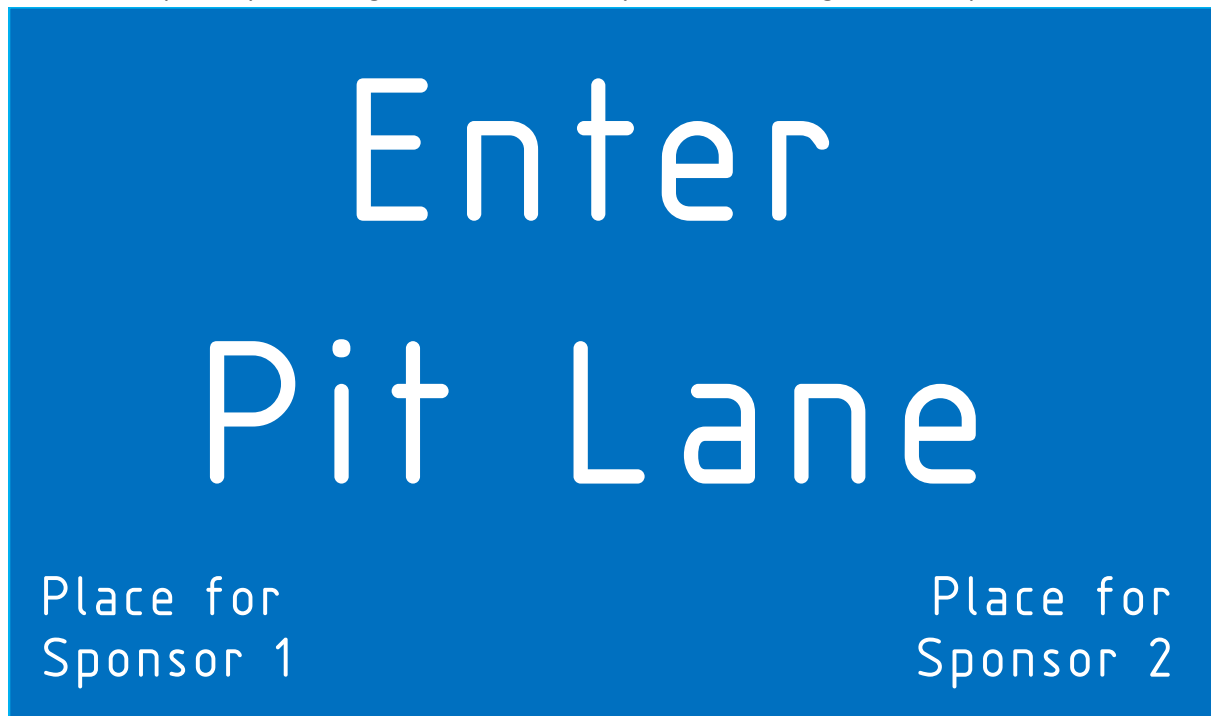


Image 4: Sign enter pit lane (Image not to scale)



Image 5: Sign beginning of cross parking zone (Image not to scale)



Image 6: Sign beginning of parallel parking zone (Image not to scale)

The signs Cross Parking and Parallel Parking are placed 100 mm before the start of the respective parking zone. More precisely, the distance of 100 mm refers to the distance between the nearest marking line from the first parking spot of the respective parking zone.



Image 7: Sign overtaking zone start (left), overtaking zone end (right) (Images not to scale)

The two signs *overtaking zone start* and *overtaking zone end* represent the end and the beginning of the area, where an overtaking maneuver can be initialized. A maneuver counts as initialized when a section of the overtaking car overlaps with a section of the overtaken car. An overtaking maneuver is allowed when it was initialized at a moment where at least a section of the model car was between the two signs.

## 5 Technical Specifications

The choice of components is free, if not explicitly mentioned otherwise.

### 5.1 Vehicle chassis

Model vehicle approx. scale 1:8, road vehicle silhouette. The use of the specification INFERNO GT2 VE RACE SPEC from Kyosho (e.g. EAN: 4548565322169) is mandatory. Other vehicle chassis can be approved after testing if necessary. In principle, the values for the electric drive of the above-mentioned model may not be exceeded or changed.

The bodywork can be broken through locally for the installation of the camera and sensors, however, a strong deviation from the original design due to add-on parts can lead to a deduction of points or even disqualification if the installation is not in accordance with the rules.

If you have any questions, please contact [adc@vdi-sued.de](mailto:adc@vdi-sued.de).

### 5.2 Vehicle dimensions

The maximum permitted vehicle dimensions for both classes shall be complied with as follows:  
width: 320 mm; height 250 mm; length 650 mm.

All components shall be accommodated within these dimensions.

### 5.3 Tyres

#### 5.3.1 VDI Cup

In the VDI Cup the KYOSHO EUROPE K.IGT00 tires are mandatory for all participating vehicles (regardless of class).

#### 5.3.2 VDI Supercup

In the VDI Supercup the specification of the tyres is not prescribed.

### 5.4 Single board computer

#### 5.4.1 VDI Cup

Board: Nvidia Jetson Nano

#### 5.4.2 VDI Super Cup:

Choice is open.

### 5.5 Microcontroller

Open; Teensy 4.0. recommended

### 5.6 Sensors

- Four cameras maximum. Stereo cameras are interpreted as 2 cameras.
- Maximum 10 ultrasonic sensors.
- Maximum 2 6DOF motion sensors (only MEMS technology is allowed).
- Wheel speed sensor (own constructions are possible).
- LIDAR (the LIDAR system may cost a maximum of 500,00€ Euro).
- Other types of sensor technology is not permitted.

### 5.7 Connected Drive

The vehicle must be equipped with a WIFI interface for the cooperative competition disciplines. The definition of the transmission interface will be made at a later date.

## 5.8 Power Supply

Up to two batteries are permitted. One battery to store energy for the drive and one to supply the other electronics for sensors, image processing and other installed components. Exchanging or recharging the batteries is permitted between the individual disciplines.

## 5.9 Manual Control

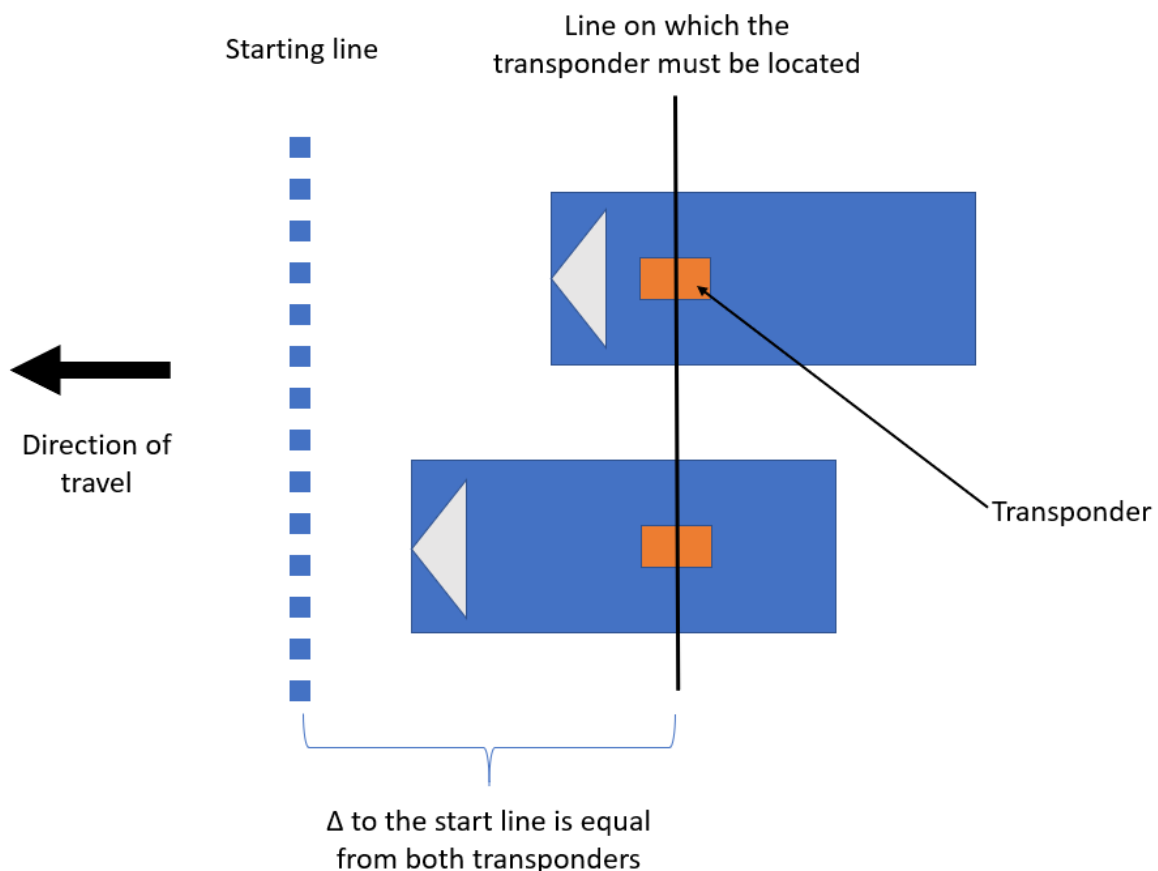
The vehicles must be able to be controlled by an RC remote control. A remotely activated emergency shutdown of the autonomous driving mode with stop function is mandatory.

## 5.10 Presetting for Disciplines

It is permitted to set the vehicles in different modes for the respective discipline. However, they must function independently of the starting position and the resulting complexity of the task. These presets may be set freely before the start of the task.

## 5.11 Presetting for Disciplines

Transponders are used for timekeeping and must be attached to the vehicle. For this purpose a power supply between 5 - 16V @ 40 mA must be available. A CAD - model of the transponder is provided for this purpose. The plug connection must be of the type XY. The timing transponder will be issued on the day of the competition. When positioning the transponder, it must be ensured that there is a clear view upwards.





## 6 Legal notice

When registering with the VDI-ADC, all rights to photos and video recordings are transferred.

Declaration of consent to photo and/or film recordings:

By registering, participants agree that within the VDI-ADC, photos and/or videos will be taken by the attending participants and will be used for publication

- on the homepage of the organizer
- in (print) publications of the organizer
- on the social media pages of the organizer

and may also be stored for this purpose. The photos and/or videos serve exclusively the public of the organizer(s).

## 7 Registration

Registration for the competition is possible until the track presentation is held.

It is recommended to have the technical configuration and especially the sensor equipment confirmed by the organizer.

If you have any questions, please contact the Autonomous Driving Challenge team: [adc@vdi-sued.de](mailto:adc@vdi-sued.de).