

# 12th annual *Robotem Rovně* - Straightforward with Robots a.k.a. Toy Cars in the Park

Traditionally entered by teams from abroad, this competition will take place during the **town festival** in 2021 and it is therefore very attractive for the visitors who come in large numbers. Considering that there are multiple cultural events occurring in Písek at the same time, one can make it a family trip knowing that nobody will be disappointed. **This is the #1 most visited of all competitive events in the robotics season.** 

Participation is open even for those who don't dare to enter with a robot.

You can enter the contest even with a modified toy car with blocked controls, so it is run only by switching it on. WARNING! No remote control is allowed during the contest ride!

We are looking forward all the participants and visitors - come cheer for the contestants and vote for "MISS Robot" (this contest will take place during the whole race).

When? Saturday, 28th of August, 2021

Where? Písek, the "Palackého sady" park - starting near the post office GPS: 49°18"32,103N, 14°09"4,775E

How much? Visitors enter for free, toy cars contestants also compete for free – only for robots there is an entrance fee of 200 CZK

For whom? People of all ages (0-100)

What can you gain? Exciting experience, lunch for all participants who registere in advance and acquaintance with more fellow fans and friends of robotics, electronics, radioamateurism and other technological areas

# Registration

registration CZ ←
rules CZ ← odkaz zde

 $\underline{\text{registration EN}} \leftarrow \text{fill out here}$ 

rules EN ← odkaz zde

Entrance fee can be also paid in advance at 2001180022/2010

If you have any questions, please contact us at <a href="mailto:rororegistrace@seznam.cz">rororegistrace@seznam.cz</a>

Phone number: +420 724 386 776

# Preliminary plan of the competition

8:00 – 8:45 Machine registration and approval

Starting times (in the park near the post office) for individual rounds:

1st round of the competition

Robots: the first robot starts approximately in 9:00

Cars: 10:00

2nd round of the competition

Robots

Cars

Cars' results announcement: approx. 12:30

12:30 – 14:00 - lunch break, showing off robots aside the track

3rd round of the competition

Robots

4th round of the competition

Robots

Robots' results announcement: approx. 15:30

16:00-16:30 - Exhibition ride through the park, photographing

End of the park race

17:00 – 20:00 - Final discussion at the Radioklub premises

# Rules of the competition

## How to participate:

The robot/car finishes the park track as soon as possible without any interference by the contestant. This means <u>no remote controls or any other method of controlling</u>, only the controls inbuilt in the robot's or toy car's programming.

The race track is a park footpath consisting of stone tiles and the competing machine <u>must not leave it</u>. The path is approx. 3,141592 meters wide and long "exactly" 314,1592...:-) meters. After reaching the finish line, the machine can ride back to the start in the same way (the resulting maximum possible distance being "exactly" 628,3185... m).

#### Aim of the event:

Popularization of automatically driven devices, introduction of robots and all around robotics to the general public. It can also be considered as a pre-round of adults' outdoor robot competition, the ROBOTOUR event.

### Rules:

Analogical to previous years. In the competition there are 4 rounds for the robots and 4 rounds for the toy cars.

The length of the track travelled is recorded, accurate to 1 m (measured from the front of the vehicle and rounded), as well as the lap time in case of indecisive results.

Note: As for the overall rank, the vehicle's best lap is deemed in this order: 1) distance travelled, 2) time.

The contestants will be assigned to a relevant category based on their vehicle type.

- 1) **robots** (vehicles fitted with electronic mechanism for navigation and control)
- 2) cars (vehicles fitted only with a motor, batteries and a switch)

# Terms of participation:

Anybody can participate, age doesn't matter. However, contestants under 18 years of age will have to be accompanied by a person of 18 years or older who will be responsible for their competing vehicle's safe operation. The organizers aren't responsible in any way for incidental damage or injury caused by a competing vehicle.

## Competing vehicles:

**Every car** must have at least one switch, which is easily accesible from above.

Warning! Cars weighing more than 5 kg need to have the EMERGENCY STOP button just like robots do - see below.

## **Every robot** is autonomous.

It has to be equipped with an EMERGENCY STOP button that will stop the vehicle in place if necessary.

The button has to be easily accessible, red and hardwired to the vehicle, so it can be easily pressed in case of danger. As soon as the threat is over, the crew can restart the car by pressing the button again and continue in the competition.

Vehicles need to be handled easily: two adult people have to be able to carry the vehicle to a distance of dozens of meters.

Non-liquid electrical batteries or cells are recommended for the vehicles. A vehicle's speed must not exceed 2,5m/s.

# Approval:

The vehicle needs to be able to travel 5 meters on the parkway, while the travel time is recorded - which is necessary for assigning the starting position. We assess the ability of safe start and safe stop as well, so there is the option to prevent a collision with another vehicle (whether it is moving in front of it or against it) or spectators.

#### Information for the contestants:

- -The track is not closed for the public during the competition. Every contestant needs to secure a free path for their vehicle.
- -The estimated interval between the starts of individual vehicles is 1 minute.
- -The track cannot be used for return trips in case the vehicle's round is over. The vehicle must travel back via side paths.

#### Robot interaction:

It is possible that a faster robot would catch up with a slower one. In this case the faster robot can treat the slower one as an obstacle - ie. travel around it or just wait until it is out of the way. The crew can also stop the robot (by pressing the button) and wait until the slower robot is out of the way. The recording of travel time is NOT paused in this case.

#### Round trial termination:

In case that the vehicle goes off the track (to the grass), the distance perpendicular to the track is recorded. There is a widened area in the middle of the park, which is made of the same stone tiles as the track, where the attempt is terminated only after going off this type of terrain. Nevertheless, the distance traveled is measured only in relation to the original track and from the front of the vehicle.

Going off the track means that the vehicle is not on the track even by one wheel (or by one track in case of track vehicle).

If the vehicle goes off the track in another way than to the grass (ie. to a flowerbed, a stall...), the attempt needs to be immediately terminated to prevent damage to the surroundings. After measuring the distance travelled the vehicle needs to leave the track as soon as possible and its contestant must secure that.

If there is a collision while returning to the START point after reaching the finish line, the returning competing vehicle (which has travelled a longer distance) is stopped and removed so the vehicle with shorter distance travelled can continue in the race.

Radioklub Písek Crew