

Sumo Challenge



Roborace Regulations



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1. Short description of category

In this category, completely autonomous robots must complete the designated number of laps, from starting to finish line, in the shortest time possible. They have to avoid going off the route and collisions with other robots.

2. Robots specification

2.1. Dimensions

Maximum width - 250 mm

Maximum length - 500 mm

The weight of the robot should not exceed 3 kg

The minimum dimensions of the robot are not specified - however, designers should remember that too small robot may be unnoticed and then trampled by larger contestant.

2.2. Requirements

- a) Robot can be powered from any energy sources, except those based on a chemical reaction, such as internal combustion engines. If you use an unconventional power source, please contact the organizers at least 2 days before the competition.
- b) Robot should comply with security principles. All electronic components should be covered. Robot must not be a threat to the public - it is forbidden to use lasers stronger than the first class. In special cases, a second class laser may be used, provided that the laser beam never leaves the race track.
- c) The robot's intentional influence on other race participants is forbidden. Robot cannot spill any substances, ram other robots on purpose or use other sophisticated systems (that are not described in the regulations) that may damage other robots. The final decision regarding the safety of the robot is made by the judge.
- d) If the robot falls off the route, it is possible, after prior agreement with the judges, to pick up the robot and then continue the race. However, the robot always starts from the starting line at the moment chosen by judge.
- e) Robot must be fully autonomous. Cannot receive external signals from laptops / telephones, etc. Robots that receive external signals during the race will be disqualified immediately. The only allowed external interference is remote START / STOP after informing the judge.
- f) During the race any human interference is prohibited. Robot cannot be pushed, lifted, turned, etc. In case of a hazardous situation, contact the judge who may allow manipulation of the robot.

3. Route

The route with an area of not more than 50m² will be white. The edges of the track will be covered with vertical walls, about 10 cm high. The approximate shape of the track can be seen in Figure 1.

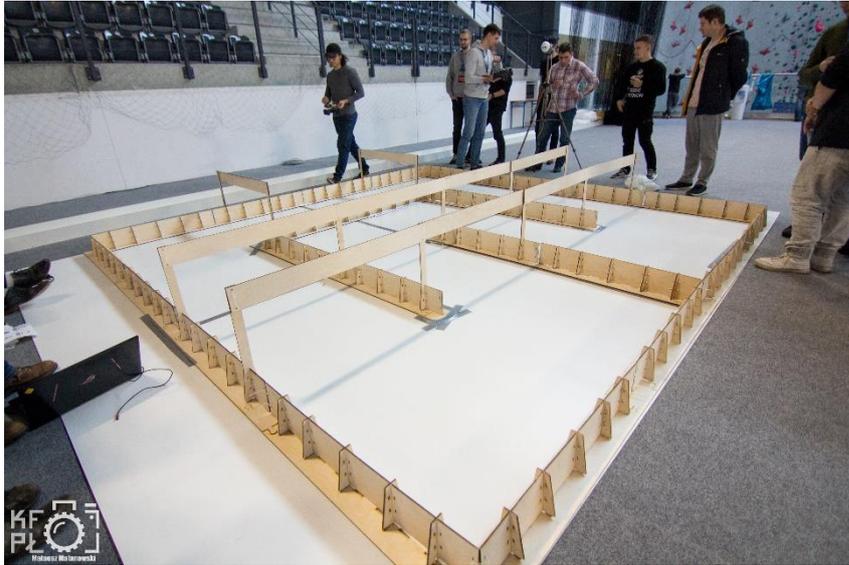


Figure 1 Route

4. Placement of robots

Maximum 6 robots can participate in one race. Robots are set up based on the times obtained in preliminaries. Robots that took odd places (1, 3, 5) are set up at the inner edge. Robots that took even places will be placed along the outer edge. Robot placement scheme is shown in Figure 2.

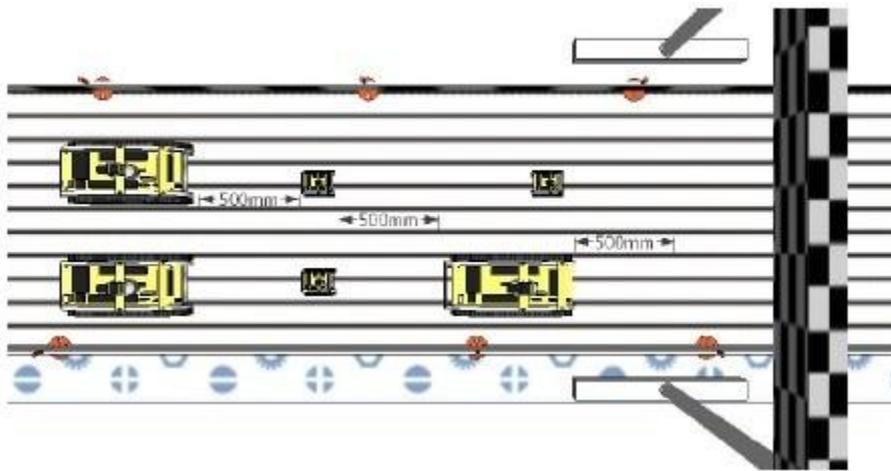


Figure 2 Placement scheme

5. Course of the game

- a) The competition will be held in three stages :
 - Qualification: Each robot must complete one lap.
 - Preliminaries: Each robot must complete 10 complete laps.
 - Final: Each robot must complete 20 full laps.
- b) All robots registered to take part in the competition take part in the Qualification during which, robot must complete one full lap. During race, robot cannot cause too much damage to the track. It must not hit the bands or touch edges during the entire attempt (short band touches are allowed). Robot should have a mechanism to pass by opponents. The final decision regarding "too much damage to the track" is given by the judges. Criteria may be more or less stringent depending on the number of contestants.
- c) Robots that successfully pass the qualification enter the preliminaries. The top 5 robots go to the finals.
- d) In case of insufficient number of robots, the organizers may cancel preliminaries and carry out only finals.
- e) Organizers can change the number of laps in each phase until the start of the competition.

6. Final provisions

It is allowed to submit to the competition constructions, that are officially being sold, however, they will not appear in the final classification (they cannot take award-winning places). If the robot is a modified version of the finished structure, please contact the Organizers to agree on the rules of participation. If the participant does not inform the Organizers before the competition, he or she will be disqualified. Structures from sets that are not explicitly dedicated to this competition (e.g. Lego) can participate on the usual rules.

Competitions can take place in varying lighting conditions, which is why robotic sensors should be properly protected against the adverse effects of light. Contestants are not allowed to move around the track to provide shade on the route.

Robot is perceived as an inseparable object - no element (except the battery) can be used in another robot.

All situations not described in the regulations are solved by the Chief Judge.

The Chief Judge's decision is final and indisputable.

In case of a small number of robots, the organizers can decide to award only one prize.

Organizers have the right to make minor changes to the regulations until the start of the competition - all will be listed at the beginning of the regulations.