

# Toy Cleanup

Task of the robot is to clean the toys in a room as fast as possible.

## 1. Contest description

After being started, the robot has to travel across the playing field, clean up and sort the toys and returns back to the starting place. Robots are ranked based on the time they spend for the cleanup.

Before the start, the participants prepare the robot so that it touches the back wall of the starting area. Since then, no intervention is allowed. After the preparation, the referee spreads the toys somewhere in the target area. The participant starts the robot on a referee's signal. The time is measured from this signal to the moment when the robot returns back to the start. If this time exceeds 5 minutes, the referee will terminate the race. The organizers may allow repeating races or rounds; only the best time of all attempts of a robot will be used for ranking in this first part of the contest. In the finale part, the races will be held on a knock-out basis. In case of a tie, a repeated race may be ordered by the organizers.

## 2. Robot

The robot must not be dangerous or excessively annoying.

The robot is autonomous. Throughout the race (including the start) no external connection is allowed. Since the robot is prepared for start, it must not be touched or interfered with in any way except starting until the referee allows so. On its top side, an emergency switch must be located. By pressing it all actuation must be switched off. The switch must be big enough and well distinct so that it can be easily recognized, reached and used.

A 10x7 cm space for marking must be reserved on the robot's top side.

At start time, the robot must fit inside the starting area; otherwise, its size is not limited.

The teams will also provide at least 2 photographs/images and 2 paragraphs of text describing the robot/team in electronic form for publishing purposes prior arrival to the competition (via the registration application).

**Beginner Category:** The robot may be remotely controlled. In case of a wireless connection, no objections concerning the connection are allowed. This category is for beginners; those who have already participated should proceed to the Advanced category.

**Advanced Category:** The robot is autonomous. Throughout the race (including the start) no external connection is allowed. Since the robot is prepared for start, it must not be touched or interfered with in any way except starting until the referee allows so.

## 3. Playing field

Playing field ground is white. The playing field is bordered and contains inner walls forming a "meander". Both the border and the inner walls are approx. 10 cm high. The robot must not pass or "lean" over the walls but it may "look" over them. The robot starts from the back side and the toys are spread in the front side of the playing field (see the picture; the hatching and the blue lines are not drawn on the playing field and serve here only for explanation). The playing field may be composed of more pieces with slight level differences.

## 4. Toys

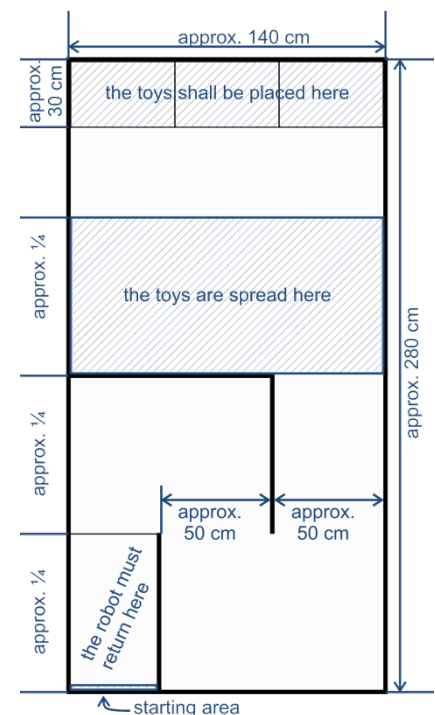
The toys are represented by differently coloured cubes (red, green, blue). The cubes are wooden, weighting ca. 20-30 g, and their edge is about 3.7 cm long. The cubes are to be sorted to three destination areas bordered by black line in the front part of the playing field (top of the picture, from left to right red, green, blue). Every cube which is not in the correct area after the robot finished its journey adds 10 sec to the robot's time.

## 5. Power of officials and liability

If a robot or a participant violates the rules, the referee may disqualify them from the race. He may also disqualify the participant or the robot for further races.

No objections against the decisions of the referee or the organizers are allowed.

The organizers may change the rules without prior notice, e.g. based on number of participants, local conditions etc.



The participants are responsible for their robots and their safety and will be liable for all damages caused by them, their robots or their equipment.

The organizers will not be under any circumstances held liable or responsible for any accidents of the participants or any damages caused by the participants, their robots or their equipment.