# «PUCK COLLECTING» CONTEST RULES

*Version **3.0** dated August 28, 2019*

## 1. General Provisions

The match is held between the two teams. One team plays one robot.

### 1.1. Task Description

The robot needs to collect more puks of the specified color then its opponent will.

### 1.2. Contest Categories

Competitions can be held with division into Robot Design categories (see the "General Competition Rules").

## 2. Requirements for the Robot

The robot must be fully autonomous.
Requirements for the Robot:
- length - not more than 500 mm;
- width - not more than 500 mm;
- height - not more than 500 mm;
- weight - not limited;

Educational Kits Category Requirements for the Robot:
- length - not more than 400 mm;
- width - not more than 400 mm;
- height - not limited;
- weight - not more than 10 kg;

## 3. Specifications of the Field

The field is a rectangular limited to fixed boards and has two "bases". "Base" is a square of red or blue color, located respectively in one of the opposite corners of the field (see Fig. 1).
Field Specifications:
- size - 2500x2500 mm, (at the discretion of the Organizers other sizes are allowed);
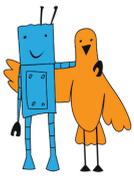
- color of the field is white;
- height of the boards is 80+/-20 mm;
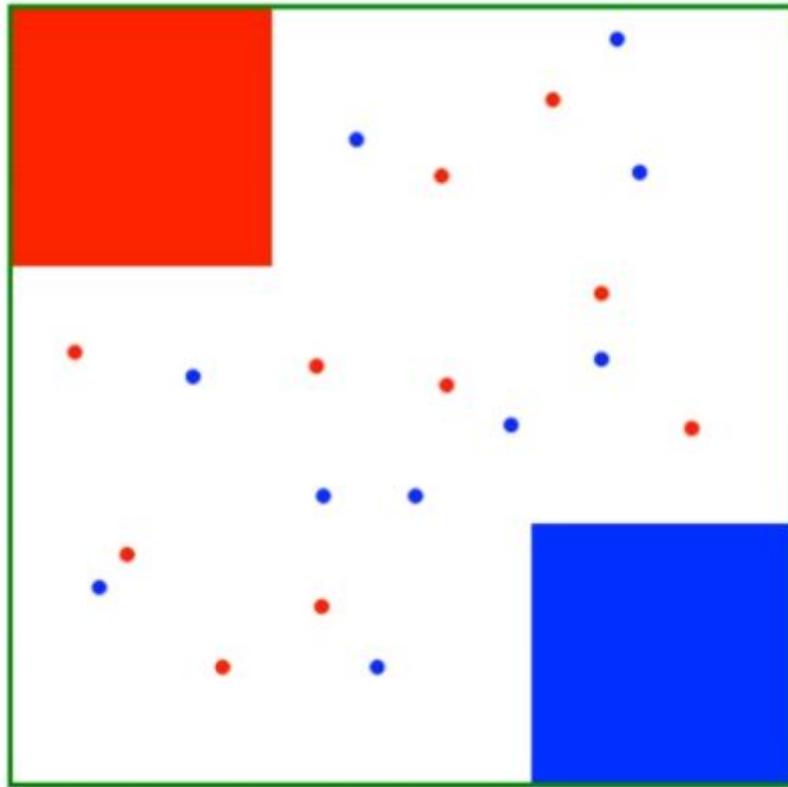- color of the boards is white;
- the "base" size - 700x700 mm.



*Figure 1. Field*

The puck is a hard plastic disc.

Puck specifications:

- material - ABS plastic (optional);
- diameter - 40 mm;
- height - 20 mm;
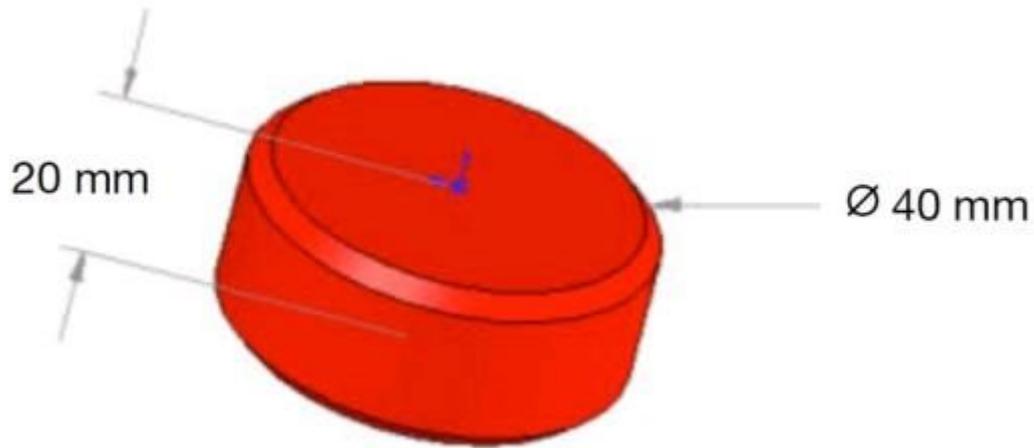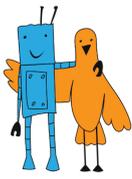- color - red and blue;
- edge - rounded.

*Figure 2. Puck*

## 4. Contest Procedure

Competitions are held according to the all-play-all or Olympic systems (see the "General Competition Rules").

### 4.1 Preparation

Before each match, the Judge randomly places 10 pucks of each color on the field outside the base.

The Judge decides a color for each robot by the draw method before each match.

Each participant place a robot within the boundaries of the "base" that the color has been defined by the draw.
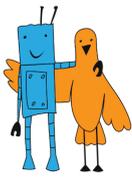
At the Judge's command, the participants launch the robots and immediately move away from the field.

### 4.2 Match

The match lasts 3 minutes or until one of the robots collects all the pucks of its color.

The puck is considered to have been collected if:
- the puck is within the base (regardless of color) for 1 second without moving;

- the puck touches the surface of the field;
- the projection of the robot does not overlap the puck.

The Judge immediately removes the collected puck from the field.

## 5.  Disqualification and penalty

In the following cases the robot will be disqualified:
- the robot is non-autonomous (the human is in control of the robot);
- a team member touched the field or the robot without the referee's permission during the match;
- at the start of the match the team did not come to the field.

In case of disqualification, the opponent's robot wins the match with the score 7:0.

## 6. Scoring

The robot gets points for every puck it collects:
- +1 point if the color of the puck matches the color of its base;
- -1 point if the color of the puck does not match the color of its base.

If the robot scored a negative number of points at the end of the match, then the robot gets 0 points.

## 7. Procedure for Determining the Winner

The robot with the highest score is declared the winner of the match. If the number of points is equal, a draw is declared.

If it is necessary to determine the winner of the match when the points are equal, the time of the match is extended until any of the opponents opens the lead.

The winner of the competition is the robot that took first place in the tournament.