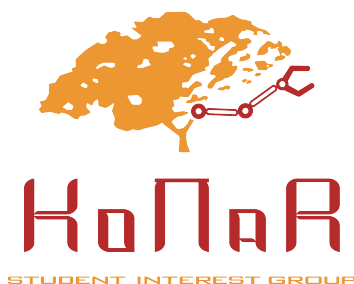


# RULES OF ROBOTIC TOURNAMENT

## “ XIII Robotic Arena ”

### PuckCollect

“KoNaR” Student Interest Group  
Faculty of Electronics  
Wrocław University of Science and Technology



#### Section I

##### General

###### § 1

1. This document regulates rules of the tournament in category “PuckCollect”.

#### Section II

##### Robot Specification

###### § 2

1. Robots can't be pre-built, commercial construction.
2. Robots must fit in 50x50 cm square extended by precision of a measuring equipment.
3. Height of robots is not limited.
4. Weight of robots is not limited.
5. After a start command the size limit is not in effect
6. Robot does not have to be a indiscrete construction, detaching parts are allowed.
7. Communication with robots during matches is forbidden.
8. Disabling robots remotely is an exception from the point above.

###### § 3

1. Robots must be fully autonomous.
2. Robots can't contain any devices which intentionally disrupt opponents control system.
3. Robots can't contain any parts (like blades and spikes) above the surface of dohyo, which purpose is to damage opponents sensors and/or PCBs.

4. Any parts that could damage the board are not allowed.
5. Any flaming devices are not allowed.
6. Any pitching devices are not allowed.
7. Any devices that could emit gas, fluids or powder are not allowed.
8. Robots functionality cannot be dependent on varying environment during tournament, such as lighting (from dusk to bright reflectors), smoke, loud music or laser effects. The show may be lit by regular lightbulbs, halogens, energy saving lightbulbs, fluorescent lamps, LEDs and other lightsources common in households. Organizers have no control over street lighting near windows of the building. During the show it will be forbidden to use camera flashes and other intense light.

### **Section III**

#### **Board Specification**

##### **§ 4**

1. Board on which the games will be held will be a 250x250cm square.
2. The board will be surrounded by walls of an unspecified colour with a height of at least 8cm.
3. In opposite corners of the board will be two zones ("bases"), squares 70x70cm.
4. One base will be blue and the other will be red.
5. Rest of the board ("neutral zone") will be white.
6. The neutral zone will contain randomly placed coloured discs ("pucks").
7. Pucks will be 40mm in diameter and 20mm in height, their edges slightly rounded.
8. In the beginning of the match there will be 10 pucks in both colours (blue and red).

### **Section IV**

#### **Competition**

##### **§ 5**

1. Tournament will consist of one stage.
2. Type of the competition (league or cup system) will be chosen by the organizers after registration has ended and will depend on number of contestants.
3. Results will be announced after judges count final scores.

##### **§ 6**

1. Matches will be held according to a schedule given by a judge.
2. A robot not showing up to a match by schedule will result in a reminder from a judge.
3. If within 5 minutes from a reminder the robot will not show up to the match, it is considered as his loss.

### **Section V**

#### **Winner Selection Rules**

## § 7

1. There are two robots in a match.
2. Before the match, colours of the bases will be assigned randomly.
3. Robots are placed in respective bases, so that no part of the robot is outside of the starting zone.
4. Robots are started on the mark of a judge.
5. In case of no reaction for the "start" command the round is repeated. If after three consecutive rounds the start will not occur, referee decides of further course of the match.

## § 8

1. Match points are granted for each collected puck:
  - +1 point for each puck of the same colour as the base,
  - 1 point for each puck of the colour of the enemy base.
2. Robots score cannot be negative. If the robot has collected more "enemy" pucks than his own, his score is 0.
3. Puck is considered as collected if all these conditions are met at once:
  - (a) whole puck is inside of the base,
  - (b) it is touching with one of its bases for at least one second,
  - (c) is not covered by any part of the robot.
4. Pucks that are considered collected are immediately removed from the board by judges.
5. The match duration is 3 minutes.
6. The match can be finished early in case:
  - (a) all pucks are collected,
  - (b) of judges decision,
  - (c) both participating parties agree to do so.
7. Robot with a higher score wins the match.
8. In case both robots have the same number of points, it is considered a draw.

## § 9

1. If the competition is held in a league system, robots are ranked by following rules:
  - (a) Won match grants 3 big points.
  - (b) Draw grants 1 big point.
  - (c) Lost match doesn't grant any points.
  - (d) Robots are ranked by following rules (if there's a draw, next point is considered):
    - (i) Big points ranked from most to least.
    - (ii) Difference between sum of its match points and points earned by its enemies in each of these matches, ranked descendingly.
    - (iii) Match points ranked from most to least.
    - (iv) Result of a direct confrontation.
    - (v) Coin toss.
  - (e) A judge can announce an additional match between two robots in stead of a coin toss.
2. If the competition is held in a cup system, robots are ranked by following rules:
  - (a) Winning a match results in advancement to a next round.
  - (b) Winner of the final match will be a champion of this competition.

**Section VI**  
**Violations and Penalties**

**§ 10**

1. The consequence of fulfilling any of these conditions by a contestant is disqualification:
  - (a) The contestant behaves in unsportsmanlike manner or does not comply with fair-play rules (i.e. uses vulgar or offensive language or insults the opponent or the referee).
  - (b) The contestant damages opponents robot on purpose.
  - (c) The contestant indisposes others to play the match by intentionally damaging or defiling the dohyo.
  - (d) The contestant's robot due to malfunction is not able to fight in all the elimination phase matches.
  - (e) The contestant due to late arrival for elimination phase is not able to fight in all the elimination phase matches.
2. The result of disqualification in the final phase is match loss.
3. The result of disqualification in the elimination phase is cancellation of the results of all the matches the contestant participated in and awarding all opponents with victory by default.