



## “ARKANOID” CONTEST RULES

*Version 1.0 dated July 20, 2017*

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## 1. General provisions

### 1.1. Task Description

To score more goals than the opposing team.

## 2. Field and Ball Specifications

The following requirements apply to the field:

length is 1.5 m;

width is 1.5 m;

height of walls is 10 cm;

thickness of walls is 16 mm;

playground color is white.

There is a protuberance in the middle across the width of the field.

A standard golf ball shall be used as the ball:

color is red;

diameter is 43 mm;

weight is 46 g.

## 3. Robot specifications

The following requirements apply to the robot:

length is no more than 25 cm;

width is no more than 25 cm;

height is no more than 25 cm;

weight is no more than 3 kg.

The robot must be fully autonomous.

The robot must be controlled from the PC (with a camera connected) via any wireless communication channel.

The robot should be equipped with a kicking mechanism. Kicking mechanism is a single blade attached to the axle. This mechanism should allow the robot to kick off the ball to the opposite side. Using the automatic kicking mechanism or any dribble device is prohibited.

The robot must not fix the ball while playing.



## 4. Additional Specifications

The camera is installed on a support next to the field and connected to the participant's PC via the USB port. A Logitech C920 webcam is given to the participants by default. At the request of the participant, the camera can be replaced by participant's camera.

## 5. Procedure of the Competition

The competitions are held according with round-robin system.

The robots are set in front of each other on special rails they move along during the game.

The ball is put into play from the center of the field towards one of the robot. Towards which one shall be decided by the toss of coin.

It is considered as a goal when the ball touches the side that being far from the robot and parallel to the rail.

After the goal the ball is put into play towards the side opposite to the previous ball putting.

### 5.1. Penalties

If the robot touches the ball for more than 10 s, the opposing team scores a goal.

The game will be forfeited and the forfeiting team will lose the game 7:0 if this team does not come to the playing area at the beginning of the competition and/or is not able to provide the robot for the competition.

### 5.2. Ineligibility Conditions

In the following cases the robot will be disqualified:

the robot is non-autonomous (the human is in control of the robot);  
during the attempt the participant has touched the field or the robot.

## 6. Procedure to Determine the Winner

The robot that has scored more goals is the winner.



## 7. Revision History

<b>№</b>	<b>Doc. No.</b>	<b>Date</b>	<b>Note</b>	<b>Previous version</b>	<b>Update version</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
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