

## WRO JAPAN 2020 R-Sports Challenge

# Free Throw Challenge

※ You should read the R-Sports Challenge common rules too

### 1. Introduction

The WRO JAPAN 2020 R-Sports Challenge (Robotics Sports Challenge) is a challenge for all people who are interested in robots, to use their knowledge and technology in designing an autonomous robot which can complete missions that imitated the Olympic Games. Moreover the participants have to submit their achievements in a recorded video throw the internet. We expect all of the participants will not only exert to apply the robot knowledge (including hardware and software) and skills they have learned, but also it will help them improve their abilities and skills while sharing other participants robots' behavior and mechanism.

### 2. Mission

Design an autonomous robot that can throw a Ping-Pong ball into a certain distance installed goal.

### 3. Rules

- ① The distance between the free throw line and the goal should be 1000 mm or more. (As shown in Figure 1).
- ② The robot should be installed on the floor.
- ③ The entire robot should not exceed the free throw line before the start of the mission. (cable is not included)
- ④ During the mission, the robot surface contacted to the floor should not exceed the free throw line.
- ⑤ The robot may transform after starting.
- ⑥ Goal may be made using a plastic bottle within 2 liters.
- ⑦ The robot and goal should be placed on the same floor.
- ⑧ The goal mouth should be parallel to the floor.
- ⑨ The shape of the plastic bottle goal does not matter.
- ⑩ Ping-Pong ball diameter is 40mm.
- ⑪ You cannot touch the Ping-Pong ball by your hands again after setting it on the robot before starting.

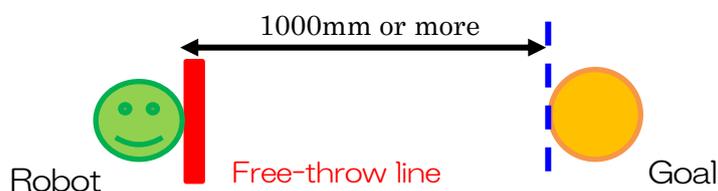


Figure.1 Position of goal and robot