



## Open Category

# General Rules

Game Description, Rules, and Scoring

## **Sustainabots** **(Robots for Sustainability)**

# 1. The Robot's Mission

The mission this year is to build a robot that makes your region more sustainable in one of the following four goals:



This way, each robot will contribute to the goal of transforming our world into a better place.

For more information about the chosen goals, a full description can be found in the Sustainable Development Goals website:

<http://www.un.org/sustainabledevelopment/sustainable-development-goals/>

## **2. Qualification for Participation and Team Composition**

1. Age of participants
  - Open WeDo Category is for Elementary (Primary) School age students: Date of birth falls on/or after January 1, 2005.
  - Open Mindstorm Category is for students whose date of birth falls in the period of January 1, 1999 to December 31, 2010.
2. Team composition
  - A team consists of two (2) to three (3) students and one (1) coach.
3. Coaches
  - Coaches may work with more than one team; however each team needs to be assisted by a responsible adult. This person may be an assistant coach.
  - Coaches may offer students advice and guidance prior to the competition, however during the actual competition, all work and preparation must be performed by the student members of the team.
4. Participating teams cannot compete in any other IRO2017 competition category.

## **3. Regulations about the Robot**

1. There is no restriction on the balance between LEGO® elements and other materials.
2. All robots must be operated by WeDo (9580 / 45300) for WeDo Category; RCX, NXT, or EV3 controller for Mindstorm Category and any software supporting them.
3. Maximum dimension of the robot is not limited.
4. Robots may be preassembled and software programs may be pre-made.

## 4. Competition

1. Open Category teams must go through these processes:
  - Final assembly and testing of the robot.
  - Preparation of the booth (including display of posters, etc).
  - Pre-judging inspection to assess adherence to the rules.
  - Final preparation time (ensuring that rules are adhered to).
  - Demonstration and presentation to the judges (including Q&A from judges) and demonstrations and presentations to the general public.
2. At the time of registration, teams must electronically submit a written and illustrated report summarizing what the robot can do, and in which way the robot is unique and conforms to the theme. The report must include a visual description incorporating pictures, diagrams, and/or photos from different angles and an example of the program. A copy of the report must be handed out to the judges in paper form at the time of judging. Softcopy of the report must be sent 1 month prior to the competition at the latest.
3. At the time of registration, teams must submit a video (maximum of 2 minutes) demonstrating their robot. This compulsory video will not attract any points, but will be used by judges to familiarize themselves with the robot and its operation in order to formulate questions, etc. Maximum duration of the video is 2 minutes, maximum size is 30 mb. The video must be uploaded as unlisted to YouTube.
4. Softcopy report and YouTube video link is sent by email to [iro@mikrobot.com](mailto:iro@mikrobot.com) 1 month prior to the competition at the latest.
5. Teams must decorate the booth with one or more posters with the minimum dimension of 120 cm × 90 cm. The poster(s) should introduce the robot project to the visitors.

## 5. Presentation

1. All team displays must be completed and teams ready to present to judges and the general public by the allotted time. Deadlines will be provided by the organizer one month in advance of the competition.
2. Teams must maintain a presence within the team's booth during competition hours in order to present to members of the general public

and judges at any time. Teams will receive a warning of not less than 10 minutes prior to judging taking place.

3. Teams will be allocated approximately 10 minutes for judgment: 5 minutes to explain and demonstrate the robot, remaining 2-5 minutes to respond to questions from the judges.
4. Official language for all presentations is Indonesian and English. Interpreters are not allowed. **Choice of language will not affect scoring.**
5. **Presentation may be done in any form such as role-play, newscast, and many more. As long as it shows what the project is about, the relevance to the theme, and include a demonstration.**

## 6. Judging Criteria per Category (Maximum Score: 200)

<b>Project</b>		Total Points: 50
1	Creativity and quality of solution	25
2	Research and report	15
3	Entertainment value	10
<b>Programming</b>		Total Points: 45
1	Automation	15
2	Good logic	15
3	Complexity	15
<b>Engineering Design</b>		Total Points: 45
1	Technical understanding	15
2	Engineering concepts	10
3	Mechanical efficiency	10
4	Structural stability	5
5	Aesthetics	5
<b>Presentation</b>		Total Points: 40
1	Successful demonstration	15
2	Communication & reasoning skills	10
3	Quick thinking	5
4	Posters and decorations	5
5	Project video	5
<b>Teamwork</b>		Total Points: 20
1	Unified learning outcome	10
2	Inclusiveness	5
3	Team spirit	5

**\*Projects that are clearly not within the theme will receive 0 score.**