

\* Please note that this is draft version of the rules. It is not the final version therefore, there may have some changes until 1 months before the competition.



## 1. Game description

line tracer analog is a robot following black line on white floor (or white line on black floor) using sensor to end point.

## 2. Conditions of competition:

### 2.1. Participant

The competition is open to participants from Indonesia and the Indonesian Foreign participants through the following categories :

#### 2.1.1 Line Tracer Junior Open Category [age > 12 years old]

This category is open to all types of robot products.

#### 2.1.2 Line Tracer Senior Open Category [age 12 - 19]

This category is open to all types of robot products.

### 2.2. Each team consists of a maximum of three (3) participants including:

2.2.1. Competitors must have at least one (1) participant and a maximum of three (3) participants.

2.3. Team registration must be done online at the website.

2.4. Eating & drinking are not provided.

The Robot Kit is not provided by the committee.

## 3. Robot rule

**3.1. Robot type :** No restriction

### 3.2. Construction

#### Size

Robot should be smaller than 18cm x 22cm(W x L)

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### **Size measurement**

Structure size will be measured on the measuring board before the competition and robot must be switched on to be measured. Participants should self-check the size during construction time and practice time.

**Weight :** No restriction

**Sensor :** No restriction

**3.3. Power source :** Robots should work with an independent electric power supply it cannot use a combustible device.

There are no limitations on type of battery or voltage level.

### **3.4. Programming, setting and Control**

Robot is not allowed to be computer programming, onboard programming, onboard setting or controlled. The robot must be in an unprogrammed state

**3.5. Operation :** robot must start with start button, Robot should not be touched after starting match.

## **4. Playfield rule**

### **4.1. Playfield**

#### **4.1.1. Structure**

Size and placement

1 playfield with 440cm x 240cm(W x L) size. ( $\pm 10\%$ )

< playfield and mission is notified on match day >

#### **4.1.2. Floor**

Floor is made of glossy coated PET. Color is white

Line: Black line with 2cm( $\pm 10\%$ ) wide.

Sheet or tape can be placed to remove gap of floor.

## **5. Competition**

**5.1. Match is placed in IISRO official playfield.**

**5.2. This competition is a tournament.**

**5.3. How to win :**

One robots start following line together, and the fastest team robot is the winner of the match.

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#### **5.4. Practice time :**

Practice time will be at least 1 hour, and it will be notified on match day. After practice time, robot must be caging.

#### **5.5. Choosing playfield**

Lottery, scissor-paper-stone, or flipping coin will be done, and its winner will choose playfield.

#### **5.6. Match start**

With robot on playfield floor, match starts by switching on robot after referee's start sign.

#### **5.7. Time limit**

Robots that could not finish mission in 1 minute after passing starting line will be disqualified.

#### **5.8. Before the Competition**

1. Robots must pass tests of dimensions, circuits and electronic components.
2. All participants can check, repair, modify the robot and try the track during the trial.
3. Robots must be submitted to the committee before the competition starts.
4. Robots must be set/programmed when the competition starts, before the competition the robots must not be programmed.
5. The trial time and the program provided are 45 – 60 minutes for all participants.
6. Participants must be orderly and not interfere with other participants both on the track and outside the competition track.
7. Cannot damage the opponent's robot.

#### **5.9. Competition Time**

1. Observers and coaches are prohibited from entering the area at the start of the competition. If the coach enters the competition area and assists the participant, the participant will be disqualified.
  2. When the competition starts, the robot is behind the starting line of the track before the signal.
  3. It is forbidden to change the battery and robot spare parts during the game.
  4. The racing system is a speed race.
  5. When starting, it is not allowed to provide assistance in the form of encouragement to the robot
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6. The robot must be able to follow the trajectory that has been made by the committee, the robot must not cut the trajectory to win.
7. The robot must pass a predetermined path.
8. Participants may not cover the robot by using the participant's body parts.
9. A retry is performed if:
  - The whole robot body goes off track or the robot is totally stuck, must return to the last check point that has been passed.
  - The robot stays in place, jams, and other things that cause the robot to stand still, given a waiting time of 3 seconds then have to retry.
  - Participants ask the referee to retry themselves
10. Rules may change at any time in accordance with the provisions of the committee.
11. The referee's decision cannot be contested.

#### **5.10. After the Competition**

1. Participants can remove the robot from the track and guard it after the finish or the allotted time has run out.
2. Damage to the robot before, during, and after the competition is not the responsibility of the committee.

## **6. Match rule**

### **6.1. Match stop**

**Out of line** : If both wheels are completely out of line, only progress right before out of line will be evaluated.

**Robot stop**: If robot stops, then referee counts until 10 before announcing robot stop and

**Robot touch** : During matches, participants and their robots are immediately disqualified and removed from match when participants touch robot without referee's authorization.

**Robot modification** : robot modification is not allowed.

## **7. Evaluation**

**7.1. How to win** : First robot to reach end point wins.

**7.2. Extra time**

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If both team could not finish match by out-of-line or exceeding time limit, then extra time is given. Extra time is given maximum twice.

If both team could not finish after extra time, then both teams will be disqualified.