

## «LINE PRO» CONTEST RULES

*Version 2.1 dated August 31, 2014.*

*Idea and elements of procedural rules: [railab.ru](http://railab.ru)*

### 1. General provisions

#### 1.1. Field

- 1.1.1. Range color is white.
- 1.1.2. Row objects color is black.
- 1.1.3. Line width is 50 mm.
- 1.1.4. Maximum line curvature radius is 300 mm.
- 1.1.5. Start/finish lines are yellow.

### 2. Requirements to Robots

#### 2.1. Main specifications

- 2.1.1. The robot size at the start must not exceed 40x40 cm.
- 2.1.2. During the movement robot dimensions shall be constant.
- 2.1.3. Robot's height is not limited.
- 2.1.4. Robot weight shall be 10 kg max.
- 2.1.5. Robot shall be fully-autonomous.

### 3. The game

#### 3.1. Objective of game

- 3.1.1. Following a row of uniform objects (hereinafter referred to as the "row"), the robot must get from the start to the finish as soon as possible.
- 3.1.2. The assignment completion time must not exceed 1 minute.

#### 3.2. Start

- 3.2.1. At the start the robot must be fully beyond the start line.
- 3.2.2. The robot must be manually activated or initiated at the contest begin by the referee's signal; after that the robot work is not to be interfered with. Remote control and issue of any commands for the robot are prohibited.
- 3.2.3. During the contest, the participants are prohibited to touch the robot body or the range.

## 3.3. Finish

- 3.3.1. Assignment completion is terminated by the referee's signal after the robot has crossed the finish line.
- 3.3.2. By the referee's decision, the attempt may be over ahead of time.

## 3.4. Assignment completion discontinuation

- 3.4.1. The assignment completion may be interrupted (with time stopped) in the following cases:
  - 3.4.1.1. If any member of the team has touched the robot body.
  - 3.4.1.2. If the robot has lost the line for more than 5 sec<sup>1</sup>.
  - 3.4.1.3. If the finish condition has been satisfied (see Clause 3.3.).
  - 3.4.1.4. If the competition procedural rules have been violated.
  - 3.4.1.5. If the time allocated for completion of the assignment has expired.

## 4. Winner nomination rules

- 4.1.1. Each team has no more than 2 attempts (their exact number to be determined by the jury on the competition date).
- 4.1.2. The best time among the attempts counts.
- 4.1.3. The team whose robot has got from the start to the finish within the shortest time is nominated the winner.

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<sup>1</sup> Leaving the line while no part of the robot is over the line may be allowed only if tangential and not in excess of triple length of the robot body. The robot length in this case is measured by the wheelbase.