

# Appendix to the regulations of the 12th edition of the **ROBOCOMP festival**

## Rules of the Radio Silence category

|   |          |
|---|----------|
| <b>Chapter I – General information.....</b>     | <b>1</b> |
| <b>Chapter II – Course of the category.....</b> | <b>2</b> |
| §1 General Rules.....                           | 2        |
| §2 Winner Selection.....                        | 4        |

# Chapter I – General information

1. A drone admitted to participate in the competition must meet all the subpoints contained in the General Rules, excluding provisions that specify and detail the rules of this competition.
2. The goal of the drone in the Radio Silence competition is to perform specified movements while simultaneously having no wired or radio communication.

# Chapter II – Course of the category

## §1 General Rules

1. Only drones may participate in the category.
2. The task area has dimensions of 10 m x 10 m x 10 m.
3. The drone is placed in the center of the area.
4. Intervention by the Observer during the flight ends the attempt.
5. Before starting the attempt, the drone must rise to a height of 5 m.
6. The judge draws the sequence of movements that the drone must perform.
  - a. The following commands are possible:
    - i. Rotate 90 degrees to the right,
    - ii. Rotate 90 degrees to the left,
    - iii. Ascend 1 m upward,
    - iv. Descend 1 m downward,
    - v. Move 1 m to the right,
    - vi. Move 1 m to the left,
    - vii. Move 1 m forward,
    - viii. Move 1 m backward.
  - b. The length of the task list for each Team will be the same.
  - c. If the drawn sequence of movements would cause the drone to leave the area, the drawing will be repeated.
  - d. The task is considered completed when the drone performs each of the drawn movements in order, without performing any additional movements between the first and the last in sequence.
  - e. If a movement is performed out of order, the Team may restart the sequence from the beginning after informing the judge of this intention. The time measurement is not reset.
7. Each Team has 15 minutes to complete the task. If this limit is exceeded, the Team is automatically eliminated.
8. After the start of the attempt, the Team must transmit commands to the drone in the order provided by the judge, without using any signals in the radio frequency band.
  - a. Any wired communication with the drone is also prohibited.
  - b. The judge has the right at any time before or after the attempt to request a detailed description of the information transmission system used by the Team.
  - c. In the event of detecting a violation of the communication restriction or doubts regarding the compliance of the communication system with the rules, the Head Judge may decide to disqualify the Team.

9. A non-extendable total time limit of 15 minutes applies for completing the task across all attempts.
10. If the drone leaves the area, the time measurement is stopped and the attempt is considered finished.
  - a. With the judge's consent, it is possible to make another attempt at the task if the total time limit has not been exceeded. The drone returns to the starting point before the next attempt.

## §2 Winner Selection

1. The Team's result is expressed by the formula

$$W = 150T$$

where:

W – Team's result,

T – remaining time to complete the task (%).

2. If it is not possible to determine the top 3 places on this basis, the rules for further competition will be determined by the judges.