

2012 UK Final Mobile Robotics  
Competition Session  
Descriptions

Competition Day One: AM  
**Task 1**

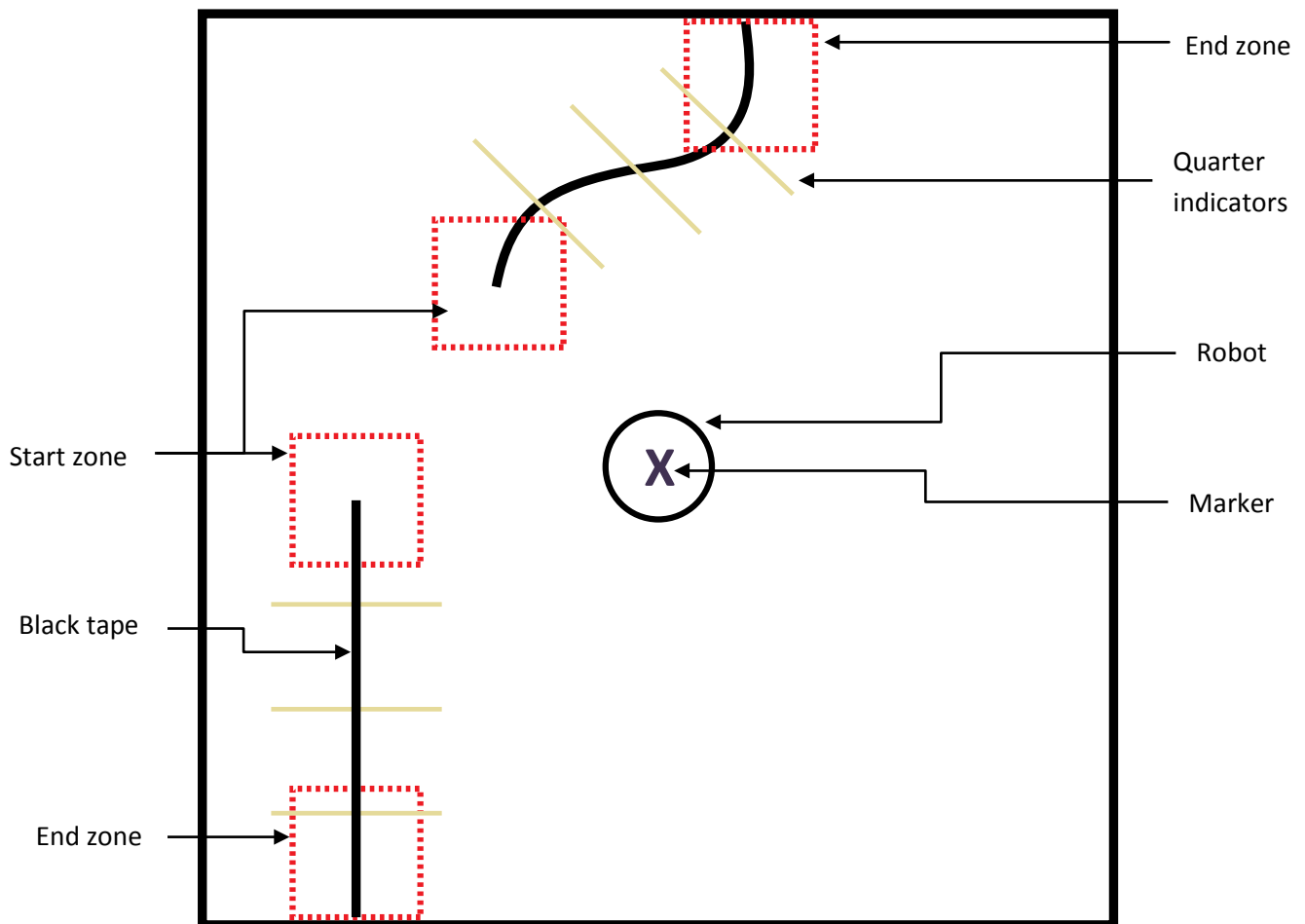


Figure 1: Diagram of competition arena

**General Information:**

- The competition arena is 3000mm x 3000mm with a 150mm high wall
- There is straight black tape and a curved black tape on the table

## **Task description:**

The main goal is to follow the black tape using the optic sensors

### **Task 1 A- Straight black tape**

The Robotino will be placed by the team on a marker as shown in figure 1. The robot must completely cover the marker. The robot must move towards the start zone which is indicated in figure 1 and then follow the straight black tape till the end. At the end of the tape the robot must stop within the end zone.

There will be two runs. Run 1 will used to demonstrate the ability to complete the task with no time element. In Run 2 the fastest team will receive two bonus points and the second fastest team will receive one bonus point. Bonus points will only be awarded on full completion of the task.

#### **Scoring:**

##### **Run 1**

**Maximum 2.75 Marks**

- 0.25 points for reaching the start zone \*
- 0.5 points for travelling past the quarter point marker \*
- 0.5 points for travelling past the half way point marker \*
- 0.5 points for travelling past the three quarters point marker \*
- 1 point for being completely inside the end zone

#### **Scoring:**

##### **Run 2**

**Maximum 4.75 Marks**

- 0.25 points for reaching the start zone \*
- 0.5 points for travelling past the quarter point marker \*
- 0.5 points for travelling past the half way point marker \*
- 0.5 points for travelling past the three quarters point marker \*
- 1 point for being completely inside the end zone
- 2 points to the fastest team overall, 1 point to the second fastest team

### **Task 1 B- Curved black tape**

The Robotino will be placed by the team on a marker as shown in figure 1. The robot must completely cover the marker. The robot must move towards the start zone which is indicated in figure 1 and then follow the curved black tape till the end. At the end of the tape the robot must stop within the end zone.

There will be two runs. Run 1 will used to demonstrate the ability to complete the task with no time element. In Run 2 the fastest team will receive two bonus points and the second fastest team will receive one bonus point. Bonus points will only be awarded on full completion of the task.

**Scoring:****Run 1****Maximum 2.75 Marks**

- 0.25 points for reaching the start zone \*
- 0.5 points for travelling past the quarter point marker \*
- 0.5 points for travelling past the half way point marker \*
- 0.5 points for travelling past the three quarters point marker \*
- 1 point for being completely inside the end zone

**Scoring:****Run 2****Maximum 4.75 Marks**

- 0.25 points for reaching the start zone \*
- 0.5 points for travelling past the quarter point marker \*
- 0.5 points for travelling past the half way point marker \*
- 0.5 points for travelling past the three quarters point marker \*
- 1 point for being completely inside the end zone
- 2 points to the fastest team overall, 1 point to the second fastest team

**Total: 15 Marks Max, 0 Marks Min**

**\* The robot must be more than 50% across the marker to get the relevant points**

**False Starts**

- 1) The Start of a Run Procedure will be: A UKSkills Judge saying 3, 2, 1, Go.
- 2) A False Start occurs when a Competitor **Clicks on the Green Button** and starts their system before the UKSkills Judge says 'Go'
- 3) Teams will be warned if they False Start once.
- 4) Teams will be disqualified from a Task Run if they False Start a second time during the same Task run.
- 5) Teams disqualified in their First Task Run will be allowed to participate in their Second Task Run.