The missions will be:

• Making cakes,

• Putting cherry on the cake,

• Dropping the remaining cherries in the basket,

• Putting the wheels in the dish, at the end of the service,

• Deguise to make the party,

• Estimating your performance.

Warning! All actions are independent from one another and no specific sequence is imposed whatsoever. No single action is compulsory. Give careful thoughts to your strategy. It is strongly recommended to design simple and reliable systems with a limited number of actions.

The playing area is a horizontal rectangular plan of 3000 mm by 2000 mm with borders of 70 mm height on each side. Depending on the building process, it may consist of one or more pieces (eg 3 pieces of 1000 mm per 2000 mm).

(image of playing area) 1. Dropping areas

2. Cherry dispensers

3. Basket support

4. 3 sponge cakes pile

5.3 cream pile

6. 3 icing pile

7. ArUco marker number 20

8. ArUco marker number 21

9. ArUco marker number 22

10. ArUco marker number 23

11. Fixed beacon supports

12. Central tracking device

Each team has 5 dropping area, they are squared surfaces of 45 cm side delimited by a line on the table of the team's color (the line is included in this zone). Thoses area are both the starting areas for their robots (it's not mandatory to start all the robots from the same zone), the drooping area for the cakes, and the final area for the robots. (Check the distribution of the dropping areas in the general plan of the table)

At the end of the setup time, the vertical projection of the robots must not exceed the limits of their starting area.

Make sure your robots can fully enter their starting area. The starting area does include the colored lines.

During the 3 minutes of preparation time, a robot can to change its starting zone among all the zones of the team. After the 3 minutes, the robot have to start from the zone in which one he is.
Cake layer: The cake layers are solid discs, with an external diameter of 120 mm, a thickness of 20 mm and a maximum mass of 100 g. They are cover by vinyl on both side, vinyl which containt aruco tag. They are 36 in number, and are initially located on predefined locations (grouped by 3 of identical color) placed by the markings on the playing area:

If we suppose that we are looking at the playing area from the top down, with the protected zones in the north, let's suppose we have a frame of a cartesian coordinate system defined by the following:

O(x=0,y=0) the reference point of the plane located as follows:

The following are the coordinates of the discs

ArUco 4x4 tags are printed on the faces of cake layers in the following way:

- A tag number 47 on the face of the icing colored in pink.
- A tag number 13 on the face of the cream colored in yellow.
- A tag number 36 on the face of the sponge cake colored in brown.