



Eurobot 2007

Robot Recycling Rally



Team Name :		N° Pit :				
Referees :	PRE-APPROVED	<input type="checkbox"/>				
	NUMBER OF TESTS ON THE TABLE	<input type="checkbox"/>				
	APPROVED	<input type="checkbox"/>	Points :			

1 Structure of the Main Robot		
1.1	Before the match starts, the unfolded convex envelope that fits the vertical projection of the robot onto the ground does not exceed 120 cm.	
1.2	The perimeter of the robot in fully deployed configuration doesn't exceed 140 cm at any time during the match.	
1.3	The height of the robot never exceeds 35 cm.	
1.4	The robot has an obstacle avoidance system.	
1.5	The robot hosts a beacon support measuring 8x8cm, located at 43cm high and covered with Velcro (soft "snagable" face). This beacon support is robust enough to host the opponent's beacon and to interpret its data. It is located at the centre of the robot as much as possible and contains only systems connected to sensors.	
1.6	The robot is composed of interdependent elements (and shall not leave parts or elements on the playing field).	
1.7	The robot is a totally autonomous machine with embedded power supply, actuators, and control systems.	
1.8	The robot has an emergency power off switch, installed within the limits of the dimensions of the robot. It must be put in evidence by a red distinguishing mark of at least 20 mm in diameter and must be placed in evidence in a not dangerous zone and of immediate and vertical access for the referee at any time of the match. This switch must interrupt the power for driving motors and actuators.	
1.9	The robot has a starting device which must be easily accessed and triggered in a single movement by a wire at least 50cm long.	
1.10	The robot has 2 sets of batteries or sufficient long-life batteries.	
1.11	The robot will not cause intentional damage to the opponent robot and/or to the playing field or to people in the attendance.	
1.12	The robot doesn't hold any element that would intentionally jam the opponent robot or that would hinder the game. It doesn't use accessories, colours or drawing looking like playing area elements in an attempt to lure the opponent robot.	
1.13	The robot has no protruding or sharp part that may be able to inflict damages or that can be dangerous.	
1.14	The robot doesn't make use of any corrosive or pyrotechnic products, nor spraying of liquids.	
1.15	The robot is only allowed to communicate with the beacons, if they are used.	
1.16	The robot never totally prevents its opponent to access the waste, the bins and the basket.	
1.17	Any pressure system complies with the applicable french regulation (PV<80 and 4 bar at output).	
1.18	Any laser complies with the constraint: max optical output power : 1mW (0dBm).	
1.19	No anchoring system is allowed (suction....) Consequently, at any time during the match, the necessary force to lift up the robot shall not be exceed its own weight.	

At this point, the robot is said pre-approved.





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2 Beacons (skip this section if the robot has none)

2.1	Each beacon fits in 8x8x8cm (embedded beacon) and 8x8x16cm (static beacon) . One side of the beacons is covered with Velcro (soft snagging face); the top face of the embedded beacon is covered with Velcro (hard snagging face).	
2.2	Beacons may in no way serve to jam or hinder the opponent robot.	
2.3	Embedded beacon (1 maximum per opponent robot) shall be totally autonomous and independent.	
2.4	Static beacons (3 maximum) must globally be autonomous but 2 of them may be connected together by a wire link. In that case, the wire shall not hinder the game progress.	
2.5	Any beacon using laser complies with the constraint: maximum optical output power : 1mW (0dBm).	

3 Technical file

3.1	The team provides an A1 poster to display in its pit.	
3.2	The team provides a CD-ROM containing a maximum of 10Mo of data. On the CD are mentioned: the name of the team, the name of the school/university/club, the pit number.	

4 Game rules

4.1.	Under match conditions (1min30), free of opponent, the robot is able to win a match in 5 attempts maximum and to leave his departure area.	
4.2	The robots doesn't damage the playing field nor the waste, nor the bins and the basket during the attempts.	
4.3	The robot has an obstacle avoidance system. This system should be able to successfully avoid a static dummy obstacle (30 cm high cylinder, 20 cm diameter, between 2 and 3 kg weight) placed at a random distance in its path on the table.	
4.4	The robot has a timer in order to make it stop and stay in position at the end of the match time (1min 30).	
4.5	The strategy of the team does not have actions against the fair unfolding of the games. Referees could, if they consider it happens, give a penalty to the team.	
4.6	Robot is not dangerous for the audience.	
4.7	Team members agree to accept the decisions of the referees (decisions may overpass the rules).	
4.8	Teams are informed about the procedures of the match (start procedure, game phases, point validity, score counting).	
4.9	Team members are informed that only 2 people of each team are allowed on stage.	

Comments :

