Regulations:

SHOT PUT Athletic Competition 2026

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1 GOAL

1. The goal of the Robot is to throw the ball as far as possible.
2. The competition requires shot putter movements, precision, mechanics and correct calculations.

2 THE TEAM

1. Teams and not individuals participate in the competition.
2. Eligible for participation are teams in the categories of: Primary 4th – 6th, Gymnasium, Lyceum, Adults
3. Each group can consist of two (2) – five (5) persons. The regulation applies as in the other Robotex Cyprus challenges for the participation of up to one person of age category X in a team of the next age category X+1.
4. Each team should nominate one (1) Robot Operator (from this point forward referred to as Operator).
5. Only the Operator is allowed in the waiting area or play area. The rest of the team will remain in the team area or watch the competition from the audience. If a team does not adhere to the above rule and its members roam the field then the team will be disqualified.
6. The team is allowed to change Operator in every round it makes on the track in order for all the members of the team to engage in the sport, but this is not mandatory.
7. Each team is allowed to have only one Robot. It is forbidden to change the Robot during the competition.
8. Teams are not allowed to share the same Robot.
9. If a team has a serious problem with its Robot is only allowed to change the microprocessor of the Robot after permission from the Head Judges.

3 THE ROBOT

The competition is open to Robots constructed with LEGO and/or ARDUINO compatible kits and any other robotic platform. All Robots compete together in their age category.

1. The Robot must be autonomous.
2. The Robot maximum dimensions must be 25 cm Width x 25 cm Length and weight up to 1 kg.
3. In order to confirm the specifications of the Robot , the Robot will be weighted and must easily fit within the measuring/control box.
4. The size of the Robot measuring/control box is 25 x 25 cm with 2 mm tolerance. This practically means that only Robot s with maximum length and width of 25cm accepted to compete. It is emphatically noted that the 2 mm tolerance refers to the measuring/control box and not to the Robot.
5. The Robot should be placed in the control box without applying pressure.
6. The Robot must not damage the track or pose a threat to spectators in any way.
7. The Robot must have a start and stop button.
8. **The Robot must have a 3-degree-of-freedom arm, meaning that it must include three joints working together to move the robotic arm used to throw the ball.**
9. Throwing the ball with a shaft/axle/ robotic arm or any other equipment that produces torsion is not allowed.
10. The robotic arm must under no circumstances launch/throw the ball with a bow-like mechanism or a mechanism that operates like a bow (flexible shafts, wood, plastic, etc.).
11. The Robot must not throw the ball like a tennis ball launcher machine.
12. The Robot must not use rubber bands or any kind of rubber anywhere on any part of its arm structure.
13. The use of pneumatic devices / hardware is prohibited in any category of Robot s.
14. Regardless of Robot class, only 1 processor, 6 motors and 4 sensors are allowed.
15. **For Robot package categories where the microprocessor ports do not allow more than 4 motors, the use of port expansion components i.e Lego Mindstorm multiplexer is allowed.**

4 TECHNICAL CONTROL

1. The initial technical inspection will take place on the day of the competition at a place and time to be determined by the organizers.
2. Technical inspection includes inspection of the Robot according to the conditions described above. If the Robot does not meet the specifications, will not be allowed to compete and will be automatically disqualified from the event.
3. If a team is not in place during the initial scrutineering, the team is automatically disqualified from the match.
4. A secondary technical check is also carried out before each attempt in the match.
5. It is mandatory for the Operator to wear safety glasses. Protective equipment is mandatory on the playing field before and during matches. The protective equipment will be checked during the technical inspection.
6. The lack of protective equipment in whole or in part will be reason for the team to be disqualified from the competition.

5 THE FIELD

1. The competition track has dimensions of 236cm Length x 114cm Width x 5cm Perimeter Barrier Height.
2. Its color is white and the texture of the tarpaulin is printable.
3. It has a 5cm thick black frame around the perimeter.
4. On one of its sides it has a green-purple rectangular frame measuring 105cm Length x 90cm Width.
5. In the center of the rectangle there is a circle with a diameter of 85cm (approximately 65cm white surface - 2cm black ring).
6. The track is mounted on a frame measuring 236cm Length x 114cm Width x 5cm Height Perimeter Barrier.
7. The white part of the track contains sand. Sand fills the white surface of the carpet.
8. The ball that the Robot must throw will be provided by the Organizers of the competition.
9. The ball that the Robot must throw is a classic ping pong ball with a 1.57” (40 mm) diameter, a 4.94” (125.6 mm) circumference and 0.095 oz (2.7 g) mass.
10. The measurement is the distance from the end of the black line, vertically and in a straight line until the ball, with the ball placed at its initial point of impact with the sand surface.

Figure 1: The Shot Put Competition Field

[Download the Shot Put Field for Print & Practice]

6 THE COMPETITION

6.1 PREPARATION

1. The Robot is placed in the circle on the track with the front of the Robot facing away from the sand. The part from which the ball is thrown is considered the front part of the Robot.

2. The Operator takes a position behind the Robot having previously put on the protective equipment.

6.2 START - PROCESS OF THE COMPETITION

1. **The Robot must start autonomously, five seconds after its Operator presses the Start-Stop button (five seconds time delay).** During these five seconds, the Operator must move back few steps for safety reasons.
2. A restart is given to the Robot only on the first attempt. In all other attempts/throws beyond the first, in case the Robot does not start, the Operator is not entitled to restart it and the attempt is considered invalid and scored with 0 (zero).
3. The Robot must move in a circular motion towards the opposite end of the circle and throw the ball as far as possible up to a distance of 155 cm.
4. If a Robot takes the ball out of bounds by more than 155 cm then his attempt is considered void and scored with 0 (zero). The Robot may only have one restart on the first attempt. An attempt in which the ball, before hitting on the sand, hits at any point on the perimeter frame/barrier (front, right or left barrier), whether it stays inside the track or drops outside the track, is also considered void and scored with 0 (zero).
5. If a Robot takes the ball out of bounds (front, right, left) then his attempt is considered void and scored with 0 (zero). This is only valid in case the ball does not strike a spot in the sand before being out of bounds and does not apply in case the ball, before going out of bounds, had initially struck a spot in the sand.
6. If a Robot does not move in circular motion, but in a straight line, its throw is invalid and scored with 0 (zero). The goal of the competition is to simulate the movement of a normal Shot Putter.
7. If one of the Robot 's wheels or any other part of the Robot goes over the black line around the circle, the attempt is considered invalid and scored with 0 (zero).
8. If, during the throwing, the Referee determines that the Robot 's arm does not meet the specifications set forth in the competition, he/she is entitled to disqualify the Robot from the competition.

6.3 ROUNDS - ATTEMPTS

1. Each team will have six (6) attempts. The six (6) attempts will not be consecutive. The best three (3) attempts will be recorded in the information system for purposes of results processing.
2. The order in which the Robot will compete will be announced by the Organizers.
3. If an Operator is not in line for its Robot attempt, he loses his attempt and the next Operator takes his turn. The Operator who lost the attempt must wait until all attempts are completed and it is his turn again.
4. The referee records the points for each attempt.

6.4 END OF AN ATTEMPT

1. When the Robot throws the ball out of *bounds (see exceptions mentioned above).*
2. If the Robot experiences a technical problem.
3. If the Robot during an attempt proves to be unable to throw the ball in a straight path and this poses a danger to him, the referee or the participants on the playing field.
4. Cases described in the "START - PROCESS OF THE COMPETITION" section.

6.5 BAN A TEAM

In the following cases the team is excluded from the competition and will have to withdraw. Team results are not taken into account and are not included in the list of competition results.

1. If a team's Robot does not comply with the requirements set forth in the rules of the competition and the team refuses to accommodate him.
2. If the Team Operator or a member of the team or the coach of the team behaves in an inappropriate or indecent manner, curses or provokes, or verbally or otherwise attacks teammates, coaches, the judges, members of the Organizing Committee, volunteers or any person participating or watching the event.
3. If it is detected that the Robot does not work autonomously but with the use of remote control, bluetooth, wifi etc.

6.6 WHAT IS ALLOWED AND WHAT IS PROHIBITED

Allowed

1. The extension of the Robot ’s arm.

Not allowed

1. Robot s to use parts that can harm spectators.
2. The use of adhesives to improve adhesion.
3. Breaking the Robot into pieces during the competition.
4. Remote control.
5. The use of elastic materials (rubbers, belts, etc.). The method of throwing must be exclusively mechanical.
6. The wireless connection (bluetooth) with a computer or any other electronic device during the match. Teams found to have connected their Robot wirelessly (team members or coaches) during the match will be disqualified from the sport.
7. The restrictions listed in the Robot technical control section.

7 DECLARING THE WINNING TEAM

For each age group separately:

1. A ranking is made based on the distances achieved by the teams in the category.
2. The team with the highest distance in any of the three attempts takes the first place, the team with the next highest distance takes second place, etc.
3. In case of a tie, the second-best distance is considered. If a tie still occurs, the third-best distance is taken into consideration. In case of a tie still exists, the teams compete in an additional attempt to decide the winning team in the category. In this process, ten (10) minutes are given to the team to improve their robot.
4. Applying the practice followed at Robotex Cyprus, a final attempt (best-of-the-best) will be held between the teams with the highest score in each category. For this final round, the teams make only one attempt and a ranking is made to highlight the winning team with the highest distance.