

ROBO RACE CHALLENGE

The challenge is to build your own wireless bot within the specified dimensions in order to achieve the maximum speed to beat other bots on the given track and reach the finishing line in minimum time.

- **200 Teams** to participate in Robo Race Challenge.
- All participants will get a certification of Participation from **All India Council For Robotics & Automation (AICRA)**.
- **INR 2,00,000** to be awarded to winning teams.
- **Eligibility Criteria:** There will be 2 categories for Robo Race Challenge
 - **Jr. Category :** RoboClubs/ Schools or individuals may nominate. Participants' age should be below 18.
 - **Sr. Category :** RoboClubs/ Colleges/ Universities or individuals may nominate. Participants' age should be between 18 to 30.

How to get on ROBO RACE

RoboRace Challenge is played by 3 teams in one go, with each team consisting of 1 Wireless Bot.

- **STEP 1:** Register your RoboClub or Institute as TechnoXian RoboClub online at official TechnoXian website. If you do not have Club or Institute, you may form a new TX RoboClub by introducing minimum 5 members. Registered individual TechnoXian member can also participate in RoboRace challenge.
- **STEP 2:** Once your RoboClub is active, you may select RoboRace Challenge category from the competition list in your login panel, and apply. You will also be needed to select members from your club who would participate in challenge. Maximum 10 members in 1 team can participate. A club can apply multiple teams for the same challenge.
- **STEP 3:** Construct a wireless autonomous or manual Bot. Ready-made bots will not be allowed to compete. Only self-made or TechnoXian listed DIY kits can be used to make bot.
- **STEP 4:** Prepare a **video** of **1 minute to 5 minutes** (maximum 100 MB), showcasing team readiness, creativity, preparing for challenges, or anything to show passion to participate in TechnoXian. Share the video either on email at videosubmission@technoxian.in (as google **drive** or **V transfer**) or **WhatsApp** at **+91 8924934336** mentioning Your Team Registration ID. All videos will be uploaded on TechnoXian YouTube channel.
- **STEP 5:** Receive an Invitation Letter from TechnoXian to participate in particular challenge.

THE ROBO RACE BOT

Bot must fit inside a **box of 30cm length, 30cm width and 40cm height at any point in time**. Maximum weight should not be more than **5Kgs** including battery, however a tolerance of 5% is acceptable in weight. Participants need to ensure:

- Batteries must be sealed, immobilized electrolyte type (gel cell, lithium, NiCad, or dry cells).
- The electric voltage anywhere in the machine should not be more than 12V DC at any point in time for each robot.
- The Bot must not emit infrared light. However, optical sensors (e.g. infrared-distance-sensors) may be used if they do not affect other Bots. Teams may use RF module but must ensure that RF module should have function to change different frequencies/channels and not affect other bots.
- If a team claims that their robot is affected by the other team's robot in any way they must show proof/evidence of the interference. Any interference must be confirmed by a Referee if a claim is placed by the other team.
- The robot can be autonomous or manually controlled using a Remote-control system.
- Robots must be constructed and programmed in a way that their movement is not limited to only one direction and must move in all directions.
- Any robotic parts/building material can be used until the robot meets the above specifications and if the design and construction are primarily the original work of the team as ready-made robots are not allowed to compete in the competition.

ROBO RACE TRACKING

The Racing track has **3 bot lanes of a total length of 80-100 Feet** (approximately) with a dimension of 32X24 SqF arena. At starting point, each **bot lane would be 40cm appx and track would be 120cm wide**. At certain checkpoints before the hurdles, track can be 80cm wide. The surface and course line may have unevenness as well as different hurdles will be there on the race track trying to slow down the Bot. Predefined Obstacles for the competition will include Switch Bridge, speed breakers, marble pit, slippery path, rotating disc, curve ramp down, seesaw, etc.

ROBO RACE GAME PLAY

- The robot must start behind the starting mark and is considered to have crossed the finishing line. Bot must be manually/autonomously controlled, and it should be capable of traversing over different terrain and hurdles without going outside the track. The competition area has a special place defined for the robot's operation (hereafter COMPETITION FIELD). There would be multiple rounds in Competition until top 3 winning teams are selected. Racing tracks for each round can be changed.
- **First Round:** Minimum **3 Racing Bots would be playing** in each round. Team schedule would be announced before competition day. If 1 bot is missing in first round, 2 other bots would be competing in Race. If 2 Bots are missing, present one bot would be declared winner for that round.
 - Each round would have **maximum 8 minutes racing time and 2 minutes for readiness**. Readiness time will not be included in racing time. Bot reaching first to finish line, will be declared winner for respective round.
 - There would be restart points after every 5 feet appx. If bot lose the track or stuck up or stop function, Bot operator can check the bot and restart from previous point. Any time used to adjust the robot between runs is included in the 8 minutes
 - All bots are expected to cross all hurdles on the track.
 - Each run will start from the starting point. The operator may abort a run at any time. Each team will get maximum 3 chance to touch the bot in each round. If an operator touches the robot during a run, the team will start from the previous checkpoint. If a robot has already crossed the finish line, it may be removed at any time without affecting the runtime of that run.
 - During run, team may change battery or fix minor technical issues.
 - The run timer will start when the front edge of the robot crosses the start line and stops when the front edge of the robot crosses the finish line.
 - If there is a tie, both bots will be selected for next round.

Qualifying Round: There can be multiple qualifying rounds, depending upon number of teams competing. In each round, minimum 1 team will be qualified for next round whosoever reaches to finish line first as well as within 8 minutes timeline.

Final Round: Elimination in qualifying round will go on until last 3 teams are left. Final round would happen among last 3 teams and 1st, 2nd and 3rd winners will be decided as per performance of team in final round.

COMPETITION INFORMATION

Venue: Noida Indoor Stadium, Noida-Delhi/NCR (India).

Registration Fee:

- For Indian residents: INR 2950/- (Inclusive GST) per challenge.
- For Non-India residents: USD 50 per team.

Prize Bifurcation:

- **Jr. Category** – INR 60,000 (1st Prize) | INR 25,000 (2nd Prize) | INR 15,000 (3rd Prize)
- **Sr. Category** – INR 60,000 (1st Prize) | INR 25,000 (2nd Prize) | INR 15,000 (3rd Prize)

Registration mode: Online.

Accommodation : For inquiries regarding **Hospitality Partners** you can contact on this Number +91-9910012301, +91-971605867