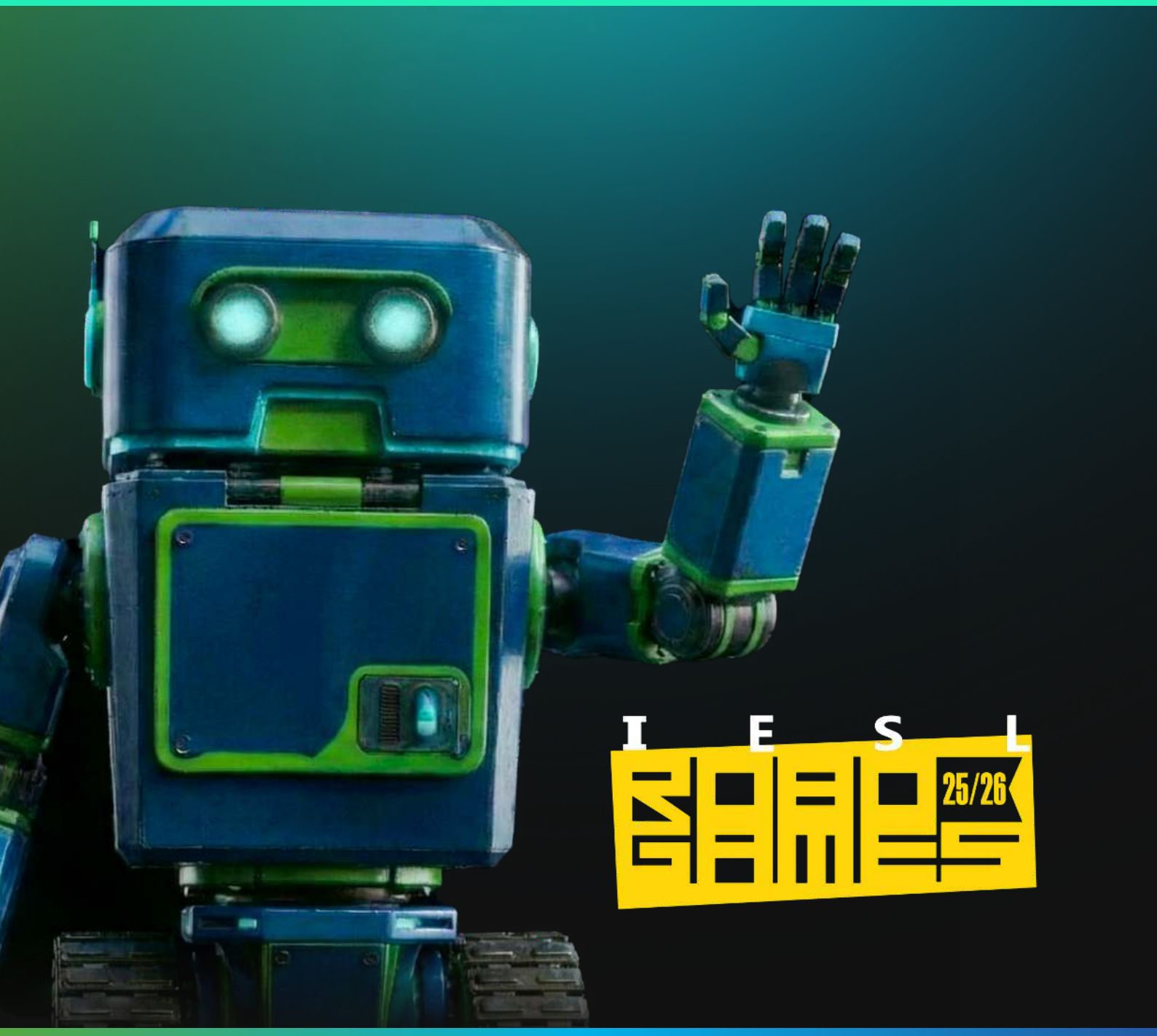
Rules & Regulations
Open Category



COMPUTER SCIENCE & ENGINEERING
UNIVERSITY OF MORATUWA

IESL

SLTMOBITEL
The Connection

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About Robogames

IESL RoboGames is an annual robotics competition organized by the Department of Computer Science and Engineering at the University of Moratuwa, together with the ITCE Sectional Committee of the Institution of Engineers, Sri Lanka (IESL) and in partnership with SLT Mobitel. The event aims to support and develop young talent by encouraging interest and skills in engineering and technology.

The competition has three categories: School, Undergraduate, and Open. For the School and Undergraduate categories, workshops and awareness programs are conducted to introduce students to robotics in a simple and practical way. These programs help improve learning, boost creativity, and motivate students to become future engineers and innovators

MISSION

The mission is to bridge the gap in robotics education by providing all students around the country with hands-on training and guidance, empowering them to apply their knowledge in real-world challenges, and grow as future engineers and technologists.

Overview of the **Open Category**

In the Open Category, participants **design and build combat robots that compete in head-to-head knockout battles**. The goal is to test each robot's strength, agility, strategy, and durability in a controlled arena.

Matches are conducted in a knockout tournament format, culminating in a final round to determine the champion.

This category encourages **innovation, teamwork, and problem-solving skills**. By engaging in high-intensity competitions, participants gain hands-on experience in engineering, electronics, and programming, while learning to apply strategic thinking under pressure.

Beyond individual skill development, the Open Category also contributes to society by inspiring young innovators and promoting interest in STEM fields. It demonstrates the real-world applications of robotics and encourages creative solutions to engineering challenges, fostering a culture of innovation, technology awareness, and scientific curiosity in the broader community.

Open Category **Timeline**

DEC 2025

- **23-12-2025** — Launch of Robogames
- **24-12-2025** — Registrations Open

- **03-01-2026** — Regulations Out

JAN 2026

- **TBD** — Registrations Close

FEB 2026

MAR 2026

- **TBD** — Battle Day

Rules & Regulations

1. Robot Specifications

- The dimensions of the robot must be within the **maximum allowable dimensions of 45cm x 45cm (length x width)** and the allowed **maximum weight of 15kg.**

- After the match begins, the robot may expand up to 60 cm in a single direction only, as long as it does not damage the arena.

- **The robot's power supply must be internal** (no external power is allowed) and maximum Voltage between any pair of points inside the **robot cannot exceed 48V at any time**. No internal combustion engines will be allowed. All power sources must be securely enclosed.

- The robot can split into a maximum of 2 completely disjoint and controllable units. However, at the start the robots must be in a single unit.

- Robots with active weapons must include a **Master Kill Switch** and a **fail-safe mechanism** that immediately stops the weapon if control is lost, ensuring safety.

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- Once the robot is switched on it should be able to be controlled by the participants.
- Robots must be safe for judges, spectators, and operators and **must not damage anything except the opposing robot.**
- **Liquids are not allowed during combat.**

2. Combat rules and regulations

- The combat area includes the arena floor and the airspace above it up to the ceiling.
- Robots must remain within the combat area. A robot is declared defeated if it completely exits the arena or touches any restricted surface.
- Operators must not enter or lean into the combat area during a match.
- The same robot must be used throughout all rounds. Teams should bring spare parts. If flying robots are used, a ground-based robot is also required.

If the ground-based robot is pushed into a pit, immobilized by the opponent or pushed out of the arena, it will be considered a defeat.

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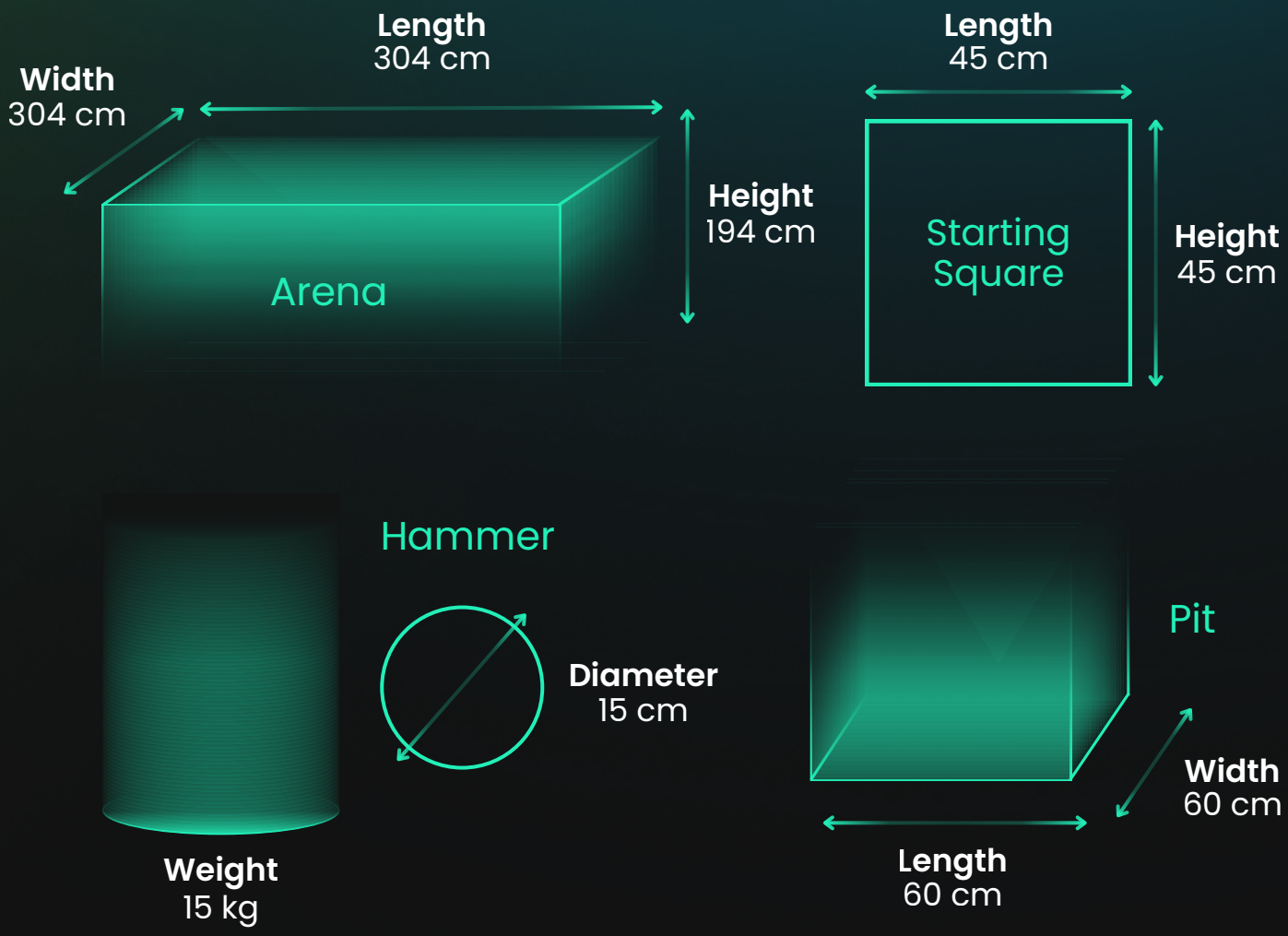
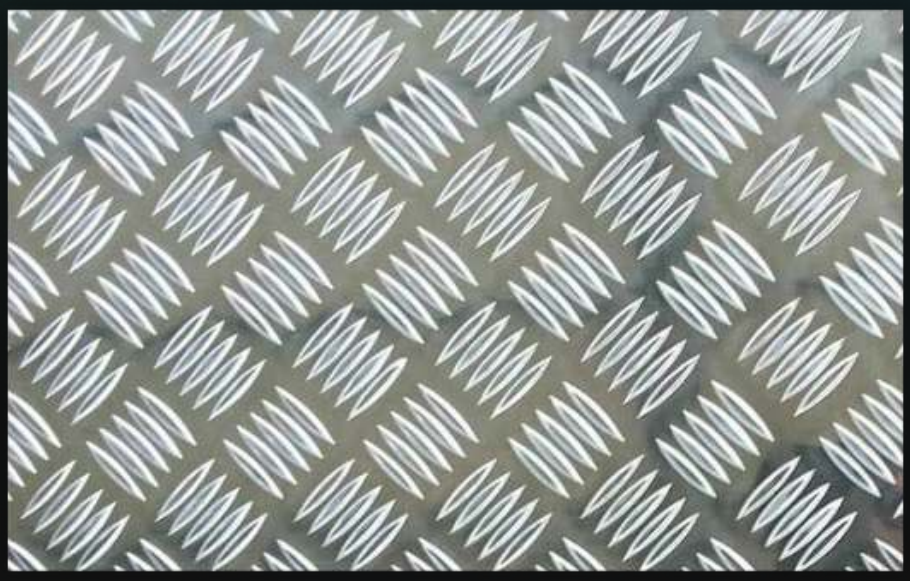
3. Arena Specifications



Rules & Regulations CTD.

- There will be two pits located at the two opposite corners of the arena.
- There will be a hammer for each team, located at the remaining corners of the arena. The hammer can be operated manually.
- The arena floor is made with aluminum checker plates. Due to the textured surface and potential floor fluctuations, a minimum ground clearance of 0.5cm (5mm) is recommended for all robots.



Arena floor material (aluminium checker plates)

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4. Technical / Safety Inspection

To be eligible to compete in "IESL RoboGames 2025/2026" entrants must pass a technical / safety inspection. The points covered at the technical / safety inspection shall include (not limited to):

- Weight and size check.
- Appearance suitable for competition.
- There shall be no fluid / gas leaks.
- Adequate sharp edge covers.
- Functionality test - A functionality test is used to prove that a robot is capable of reasonably safe control. A simple "driving" test may be set up as part of the technical / safety inspection. The organizers will not be responsible for any damages that may occur during the inspection.

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5. Deciding a Winner

1. **Violation of rules.**
   If a robot is found to be violating any competition rule, the opposing team will be declared the winner.
2. **Single Incapacitation**
   If a robot is unable to demonstrate controlled movement within the given time after a referee's request, it will be declared incapacitated and the opponent will win.
3. **Multiple Incapacitation**
   If both robots become incapacitated at different times, the robot that was incapacitated last will be declared the winner.
4. **Simultaneous Incapacitation**
   If both Robots become incapacitated within 5 seconds of some action of any robot or both robots, a "Simultaneous-Action" Incapacitation will be declared,
   - If the Action occurred more than 60 seconds after the start of the Match, the Judges will decide the winner with the scoring.
   - If the Action occurred less than 60 seconds after the start of the Match, a rematch may be scheduled. If a rematch is not possible, the Judges will decide the winner with the scoring.

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5. **Fall all into any arena pit**
   If both robots fall into any pit, the Judges will decide the winner.

If no clear winner is determined during the match, the judges will decide the outcome based on performance and scoring criteria.

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6. Judging Criteria - Marks

- **Damage (7 Points)** – Points are awarded if a robot reduces the functionality or effectiveness of its opponent, either directly or by using arena hazards. Damage is not considered relevant if a Robot harms itself.
- **Aggression (6 point) –** Aggression is judged by how actively and effectively a robot attacks its opponent using approved weapons. Accidental contact is not considered aggression.
- **Control (5 Point)** – Control is demonstrated by a robot's ability to **maneuver effectively**, target weak points, avoid arena hazards, and limit damage from the opponent.
- **Defence (3 Points)** – Defence is assessed by a robot's ability to withstand attacks, protect critical components, and recover functionality during the match.

*Note that each judging category is scored using **atomic points**, meaning each criteria points are awarded as a whole to a single team*

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7. Pit Area

- **Pit Crew Members** - Each robot shall be allowed a maximum number of 5 crew members.
- **Pit Passes** - All crew members are required to wear official "IESL RoboGames 2025/2026" pit passes at all times during a competition. Crew members must provide their NIC for identification purposes. Pit Passes are non-transferable or exchangeable.
- **Pit Safety/Behavior** - While it is impossible to list all the safety/behavior requirements of the pit area, contestants should practice common sense and good sportsmanship at all times.

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8. Required Equipment

- **Master Kill Switch**
  All robots must have an accessible Master Kill Switch that immediately shuts down movement and all electric weapons. A Radio Controlled Master Kill Switch shall be required for robots that are unsafe to approach while operating.

- **Radio Control System**
  To avoid interference, only active competitors may keep their RC controllers switched on during matches. Other controllers must be turned off.

- **Power Sources**
  A good measure of the potential danger of a robot (to other robots, its builders and spectators) is the amount of potential energy stored in its power sources. These power sources ultimately provide the capability to move and compete with other robots.

- **Batteries**
  Only batteries with immobilized electrolytes are allowed (e.g., Li-Po, Ni-Cd, sealed lead-acid). Battery charging must be done only at designated charging bays. Unsafe charging practices may result in disqualification.

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9. Weapon Types

Sharp Edges - **All sharp edges must stay covered** with protective material before entering to the arena.

Forbidden Weapons

- **Electrical weapons** - stun guns, EMP devices, RF jammers
- **Liquids or gases of any kind** - water, foams, adhesives, liquefied gases
- **Explosives or flammable materials** - gunpowder, cartridges, military explosives
- **Blinding lights** or **lasers** that obstruct vision.
- Untethered projectiles. **Tethered projectiles are allowed only if securely restrained and shorter than 2 feet**, and must not be used for entanglement.
- **Heat-based weapons** that are designed to damage opponents.
- **Entanglement devices** - nets, strings, fishing lines, or tapes.

Team Guidelines

- Each team must consist of a minimum of **1 and a maximum of 5 members**.
- Participants from **multiple institutions** are allowed to form a single team.
- Multiple teams from the same institution is allowed.
- The team should ensure that the **robot is built according to the given specifications** and operates within the allowed size and initial position.
- Each team **must comply with all competition rules**, safety regulations, and judges' instructions at all times.
- Any repairs or modifications must be completed within the allocated maintenance time between matches.

***Open Category** Prize Pool*

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