



AI for Good
Robotics for Good
Youth Challenge



Rulebook 2024-2025



Summary of the Robotics for Good Youth Challenge 2024-2025 Rulebook

The theme of the Challenge

The challenge highlights the crucial role of robotics in addressing natural disasters, particularly focusing on earthquakes. Participants are encouraged to envision robots as tools for efficient and safe rescue operations, utilizing advanced technologies such as AI and carbon-neutral energy to align with sustainability goals. Teams are tasked with designing innovative solutions for prediction, prevention, rescue, and recovery efforts.

Mission for Teams

Teams will act as rescue squads responding to a devastating earthquake with a magnitude of 7.2. Key tasks include:

- Rescuing injured individuals trapped under rubble.
- Evacuating unharmed residents to safety.
- Navigating challenging terrains and damaged infrastructure.
- Ensuring that operations prioritise safety and minimise additional risks.

Materials and Game Setup

The competition takes place on a game board featuring two fields:

- **Wooden Blocks:** Represent injured (red) and evacuated (green) individuals. Points are awarded based on their placement in designated zones.
- **Hospital and Shelter Structures:** Specific areas where blocks must be transported for scoring.
- **Game Board Dimensions:** A detailed setup is provided to ensure uniformity across competitions.

Robot Rules

Participants must design and build autonomous robots adhering to the following rules:

- **Theme Alignment:** Robots must be decorated and justified around the disaster response theme.
- **Autonomy:** Robots operate without manual control during gameplay.
- **Safety Compliance:** Robots must meet safety standards to avoid risks to people and equipment.
- **Homologation:** Robots undergo visual inspection and testing to ensure compliance before competing.

Gameplay and Scoring

Key gameplay details include:

- **Objective:** Locate and transport blocks within a 2-minute time frame.
- **Scoring System:** Points are awarded based on the final placement of blocks in specified areas:
 - Higher points for placing blocks in the hospital or shelter.
 - Bonus points for upright blocks and those sourced from collapsed buildings.
 - Penalties for blocks outside the competition field or improperly handled.
- **Robot Behavior:** Robots must remain within the field and perform tasks autonomously.

Competition Structure

The competition consists of two phases:

1. **Qualifying Rounds:** Teams compete to secure rankings based on their scores. Tiebreakers include absences and cumulative scores.
2. **Elimination Rounds:** Top-ranked teams progress to head-to-head matches, culminating in semi-finals and finals to determine the winners.

Penalties and Disqualifications

Penalties are issued for infractions, including:

- **Field Damage:** Damaging the game board or materials.
- **Rule Violations:** Interfering with other teams or manipulating robots illegally.
- **Unsportsmanlike Conduct:** Disrespectful behaviour or repeated non-compliance.
- **Disqualifications:** Severe offences may result in the removal of a team from the competition.

Key Takeaways

This challenge fosters creativity, technical skills, and teamwork among participants. It provides a platform for youth to develop practical robotic solutions that can significantly impact disaster response and management.