MRC GHANA 2027
CATEGORY INFORMATION SHEET

Marathon

Autonomous line-following race

19–20 February 2027 · Accra, Ghana · Venue to be announced

The current official H.E.R.O. rules take precedence
This sheet is a plain-English summary prepared by the MRC Ghana 2027 organisers. Always check the official rules before building or competing: https://www.he-ro.gr/mrc-marathon

Sport overview

Marathon is a race against the clock for fully autonomous robots. Once started, the robot must follow a black line on a white track all the way to the finish with no remote driving.

The track layout stays secret until the competition day, so robots must be programmed to follow any line reliably — through curves and straight across intersections.

There are two divisions. Marathon Basic is for robots built from educational robotics kits with limits on motors and sensors; Marathon Advanced is open to custom electronics and fabrication.

Competition objective

- Build and program a robot that follows a 1.8 cm black line autonomously.
- Complete the track as fast as possible within the three-minute limit.
- Stay on the line — the robot may leave it for no more than three seconds.

Age eligibility

Two divisions: Marathon Basic and Marathon Advanced. Each age category competes separately.

Age category	Published ages
Kids	10 to 12 years
Teens	12+ to 15 years
Senior	15+ to 18 years
Adults	18+ years — Not eligible for Marathon Basic

Team requirements

- Teams of 2 to 3 members. Individual entries are not accepted.
- Each team names one Technician — the only team member allowed in the waiting and competition area. The Technician may change between attempts or matches.
- Every team member must be at least 10 years old.
- Each team needs a coach aged 20 or over. A coach must bring one assistant for every three teams they register.
- One robot per team. Robots may not be swapped during the competition or shared between teams.
- In Marathon Advanced, Senior and Adults teams may register up to two robots.

Format and scoring

- Technical inspection at the first attempt — have your program open on a laptop. Teams who clearly cannot explain their code receive a time penalty.
- Each robot must start within five seconds of the whistle. Each attempt is limited to three minutes.
- Teams make repeated attempts during the session; adjustments are allowed between attempts but testing on the track is not.
- Ranking is by each robot's best (shortest) time.
- A run that exceeds three minutes, fails to start, loses the line or leaves the track records the maximum time.
- 1st, 2nd and 3rd place are awarded per age category in both Basic and Advanced.

Robot and equipment requirements

- Fully autonomous robot with a start/stop button. In Advanced, a controller may be used only to start the robot.
- Maximum footprint 25 × 25 cm, maximum weight 1 kg, height between 5 cm and 15 cm.

- Basic: an educational kit with its official controller (for example LEGO, VEX, mBot and similar), up to 1 controller, 4 motors and 4 sensors, no external microcontrollers and no 3D-printed or modified parts.
- Advanced: custom electronics (e.g. Arduino, ESP32, Raspberry Pi), custom PCBs, separate batteries and 3D-printed or machined parts are allowed.
- Banned in all divisions: pneumatics, pullback motors, gas canisters, circuits above 24 V nominal, sticky wheels and suction devices.

Preparation checklist

- [ ] Choose Basic or Advanced and check your kit against that division's rules.
- [ ] Confirm size (25 × 25 cm), weight (up to 1 kg) and height (5–15 cm).
- [ ] Fit and test the start/stop button.
- [ ] Practise on unfamiliar tracks with curves and intersections (go straight at crossings).
- [ ] Print the official practice track sample and time your runs.
- [ ] Bring a laptop with your program ready to explain to judges.

Safety notes

- No circuit may exceed 24 V nominal.
- No gases, pneumatics or parts that could injure people or damage the track.
- Rule ZERO applies: if you are not sure something is allowed, assume it is not and ask the organisers.

Awaiting clarification

- For MRC Ghana 2027, ages are counted on 19 February 2027, the first day of the competition. The official rules do not set this date themselves, and adjacent bands share boundary ages (for example '10 to 12' and '12+'); the Ghana organising committee will confirm the category for anyone on a boundary age.
- The rules require full autonomy and ban wireless links during runs, but also mention starting the robot with a remote in Advanced. Confirm acceptable start methods with the organisers.

Registration guidance

- Register through the official MRC Ghana 2027 registration application: https://www.mrcghana.com/register
- Have your team name, team members, coach details and chosen sport(s) ready.
- Registration closes on 15 January 2027. Registration fees: to be announced.
- Participant information is collected only through the official registration application.

- Questions: partnerships@makersplacegh.com

Official rules and source

Official H.E.R.O. rules
https://www.he-ro.gr/mrc-marathon

Source checked: 14 October 2026
Sheet version: 2026-10-14
Category page: https://www.mrcghana.com/categories/marathon