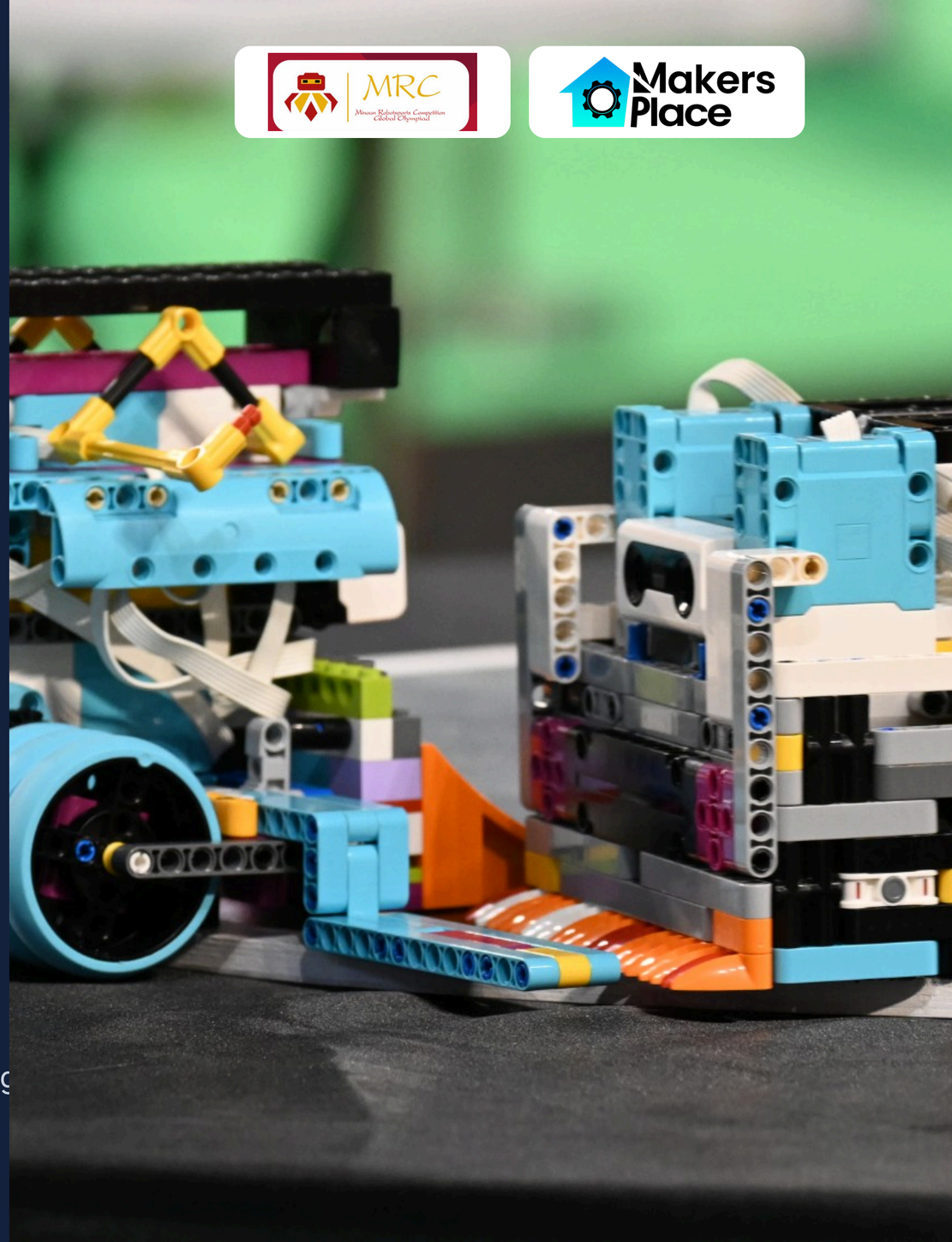
MRC GHANA 2027 · TEAM GUIDE

Robots and drones you can bring

What the official H.E.R.O. rules allow in the drone and robot sports, and what to check before you build.

19–20 February 2027 · Accra · Register by 15 January 2027 · mrcghana.com/reg



OVERVIEW

Drones, drone balls and robots: what each sport allows

Drones

Drones is a solo indoor piloting mission. Drone Soccer 3×3 is an alliance match played with a drone ball. Both are remote-controlled only.

Robots

Marathon and Archery are autonomous. Football 3×3 is remote-controlled. Shooting is semi-autonomous. Each sport sets its own size, weight and hardware limits.

Check first

Every robot and drone passes technical inspection on the day. If a rule is unclear, ask the organisers before you buy or build.

Source: official H.E.R.O. category pages, checked 12 Nov 2026

Drones: small, indoor and remote-controlled



Rule	Limit
Flight control	Remote control only; no autonomy
Size	25 × 25 cm maximum, guards included
All-up weight	300 g maximum, battery and camera included
Flight height	1–2 m, held without pilot altitude control
Propellers	Plastic, with full-perimeter guards
Batteries	LiPo or LiHV, 1S or 2S; up to two packs
Fuel or gas	Not permitted for take-off or thrust

Source: he-ro.gr/mrc-drones · checked 12 Nov 2026

DRONES · WHICH MODELS

Accepted drones are small, indoor and well guarded

Indicatively permitted

- Tello and Tello EDU (with guards)
- Parrot Mambo (with guards)
- Robolink CoDrone Mini and Pro
- Bitcraze Crazyflie 2.1 (with guards)
- BetaFPV Cetus and Cetus Lite (1S)
- VEX AIR (manual RC, autonomy disabled)

Not permitted

- DJI Mini, Mavic, Air and FPV models
- Parrot Anafi
- Autel EVO
- 3S–6S FPV racers
- Cinewhoops with props over 3 inches
- GPS or outdoor drones
- Carbon frames without full prop guards
- Fuel or gas systems

Compliance is judged by specifications, not by name. DIY and 3D-printed micro drones are excluded, except in the Adults category, where DIY drones are allowed if they meet the specifications.

Source: he-ro.gr/mrc-drones · indicative list, checked 12 Nov 2026

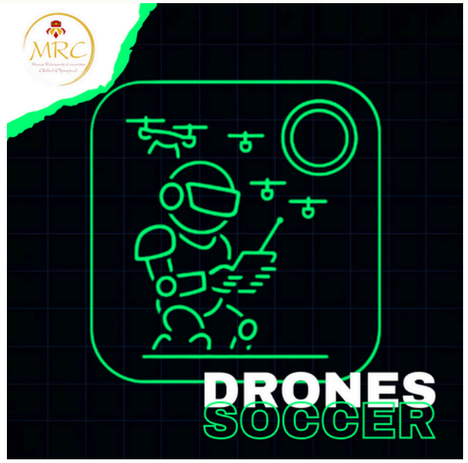
SAMPLE DRONES

What a drone and a drone ball look like



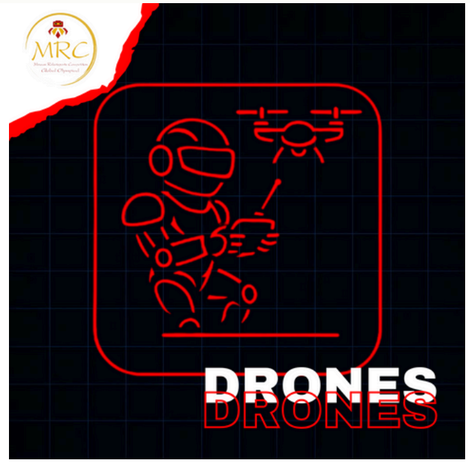
Competition drone

A small quadcopter between flights at MRC 2025. Check it against the 25 × 25 cm and 300 g limits.



Drone ball

Drone Soccer 3×3 uses an organiser-specified ball of 20 × 20 × 18 cm and up to 160 g.



Drones category

Solo indoor piloting through hoops, obstacles and landing pads.

Photo: MRC Global Olympiad 2025, Crete. Artwork: MRC category graphics.

Pre-approval, inspection and age bands

1

Check your model

Not on the indicative list? Send a technical sheet with the model, dimensions, battery, weight and prop guards, plus photos or video.

2

Get pre-approval

Approval from the Organising Committee is needed at least 7 days before the event. A drone that fails the final on-site check does not compete.

3

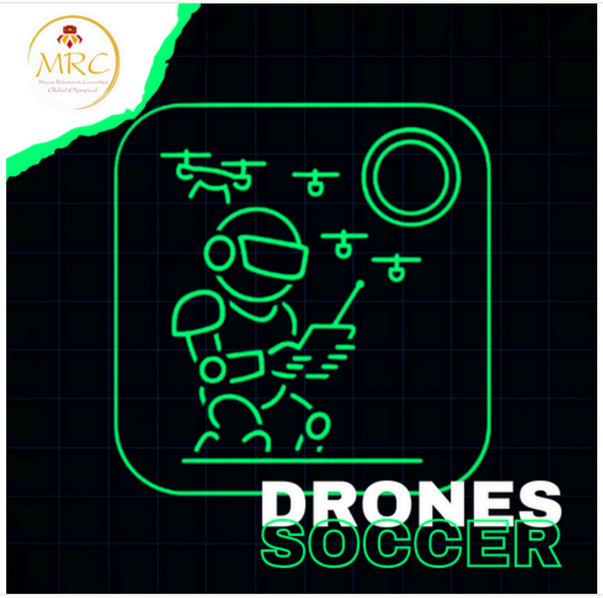
Pass scrutineering

The drone must fit a 25 × 25 cm frame, hold 1–2 m height without pilot control, and cut power on the kill switch. Each drone gets a unique ID.

Age bands: Kids 10–12 · Teens and Senior 12+ to 18 · Adults 18+. Every team has a coach aged 20 or over.

Source: he-ro.gr/mrc-drones · checked 12 Nov 2026

The drone ball is set by the organisers



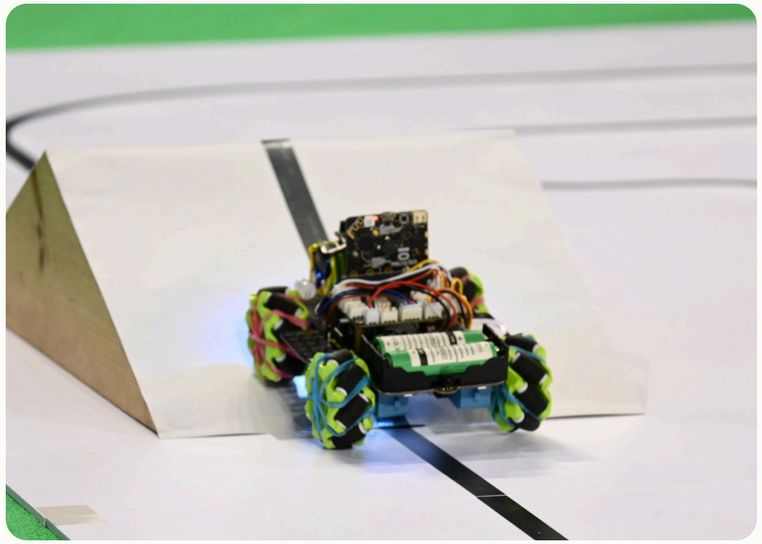
- Remote control only
- Ball no bigger than 20 × 20 × 18 cm (±1 cm) and no heavier than 160 g
- Ball must fit the control box without pressure
- LEDs in at least red and blue, so each alliance shows its colour
- Use only the motors supplied with the ball
- At least one spare battery
- A ball that fails the game-day check cannot compete

2027 alliances: the three teams must come from one school, and each team needs its own drone ball.

Source: he-ro.gr/drone-soccer · checked 12 Nov 2026

ROBOT SPORTS · MARATHON

Marathon: an autonomous line-follower



Rule	Basic	Advanced
Control	Autonomous; start and stop button	Controller only to start
Size	25 × 25 cm, 5–15 cm high, 1 kg max	Same limits
Hardware	Official kit hub; 1 processor, 4 motors, 4 sensors	No limits; custom electronics allowed
Build	No 3D-printed or modified parts	Custom PCBs and 3D-printed parts allowed
Banned	Pneumatics, pullback motors, gases, over 24 V	Same

Robots that do not meet the Basic rules are placed in the Advanced category.

Source: he-ro.gr/mrc-marathon · checked 12 Nov 2026

Football 3×3: remote-controlled, 20 × 20 cm



- Remote control or app; no venue Wi-Fi for teams
- Footprint 20 × 20 cm; height up to 15 cm, excluding the team identifier
- Weight 700–800 g
- Motor-driven kick that stays within 20 × 20 cm when extended
- Up to 4 motors and 1 microprocessor
- Ball: LEGO Mindstorms ball, part 41250 (52 mm), red or blue
- Alliances of three teams from the same school

Source: he-ro.gr/mrc-soccer · checked 12 Nov 2026

Shooting and Archery: two different builds



Shooting

- Semi-autonomous; a button or pressure sensor fires
- 25 × 25 cm and up to 500 g
- Pistol shape: one grip, trigger, forward muzzle
- One foam dart at a time; beeps 1 s before firing
- Target sensors allowed; propellants not



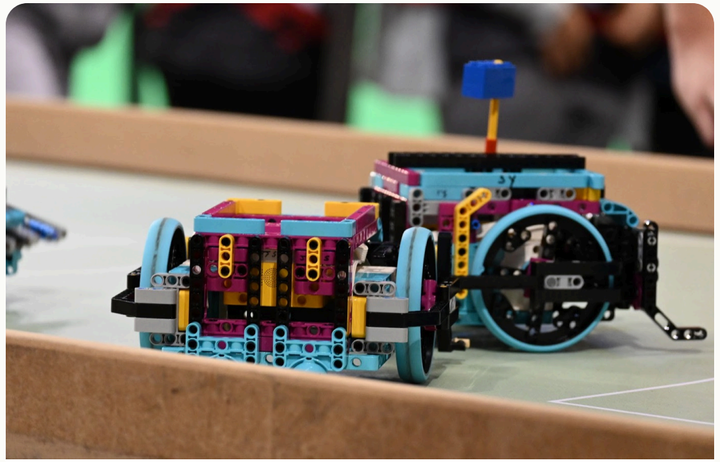
Archery

- Autonomous: adjusts its own aim after start
- Bow held vertically, not like a crossbow
- 25 × 25 cm, up to 800 g; arrow 30 cm max
- Up to 1 processor, 4 motors, 4 sensors
- Rubber bands up to 4 mm; arrow under 30 g
- No remote control or wireless during a match

Source: he-ro.gr/mrc-shooting and /mrc-archery · checked 12 Nov 2026

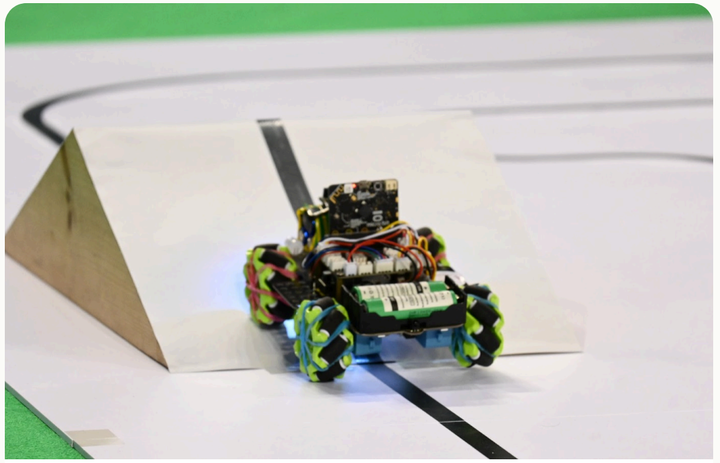
SAMPLE ROBOTS

Kit-built and autonomous robots on the course



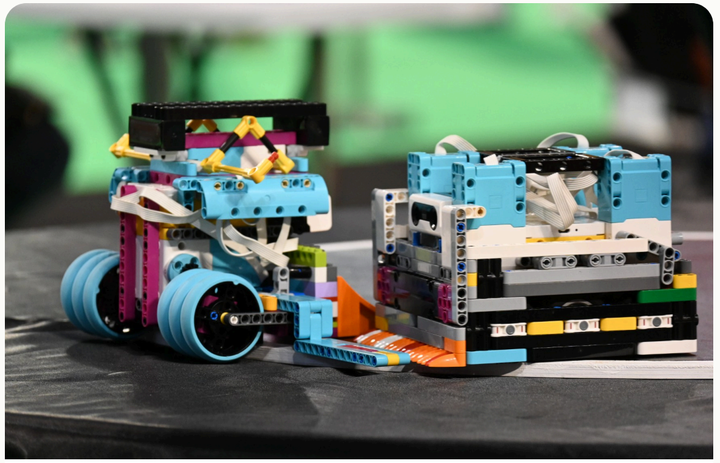
Kit-built robot

A competition robot built from an educational kit. Kit parts are the route for Marathon Basic.



Line-follower

Marathon robots follow a black line with no remote control. Only the start button is pressed by hand.



Two robots, two builds

Each robot must meet its own sport's size and hardware limits, not the limits of its neighbour.

Photos: MRC Global Olympiad 2025, Crete.

NEXT STEPS

Before you build or buy

1. Read the official rules page for your sport and category.
2. Check your drone or robot against the size, weight and battery limits.
3. Request drone pre-approval at least 7 days before the event, if your model is not listed.
4. Register your team at mrcghana.com/register by 15 January 2027.

Sources: he-ro.gr/mrc-drones, /drone-soccer, /mrc-marathon, /mrc-soccer, /mrc-shooting and /mrc-archery, checked 12 Nov 2026. The rules may change, and the official rules take precedence.