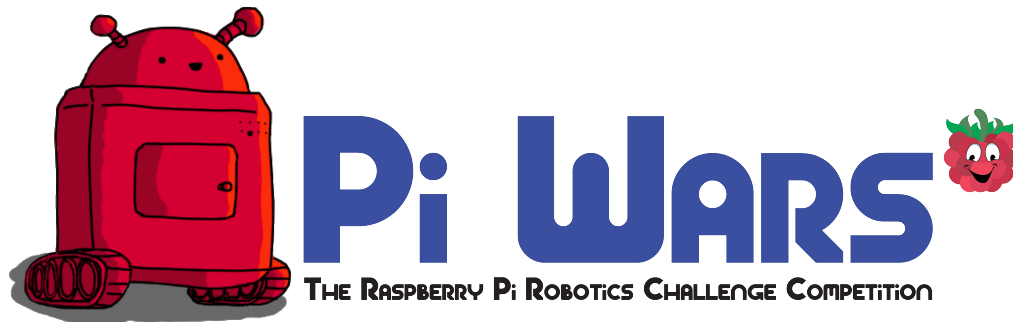


# General Rules

<https://piwars.org/2021-vpw/general-rules/>

## Team Rules

- Robots and teams will be allocated to one of the following categories:
  - Young Teams – Novices.
  - Young Teams – Experienced.
  - Beginner adult/mixed teams.
  - Intermediate adult/mixed teams.
  - Advanced/Professional adult/mixed teams.
- Teams will be asked at the time of application into which category they should be entered. The final decision on categorisation rests with Pi Wars in consultation with the robot team.
- Any team comprised solely of members under 18 years of age **must** have a responsible adult allocated to the team (even if that person plays no active role in the team).
- Each team must build and program a single robot that handles all the challenges. This robot can have attachments, and parts can be exchanged, but must remain fundamentally the 'same' robot with the same core chassis. **Please ensure that your recorded runs at challenges feature the same robot, fundamentally the same between challenges.**
- Robots will compete and be ranked against other robots in the same category.
- There is no maximum size of team, however we have found that teams of more than 10 members can be difficult to co-ordinate.



# General Rules

<https://piwars.org/2021-vpw/general-rules/>

## Robot Rules

### Raspberry Pi at the Core

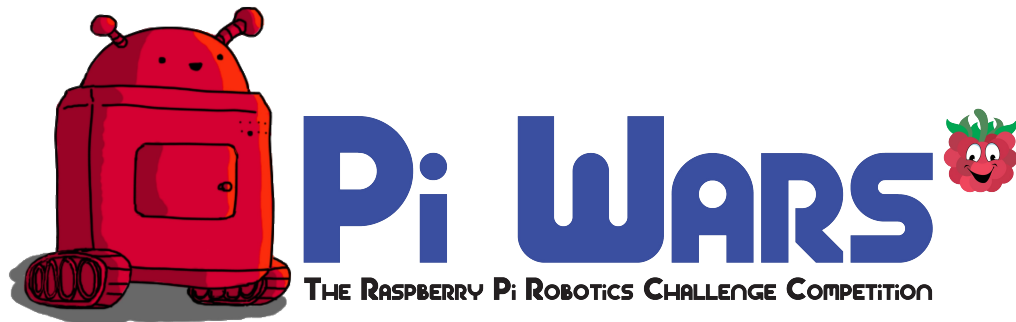
1. All robots must have an operational Raspberry Pi at their core which carries out the majority of the computing effort.
2. You are allowed to enter **one, single robot** to the competition. You are not permitted to “swap out” the entire robot at any time, although you are permitted to swap out parts of your robot to compete in different challenges, such as motors and wheels, for example.
3. Other boards, such as an Arduino, micro:bit or other microcontroller may be used on the robot but the Raspberry Pi must be in overall control.
4. Additional pieces of equipment e.g. a games controller, a laptop, mobile phone or tablet may be used to control the robot, but must not be physically attached when competing on the courses.

### Power

1. All robots must be powered by batteries (cables being very unwise on the courses!).
2. If LiPo batteries are used, any charging **must be done inside a fire-proof bag or box**, available from many places that stock the batteries, such as HobbyKing. This is to ensure you don't have any accidents.

### Robot Types

1. No airborne robots are permitted, e.g. drones.
2. Walking and self-balancing robots are permitted.
3. Hovercraft-style robots are allowed provided that the main fan is enclosed safely.



# General Rules

<https://piwars.org/2021-vpw/general-rules/>

## Size

1) The main chassis (including wheels and protrusions) of competing robots must fit within a 225mm x 300mm x 370mm footprint, as in the Purple area in the diagram above:

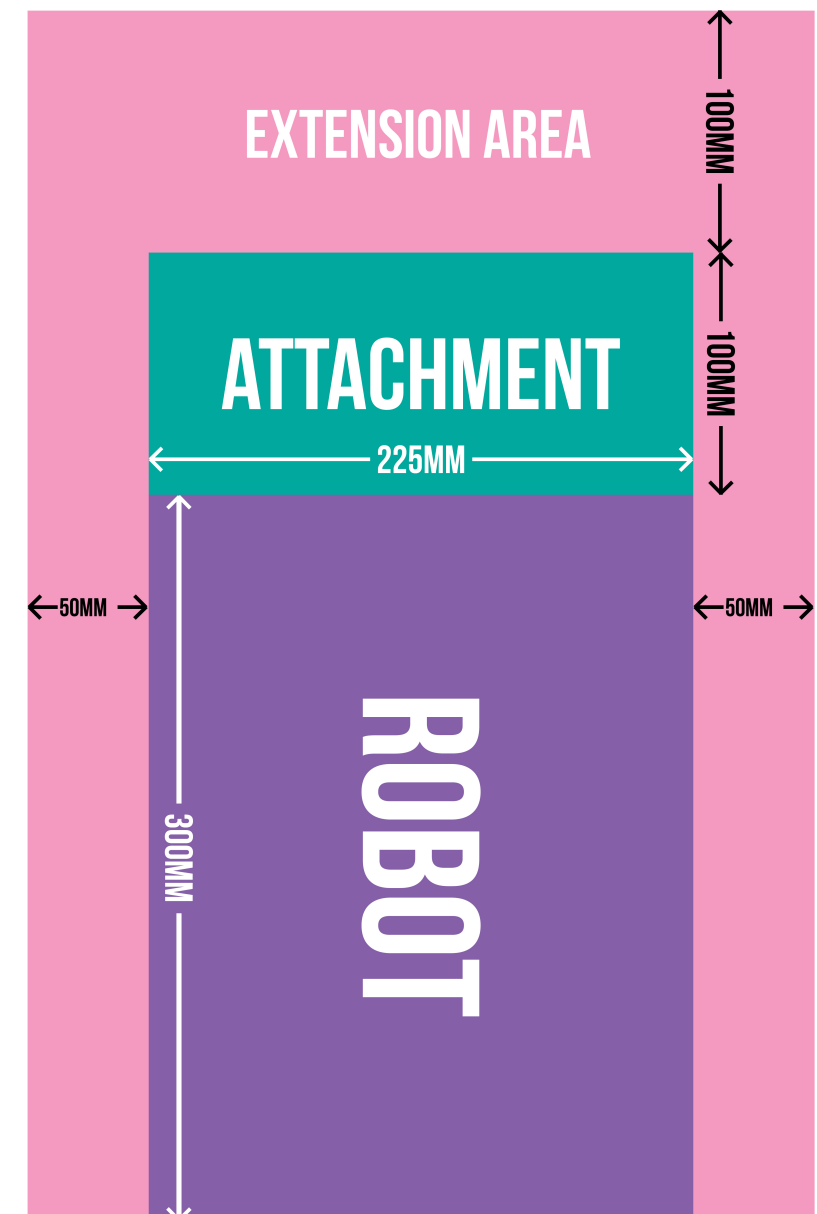
- The maximum width should be no more than 225mm.
- The maximum length should be no more than 300mm.
- The maximum height should be no more than 370mm.

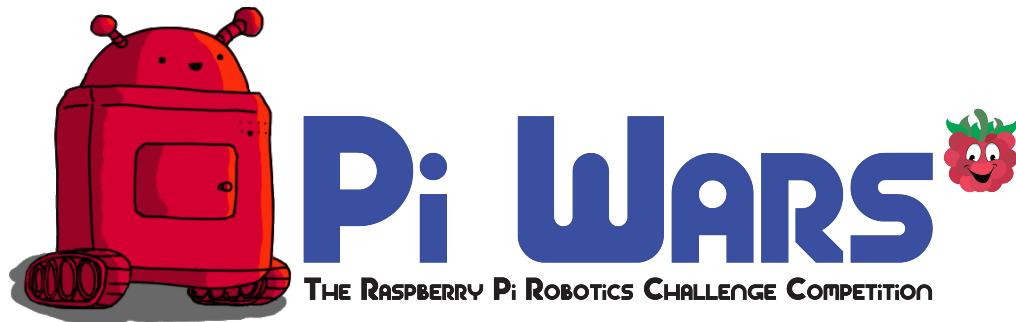
2) Attachments may be added to the robot for specific challenges. Any attachment can add additional length of 100mm and height of 80mm (as in the Green area in the diagram above) such that, when the attachment is at rest:

- The maximum width should be no more than 225mm (i.e. no additional width).
- The maximum length should be no more than 400mm.
- The maximum height should be no more than 450mm.

3) An attachment may be animated in some way such that it extends beyond the boundaries above into the “extension area”. However, the attachment must stay within a box 325mm wide by 500mm length (this is shown as the Pink area above).

4) When adding attachments, the basic chassis, Raspberry Pi and controller arrangement must remain the same.





# General Rules

<https://piwars.org/2021-vpw/general-rules/>

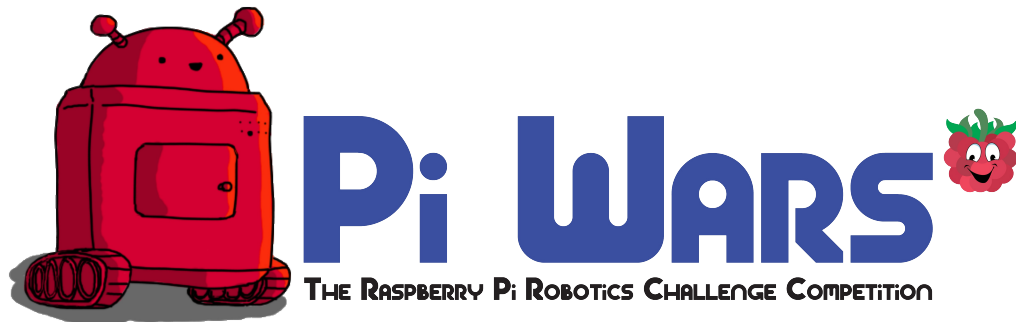
## Robot Rules cont.

### Smoke! Flames!

Regardless of the theme for the current competition, the robot must not intentionally emit smoke or flames. This is to comply with Rule Zero: **Do not be on fire.**

## Challenges

- 1) There will be a number of different challenges into which you may enter your robot, the results of which will contribute to an overall score.
- 2) Points structures will be published by Pi Wars to ensure that teams are aware of how many points each challenge is potentially worth. Generally, the maximum amount of points is the same per challenge but different choices that you make may restrict your team's personal maximum.
- 3) None of the challenges are mandatory.
- 4) No points will be earned from challenges not entered.
- 5) There may be some additional **physical** requirements for specific challenges – please consult the individual challenge pages for more information.



# General Rules

<https://piwars.org/2021-vpw/general-rules/>

## Submission of videos:

- 1) Pi Wars 2021 challenges can be attempted as many times as you wish.
- 2) A **single** video of your run for **each challenge** must be submitted as evidence. Details of what video needs to be submitted for each challenge can be found in the challenge rules. This can be done either as a link to an (unlisted) YouTube video or emailed as an MP4 to the competition organisers. **For each challenge, you must submit a separate video.**
- 3) Each video should be a single “take” or continuous video – i.e. please do not edit together the “best bits”!
- 4) Videos must be **submitted no later than 12 noon on Friday, 12th March (UK time)**. This is to enable us to edit them together for the live stream dates – 20th and 21st March.