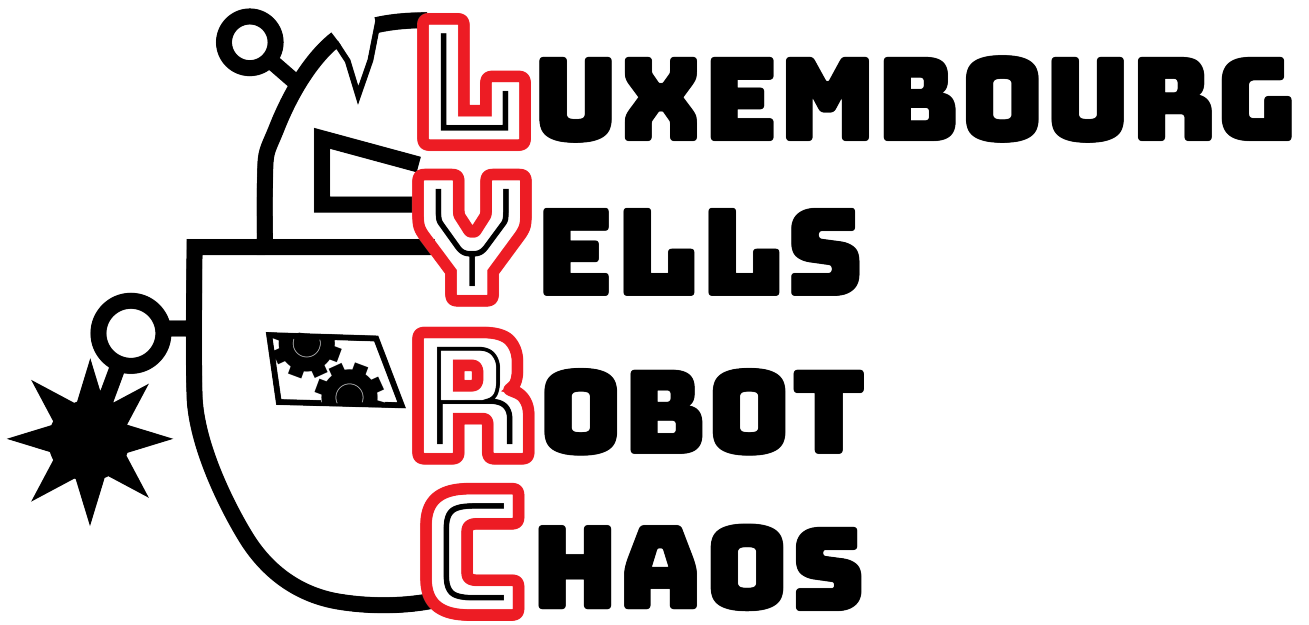


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Antweight Luxembourg Rules

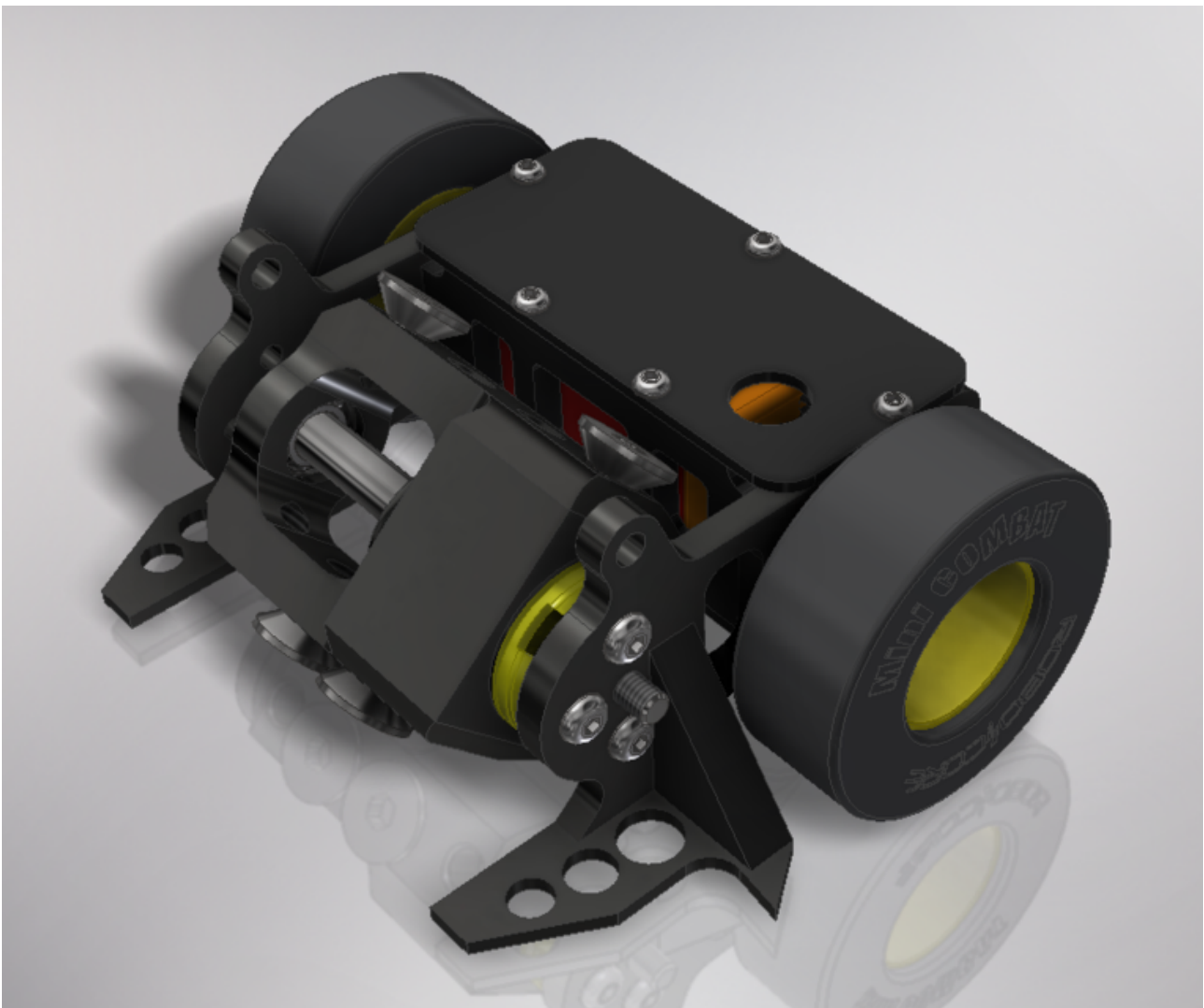
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Document history

Date	Author	Changes made
27 Feb 2024	Marc	Minor typos, layouting Added definitions of plastic (II.n)
1 Aug 2024	Christian	Plastic and Non-Plastic version
27 Nov 2024	Christian	Adapting size constraints to new AWS from Oct 2024

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1. Definitions

Roller	A robot using wheels or similar full rotation capable component contacting the arena to move.
Non-Roller	Any robot not fitting the Roller definition including Shufflers, Walkers and Hovercrafts.
Flyer	Any robot that moves through self sustained flight. This type of robot is not allowed.
Arena	The area robots are intended to fight in. A fully enclosed safety cover surrounds the arena.
Pit or Drop-off	Gaps or spaces in the arena floor, normally at the edges, that a robot may fall into.

2. Robot Rules

2.1. Weight limits – using scales that are accurate to at least one gram:

- Antweight Roller: 150g
- Antweight Non-Roller: 225g

2.2. Size limits: robots must fit into a square space with an edge length of 150mm, with no overhang allowed at any height

2.3. Robots may only expand from their size limit once a fight has begun, and only if the expansion is instigated by remote control (i.e. not just by being springy). If a robot in a clusters expanding is triggered by another cluster part they must start the fight how they fit together in the cube.

2.4. Robots must have an externally accessible way of being shut down (e.g. a power switch, removable link or battery plug) that can be operated without tools.

2.5. Radios may use the following frequencies: 27 MHz, 40 MHz, 868 MHz and 2.4 GHz. All Radios must comply with all relevant rules and regulations.

2.6. For safety purposes, all weaponry must have the capability of being deactivated by remote control.

2.7. Failsafe – The robot shall cease all motion when the controlling transmitter is switched off.

2.8. The following weapon types are not permitted:

- Glue or sticky pad weapons
- Fluid based weapons (treacle guns, etc.)
- String or entanglement weapons
- Flame based weapons
- The use of electricity as a weapon
- Explosive weapons
- Rotating weapons that may shatter (as opposed to breaking off)
- Magnetic/inductive systems

2.9. Any system involving the use of pressurised gas or liquid is limited to 100 p.s.i. (7 Bar).

2.10. Weapons are not permitted to deliberately detach completely from the robot, but may be partially separated as long as it is connected by a tether of no more than 3 feet (914mm). The tether may not be used as an entanglement weapon.

- 2.11. All sharp edges must have protective covers outside the arena. All protective covers are to be made clearly visible.
- 2.12. Batteries must not contain liquid acid, or electrolyte, or exceed a maximum of 24 volts.
- 2.13. Robots must be made of one piece including weaponry. No firing of weapons or “clusterbots” are allowed.
- 2.14. Robots must follow the “plastic only” rule, which means that the only parts allowed are made of plastic (3D printed, prefabricated plates,...). No metal armoury is allowed, except for screws to close the robot or mounting armoury. Fibre-reinforced materials like CFRP (CFK), FRP (GFK) and carbon filled filaments are not allowed for weapons, armoury or the robots chassis.

3. Arena Rules

- 3.1. All battles must take place in an arena, regardless of weapons being used in the battle. Arena doors must be closed before any fight begins, regardless of weapon type.
- 3.2. An arenas safety enclosure must fully enclose the arena during fights. 4mm polycarbonate is the minimum recommended thickness for an arena safety enclosure. Small sacrificial kick plates are recommended where the arena fighting surface and external walls meet.
- 3.3. The arena will be a raised platform with a recommended area of at least 1,5m².
- 3.4. It is recommended that at least 25% of the edge of the arena must be un-walled, to allow robots to drop directly into the pit or drop-off that surrounds the arena.
- 3.5. The minimum recommended gap in the arena floor for pits and drop-offs is 140mm.

4. Combat Rules

- 4.1. A robot that falls off the arena and touches the bottom of the pit or drop-off has lost. If a robot bounces into and out of the pit or drop-off without touching the bottom (Or robot that has lost within the pit or drop-off) the fight may continue.
- 4.2. When any robot is immobile or lacks controlled motion then a judge will start a 10 second count down after which the robot will have lost if it is unable to restore controlled motion. Contact between an immobile robot and an opponent will reset the count. If a robot is counted out the immobilisation is retrospectively considered to have applied at the start of the count (For cases where a robot may leave the arena while their opponent is being counted out).
- 4.3. At any time in a fight, a robot may surrender, if so they will have lost (the robot driver may clearly shout stop).
- 4.4. Robots may hold or pin each other for a maximum of 20 seconds. The judge will give a verbal warning for the contestants to disengage. If they are unable to do so the battle will be paused and the robots separated where they are. The battle will then recommence immediately.
- 4.5. Outside manipulation is not permitted during the contest (they may be manipulated by a judge during a pause in the battle, as described in the previous rule).
- 4.6. If a robot leaves the arena after the battle has started but before the robots have made contact the battle is to be restarted. A maximum of 2 restarts is allowed per robot.
- 4.7. The Aggressor Rule – If two robots fall into a pit or drop-off at the same time ending the fight, where one bot can be clearly identified as the aggressor to this action, the aggressor is judged to have won. Otherwise consider under rule 4.9. Normally this occurs where one robot is pushing the other, reactions from spinning weaponry hits are not considered under 4.8.
- 4.8. If opposing robots have left the arena simultaneously (and cannot be decided under rule 4.7) then the fight will be paused, the robots involved placed immediately back in their start positions (Without repairs) and the fight restarted. If a robot is unable to continue it will be judged to have lost, if both robots are unable to continue the judges will decide the winner.
- 4.9. Common Sense Winner – If a robot damages another robot, rendering it completely incapable of continuing to fight in any manner (Such as loss of power or no method of any movement), but the damaging robot falls into a pit or drop-off as a result of the attack, as long as the damaging robot is capable of continuing to fight, then the judges may award the damaging robot the win at their discretion.

5. Competition Guidelines

- 5.1. Contestants must obey the event organiser at all times, or be disqualified. Event organisers have final say on any issues raised at an event.
- 5.2. There shall be 2 neutral judges identified before each battle. If a contestant has an objection to one or more of the judges then they shall make it clear before the match begins. The event organisers will then decide if the complaint is valid.
- 5.3. Before competition commences, each robot will be checked by the event organisers to ensure that a minimum of the following rules are complied with before being allowed to compete: weight, size, power link/switch, failsafe, sharp edges.
- 5.4. All teams must be self-contained in terms of driver, transmitter, robots and battery packs, i.e. these cannot be shared with another team.
- 5.5. Robots should only be handled by the robots' team or event organisers. It is the drivers responsibility to ensure their robot is safe and all weapons are inactive before retrieval.
- 5.6. A robot must be placed in the arena when called to fight within five minutes of being called by the event organiser (this is a maximum limit, contestants are encouraged to be ready to fight as soon as possible). Robots failing to be ready within this time may be judged to have lost the fight.
- 5.7. LiPos must be charged in LiPo bags or a similarly suitable container.
- 5.8. Robots must only be operated inside the arena or normal testing for functionality on a bench. Spinning or otherwise dangerous weaponry may not be used at all outside of an arena with the doors closed.
- 5.9. Non-combatants must not touch the arena and keep back from it during battles.
- 5.10. A LiPo bag or similarly suitable container must be readily available by the arena during each fight.
- 5.11. A team may enter a maximum of four robots of which three may be Rollers and one Non-Roller or Cluster (Where robot numbers require limiting it is recommended that the number of Rollers a team may enter is reduced first over Non-Rollers or Clusters).