



2021

Additional Build and Participation Rules

Entrants to Fightfest 2021 must adhere the [2018 FRA build rules](#). In addition to these rules, FightFest requires that competing robots meet a further set of build criteria listed in this document. These are to ensure the safety of everyone involved and to discourage unsportsmanlike behavior.

Also provided in this document are a set of rules and clarifications for participating at Fightfest 2021. These cover the procedure around the preparation for fights and match rules for the fights themselves. An information pack for the event with further details will be sent to accepted teams closer to the time.

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Clarification on **FightFest** weight limits

The only weight-class contesting at Fightfest 2021 will be the featherweight class. Additional fights may take place for robots of other weight-classes, but this will be outside of the main competition.

The variations on the allowed weight limit for the featherweight class are shown below.

There will be no exceptions for robots exceeding the weight limit. If a robot cannot shed the excess weight prior to its fight, then the team will forfeit the match.

	Wheeled	Gyro-Walker	Shuffler	Traditional Walker
Featherweight	13.6kg	13.6kg	20.4kg	27.2kg

Wheeled machines use a locomotive object(s) in contact on the floor in a single axial rotation.

Gyro-Walker applies to robots that use the gyroscopic precession from a rotating weapon for movement. This includes the use of a single leg for active de-stabilising and re-stabilising of said weapon.

Shuffler robots use legs with only a single degree of freedom, for example, by using a cam and linkage system to rotate each leg.

Traditional walkers must use at least two separate, non-continuous degrees of freedom to form each leg.



#A. Additional Build, Repair and Pits rules

1. Spinning weapons are limited to a tip speed of 250mph and must be deemed secure by FightFest staff before use.
2. A robot cannot intentionally leave/scatter debris across the arena during a fight (e.g. pouring bolts onto the arena floor).
3. Lithium polymer batteries must be secured and sufficiently protected within the robot and passed by a tech checker. If the robot in question has minimal armour (e.g. 4mm HDPE) then additional protection will be required for the battery.
4. Modular robots are permitted.
5. An assembled spare robot is allowed; however, this 'robot' must be identical internally and externally aside from modular features (i.e., defense and/or weapon attachments). A spare robot must only be used in the event that the main robot is irreparable in the time available. A member of the FightFest team should be consulted to ensure the spare meets the requirements at the start of the competitions and prior to swapping robots before a match.
6. All forms of deliberate entanglement are forbidden.
7. Robots with a measurement exceeding 1m will not be allowed to compete due to a limit in pit space and floor space.
8. Teams will be required to pass a [tech check, as stipulated by the FRA](#), before competing.



#B. Match Preparation

1. A fight schedule will be visible throughout the venue to inform teams of their upcoming fights in advance. As their fights approach, the announcer will call for teams to bring their robot to be weighed and placed in a designated "queue" area.
 - a. If a team is not ready to fight by the time it is called upon, they should make it known to the Fightfest team and the match will be rearranged, if possible, to provide more time. However, this does not apply to every circumstance and the event may be on a tight schedule. If this is the case, then a robot not ready for its fight will forfeit the match.
2. Teams must place their robot inside of the arena as directed by the FightFest crew, while stood behind the elimination wall.
3. Only the robot can be placed in the battle area, transmitters or other hardware must not be placed within the barriers.
4. The main driver of one robot is not permitted to drive another machine from a different team in the competition regardless of whether it is a main machine, a mini bot or part of a cluster bot. This rule does not apply to weapon operators.
5. The team may briefly test their robot's mobility within the arena before a fight (known as a 'twitch test'). However, teams must wait until the arena doors have been locked before testing their weaponry. The robot must return to a motionless state before the countdown to start the match.
 - a. If a robot starts to move via its drive system or accelerate/fire its weaponry before the match has officially begun, this will be deemed a 'false start' and all robots will be instructed to return to their starting area for a restart of the match.
 - b. If a fault with the robot is discovered during the twitch test, teams may remove their robot from the arena and request a rescheduling of the match. If the event is running behind on time, this right may be revoked.
 - c. Once the doors have been locked, you may not remove your robot from the arena and the battle must proceed.



#C. Match Rules

1. If a robot shows no controlled movement for 5 seconds, a 10 second count out will begin.
 - a. If a robot loses mobility on one side, they must be able to move outside of their circumference to avoid a count-out.
 - b. For a robot to be counted out, the opponent must not make contact, otherwise the countdown will be restarted.
 - c. In the case of cluster bots and/or mini bots, at least 66% of the group must be deemed immobile for the entire robot to be eliminated.
2. Tap outs are permitted if clearly indicated. Once tapped out, no machine will be allowed to continue fighting.
 - a. If a team taps out and then attempts to resume combat, they will have already forfeited the bout and the tap-out cannot be withdrawn.
 - b. If a team proceeds to attack after their opposition is eliminated or tapped out then they will forfeit the match to the opponent. Further offences will result in disqualification from the competition. If the offences are deemed to be deliberate, then this will result in an outright ban from future events.
3. If a machine becomes stuck on part of the arena walls or hazards WITHOUT the involvement of its opponent, this can be clearly indicated to a referee and an unstick can be requested. Each robot is allowed 1 unstick per match. On the second occasion, it will be counted out and eliminated.
 - a. Getting beached on debris does not permit an unstick.
4. Pinning is permitted, however if a pin lasts more than 10 seconds then a penalty will be given to the robot causing the pin. After 10 seconds, the pinning robot must back away and allow sufficient space for the opposing machine to drive away.
 - a. A grabbing/crushing weapon is permitted to keep a hold of its opponent for 30 seconds if in motion. If there is minimal motion during the weapon usage, then it will count as a pin and the standard 10 second count will apply.
5. If two robots are stuck together unintentionally then the fight will be paused, and the robots will be separated. If the robots cannot be separated within a reasonable timeframe then they will be powered off, taken to the repair zone for separation and the match will be decided by a judges' decision.



6. If their robots are able to, the teams will be asked to drive them to the doors for deactivation at the end of a match.
7. It is asked that competitors show respect to the referee(s) and their requests. If a competing team blatantly ignores the requests of the referee, then the referee holds the right to forfeit the match on the offending team's behalf.
8. As suggested by the FRA, the Judges' word is final on their decisions. Challenging their authority can result in a formal warning which in extreme cases can lead to disqualification.

#D. Hazards

All active hazards are indicated with orange LEDs.

1. The shredders will be activated at the beginning of the match and deactivated when the match has ended. No-one is to enter the arena whilst these are in motion.
 - a. If a machine becomes snagged in the shredder then the hazard will be powered down. If the robot cannot escape, then please see section C.3.
2. The pit is an eliminating hazard located in one corner of the arena surrounded on three sides by a 10mm raised lip. The pit will remain open for the entirety of the match. When a robot touches the bottom surface, it will be eliminated instantly. Any robot that has been 'pitted' must cease all movement and power down their weaponry.
 - a. In the event that multiple active competitors fall into the pit simultaneously, the robot which initiated the charge will be declared the winner.
3. The elimination walls allow teams to throw another machine 'out of the arena' for an instant elimination.
 - a. Once a robot has touched the floor behind this wall, they will be instantly eliminated and again the losing machine must cease all movement.
 - b. If a robot is thrown into the polycarbonate behind the elimination wall and bounces back in, it will be able to continue fighting.



#E. General event Safety Rules

1. Repeated failure to comply with the COVID precautions in place in the pits and at the event in general will result in disqualification.
2. All repairs requiring the use of high-speed tools (e.g. angle grinders, dremels) or potentially hazardous materials (e.g. spray paint) must be carried out in the designated area.
3. Safety glasses must be worn in the pits at all times.
4. Running in the pits is prohibited.
5. Each pit space must only be occupied by a single robot and its associated tools/parts. If a team refuses to comply with this after a verbal warning and uses an additional team space without permission, then they will be disqualified.
6. Competitors carrying their robot to and from the arena, weigh station, queue, grinding area etc. must be wearing safety boots when doing so. If the team do not have access to a pair of safety boots for the event, a pair can be provided for them for one team member.
7. Smoking is limited to a designated area away from the main building.
8. Attendees will not be allowed to interact with the robots being built in Labman and will only be allowed in their vicinity if being given a tour by a member of Labman staff. Unsafe areas of the factory will be cordoned off.



#F. Competition Structure

FightFest 2021 will run a matchup based competition for a field of 16 robots. Each robot will have a total of three fights in the main competition plus any additional whiteboards. Robots will be assigned to one of four teams at the beginning of the day. The team with the best record overall when all match ups have been contested will win prize money to be split between them.

The robots with the best winning records from their three fights can also enter the finals and compete for the individual title and a share of additional prize money. The selection of robots for the finals will be done purely based on their win / loss record and, if necessary, the records and calibre of their opponents.

