

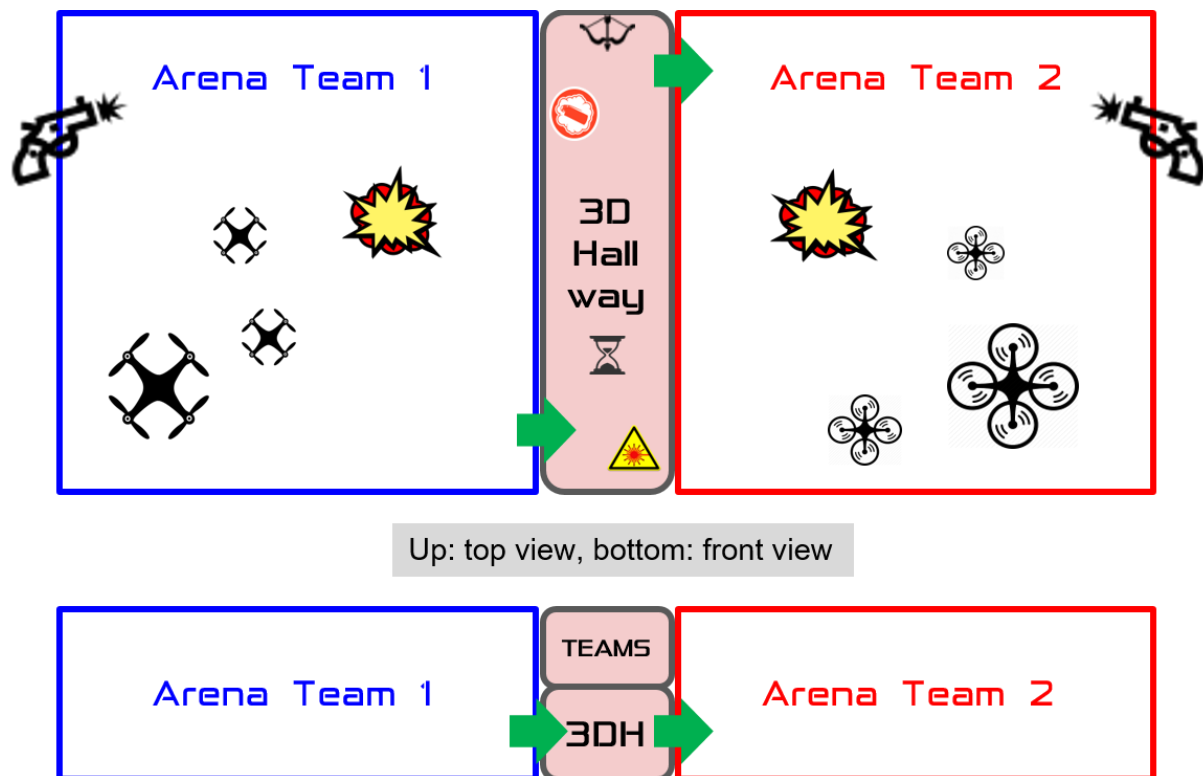


Droneclash2 Team Guidelines and Rules  
v0.32

## The game

The goal is to battle the other teams. Each team is allowed as many drones as they like, but they should bring at least one Fighter drone, and one Queen drone. Teams are provided with **only TWO FPV race frequency bands**, and are not allowed to change this frequency or jam other teams. The main idea is simple: knock out the rival Queens. How? That's up to you!

There are however some complications, as can be seen in the schematic overview below.



Each team will have their own Arena, and all the drones of each team will start in that Arena. The team arenas are separated by a tunnel: the 3D Hallway. Why 3D...? Well, because its full name, The Hallway of Doom Death and Destruction, sounds rather horrendous... The goal is to knock out the Queen of the other teams.

As you might have guessed by now, the competition takes place indoor.

## Safety

Generally, the amount of restrictions are minimized. However, in the end we need to account for safety of the audience and participants. The audience and teams are protected by nets and plastic transparent canvas around the fighting pits, but teams will have to propose a safety analysis document on how they can guarantee limitations of the dangers. Of course, besides our competition Law Enforcement, teams also need to operate within the real Dutch laws (including rc frequencies and such).

## Winning

The team to first knock out the queen of the opponent wins. It's similar to boxing. A 'knock out' means that the queen drone is on the ground for more than 10 seconds, If you're Queen is hit down you have 10 seconds to get it up and flying again. When you don't succeed it's GAMEOVER for the team of that queen. The queen may touch the ground infinite times, as long as you get your queen flying within the 10 seconds you may continue to play.

## Prizes

After the competition has ended, several prizes are awarded. The best team wins DroneClash and receives €30.000,- , the second team will receive €5.000,- and the third team will receive €2.500,-.

Furthermore, there will be bonus prizes for:

- The autonomous team award: €5.000.
- The innovative team award: €5.000.

The autonomous team and the innovative team award is based on a jury vote.

**Important remark:** due to nature of our financial agreement with our sponsors, we can only award the prize money if at least a predetermined number of teams subscribe. We will release a statement whether this goal was achieved shortly after the team's subscribe deadline has passed.

**Important remark 2:** We have a maximum of €50.000 euro prize money. If we acquire a lower amount of prize money, the bonus prizes will be cancelled and the height of the other prizes will be lowered.

## Rules

1. Two teams have to battle each other in the same match.
2. The teams are provided with two predetermined FPV frequency bands per team (i.e. two channels in the race band). Teams are allowed multiple drones, but they have to figure out themselves how to cope with the fact that they have only two video channels available (e.g. autonomous drones, backup drones on the ground that are

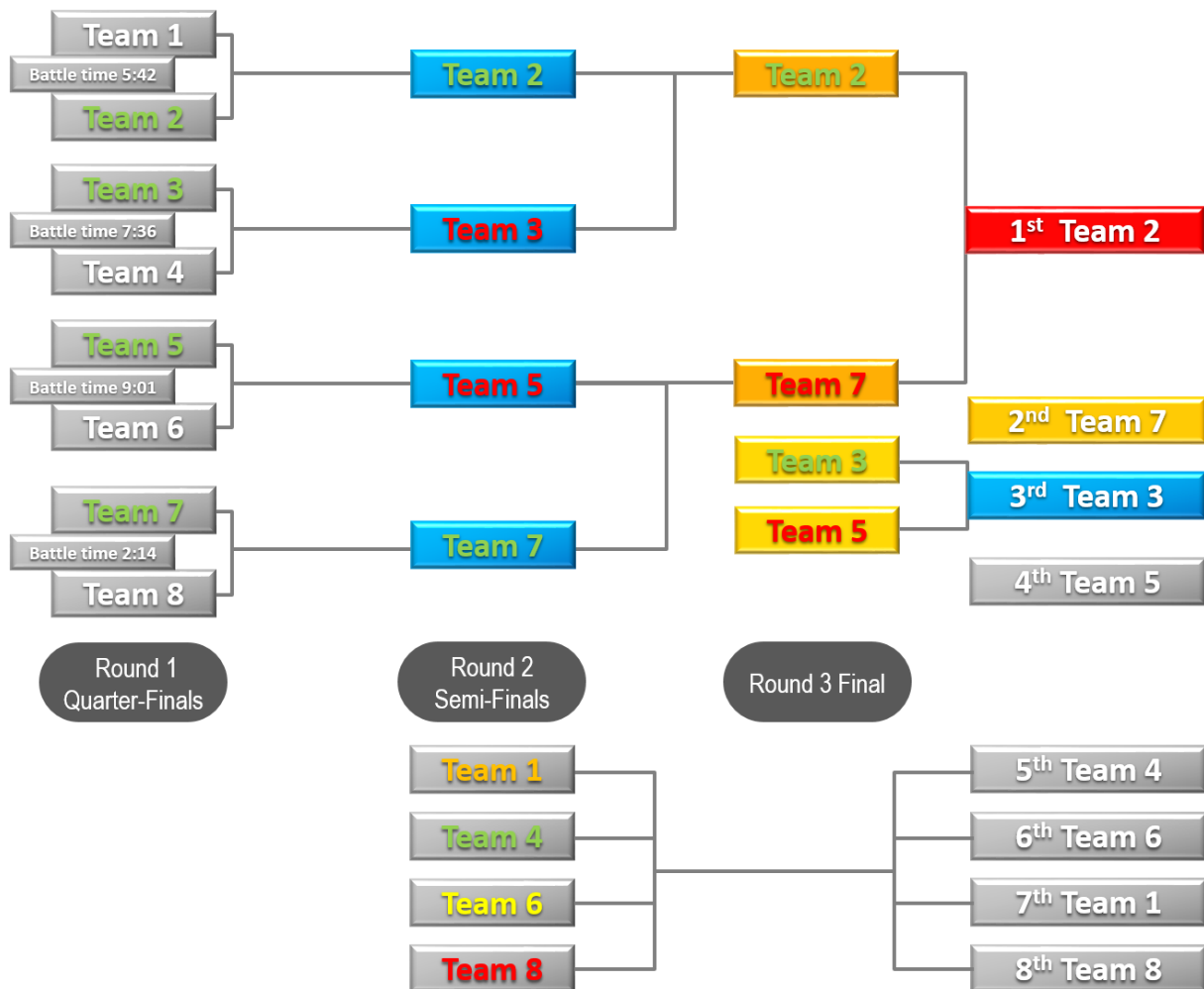
not transmitting yet,... ). The team members will have a direct visual on the drones, so Line Of Sight flight will be possible. There is one exception: teams will have no visual in the Hallway, so FPV flight is actually required to get to the Queens.

3. The FPV video streams will be shown on the big screens so spectators are able to see what the pilot sees, teams may also be able to see a screen.
4. At the start of the competition teams will have to place all their drones in their respective team arena. Once a drone is unable to take off without physical human interaction that drone is out of the game.
5. Between rounds drones can be repaired for the upcoming round, but the same drones are to be used for each round.
6. Teams must bring
  - a. 1 Queen drone
  - b. at least 1 Fighter drone.
  - c. optional: Defender drones
7. The Queen drone must be recognisable by a pink led. All drones (including the queen) must have leds that can show blue or red depending on which arena you start. Additional leds may be used as long as the blue or red leds still make you're drones distinctive from other drones.
8. The Queen drone must fly at all times. If she goes down, she must get back up and flying again within ten seconds otherwise it's GAMEOVER. The same rule does not apply to parts that have seperated from the queen (e.g. debris, bullets).
9. Queen landing may never be willingly
10. The Jury may ask you to show that you're drone can fly for at least 3 minutes.
11. Drones must be flying when attacking. No ground based weapons are allowed, including defensive weapons.
12. Drones are not allowed to be tethered, sticked or sucked to the ground, walls or ceiling, e.g. for anchoring or external powering purposes.
13. Besides by other drones, your drones may not be physically protected by anything that is not connected to the drone.
14. Outside of the following limitations, teams are left free to design weapons as they see fit:
  - a. Hostile overtaking (hacking) is only allowed when the team has a flying fighter drone. Hacking into the transmissions is also allowed, as long as it is not done by simply overpowering or jamming the original signal (see b).
  - b. Teams may not use electromagnetic interference or jamming to interfere or overpower transmission signals of other teams. These signals include video, RC and datalink transmissions.
  - c. All Race band FPV transmitters are allowed, but it will be checked whether they are not disturbing other channels.
  - d. Teams are not allowed to purposely demolish (parts of) the arena.
  - e. Teams must proof in a safety analysis their weapons cannot harm spectators or participants
15. The jury has the power to penalize or disqualify teams in case of misbehavior or unsportsmanship.
16. The jury has the discretionary power to change the times and (team) order of flying in the tournament structure, in order to optimize or maximize the chance of flying.
17. All decisions of the jury are final and cannot be overruled.

18. Teams get a maximum of 10 minutes to set up their drones and take place on the pilotdeck. If you are not ready to battle within 10 minutes the other team wins.

## Tournament structure

This is the basic schedule.



There are some what if scenarios:

What if a team drops out before round 2



What if a team drops out before round 3



## How to participate?

Read everything above and still enthusiastic!? Good, these are the steps required to join the competition.

1. Subscribe your team [here](#). The costs, per team, are €150,-. This is less than the actual costs, but we do ask this small amount to make sure teams are serious about subscribing. Deadline 31-1-2019.
2. You will be contacted by email, a short Skype team interview will be planned.
3. Deliverable 1: We require a video demo of the general approach, and should demonstrate a well-oiled team. Deadline: 16-2-2019  
We need some clear pictures/ drawings with a neutral background of the drones you will be using. (for our top bump cards, we can blurry the pictures to keep your specs a bit secret)
4. Deliverable 2: Describe the general approach your team wishes to take, and a detailed safety analysis and requirements document. Deadline 16-2-2019

## Final remark

This document is not final. Small iterations of improvements will be made during as information becomes available. Pointing out loopholes to the organisation in this document, or any future changes, is much obliged.

## Change log

- v0.1 Edit of 2018 rules
- v0.2 Prize money max of 50k
- v0.32 Set up time, deadlines.