

DOORDASH BY DRONE: Wing Starts Pilot Program in Australia ²

The pilot program will begin this week, enabling selected customers in the Logan area to order a variety of convenience and grocery items, pantry staples, snacks, and household essentials via the DoorDash App, which will then be delivered by a Wing drone in an average timeframe of 15 minutes or less. This pilot program will initially be made available to a small number of households, with plans to gradually expand availability in the coming months.

Wing has been working on this new integration for some time now, with the company believing that providing customers with access to Wing's delivery service through a third-party app will serve as another step towards its goal of realizing a highly integratable drone delivery service capable of rapidly scaling.

As such, the company has already begun making steps to transform its operations, relocating them closer to retailers to enable faster, simpler, and more affordable deployment. As of yet, Wing has established a drone delivery hub on the rooftop of a local shopping center in Australia, as well as its first home delivery service in Dallas. Additionally, the company recently announced that it will be expanding this model to Australia's Gold Coast.

Wing views this new integration as the logical next step in its efforts to make drone delivery a plug-and-play option for a wider audience of businesses and consumers, regardless of which app they order with.



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Drone License Changes & Renewal to Part 107 Testing in 2022 ¹

There have been some changes to the Part 107 recurrent knowledge test since it was first introduced in 2016:

- The biggest change is that you no longer need to take the test in person at an FAA-approved testing center. You can now take the test online, using the FAA's new ALC-677 course.
- The ALC-677 course is free and takes about an hour to complete. You can take the course once every 24 months instead of taking the recurrent knowledge test.
- To take the ALC-677 course, you will need to create an account on the FAA website and then log in to the course.
- Once you have completed the course, you will be able to download and print a certificate of completion.
- You should keep the certificate of completion in your records. You will need to show it to the FAA if you are ever audited.
- If you choose to take the recurrent knowledge test, you will need to find an FAA-approved testing center.
- The test is given on a computer, and you will have two hours to complete it.
- You must answer 70% of the questions correctly to pass the test.
- The test is divided into operations and Procedures, Regulations, Airspace, and Weather.
- You can find study materials for the recurrent knowledge test on the FAA website. The study materials include a sample test, which you can use to familiarize yourself with the format of the test. You can also find study guides and practice tests online.

New Requirements for Renewing Your Part 107 Certification:

New requirements for establishing your Part 107 certification are in place as of 2022. The new rules require you to retake the initial knowledge test every 24 calendar months. You must also complete a recurrent training course once every 24 calendar months.

The new recurrent training course requirement can be met in one of two ways:

- 1) Completing an FAA-approved online Part 107 Recurrent Training Course; OR
- 2) Completing an in-person Part 107 Recurrent Training Course.

You will need to provide evidence of the recurrent training to the FAA when you renew your Part 107 certificate. The Part 107 Recurrent Training Course must include the following topics:

- Operating a small Unmanned Aircraft System (sUAS) safely and by the current regulations
- sUAS Airspace rules and flight restrictions
- Loading and performance limitations for your sUAS
- Emergency procedures
- Radio communications and transponder requirements when operating near manned aircraft
- Crew resource management
- Detecting and avoiding other aircraft, including manned aircraft
- Situational awareness
- How to obtain prior authorization to fly in controlled airspace
- Pilot logbook requirements

The recurrent training course must be completed within the 24 calendar months preceding the date of renewal and must be documented in your pilot logbook.

Conclusion

The recurrent knowledge test is a good way to keep up to date on the latest changes to the Part 107 rules and regulations. If you want to take the test, you can find an FAA-approved testing center near you. You can also take the new ALC-677 course, which is offered online. The course is free and takes about an hour to complete. You will need to show the FAA evidence of your recurrent training when you renew your Part 107 certificate. The new recurrent training requirement can be met by taking an FAA-approved online or in-person Part 107 Recurrent Training Course.

Drones for Police: Skydio's Autonomous Drones Provide Officers with Another Set of Eyes⁴

Drones are undeniably a valuable tool for public safety agencies. The city of Chula Vista has been a leader in using drones as first responders, led by UAS Commander and Patrol Captain (Ret.) Fritz Reber. Now, Reber has joined Skydio as their Head of Public Safety; and is ready to share his experience with drones for police.

Skydio Drones for Police

Skydio's autonomous drones are ideal for public safety applications, allowing officers to focus on the mission while drones provide valuable situational awareness – an extra layer of understanding of active scenes that provides critical safety for officers and the community. Skydio's made in the US products are a trusted platform that can be used with confidence by any public agency.

"Drones have become valuable tools for giving police officers airborne eyes on active scenes, such as responding to emergencies, conducting search and rescue missions, and for collecting evidence from privileged vantage points," says Skydio. "However, traditional manual drones require heavy training and impose a high cognitive load on officers that should be focused on the mission... By leveraging this next generation of aerial intelligence, public safety agencies can improve the teams' operations, increase safety for their personnel and move drones from valuable to indispensable force multipliers."

In this webinar, Fritz Reber will speak with Sr. Director of Product Marketing, Mauricio Barra, about the Chula Vista Police Department's internationally recognized Drone-as-First-Responder (DFR) program in partnership with the FAA's San Diego Drone Integration Pilot Program (IPP). Don't miss this opportunity to hear first hand about the best uses of drones for police and how Skydio's autonomous drones are contributing to the sector.



Drone racing is extremely popular across the planet, and most experts claim that it will be even more popular in the near future.

On the other side, it isn't a well-known form of fun, but it is ascending very quickly, so if you are planning to begin with drone races, there are some things you should take into account first. However, the drones for races are not the same as the commercial (consumer) quadcopters that are used for fun or to take aerial photos and/or videos. The racing drones are usually small quads which are specially built to race in different racing events. FPV (first person view) racing is a kind of extreme sports, and it gained big popularity in many countries around the world.

If you have a drone and want to participate in such races, it would be good for you to read the following content and find out some important things and issues related to these races.

THE BASICS

Drone racing as a trend started in 2014, in Australia, and they easily became an extremely popular sport. In fact, they are so popular that most people believe and treat this as one of the sports of tomorrow.

In general, this is a simple and exciting sport that involves professional drones and pilots from all parts of the world. Pilots have to wear first person goggles, where they can see the live streaming from their drones, which makes this sport even better.

Besides the fact that it is fun and interesting, drone races are considered a great way to win a prize. Actually, certain championships offer up to \$200,000 prizes! However, the competition is tough and this sport isn't very simple, due to the fact, there are a lot of factors that affect the race.

Each pilot has the same goal. To complete a course as soon as possible, and reach the finish line with the best score. The courses may vary and they are

different to the championship. As noted above, the competition is really tough, so winning is a hard thing to achieve, and it depends on the capabilities of the pilot and a drone.

Drones that are used in those races are specially made for this purpose, so they are different than ordinary units. In most cases, they must have powerful electric motors that can withstand rough use and they must guarantee a long flight. In any case, cheap and low-quality drones cannot be used here. Pilots and teams get the same drones, spare parts, and a backup drone, in case there is something wrong with the original unit.

Keep in mind that accidents do happen, so some drones never complete the course. The best drones are those with the best electric motors and the longest flying time, due to the fact they have the best performances. On the other side, maneuverability is equally important and it should be taken into account when choosing and getting a drone for a specific race.

TYPES OF RACES WITH DRONES

As usual, there are several types of races, so you should choose the one you like the most. In general, they are completely different, so if you choose a race type that isn't perfect for you, you won't be any good in your races. Although new types of races are constantly invented, at this moment, the most popular and the most common types of races are:

ROTORCROSS

This is a race between two or more drones that must pass a specific course as soon as possible. Pilots control them from a specific distance, while they wear goggles, where they can see the **video streaming from their drone**. The main goal is to complete the course as soon as possible and all participants are ranked accordingly to their crossing of the finish line. This is also the most demanding type of races, due to the fact it requires great flying capabilities and impressive maneuverability.

Drone Racing³

Drones are not just small toys that can be used occasionally. Nowadays, they are professional gadgets and machines that can be used for numerous applications. As you already know, they can be used for transporting goods, aerial photography and many other things, but the latest and the most popular possibility is related to competition.

DRAG RACE

This type of drone races is the simplest one, due to the fact it requires just acceleration and the top speed. The drones usually have 100 meters area, where they should reach their top speed. In this case the acceleration time, the power of the electric motors, and the weight have an important role. The maneuverability isn't important, simply because drones fly in a straight line. It is a great thing if you have a very lightweight drone, but with impressive electric motors.

TIME TRIAL

This type of races is similar to the first, aforementioned type due to the fact all drones must complete a specific course as soon as possible. However, their time is measured and the winner is a pilot with the shortest time, needed to complete a course.

FINAL CONCLUSIONS

So, what should you pay attention when using your drone for races? First of all, you need to have an adequate drone that is both fast and stable while flying. There are two possibilities. The first, and the most common option, is to buy a ready-to-fly drone that is specially designed for the races.

There is a wide range of small UAVs on the market, but you will have to focus only on the racing ones. Choose a model according to your skills, since there are beginners, intermediate and professional models. The mostly used drones in races are the small quadcopters. Also, you can build your racing quad from a kit if you enjoy assembling.

Once you have an appropriate drone for this purpose, you should get informed on the local racing tournaments in the cities close to you. Check out the FPV races, since they are very popular today. Also, there are many racing leagues around the globe where you can compete and try out your drone and yourself as well. Pay attention that each of these leagues has its own rules. Most importantly, you must know all the safety precautions before participating in such races.



FLIR Takes Flight⁵

The world's leading manufacturer of commercial thermal imaging aircraft's systems, **FLIR**, announced a major new initiative in the drone space with the announcement of SIRAS at the Commercial UAV Expo in Las Vegas. While the company had previously offered the Black Hornet – a palm-sized helicopter intended for military users, its new platform is aimed at the broader industrial and public safety market for small uncrewed aircraft systems (UAS).

"The payload incorporates our Bosen thermal camera core, with a radiometric 640-by-512 pixel sensor," said Kelly Brodbeck, the company's UAS product manager. The radiometric designation means that the camera is able to return accurate and reliable temperature measurements – which will no doubt prove to be a valuable capability for industrial inspection deployments.

"The thermal sensor is paired with a 16-megapixel visible light camera in normal flight mode, which goes up to 20-megapixels in mapping mode," according to Brodbeck. "Because the native sensor has so many pixels packed into it, when we implement a digital zoom, we are able to offer 30 percent more pixels on target than any of our competitors – so our zoom images look very clear: They aren't blurry

or cloudy, like you may have seen with other manufacturers."

Both cameras are mounted on a three-axis brushless gimbal to ensure stable imaging in spite of the movement. Also, the camera gimbal can be removed and replaced without tools, allowing the platform's capabilities to be extended with additional payloads which are already under development by FLIR.

SIRAS uses a conventional, two-stick control scheme that will be familiar to any Part 107 remote pilot and the controller incorporates a video display to provide the operator both with live video and telemetry from the aircraft.

"You can get it in the air about a minute after you turn on the aircraft and the controller," explained Brodbeck, with the ability to be deployed rapidly being no doubt critical for first responders.

The aircraft includes numerous other features developed with professional and public safety users in mind. To begin with, the aircraft does not incorporate any geofencing limitations that prohibit it from operating in sensitive locations – such as near airports or critical infrastructure.

If an airplane crashes on landing and lies

burning on the runway, firefighters absolutely do not need to be waiting for permission from the manufacturer's servers to get an airborne perspective on the emergency. Also, in recognition of how critical data security has become, particularly with drones from foreign manufacturers, the SIRAS does not require any type of registration or data sharing between the aircraft and FLIR. "This platform is manufactured in Taiwan and the United States, and does not incorporate any components coming out of the People's Republic of China or any similar country," said Brodbeck.

And, because emergencies don't wait for sunny, clear weather to happen, the aircraft is IP 54 rated, meaning that it can operate in dusty environments and can continue to operate even if water is splashing against it from any direction.

Among SIRAS' most innovative features is its collision avoidance system. While virtually all comparable small UAS rely on a machine vision system – essentially visible light cameras in pairs that mimic the function of our human eyes to detect and avoid obstacles in the environment, FLIR's new drone has a forward-facing radar array capable of detecting obstacles out to 100 feet – much further than other systems and with the ability to detect smaller objects, as well.

EYE ON IT



Illuminating Salt Lake Drone Show Combines Art, Light And Technology⁶

Utah's sixth annual light art and creative technology festival illuminated the sky and wowed attendees Friday night in Salt Lake City's first-ever public drone show.

About 150 synchronized drones flew 400 feet in the air above the Salt Lake City-County Building, moving through various choreographed aerial formations.

Utah Arts Alliance's ILLUMINATE Festival started Friday evening with live music, food and beverages, art booths, light art installations and technology exhibits.

The festival continues Saturday from 5-11 p.m. at Liberty Square, 400 South and 200 East, in Salt Lake City, with some indoor activities available at The Leonardo. Admission to the festival is free and all ages are welcome.

"ILLUMINATE continues to push the boundaries of the intersection of art, light and technology," Derek Dyer, executive director of the Utah Arts Alliance, said in a news release. "Our mission is to bring creative technology to everyone in the community, to inspire young and seasoned creators to explore the possibilities, and to put Utah on the map as a cultural center of innovators."

According to a news release, drone light shows blend art and tech to provide a "wow factor" without causing air or noise pollution like fireworks do. Creative technological solutions such as drone shows are becoming more popular worldwide as people search for alternatives to fireworks, the statement said.

The artistic theme for the festival was "Mother Nature in Light," according to festival director Kim Angeli.

"As the world evolves from a period of collective darkness, now is the time to focus on healing — of ourselves, our communities and the natural world that supports our existence," Angeli said in a news release.

This Month's Q&A Drone Tips

Q: MYTH: A model airplane is a drone.

A: FACT: A drone is an unmanned aircraft that can fly autonomously—that is, without a human in control. By contrast, model airplanes are largely flown within visual line of sight and in the presence of an operator who watches and maintains control of the airplane during flight. That alone is enough to place model airplanes cleanly outside the boundaries of the definition of a "drone."

Q: MYTH: Drones can only stay in the air for a short amount of time.

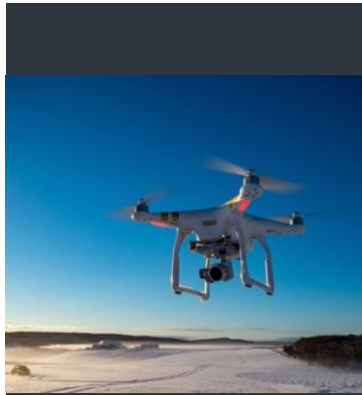
A: FACT: Another common belief about non-military UAVs is that they have a short flight time and range. Many battery-powered UAVs are indeed limited to flight times of well under an hour. However, there is enormous variety in the shapes, sizes, and capabilities of UAVs. Some U.S. military UAVs can stay aloft for many hours at a time and have a range of thousands of miles. Boeing is currently developing the Solar Eagle, a solar-powered UAV that will be able to stay aloft at very high altitudes for five continuous years.

Q: MYTH: Only the police can use drones.

A: FACT: Much of the attention regarding domestic drones has been concerned with their likely use by law enforcement agencies. But there are many other potential applications as well, including agriculture, surveying, news reporting, and firefighting. And Congress has charged the FAA with developing a plan to integrate many more private drones in the nation's airways by September of 2015. The impact of drones in the United States will be profound — and will go well beyond law enforcement applications.

Q: MYTH: It doesn't take any flying skill to operate a U.S. military "drone."

A: FACT: Sometimes you hear the disparaging claim that UAVs, unlike fighter jets, are easy to fly. U.S. military unmanned aircraft such as the Predator are capable of autonomous flight but are piloted by extremely skilled aviators. Thanks to a combination of technology advances, these pilots no longer need to be physically sitting in the airplane.



Drone Quotes to Remember.

“Drones overall will be more impactful than I think people recognize in positive ways to help society.” ~ Bill Gates

“People talk about drones like they’re a bad thing, but they forget there are people behind them. It’s a lot easier to blame the technology than to accept that people are a cancer on this planet.” ~ David Hewlett

“Visual artists use drones to capture beautiful new images and camera angles.” ~ Peter Diamandis

“We live in a time of astounding technological advancements. There are deep-sea drones and live-streaming virtual reality.” ~ Jenna Wortham

Upcoming Local Events

- Commercial UAV Expo Americas – Caesars FORUM, Las Vegas, NV – September 5-7, 2023
- Commercial UAV Expo Europe – Caesars FORUM, Las Vegas, NV – September 4-6, 2023
- InterDrone 2023 – Rio Hotel, Las Vegas, NV – Date TBD
- 7th Energy Drone & Robotics Summit 2023 – Woodlands Waterway Marriot, Houston, TX – June 12-14, 2023
- Auvsu Xponential 2023 – The Colorado Convention Center, Denver, CO – May 8-12, 2023
- International LiDAR Mapping Forum – Denver, CO – February 6-8, 2023
- UAV Technology – Hilton Arlington, Washington DC – February 6-8, 2023
- Japan Drone – International Convention Complex – June 26-28, 2023
- Drone X – Excel London – September 26-27, 2023



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