



Drone by Other Names

sUAS, or Small Unmanned Air Systems, is the acronym used to describe remotely operated Air Vehicles (**AV**) weighing less than 55 pounds. This includes your typical radio controlled (**RC**) model airplanes, helicopters, and **drones**.

There are many types of sUAS, each possessing unique flight characteristics that make them ideal for specific applications.

Fixed-wing aircraft typically allow you to cover a great distance in a shorter time and are ideal for tasks that require larger areas of coverage.

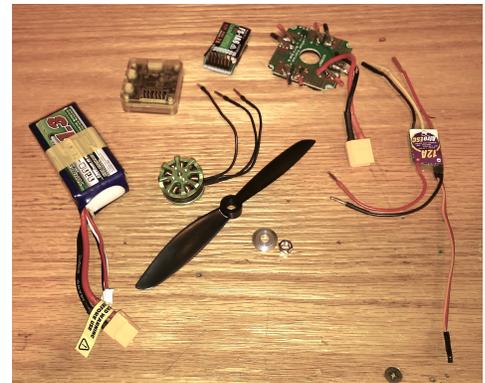
While not as fast or efficient as fixed-wing AV, **rotary-wing AVs** have the advantage of Vertical Takeoff and Landing (**VTOL**), are highly maneuverable, and possess the ability to hover.

Probably the fastest growing area of RC and sUAS is the **multirotor AV** commonly called **drones**. Typically a multirotor is between four and eight rotary motors, but aren't limited to any number. Because of the complex and heavy processing power it requires to control and stabilize the AV, multirotor AV is a relatively new field, and only has become possible by recent advances in microprocessor and light weight battery technologies.

Regulating the aviation industry in both large scale (airlines, cargo carriers, etc) and small scale aircraft (RC AVs) is the **Federal Aviation Administration (FAA)**.

The FAA does not require individuals (13 years & older) to register their drone if the drone's weight is **less than 0.55 pounds** (or **8.8 ounces**). How much does a completed Hoverlab drone kit weigh? That depends on how your design and how you build your airframe since each drone needs the same essential components to operate. These components are listed below with their individual weights, and altogether total **12.4 ounces** without the airframe! *Consequently, you must register your drone with the FAA in order to fly it.*

Drone Component	Weight (oz)	Drone Component	Weight (oz)
Motor with prop (4)	4.9	Battery	4.1
ESC (electronic speed control, 4)	1.5	PDB (power distribution board)	0.6
Radio receiver with antenna	0.6	Flight controller with its wires	0.7



Drone registration can be found at <https://registermyuas.faa.gov>.

Sources:

1. *Flight School, Academy of Model Aeronautics*, <http://www.fly-robotics.com/amaflightschool/course/view.php?id=6>, 2017.
2. *Part 48 - Registration and Marking Requirements for Small Unmanned Aircraft, Code of Federal Regulations*, Title 14 - Aeronautics and Space, Chapter I - Federal Aviation Administration, Department of Transportation, Subchapter C - Aircraft (14 CFR Ch. 1 Subch. 1 Pt. 48, 1-1-2016), <https://www.gpo.gov/fdsys/pkg/CFR-2016-title14-vol1/pdf/CFR-2016-title14-vol1-part48.pdf>
3. *Unmanned Aircraft Systems (UAS) Frequently Asked Questions/Help, Federal Aviation Administration*, <https://www.faa.gov/uas/faqs/>

