



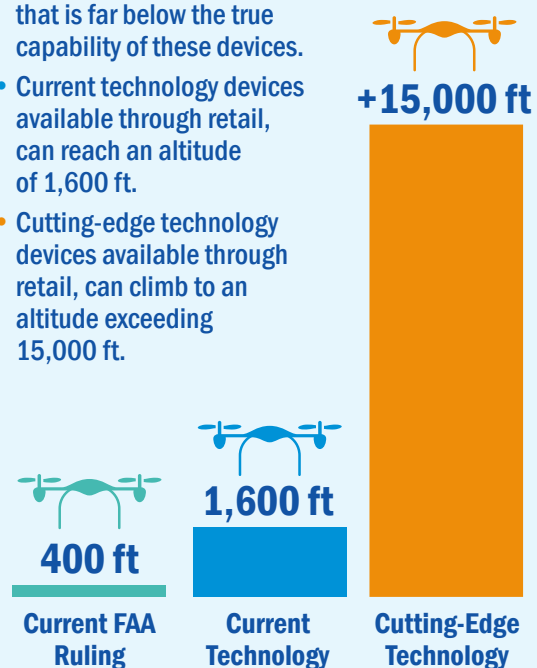
EMERGING RISK to INFRASTRUCTURE FROM UNMANNED AERIAL VEHICLES (UAVs)



UAV Capability Versus Policy

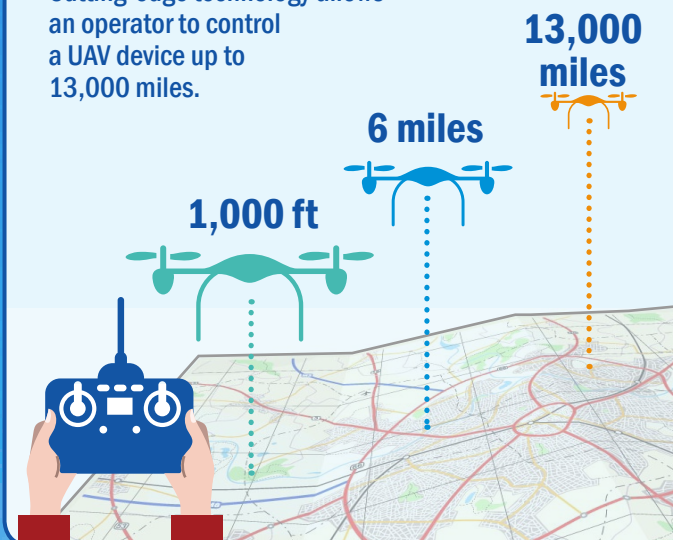
ALTITUDE

- Current FAA regulations prescribe a 400 ft. ceiling that is far below the true capability of these devices.
- Current technology devices available through retail, can reach an altitude of 1,600 ft.
- Cutting-edge technology devices available through retail, can climb to an altitude exceeding 15,000 ft.



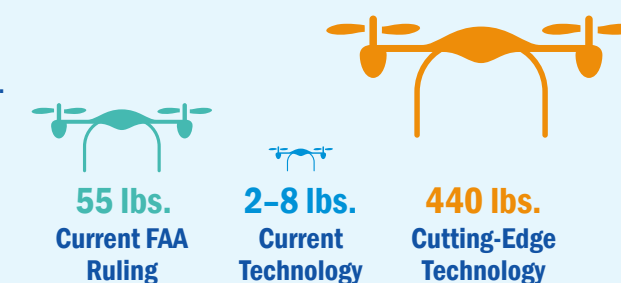
RANGE

- FAA regulations require UAV operators keep the device within line of sight—typically within 1,000 ft. of the operator.
- Current technology allows an operator to control a UAV device up to 6 miles.
- Cutting-edge technology allows an operator to control a UAV device up to 13,000 miles.



GROSS WEIGHT OF DEVICE

- FAA regulations address up to 55 lb. devices.
- Current technology devices weigh approximately 2–8 lbs.
- Cutting-edge technology can weigh 440 lbs.
- 440 lb. devices have a significantly larger payload capacity.



* Payload capacities are being upgraded across a varying range of products at a rapid pace and do not correlate to the gross weight of the device.

FIRST-PERSON VIEW FLIGHT

The capability to fly the device based on the view from the UAV itself.

- FAA rulings prohibit this capability.
- The capability is installed on a large number of devices available through retail.

AUTONOMOUS FLIGHT

The capability for the device to fly itself based on GPS coordinates and preinstalled flight paths.

- FAA rulings do not address this capability.
- Available in many current technology devices.

Number of commercial and hobbyist sales is projected to nearly triple by 2020.

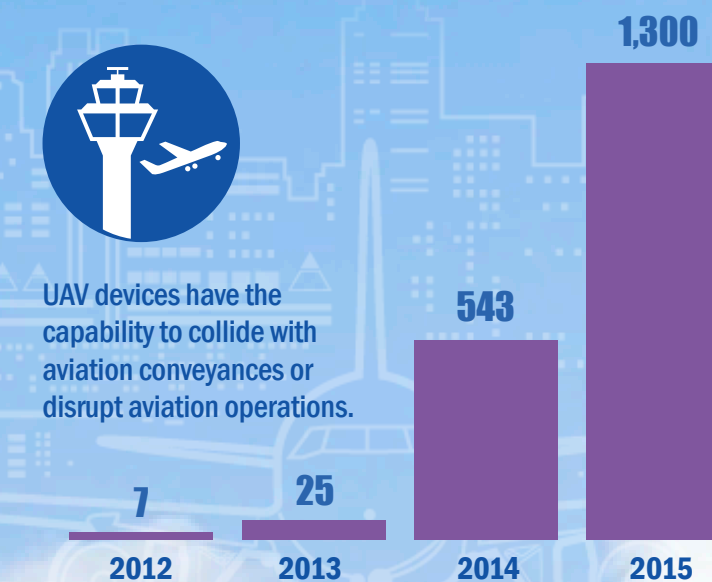


Exposed infrastructure systems and public gathering areas are vulnerable to UAV devices.



- UAVs provide adversaries with the ability to circumvent traditional physical security measures such as gates, surveillance equipment, and security guards.
- Exposed infrastructure systems (such as electrical transmission facilities, pipelines, roads, and bridges) and public gathering areas (such as stadiums and public assembly sites) are vulnerable to UAV devices.

UAV aviation incidents have increased since 2012.



UAV devices have the capability to collide with aviation conveyances or disrupt aviation operations.