





INTRODUCTION TO DRONE TECHNOLOGY

Introduction to Drone Technology:

- ❖ **A drone is a flying robot, and in a technological context, it is an unmanned aircraft, also formally known as unmanned aerial vehicles (UAVs) or unmanned aircraft systems (UAS).**

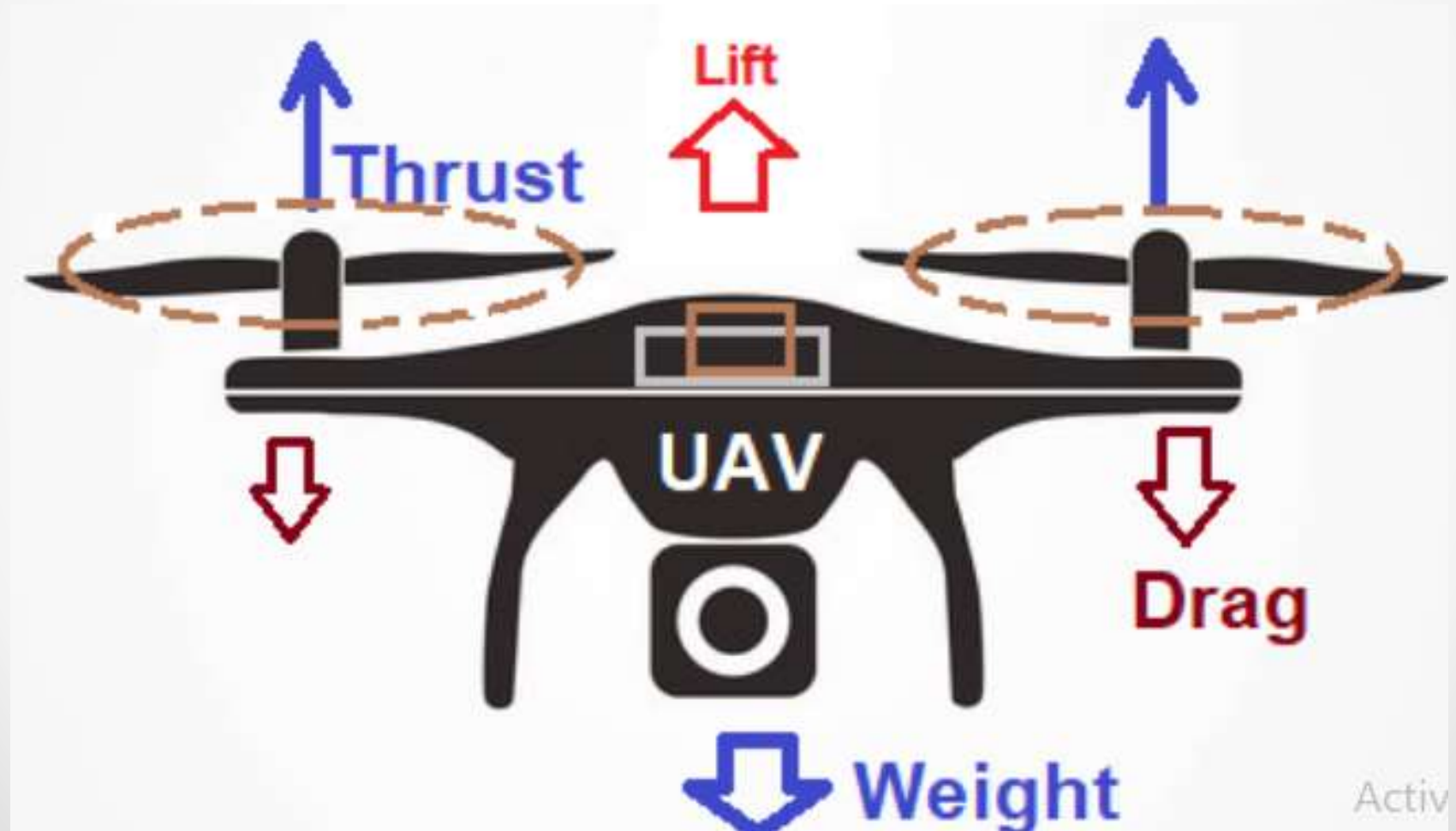


❖ **Drones can control Remotely or fly autonomously through software-controlled flight plans in their Control systems working in conjunction with onboard sensors and GPS.**



❖ **The drones are equipped with different state-of-the-art technology such as infrared cameras, GPS, and lasers (consumer, commercial and military UAV). Drones are controlled remotely by using ground control systems (GSC) and are referred to as ground cockpits.**

Working Principle and Components of Drone:



Components of Drone:

➤ Mechanical Design

- Rigid body dynamics to study the motion and forces acting on drones
- Strength of materials
- Low-weight and rigid materials are selected for drones

➤ Electronics and Electrical Components:

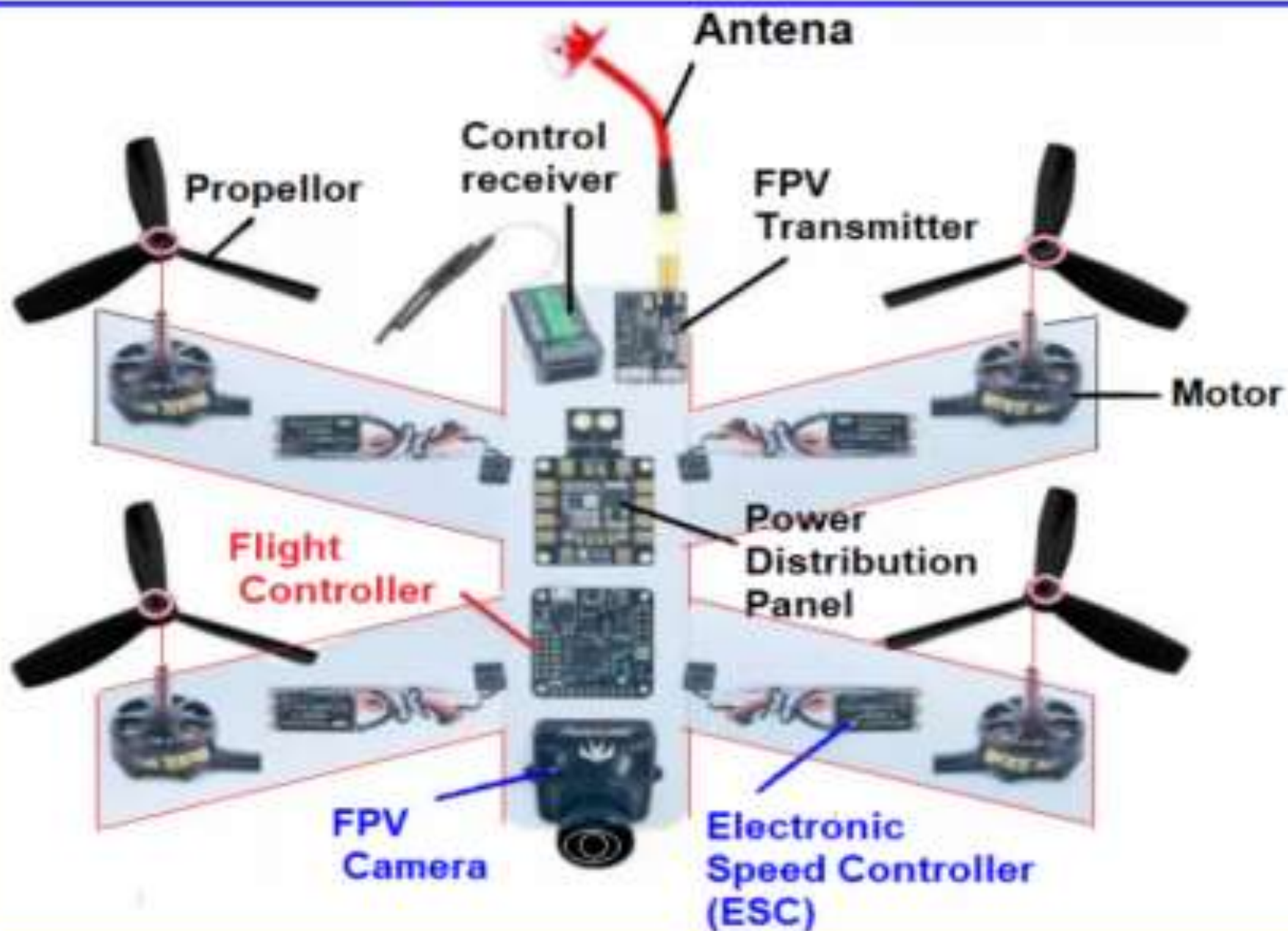
- An electric motor with and without a brush is required to drive the propellers
- Electronic Speed Controller
- Flight controller unit and computer processors

➤ Radio Communication: transmitter and receiver for radio signals.

➤ Battery: Low weight and high-power wattage battery.

➤ Software-based interface: Performs data collection and analysis using mobile or computer.

Parts of Drone



Types of Drones



Multi-Rotor Drones



Fixed-Wing Drones



Single-Rotor Drones



Applications of Drones:

