DRONES@STEAM

Fostering digital Transformation in VET schools
and creating new job prospects in the labour market

Project Result No: 2

Activity 3: EDUCATIONAL PACK: TEACHING MATERIAL AND ASSESSMENT

UNIT 1, Chapter 1.2, Worksheet 1.2.1

Lead partner(s): N.C.S.R. “Demokritos”, ECAM-EPMI

Co-funded by the European Union

This project has been funded with support from the European Commission. This communication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein. Project number: 2021-1-EL01-KA220-VET-000034686

CONTEXT

Grant agreement	2021-1-EL01-KA220-VET-000034686
Programme	Erasmus+
Key action	Cooperation for innovation and the exchange of good practices
Action	Strategic Partnerships
Project acronym	DRONES@STEAM
Project title	DRONES@STEAM: Fostering digital Transformation in VET schools and creating new job prospects in the labour market
Project starting date	28/02/2022
Project duration	28 months
Project end date	27/06/2024

WEBSITE:

https://dronesteam.eu/

CONSORTIUM: PARTNER LIST

- University of Crete (UoC) - Greece
- ECAM-EPMI (ECAM) - France
- Cyprus Computer Society (CCS) - Cyprus
- Politeknika Ikastegia Txorierri S. Coop (PIT) – Spain
- National Center for Scientific Research “Demokritos” (NCSRD) - Greece
- A & A Emphasys Interactive Solutions Ltd (EMP) – Cyprus
- Regional Directorate of Primary and Secondary Education of Attica (RDPSEA) – Greece

Co-funded by the European Union

This project has been funded with support from the European Commission. This communication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein. Project number: 2021-1-EL01-KA220-VET-000034686

Contents

Co-funded by the European Union

This project has been funded with support from the European Commission. This communication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein. Project number: 2021-1-EL01-KA220-VET-000034686

UNIT 1: Lesson Plan 1.2.1

UNIT 1	
Chapter 1.2	Drone design and flying principles
Equipment, Software, Consumables (if needed)	PC, Projector. Optional: Internet Connection
Duration	2 hours
Short description	The object of this worksheet is to provide an overview of the components and systems that make up a drone, including the technical characteristics and functionality of the main drone components.
Learning Outcomes	Overview of the technical characteristics and functionality of the main drone components
	Ability to troubleshoot and diagnose rudimentary drone problems
	Understanding of the components and systems that make up a drone, including their technical characteristics and functionality
Activities	
Activity 1	Presentation 1.2.1.1 / Technical characteristics, and functionality of the main drone components
Aim of the activity	Students' familiarization with the technical characteristics, and functionality of the main drone components
Duration	2 Teaching Hours
Type of Activity	Presentation
Teaching Objectives	Overview of the technical characteristics and functionality of the main drone components
Resources	

Co-funded by the European Union

This project has been funded with support from the European Commission. This communication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein. Project number: 2021-1-EL01-KA220-VET-000034686

Activity worksheet 1.2.1 (student version)

Chapter 1.2: Drone design and flying principles

Level: Beginner

This worksheet is a rich resource designed to enhance your understanding of drone technology. This worksheet is structured to systematically elucidate the fundamental aspects of drone components, providing a granular overview, delving into their technical characteristics, and exploring their core functionality.

Drone technology has witnessed a rapid evolution over the years, rendering it an integral part of several sectors including entertainment, security, agriculture, surveying, and even transportation. The significance and versatility of drones largely hinge on their components, each playing a critical role in their operation and performance.

This worksheet will offer you an insightful journey through the main drone components. We will start with a broad overview, laying the groundwork by introducing you to the core parts and their roles in a drone's operation. Following this, we delve deeper into the specific technical characteristics of each component, which will facilitate a better understanding of the drone's performance and efficiency.

Lastly, we will probe into the functionality of these components, highlighting how they interrelate and work in harmony to achieve the intricate and diverse operations drones are known for.

Presentation 1.2.1.1: Technical characteristics and functionality of the main drone components

Main drone components

This list includes the basic components that make up a drone, but the exact components can vary depending on the specific design and purpose of the drone. Some drones may also include additional components such as obstacle avoidance sensors, sonar sensors, or additional cameras. Understanding the function and purpose of each component is important for designing, building, and flying drones effectively and safely

These are the main components of a drone and their technical characteristics and functionalities. Understanding these components is crucial for designing, building, and flying drones effectively and safely.

Here is a list of the main components of a drone:

Co-funded by the European Union

This project has been funded with support from the European Commission. This communication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein. Project number: 2021-1-EL01-KA220-VET-000034686

1. **Frame:** The structural support and protection for the other components.
2. **Propellers:** The blades that generate lift and propel the drone forward.
3. **Motors:** The engines that drive the propellers.
4. **Battery:** The power source that provides energy to the motors and other components.
5. **Flight Controller:** The central processing unit that manages the drone's movements and flight performance.
6. **Radio Control System:** The system that allows the pilot to control the drone remotely.
7. **Sensors (Accelerometers, Gyroscopes, Barometers, etc.):** The components that monitor and control the drone's movements and altitude.
8. **Camera:** The device that captures images or video footage.
9. **GPS:** The system that determines the drone's position and location.
10. **Lights:** The lights that increase visibility and safety during flight.
11. **Antennae:** The components that transmit and receive signals for communication and control.
12. **Electronic Speed Controllers (ESCs):** The components that regulate the speed of the motors.
13. **Video Transmitter:** The component that transmits video from the drone to a remote location.
14. **Power Distribution Board:** The component that manages the distribution of power from the battery to the other components.

1. Frame

The frame is the backbone of the drone, providing structural support and protection for the other components. The frame is typically made of lightweight materials such as carbon fiber or aluminum, and is designed to withstand the stress and vibration of flight. The size, shape, and material of the frame are important considerations for stability, weight, and durability.

The drone frame is one of the most important components of a drone as it provides structural support and protection for the other components.

Co-funded by the European Union

This project has been funded with support from the European Commission. This communication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein. Project number: 2021-1-EL01-KA220-VET-000034686

The drone frame is a critical component of a drone that provides structural support, protection, and mounting points for the other components. The technical characteristics and functionality of the frame, including the material, size and shape, mounting points, protective features, and customizability, are important considerations for designing and building a drone that is stable, durable, and effective.

2. Propellers

Propellers generate lift by rotating and creating airflow, allowing the drone to take off and fly. The size, number, and pitch of the propellers, as well as the speed at which they rotate, are important considerations for the drone's flight performance and stability.

Propellers are a crucial component of a drone as they generate lift and propel the drone forward. Drone propellers are an essential component of a drone that generate lift and propulsion. The technical characteristics and functionality of the propellers, including the material, number of blades, blade shape, blade pitch, rotation speed, and noise reduction, are important considerations for designing and building a drone that is efficient, stable, and quiet.

3. Motors

Motors are responsible for turning the propellers and providing thrust. They are typically brushless DC motors, which are more efficient and reliable than brushed motors. The size, power, and configuration of the motors are important considerations for the drone's flight performance and endurance.

Co-funded by the European Union

This project has been funded with support from the European Commission. This communication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein. Project number: 2021-1-EL01-KA220-VET-000034686

Motors are a crucial component of a drone, providing the power to drive the propellers and generate thrust. The technical characteristics and functionality of the motors, including the type, power, speed control, efficiency, weight, mounting, and cooling, are important considerations for designing and building a drone that is efficient and reliable.

4. Battery

The battery provides power to the motors and other components. It is typically a rechargeable lithium polymer (LiPo) battery, which offers high energy density and long life. The capacity, voltage, and discharge rate of the battery are important considerations for the drone's flight time and performance.

The rechargeable lithium-polymer (LiPo) battery, provides power to the drone's motors, sensors, and other electronics.

The technical characteristics and functionality of drone batteries are designed to provide a safe and reliable source of power for the drone's electronics, and to ensure long battery life and consistent performance.

5. Flight Controller

The flight controller is the central processing unit of the drone, responsible for managing the drone's movements and stability. It receives input from the radio control system and sensors, and generates output to control the motors and other components. The flight controller is typically a small computer, such as a microcontroller or single-board computer, running specialized software.

Co-funded by the European Union

This project has been funded with support from the European Commission. This communication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein. Project number: 2021-1-EL01-KA220-VET-000034686

A drone flight controller is a critical component that manages and controls the drone's flight. The technical characteristics and functionality of drone flight controllers are designed to provide the drone with the ability to fly in a stable and controlled manner, respond to inputs from the remote controller or autonomous navigation system, and process data from the sensors to maintain awareness of its surroundings.

6. Radio Control System

The radio control system provides a way for the pilot to control the drone. It typically consists of a transmitter (controller) and a receiver on the drone. The pilot uses the transmitter to send commands to the drone, which are received by the receiver and processed by the flight controller. The radio control system is an important consideration for the drone's range and reliability.

A drone radio control system typically consists of two main components: a remote controller and a receiver that is installed on the drone.

The remote controller, also known as the transmitter, is held by the pilot and has several buttons and joysticks that allow the pilot to control the drone's movements and functions. The transmitter sends signals to the receiver on the drone, which then interprets those signals and converts them into commands for the drone's motors and other systems.

Co-funded by the European Union

This project has been funded with support from the European Commission. This communication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein. Project number: 2021-1-EL01-KA220-VET-000034686

The receiver on the drone is responsible for receiving the signals from the remote controller, decoding them, and forwarding them to the drone's flight control system. Some receivers may also incorporate additional functions, such as telemetry, which provides real-time information on the drone's status and performance back to the remote controller.

Some common technical specifications of a drone radio control system include the frequency band on which it operates, the range of the system, and the number of channels supported by the transmitter and receiver. The frequency band is the range of radio frequencies over which the system can transmit and receive signals. Common frequency bands for drone radio control systems include 2.4 GHz and 5.8 GHz. The range of the system refers to the maximum distance between the transmitter and receiver over which reliable control can be maintained. The number of channels supported by the transmitter and receiver determines the number of functions that can be controlled independently, such as the drone's movement in multiple directions.

In terms of functionality, a drone radio control system allows the pilot to control various aspects of the drone's flight, including its altitude, speed, direction, and camera orientation. Some advanced systems may also provide additional features, such as GPS navigation and obstacle avoidance.

7. Sensors

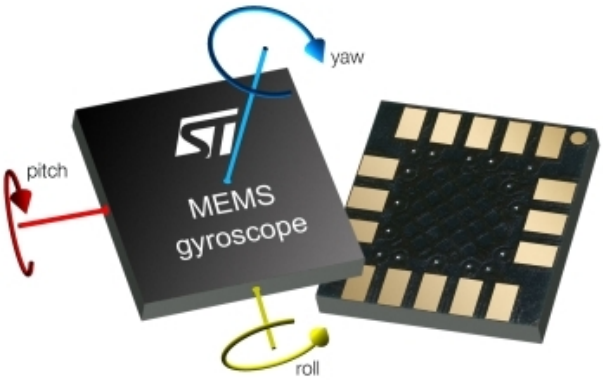
Sensors provide data to the flight controller to help control the drone's movements and stability. Some common sensors include accelerometers, gyroscopes, and barometers, which measure acceleration, angular velocity, and air pressure, respectively. The type and configuration of sensors are important considerations for the drone's stability and performance.
Drones are equipped with various sensors that help to ensure stable flight and navigation, as well as gather data about the environment.

These sensors are integrated into the drone's flight control system, which processes the data from the sensors to control the drone's movements and maintain stability. The functionality of the sensors in a drone can vary depending on the type and model of the drone, as well as its intended use.
Some of the common sensors found in drones include:

1. **Gyroscopes:** These sensors measure the drone's angular velocity and help to maintain stability in flight.

Co-funded by the European Union

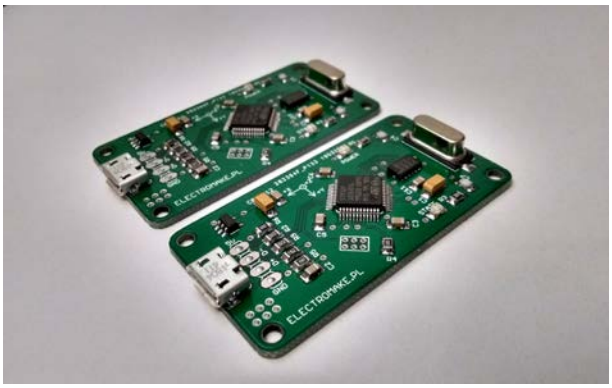
This project has been funded with support from the European Commission. This communication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein. Project number: 2021-1-EL01-KA220-VET-000034686



The main function of drone gyroscopes is to measure the angular velocity of the drone and provide this information to the flight control system. This information is used to control the drone's movements and maintain stability. By measuring the drone's angular velocity, the flight control system can correct any movements that are not intentional and ensure that the drone remains stable in flight. Additionally, gyroscopes can be used in conjunction with other sensors, such as accelerometers and magnetometers, to provide more accurate and complete information about the drone's orientation and movement.

2. **Accelerometers:**

Accelerometers are sensors that measure the linear acceleration of a drone and are commonly used to determine its orientation and movement.



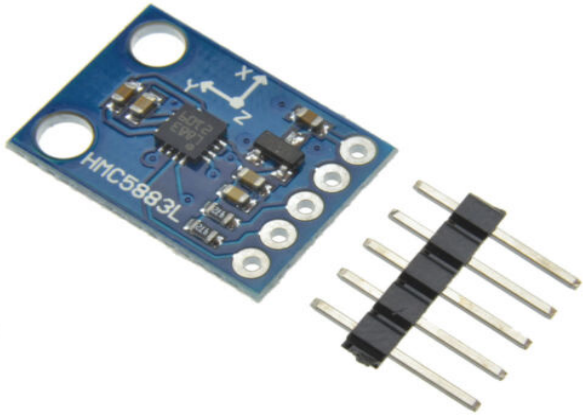
The main function of drone accelerometers is to measure the linear acceleration of the drone and provide this information to the flight control system. This information is used to determine the drone's orientation and movement, as well as to control its movements and maintain stability. By measuring the drone's acceleration, the flight control system can determine its position and orientation and use this information to correct any unintended movements and ensure stability in flight. Additionally, accelerometers can be used in

Co-funded by the European Union

This project has been funded with support from the European Commission. This communication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein. Project number: 2021-1-EL01-KA220-VET-000034686

conjunction with other sensors, such as gyroscopes and magnetometers, to provide more accurate and complete information about the drone's orientation and movement.

3. **Magnetometers:** These sensors measure the strength and direction of the Earth's magnetic field and are used in navigation and compass systems.

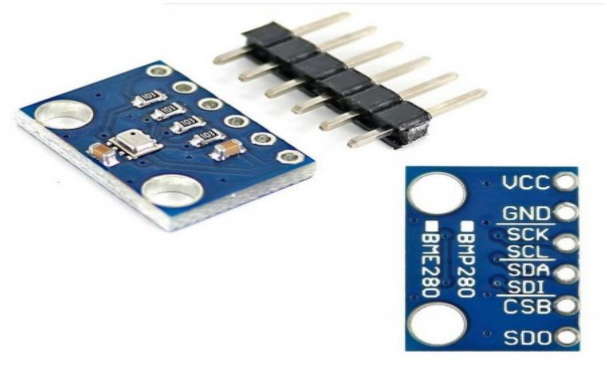


Magnetometers are sensors that measure the magnetic field of a drone and are used to determine its orientation.
The main function of drone magnetometers is to measure the magnetic field of the drone and provide this information to the flight control system. This information is used to determine the drone's orientation and to correct any unintended movements. By measuring the magnetic field, the flight control system can determine the drone's heading and use this information to maintain stability in flight. Additionally, magnetometers can be used in conjunction with other sensors, such as gyroscopes and accelerometers, to provide more accurate and complete information about the drone's orientation and movement.

4. **Barometers:**
Barometers are sensors that measure atmospheric pressure and are used to determine the drone's altitude.

Co-funded by the European Union

This project has been funded with support from the European Commission. This communication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein. Project number: 2021-1-EL01-KA220-VET-000034686



The main function of drone barometers is to measure atmospheric pressure and provide this information to the flight control system. This information is used to determine the drone's altitude and to control its movements. By measuring atmospheric pressure, the flight control system can determine the drone's height above the ground and use this information to maintain stability in flight and control its movements. Additionally, barometers can be used in conjunction with other sensors, such as GPS and altimeters, to provide more accurate and complete information about the drone's altitude.

5. **GPS:** This sensor provides the drone's location and is used for navigation, mapping, and geolocation.

GPS (Global Positioning System) is a system of satellites that provide location and time information to GPS receivers on the ground. Drones often have GPS receivers built into them to provide location information, which is used for navigation and flight control.
The main function of drone GPS is to provide location and time information to the flight control system. This information is used to determine the drone's location, track its movements, and maintain stability in flight. By measuring the drone's location, the flight control system can use this information to control the drone's movements and to ensure that it stays on course. Additionally, GPS can be used in conjunction with other sensors,

Co-funded by the European Union

This project has been funded with support from the European Commission. This communication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein. Project number: 2021-1-EL01-KA220-VET-000034686

such as barometers and altimeters, to provide more accurate and complete information about the drone's altitude and location.

6. **Ultrasonic sensors:** These sensors use sound waves to measure distances and are often used for obstacle avoidance and landing.

Ultrasonic sensors are sensors that use high-frequency sound waves to measure distance, speed, or position. Drones often have ultrasonic sensors built into them to provide information about the drone's environment and to assist with navigation.
The main function of drone ultrasonic sensors is to provide information about the drone's environment. By measuring the distance to objects in the environment, the flight control system can use this information to avoid obstacles and maintain stability in flight. Additionally, ultrasonic sensors can be used in conjunction with other sensors, such as cameras and lidar, to provide a more complete picture of the drone's environment and to assist with navigation.

7. **Optical flow sensors:** These sensors use cameras to track the movement of objects in the drone's field of view and are used for indoor navigation and stability.

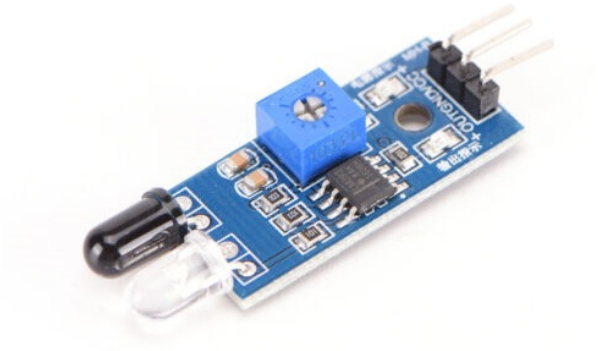
Co-funded by the European Union

This project has been funded with support from the European Commission. This communication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein. Project number: 2021-1-EL01-KA220-VET-000034686

Optical flow sensors are sensors that use image analysis to measure the movement of objects in the field of view. Drones often have optical flow sensors built into them to provide information about the drone's movement relative to the ground and to assist with navigation.

The main function of drone optical flow sensors is to provide information about the drone's movement relative to the ground. By measuring the movement of objects in the environment, the flight control system can use this information to control the drone's movements and to maintain stability in flight. Additionally, optical flow sensors can be used in conjunction with other sensors, such as cameras and lidar, to provide a more complete picture of the drone's environment and to assist with navigation.

8. **Infrared sensors:** These sensors detect heat and can be used for thermal imaging and obstacle avoidance.



Infrared (IR) sensors are sensors that use the infrared spectrum of light to measure temperature, distance, or position. Drones often have IR sensors built into them to provide information about the drone's environment and to assist with navigation.

The main function of drone IR sensors is to provide information about the drone's environment. By measuring the temperature of objects in the environment, the flight control system can use this information to avoid obstacles and to maintain stability in flight. Additionally, IR sensors can be used in conjunction with other sensors, such as cameras and lidar, to provide a more complete picture of the drone's environment and to assist with navigation.

9. **LIDAR:** This laser-based sensor can be used for high-precision mapping and navigation, as well as obstacle avoidance.

Co-funded by the European Union

This project has been funded with support from the European Commission. This communication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein. Project number: 2021-1-EL01-KA220-VET-000034686

LIDAR (Light Detection and Ranging) is a laser-based technology that uses light to measure distance, create 3D maps, and gather other information about the environment. Drones often have LIDAR sensors built into them to provide information about the drone's environment and to assist with navigation.

The main function of drone LIDAR is to provide information about the drone's environment. By measuring the distance to objects in the environment, the flight control system can use this information to avoid obstacles, maintain stability in flight, and to create 3D maps of the environment. Additionally, LIDAR can be used in conjunction with other sensors, such as cameras and IR sensors, to provide a more complete picture of the drone's environment and to assist with navigation.

8. Camera

The device that captures images or video footage.

Cameras are one of the most commonly used sensors on drones. They are used to capture images and video, which can be used for navigation, object recognition, and mapping. The main function of drone cameras is to provide information about the drone's environment. By capturing images and video, the flight control system can use this information to avoid obstacles, maintain stability in flight, and create maps of the environment. Additionally,

Co-funded by the European Union

This project has been funded with support from the European Commission. This communication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein. Project number: 2021-1-EL01-KA220-VET-000034686

cameras can be used in conjunction with other sensors, such as LIDAR and IR sensors, to provide a more complete picture of the drone's environment and to assist with navigation.

9. Lights

The lights increase visibility and safety during flight.

Lights are not a common component of drones but can be found on some models, especially those designed for night operations.
The main function of drone lights is to provide visibility during flight, especially in low light conditions or at night. By providing a visible source of light, drone lights can help with navigation, orientation, and obstacle avoidance. Additionally, they can be used to provide visual cues to other people, such as ground-based observers or other pilots, to help with situational awareness.

10. Antennae

The components that transmit and receive signals for communication and control.

Antennae play a crucial role in the functionality of drones. They are responsible for transmitting and receiving signals for various purposes such as GPS, communication with the remote control, and other data transmission. The choice of drone antenna depends on the specific needs and requirements of the drone and the application it is being used for.

Co-funded by the European Union

This project has been funded with support from the European Commission. This communication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein. Project number: 2021-1-EL01-KA220-VET-000034686

11. Electronic Speed Controllers (ESCs)

The components that regulate the speed of the motors.

Electronic Speed Controllers (ESCs) are an essential component of drones, as they control the speed of the motors and provide power to the drone's flight system.

The choice of drone ESC depends on the specific needs and requirements of the drone, including its size, weight, and the type of motors used. A well-designed ESC can improve the performance and reliability of a drone, and help ensure safe operation.

12. Video Transmitter

The component transmits video from the drone to a remote location.

A video transmitter (VTX) is a critical component of a drone that allows it to transmit live video footage to a remote receiver, such as a ground station or a remote control.

The choice of drone VTX depends on the specific needs and requirements of the drone, including its size, weight, and the range and quality of the video transmission required. A high-

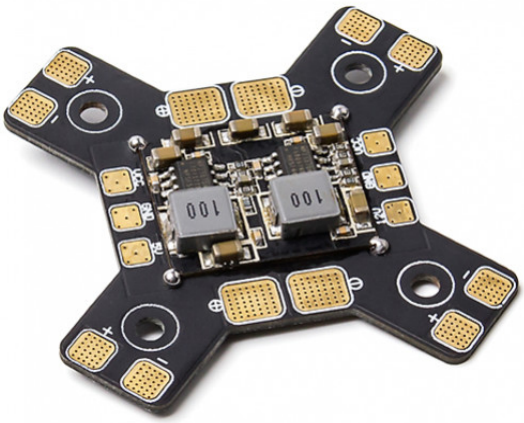
Co-funded by the European Union

This project has been funded with support from the European Commission. This communication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein. Project number: 2021-1-EL01-KA220-VET-000034686

quality VTX can significantly improve the video transmission capabilities of a drone, allowing for more immersive and informative video footage.

13. Power Distribution Board

A power distribution board (PDB) is an essential component of a drone that distributes power from the battery to the various electrical systems on the drone.



The choice of drone PDB depends on the specific needs and requirements of the drone, including its size, weight, and the power consumption of its systems. A well-designed PDB can improve the performance and reliability of a drone, and help ensure safe operation by managing the power path and protecting the battery.

Co-funded by the European Union

This project has been funded with support from the European Commission. This communication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein. Project number: 2021-1-EL01-KA220-VET-000034686

Quiz

A. Multiple Choice Questions

1) Which component of a drone provides structural support and protection for the other components?

- **a)** Flight Controller
- **b)** Battery
- **c)** Frame
- **d)** Motors

2) What type of battery is typically used in drones due to its high energy density and long life?

- **a)** Nickel-Cadmium (NiCd)
- **b)** Alkaline
- **c)** Lithium-Ion (Li-ion)
- **d)** Lithium-Polymer (LiPo)

3) Which component of a drone is responsible for managing the drone's movements and stability?

- **a)** Propellers
- **b)** Motors
- **c)** Flight Controller
- **d)** Electronic Speed Controllers (ESCs)

4) On which frequency band do most drone radio control systems typically operate?

- **a)** 1.2 GHz
- **b)** 2.4 GHz
- **c)** 3.5 GHz
- **d)** 5.2 GHz

5) Which of the following sensors measures the drone's angular velocity?

- **a)** Accelerometers
- **b)** Barometers
- **c)** Gyroscopes
- **d)** GPS

6) What is the primary purpose of magnetometers in drones?

- **a)** Measuring atmospheric pressure
- **b)** Detecting obstacles
- **c)** Determining altitude
- **d)** Measuring the strength and direction of the Earth's magnetic field

Co-funded by the European Union

This project has been funded with support from the European Commission. This communication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein. Project number: 2021-1-EL01-KA220-VET-000034686

7) Which sensor is most commonly used by drones for determining altitude based on atmospheric pressure?
- **a)** GPS
- **b)** Accelerometers
- **c)** Ultrasonic sensors
- **d)** Barometers

8) For indoor navigation and stability in drones, which sensor uses cameras to track the movement of objects in the drone's field of view?
- **a)** Optical flow sensors
- **b)** Gyroscopes
- **c)** GPS
- **d)** Ultrasonic sensors

9) Which sensor uses the infrared spectrum of light primarily to measure temperature?
- **a)** LIDAR
- **b)** Camera
- **c)** Infrared sensors
- **d)** GPS

10) Which component is primarily responsible for regulating the speed of the drone's motors?
- **a)** Antennae
- **b)** Lights
- **c)** Electronic Speed Controllers (ESCs)
- **d)** Video Transmitter

11) What is the main function of LIDAR in drones?
- **a)** Capture images and video
- **b)** Increase visibility during flight
- **c)** Transmit and receive signals
- **d)** Measure distance and create 3D maps

12) What does a video transmitter primarily do in a drone?
- **a)** Controls motor speed
- **b)** Detects heat
- **c)** Transmits live video footage to a remote receiver
- **d)** Provides visibility during flight

Co-funded by the European Union

This project has been funded with support from the European Commission. This communication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein. Project number: 2021-1-EL01-KA220-VET-000034686

B. Fill the Gap Questions

1) The _____ are the blades on a drone that generate lift and allow it to fly.
Options: a) Propellers, b) Sensors, c) Antennae, d) Lights

2) The drone's central processing unit that manages its movements is called the _____.
Options: a) GPS, b) Video Transmitter, c) Flight Controller, d) Power Distribution Board

3) The _____ are the blades on a drone that generate lift and allow it to fly.
Options: a) Propellers, b) Sensors, c) Antennae, d) Lights

4) The drone's central processing unit that manages its movements is called the _____.
Options: a) GPS, b) Video Transmitter, c) Flight Controller, d) Power Distribution Board

5) The _____ on a drone captures images and video which assist in navigation and object recognition.
Options: a) GPS, b) LIDAR, c) Camera, d) Lights

6) To improve visibility, especially in low light conditions or at night, drones may be equipped with _____.
Options: a) Antennae, b) ESCs, c) Lights, d) Video Transmitters

Co-funded by the European Union

This project has been funded with support from the European Commission. This communication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein. Project number: 2021-1-EL01-KA220-VET-000034686