



Seq 1 : Synth. 1.2

1ère euro SII

Technical Systems: A Comprehensive Guide



Introduction

- **What is a technical system?** A definition and explanation of technical systems, their components, and how they work together.
- **Why study technical systems?** The importance of understanding how things work and the applications in everyday life.
- **Tools of the trade:** A brief overview of the tools used in this project (mechanical and electrical).

The Kart/bicycle

- **Overall structure:** A general description of the kart's main components (frame, engine, seat, wheels, etc.).
- **Subsystems:** Detailed descriptions of specific subsystems (e.g., the braking system, the steering system).
 - *French Translation:* Sous-systèmes
- **Disassembly and reassembly:** Step-by-step instructions on how to disassemble and reassemble the kart, highlighting key points.
 - *French Translation:* Démontage et remontage
- **Troubleshooting:** Common issues that may arise and how to fix them.
 - *French Translation:* Dépannage
- **Vocabulary:** A list of key terms related to the kart, such as:
 - *Frame, engine, axle, wheel, gear, pinion, brake, steering wheel, tire, bolt, nut, screw*
 - *French Translation:* Châssis, moteur, essieu, roue, engrenage, pignon, frein, volant, pneu, boulon, écrou, vis

The FPV Drone

- **Overall structure:** A general description of the drone's main components (frame, motors, propellers, battery, flight controller, camera).
- **Subsystems:** Detailed descriptions of specific subsystems (e.g., the propulsion system, the flight control system).
- **Disassembly and reassembly:** Step-by-step instructions on how to disassemble and reassemble the drone, highlighting key points.
- **Safety precautions:** Important safety rules to follow when working with drones.
- **Vocabulary:** A list of key terms related to the drone, such as:
 - *Drone, quadcopter, motor, propeller, battery, flight controller, ESC (Electronic Speed Controller), receiver, transmitter, FPV (First Person View) goggles*
 - *French Translation:* Drone, quadricoptère, moteur, hélice, batterie, contrôleur de vol, ESC, récepteur, émetteur, lunettes FPV

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Tools and Techniques

- **Mechanical tools:** A detailed description of the various mechanical tools used (hammer, wrenches, pliers, etc.) and their functions.
 - *French Translation:* Outils mécaniques
- **Electrical tools:** A detailed description of the various electrical tools used (screwdriver, pliers, multimeter, etc.) and their functions.
 - *French Translation:* Outils électriques
- **Safety procedures:** Important safety procedures to follow when using tools.
- **Measurement and units:** A brief overview of common measurements and units used in engineering (e.g., millimeters, centimeters, inches, volts, amperes).

Conclusion

- **Recap of key concepts:** A summary of the main points covered in the document.
- **Further exploration:** Suggestions for further learning and experimentation.

Additional Tips:

- **Visual aids:** Include diagrams, pictures, or illustrations to help visualize the concepts.
- **Hands-on activities:** Use additional projects or experiments that you can do to reinforce your learning.
- **Real-world applications:** Discuss how the concepts learned can be applied to other areas of interest.

Example of a vocabulary list for the kart:

- **Frame:** The main structure of the kart.
- **Engine:** The power source of the kart.
- **Axle:** A rod that connects the wheels to the frame.
- **Wheel:** A circular object that rolls along a surface.
- **Brake:** A device used to slow or stop the kart.

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