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UNIVERSITY OF LISBON
INTERDISCIPLINARY STUDIES
ON SUSTAINABLE ENVIRONMENT AND SEAS



Co-funded by the
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Unmanned Aerial Vehicles for Environmental Monitoring

Alexandra Moutinho

Control, Automation and Industrial Informatics
Mechanical Engineering Department
Instituto Superior Técnico, Universidade de Lisboa



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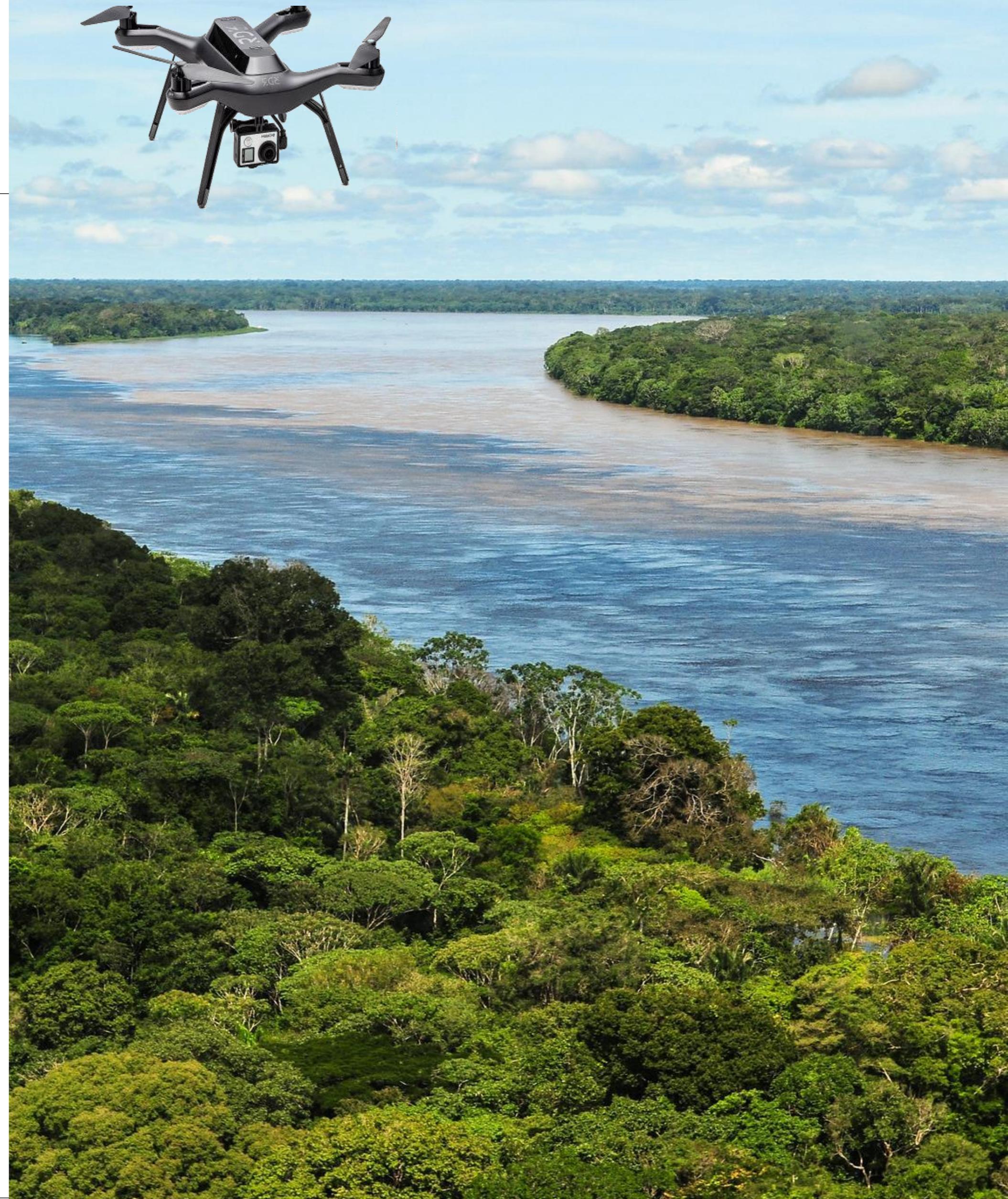
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Module contents

1. Introduction to Unmanned Aerial Systems
2. UAVs payload: sensors for environmental monitoring
3. UAVs operation
4. Examples of application of UAVs for environmental monitoring



Module contents

1. **Introduction to Unmanned Aerial Systems**
2. UAVs payload: sensors for environmental monitoring
3. UAVs operation
4. Examples of application of UAVs for environmental monitoring



UAS components and subsystems

Air frame



fixed-wing

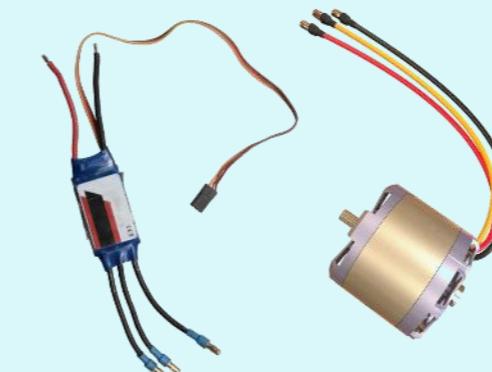


multi-rotor

Propulsion and avionics



battery



ESC +
motor



propeller



flight controller
+ frame sensors

Communications and control station



radio
command



radio
telemetry



ground
control station

Payload



gimbal



visual band
camera



multispectral
sensor



LiDAR
sensor

Air frame



fixed-wing



multi-rotor



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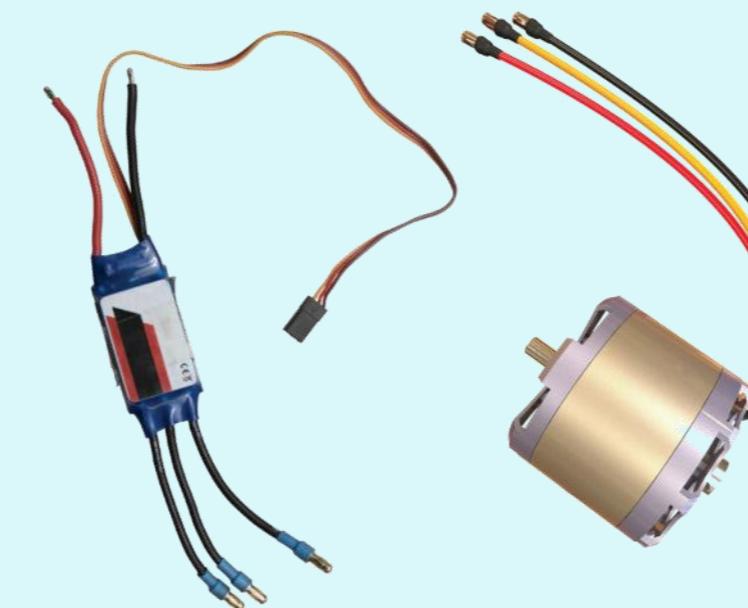


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Propulsion and avionics



battery



ESC +
motor



propeller



flight controller +
frame sensors



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Communications and control station



radio command



radio
telemetry



ground
control station



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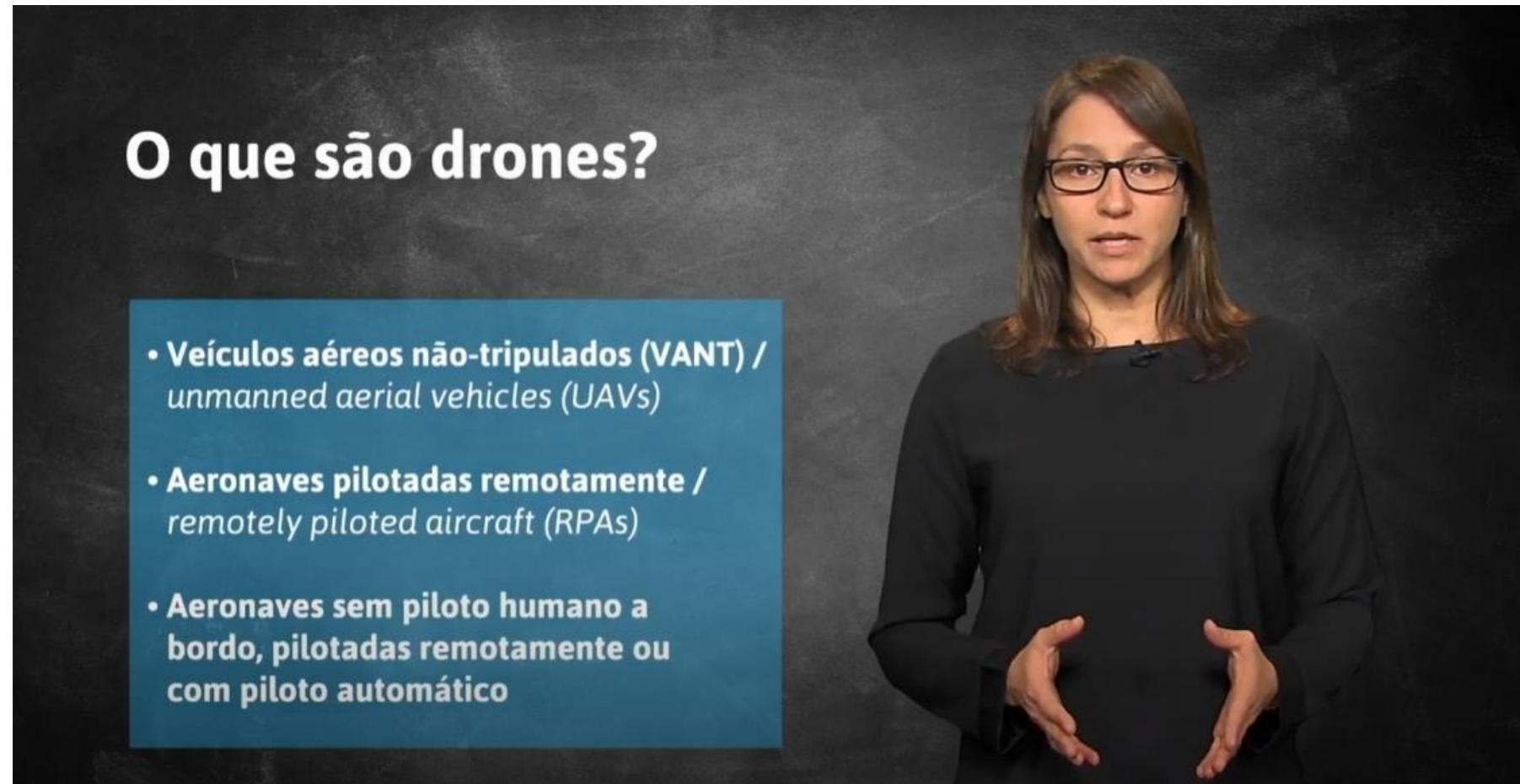
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Video “What are drones?” (please activate the captions in the video)

Credits to MOOC Técnico course “Simulation and Control of Drones”

Alexandra Moutinho, José Raul Azinheira

courses.elearning.tecnico.ulisboa.pt

The background of the image is an underwater scene. A large green sea turtle is swimming towards the left. In the water above it, there is a large amount of plastic waste, including a large plastic sheet, a plastic bottle, and other debris. The water is a deep blue, and the surface is visible in the background.

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