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UNIVERSITY OF LISBON
INTERDISCIPLINARY STUDIES
ON SUSTAINABLE ENVIRONMENT AND SEAS



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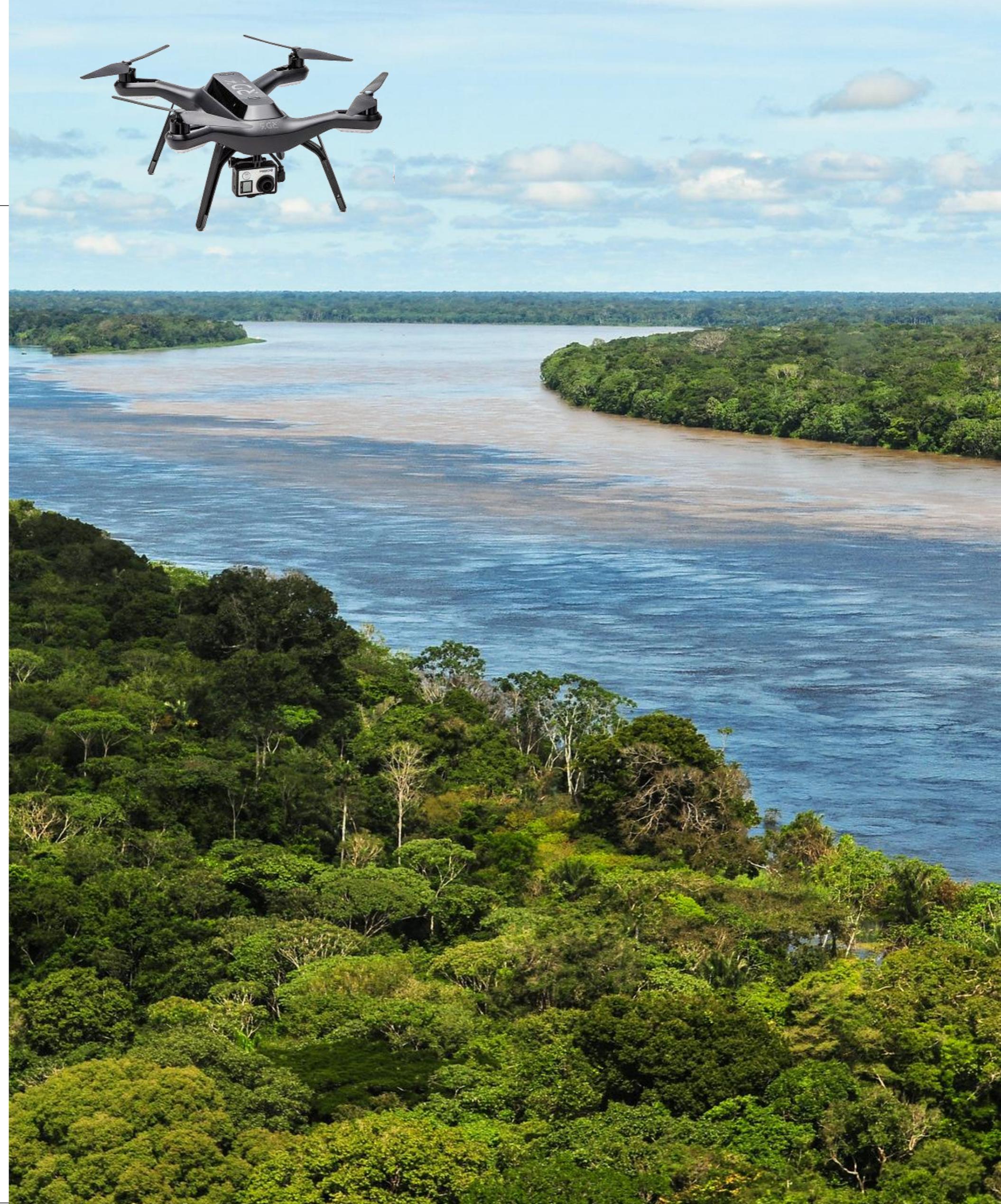
Unmanned Aerial Vehicles for Environmental Monitoring

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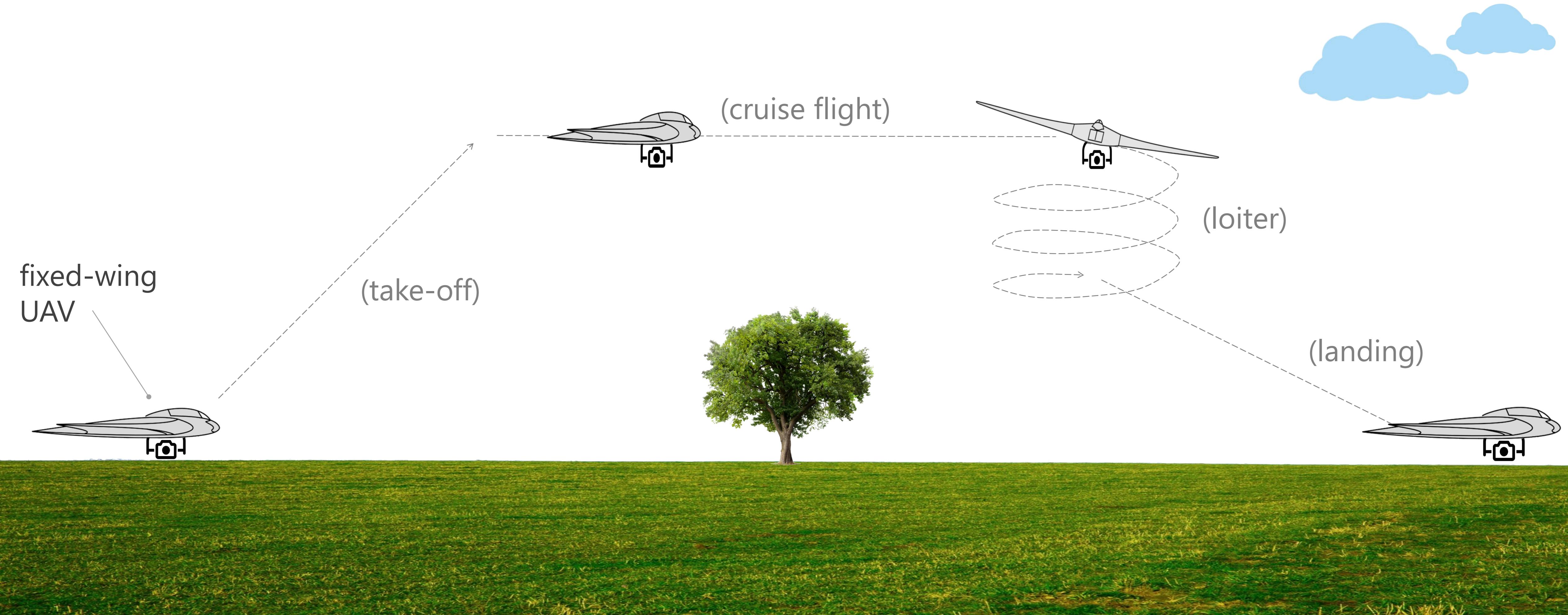
Module contents

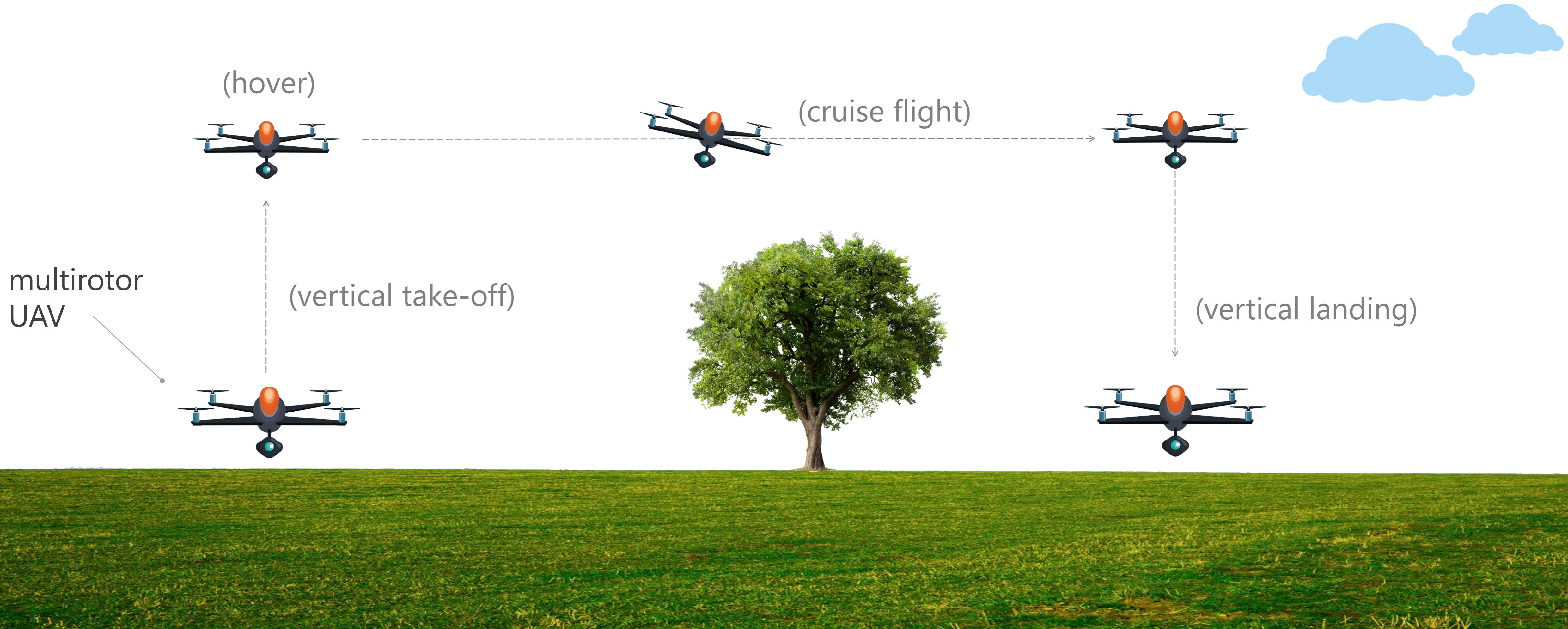
1. Introduction to Unmanned Aerial Systems
 - a) How do drones work?
 - b) Comparison of UAVs for environmental monitoring**
2. UAVs payload: sensors for environmental monitoring
3. UAVs operation
4. Examples of application of UAVs for environmental monitoring











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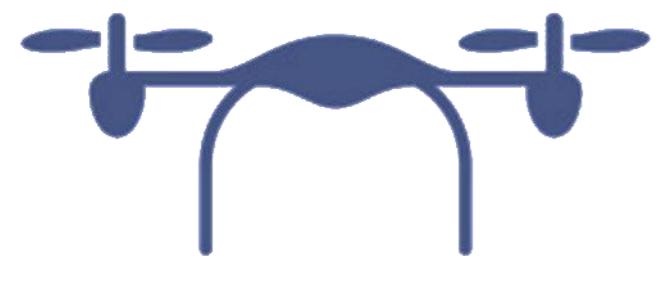
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Drone	Advantages	Disadvantages
	<ul style="list-style-type: none"> + Long endurance + Large area coverage + Fast flight speed + Great stability + Safer recovery from motor power loss 	<ul style="list-style-type: none"> - High price - Large take-off/landing zone is required - No VTOL/hover - Challenging to fly; training is needed
	<ul style="list-style-type: none"> + Low price + High accessibility + Great manoeuvrability + Ease of use + Vertical take-off and landing (VTOL) + Good camera control 	<ul style="list-style-type: none"> - Short flight times - Small payload capacity - Low stability in the wind

Video “Tail sitter VTOL drone”

Credits to Wingtra YouTube channel

The background of the image is an underwater scene. A large green sea turtle is swimming in the foreground, looking towards the camera. In the water above it, there is a significant amount of plastic waste, including a large plastic bag and several plastic bottles of various colors (blue, green, yellow). The water is a deep blue, and the surface is visible in the background where sunlight is filtering down. The overall theme of the image is the impact of plastic pollution on marine life.

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