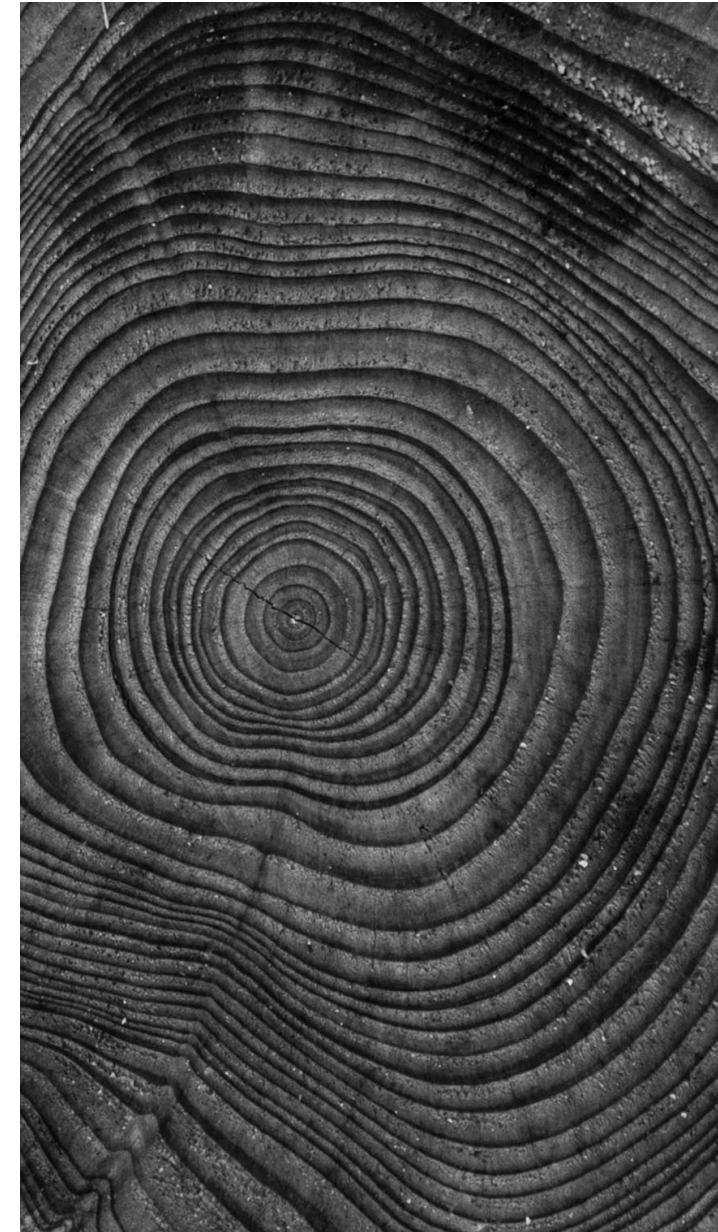




USING DRONES TO HELP FORESTRY MANAGEMENT

Drone inspection allows to obtain accurate information about forest resources and discover forest fire threats, poaching and logging, and other illegal activities



WHAT WILL **DRONES** BE USED FOR?

- Identifying symptoms of tree pests and diseases
- Forest classification and inventory
- Tree height monitoring
- Measuring forest stockpiles (the number of logs, amount of sawdust and woodchips)
- Fire prevention and assessing damage following any fire



ADVANTAGES

- Time-saving approach: reducing long working hours from regular foot patrols and inspections
- Ability to penetrate hard-to-reach areas inaccessible on foot
- Aerial surveys minimize the risk of spreading disease throughout a forest, which can happen with ground surveys
- Detection of disease any disease would be achieved by producing orthorectified layers to create a year-on-year archive of dieback areas changes
- Fire prevention and quick damage assessment following any fire
- Cost-effectiveness and accuracy
- Drones enable safe operations



Borey

the unique mobility of the system allows quick transportation and deployment in minutes

MTOW: **26 kg**

Max payload: **4 kg**

Flight time: **5 hour**

Maximum speed: **30 m/sec**

Practical ceiling: **3,500 m**

Operational range: **400 km**

Temperature range: **-20°C...+40°C**

Digital Camera

Max resolution: **8,000 x 6,000**

Effective pixels: **42 megapixels**

Sensor size: **Full frame (35.8 x 23.8 mm)**

Focal length (equiv.): **35 mm**



Watch the [Borey](#) in action

DRONES FOR INSPECTION

www.uavos.com

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UVH EL25

fully automatic drone with an electric motor

MTOW: **25 kg**

Max payload: **5 kg**

Flight time: **1.5 hour**

Maximum speed: **100 km/h**

Practical ceiling: **3,500 m**

Temperature range: **-20°C...+40°C**

Multispectral camera registers different wavelengths. This can indicate tree condition by characteristics of the tree crown reflection.

It can perform detailed assessments of forest structure or single tree properties

Watch the [UVH-25EL](#) in action



UVH EL25

fully automatic drone with an electric motor

MTOW: **25 kg**

Max payload: **5 kg**

Flight time: **1.5 hour**

Maximum speed: **120 km/h**

Practical ceiling: **3,500 m**

Temperature range: **-20°C...+40°C**

Lidar

Provides very high point densities, therefore generating a detailed image of the stand and crown structure as well as the ground surface structure

- can be enable a recording density of at least 4 points/m²
- a georeferenced point cloud can be classified into surface points, vegetation points and building points

Watch the [UVH-25EL](#) in action



UVH 170

a robust gasoline-powered engine VTOL platform for beyond visual line-of-sight

MTOW: **45 kg**

Max payload: **15 kg**

Flight time: **5 hour (with 4 kg payload)**

Maximum speed: **120 km/h**

Practical ceiling: **5,000 m**

Operational range: **350 km**

Temperature range: **-35°C...+40°C**



GSG 201

Gyro-stabilized 2-axis gimbal with a Day & Thermal camera and Laser Rangefinder

Day camera: **Global shutter 1920x1080**

IR camera: **LWIR 1024x768**

Laser Rangefinder: **0.1 m Resolution**

Weight: **3.5 kg**

Direct drive



Watch the [UVH-170](#) in action

DRONES FOR INSPECTION

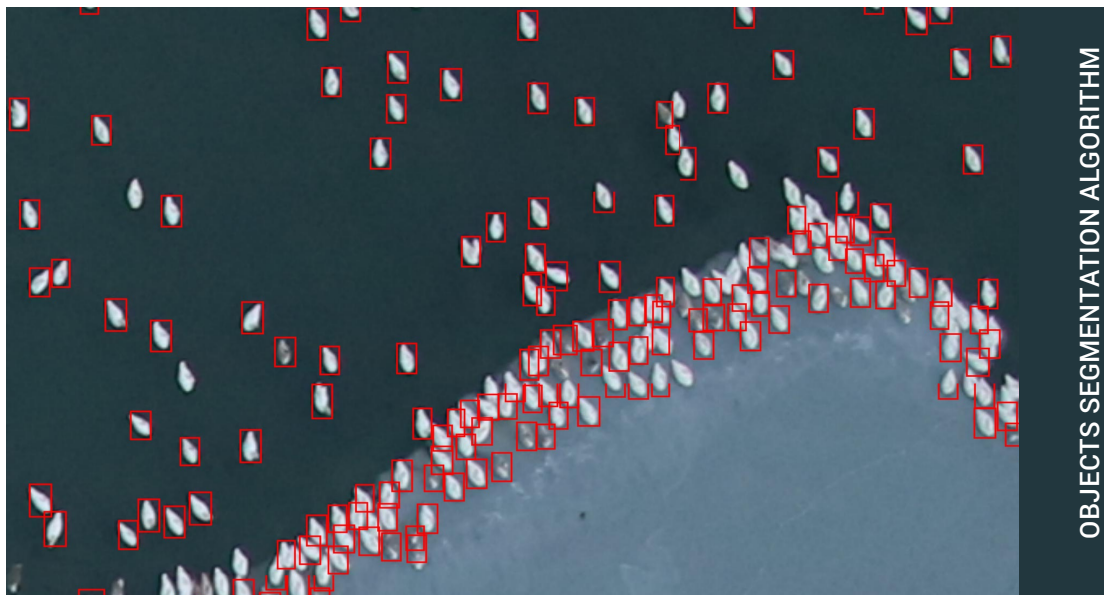


DATA ANALYSIS AUTOMATION

DATA PROCESSING

enabled digitalization of the whole forest area on a large scale:

- Autonomous data collection and automated drone post-flight data analysis
- Big data platform processing
- Digital Twin for Maintenance
- Artificial neural networks (ANNs): classification, object detection, and image segmentation



ORTHOMOSAIC IMAGES

for large areas for GIS import
provide accurate measurements such as horizontal distances and surfaces

- High-definition images
- Data visualization through a Geographic Information System (GIS)
- Drone images are corrected for image distortion
- and stitched together during post-processing to create a highly-accurate orthomosaic

Cut down trees

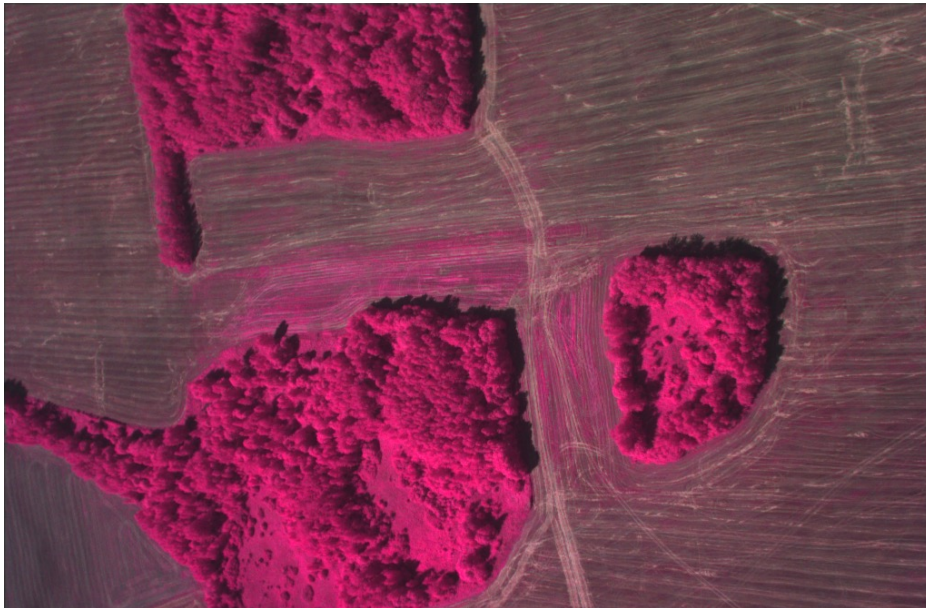
140,000 m² area

Resolution: **2** cm/pixel

Accuracy: up to **5** cm

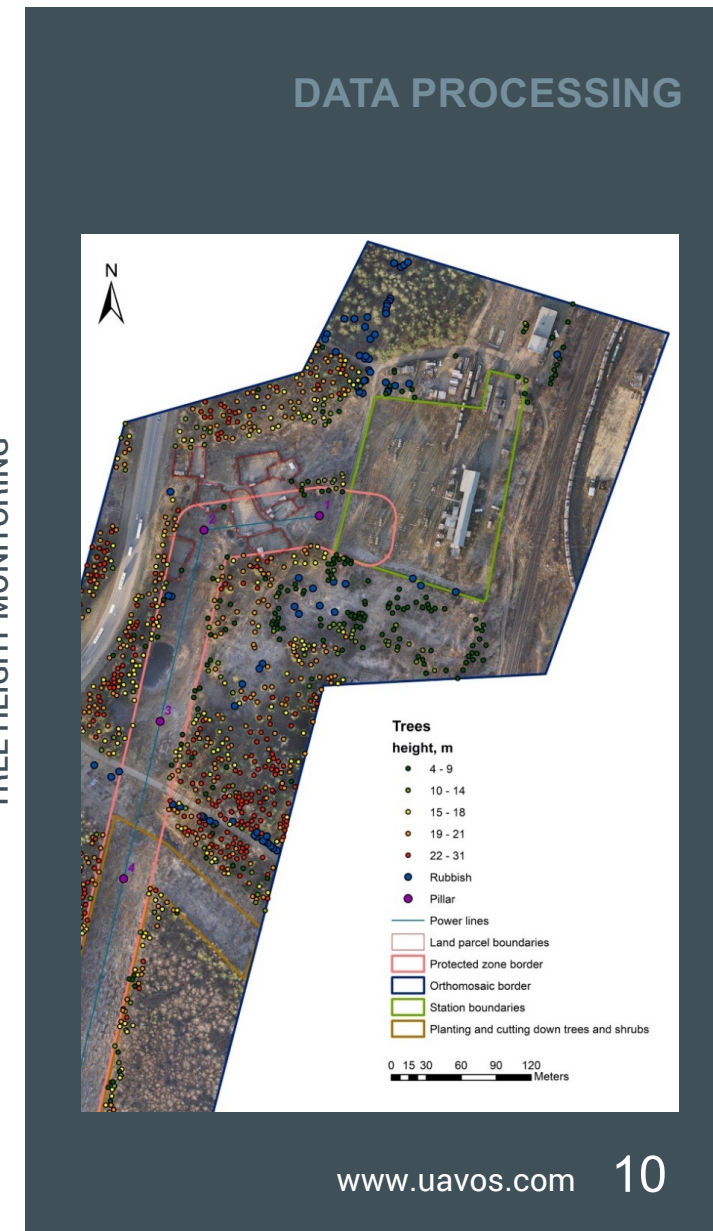


With **Multispectral Data**, various color ranges can be identified and differentiated to draw conclusions concerning the vital constitution of plants or the nature of soil nature



High Quality Aerial Maps can help you see forest in the details. High resolution imagery will help you plan operations

GIS data records and digital terrain models for use in forestry [video](#)





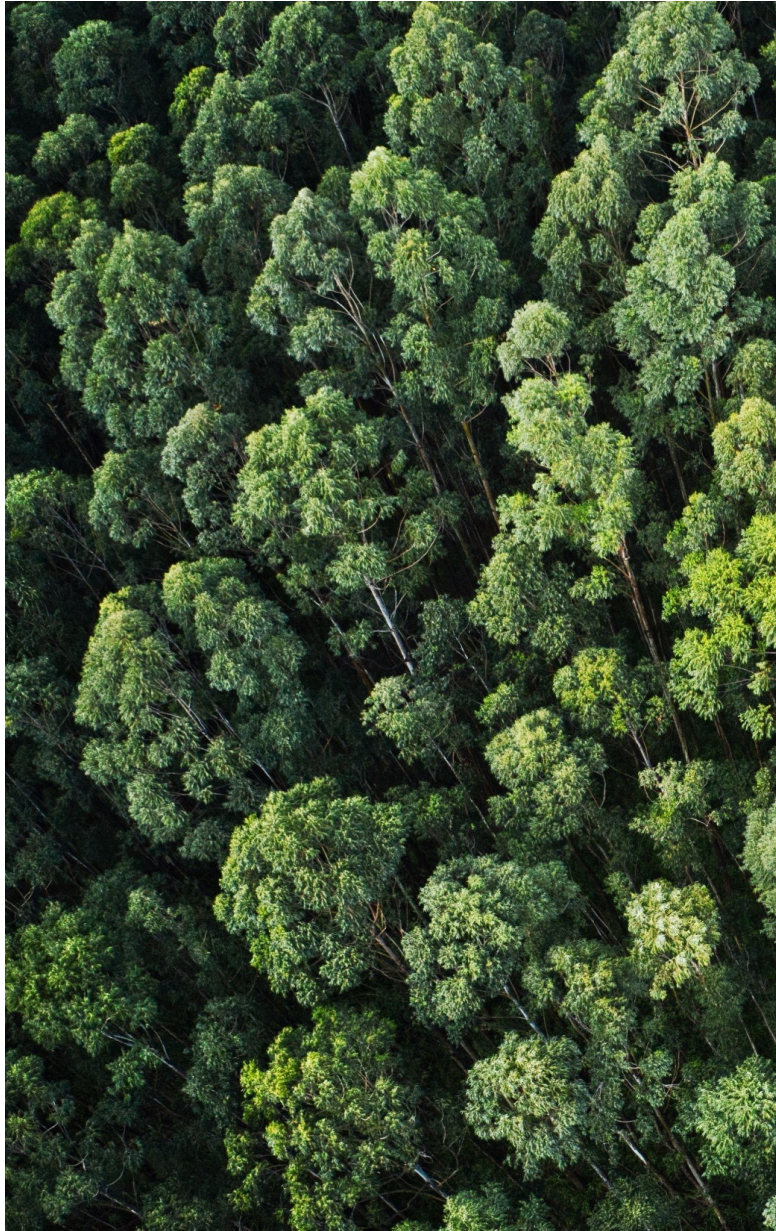
WHY CHOOSE UAVOS?

UAVOS team of pilots, mapping professionals, and GIS experts provide the highest quality service maximizing clients benefits:

- Highly experienced in government projects support
- Drone pilots are UAS BVLOS certified
- Both hardware and software are developed and manufactured in-house
- Financially solid with investment backing

Following each drone inspection, our clients receive a detailed report and deliverables including:

- High-definition images and video
- GEO tagged images for use in GIS software
- Orthomosaic images for large areas for import into GIS
- Digital surface model (DSM), digital terrain model (DTM) or DEM files
- 3D images to help future tree plantation planning and monitoring growth
- RGB imagery



THANK YOU

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