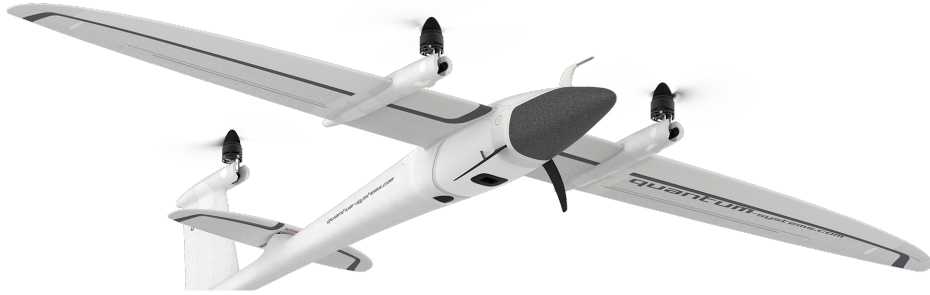




# DRONES SERVICES FOR FORESTRY, AGRICULTURE AND WILDLIFE



Atila Haugen | Daglig leder



Specific category license from EASA

- BVLOS
- High Alt
- 80 kg MTOW



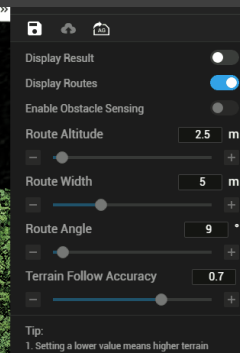
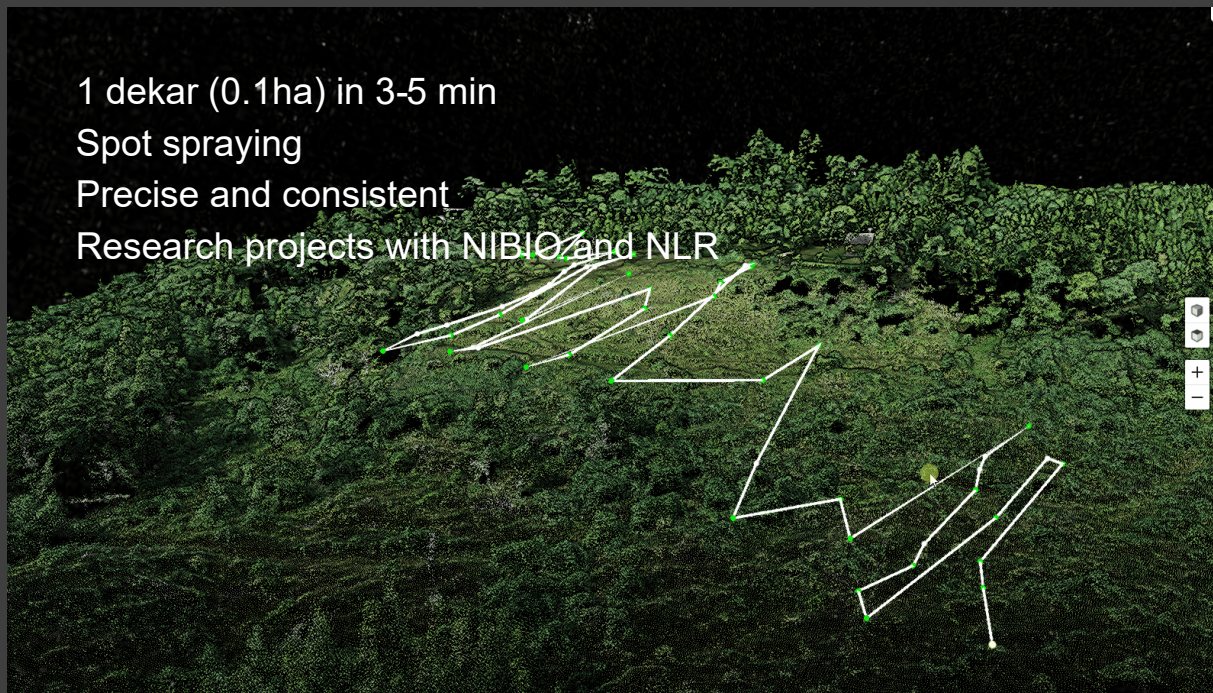
# Weed control

1 dekar (0.1ha) in 3-5 min

Spot spraying

Precise and consistent

Research projects with NIBIO and NLR

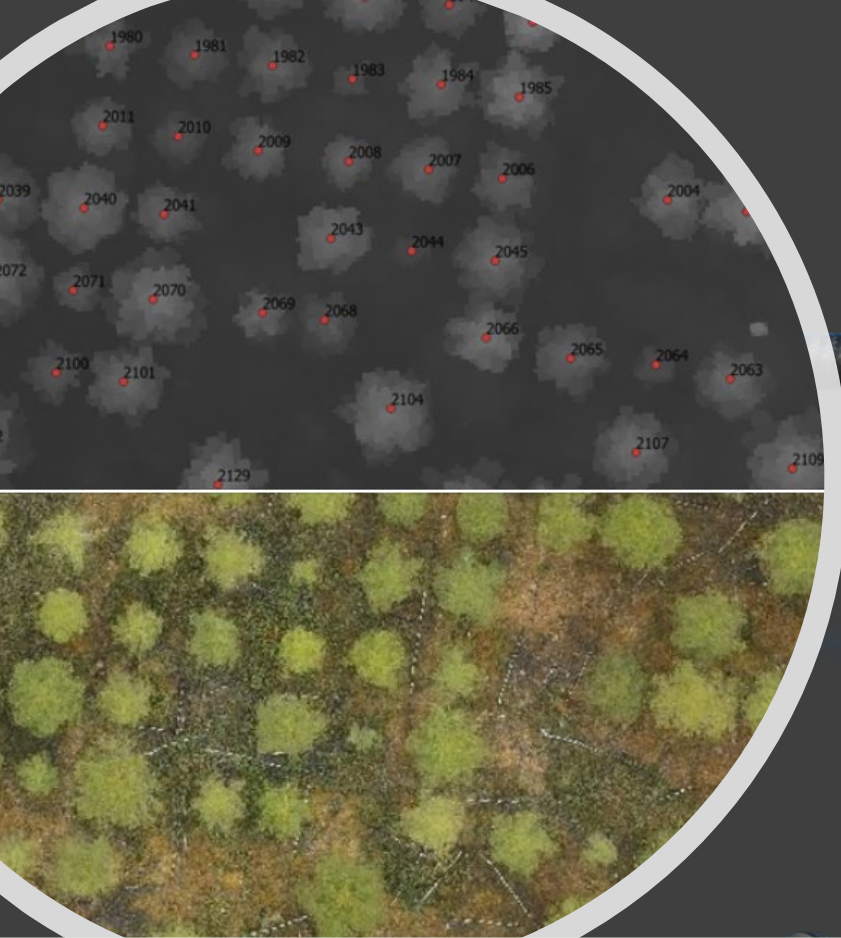




# Sowing and fertilizing

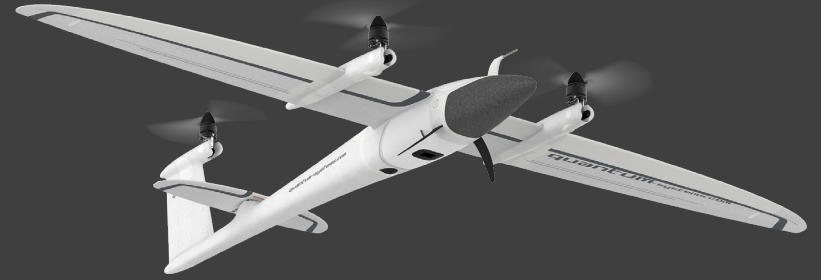
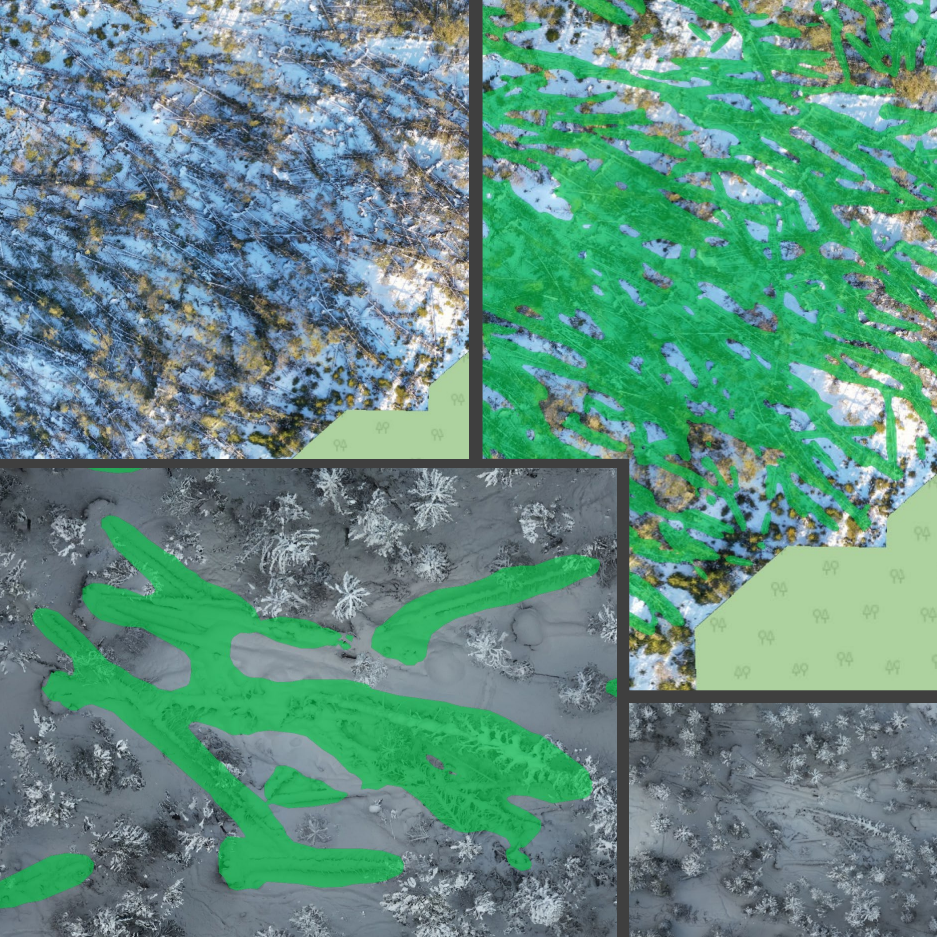
- Sowing grass and auxiliary plants in food production
- Restoration of pastures unavailable for tractors
- Fertilizing forests too small for helicopters





Height measurements and  
coordinate extract with  
LiDAR and RTK-GPS





Storm damages  
1000 Hectares per hour





# Canopy sampling with drone

- Greatly reduces risk
- Highly effective
- Sampling is possible in all environments
- Uses coordinates from mapping with drone





# BIODRONE

Enter your username and password.

## BIODRONE AI-PORTAL

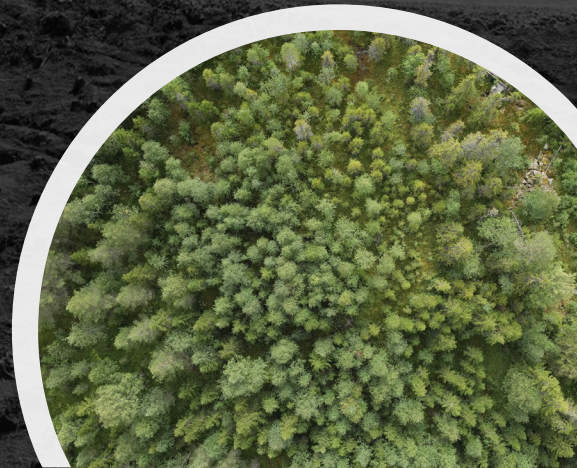
Sign In

 Language

 Forgot Password

# BIODRONE ALPOTAL

- Upload drone images and generate orthomosaic (or upload orthomosaic)
- Choose type of analysis
- Large scale information before and after harvest!
- Export results and orthomosaic as WMS or download as shapefile.



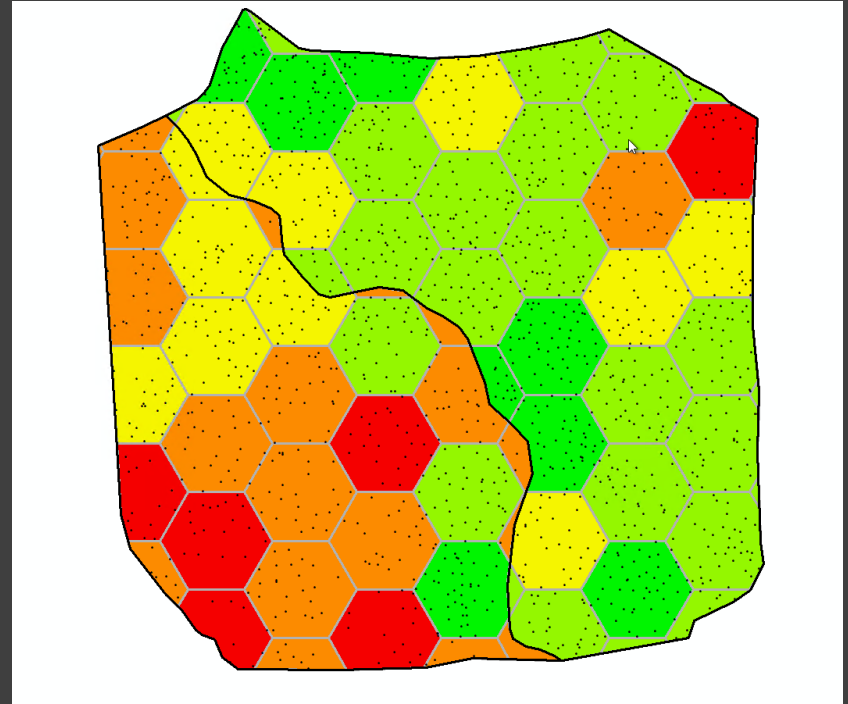


An aerial photograph of a dense forest, showing a variety of green trees and some rocky patches. A dark, semi-transparent overlay covers the bottom portion of the image, containing the title text.

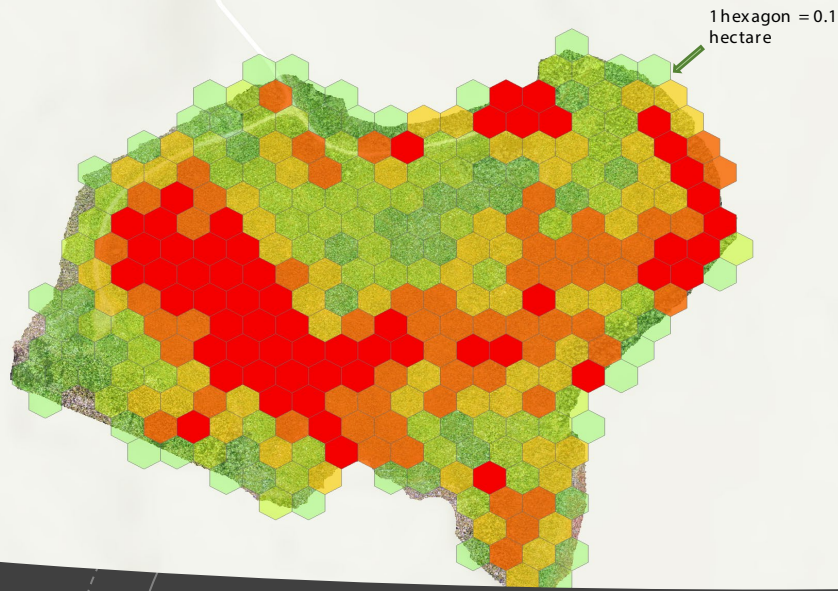
# PRE-HARVEST ANALYSIS

# Sapling control

- Decides the need for additional plants.
- Gives the correct number pr hectar.
- Possible from 2-3 yrs after planting, dependent of growth rate and surroundings.







# Mapping young forest thinning needs

- Number of trees in total
- Number for each species
- Mean height for each tree and species
- Feature layer, multiple filtrations possible





# POST-HARVEST ANALYSIS

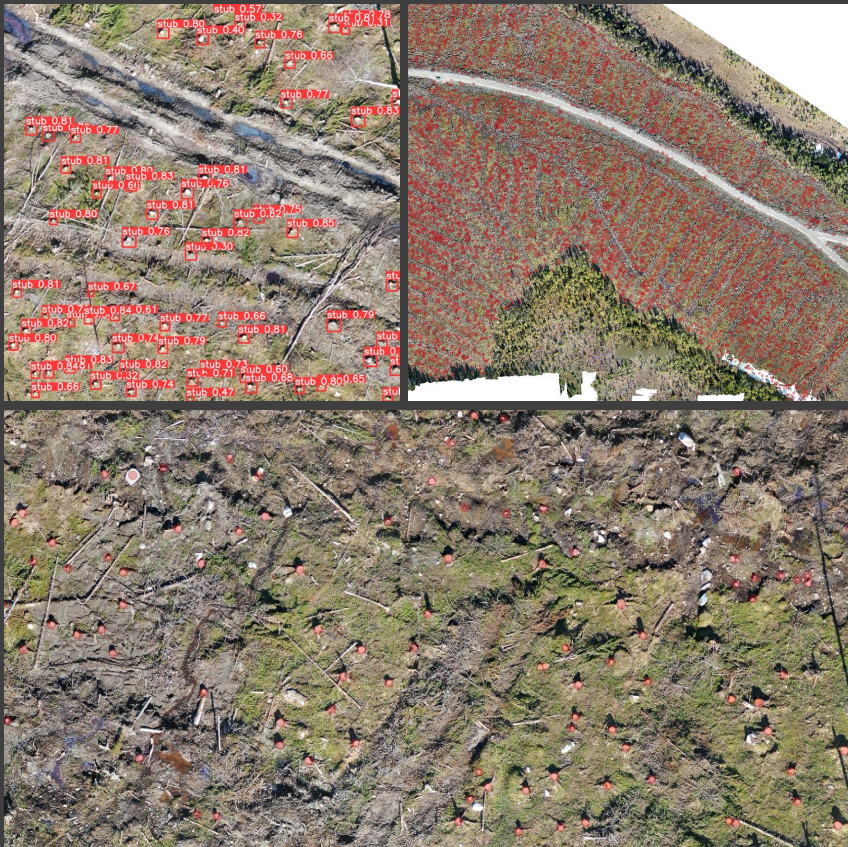


# Wheel rutting and damages

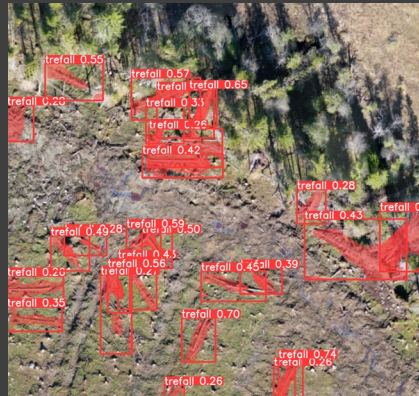
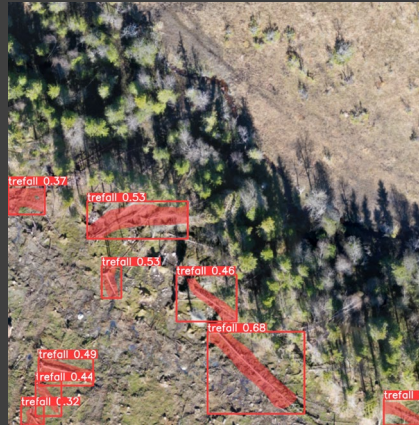
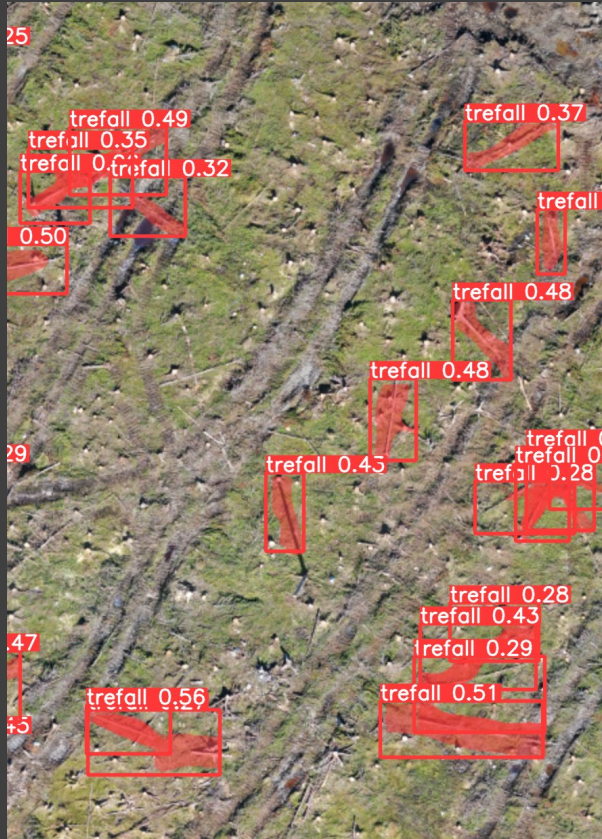
- Fast post-harvest assessment
- Individual damage threshold
- Reporting on length, depth and loss of water drainage function
- Creates coordinates from mapping with drone

# Stump count

- Assessment of remaining Biomass
- Exact stump count for replanting and harvest control
- Further potential for pest treatment (root rot-decay)







# Timber remnants

- Assessment of remaining Biomass
- Control of unutilized timber
- Evaluation of required pest treatments



Wildlife







Questions?





Thank you for your time!

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