

Researchers develop and test the first unmanned forestry machine

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The AORO platform's hardware components. Experiment monitoring is handled by a regular laptop and a manual, wireless emergency stop function is run entirely separate. Credit: *Journal of Field Robotics* (2024). DOI: 10.1002/rob.22300

A study published in the [Journal of Field Robotics](#) assessed the world's first unmanned machine designed for autonomous forestry operations.

Investigators demonstrated that using [computer vision](#), autonomous navigation, and manipulator control algorithms, their newly developed machine can safely, accurately, and efficiently pick up logs from the ground and maneuver through various forest terrains without the need for human intervention.

The research represents a [significant milestone](#) in the field of autonomous outdoor robotics, which could reduce the need for human labor, thereby increasing productivity and reducing labor costs, while also minimizing the environmental impact of timber harvesting.

"Besides its short-term effect on forestry, the technological advancements that come with autonomous forestry machines have the potential to address current environmental issues. As demonstrated in this study, by embracing cutting-edge technologies like [autonomous navigation](#) and manipulation algorithms, the unmanned machine provides not only timber harvesting with greater efficiency but also promotes sustainable [forestry](#)," said corresponding author Pedro La Hera, Ph.D., of the Swedish University of Agricultural Sciences.

"Automated operations can be highly accurate and effective in terms of collateral damage to adjacent ecosystems, which helps us to be more ecologically friendly than we currently are."

More information: Pedro La Hera et al, Exploring the feasibility of autonomous forestry operations: Results from the first experimental unmanned machine, *Journal of Field Robotics* (2024). [DOI: 10.1002/rob.22300](#)

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