

# Mobile Remote Sensing Hardware and Software Bundle for Natural Resource Management Activities

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TECHNOLOGY READINESS LEVEL

4-7

## Seeking

Investment | Licensing | Research

## Keywords

- software-drive hardware
- drone/autonomous vehicle
- mapping system
- timber valuation
- forestry inventory analysis

## Researchers

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Associate Professor

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### Brennan Holderman

Researcher

### Douglas Miller

Senior Scientist

## Other Researchers

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## Technology Summary

The inventors are developing a lightweight, modular system that will map and value mix-hardwood forest stands for accurate measurement and identification of species type. The current mobile system utilizes off-the-shelf components, proprietary algorithms and software to provide low-cost-data collection that can inventory a forest stand by backpack or mounted on an all-terrain vehicle, including those that are autonomous. The power system allows for easy battery replacement. The system generates a point cloud that can be used to measure diameter, height, secondary stem branching, location and potentially individual tree species. The point cloud can be used to develop a 3-D digital image of the surveyed land. The robust operating system has demonstrated continued, accurate use, even in instances of mechanical error.

## Application & Market Utility

The inventors are seeking to improve efficiencies and accuracy for natural resource decision management for such industries as forestry, wildlife management, carbon sequestration accounting, oil and gas mapping and management, including those governmental agencies that supplement their funding from the annual sale of timber. Additional applications may extend to industries that require pruning to prevent damage to their property and equipment as well as to mitigate the threat of forest fires, especially for utility companies.

## Next Steps

The inventors continue to develop the system under existing funding. Additional funding would accelerate development and beta testing.



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