

# Remote sensing based assessment of woody biomass and carbon storage in forests



## RemBioFor

*R&D project, which aim is to work out the complex method of defining selected forest stand descriptions as well as aboveground biomass and carbon sequestration, based on the use of remote sensing for the purposes of forest management planning.*

The aim of the project was to work out the complex method of defining selected forest stand descriptions as well as aboveground biomass and carbon sequestration, based on the use of remote sensing for the purposes of forest management planning.

Among main goals were:

- acquisition and processing of remote sensing, laboratory and field data,
- determining the amount of biomass and carbon in the forest based on radar data,
- development of methods for the inventory of selected stand descriptions, growing stock and biomass with the use of active remote sensing techniques,
- local correction of dendrometric volume equations based on terrestrial laser scanning data (TLS),
- development of the merchantable volume conversion factors into biomass and carbon.

Results of the project allow to: reduce time needed to carry out the work of the forest management, especially inventory of growing stock; obtain higher accuracy of the CO<sub>2</sub> balance, biomass and annual allowable cut calculations; determine growing stock for any forest area; reduce cost of field work in forest management.

## DETAILS

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ORIGIN OF WOOD

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TYPE OF WOOD

--

KIND OF WOOD CONCERNED

--

IMPACT ON ENVIRONMENT & BIODIVERSITY

--

INCOME EFFECT

--

EXPLOITATION POTENTIAL

--

HUB

Central-East Hub

ECONOMIC IMPACT

--

SPECIFIC KNOWLEDGE NEEDED

--

MOBILIZATION POTENTIAL

--

SUSTAINABILITY POTENTIAL - VALUE

--

EASE OF IMPLEMENTATION

--

EASE OF IMPLEMENTATION - EVALUATION

--

KEY PREREQUISITES

--

TYPE OF EVENT WHERE THIS BPI HAS BEEN FEATURED

Study visit (T2.3)

JOB EFFECT

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COSTS OF IMPLEMENTATION ( EURO - € )

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## MORE DETAILS

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CHALLENGE ADDRESSED	DOMAIN	TYPE OF SOLUTION
1.- Improve forest resilience and adaption to climate change	Inventory, monitoring Forest management, ecosystem, resilience Research and development	Modelling, simulation, optimization
KEYWORDS	DIGITAL SOLUTION	INNOVATION
remote sensing techniques; carbon sequestration; forestry	Yes	Yes
COUNTRY OF ORIGIN	SCALE OF APPLICATION	START AND END YEAR
Poland	National	2015 - 2018

## CONTACT DATA

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### OWNER OR AUTHOR

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### REPORTER

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## REFERENCES AND RESOURCES

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### MAIN WEBSITE

<http://rembiofor.pl/en/>

### RESOURCES

**Parkitna K., Krok G., Lisańczuk M., Mitelsztedt K., Ukalski K., Magnussen S., Markiewicz A., Miścicki S., Stereńczak K. 2021. Modelling growing stock volume of forest stands with the use of selected LiDAR Area Based Approaches in various predictive models. Forestry: An International Journal of Forest Research**

### PROJECT WEBSITE

<http://rembiofor.pl/en/>

**PROJECT REFERENCE**

Remote sensing based assessment of woody biomass and carbon storage in forests (REMBIOFOR), National Centre for Research and Development within the program „Natural environment, agriculture and forestry” BIOSTRATEG, agreement no. BIOSTRATEG1/267755/4/NCBR/2015

LOGO OF BEST PRACTICE



LOGO OF MAIN ORGANIZATION



PROJECT UNDER WHICH THIS FACTSHEET HAS BEEN CREATED

Rosewood 4.0

POST DATE

12 Aug 2021



[Link to Rosewood 4.0](#)



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A TOOL FROM ROSEWOOD 4.0, DESIGNED AND DEVELOPED BY

