Co-funded by the
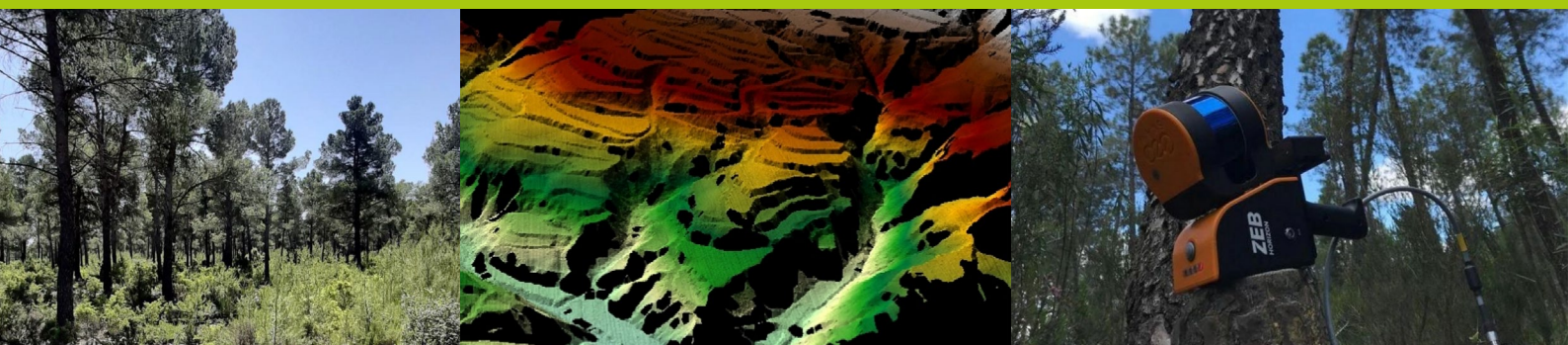Erasmus+ Programme
of the European Union

CASE STUDY

GeForest

GEFOREST

"We use digitalisation to gain a deeper knowledge of every European forest"

Pedro Díaz, Forest and Environment Engineer
at GeForest

PROFILE SNAPSHOT

Website	geforest.com
Social channels	🐦 @geforestesp
	📷 @geforestesp
	💼 @geforest
Contact us through Alliance	Pedro Díaz (info@geforest.com)
Country	Spain
Main sector	Private
Uforest thematic disciplines	Information and communication technologies
Stage of development	Implementation

8 DECENT WORK AND ECONOMIC GROWTH

By boosting IT employment in the green sector.

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

By using smart technology to measure, georeference and monitor green infrastructures.

15 LIFE ON LAND

By contributing to the sustainable management of forests and by promoting woodland conservation, including wildfire and erosion risk prevention.

START-UP

Starting in 2021, GeForest is a private company that came out of the Urban Forest Innovation Lab, an European programme that boosts forest bio-economy entrepreneurial ventures. GeForest is the first European company to apply Light Detection and Ranging (LiDar) technology, a remote sensing method that uses light pulses to examine the Earth's surface and generate 3D images, as well as other innovative software for forest management.

GEFOREST'S GOAL:

Apply LiDAR technology to digitalise European forests.

INITIATIVE MODEL

MAIN ACTIVITIES:

What does GeForest do?

GeForest offers two main services:

- **Environmental management services**, which include:
  - Forest inventory.
  - Sustainable forest management projects.
  - Wood volume measurements.
  - Hunting species technical reporting.
  - Assessment and mapping of wildfire risk and soil erosion.
  - Carbon footprint studies.

- **Topographic and infrastructure services**, which include:
  - Digital Terrain Models (DTM) that show the bare Earth, without vegetation, buildings or other cultural features.
  - Rural roads digitalisation.
  - Field digitalisation.
  - Cave-and-mine scanning.
  - Urban and rural georeferencing.
  - Building Information Modeling (BIM).
  - Identification and simulation of electric line risks near trees.
  - Infrastructure and cultural heritage 3D digitalisation.

BENEFICIARIES:

Who benefits from GeForest's activities?

1. **Greenskeepers and tree workers** that take care of trees and green infrastructures.
2. **Public tree-owners**, such as municipalities and other public bodies.
3. **Private tree-owners**, such as estate and large garden owners.

PROMOTION:

What is GeForest's promotion strategy?

GeForest is building brand awareness through:

- Word-of-mouth publicity.
- Social media.
- The GeForest website.

GOVERNANCE:

How does GeForest implement its activities?

GeForest is made up of three people:

- Led and implemented by the two founding members.
- Marketing and communication tasks are carried out by a third partner.

In addition, GeForest receives scientific and technical support by the University of Castilla-La Mancha (UCLM), the Urban Forest Innovation Lab (UFIL) and the Cuenca City Council.

FINANCES:

What are GeForest's main resources?

- **Commercial projects** to sell environmental management and topographic services.
- **Partners**' own resources.
- **Public collaboration** agreements.

POLICY AND STANDARDS LEADING THE INITIATIVE:

Currently, GeForest does not adhere to any standard or certification. Nevertheless, LiDAR technology does not affect natural resources.

UNIQUENESS

What makes GeForest a one-of-a-kind project?

It uses terrestrial, mobile Light Detection and Ranging (LiDAR) to obtain detailed, accurate, fast, economic and georeferenced measurements related to:

- Dasometric and dendrometric data for forest management.
- Urban mapping, urban planning, topography, infrastructure digitalisation, and wildfire, erosion and electric risks.

EXPECTATION

By **2025**, GeForest aims at providing every European city with GIS systems to have a deep knowledge of urban trees, parks, urban forests and to deliver sustainable maintenance plans.

What does GeForest need to be successful?

- Expanding the team to help the company grow.
- Maintaining good relations with existing partners.
- Commitment and ethics.

What are today's main challenges?

- Public bodies are sceptical of LiDAR's advantages.
- Private companies and individuals perceive LiDAR-based services as too expensive.