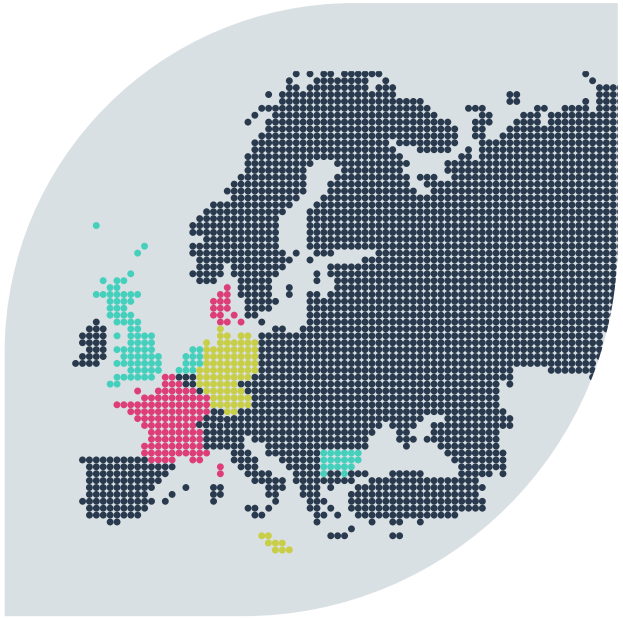
PARTNERS



- Aarhus University (AU)
- Naturalis Biodiversity Centre (Naturalis)
- Helmholtz Centre for Environmental Research (UFZ)
- National Institute for Research in Digital Science and Technology (INRIA)
- University of Amsterdam (UvA)
- The French Agricultural Research Centre for International Development (CIRAD)
- Pensoft Publishers (Pensoft)
- Ecostack Innovations Limited (EcoINN)
- University of Reading (UREAD)
- UK Centre for Ecology and Hydrology (UKCEH)

MAMBO

KEYWORDS
Biodiversity monitoring, biodiversity conservation, remote sensing, LiDAR, artificial intelligence

DURATION
September 2022
August 2026

CONSORTIUM
10 partner institutions from 7 European countries

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MAMBO

Modern approaches to the monitoring of biodiversity

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BACKGROUND

Advancements in technology have evolved to an extent where it is now possible to identify organisms remotely from digital data such as images or sound. Together with new tools in the realm of **high spatial resolution remote sensing** these tools have the potential to greatly enrich traditional approaches to ecological monitoring.

Biodiversity in Europe is under pressure and efficient monitoring approaches are needed as part of efforts to improve conservation status of species and habitats. This is why MAMBO's work programme aims to provide the knowledge, tools and infrastructure for **monitoring species** and their habitats more comprehensively. The project will develop **novel monitoring tools** that will enhance knowledge of the state of biodiversity in Europe. Through its demonstration sites, MAMBO will showcase the effectiveness and added value of its new technologies.

Automated biodiversity monitoring allows for expanding the resolution and extent of data and can lead to novel ecological insights. MAMBO has the potential to significantly improve the ecological monitoring landscape in Europe and beyond and in that way, contribute to the aims of the **EU Biodiversity Strategy for 2030**.

WE AIM TO

Develop, evaluate and integrate image and sound recognition-based AI solutions for EU biodiversity monitoring from species to habitats.

Develop, test, and deliver high spatial resolution regional EU habitat maps and site-specific habitat condition metrics.

Promote the standardised calculation and automated retrieval of habitat data using deep learning and remote sensing.

Co-design MAMBO's novel ecological monitoring tools with researchers, policy makers, citizens, and other stakeholders.

Build a new global community of practice for the development and application of these cutting-edge technologies.

Test existing tools in combination with MAMBO's new technologies that will contribute to an integrated European biodiversity monitoring system.

DEMONSTRATION SITES

- French Mediterranean natural reserves
  France
- Salisbury Plain
  UK
- Friedeburg
  Germany
- Petrohan
  Bulgaria
- Mols Bjerge National Park
  Denmark
- Oostvaardersplassen Nature Reserve
  The Netherlands
- Island of Comino and surrounding islets
  Malta