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Pl@ntNet, ten years of automatic plant identification and monitoring

Alexis Joly, Antoine Affouard, Mathias Chouet, Benjamin Deneu, Joaquim Estopinan, Hervé Goëau, Hugo Gresse, Jean-Christophe Lombardo, Titouan Lorieul, François Munoz, et al.

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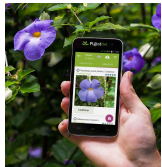
Pl@ntNet, ten years of automatic plant identification and monitoring

<https://plantnet.org/>

Alexis Joly, Antoine Affouard, Mathias Chouet, Benjamin Deneu, Joaquim Estopinan, Hervé Goëau, Hugo Gresse, Jean-christophe Lombardo, Titouan Lorieul, François Munoz, Maximilien Servajean, Pierre Bonnet

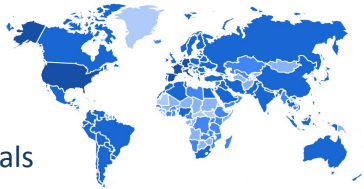


Pl@ntNet in a nutshell

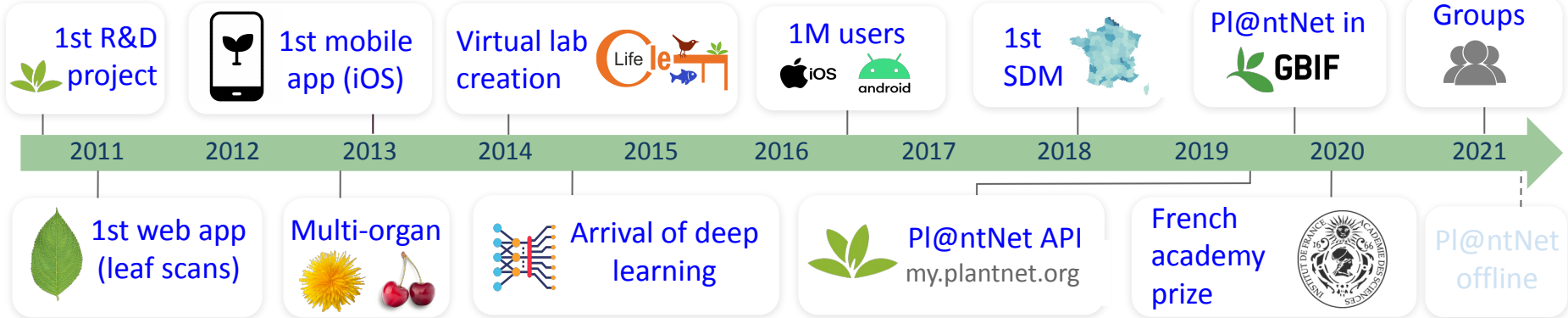


36K species recognized
15M users (last 6 months)
700K plants identified/day
10M validated obs (GBIF)

26 languages
200+ countries
2.7M accounts
12% professionals



History



Research

- AI-based models for IUCN conservation status prediction (see Fig 1)
- Digitized Herbarium analysis (phenology, traits, identification)
- Plant disease recognition
- Agro-ecological robots (weeds detection and identification, mixed seeds)
- Biodiversity data quality and uncertainty
- New AI-based services for citizen science (cos4cloud project)

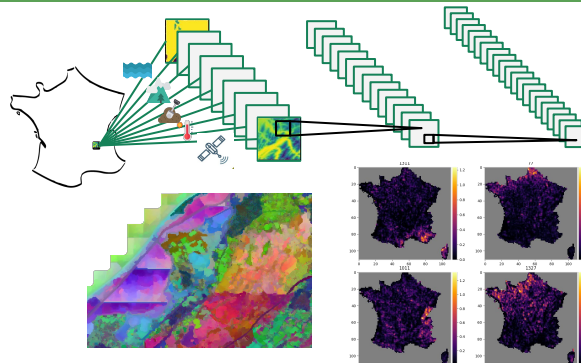


Fig. 1: Deep species distribution models

Use cases

- Natural areas management (e.g. French national parks, Lewa conservancy in Kenya, etc.)
- Educational programs (e.g. 50 schools in Slovakia, 40 in Czechia, 5 in Greece, etc.)
- Early detection of invasive species
- Integration in agro-ecology apps (soil diagnosis, pollinators, biodiversity restoration)
- Industry (trade, gardening, care, tourism, etc.)
- Data-driven research (conservation, agriculture, landscape, climate change, etc.)

