



Plant2Pro

The Plant2Pro Carnot Institute is dedicated to integrated Research & Development on crop production “from laboratory to field” with the ambition to support the agroecological transition and the sustainable competitiveness of crop production. Plant2Pro is a network of academic research units and agricultural technical institutes, which aims to help companies and foster innovation, technology transfer, and public-private partnership in the fields of plant breeding, varietal innovation, crop health, design of multi-performing cropping systems, digital technologies and agricultural machinery.

www.plant2pro.fr

PRODUCING BETTER TO SUPPORT AGROECOLOGICAL TRANSITION AND CONTRIBUTE TO THE ECONOMIC AND ENVIRONMENTAL PERFORMANCE OF AGRICULTURE

Promising range of application for public-private partnership to:

Mobilize genetic diversity and accelerate varietal innovation: Study of innovative traits to contribute to major issues (reduced use of pesticides and agri-chemicals, meeting water needs, climate change adaptation and mitigation, etc.), mobilization of biological regulations, genetic improvement of cash and diversification crops.

Innovate in the field of crop health: biocontrol, biostimulation, and methods favouring their efficiency, tools for monitoring pest and diseases, strategies coupling epidemiological surveillance, crop protection and agro-ecosystem management.

Design multi-performing cropping systems: innovative practises and cropping systems to provide ecosystem services, development of tools to assess agronomic and environmental performances of production systems (e.g., traits, functions and services of crop production).

Target markets

- Seeds and plant propagating material
- Green biotechnology
- Biocontrol and crop protection, phytosanitary diagnosis
- Biostimulants and plant nutrition
- Water and mineral nutrition
- Digital and precision farming
- Agricultural advice
- Agricultural machinery and robotic
- Crop production for the food industry



Develop digital technologies and agricultural machinery for plant production: characterization, monitoring and control of plant health, performance prediction, optimization of management, evaluation of agronomic / epidemic / climatic risks, acquisition of data and agronomic references, traceability of crop production methods.





A trans-disciplinary and integrated R&D offer “from lab to field” to promote innovative partner-oriented research

Plant2Pro brings together 16 research laboratories from French academic institutions (INRAE, Agro Institute - AgroCampus Ouest, Agro Institute-Montpellier Sup Agro, AgroParisTech, AgroSup Dijon and CNRS) and 3 agricultural technical institutes (Arvalis, French Institute of Vine and Wine, Terres Inovia) to support companies in their projects and for a wide range of technological maturity level (from TRL 1 to 9).

A unique range of skills and resources

- **Research skills:** plant biotechnology, genetics and plant breeding, crop protection and biological control, management of natural resources, agronomy, crop designs and decision support tools, digital agriculture (software, modelling, decision support tools), sensors, robotics, agricultural machinery...
- **Crop sector skills:** grapevine and field crops (e.g., grain cereals, oilseeds, protein crops, maize and sorghum, fodder, potatoes, flax, tobacco).

Technological platforms

- **Technological platforms for:** high-throughput phenotyping, genomic resources (production, preservation, DNA banks characterization), high-throughput genotyping, proteomics, microscopy, biochemical, chemical and metabolic phenotyping, translational research, plant pathology, biocontrol, soil biodiversity, agroecological practices, food storage, digital agriculture, agricultural machinery (fertilisation, sowing, spraying, tyre)

Key figures

Permanent staff
(full-time equivalent): 1870
PhD Students: 130

Partnership incomes
with industry: €25M
Global budget: €180M

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