

MilliDrop, AgroNutrition SAS and ESPCI¹ Paris partners in the IPSOL Project to develop a soil diagnostic and enrichment instrument for environmentally-responsible agriculture

IPSOL awarded €3m in funding from Projets Agricoles et Alimentaires d’Avenir to:

- **reduce the environmental and energy impact of agriculture in transition**
- **establish France at the leading edge of global technological innovation**
- **develop the jobs of the future in this sector**

Paris, January 2018 – MilliDrop and AgroNutrition SAS have announced a partnership to develop a soil diagnostic and enrichment instrument² for use by farmers in environmentally-responsible agriculture. MilliDrop will contribute its automated microbiological cultivation and analysis instrument, which it will develop in close cooperation with AgroNutrition SAS, an expert in plant nutrition.

AgroNutrition SAS, MilliDrop and ESPCI have received €3m to fund IPSOL, a 4-year R&D program to develop innovative soil bacteriological diagnostic methods and tools for farmers. With its automated *MilliDrop Analyzer* system, MilliDrop offers unprecedented opportunities for microbiological research in the fields of agriculture, food production and the environment amongst other areas. It offers productivity gains thanks to the miniaturization of samples (by a factor of 1,000 relative to standard methods), and the automation and standardization of the bacteriological analysis of soil.

Laurent Boitard, co-founder of MilliDrop, welcomed the news: *“We are proud to be a partner in the IPSOL project, which is a perfect fit for future global environmental policies. The project recognizes the scientific usefulness of our millifluidics droplet technology, in breaking with the current manual, non-standardized methods for bacteriological soil analysis. This opening in the environmentally-responsible agriculture sector expands the scope of application for our technology and strengthens our position as the benchmark in laboratory analysis of micro-organisms.”*

Cédric Cabanes, CEO of AgroNutrition SAS, added: *“We are delighted to be involved in IPSOL, winner of the P3A call for projects. Aware of the significant changes that lie ahead in agricultural practice, we and our partners will offer farmers innovative tools to analyze the biological condition of their land and enrich it accordingly. MilliDrop technology will allow us to conduct thousands of experiments simultaneously, saving time and reducing costs in drawing up the diagnostic report. This is a fundamental advance in the area of agriculture and food production, which is facing the twin challenges of sustainability and profitability.”*

About IPSOL project: Since the 1950s, studies have proved the impact on health and environment of intensive use of chemicals on agricultural soils and environment, in particular the impact of chemical inputs on land leading to a decrease of soil fertility and biodiversity. While a healthy soil is characterized by an ecosystem of great diversity. Meta-analyses have provided new arguments about organic farming, in particular the equal production between conventional and organic farming.

It has been demonstrated that, on a global scale, agriculture produces surplus, without solving the problem of accessibility of food for more than 1 billion people. The biggest groups, like Monsanto,

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² The project will: 1) Offer farmers a “bacteriological diagnosis” of their soil, i.e. a report and the quantity and quality of micro-organisms contained; and 2) Use this diagnosis to offer a cocktail of micro-organisms to enrich their land.

Syngenta, Bayer or BASF, have recently invested in R & D to find new solutions in favour of agro-ecology.

About Agricultural and Food Projects of the Future: The PIA (Investment Program of the future) integrates the agricultural and Agribusiness sector by launching the "Agricultural projects and Agribusiness for the Future (P3A)". The PIA was set up in 2010 to endow France with a competitiveness by supporting investment and innovation, by speeding up the adaptation of sectors of activity with economic changes and international competition.

It fits in an energetic and ecological transition for France and was led by the General Investment Commission (CGI). In 2014, the public authorities decided to dedicate an action of the PIA to agricultural and AgriBusiness sectors, to gain sector's competitiveness of French agricultural and agribusiness. This is a strong challenge for this sector: France must strengthen its positions in terms of markets, while providing solutions for the future to food challenges, economic, environmental and social. This is how the P3A³ was born (agricultural projects and agribusiness of the future), with 120 million euros over 3 years.

About Agronutrition: Agronutrition⁴ is the French benchmark for agriculture nutrients, leader of the alternative plants nutrition. Since its creation in 2001, the company bases its development on research and innovation. Its products and services, which are exported to 50 countries on the 5 continents, aim to help agriculture produce better and in sufficient quantities. A subsidiary of the French group DE SANGOSSE, Agronutrition develops more than 1,800 references, designed to improve crop quality and yield (field crops, vines, orchards, vegetables) while reducing the environmental footprint. Endowed with industrial facilities and a soil biotechnologies laboratory, Agronutrition achieves a turnover of over €50M, a third of which is export, and employs more than 150 people.

About MilliDrop: MilliDrop⁵ is a spin off of ESPCI Paris Tech and is part of the incubator at the Institut Pierre-Gilles de Gennes, a microfluidics research center that is the only one of its kind in the world. The company develops and markets *in vitro* diagnostics machines that allow the incubation, analysis and manipulation of samples ranging of microorganisms. Its proprietary technology is protected by nine patents.

About ESPCI: The School of Physics and Industrial Chemistry of the City of Paris (ESPCI) is an engineering school of the City of Paris founded in 1882 where education, research and innovation combine. There are 9 joint research units (UMR), which are recognized worldwide for the excellence of their fundamental and applied research, generating innovations for the industry. It counts 6 Nobel Prize since its creation.

CONTACTS

³ <http://www.franceagrimer.fr/Investissements-d-Avenir/Projets-agricoles-et-agroalimentaires-d-avenir-P3A>

⁴ <http://www.agronutrition.com/index.php>

⁵ www.millidrop.com

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