

# Université Paris-Saclay, a major player in innovation

université  
PARIS-SACLAY



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## Université Paris-Saclay

*Located in the south of the Paris region, covering a vast area from Orsay to Paris, including Évry-Courcouronnes, Saint-Quentin-en-Yvelines and Versailles, Université Paris-Saclay brings together five faculties, three University Technical Institute (IUT), five schools, two associate institutions and seven partnering national research organisations.*

*The members of Université Paris-Saclay have come together around a common ambition: to combine their strengths to form a leading scientific cluster serving research and training, student success and innovation, with the ambition of contributing to the development of a fairer and more liveable society.*

# A unique environment combining education, research and innovation

As France's leading university and one of the world's top 20 universities in the Shanghai ranking, Université Paris-Saclay has an undergraduate to PhD-level course offer, supported by cutting-edge research and a solid innovation ecosystem.

Covering science and engineering, life sciences and health, and humanities and social sciences, it closely combines research and innovation to educate the citizens of the future, tackle the major societal challenges of today and tomorrow and contribute to value creation.

**université  
PARIS-SACLAY**

*A research-intensive university*

## 2 ASSOCIATE INSTITUTIONS



## 3 UNIVERSITY TECHNICAL INSTITUTES (IUT)



## 5 SCHOOLS



## 5 FACULTIES



## 7 PARTNERING NATIONAL RESEARCH ORGANISATIONS



COORDINATES THE EUROPEAN EUGLOH ALLIANCE AND IS A MEMBER OF EUROPEAN AND INTERNATIONAL NETWORKS



## The university in figures (2022)



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220 laboratories and over 500 experimental platforms

  
More than 50 start-ups created every year

  
6 Fablabs, 6 incubators

  
50 000 students


4 600 PhD candidates  
8 100 researchers and lecturers  
8 500 administrative and technical staff

  
Top 50 patent depositors (INPI)

  
20 000 graduates a year

  
5 Nobel prizes

  
11 Fields medals

  
13 000 scientific publications/year  
13% of French research

## A wide range of courses

The Paris-Saclay Undergraduate School is dedicated to undergraduate-level study: academic bachelor's degrees, vocational degrees (BUT, DEUST), diplomas (DU) and paramedical training.

18 Graduate Schools and Institutes coordinate Master's tracks and education and research programmes, and doctoral schools focused on a specific subject.

## Values which will guide the citizens of tomorrow

Equal opportunities, respect for diversity, the fight against discrimination, sustainable development, open science and innovation for human development are all at the heart of the university's strategy, which combines excellence, equality and social commitment.

## An extensive and daring innovation ecosystem

*At the heart of a technology cluster that accounts for 13% of French R&D, Université Paris-Saclay, in collaboration with its ecosystem, has placed innovation at the very heart of its strategy, on the same level as research and education. As one of the leading capitals of French tech, this region, with its vast student community trained in entrepreneurship, offers a wide range of facilities and services for businesses.*

**21st**, CentraleSupélec's start-up accelerator, helps engineering students develop their projects.

**The 503**, the Institut d'Optique Graduate School's centre for entrepreneurship and innovation, brings together engineering students in the innovation-entrepreneurship (FIE) field of study and innovative technology companies.

**The Design Spot**, Université Paris-Saclay's design centre, promotes design within the university's community.

**Building 440 - Diapason** offers its premises for rent, empty and as-is, so that they can be adapted to project needs.

**Digiscope Fablab** is the university's digital fabrication laboratory dedicated to scientific research and support, university teaching and professional training.

**La Fabrique** is CentraleSupélec's Fablab, supports project leaders in their analysis, study, design, prototyping and industrialisation phases.

**Food'InnLab** is AgroParisTech's collaborative platform for research, teaching and start-ups.

**Genopole** is France's leading biocluster for biotechnologies applied to healthcare, the environment, foodtech, agritech and bio-industry.

**IncubAlliance**, a deeptech incubator in the Paris-Saclay region, supports innovative technological entrepreneurship projects from within the university or companies.

**Innov'Lab** is a place for design and manufacturing advice, as well as assistance in creating prototypes.

**Inria Start-up studio** is a funding and support programme for digital deeptech start-ups.

**L'Institut Vedecom - mobiLAB** includes research and education facilities, workshops and laboratories, all fully dedicated to new forms of mobility.

**Photonic Fablab** is a prototyping platform at the Institut d'Optique Graduate School dedicated to product development and pre-industrialisation.

The 600 m<sup>2</sup> **Playground Paris-Saclay** welcomes and supports start-ups, innovative SMEs and large corporate groups.

**La SATT Paris-Saclay** finances and supports the commercialisation of local research and technology transfer from laboratories to socio-economic markets.

**SystemX** is a technological research institute (IRT) with expertise in analysis, modelling and simulation for decision support applied to complex systems

**Versailles Science Lab** is a new-generation fablab supported by Université de Versailles Saint-Quentin-en-Yvelines (UVSQ) and focused on innovation, professional integration and scientific and economic development.



# A map of Université Paris-Saclay

## Faculties

- 1 Jean Monnet Faculty
- 2 Faculty of Medicine
- 3 Faculty of Pharmacy
- 4 Orsay Faculty of Science
- 5 Faculty of Sports Science

## University Technical Institutes

- 6 Cachan University Technical Institute
- 7 Orsay University Technical Institute
- 8 Sceaux University Technical Institute

## Schools

- 9 Polytech Paris-Saclay
- 10 Institut d'Optique Graduate School
- 11 AgroParisTech
- 12 CentraleSupélec
- 13 ENS Paris-Saclay

## Innovation sites

- A 21st
- B The 503
- C The Design Spot
- D Building 440 - Diapason
- E Fablab Digiscope
- F La Fabrique
- G Food'Inn Lab
- H Genopole
- I IncubAlliance
- J Innov'Lab
- K Inria Start-up Studio
- L The Vedecom Institute - mobiLAB
- M Photonic FabLab
- N Playground Paris-Saclay
- O The SATT Paris-Saclay
- P System X
- Q Versailles Sciences Lab

## Associate institutions

- 14 Université d'Évry
- 15 UVSQ

## National Research Organisations

- 16 CEA
- 17 CNRS
- 18 IHES
- 19 INRAE
- 20 Inria
- 21 Inserm
- 22 ONERA



# The Université Paris-Saclay innovation cluster

Awarded the France 2030 label in July 2023, the Université Paris-Saclay Innovation Cluster (Pôle universitaire d'innovation - PUI) brings together 13 key players from the region's innovation ecosystem and 15 partners.

The Université Paris-Saclay PUI has remarkable regional assets in terms of academic excellence and start-up creation (more than 50 companies created per year), its socio-economic network (large industrial groups, SMEs, start-ups, local authorities, associations, etc.) and international recognition. Its strategic ambition is to develop and strengthen innovation that meets current and future societal challenges and promotes human progress.

## 13 founders



## 15 partners



## A deployment along six axes

**Raising awareness and acculturation among the university's community:** encouraging students, PhD candidates and scientists to add value to their research by creating start-ups.

→ Educational initiatives, discovery programmes, roundtables, etc.

**Market analysis:** using market research to ensure that technologies are better aligned with societal and economic needs as soon as they emerge.

→ Market and economic potential studies, learning expeditions, etc.

**Support for technology transfer and business creation:** optimising projects and consolidating the value-added potential of technologies and inventions.

→ The mapping of existing initiatives, networking events for start-up projects, specific expertise proposals during the pre-creation phase, etc.

**Support for companies:** giving companies better access to laboratory skills and expertise to increase the volume and socio-economic impact of partnership research.

→ Access to technology platforms and laboratories, organisation of company meetings, etc..

**Communication:** step up shared communication initiatives to highlight regional innovation.

→ Participating in international events, coordinating a network of communicators, creating new communication media, etc.

**Monitoring:** set up a specific governance structure.

→ Implementing action tracking and monitoring tools.

## The objectives for 2027

Train 800 PhD candidates (+ 1 500%)

Train 14,000 students (+ 50%)

Register a total of 134 inventions throughout the year (+ 15%)

Negotiate and sign co-ownership agreements in an average time of 30 months (- 50%)

Launch 75 start-ups linked to the PUI's founding institutions (+ 114%)

Establish 48 research and corporate sponsorship contracts (+ 71%)

*"As winners of the University Innovation Cluster (PUI) call for projects, we are honoured to be awarded the top prize among the 29 PUI projects selected nationwide. With the founding members and partners of the Université Paris-Saclay PUI, the university will have the necessary resources to bring innovation to the same level of excellence as education and research. It aims to develop the competitiveness and appeal of the ecosystems around its campuses, helping to achieve the objectives of the French government's France 2030 investment plan for sustainable reindustrialisation."*

Michel Mariton, economic development coordinator at Université Paris-Saclay.

# From entrepreneurship to technology transfer

To ensure its students find success in the working world, the university has developed a course offer that meets the current and future needs of businesses and society.

## The technology transfer support

The university and its partners are committed to improving the quality of projects so that they have a better chance of coming to fruition and leading to the creation of new businesses. Together, they deploy a wide range of initiatives to promote and support technology transfer, from raising awareness to initiating innovation:

### Detection:

Identifying promising technologies and informing stakeholders of their potential.

→ *The Université Paris-Saclay maturation programme; the Lab2Biz programme with HEC Paris; the Genesis Light programme with IncubAlliance.*

### Prematuration:

Developing the technology concept or application and demonstrating it experimentally.

→ *Prematuration Poc in labs call for projects from Université Paris-Saclay; SATT Paris-Saclay call for POC'UP projects; SATT Paris-Saclay call for POC Young Doctor projects.*

### Maturation:

This is a key stage for making scientific results reliable for target applications and securing the transfer operation by finalising technical, intellectual property, legal and even marketing issues.

→ *SATT Paris-Saclay call for Maturation projects.*

### Prototyping/design:

This crucial stage provides the first tangible proof of the invention.

→ *The Design Spot.*

### Incubation:

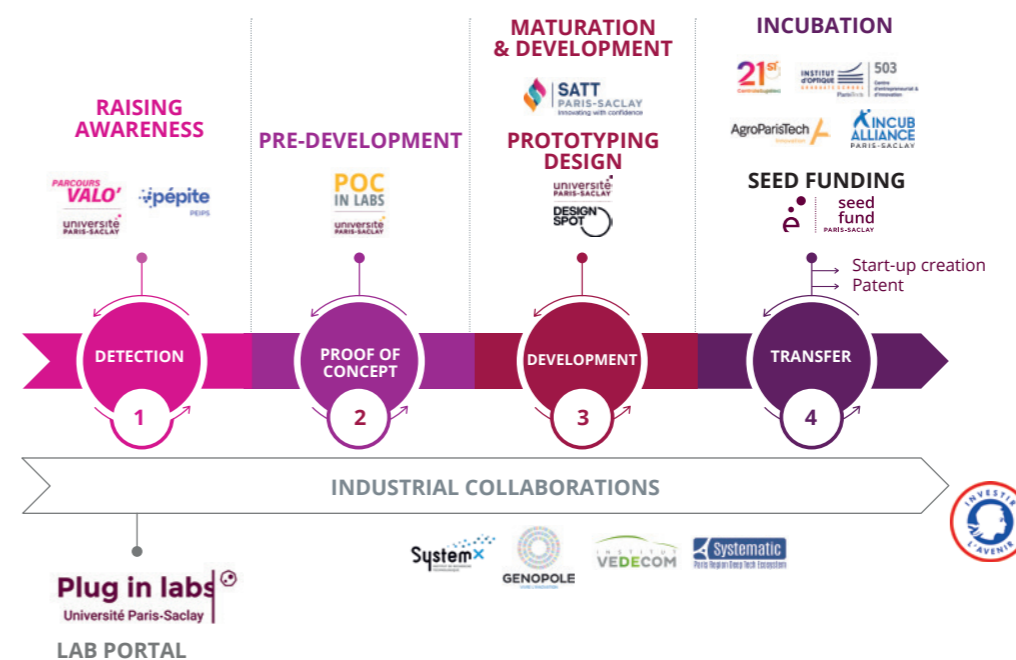
Phase for creating a solid business model and business plan.

→ *Genesis Lab with IncubAlliance.*

### Seeding:

Support phase to help the company penetrate the market.

→ *Paris-Saclay French Tech Seed Fund.; Paris-Saclay Seed Fund.*



**"This support was key in developing NOVATREAT as well as in carrying out a market study and dealing with the regulatory aspects related to the development of an active principle."**

Christine Delorme, coordinator of the NOVATREAT project, supported by the Tech Transfer Programme in conjunction with SATT Paris-Saclay, INRAE and AgroParisTech.

## The future talents

**7 000 students** a year are made aware of the importance of innovation and business creation through a wide range of initiatives such as:

### Discovery initiatives:

→ *Maturation programmes, hackathons, start-up week.*

### Specific courses and qualifications:

→ *Four university diplomas (DU): Entrepreneurship; Creation & Development of Innovative Start-ups; Entrepreneurship, Law, Digital; Intrapreneurship (20 spots available on average for each diploma).*

→ *Vocational undergraduate degree (BUT): Business and Administration Management, Management, Entrepreneurship and Business Management; Organisational Management (Maximum of 80 spots for each course).*

→ *Master's programme in Strategic Management, with Entrepreneurship and Innovative Project Management track (45 spots).*

→ *Student-Entrepreneur Diploma (D2E) from Pépité PEIPS, the network of young entrepreneurs in the Paris-Saclay region (26 spots).*

### Chairs:

→ *The Augmented Operating Block (BOPA) Innovation Chair coordinated by AP-HP, Institut Mines-Télécom and Université Paris-Saclay.*

→ *The ABIOMAS (Augmented Biomass) Innovation Chair coordinated by the Université Paris-Saclay Foundation.*

# Scientific partnerships with companies

*Université Paris-Saclay places its partnerships with companies at the very heart of its strategy. It uses services and systems to give companies better access to the facilities and expertise of the laboratories and platforms within its ecosystem.*

## Platforms

**Plug in labs** provides a single entry point to the skills and facilities of public research at Université Paris-Saclay. This digital platform enables companies to discover the skills of laboratories and technology platforms and identify potential partners for future innovative projects. It includes more than 500 experimental platforms divided into three fields (science & engineering, life sciences and social sciences & humanities), six strategic industrial sectors (Aerospace; Security and Defence; Health and Biotech; Mobility of the Future; Information and Communication Technology; Energy and Environment; Agrotech and Foodtech) and 220 laboratories exploring eight themes:

- **Quality of life, health and food** (201 platforms and 108 laboratories);
- **Chemistry and materials** (102 platforms and 51 laboratories);
- **Complex systems and software engineering** (100 platforms and 115 laboratories);
- **Energy, ecology and environment** (47 platforms and 82 laboratories);
- **Social, societal and solidarity-based innovation** (33 platforms and 55 laboratories);
- **Aeronautics, aerospace and defence** (21 platforms and 41 laboratories);
- **Mobility and transport** (12 platforms and 31 laboratories);
- **Digital technology** (12 platforms and 61 laboratories).

### Platforms in engineering & science:

Calculations, data processing; Ultrafast dynamics, flow dynamics; Calibration; Time-resolved experiments; Ion implantation; Ion-matter, light-matter, laser-matter interaction; Irradiation; Magnetometry, superconductivity; Materials, micro- and nanomaterials; Microscopy; Modelling, simulation; Spectroscopy; Electronic systems, etc.

- *ALTO Orsay linear tandem accelerator (nuclear physics);*
- *Paris-Saclay Mesocentre (computing);*
- *Additive manufacturing platform at the University Research Laboratory in Automated Production (LURPA - Univ. Paris-Saclay/ENS Paris-Saclay);*
- *Platform for applied research and development activities in ground and space instrumentation (PARADISE);*
- *Clean room at the Centre for Nanoscience and Nanotechnology (C2N – Univ. Paris-Saclay/CNRS/Univ. Paris-Cité).*

### Platforms in life sciences:

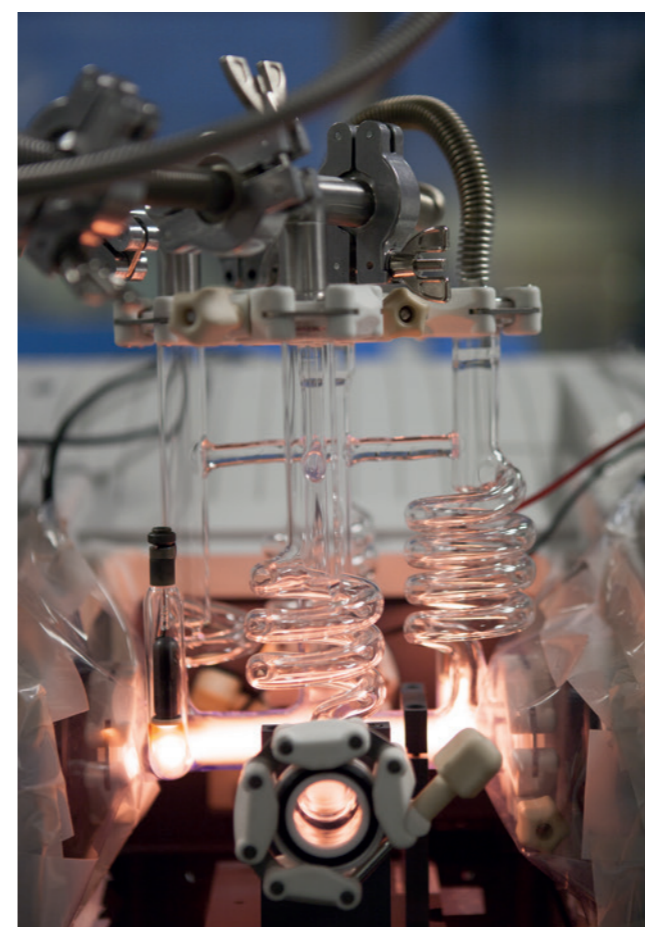
Physicochemical analyses; Animal care and functional exploration; Biobanks, biological resources; Bioinformatics; Structural biology, biophysics; Bioproduction; Chemistry, screening; Cytometry, histology; Plant experimentation, agronomy; Preclinical, clinical exploration; Genomics, post-genomics; Cellular imaging; In vivo imaging, Food processes, etc.

- *Paris-Saclay Institute of Therapeutic Innovation, (IPSIT - Univ. Paris-Saclay/Inserm/CNRS) (drug development chain);*
- *Platforms of the Functional Ecology and Ecotoxicology of Agroecosystems laboratory, ECOSYS (biogeochemical processes, material and energy flows, functions of organisms in isolation or interacting with their environment);*
- *Jean-Pierre Bourgin Institute (IJPB - Univ. Paris-Saclay/INRAE/AgroParisTech) platforms (plant studies);*
- *MetaGenoPolis (microbiota science applied to nutrition and health);*
- *NeuroSpin (brain imaging and cognitive sciences).*

### Platforms in social sciences and humanities:

Digital library; Design Center, etc.

- *Yvette digital heritage library;*
- *Design Center;*
- *COVADO SHS Platform.*




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***"We were able to benefit from the entire Paris-Saclay innovation ecosystem and meet some fantastic people."***

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Sylvia Cohen-Kaminsky, researcher in the Pulmonary hypertension: pathophysiology and novel therapies laboratory (HPPIT - Univ. Paris-Saclay, Inserm) and co-founder of the start-up Alsymo.

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## Collaborative arrangements

### • CIFRE theses

Industrial Research Training Agreements (CIFRE) are an opportunity to strengthen exchanges between public research laboratories and the socio-economic world. Participation in these agreements allows companies to receive financial support to recruit a student for their PhD (three years of research) at Université Paris-Saclay, leading to the writing of a thesis.

### • Services

These services give companies access to cutting-edge scientific facilities in Université Paris-Saclay laboratories and platforms, enabling them to carry out tests, trials and measurements on their own or with the expertise of university staff.

### • Framework agreement

A framework agreement can be signed between Université Paris-Saclay and a company to facilitate and accelerate collaboration over a given period. The agreement sets out the general terms of cooperation between the two parties, defining the objectives, areas of collaboration, distribution of industrial property, etc.

### • Joint laboratories

These five-year collaborations involve companies of all sizes and are based on a common scientific theme shared by the company and the laboratory. The company benefits from cutting-edge expertise in a specific field, shared governance and the pooling of material and human resources.



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### • Patent licence agreements

Université Paris-Saclay possesses a varied portfolio of patents. Patent licensing agreements provide companies with rapid access to university innovations, reducing development costs and speeding up the time-to-market of technologies.

### • Investments and shareholdings

Investing and shareholding in university start-ups are opportunities to acquire a stake in a young company, contribute strategic expertise and share in its success.

***"The Alkalee project was a real opportunity to develop the technologies I was working on in an industrial context."***

Paul Dubrulle, CTO of Alkalee, a start-up and spin-off from the Systems and Technology Integration Laboratory (List - Univ. Paris-Saclay, CEA) following a partnership with Renault.



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More than **400** CIFRE agreements



More than **20** existing joint laboratories



More than **700** laboratories and platforms



More than **330** research collaborations signed with companies



A portfolio of more than **40** licensed patents

***"I admire the pragmatism demonstrated by the Centre for Nanoscience and Nanotechnology (C2N - Univ. Paris-Saclay, CNRS, Univ. Paris Cité). I am not surprised that many start-ups are emerging on the Université Paris-Saclay campus."***

François Auque, director of Airbus space activities from 2000 to 2016, President of the Airbus Ventures investment fund until 2018, today partner at InfraVia Capital and volunteer advisor to the start-up ION-X from C2N.

## Contacts and links

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