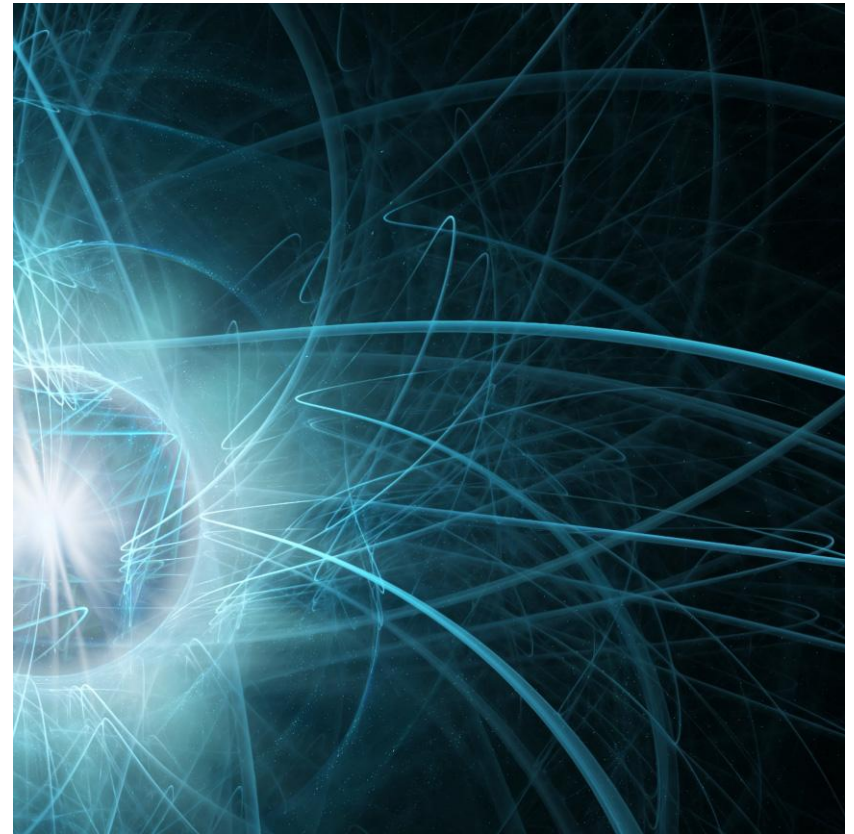


# Designing and governing a Campus of the Future

## The Paris-Saclay Campus

Paris May 31st

Dominique VERNAY  
President

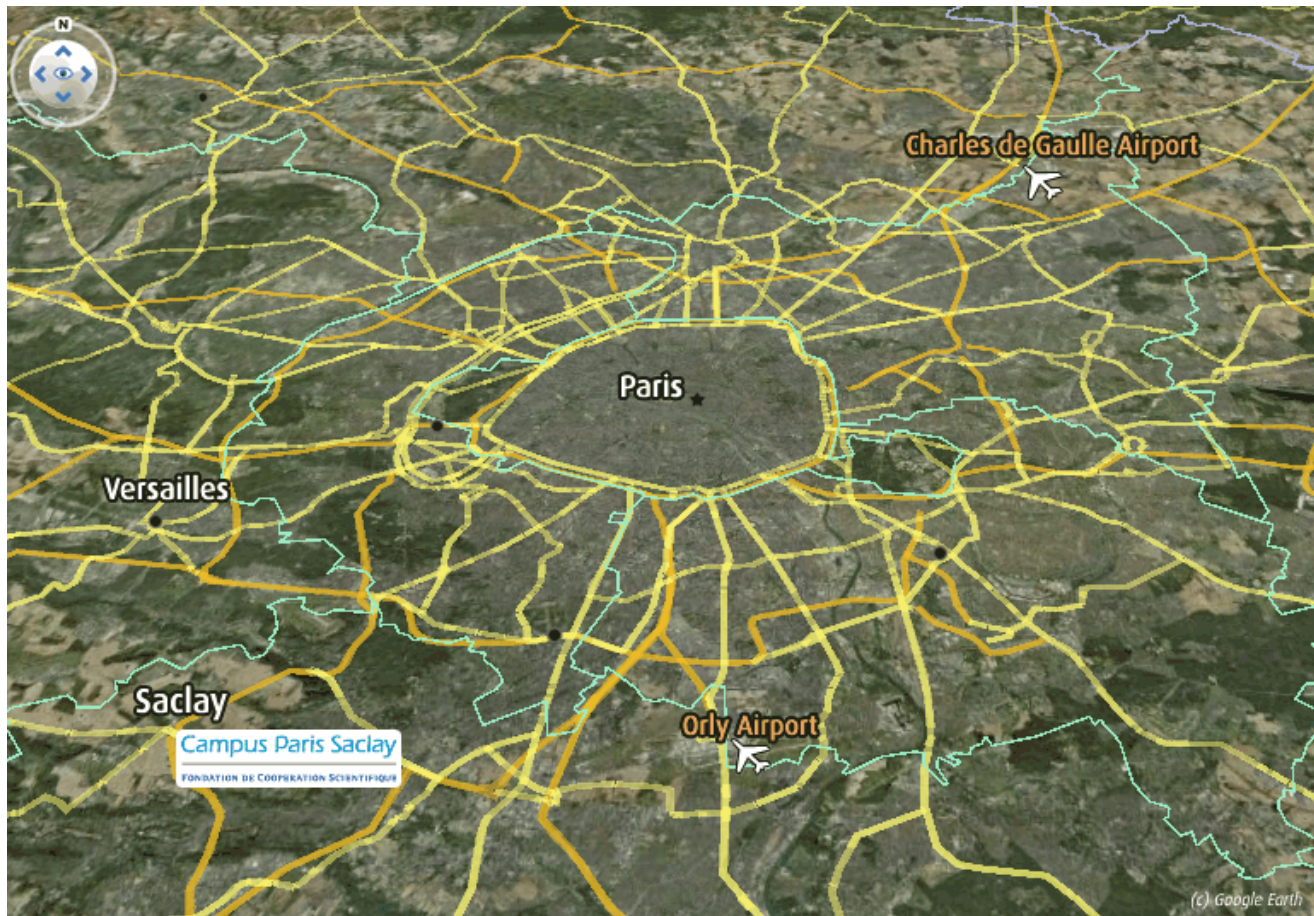


Campus Paris Saclay

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FONDATION DE COOPERATION SCIENTIFIQUE

# Paris Saclay location





# The Paris-Saclay Campus today



# The site at Palaiseau-Saclay-Orsay: Situation in 2000

## ✓ Higher education and research establishments

- On the site since its creation: Université Paris-Sud (1955)
- Moved out from Paris, on-site since the 1960s: HEC (1964)
- Moved out from Paris, on-site since the mid-1970s: Supélec (1975), X (1976)

## ✓ National research bodies with important potential

- CNRS (3000)
- CEA (4000)
- INRIA
- ONERA (1000)
- INRA (2000)

## ✓ Spread geographically across a large area (10 km between INRA and the Ecole Polytechnique)

- ✓ Little cooperation between the mixed research units (CNRS)

# Between 2000 and 2011: A momentum in cooperation

- **1999: Creation of Optics valley:** A cluster of companies/laboratories
- **2005: Setting up the Systematic Competitiveness Initiative:** An innovation cluster focused on ICT and systems
- **2007:**
  - **Setting up the 2 RTRA Digiteo (ICT) and Triangle de la Physique ("lite" Physics)**
  - **Creation of the FCS-Digiteo/Triangle de la Physique**
- **2009:**
  - **Campus Plan for MESR**
  - **NanoINNOV initiative relating to nanotechnologies**
- **2011:**
  - **Future investments: Labex, equipex, cohortes, SATT, IRT, IEED, IDEX**
  - **The FCS Digiteo/Triangle de la Physique will become the FCS Campus Paris-Saclay**



# Paris-Saclay Campus today...

## About 15% of research in France in six fields

- Mathematics, Physics, Engineering, Information and Communication S&T, Biology-Chemistry-Pharmacy, Social Sciences-Economics-Management
- In these areas, co-authors from Saclay appear in 2 to 4% of publications world wide
- 8,000 publications/year

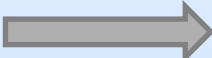
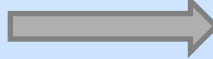
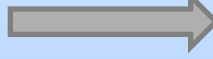
## International recognition in fundamental research


- 2 Nobel prizes in physics
- 6 Fields medals (mathematics)
- 38 ERC grants (67% of starting grants in France)

## Large-scale equipments (SOLEIL Synchrotron, neutrons, lasers, IRM for neuroscience, etc.)



# Paris-Saclay is benefiting from 4 major french initiatives a new momentum

- **Second phase of the competitiveness clusters**  
1,5 B€ in 2009-2011  Link with 1000 Companies
- **Opération Campus**  
3B€ for 12 campus  850 M€ for Saclay Campus
- **Investissements d'Avenir**  
11B€ for higher education  
7.9B€ for research 

1B€ for Saclay Campus  
2B€ expected
- **Projet du Grand Paris**  
35 B€ in total 

A new metro line by 2020

# A campus close to Paris and connected to the world

A new Rapid Transit System by 2020 : by R.E.R.

35 mn from « Notre Dame »

20 mn from Orly Airport, 1 h from Roissy CDG Airport





# Large investment program in real estate

## 8 Graduate Schools moving to Saclay between 2012 and 2017

ENSTA Paris Tech (System Engineering) (2012)

ENSAE ParisTech (Economics) (2013)

AgroParisTech (Life Sciences) (2015)

Ecole Centrale Paris (Mechanical and Material Engineering, IT, Management) (2015)

Telecom ParisTech and Telecom SudParis (Information and Communication Technologies) (2016)

MINES ParisTech (Mechanical and Material Engineering, IT, Management) (2017)

ENS Cachan (Multidisciplinary Science and Engineering) (2017)

### Building projects at Saclay through 2020

1.3 million square meters to be built

2.2 billion € (2,7 billion \$) to be spent

## Large companies R&D centers already on campus or on the way

Microsoft Research

Danone R & D

Thales R&T

### On the way

Horiba

EDF R and D

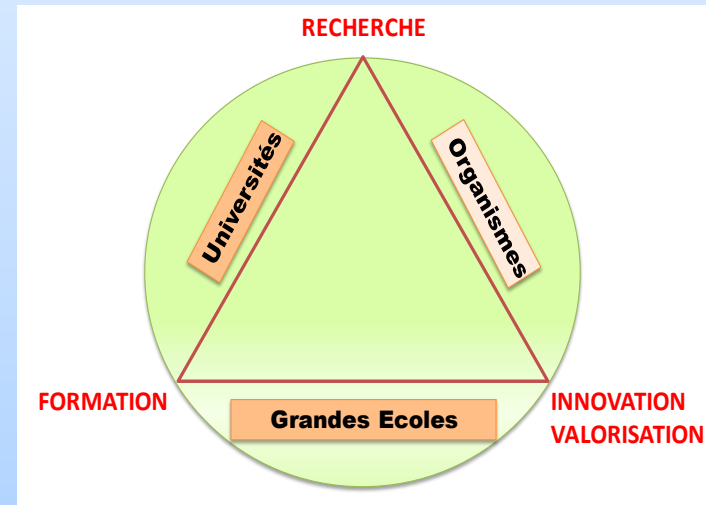


Campus Paris Saclay

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# Tomorrow : Paris Saclay University

- In the top 10 of Shanghai ranking
- 48 000 Students,(27000 graduate), 12000 faculty members (+80% from today)
- Taking the best of the three french cultures in Higher Education and Research
- 45 M€ per year extrabudget provided by the french state on a competitive basis to enhance excellence in research, education and innovation
- A new organisation between the members to foster cooperation and mutualization and have an understandable organisation



## **Six elements to build a single identity and a strong image**

**One scientific signature**

**One Doctorate label**

**One unified student card**

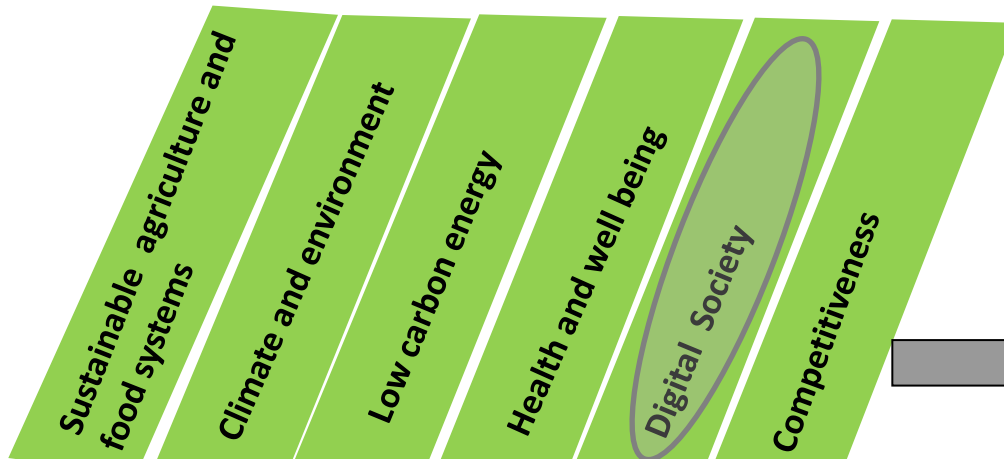
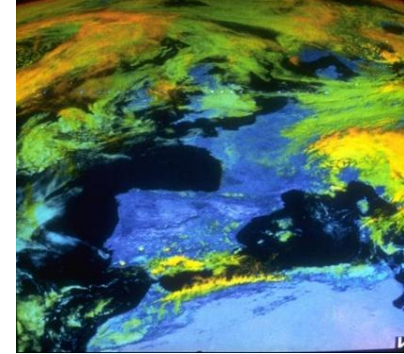
**One single entry point for international applications**

**One business gateway for enterprises**

**And the unique opportunity of a new Campus**

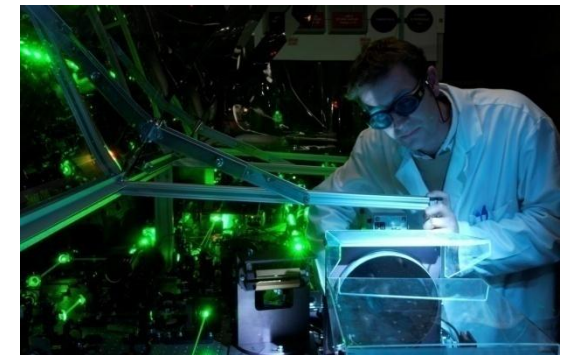


# Research organized by crossing Scientific fields with societal challenges



## Challenges for society, innovation

- Transdisciplinary research, emergence
- Requires transverses projects



Agricultural and food science

Biology – Health

Chemistry

Economy, financed and management

Environment Science

Engineering Sciences

Information Science & technology

Mathematics

Nanoscience/nanotechnology

Physics

Social Sciences and Humanities



## Disciplines

- Specific dynamics and methods
- Increasing knowledge
- Education

# Research

**12 000 researchers/professors in 2020 of high scientific standard and opened to the business world**

## The stakes

- Maintain excellence in physics , mathematics, engineering, computer science
- Develop excellence in biology starting from the best teams  
→ neuroscience, molecular biology, interface with physics, pharmacy
- Enhanced links between disciplines, transdisciplinary programmes
- Develop links with industry

## A three points strategy

1. Develop scientific networking at the campus scale
2. Pooling laboratories, platforms, equipments
3. Project: Shared strategy to build-up research in emerging domains



# Education

**20 000 master students and 7 000 PHD students : a large pool of students  
a resource for companies (hiring and cooperative research)**

## The stakes

- Attract best students and professors
- Increase partnerships with industry
- Attract young students to science

## A four points strategy

1. Rationalize education cursus, shared strategy
2. Mix various types of students, create links (specific cursus, tutoring, graduate schools..)
3. Increase international recognition  
→ partnerships, assistance for foreign students, international cursus
4. Enlarge, enrich links with industry



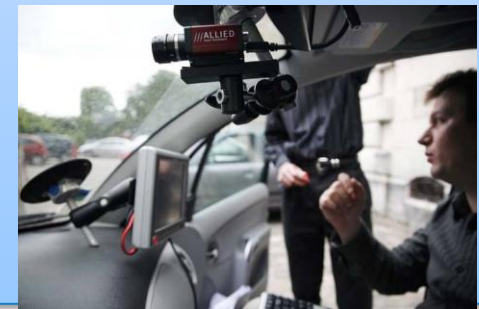


# Innovation

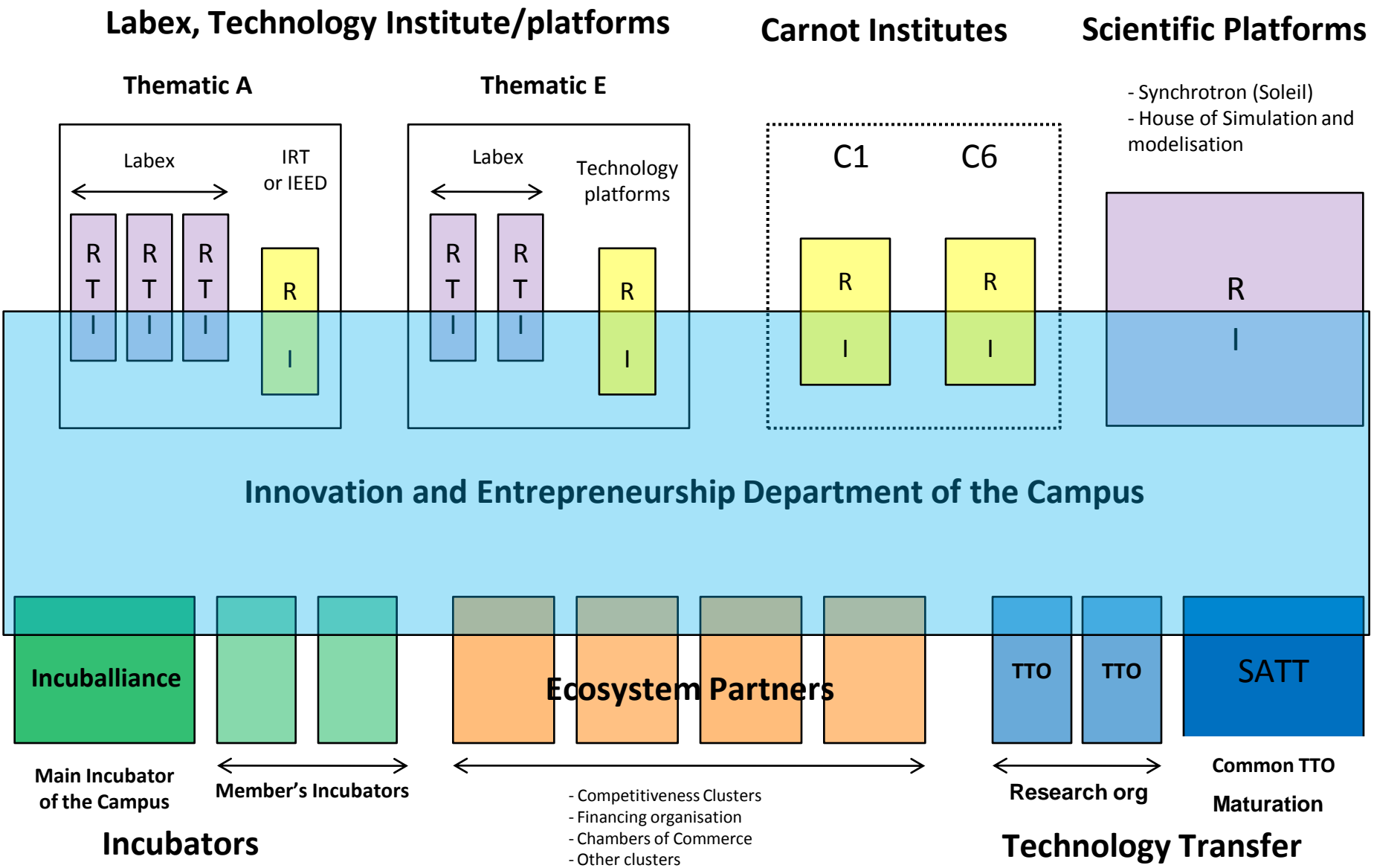
## A significant investment to foster collaboration between academia and industry

Shared facilities at Campus scale for better use of research potential

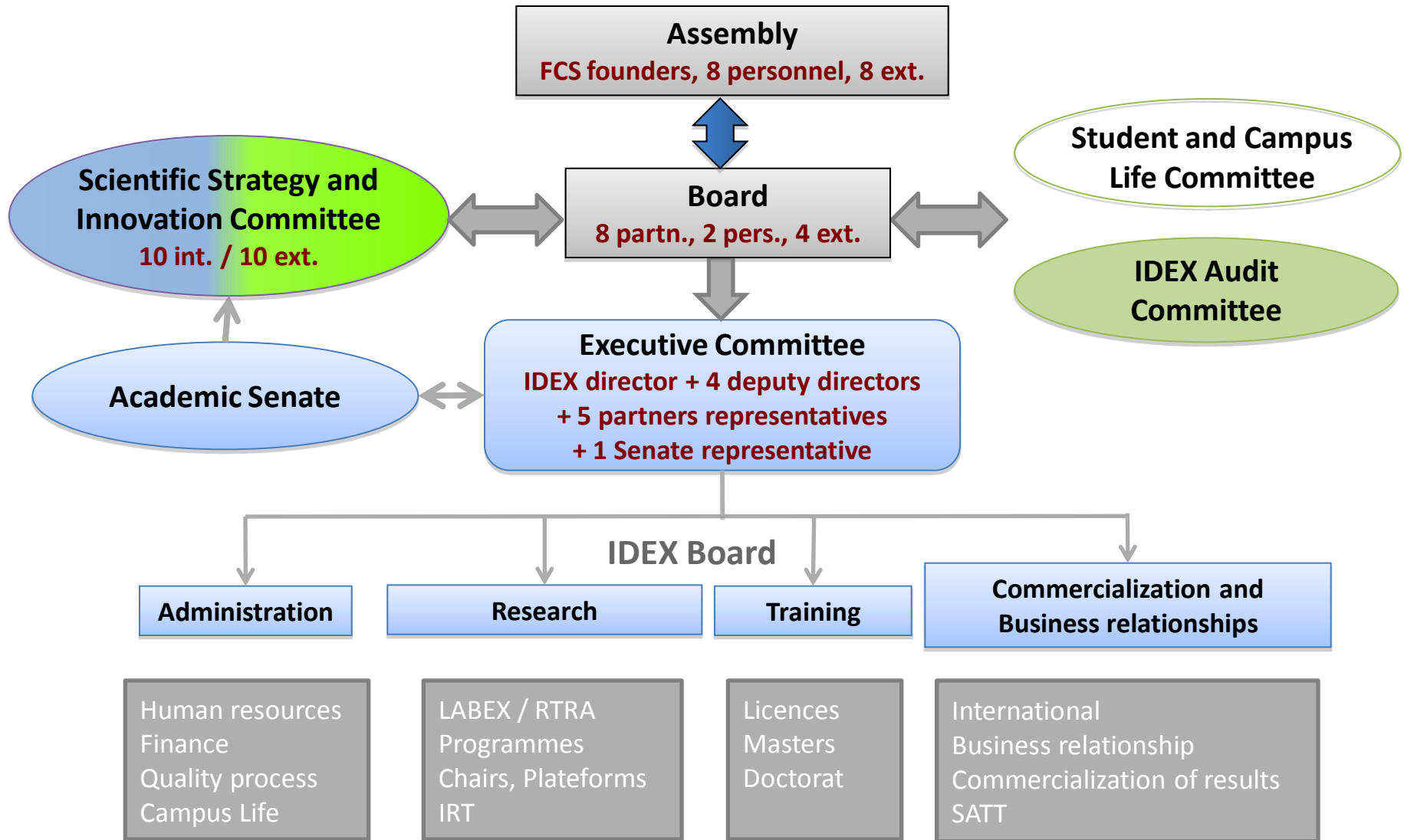
- Major projects:
  - ✓ Institutes for technological research (Systems, low carbon energy)
  - ✓ Society for acceleration of technological transfers (more than x10 present activities)
- Enhance collaborative projects between students, firms and laboratories..
  - ✓ Carnot Institute
  - ✓ Initiate a profound change of mindset towards entrepreneurship in the student population,
- Attract innovating companies (R&D, students, access to laboratories..
  - ✓ Biotechnology, IST, energy, health services, transportation, agronomy/food industry nanotechnology , etc



# Entrepreneurship and Innovation at Saclay : a complete and linked set of tools



# An operational organization already in place : FCS

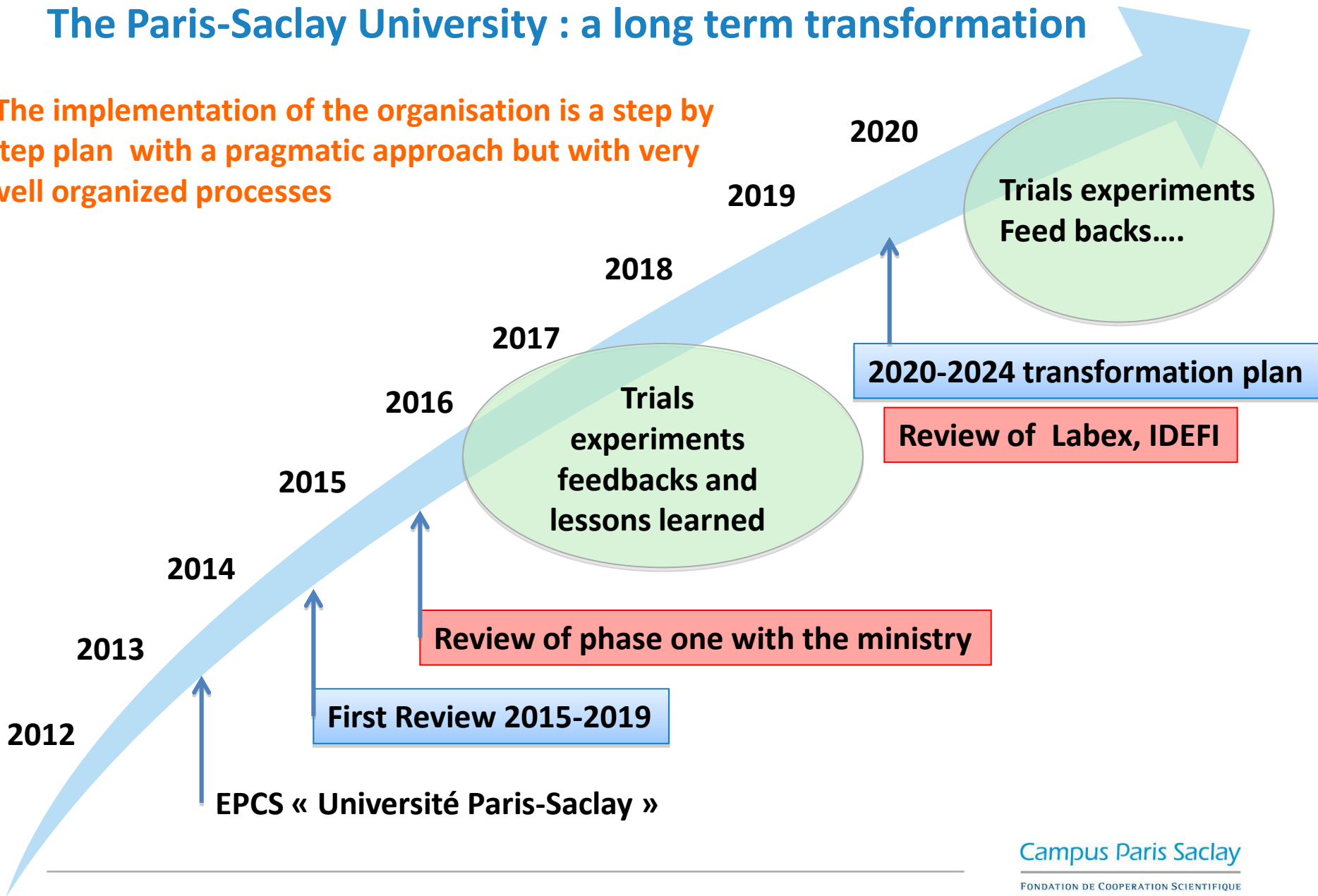


*... geared for the new challenge*



# The Paris-Saclay University : a long term transformation

The implementation of the organisation is a step by step plan with a pragmatic approach but with very well organized processes



# A strong commitment shared by the academic community at all levels

## Institution boards of directors

## Academic Senate



*"We are strongly committed to creating the Université Paris Saclay"*

*"... we believe that the construction of Université Paris-Saclay is an irreversible process, to which the members of the Academic Advisory Board wish to be resolutely committed"*