



OVERVIEW OF FRENCH RESEARCH SYSTEM

STATISTICS, ORGANISATION, PROGRAMS

Version 1 – February 2016



FRANCE AND RESEARCH -2015-

(65 millions inhabitants)

46.5 BILLIONS € (698 TRILLIONS IDR) Direct national budget for R&D
 (+ 30.1 BIL€ private)
2.23 % Share of GDP devoted to R&D

Budget

Institutes

275 Doctoral schools
3 200 Research units

Staff

564 500 Number of Research staff in France (equivalent to 412 000 full-time)
259 100 Number of Researchers (Public sector: 102 500 / Private one: 156 600)
 ↪ **26 %** of Women

67 000 PhD Students in total for **13 000** awarded per year (50% are foreigners)

France totalized

- 64 Nobel Prizes since 1901
- 12 Medal Fields since 1936



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2 Nobel Prizes
1 Fields Medals

**3 Breakthrough
 Prizes**

1 Lasker Award
1 Kavli Prize

FRANCE IN THE INTERNATIONAL COMPETITION

Shanghai Academic Ranking



Ranking of World Universities :

- *Number of publications,*
- *Number of Nobel Prizes,*
- *Medals for students and educating staff*

Research enhances territorial development

Must be local but clustered nationally

Shanghai 2015

France position : 5th (22 FR universities in TOP500)

Absolute classification unable to catch specificities



1st ranked world publications : CNRS , the French Research Agency (100 000 / year)

6th Publishing Country

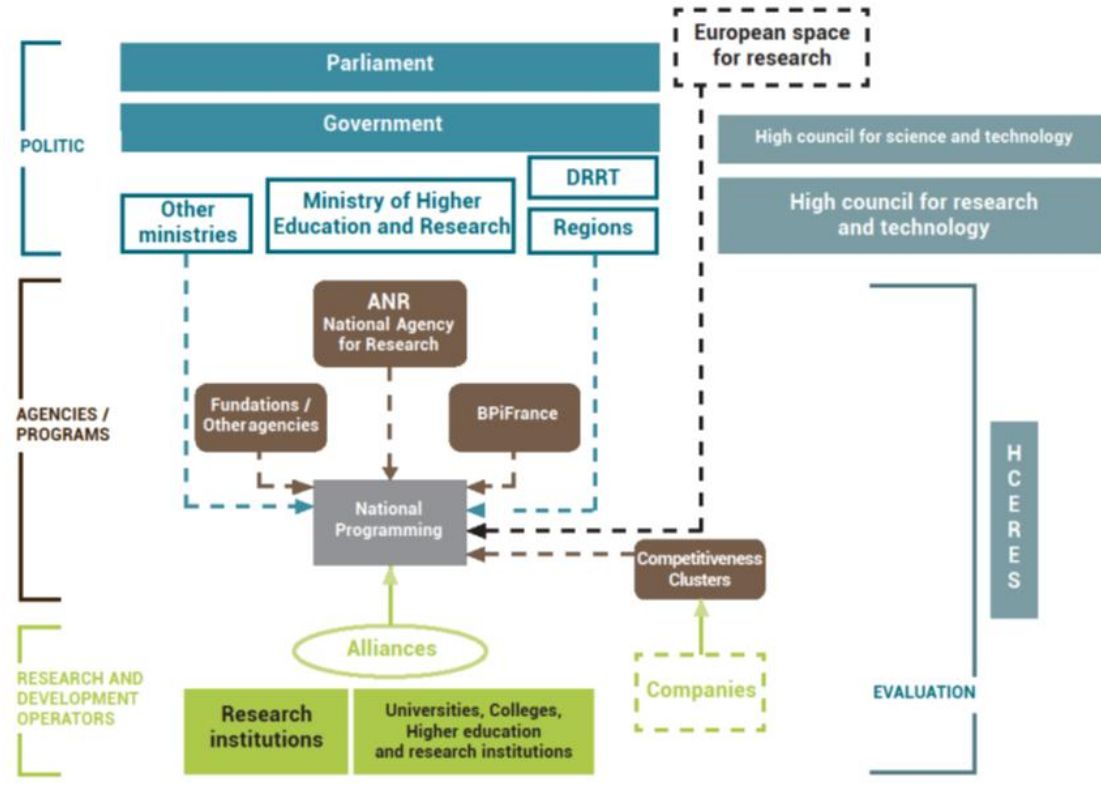
4th Patenting Country in EU system and 7th in US system (CEA, CNRS, IFP at first)



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HOW FRENCH RESEARCH IS ORGANIZED ?



- **National Research Strategy « SNR »** (in line with the European One: Europe 2020)
- **Specific Additionnal Policies** (Ministers, Regions)
- **Coordination & Evaluation** (ANR, ANRT, HCERES)
- **Numerous thematic & territorial clusters** (mix of university labs, research agencies, industrials partners, institutionnal actors)
- **Funding programs** (multi-annual, multi-partners, multi-disciplinary) **Complementary to EU funding: Horizon2020**

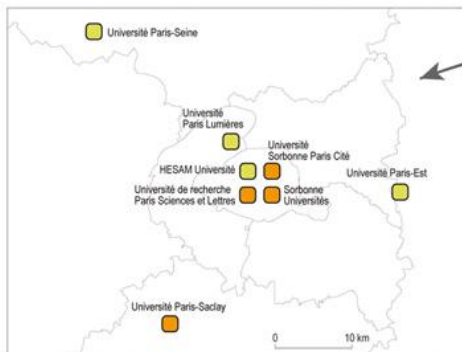


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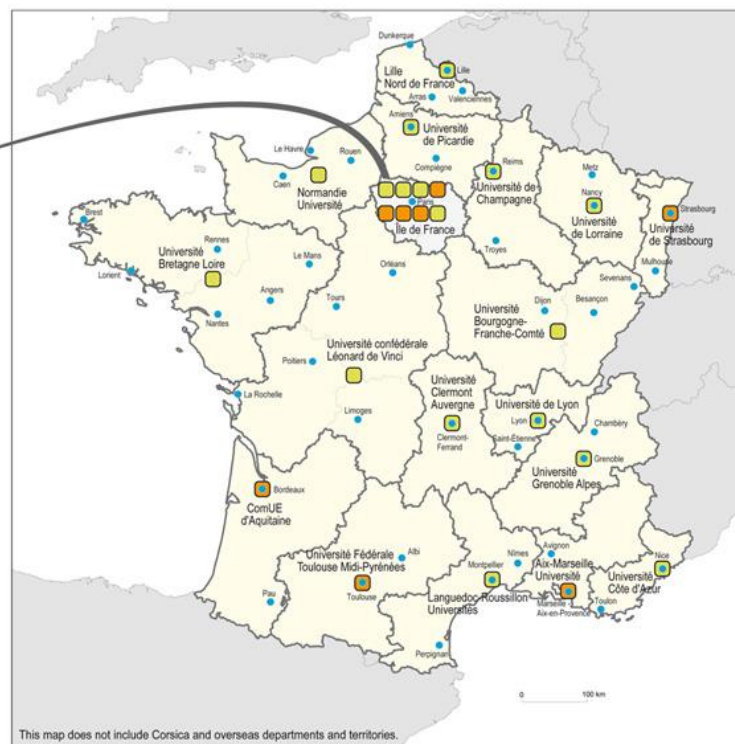
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OVERVIEW OF THE MAIN PUBLIC RESEARCH

Higher education and research clusters in France (2015)



- Higher education and research clusters areas
- Main university cities
- Higher education and research clusters
- Higher education and research clusters endowed with an IDEX selected in 2012 (Investments for the Future program)



This map does not include Corsica and overseas departments and territories.



Source: MENESR - DGRI - SPFCO
 Production: MENESR - DGESIP / DGRI - SIES

September 2015

- **74** Universities
- **250** Higher Education Engineering Schools
- **Over 10** research agencies (CEA, CNES, CNRS, CIRAD, IRD, INSERM, INRIA, INRA, IFREMER,...)
- All now grouped in **20** Big Territorial Cluster « COMUE » for better Shanghai Visibility

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RESEARCH FOR ECONOMIC COMPETITIVENESS

- 71 National Competitiveness Thematic and Territorial Cluster (65% SME, 17% Public research, 18% Big companies)
- 15 of them for International visibility
- 5 Alliances to serve for Thematic Gateway and National Planning
- (Allenvi, Aviesan, Ancre, Allistène, Athena)

- National BPI Bank for innovation
(SME, Start-Ups...)
- National Program for Student Entrepreneurship
(PEPITE)
- + European complementary schemes

- Specific or local Grouping:
 - ❖ GIE: Economic Interest
 - ❖ GIS: Scientific Interest
 - ❖ GDR: Focus thematic research groups



Map of competitiveness clusters

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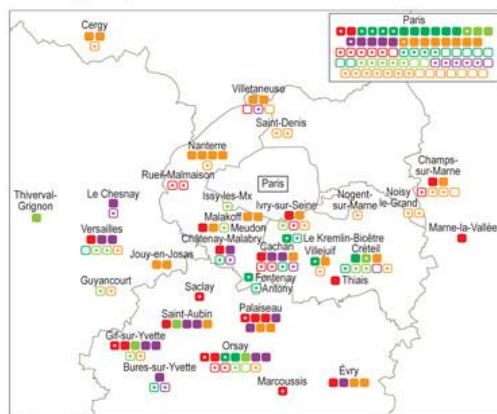
RESEARCH FOR EXCELLENCE & CAPACITY BUILDING



Localisation de sites concernés par les laboratoires d'excellence du programme des Investissements d'avenir (1ère et 2ème vagues d'appel à projets)

Secteurs des projets

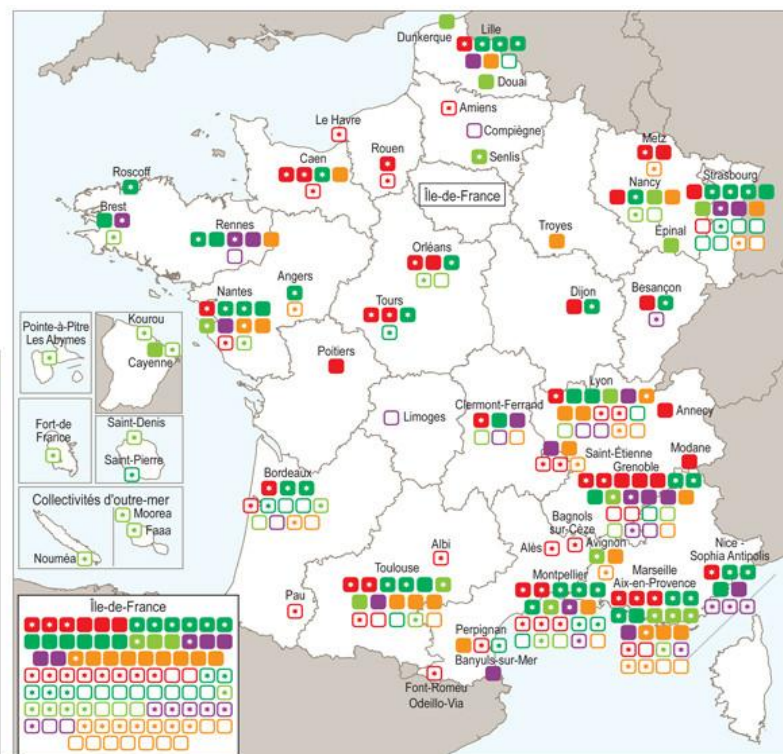
- Vague 2 Vague 1
- Sciences de la Matière et de l'Énergie
 - Sciences de la Vie et de la Santé
 - Sciences du système Terre-Écologie-Environnement
 - Sciences du Numérique et Mathématiques
 - Sciences Humaines et Sociales
 - Projets en réseau



Source : MESR - CGI

Réalisation : ministère de l'Enseignement supérieur et de la Recherche

Investissements d'avenir Laboratoires d'excellence vagues 1 et 2



mars 2011 et février 2012

Specific targeted structuring funding (IA, IDEX, LABEX, EQUIPEX)

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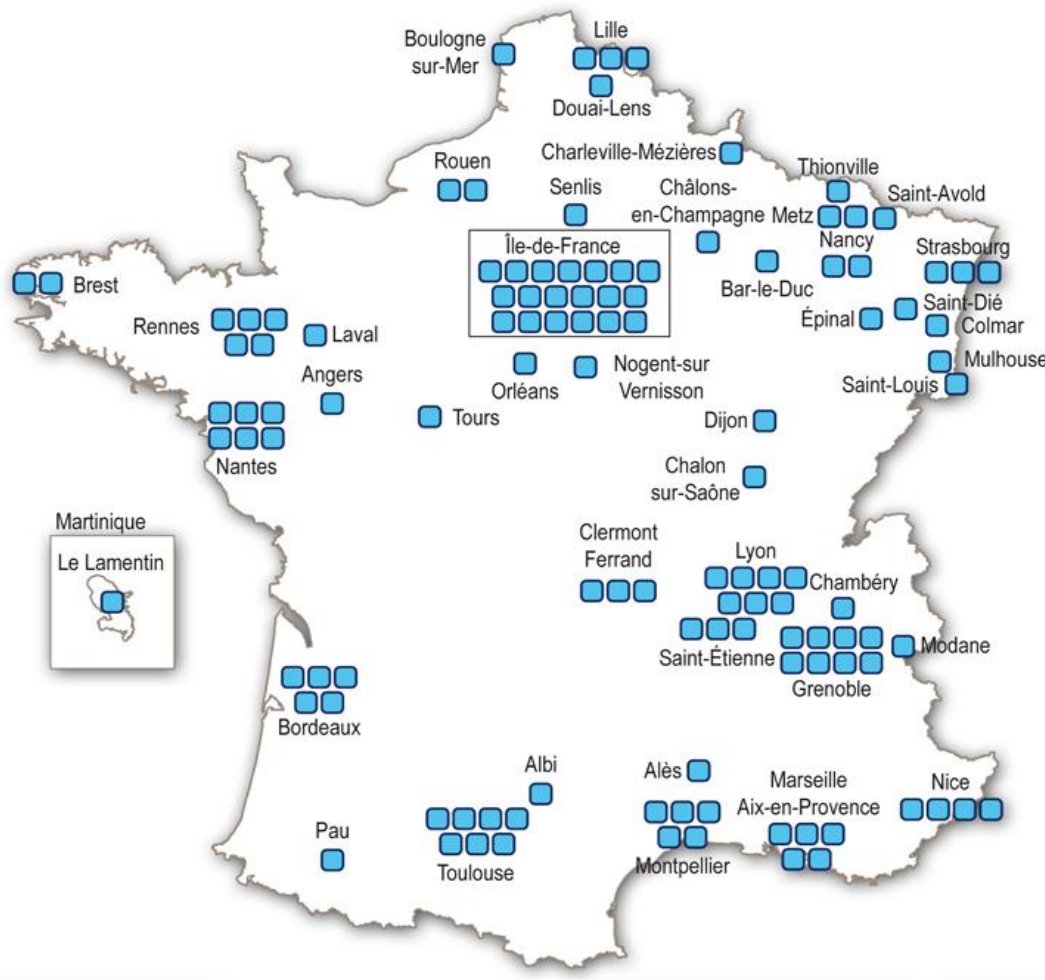


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RESEARCH FOR EXCELLENCE & CAPACITY BUILDING



Specific Label for Public Research Institutes strongly linked to economical development



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Carnot Institutes (34 labs, 15% of the Research power)

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STRUCTURE OF PUBLIC RESEARCH

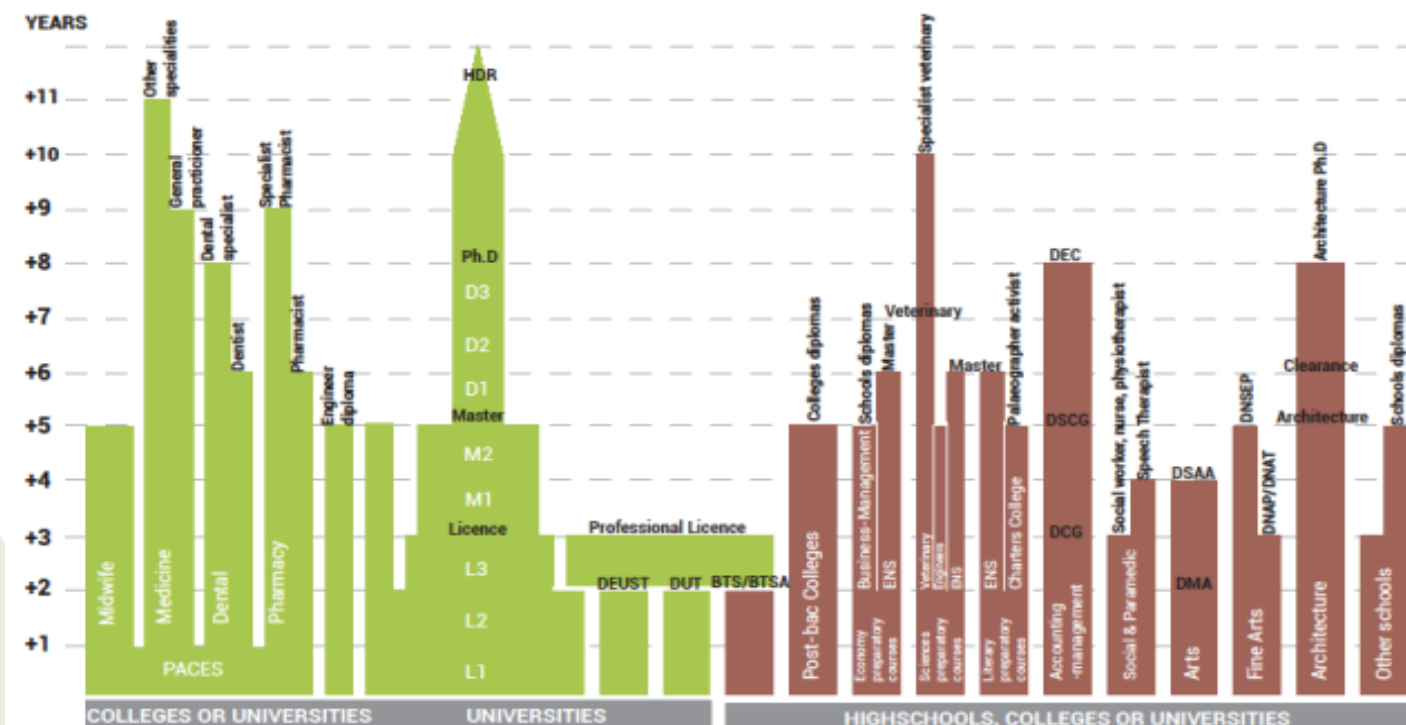
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Typical Scientific Team

- Full Professor // Director of research
- Tenure Professor (HDR) // In charge of Research
- Associate Professor (MCF)
- Assistant Professor (ATER)
- Post-Doc
- PhD Student
- Master Student

Scientific Team Support

- Research Engineer
- Study Engineer
- Technician



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STRUCTURE OF PUBLIC RESEARCH

Different labelling

- University labs (EA)
- Joint labs between research agencies and universities (UMR)
- Research agencies labs (UPR)
- International lab (UMI)

CNU

Thematic commissions serve to evaluate labs & staffs
60: Mechanics, 27: Informatics,
23: Geography,....

Different Authority Ministry

- **Higher Education & Research** : Casa de Velázquez, ENS,...
- **Agriculture** : Agro Paris Tech, Agro Campus Ouest...
- **Environment** : ENSM
- **Defense** : ISAE, Ecole Polytechnique,...
- **Equipment** : ENPC
- **Sports** : INSEP
- **Economy** : GENES

Joint Authority Ministries

- **Foreign Affairs + Research** : CIRAD, IRD,...
- **Agriculture + Research** : Institut agronomique, vétérinaire et forestier de France



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FUNDING SCHEMES

Industrially focused

H2020 European funding scheme with 15% of french contribution

FUI Interministry funding (Since 2005: 1585 projects for 2.5 Billions €, 15 000 staff)

CIFRE PhD thesis inside **Private** companies (specific Technology Transfer scheme)

Regional funding (thematic and territorial)

Research Budget

61% Ministry of Research

22% contracts

9% own resources

8% Other ministers or agencies



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Academically focused

H2020

ANR thematic funding (Since 2005: 2205 projets for 1.5 Billions €)

PHC (Min of Foreign Affairs) covering international cooperation
overcost

BIO/STIC Asia (Min of Foreign Affairs) Multilateral thematic program

EXTERNAL LINKS

Some links you may like to visit for further specific information!

IFI French Cooperation Office in Indonesia



Ministry of Research & Higher Education



Competitvity clusters



European Horizon2020 funding program



Thematic CNU groups



CAMPUS FRANCE



International research cooperation by MOFA



ANR Research Funding Agency



CPU group of University Presidents



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