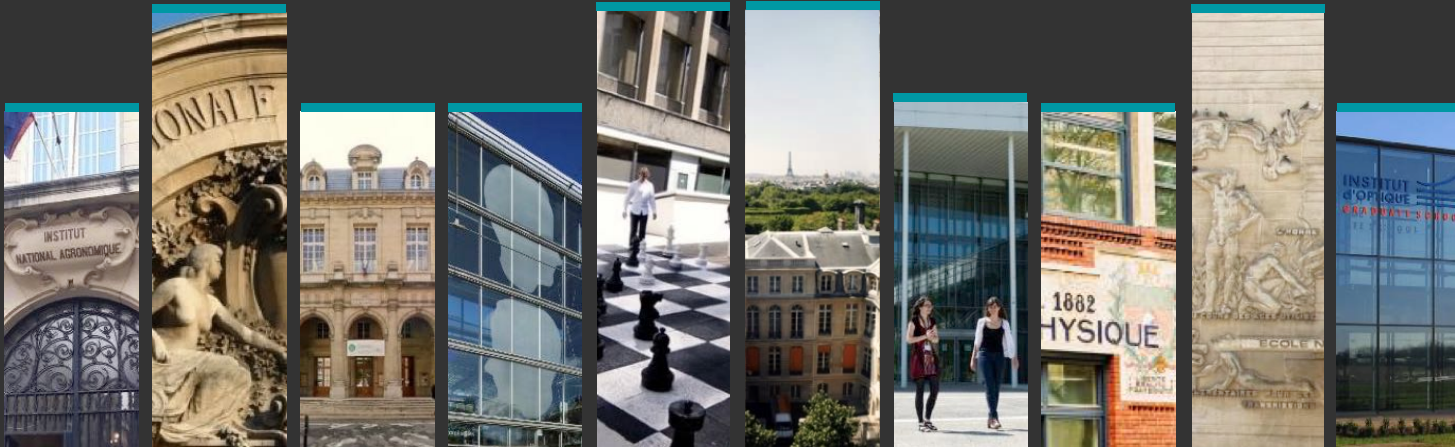


SCIENCE & ENGINEERING IN PARIS, FRANCE

- April 2019 -



**A CONSORTIUM OF
THE MOST PRESTIGIOUS GRADUATE SCHOOLS
IN ENGINEERING & SCIENCE
PARIS, FRANCE**

WHY CHOOSE FRANCE



Excellence of the Higher Education system

- 20% of the national budget devoted to education
- 3rd destination in the World for international students
- Scholarships and support for international mobility

French language

- Official language of more than 200 million people (5th in the world)
- 3rd most important language for business in the world after English and Mandarin Chinese (Source: Bloomberg)

6th economic power in the world that combines Tradition / Art & History / Quality of Life with High-Tech & Innovation

What international students are saying

- 9 out of 10 international students recommend France as first study destination
- 94 % believe that studying in France has been a self-enrichment
- 86 % believe that studying in France have highlighted their university curriculum

WHY CHOOSE PARIS?



- 816 000 companies
- **1/3 of the foreign companies in France**
- **1st European center for Fortune 500 multinational companies**
- **1st European center for professional meetings**
- 30% of France's Gross Domestic Product (GDP)
- **Paris named World's Best Student City (QS)**
- 17 Universities, 40 Graduate Schools of Engineering
- > 70 000 foreign students (20% of the students of the area)
- **40% of national investment in research and development (1st European region)**
- 95 500 researchers (1st European region)

WHY CHOOSE PARISTECH?

**EDUCATION,
RESEARCH,
INNOVATION
IN SCIENCE & TECHNOLOGY**

**AN EXCEPTIONAL UNION OF TEN
GRADUATE SCHOOLS ENABLING A
UNIQUE TRANSDISCIPLINARITY**

ParisTech is a consortium of 10 Graduate Schools of Engineering & Science, which are among the most prestigious "Grandes Ecoles"

- 6 ParisTech Schools are in the top 10 out of 250 Engineering Schools in France
- Each School is ranked #1 at the national level in its specific domain

Shared-values

- Excellence based on the model of French "Grandes Écoles"
- Openness as a driver for growth: international openness, social diversity, openness to new pedagogical methods
- The quest for innovation, key to future successes for our Schools

THE « GRANDE ÉCOLE » MODEL



A unique model

- **Highly selected candidates**
- **Excellent level in Mathematics, Physics and Computer Science**
- **Multidisciplinary studies and development of professional skills**
- **Open up to Economics, Management and Communication**
- **A teaching faculty bringing together professors and experts from companies**
- **A limited number of admitted students enabling a personalized curriculum (small groups, Student-Faculty ratio 5:1)**
- **High-quality and innovative teaching methods**

Strong links with companies

- **Compulsory internships throughout the curriculum**
- **Multiple interactions between Schools laboratories and companies R&D centers**



THE 10 PARISTECH SCHOOLS



PARISTECH SCHOOLS

10 « Grandes Écoles »
In Engineering & Science

3 Campuses
Paris, Saclay, Marne-la-
Vallée

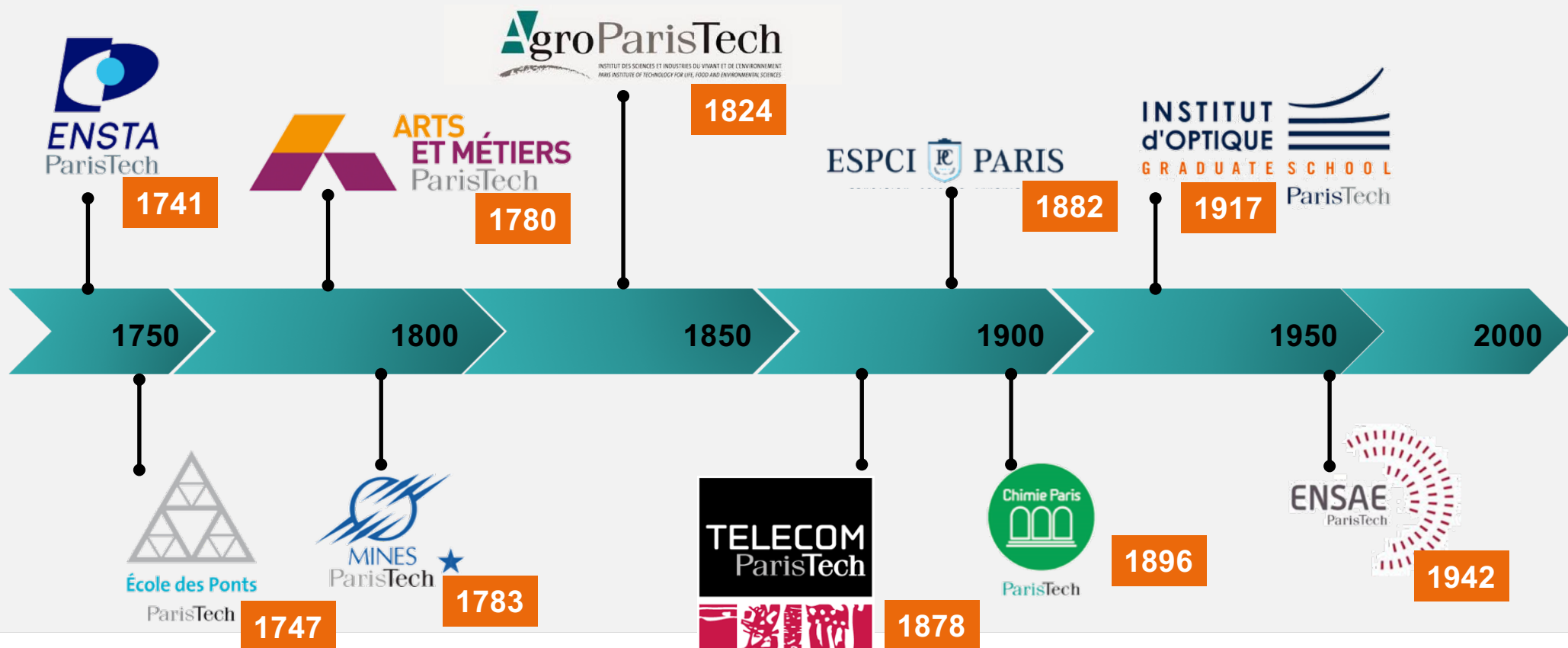


10
GRADUATE
SCHOOLS
IN PARIS

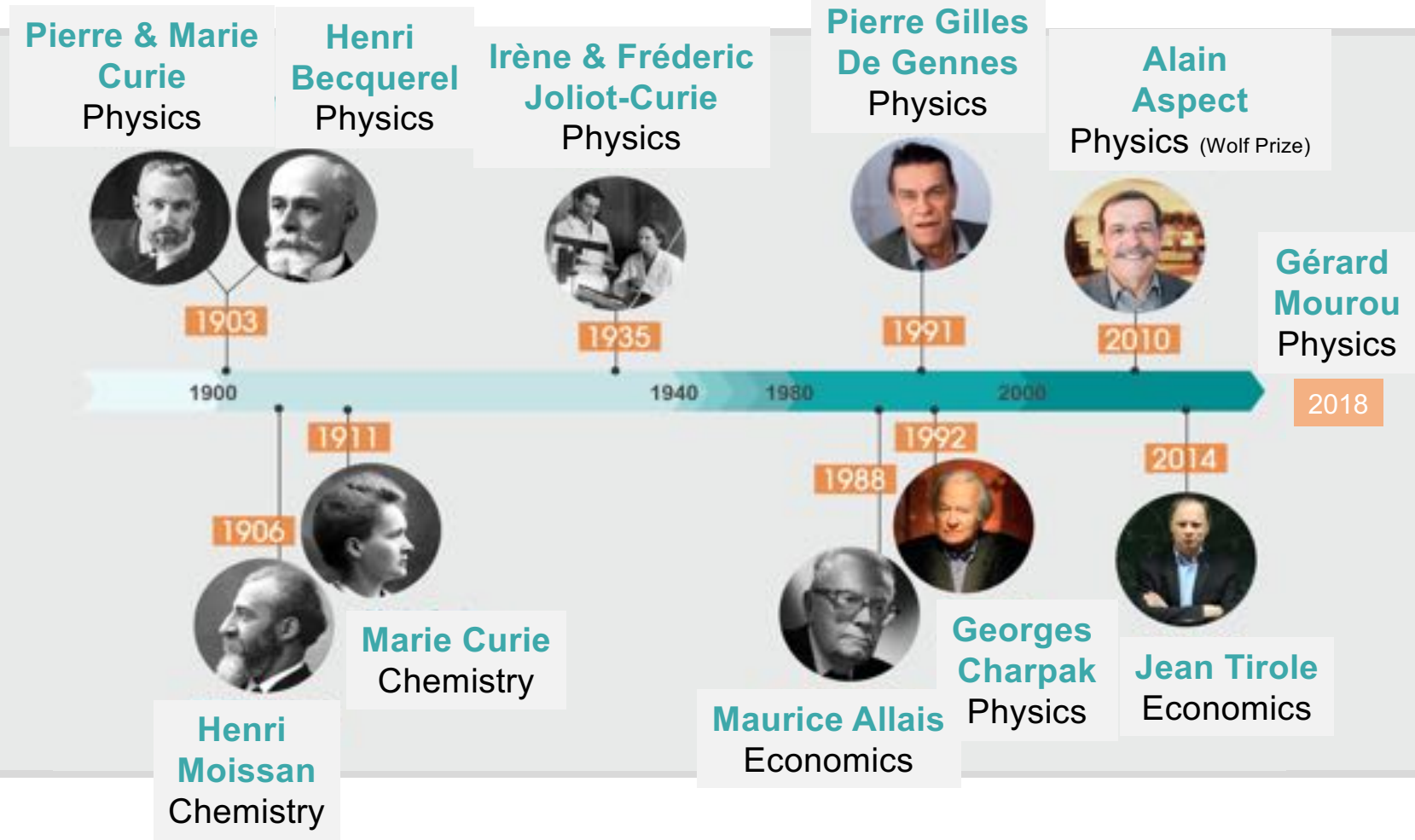
3
CAMPUSES



HISTORY



A LONG TRADITION OF SCIENTIFIC EXCELLENCE



KEY NUMBERS



10

"Grande École"
in Engineering
& Sciences



16 500
students



100
laboratories



71 teaching and
research chairs



2 000
professors



100
partner companies



130 000
Alumni

OUR MODEL:

PERMAMENT CONNECTIONS WITH COMPANIES

71

Teaching and
Research Chairs

2 900

Contracts signed
with companies

1/3

Doctoral programs
funded by companies

Companies contribute to the strategic decisions of the Schools

- **As executive board members:** *Jacques ASCHENBROICH, Chairman of Valeo (Mines ParisTech), Benoît de RUFFRAY, Chairman and CEO of EIFFAGE (Ecole des Ponts ParisTech), Pierre PRINGUET, Vice-Chairman of the Administration Board of Pernod Ricard (AgroParisTech), Philippe DARMAYAN, Chairman Arcelor-Mittal (Arts et Métiers ParisTech)...*
- **As teaching and research partners**

Partnerships

- VEDECOM: research and training on carbon-free connected vehicles and its mobility
- Sustainable Mobility Institute: research on electric mobility systems in partnership with Renault
- Program in Nuclear Energy: masters' programs and Teaching Chairs with EDF, ENGIE, Areva
- Program in Bioengineering: master in bioengineering and Teaching Chairs

PERMAMENT CONNECTIONS WITH COMPANIES



GRANDES ECOLES AND SPECIALTIES

			 PSL						 PSL	
Mathematics & applications				✓	✓	✓			✓	✓
Information and communication sciences and technologies				✓		✓		✓	✓	✓
Life sciences and engineering	✓									
Earth sciences and environmental engineering	✓			✓					✓	
Physics, optics						✓	✓	✓	✓	✓
Chemistry			✓				✓			
Energy		✓		✓		✓			✓	
Materials science, mechanics and mechanical engineering		✓	✓	✓		✓	✓		✓	
Economics and social sciences, management, statistics	✓			✓	✓				✓	✓
Industrial engineering		✓		✓					✓	



FOCUS ON THE 10 PARISTECH — SCHOOLS

LE VIVANT, NOTRE VOCATION



www2.agroparistech.fr

AgroParisTech's forward-looking approach is aimed at addressing the main global challenges of the 21st century:

- **feeding the population in a sustainable way,**
- **protecting natural resources,**
- **fostering innovation and developing the bioeconomy.**

- **10 campuses**, more than 2,200 students (16% degree-seeking international students), 350 PhD students (34% international), 25 research units.
- **National and International reputation**
 - Top-ranked in France in the field of agriculture
 - ARWU "Agricultural Sciences" 2018: 19th worldwide
 - QS "Agriculture and Forestry" 2019: 3rd at European level, 4th worldwide
- **4 key research areas:**
 - Agricultural Production and Forestry
 - Food and non-Food Transformations
 - Sustainable Management of Natural Resources and the Environment
 - Human Health

LE VIVANT, NOTRE VOCATION



www2.agroparistech.fr

- Life Science
- Biology
- Animal Science
- Food Science & Technology
- Agronomy, Crop Science
- Plant Protection, Forestry
- Environmental Science & Engineering
- Management of Environment
- Mathematics & Modelling for Life Sciences



ACCELERATING TALENT FOR THE INDUSTRY OF THE FUTURE

MECHANICAL, INDUSTRIAL, ENERGY ENGINEERING

- | | |
|-----------------------------------------|-----------------------------|
| 8 campuses & 3 institutes | ➤ 1 Bachelor of Technology |
| 14 research laboratories | ➤ 10 Engineering Programs |
| + 6000 students | ➤ 20 MRes |
| 1000 international students | ➤ Doctoral School |
| + 35 000 alumni | ➤ Life long learning |
| +150 international partner universities | ➤ 76 double degree programs |

REAL SCALE TECHNOLOGY PLATFORMS

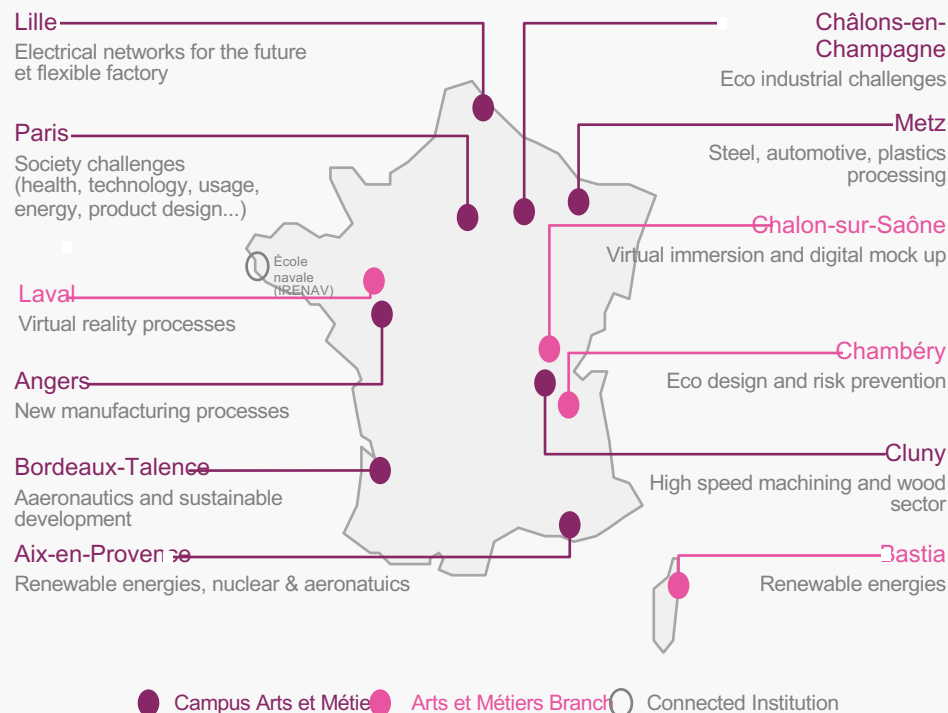


Promoting innovation, entrepreneurship and technology transfer

INTERNATIONAL STRATEGIC INITIATIVES

French – German Institute for the industry of the future – Karlsruhe Institute of Technology
AM² - Cluster for research, innovation & education in advanced materials & manufacturing – Texas AM

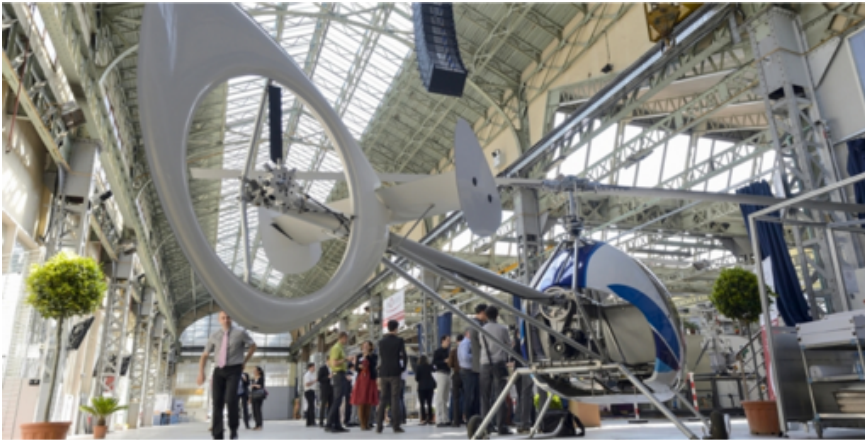
Developing R&D for Industry of the future



www.artsetmetiers.fr



CONCEVOIR DEMAIN



<https://artsetmetiers.fr>

- Mechanics
- Materials
- Manufacturing Processes
- Fluids and Energy Systems
- Design Industrialization
- Decision Making, Risk



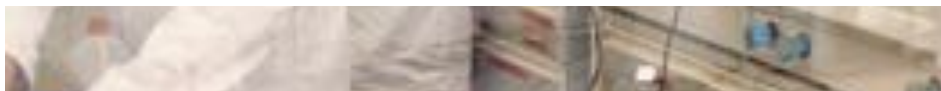
ParisTech



FOSTERING TALENTS FOR TOMORROW'S CHEMISTRY



*120 professors
300 students (50% women), including 20% international
20% business, management & human skills
12 months of mandatory internships
40% of the graduated students enter a PhD program
7200 alumni*



ParisTech
#Cooperate #Undertake #Share

www.chimieparistech.psl.eu

Training top level professionals in chemistry by combining the fields of:

- Organic and Bioorganic Chemistry
- Solid State Chemistry
- Material Science
- Theoretical Chemistry
- Nuclear Chemistry
- Analytical Chemistry
- Chemical and Process Engineering
- Environmental science
- Life and health sciences

Research activities addressing the major issues of the societal needs:

- Energies
- Recycling
- Imagery & Diagnosis
- Heritage materials
- Materials for optoelectronics
- Microfluidics

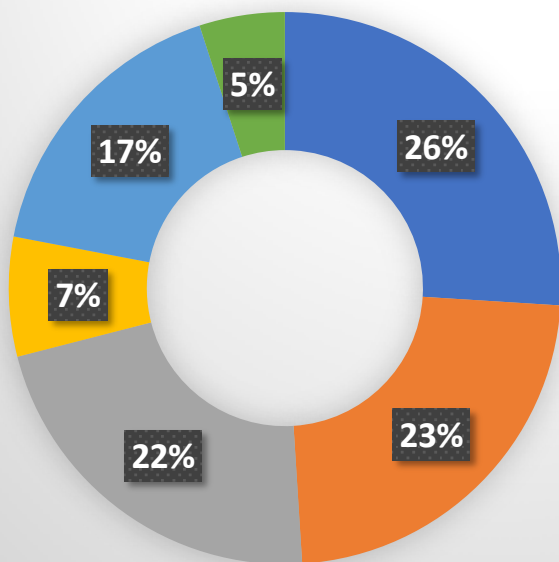


Chimie ParisTech also offers masters of Science (1 year)

• **Master « chemistry »:** Analytical, Physical & Therotical Chemistry / Molecular Chemistry / Inorganic Materials and Polymers / Chemical Engineering • **Master of Nuclear Energy** • **Master « Material Science »** • **Master « Energy »** • **Master « Chemical Frontiers of Living Matter »**

Employability of our Engineers

90 % of the students get a job or PhD before the graduation ceremony (December)



- Health, cosmetics, fine chemistry
- Energy
- Consulting
- Materials
- Other
- Agriculture, Food



LA GRANDE ÉCOLE DE L'ÉCONOMIE, DE LA DATA SCIENCE ET DE LA FINANCE

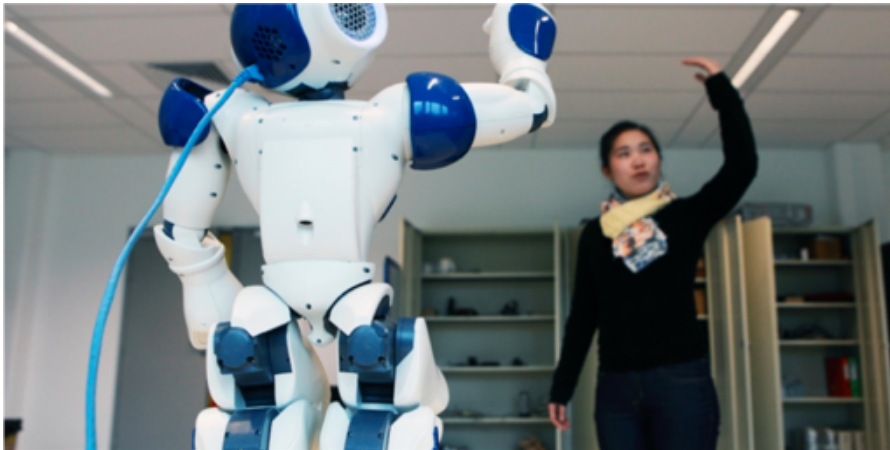


www.ensae.fr

- Economics & Econometrics
- Quantitative Economics & Finance
- Statistics
- Actuarial Science



Founded in 1741



www.ensta-paristech.fr

- **Transportation**
- **Energy**
- **Complex Systems Engineering**
- **Engineering Mathematics**

Students

- **800** students
- **~200 graduates each year**
- **160** Master students
- **120** PhD students
- **30%** international students (**28** nationalities)
- **30%** women
- **6000** alumni

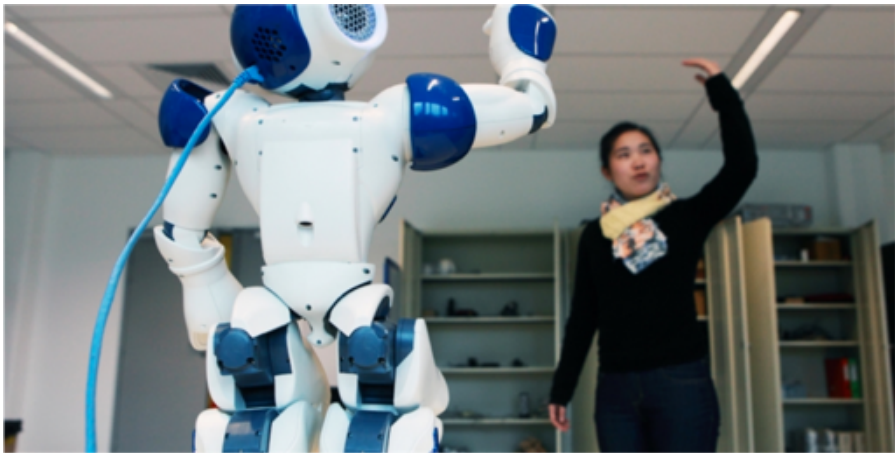
Professors

- **90** faculty members
- **650** lecturers (70% from companies)

Multidisciplinary Research **6 Research Units**

135 Faculty Members

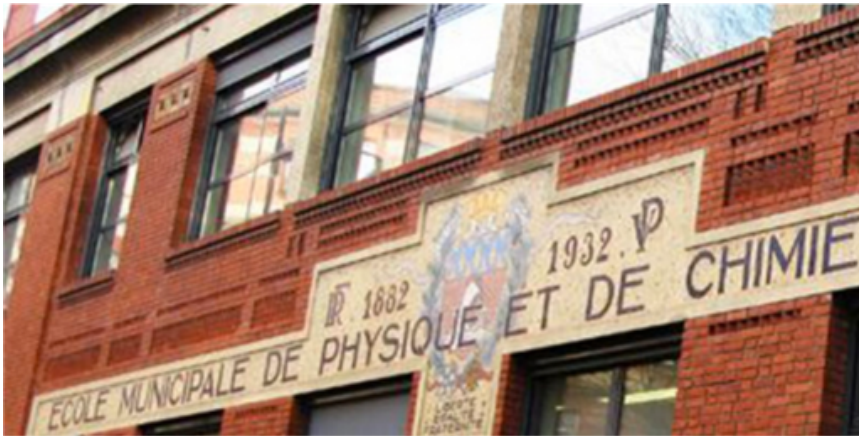
- **Applied Mathematics**
- **Mechanical Engineering (IMSIA)**
- **Computer Science and Systems Engineering**
- **Chemistry and Chemical Engineering**
- **Applied Optics**
- **Applied Economics**



www.ensta-paristech.fr

- Transportation
 - ✓ Smart Mobility & Vehicle Engineering
 - ✓ Maritime Transportation
- Energy
 - ✓ Energy Production and Management
 - ✓ Electronuclear Energy
 - ✓ Offshore Energies Engineering
- Engineering Mathematics
 - ✓ Optimization, Operational Research and Command
 - ✓ Quantitative Finance
 - ✓ Modeling and Simulation
- Complex Systems Engineering
 - ✓ Robotics and Embedded Systems
 - ✓ Smart Systems
 - ✓ Architecture and Security of Information Systems

A UNIQUE APPROACH TO TEACHING AND SCIENTIFIC RESEARCH



ESPCI Paris is an engineering school run by the City of Paris, which has trained 90 innovation engineers ready to invent the future every year since 1882.

These engineers work as project managers in large industrial enterprises or participate in the creation of startups (49,000 euro salary/year after 5 years).

One in three engineers is based abroad.

Our pedagogy is based on interdisciplinarity in Physics, Chemistry, Biology, lab classes, team science projects and education through research.

Organic Chemistry, Polymers, Soft Matter, Biotechnology, Neuroscience, Electronics, Optics, Acoustics, Business Knowledge



BEST ENGINEERING SCHOOL,
SHANGHAI RANKING

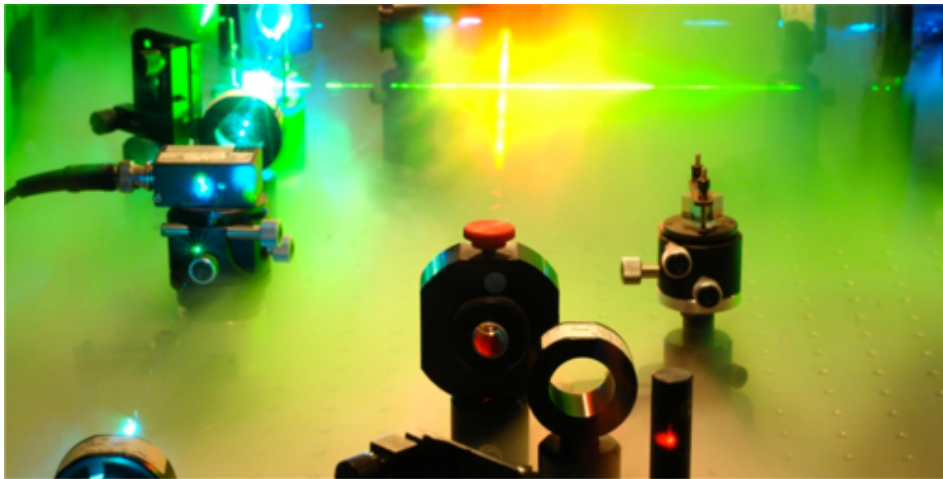
EXCELLENCE SCIENTIFIQUE, INTERDISCIPLINARITÉ
ET INNOVATION



www.espci.fr

- Environmental Chemistry
- Organic Synthesis
- Bioengineering and Biophysics
- Optics
- Acoustics and Imaging
- Microfluidics and Soft Nanotechnology
- Soft Matter and Complex Materials Engineering
- Chemical Engineering
- Fluid Mechanics

A LUMINE MOTUS



www.institutoptique.fr

Physics of light and its interaction with matter

- ✓ Mathematics, electronics and computer science for signal and image processing
- ✓ Ray optics and aberrations
- ✓ Advanced wave optics
- ✓ Instrumentation, Optical system design
- ✓ Imaging, Photometry, Detection
- ✓ Lasers and electro-optics, non-linear optics, optical fibers
- ✓ Detectors, Biophotonics, Nanophotonics
- ✓ Space optics
- ✓ Energy
- ✓ Telecommunications with minors in technology and management of innovation

THEORY AND PRACTICE



www.mines-paristech.fr

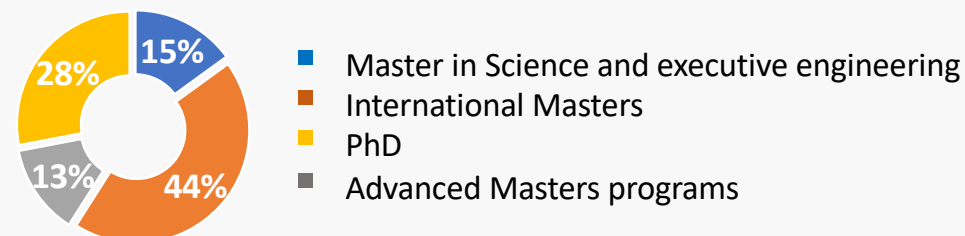
2nd
best university in
engineering in
France

1st
University in
France for its links
with industry

35%
International
students

1/3
International
teachers

• Our programs :



• Our research: departments and fields of excellence

5 departments

- ✓ Energy and process engineering
- ✓ Earth sciences and environment
- ✓ Mathematics and complex systems
- ✓ **Materials** and mechanics
- ✓ Economy, management and society

18 research labs

- Energies of the future
- Transport and mobility
- New materials
- Health and environment
- Innovation and competitiveness

1000
Research
contracts
per year

200
industrial
partners

400
scientific
publications
rank A

THEORY AND PRACTICE



www.mines-paristech.fr

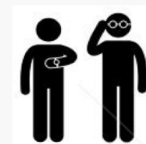
MSc in Science and Executive Engineering

The philosophy:

- To **train engineers** with an strong scientific background, **prepared to become managers**, in any kind of companies, **all over the world**.

The program:

- Strong background in fundamental courses,
 - ✓ Mathematics, physics, mechanics ...
- with a multidisciplinary approach:
 - ✓ Social sciences, Languages, Sports, Economy and management, Innovation and entrepreneurship
- and the possibility to customize your curriculum with 18 fields of specialization:
 - ✓ Applied mathematics, Information technology, Control engineering and computer science, Computational Biology, Earth and environmental sciences, Materials sciences and engineering, Energy and chemical engineering, Economics and social sciences



Student/
prof
ratio



9 to 21
months in
internship



420 full professors
2000 students
including 48% international students
20000 alumni

1000 international publications per year
12 research labs

BUILDING THE WORLD OF TOMORROW



www.enpc.fr

- Fields of teaching
 - Transportation
 - Civil & Environmental Engineering
 - Mathematics & Finance
 - Engineering Mechanics & Materials Science
 - Industrial Engineering & Logistics
 - Town & Country Planning
- Challenge-based research
 - Industry of the future
 - Management of risks and environment
 - Economy, Usage and Society
 - Mobility and Transport Systems



160 professors
1600 students
including 48% international students
16600 alumni

630 international publications per year
1st incubator for creating digital
companies in France

INNOVATE AND FOSTER ENTREPRENEURSHIP IN A DIGITAL WORLD



ParisTech
#Cooperate #Undertake #Share

www.telecom-paristech.fr



We train top level professionals in digital by combining the fields:

- Applied mathematics
- Computer science & engineering
- Physics, electrical engineering
- Economics & social sciences

according to 3 main profiles:

- Transformers
- Entrepreneurs
- Inventors

Our research addresses the major issues of the digital revolution:

- Data science & Artificial intelligence
- Digital trust: cybersecurity, risk, reliability
- Mathematic modeling
- Innovation
- Design, interaction, perception
- Very large networks & systems



INNOVER ET ENTREPRENDRE DANS UN MONDE NUMÉRIQUE



www.telecom-paristech.fr

ParisTech
#Cooperate #Undertake #Share

- Information Technology
- Telecommunications
- Digital & Mobile Communications
- Optical Communications
- Electronics Computer Science
- Networks, Signal & Image Processing
- Security
- Economics
- Digital Society

PARISTECH DEGREES

FROM MASTER TO DOCTORATE

Diplôme d'Ingénieur (MSc in Engineering)

Master of Science

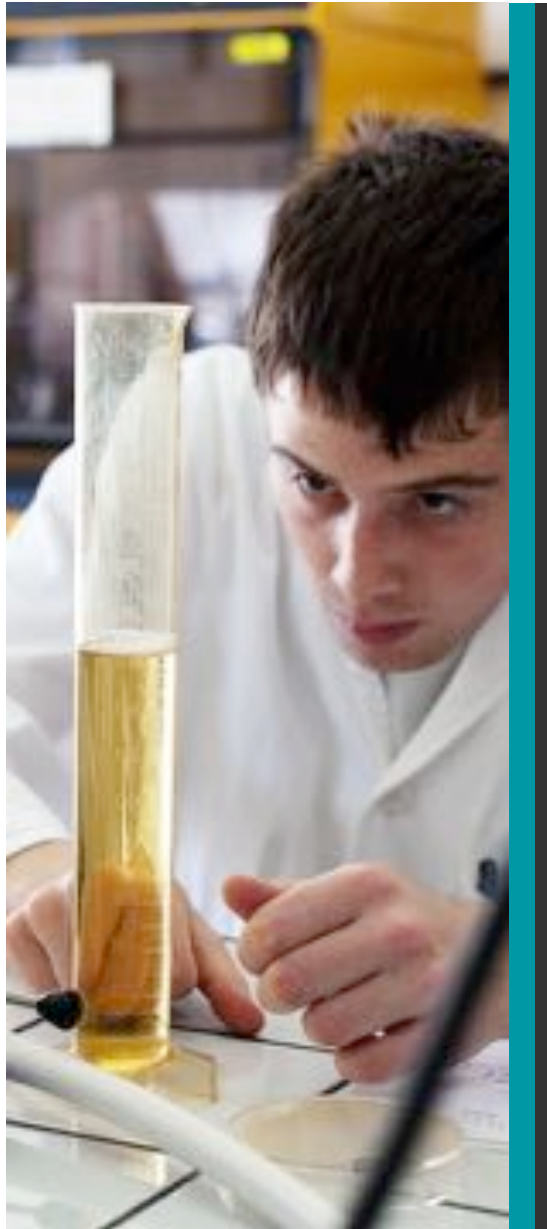
Doctoral programs (PhD)

MBA

Executive Education

ParisTech
#Cooperate #Undertake #Share





RESEARCH AND INNOVATION



ParisTech
#Cooperate #Undertake #Share

SCIENTIFIC EXCELLENCE

100

research laboratories

900

theses
submitted/year

9

European Research Councils

2200

PhD students

100 M€

allocated to research contracts

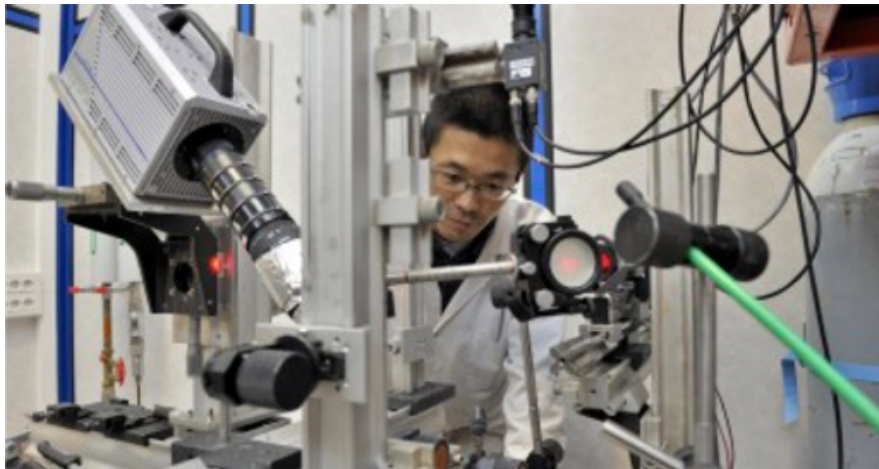
3000

annual publications

ParisTech
#Cooperate #Undertake #Share



RESEARCH AT THE HEART OF OUR SCHOOLS' STRATEGY



A multidisciplinary approach in science and technology

International Research teams

Strong interactions with socio-economic world

Permanent connections with public research organizations: CNRS, INRA, INRIA, INSERM, CEA, ONERA...

DOCTORAL STUDIES



Doctoral studies are strongly encouraged at ParisTech: depending on the School, **from 20% up to 70% of “ingénieur” students pursue a PhD after graduation**

Common features and characteristics:

- An extensive training catalog
- High scientific level
- A personalized support, development of professional objectives
- Strong international mobility

INNOVATION AND ENTREPRENEURSHIP

ParisTech schools are committed to supporting and implementing entrepreneurship and innovation projects.

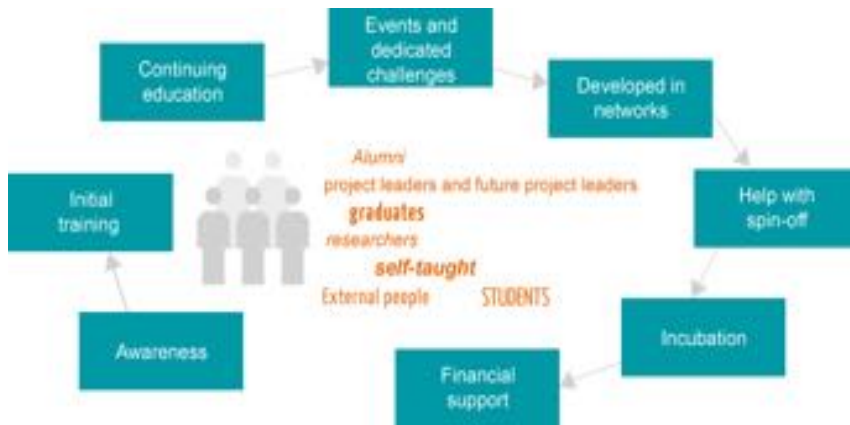
Thus contribute to developing innovative companies of tomorrow.

Over 700 incubated projects

Among which 80% have been existing for more than 5 years

The network of incubators:

- Agoranov
- ParisTech Entrepreneurs
- Incubator of the center Arts et Métiers ParisTech
- Pollen
- Le 503, Institut d'Optique Graduate School
- Incubator Descartes
- Incuballiance (in partnership with Paris-Saclay)
- Station F
- GreenTech verte
- ESPCI PCUp



FOCUS ON PARISTECH ENTREPRENEURS



ParisTech Incubator

- Created in 1999 by Télécom ParisTech
- Puts together 10 ParisTech schools' expertise
- Related domains: digital, data processing, artificial intelligence, cybersecurity...
- 35 entrepreneurs supported each year
- 400 projects supported since the creation of ParisTech Entrepreneurs
- 86.5% of start-ups still exist 5 years after their creation
- Successful stories: Netvibes (2005) / Hellocoton (2008)



THE STRENGTH OF A NETWORK



ParisTech
#Cooperate #Undertake #Share

PARISTECH ALUMNI

130 000

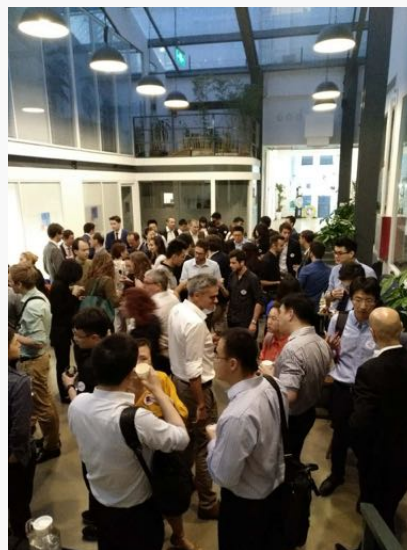
Alumni from
10 ParisTech
Schools

13 Countries having
their own Alumni
group

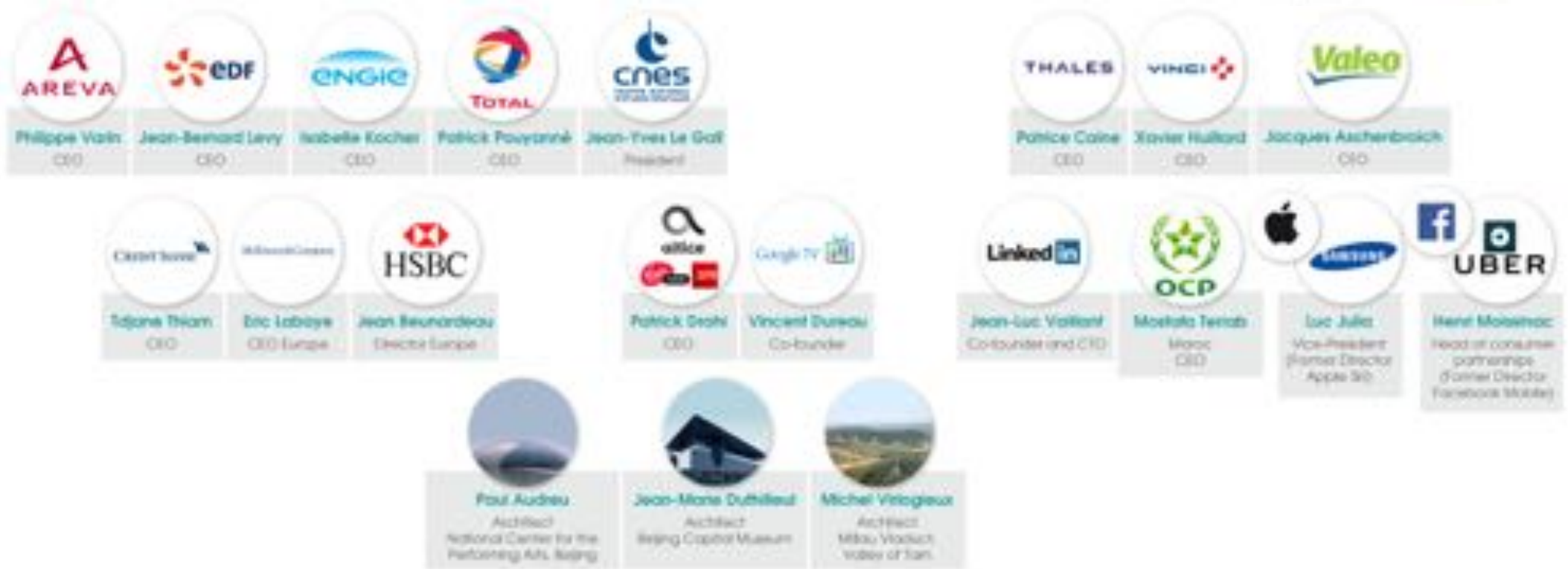
8

Thematic groups
(business, innovation,
energy, finance...)

ParisTech
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PARISTECH ALUMNI - KEY PLAYERS OF THE ECONOMIC WORLD



PARISTECH ALUMNI - SUCCESSFUL START-UPS



400 million+ members – Acquired USD\$26.2 billion by Microsoft



NASDAQ Market Capitalization USD\$2.8 billion



Valued at USD\$1.6 billion



100 million Euros raised



Acquired 50 million Euros by Dassault Systems



Acquired 50 million Euros by Crédit Mutuel



Inventor of the Nao Robot – Acquired by SoftBank



Acquired by Aldebaran Robotics



Ultra-light (4kg) Titanium Seats for Aircrafts



Acquired by Bentley Technologies



Daylighting System with Fiber Optic



Medical Imaging – Inventor of Aixplorer with the capacity of acquiring images 200 times faster than conventional ultrasound system



PARISTECH INTERNATIONAL



ParisTech
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PARISTECH: STRATEGIC PARTNERS

UNIVERSITIES IN SCIENCE AND TECHNOLOGY

45

Partner universities

4

Target geographical
zones: Latin America,
China, Europe, **Russia**

2

Permanent Offices in
China and Brazil

ParisTech's activities at the international scale

- ParisTech Joint Admission Programs in Brazil, China, Colombia, Russia
- Double Degree Agreements
- International University Networks: ATHENS, CESAER
- Sino-French Institutes:
 - China-EU Institute for Clean and Renewable Energy (ICARE)
 - SJTU-ParisTech Elite Institute of Technology (SPEIT)
 - « Chimie Pékin » – Beijing University of Chemical Technology



INTERNATIONAL

30%

International students

50
Nationalities

45

Agreements with
international partner
universities



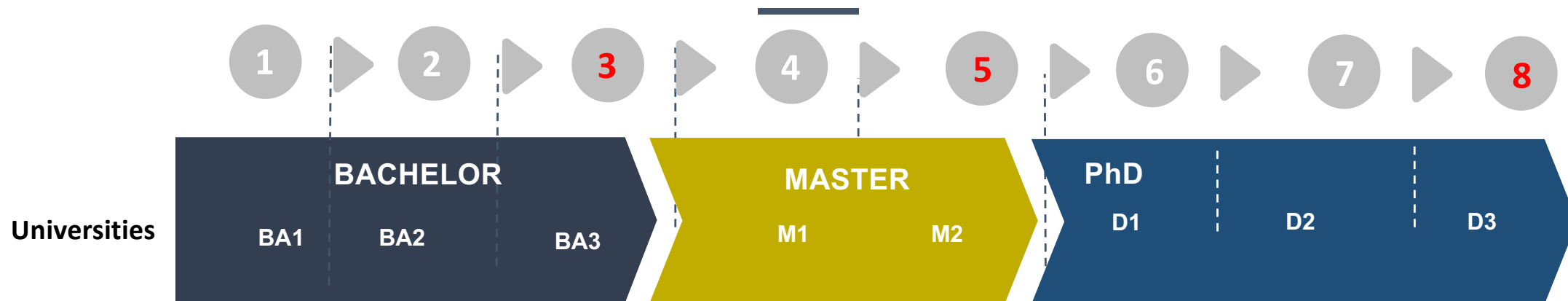


STUDYING AT PARISTECH



ParisTech
#Cooperate #Undertake #Share

FRENCH HIGHER EDUCATION SYSTEM



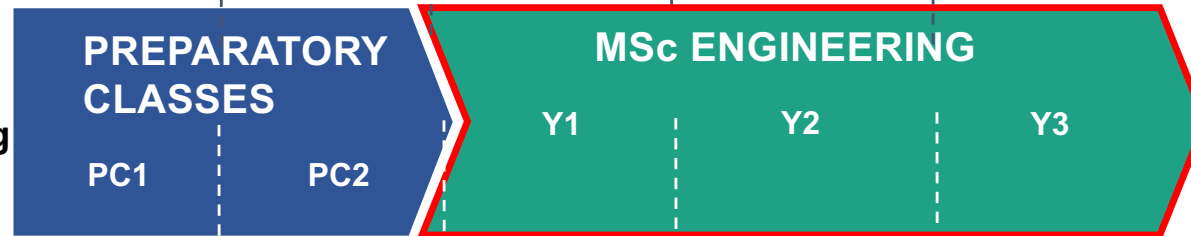
FRENCH HIGHER EDUCATION SYSTEM



European
Universities
No selection



Schools of
Engineering



*Acceptance rate of
Preparatory Classes from
high school = Top 5%*

*Acceptance rate of
ParisTech Schools from preparatory
classes = Top 0.5%*

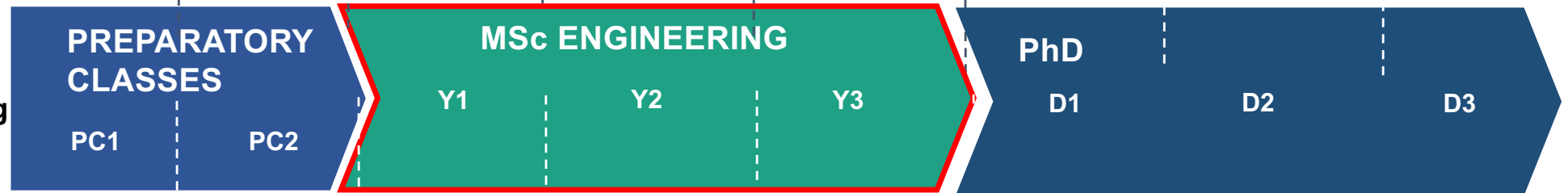
FRENCH HIGHER EDUCATION SYSTEM



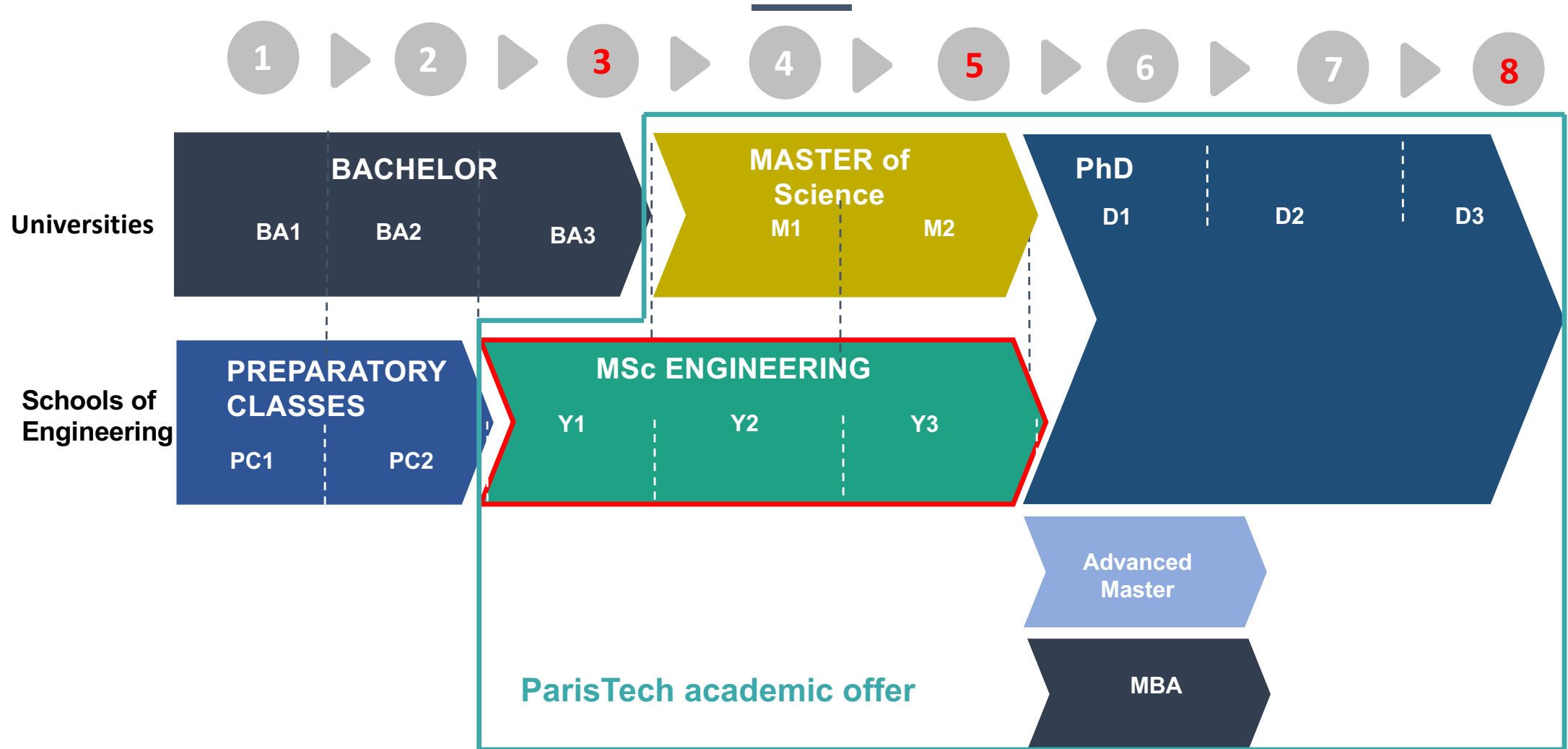
European
Universities



Schools of
Engineering

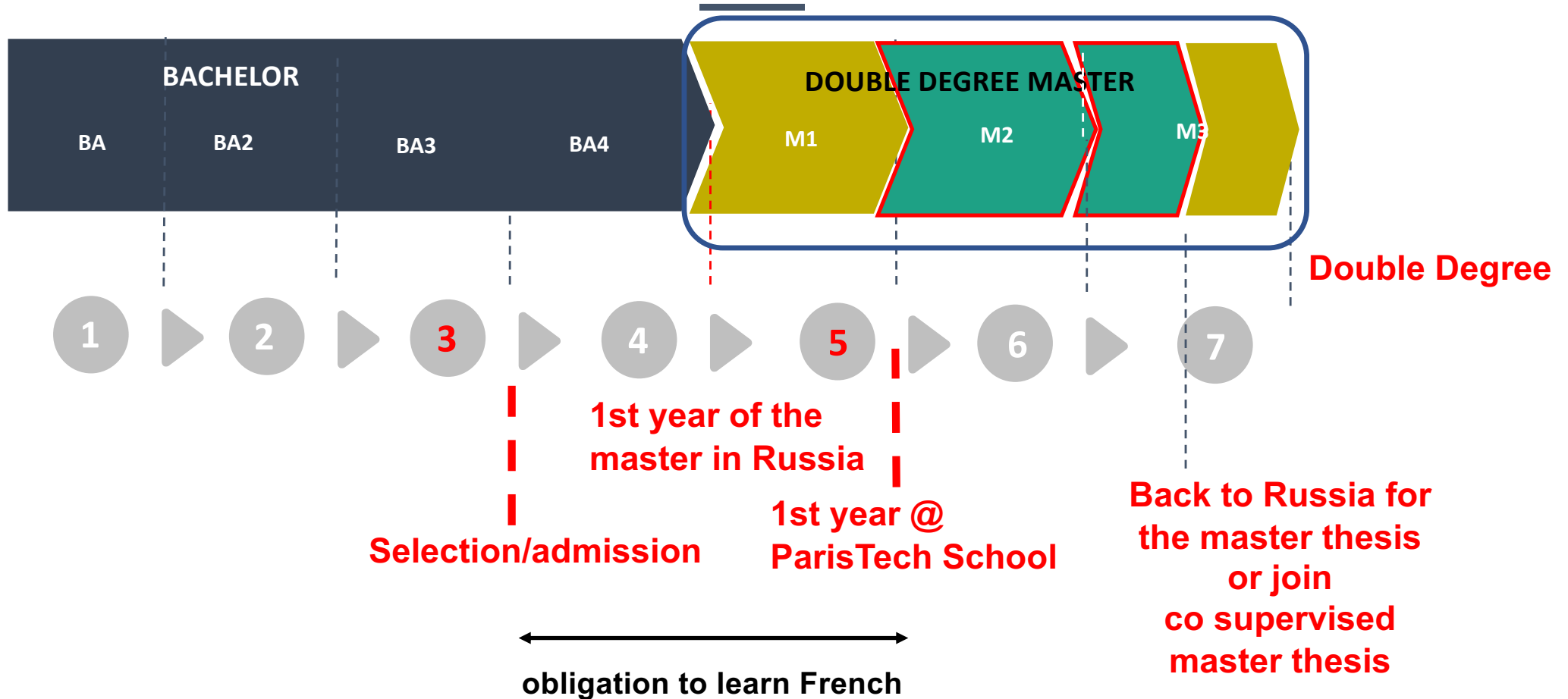


FRENCH HIGHER EDUCATION SYSTEM



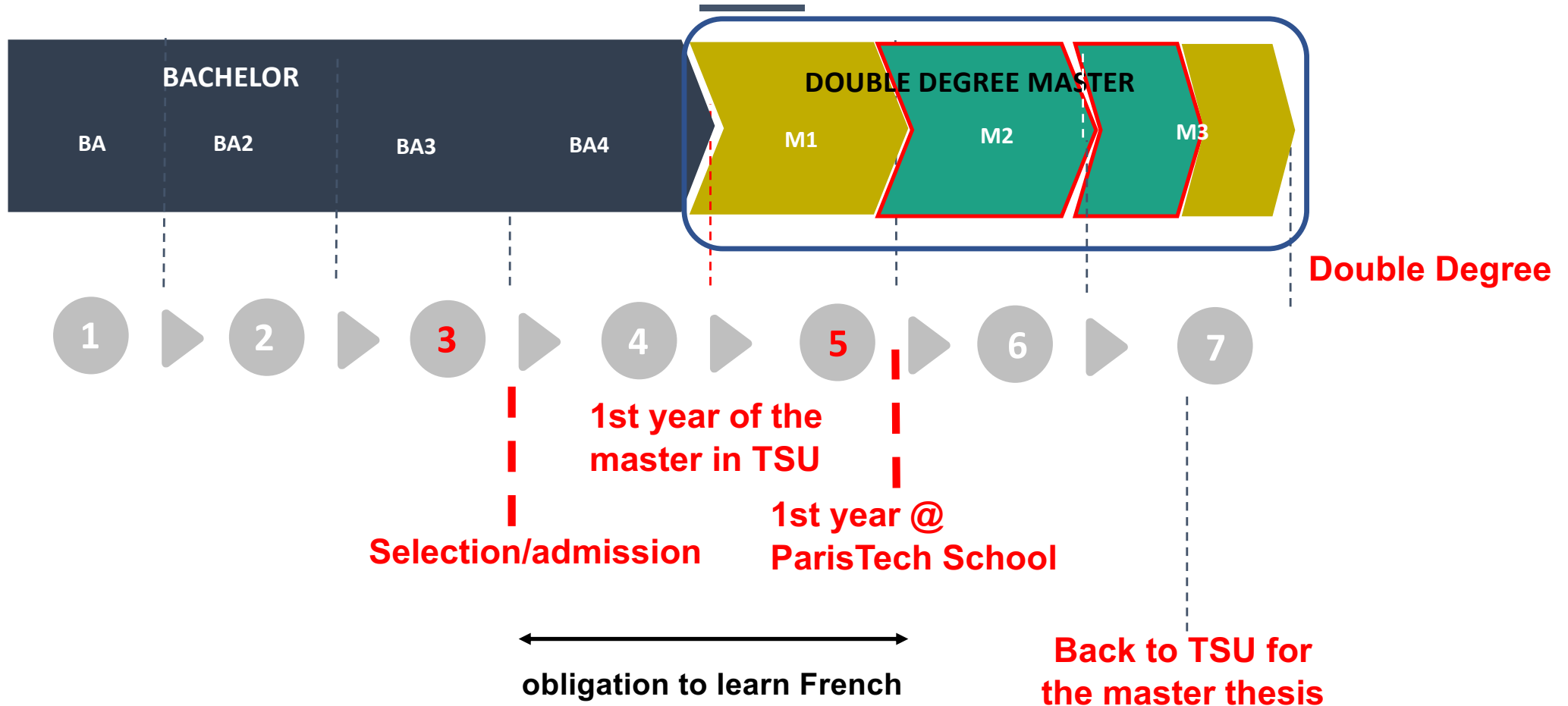
Our Double Degree Program

Master of Science from Russian University & MSc in Engineering from ParisTech



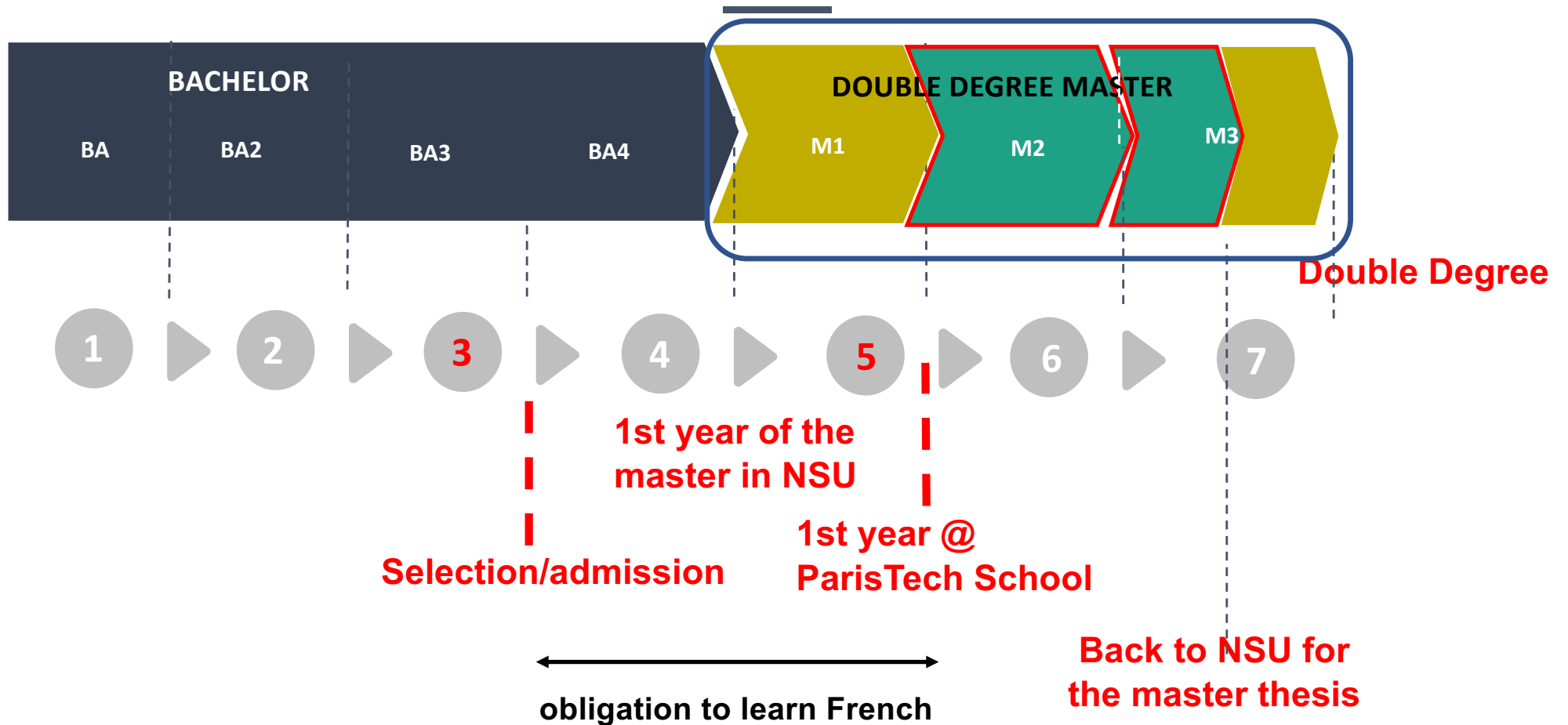
Our Double Degree Program

Master of Science from TSU & MSc in Engineering from ParisTech



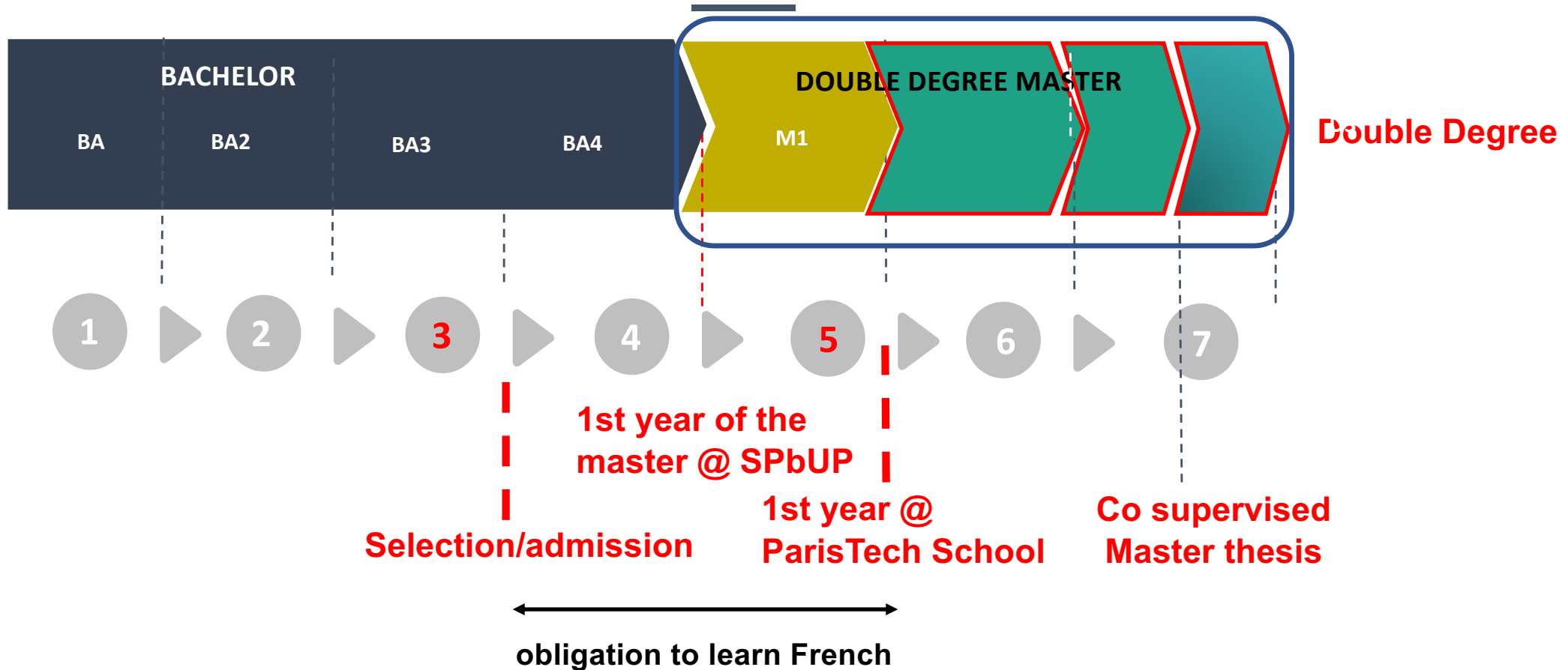
Our Double Degree Program

Master of Science from NSU & MSc in Engineering from ParisTech



Our Double Degree Program

Master of Science from SPbPU & MSc in Engineering from ParisTech



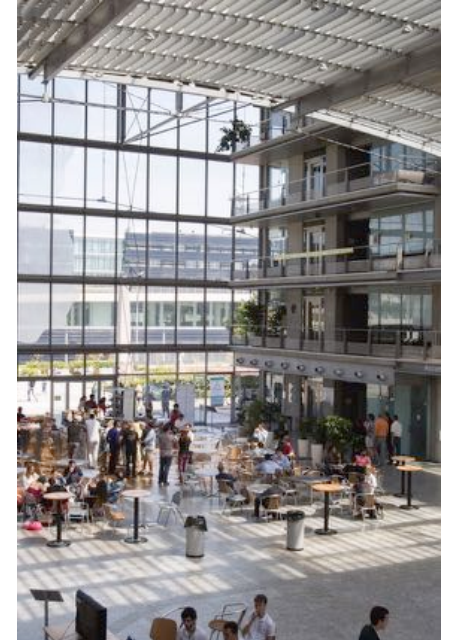
STUDYING AT PARISTECH

INTERNATIONAL STUDENTS SERVICES

- **Accommodations**
 - Most schools have accommodations on their campus
 - Affordable rents: ~ 380 € /month
 - Possibility of accommodation allowance
 - **Average living costs in Paris: ~ 800 € /month**
- **Assistance with visa procedure**
- **Intensive Language Training Programs**
- **Mentoring by senior students & Alumni**
- **Active participation in student activities**



courses are taught in French



STUDYING AT PARISTECH

SCHOLARSHIPS

ParisTech supports French and international student mobility through

- The French government's Eiffel Scholarship
- Scholarships supported by ParisTech schools within the international mobility programs of the CDEFI, such as FITEC Brafitec, Arfitec, Mexfitec...) or CSC (China)
- Scholarships provided by the foundations of ParisTech schools and the ParisTech Foundation



Calendar 2019

Date	Step
1st of June 2019	Opening of on-line applications
25th of September 2019	Deadline for applications
7th of October 2019	Written test @ Novosibirsk for candidates coming from Novosibirsk, Tomsk and other local universities
4th of November 2019	interviews @ Tomsk
5th& 6th of November 2019	interviews @ Novosibirsk
7 November 2019	Written test @ St Petersburg for students coming from St Petersburg and other universities
8 November 2019	interviews @ St Petersburg for students coming from St Petersburg and other universities
22 November 2019	Deadline for choosing ParisTech School
29 November 2019	Final admission meeting for ParisTech

ParisTech

#Cooperate #Undertake #Share

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