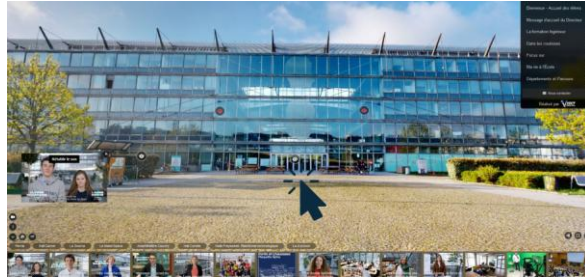




ÉCOLE NATIONALE DES PONTS ET CHAUSSÉES (ENPC)
The graduate school for the Ecological Transition

ENPC in a nutshell



1747
Established



RESEARCH EXCELLENCE

- Economics & social sciences
- Environmental sciences and engineering
- Mechanics and physics of materials and structures
- Mathematics and computer science



14 Industrial research chairs



1500 STUDENTS

85% master level
15% PhD level
31% of women



EDUCATION PROGRAMS

- Civil and Structural Engineering
- City, Environment, Transportation
- Industrial Engineering
- Economics, Management, Finance
- Mechanical Engineering and Materials Science
- Applied Mathematics and Computer Science

GLOBAL REACH

+70 International agreements
40% international students
+20,000 alumni worldwide



A few words about Ecole nationale des ponts et chaussées

What is Ecole nationale des ponts et chaussées ?

- **A School with a long and prestigious history**
 - Creation by 1747 by King Louis XV
 - Nobel prizes and renowned scientists
- **A unique combination of fundamental and applied sciences to transform business and society :**
 - Flexible and interdisciplinary engineering curriculum
 - leading to top level positions in governments or companies
- **A world-class Higher Education and Research Institution**
 - Top 200 worldwide (QS) or top 500 (THE) in 2024
 - Top 20 worldwide in 2024 for HEI < 5 000 students (THE)
 - Top 11 in France en 2023 (L'Etudiant)
- **A public engineering school dedicated to the ecological transition :**
 - Reporting Ministry : Ministry for the Ecological Transition
 - And the Ministry for Higher Education, Research and Innovation.
- **A School with an international outlook**
- **A school with close links with industries**

A long and prestigious history

Among the oldest schools of engineering in Europe

- **1747:** École nationale des ponts et chaussées (ENPC) founded by King Louis XV
- **1851:** First research laboratory
- **1988:** 1st Double Degree agreement with international universities
- **1997:** Relocation in Marne-la-Vallée, Green City Campus
- **2021:** Founding member of EELISA European University
- **2024:** Integration to Institute Polytechnique of Paris



Henri Becquerel
1852-1908
-Physicist-
Nobel prize 1903



Augustin Cauchy
1789-1857
-Mathematician-
One of the founders of modern
analysis



Eugène Freyssinet
1879-1962
-Engineer, entrepreneur-
The father of prestressed
concrete



Louis Ménard
1931-1978
-Engineer-
Developer of the pressiometer



**Claude-Louis-Marie-Henri
Navier**
1785-1836
-Engineer, scientist-
Inventor of general theory of
elasticity



Jean Résal
1854-1919
-Engineer-
Builder of the pont Mirabeau
and pont Alexandre III in Paris



Jean Tirole
1953-...
-Economist-
Nobel prize 2014



Louis Joseph Vicat
1786-1861
-Engineer-
Inventor of concrete

Remarkable works, designed by Ponts Alumni



Viaduc Millau - Michel Virlogeux



Beijing Opera – Paul Andreu



Gardens by the Bay (Singapore)
© Atelier one – passage project



Cristo Redentor
Albert Caquot

Remarkable works, designed by Ponts Alumni

Academic partnerships, and Research cooperation

- Long standing relations with top Universities



ESCOLA
POLITÉCNICA
DA USP



- Brazilian students are #1 international students : 15 / year
- ENPC x EP-USP agreement : 23 years !
- Active community of Alumni in Brazil (250 members)



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Alumni in industry and government



Elisabeth Borne
Ponts 1986

Former Prime Minister,
Minister Research & Education



Benoit de Ruffray
Ponts 1993
CEO Eiffage



Diane D'Arras
Ponts 77
Europe Delegate for
Water, President IWA



Jean-Marc Samuelian
Ponts 2011
CEO Alan / Expliseat



Estelle Brachlianoff
Ponts 1997
CEO Veolia



Mostafa Terrab
Pont 1979
CEO OCP Group



Christelle Heydemann
Ponts 1997
CEO Orange



Fabrice Fourcade
Ponts 1989
Chairman EDF China

EP-USP ENPC double-degree alumni



Gustavo Rodovalho
Boriolo (2015)

**Innovation Project
Manager at Bouygues SA –
Paris - France**



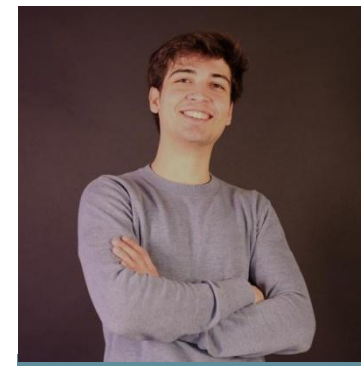
Thais Giorno Dantas
Rabaneda Lopes (2013)

**Sr. Associate
H.I.G. Capital
Sao Paulo**



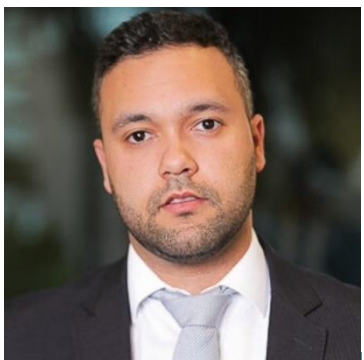
Isabella Ayres Pinheiro
de Lima(2021)

**Infrastructure Private Equity
Patria Investments
Sao Paulo**



Thiago Turri
Tavares(2024)

**Transport Analyst,
ALG
Sao Paulo**



Américo da Silva Junior
(2016)

**Investment Banking
Vice President
BNP Paribas CIB
Paris- France**



Stéphanie
Maalouf(2023)

**Solar Techno Manager
AKUO Energy
Paris - France**

Students enrolled in Sept.2024

Caio Soares Azeredo	Civil engineering
Leonardo Castro Moreira	Industrial engineering
Larissa Zan-Schossler	Environment

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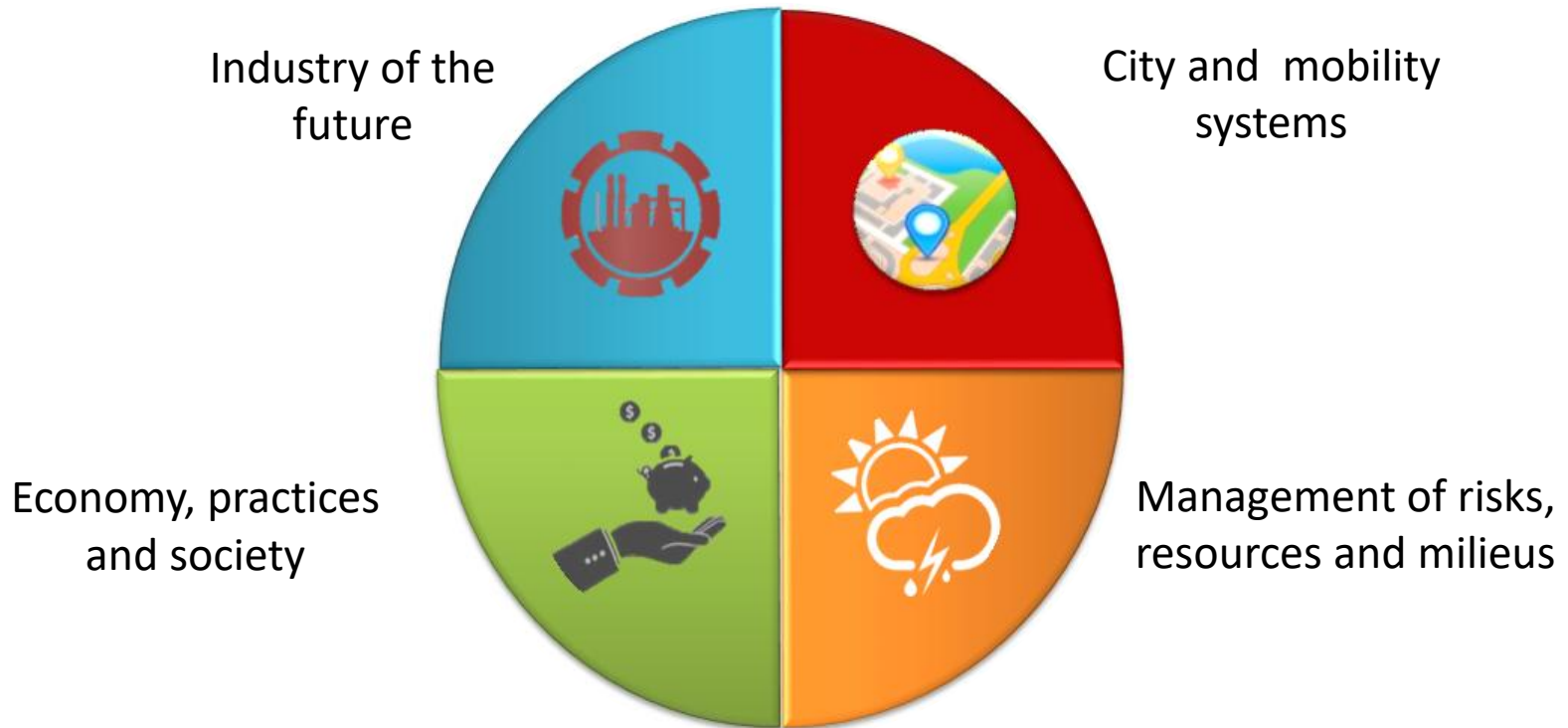
The School of the Ecological Transition

- Governing Ministry's name : from **Sustainable Development** (2007-2017) to **Ecological Transition** (after 2017)
- A history of **combining engineering and social sciences** for effective, relevant and appropriate technologies
- 12 Research centers covering 11/17 **Sustainable Development Goals** (United Nations)
- **10/14 industrial chairs** addressing the ecological transition: **3** in sustainable development, **2** in environment, **5** in sustainable transport and mobility
- Programs focusing on **sustainability and transition**
- One « European Research Institute » : ***Energy for Climate***
- **Develop'Ponts** : the student union committed to sustainable development, solidarity actions, **inclusion for the society and the environment**

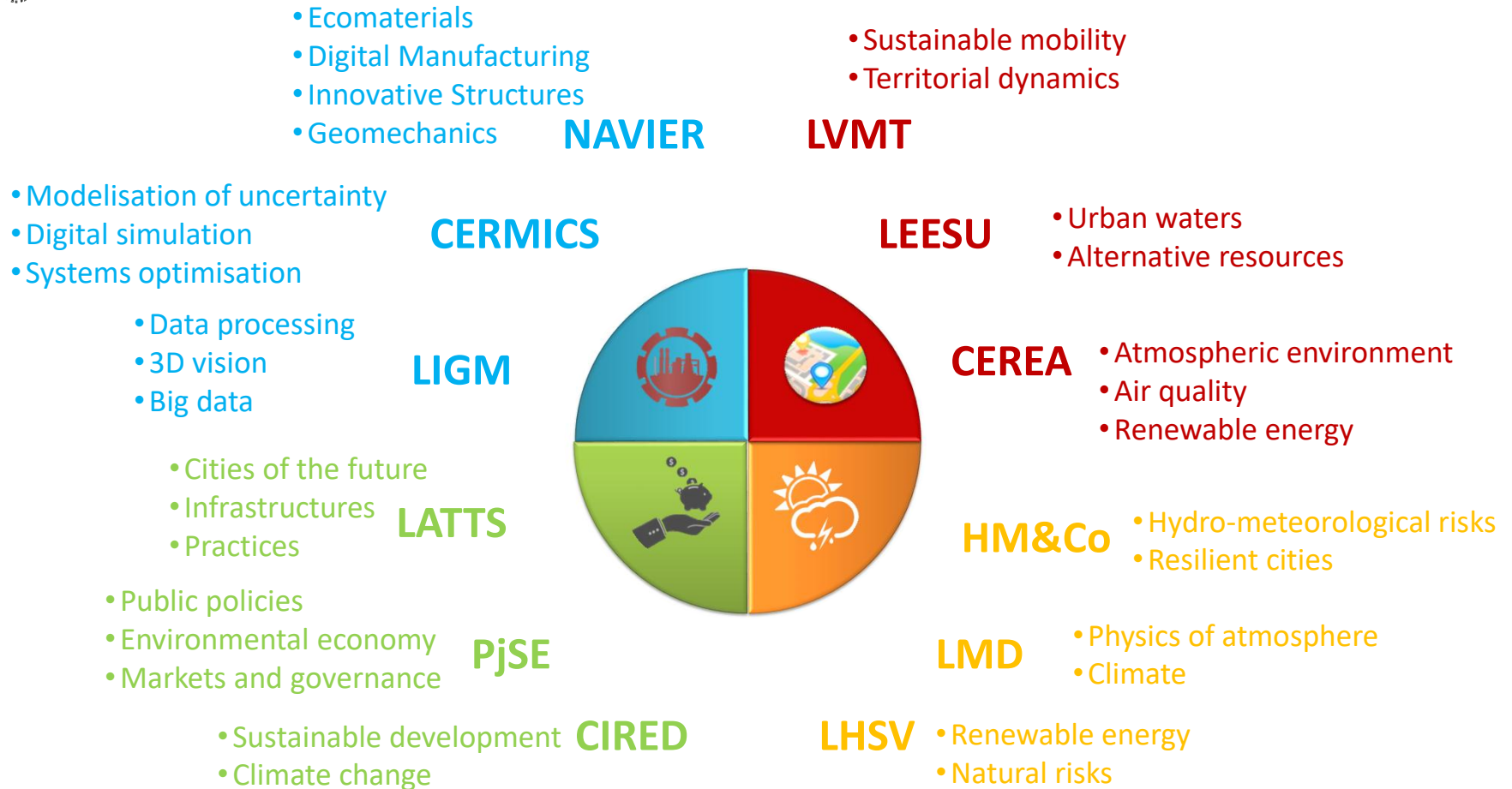


The Research at ENPC – 4 issues

A challenge-based approach to address **4 socio-economic issues of sustainable development**



The Research at ENPC – 12 labs



More information on : <https://ecoledesponts.fr/en/laboratories>

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International partnerships

71 partner universities IN 35 countries ON 4 continents 47 double-degree agreements with universities IN 25 countries

1 European University



Europe:
39 partner universities
19 double-degrees
20 Erasmus exchange agreement



Asia:
9 partner universities
8 double-degree
1 exchange agreement



東京大学
The University of Tokyo



Americas
16 partner universities
13 double-degree
3 exchange agreements



4 Global initiatives

Programme de Formation d'Ingénieurs d'Excellence - PFIEV (Vietnam)
Co-Innovation Center (Tongji, Shanghai)
Joint Education and Research Center (UM6P, Maroc)
Capacity Building Program funded by the WorldBank (INP-HB, Côte d'Ivoire)

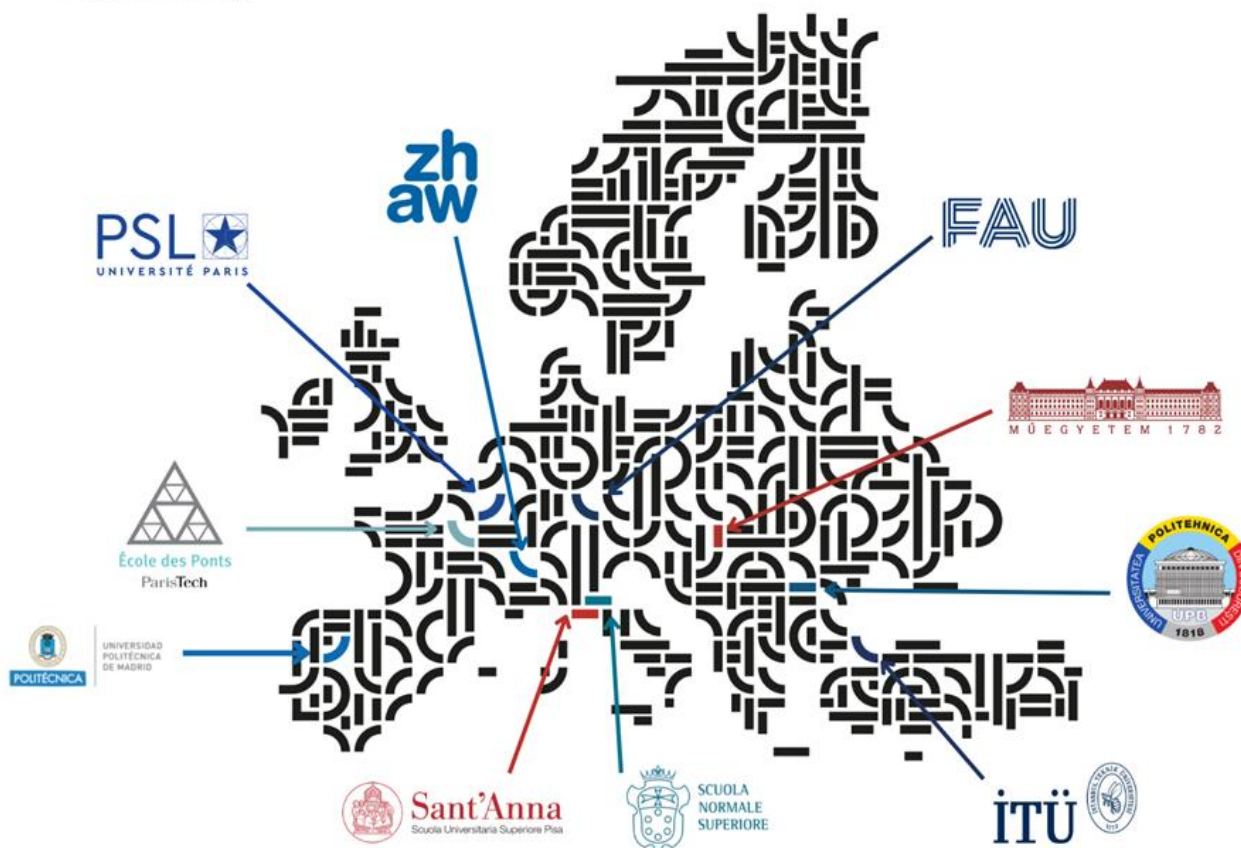
Africa / Middle-East:
9 partner universities
6 double-degrees
2 exchange agreements



Example of international cooperation : *The European Engineer, for Sustainable Development Goals*

European University

Building Bridges, Bridging Boundaries



DIGITAL TWINS
infrastructures & cities

Co-funded by



In Association with



208.000
Students

21.035
Academics

12,981
Administrative staff



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Close links with industry

Teachers
Projects
Internships
Lectures
Chairs
...



Transportation
Environment
Urban services



Consulting



Energy



Construction



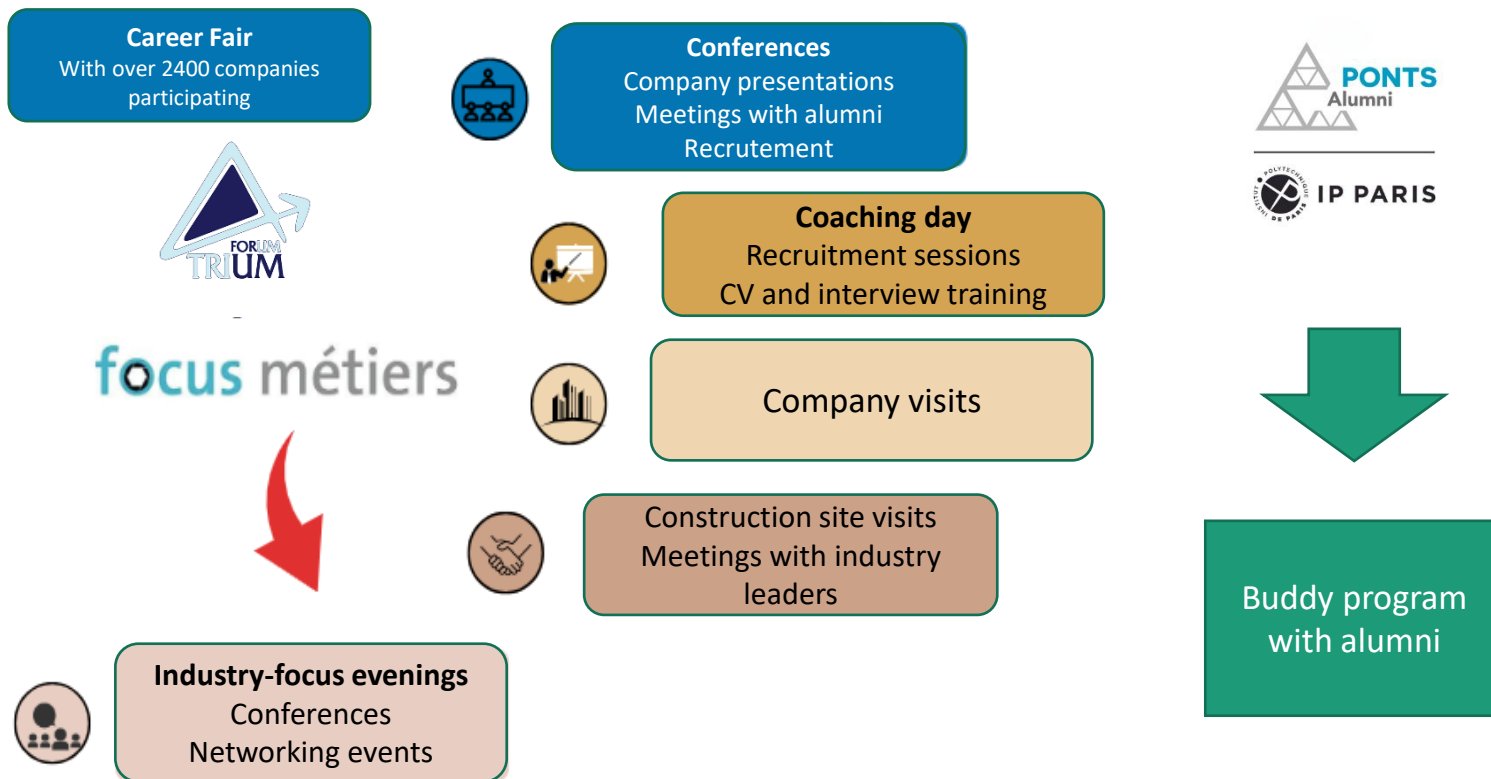
Industry



Finance

Career Events : discover, choose, create your path

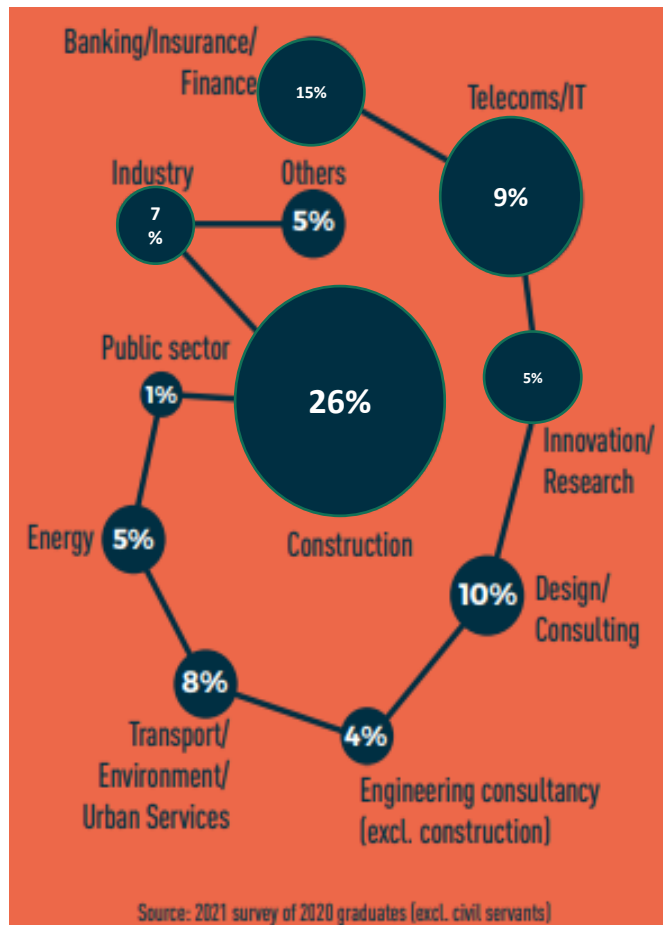
42% of students find a job during their master thesis at industry



Careers and placement

AVERAGE SALARY
IN FIRST JOB

€ 48 000 | 57 000 € with bonuses



80% of
engineering
students are
hired before
graduation

The Co-Innovation Lab

Collaborative platforms improving transfer to industry



Fresnel : multi-scale observation and modelling platform for resilient cities
X-band dual polarisation weather radar, lidars, disdrometer...

Build'In : building systems and artificial intelligence, materials and structures optimisation, industrial processes
Robotic hall, large-scale additive manufacturing unit, concrete and composite materials modelling
...

Mμ : urban mobility modelling, new behaviors, infrastructures and urban planning, impact of public policies
Softwares, traffic simulators...

Maker space | d.school



Makerspace

- 3D Printing,
- Laser cut
- 4 poles (ceramic, wood, steel, water, electronics)

d.School Paris

Design Thinking as
an approach to
innovation and its
management

56 CORPORATE
PARTNERS

74 PROFESSIONAL
PROJECTS

100 ALUMNI
EXPERTS



Library, Heritage and Publishing.

La Source, Learning Center

- 250 seats
- 200 000 documents
- Open 71 hours/week

Scientific information services for researchers

- 25 000 scientific publications
- HAL ENPC Open Science Plan (65% publications in open access)

Archives

- Exceptional heritage
- Ancient manuscripts and maps since the 18th century.



Presse des Ponts

- 220 books and scientific and technical software applications primarily in the fields of civil and structural engineering, and spatial planning

1. Engineering degree programme at Ecole nationale des ponts et chaussées

Our MSc in Engineering (« Diplôme d'ingénieur »)

← NATIONAL STUDENTS ONLY →



Competitive examination

Option 1

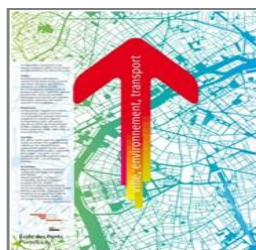


Or

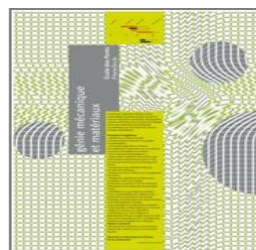
Option 2



Civil and Structural
Engineering



City, Environment,
Transportation



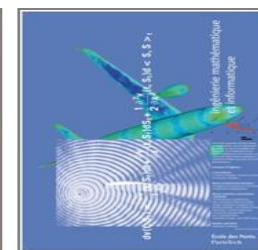
Mechanical Engineering
and Materials Science



Industrial Engineering



Applied Mathematics
and Computer Science

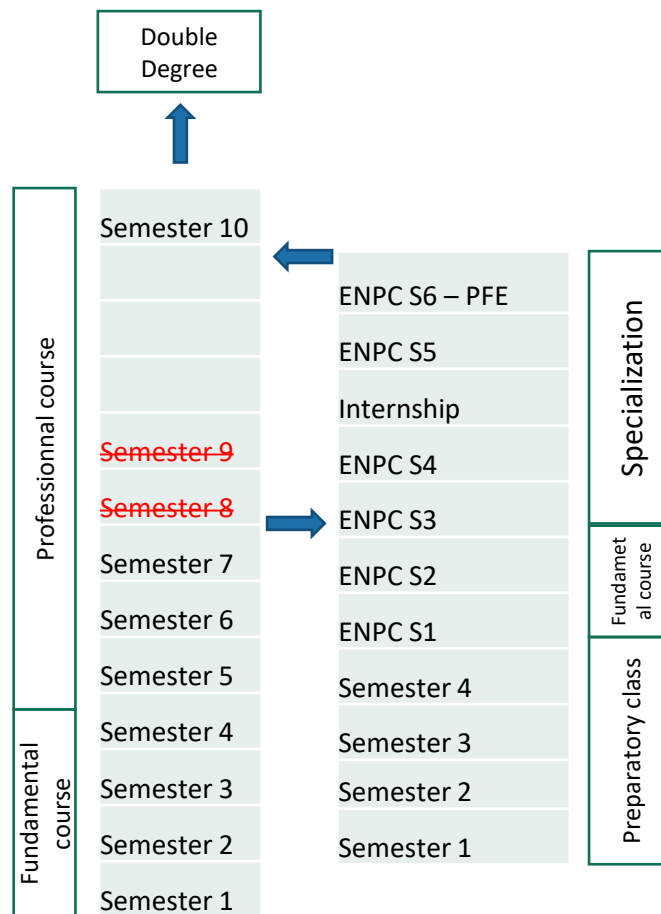


Economics,
Management, Finance

Your engineering degree at ENPC

- ❑ 2 year studies leading to the MSc in Engineering (Diplôme d'Ingénieur)
 - *Year 1 (Senior Bachelor level) : common core – transition year*
 - Years 2 & 3 (Master level) :
 - ✓ Fundamental core courses : management, statistics & data analysis, law, language, sport ...
 - ✓ Specialization in one of four academic departments
 - ✓ Choice of tracks in each department
 - ✓ Mix of mandatory courses and elective courses which can be chosen in another department
 - ✓ 5 opening weeks including a 1 week study trip
 - ✓ Year 3 : possibility to choose research-oriented courses in partner programs
- ❑ 27 week internship as a minimum
 - *End of Y1 : 4 weeks minimum*
 - Between Y2 & Y3 : short internship (10 weeks mini) or long internship (43 weeks mini) **90% of students take the long internship > fast access to employment**
 - Y3 – Semester 2 : End-of-study project (17 weeks minimum)

Double-degree curriculum for Brazilian students



At Ecole des Ponts :

120 ECTS to get the Ecole des Ponts diploma, composed by :

74 ECTS : scientific courses

12 ECTS : language

1 ECTS : sport

2,5 ECTS : internship

0,5 ECTS : professional orientation

30 ECTS : end-of-study project (PFE)

- Within academic departments :

Common courses : management, statistics, law, human sciences

Compulsory courses of the department

Elective courses of the department

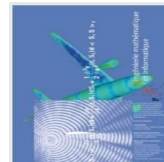
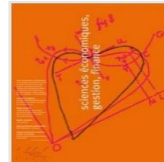
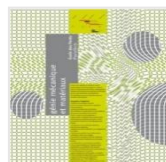
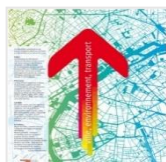
Opening weeks

- B2 in French and English compulsory for graduation

Academics: Departments of studies

- **Civil and Structural Engineering**
Complex projects, site work organisation, innovation of new materials and construction technologies
- **Industrial Engineering:**
Innovation and supply chain
- **City, Environment, Transportation**
Planification of complex urban systems and operation of urban services (transportation, water,...)
- **Mechanical Engineering and Material Science:**
Research and design of new products and materials in the fields of energy or transportation
- **Economics, Management, Finance:**
Financial engineers : financial engineering, project finance, public/private partnerships
Economist engineers : urban, environment, transportation, construction and economic regulation
- **Applied Mathematics and Computer Science:**
Modelisation of complex systems ; analysis of financial, industrial or natural risks ; challenges presented by big data and artificial intelligence

More information : <https://ecoledesponts.fr/en/academic-departments>



Civil and Structural Engineering

Check the course list and the scientific pre-requisites :
<https://ecoledesponts.fr/en/civil-and-structural-engineering>

Fundamentals of the programme

- Theoretical bases of **mechanics** and **dynamics**, applied to structures, soils and fluids
- In-depth teaching in **geotechnics, structures or energy issues**, mixing theoretical courses and projects
- **2 long projects** : building, bridge, port, road or dam ;
- **Several specific courses** covering all the aspects of civil engineering and construction to be chosen among a large variety of courses : advanced dynamics, physics of fire, special-risk structures, steel construction, wooden construction, management of construction projects ...
- **Department trip** : introduction to geology and construction materials
- Joint tracks with our City Environment Transportation department
 - Transport and infrastructure
 - Urban planning and infrastructure
- Close links with **Navier**, in charge of several industrial chairs :
 - Maintenance of Road structures (Sanef Abertis)
 - Sciences for rail transportation (Getlink)
 - Science of Materials for Sustainable Construction (Lafarge Holcim)

Job opportunities

Construction

Public works

Structures

Geotechnics

Structures for Energy

Marine Engineering



City Environment Transportation

Check the course list and the scientific pre-requisites :
<https://ecoledesponts.fr/en/city-environment-transportation>

OBJECTIVES AND STRENGTHS OF THE PROGRAMME

- Training engineers capable of **designing and carrying out the challenges that cities face, in relation with climate change** : optimization of current solutions, development of new infrastructures compatible with the transition and massification of the most efficient solutions
- Application of **strong skills in mathematics and modeling to the main challenges faced by cities**
- Programme focusing on **field work** on issues like : land artificialisation, housing, transport engineering hydrology
- **Strong links with laboratories** (LEESU, LVMT, LHSV, HM&CO, LATTS ...) on topics like :
 - Water management in urban areas - Renewable energy
 - Sustainable mobility - Resilient cities

3 tracks :

- **Urban planning** : territorial analysis, economics, city and regional planning ...
- **Environment** : hydrology, energy, environmental risks, air quality ...
- **Transportation** : transportation systems, traffic engineering, economics, ...

Job opportunities :

- **Great variety of positions in public and private sector :**
 - Infrastructure operators : roads & highway, waste management, water ...
 - Consultancy in environment, transportation & urban planning
 - Government or local authorities
 - Research



Mechanical Engineering and Materials Science

Check the course list and the scientific pre-requisites :
<https://ecoledesponts.fr/en/mechanical-engineering-and-materials-science>

OBJECTIVES AND STRENGTHS OF THE PROGRAMME

- Solid command of concepts and tools of **materials mechanics**
- Pedagogical approach giving priority to **workgroup** and **learning through action**
- Close links with the industry : Chair **Sustainability of Materials and Structures for Energy** (EDF), close contacts with engineers, ...
- Close links with the **Research**

2 tracks in 2A :

- Design of Industrial systems track
- Modeling track

Job opportunities :

- **Research, development and design of new materials**
- **Product manager or Manager of industrial programme**
 - Example : Manager of a programme aimed at developing a new vehicle



Industrial Engineering

Check the course list and the scientific pre-requisites :
<https://ecoledesponts.fr/en/industrial-engineering>

OBJECTIVES AND STRENGTHS OF THE PROGRAMME

- Training engineers and future managers capable of **designing new industrial models and supporting the industry mutations** : ecological and digital transformation, new technologies (Big data, IA, IoT, additive fabrication ...), increased competition ...
- **Close links with companies** : Chair in **Supply Chain** (Louis Vuitton, Michelin, Renault, Decathlon), company projects ...
- Programme focusing on the **design, improvement and optimization of complex industrial systems** with an emphasis set on :
 - Planning and modeling of production systems
 - Tools for modeling and simulation
 - Software development
 - Operative research
 - Design thinking
 - Supply Chain Mgt

2 tracks in 2A :

- Engineering of **Design and Innovation**
- Engineering of **Operations and Optimization**

Job opportunities :

- **Great variety of positions :**
 - Supply chain manager
 - Production manager
 - Expert in operative research
- **Many economic sectors** : luxury, automotive, aviation, cosmetics, energy, telecommunication, agri-business, construction, + Consulting

Product manager (in design)
Data analyst
Manager of a BU



An entrepreneurial ecosystem for students

- Entrepreneurship courses
- 2 incubators (Descartes, Station F), 1 accelerator
- Annual Hackathon: « One night to innovate »
- Access to research equipment and mentorship
- Special awards, and seed-funds from Fondation des Ponts



Successful start-ups



Daylight system
with fiber optic



Roof mounted
small wind turbine



From 2D to 3D
BOULETS 3D
sculpture numérique

Campus Cité Descartes Greater Paris green cluster



- 20' from Paris center (direct urban train)
- Housing (on campus or in Paris center)
- French classes throughout your path at ENPC
- Buddy program with alumni
- Sport facilities
- Vibrant campus life : near to 40 student societies
- International students welcome desk with « Feel Français »



Financial and practical issues

- Registration fees for international students : 4 800€/year (2025-2026)
- + CVEC (Governmental tax) : 103 €/year (2025-2026)
- Total registration fees for your engineering degree : 9 600€ if you opt for the short internship
10 540€ if you opt for long internship
- Living cost in/near Paris : **800€/month**
For more information : <https://www.campusfrance.org/es/preparar-presupuesto-estudiante-Francia>

- **Scholarships :**
 - Eiffel Excellence scholarship
 - Fondation des Ponts
 - Meridiam scholarship (investment corporate partner)
 - Need-based scholarship on social criteria, granted by ENPC

Net allowance during your internship and your final year project :

- In public sector (including research centers) : ~600€/month
- at industry and private sector : 1400-1600€/month

Living costs :

- **Accommodation :** offered in a student's residence 2' away from the school :
 - Individual or shared housing
 - 400 to 650 €/months, minus 150 € Government allowance
 - Housing is guaranteed for your first year at ENPC.
- **Support by an experienced partner for administrative procedures :**
 - Visa and renewal
 - Registration to the French Social Security Scheme
 - Insurances, bank account, transportation card ...

Application and selection process

European Autumn session

Phase	Nomination by EP-USP	Application online	Remote Interview	ENPC Admission Jury	Deadline for sending certificates	Beginning of the academic year
Deadline	Early September	September 30th	Mid-October	Mid- November	Early June	Last week of August
Criteria	GPA Ranking by class Statement of purpose Letters of recommendation	https://crm.enpc.fr/community/enpc/custom_forms/184	30mn Motivations	Academic excellence Clarity of the project Recommendation letters Interview Maximum 6 students Maximum 4/departement	A2 in French (B1 for VET Urban planning track) TOEIC 785	Assessment of language level, and upgrading courses in mechanics (in September)

European Spring session : for non degree exchange students only (2 semesters of coursework)

Phase	Nomination by EP-USP	Application online	Remote Interview	ENPC Admission Jury	Beginning of the academic year
Deadline	Mid March	March 31st	Mid-April	Early May	Last week of August
Criteria	GPA Ranking by class Statement of purpose Letters of recommendation	https://crm.enpc.fr/community/enpc/custom_forms/184	30mn Motivations	Academic excellence Clarity of the project Recommendation letters Interview Maximum 3 students	Assessment of language level,

Alumni endowment and support



- 20 000 alumni worldwide, holding leadership positions in 100 countries
- 14 international groups
- Bespoke mentoring for international students over their stay in France
- Support for careers and internships



Fondation des Ponts

- Special scholarships program for international students
- Corporate Scholarship (Meridiam)
- Excellence awards
- A powerful network of donors

Contacts @ ENPC :

- **Marie-Christine BERT**, Director of International Relations
marie-christine.bert@enpc.fr
- **Emmanuel SIMANTOV**, Head of International Mobility
Emmanuel.simantov@enpc.fr

www.ecoledesponts.fr/en

MAY 2025



L'ÉCOLE NATIONALE DES PONTS ET CHAUSSÉES
Building the worlds of tomorrow

www.enpc.fr/en