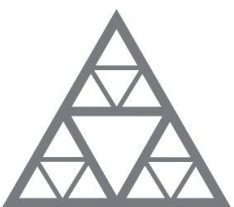




TO BUILD
THE WORLDS OF TOMORROW

**L'ÉCOLE
EN CHIFFRES**



École des Ponts

ParisTech

WORD FROM DIRECTOR



SOPHIE MOUGARD
• School Director
• ParisTech Bridges

Present in the best national and international rankings in which it progresses each year, École des Ponts ParisTech has an undisputed national and international reputation.

The quality of its multidisciplinary teaching with innovative pedagogies is based on the excellence of its research and its close links with the business world.

If civil engineering, environmental engineering and mechanical engineering have historically made its prestige, the École des Ponts ParisTech today offers training of excellence in various fields, ranging from applied mathematics to economics, through industrial engineering.

École des Ponts ParisTech thus trains high-potential engineers and future high-level executives with a scientific and technical profile, called upon to meet the major challenges of today's and tomorrow's society, more particularly those of transition. ecological.

The School in figures invites you to a synthetic discovery of our institution in its richness and diversity, around its three main missions: training, research and the dissemination of knowledge.

THE TEACHING STAFF

369

responsible teachers
modules

98

professors at the National School
of Bridges and Roads,
7 assistant professors
and 82 lecturers

1 223

temporary teachers

STUDENTS

33%
of women

1 900

students

students
in masters
and training
specialized

350

registered
Training
post-concours
of architect
urban planner
of the State (AUE)

15

Training
engineer

939

doctoral students
registered at the School

178

169

en masters et
master of science
including 75 doubles
class

324

in MBA



RESEARCHERS*

465

researchers
and teacher-researchers

633

doctoral students
and post-docs

968

publications
(WoS or Scopus)



47 %

with a foreign partner

9,9 M€

partnership research

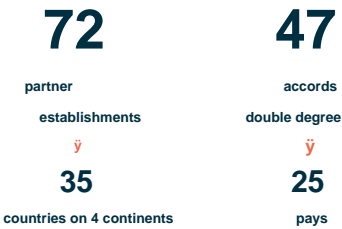


52 %

directly with companies

Scope: School laboratories

INTERNATIONAL RELATIONS



EUROPE



ASIA



AMERICAS



AFRICA AND MIDDLE EAST



SCHOOL IN NATIONAL RANKINGS AND INTERNATIONAL

QS World University Rankings by subject 2021 : l'École gagne 8 places

The results of the 2021 edition confirmed the progress of the School, which gained 8 places and entered the top 250 for the first time, ranking 242 worldwide (6th establishment for France). The School becomes the 1st French institution in terms of hosting international students and is placed 32nd in the world on this criterion. This ranking references 1,000 institutions in 85 countries.

THE (Times Higher Education) Ranking 2021

The School is present in 4 categories (Computer Science: rank 151-175 / Engineering: rank 301-400 / Physical sciences: rank 126-150 / Social Sciences: rank 176-200). These results thus confirm its notoriety in a wide field of scientific themes. In total, more than 1,250 establishments appear in this list.

The School, 4th in the 2021 ranking of engineering schools of excellence by Figaro Étudiant

Le Figaro Étudiant has published a new 2021 ranking of the best engineering schools in France, as well as rankings by specialty. The School is in 4th place in the 2021 ranking of engineering schools of excellence with a score of 18.1/20.

The School, 4th in the L'Usine Nouvelle ranking

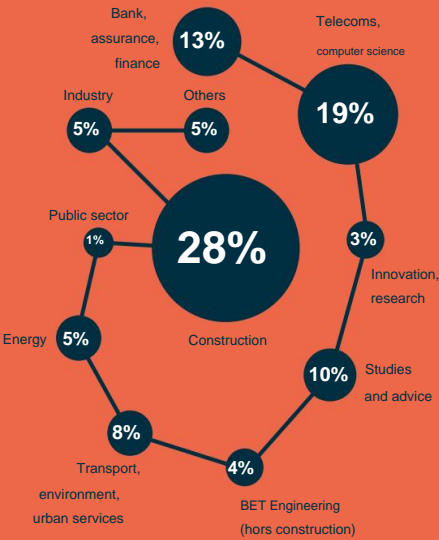
The School ranks 4th overall. In 2021, it progressed in the "International" criteria, from 12th to 3rd place, and "Student integration", from 12th to 10th place. 130 establishments were assessed.



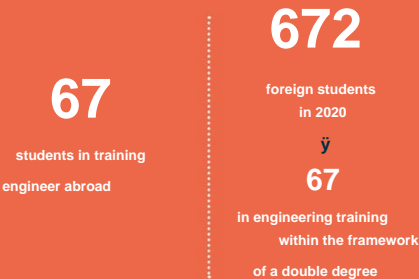
DIPLOMAS ISSUED IN 2020



OUTLETS



Source: 2021 survey of the class of 2020 (excluding civil servants)



AVERAGE SALARY FIRST JOB



THE FORMATION

ENGINEERING TRAINING

THE FIRST YEAR

- **Consolidation** of scientific knowledge and openness, projects (research and department)
- **Immersion** course: schooling ends with 4 weeks in business (workstation)

LE CYCLE MASTER

2nd year

Choosing a department for a specialization:

- Génie civil et construction
- City, environment, transport
- Mechanical and materials engineering
- Industrial Engineering
- Economics, management, finance
- Mathematical and computer engineering

2nd year internship :

Between the 2nd and 3rd year, 80% of the promotion completes an optional long internship (1 year), including more than 30% abroad. The other students do a short internship in a company or laboratory (3 months), of which 20% abroad.

3rd year

End-of-study project (PFE):

For at least 4 months, students apply the skills acquired during their schooling around a scientific or technical problem, in business or in the laboratory, individually or collectively (Multidisciplinary Engineering Project).

THE MASTERS

MASTER INTERNATIONAL

- Master International en Empresa y Políticas Públicas (MIEPP) - establishment diploma

MASTERS

Mention Mathematics and applications delivered in its own right by the Ecole des Ponts ParisTech

5 courses:

- Probabilities and random models (PMA)
- Mathematics of finance and data (MFD)
- Mathematics, vision, learning (MVA)
- Modélisation, analyse, simulation (MAS)
- Operational Research (OR)

Self-delivered energy mention by the Ecole des Ponts ParisTech

2 routes:

- Nuclear decommissioning and waste management (Decommissioning and Waste Management - DWM)
- Energy transition and territories (TET)

Mechanical Mention (co-accreditation with UMPIC Sorbonne University)

2 routes:

- Multi-scale analysis for materials and structures (AMMS)
- Durability of materials and structures (DMS)

Mention Civil Engineering (co-accreditation with the University Gustave Eiffel)

1 route:

- Mechanics of soils, rocks and structures in their environment (MSROE)

Materials Science and Engineering (co-accreditation with Gustave Eiffel University and UPEC)

1 course:

- Materials science for sustainable construction (SMCD)

Mention Transport, mobility, networks (co-accreditation with Gustave Eiffel University, UPEC, Institut Polytechnique de Paris and Université Paris Sciences and Letters)

2 courses:

- Transportation, mobility (TM)
- Transport and sustainable development (TraDD)

Specialization in Environmental, Energy and Transport Economics (co-accreditation with the University of Paris-Saclay, the University of Paris Ouest Nanterre La Défense, the Institut Polytechnique de Paris and EHESS)

3 routes:

- Environmental Economics (EEET)
- Energy saving (EEET)
- Modélisation prospective (EEET)

Mention Applied Economics (co-accreditation with the University of Paris Sciences and Letters and the EHESS)

1 route:

- Public Policy and Development (PPD)

Mention City and urban environments (co-accreditation with Gustave Eiffel University and Cergy Paris University)

1 course:

- Management and engineering of environmental services (MISE)

Mention Analysis and economic policy (co-accreditation with the University of Paris 1 Panthéon Sorbonne, the University of Paris Sciences and Letters and the EHESS)

MASTER OF SCIENCE

- Economic Decision and Cost Benefit Analysis (EDCBA)

INNOVATION AND DESIGN DEPARTMENT (D.SCHOOL PARIS)

4 main objectives:

- Train engineering students in approaches and methods of innovation through uses and design (design thinking, co-design, user-centric design, etc.)
- Being a resource space to equip innovation approaches by supporting students, researchers, administrative staff
- Encourage fruitful meetings and collaborations around the themes of uses, design and ecological transition
- Train and support companies in understanding the universe and culture of design thinking through interactive and personalized workshops



D.SCHOOL PARIS KEY FIGURES

10	56	74
years	partners	projects
of experience	industrial	led

THE FORMATION CONTINUES

Ecole des Ponts Business School

The business school, accredited by the Association of MBAs, has existed since 1987. It offers innovative and transformative programs, both in terms of their philosophy and their pedagogical approach:

- Executive Doctorate of Business Administration (Paris)
- DBA in Intelligent Manufacturing Management (Shanghai)
- LeadTech Global Executive MBA (Paris and Barcelona, Franco-Spanish diploma)
- Global Executive MBA (Casablanca)
- FTFT Executive MBA (Beijing, Franco-Chinese diploma)
- Aviation and Aeronautics Executive MBA (Beijing, Franco-Chinese diploma)

Ponts Formation Conseil is the leading continuing education organization for engineering schools

+350 sessions of training offered in France	9 certificates (diploma from the Ecole des Ponts ParisTech)	5 study days
75 specific training operations at the request of companies or public authorities, French and foreign	3,314 participants (engineers and executives)	1 410 speakers (experts and professionals)
	52% of trainees from companies in the competitive sector	48% public sector interns

Institute for Advanced Studies in Development and Regional Planning in Europe

IHEDATE's annual training cycle is supported by the State (National Agency for Territorial Cohesion, ministries), the Banques des Territoires-Caisse des Dépôts des Associations de Territorial Collectivités (AdCF, Urban France, Regions of France, GART), CEREMA, the City of Paris, private and public companies (Auchan Ceetrus, Colas, ENEDIS, EDF, Groupe La Poste, SNCF Réseau, Bouygues, RTE, SMABTP) and by professional bodies (ASFA, FNTF, Routes of France, UIMM).

THE PROGRAMS
“SPECIALIZED MASTERS®”

FULL-TIME

- Urban planning and project management
- Urban engineering and information technology (UrbanTIC) with EIVP
- European civil engineering
- Civil engineering of major energy works with CentraleSupélec
- Public policies and actions for sustainable development with AgroParisTech

PART-TIME

- Design by Data, Computational Design and Digital Technologies for Architecture and Construction
- Sustainable real estate and building, energy and digital transition •BIM, integrated design and life cycle of building and infrastructure with ESTP Paris
- Engineering and management of Smart Cities with EIVP
- Decision and geolocated information systems with ENSG Geomatics
- Rail and urban transport systems with the National Institute of Applied Sciences Hauts-de-France and the Technological University of Compiègne
- Smart Mobility - Digital transformation of systems mobility with Telecom Paris
- Supply chain Design & Management with IML
- Infrastructure Project Finance
- Advanced Public Action Morocco with the University Mohammed VI Polytechnic
- Management of Energy Projects

DOCTORAL TRAINING

The strength of the research capacity of its 12 laboratories of excellence makes it possible to accommodate a total of 541 doctoral students, including: •178 doctoral students enrolled at École des Ponts ParisTech, 44% of whom are of foreign origin and 29% young women

Since the start of the 2020/2021 academic year, the School has once again delivered the doctoral degree from the École nationale des ponts et chaussées.

5 Doctoral Schools for which the School is co-accredited: •Doctoral School

“Sciences, Engineering and Environment”

(SIE): it is the attached ED for the laboratories CERA, HM&CO, LEESU, LHSV and NAVIER

•Doctoral School “City, Transport and Territories” (VTT): it is the attached ED for the LEESU laboratories, LATTS, LVMT and CIRED

• “Mathematics and STIC” Doctoral School (MSTIC): it is the attached ED for the CERMICS and LIGM laboratories

•Doctoral School “Organizations, Markets, Institutions”

(OMI): it is the attached ED for the laboratories LATTS AND CIRED

•Panthéon-Sorbonne Doctoral School of Economics (ED 465): it is the attached ED for the PjSE laboratory

THE RESEARCH



LABORATORIES

12 research laboratories including 6 UMR CNRS (laboratories in their own right or in partnership with academic actors, public bodies and companies).

4 DISCIPLINARY PILLARS

Mathematics and computer science

ŷCERMICS: applied mathematics, scientific computing, modelling, optimization

ŷLIGM: theoretical computer science, natural language analysis, image and signal processing, algorithms, computer algebra

Mechanics, physics of materials and structures

ŷNAVIER: mechanics and physics of materials and structures, applications to geotechnics, civil engineering, geophysics and oil exploitation

ŷLHSV: fluid mechanics applied to hydraulics and the environment (river, coastal and port areas)

Environmental Science and Engineering

ŷCEREA: air quality, dispersion and transport of pollutants, atmospheric modeling at the urban and regional scale, data assimilation

ŷCIRED: development and environmental economics, energy / waste / transport / water / food issues, global environmental issues, precautionary principle, modeling

ŷHM&Co: multi-scale observation and analysis, modeling by system approach, management of water as a risk and a resource, hydrology for a resilient city

ŷLEESU: urban environment and its environment, analysis of urban and peri-urban territories in their socio-technical and environmental functioning

ŷLMD: dynamics of the atmosphere, study of the climate and its interannual fluctuations, continental and global scales

Economics & social sciences

ŷLATTS: social sciences, planning, history, dialogue between social and technical sciences and engineering, in companies and in administrations

ŷLVMT: analysis and modeling of the interactions between transport and spatial planning

ŷPJSE: theoretical economics, in public economics and in labor market economics

4 SOCIO-ECONOMIC ISSUES FOR THE ECOLOGICAL TRANSITION

Research activities contribute to meeting the challenges of 4 socio-economic issues of sustainable development:

ŷCity and mobility systems

ŷEnvironmental resource management

ŷIndustry of the future

ŷEconomy, uses and society

PROGRAMS STRUCTURING THE SCIENTIFIC COMMUNITIES

ŷBézout (LabEx): deterministic and stochastic models, discrete mathematics and algorithms, large-scale phenomena, image and geometry

ŷUrban Futures (LabEx): environment, transport, planning, architecture for urban worlds

ŷMMCD (LabEx): multi-scale modeling and experimentation of materials for sustainable construction, properties of materials for civil engineering and the environment

ŷOSE (LabEx): economics, globalization and development, markets and organizations, foundations of individual, strategic and social behavior

ŷSITES (LabEx): science and technology, society, research and innovation processes and policies

ŷEUR IPSL-CGS: issues of climate change and their impacts

ŷE4C, Energy for Climate (interdisciplinary center created by the Institut Polytechnique de Paris and the School): research and training around the challenges of energy and climate

INDUSTRIAL CHAIRS

CITY AND MOBILITY SYSTEMS

ŷMaintenance of engineering structures (NAVIER): with Sanef abertis

ŷSciences for rail transport (NAVIER): with Getlink

ŷWhat regulation for the city of tomorrow (LVMT - LATTS): with RATP

RESOURCE MANAGEMENT OF THE ENVIRONMENT

ŷFluid mechanics applied to hydraulics and the environment (LHSV): with EDF R&D

ŷHydrology for a resilient city (HM&Co): with Veolia

ŷFinancial risks (CERMICS): with the Fondation du Risk and its founder Societe Generale, École polytechnique and Sorbonne University

INDUSTRY OF THE FUTURE

ŷOperational Research and Learning (CERMICS): with Air France

ŷMaterials science for sustainable construction (NAVIER): with Lafarge Holcim

ŷDurability of materials and structures for energy (Mechanical Engineering and Materials Department): with EDF-DPN

ŷEco-design of buildings and infrastructures

(LVMT): with Vinci, AgroParisTech and MINES ParisTech

ŷSupply chain of the future (CERMICS, Engineering Department Industrial): with Renault, Louis Vuitton, Casino and Michelin

ŷSanef-Abertis Industrial Chair (NAVIER)

ECONOMY, USES AND SOCIETY

ŷProspective modeling for sustainable development (CIRED): with EDF, Total, Schneider Electric, ADEME,

GRTgaz, RTE and MINES ParisTech

ŷDevelopment and financing of infrastructure projects (CIRED): with Meridiam

ŷTerritorial mobility (CIRED): with Île-de-France Mobilités

LIBRARY, SERVICE IS, HERITAGE AND ARCHIVES



LIBRARY



• **200 seats**, 6 project spaces, 4 carrels, individual workspaces within La Source, the School's Learning center

• **9,300 registered users**, 10,000 documents communicated each year, 75,000 articles downloaded each year

• **185,000 L3**, Master's and research level documents covering the School's teaching and research fields

• **15 000 e-reviews**, 80 000 e-books

• **20,500** student works including 3,000 digital

• **192,000 connections** to the bibliotheque.enpc.fr documentary portal; more than 1,000 searches processed via virtual counters

• **Two labels of excellence**: associated center of the National Library of France for civil engineering and construction, CollEx (Collections of excellence for research) on the City theme: architecture, civil engineering, urban planning

TARGETED SERVICES FOR RESEARCHERS

• A portal of scientific and technical information services
<http://espacechercheurs.enpc.fr>

• **74%** of scientific publications in Open Access (2020)

• **31,000** deposits of scientific publications on the archive ouverte HAL-ENPC dont 41 % en full-text

• Access to the main platforms of scientific journals and scientific, technical and economic databases (Web of Science, Scopus, Business Source Complete, Mathscinet, Science Direct, Springer, Wiley, ASCE, etc.)

• An Opalia bibliometric platform

A MEMORY AND A HERITAGE D'EXCEPTION

• An old collection of **80,000 documents**, manuscripts, prints from the 18th to 20th centuries

• Heritage digital libraries: heritage.
enpc.fr, bibliothequedesphares.fr, gallica.bnf.fr, archive.org

• 266,000 page views of digital reproductions of heritage documents, 79,000 visitors

• A photo library of **13,000 images** (bridges, canals, stations, portraits of engineers, etc.)

• **16,800 archive files**, 1.7 linear km of archives historical and contemporary

• Museum collections, witnesses to the history of the first engineering school in France

PERSONNEL AND RESOURCES

560

paid staff

by the Establishment and its subsidiaries
as of December 31, 2020

(excluding temporary teachers
and student civil servants in training)

47,8 M€

resources

dont 27,3 M€

subsidies for public service
charges from the MTE
(Ministry of Ecological Transition)





BRIDGE FOUNDATION

Recognized as a public utility, the Foundation raises funds from private individuals and partner companies to help the School to be ever more open to today's world, more innovative and efficient, and to promote equality, opportunities, diversity and excellence of its students.



Resources 2020

0,308 M€

donations or legacies
individuals
from 446 donors

1,148 M€

pulpits
or partnerships
with the 13 companies

0,163 M€

financial products

In 2020, the Foundation notably supported:

- 8 teaching and research chairs
 - 4 prizes to encourage excellence, promote research, support the entrepreneurial spirit
 - 82 students in incoming or outgoing mobility
 - renovation of the Cauchy amphitheater
 - training and research (acquisition of optical tweezers for the Co-innovation Lab, study trips)
 - 122 students thanks to the COVID support fund
 - 3 honor loans
 - the "refugee student" program
- To discover all of its actions: fondationdesponts.fr

PONTS ALUMNI

The recognized association of public utility, created in 1860, brings together the **21,100 graduates** of the School: civil engineers, engineers from the body of bridges, water and forests, master's students, doctors or even MBA graduates.

The network of graduates, led by Ponts Alumni, is established in **11 countries** and in all of the School's sectors of activity. It is based in particular on 27 geographic groups, including 15 internationally, 16 professional groups, including 4 shared with other Grandes Ecoles, 3 groups specific to degrees (MBA, Masters, UrbaPonts), 1 international sponsorship group, 7 friendly clubs and vintage groups for friendly reunions.



BRIDGE PRESSES

Les Presses des Ponts, created in 1977, offers a catalog of 220 scientific and technical books and software, mainly in the fields of civil engineering, construction and development.

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