

2022 2023

THE SCHOOL
IN FIGURES

**BUILDING
TOMORROW'S WORLD**



**RÉPUBLIQUE
FRANÇAISE**

*Liberté
Égalité
Fraternité*



École des Ponts

ParisTech

A word from the director



ANTHONY BRIANT
Director of École
des Ponts ParisTech

Present in the best national and international rankings and improving its performance every year, École des Ponts ParisTech enjoys an undisputed national and international reputation.

The quality of its multidisciplinary curriculum and innovative teaching methods is underpinned by excellence in research and close ties to the world of business and industry.

Although its prestige has been traditionally founded on civil, environmental, and mechanical engineering, École des Ponts ParisTech today provides top-level training in a wide variety of fields, ranging from applied mathematics and economics to industrial engineering.

École des Ponts ParisTech trains high-potential engineers and future senior executives with a scientific and technical background who will be called upon to rise to the great societal challenges of today and tomorrow, especially in relation to the ecological transition.

The School in Figures gives an introductory overview of our school in all its rich diversity, revolving around three main missions: training, research and the dissemination of knowledge.

Faculty

384

teaching staff
in charge of modules

105

professors from the École
Nationale des Ponts et
Chaussées, 7 assistant professors
and 85 lecturers

1,243

part-time and non-tenured
teaching staff



Researchers*

304

researchers and professors

687

PhD students and postdoctoral
fellows

928

rank A publications, including
47% with a foreign partner

€10.6M

In revenues from research
partnerships, 65% of which
is directly linked to companies

Students

2,007

students altogether

30%
female
students

957

engineering
students

448

MBA students

174

master's and master
of science students, including
64 on dual-degree courses

10

registered on
the post-competitive exam
program for State Urban
Planning architects (AUES)

287

on the advanced
"mastère" and specialized
training courses

195

PhD students
registered with École
des Ponts ParisTech

* Scope: the School's laboratories

International Relations

68

partners institutions
in 34 countries on 4 continents

61

students
studying engineering abroad

46

dual-degree agreements
with universities
in 25 countries

745

foreign students
including 193 on dual degree
engineering courses

AMERICAS

- 15 partner institutions
- 13 dual degree agreements
- 2 exchange agreements

EUROPE

- 37 partner institutions
- 19 dual degree agreements
- 18 exchange agreements

AFRICA AND THE MIDDLE EAST

- 8 partner institutions
- 6 dual degree agreements
- 2 exchange agreements

ASIA

- 8 partner institutions
- 8 dual degree agreements

Degrees awarded in 2022

249

engineering degrees

178

master's degrees

47

PhDs

341

specialized programs:
"Mastère spécialisé"®
and master of science

129

École des Ponts
Business School
MBA

Career opportunities (%)



Average starting salary

€47k

€55k
with bonuses and gratuities

Source: 2022 survey of 2021 graduates (excl. civil servants)

THE SCHOOL IN NATIONAL AND INTERNATIONAL RANKINGS

QS WORLD UNIVERSITY RANKINGS 2023

The School continues to make progress and has obtained its highest ranking yet with a gain of 71 places compared to the 2022 overall rankings, now standing at number 174.

The School is thus in 6th place among ranked French institutions:

- the Citations per Faculty indicator score doubled this year.
- the Employer Reputation score has risen by 9 points and 50 places.

QS WORLD UNIVERSITY RANKINGS BY SUBJECT 2023

The School retains its place among the world's top institutions. It is ranked in the **"Engineering & Technology"** field, with a very strong progression from 243rd place to 177th place. It retains its ranking as the 9th French institution.

The School is also classified in 4 sub-disciplines:

- + 50 places in the top 201-250 in "Environmental Sciences", and becomes the 6th-ranked French institution;
- 1st place in France in "Engineering - Civil & Structural" and in the top 51-100 worldwide;
- in the top 251-300 in "Computer Science & Information Systems", holding its place as 10th-ranked French institution;
- among the 251-300 best universities in the categories "Engineering - Mechanical, Aeronautical & Manufacturing", moving up one place to become the 11th-ranked French institution.

This annual ranking features the top 1,594 international universities and higher schools, in 5 fields and 54 disciplines.

THE SCHOOL, 4TH IN THE FIGARO ÉTUDIANT RANKING

The School remains in 4th place in this ranking, which takes into account international outreach, academic excellence and employability.

THE SCHOOL RANKED AMONG THOSE MOST COMMITTED TO THE ECOLOGICAL TRANSITION IN 2022

For the first time, the School was part of the ranking of the schools most committed to taking into account environmental and social issues, in addition to the traditional criteria of excellence, carried out by ChangeNOW and Les Echos START. It ranked 9th among engineering schools. Out of the six areas studied, it ranked 3rd for academic excellence and employability, 4th for diversity and equal opportunity and 8th for its alumni network.

Training



ENGINEERING TRAINING

YEAR 1

- **Consolidation of scientific and general knowledge,** projects (research and departmental)
- **Work experience internship:** a 4-week practical in-company internship completes the year

THE MASTER'S PROGRAM

YEAR 2

Choice of a department for a specialization

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

Year 2 internship

Between Years 2 and 3, 85% of the cohort complete an optional year-long internship, with more than 26% going abroad.

The other students complete a short (3-month) internship in a company or laboratory, 10% of them abroad.

YEAR 3: TERMINAL PROJECT (PFE)

For a period of at least 4 months, students apply the skills acquired during their course to a particular scientific or technical problem, in a company or research laboratory. This Multi-disciplinary Engineering project may be carried out individually or in groups.

MASTER'S DEGREES

MASTER

MASTER'S IN APPLIED MATHEMATICS

Awarded by the École des Ponts ParisTech

5 pathways

- Probabilities and Stochastic Models (PMA)
- Mathematics for Finance and Data (MFD)
- Mathematics, Vision, Learning (MVA)
- Modeling, Analysis, Simulation (MAS)
- Operational Research (RO)

MASTER'S IN ENERGY

Awarded by the École des Ponts ParisTech

1 pathway

- Energy Transition at Local level (TET)

MASTER'S IN NUCLEAR ENGINEERING

Co-accreditation with Université Paris Saclay, Institut Polytechnique de Paris and Université Paris Sciences & Lettres

1 pathway

- Nuclear Decommissioning and Waste Management - (DWM)

MASTER'S IN MECHANICAL ENGINEERING

Co-accreditation with Sorbonne Université

2 pathways

- Multiscale Approaches for Materials and Structures (AMMS)
- Durability of Materials and Structures (DMS)

MASTER'S IN CIVIL ENGINEERING

Co-accreditation with Université Gustave Eiffel

1 pathway

- Mechanics of Soils, Rocks and Structures in their Environment (MSROE)

MASTER'S IN MATERIALS SCIENCE ENGINEERING

Co-accreditation with Université Gustave Eiffel and UPEC

1 pathway

- Materials Science for Sustainable Construction (SMCD)

MASTER'S IN TRANSPORT, MOBILITY, NETWORKS

Co-accreditation with Université Gustave Eiffel, UPEC, Institut Polytechnique de Paris and Université Paris Sciences et Lettres

2 pathways

- Transport and Mobility (TM)
- Transport and Sustainable Development (TraDD)

MASTER'S IN ENVIRONMENTAL, ENERGY AND TRANSPORTATION ECONOMICS

Co-accreditation with Université Paris-Saclay, Université Paris Ouest Nanterre La Défense Paris 10 and IFP School

5 pathways

- Environmental Economics (EEET)
- Economics of Energy (EEET)
- Prospective Modeling (EEET)
- Sustainable Food Economics (EEET)
- Transport and Mobility Economics (EEET)

MASTER'S IN APPLIED ECONOMICS

Co-accreditation with Université Paris Sciences et Lettres and EHESS

1 pathway

- Public Policy and Development (PPD)

MASTER'S IN ANALYSIS AND ECONOMIC POLICY

Co-accreditation with Université Paris 1 Panthéon-Sorbonne, Université Paris Sciences & Lettres and EHESS

MASTER OF SCIENCE

Sustainable Impact Analysis (SIA)

INNOVATION AND DESIGN CENTER (D. SCHOOL PARIS)

One mission: to pass on the methods of design innovation through practice in order to inspire the stakeholders of the future world

4 main objectives:

- Train engineering students in innovation approaches and methods through uses and design (design thinking, design fiction, sustainable design, co-design, user-centric design, etc.);
- Act as a resource center to provide tools for innovative initiatives and support students, researchers, and administrative staff;
- Encourage interactions and foster collaboration on issues relating to uses, design, and the ecological transition;
- Train and help companies to understand the world and culture of design-thinking, design fiction and sustainable design through interactive, customized workshops and training.

d.school Paris key figures

12
years' experience

79
projects undertaken

60
industrial partners

119
alumni

ADVANCED MASTER'S (MASTÈRE SPÉCIALISÉ® - MS) AND EXECUTIVE MASTER'S PROGRAMS

FULL-TIME

- MS Spatial planning and Urban Development
- MS Civil Engineering and Ecodesign
- MS Engineering of Large Energy Structures with CentraleSupélec
- MS Public Policies and Actions for Sustainable Development with AgroParisTech
- Online Executive Master "Digital Twins for Infrastructures and Cities" (1st intake: October 2023) with the Polytechnic University of Madrid, the Polytechnic University of Bucharest and Istanbul University

PART-TIME

- MS BIM Integrated Design and Life Cycle of Buildings and Infrastructures with ESTP Paris
- MS Digital Building Design
- MS Sustainable Real Estate and Building, Carbon and Digital Transitions
- MS Infrastructure Project Finance
- MS Management of Energy Projects
- MS Railway and Urban Transport System Engineering with INSA Hauts-de-France and Université Technologique de Compiègne
- MS Smart Mobility – Digital Transformation of Mobility Systems with Télécom Paris
- MS Supply Chain Design & Management
- MS "Action Publique Avancée Maroc" (Advanced Public Action for Morocco) with Université Mohammed VI Polytechnique

DOCTORAL TRAINING

The School has substantial research capacity with **12 top-level laboratories** hosting **195 PhD students** registered with the School in 2022/2023, including 34% overseas students and 30% women.

5 co-accredited Doctoral Schools

- **"Science, Engineering and Environment"** Doctoral School (SIE). The laboratories CEREAs, HM&CO, LEESU, LHSV and NAVIER are attached to this doctoral school.
- **"City, Transport and Territories"** Doctoral School (VTT). The laboratories LATTs, LVMT and CIRED are attached to this doctoral school.
- **"Mathematics and ICT"** Doctoral School (MSTIC). The laboratories CERMICS and LIGM are attached to this doctoral school.
- **"Organizations, Markets and Institutions"** Doctoral School (OMI). The laboratory LATTs is attached to this doctoral school.
- **Panthéon-Sorbonne Economics** Doctoral School (EPS). The laboratory PjSE is attached to this doctoral school.

CONTINUING EDUCATION

ÉCOLE DES PONTS BUSINESS SCHOOL

The Business School, accredited by the Association of Masters of Business Administration (AMBA), has existed since 1987. It runs programs that are innovative and transformative, both in their philosophy and their teaching methods:

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

PONTS FORMATION CONSEIL

Ponts Formation Conseil is France's leading continuing education center for engineering schools



IHEDATE (INSTITUTE OF ADVANCED DEVELOPMENT AND PLANNING STUDIES IN EUROPE)

IHEDATE's annual training cycle is supported by the State (National Agency for Territorial Cohesion and the Ministry for Ecological Transition and Territorial Cohesion), the Territorial Banks - Caisse des Dépôts, local government groupings (Intercommunalités de France, France Urbaine, Régions de France, GART), CEREMA, the City of Paris, private and public companies (ENEDIS, EDF, Groupe La Poste, SNCF Réseau, Bouygues, Nhood, RTE, SMABTP, Leonard-Vinci, Transdev) and professional bodies (ASFA, FNTP, Routes de France, UIMM).

Research

THE LABORATORIES

12 research laboratories, 6 of which are CNRS Mixed Research Units (UMR) (own laboratories or in partnerships with academic actors, public organizations, and companies).

4 CORNERSTONE DISCIPLINES

MATHEMATICS AND COMPUTER SCIENCE

- CERMICS: applied mathematics, scientific computing, modeling, optimization
- LIGM: theoretical computer science, natural language analysis, image- and signal- processing, algorithmics, formal calculus

MECHANICS AND PHYSICS OF MATERIALS AND STRUCTURES

- NAVIER: mechanics and physics of materials and structures, applications in geotechnics, civil engineering, geophysics and the oil industry
- LHSV: fluid mechanics applied to hydraulics and the environment (rivers, coasts and harbors)

ENVIRONMENTAL SCIENCES AND ENGINEERING

- CERE: air quality, pollutant dispersion and transportation, atmospheric modeling on an urban and regional scale, data assimilation
- CIRED: development and environmental economics, energy / waste / transport / water / food issues, global environmental challenges, precautionary principle, modeling
- HM&Co: multi-scale observation and analysis, system-based analysis, management of water as a risk and resource, hydrology for a resilient city
- LEESU: the urban milieu and its environment, analysis of urban and peri-urban territories in their sociotechnical and environmental functioning
- LMD: atmospheric dynamics, study of the climate and its interannual fluctuations, continental and global scales

ECONOMICS & SOCIAL SCIENCES

- LATTs: social sciences, spatial planning, history, dialog between social sciences and technology and engineering, in private sector companies and the public sector
- LVMT: analysis and modeling of interactions between transportation and spatial planning
- PjSE: theoretical economics, public economics and labor market economics

4 SOCIOECONOMIC PRIORITIES IN THE ECOLOGICAL TRANSITION

Research activities that contribute to meeting the challenges of 4 socioeconomic priorities in sustainable development:

- City and mobility systems,
- Management of environmental risks and resources
- Industry of the future
- Economics, practices and society

PROGRAMS STRUCTURING SCIENTIFIC COMMUNITIES

- Bézout (LabEx): Deterministic and stochastic models, discrete mathematics and algorithms, high-dimensional phenomena, imaging and geometry
- Urban Futures (LabEx): Environment, transport, planning, architecture for the urban world
- MMCD (LabEx): Multiscale modeling and experimentation of materials for sustainable construction, properties of civil engineering and environment materials



- OSE (LabEx): Economics, globalization and development, markets and organizations, foundations of individual, strategic and social behavior
- SITES (LabEx): Science and technology, society, research and innovation processes and policies
- EUR IPSL-CGS: Climate change issues and impacts
- E4C, Energy for Climate (Interdisciplinary center created by Institut Polytechnique de Paris and the School): research and training in energy and climate issues

THE INDUSTRIAL RESEARCH CHAIRS

CITY AND MOBILITY SYSTEMS

- Maintenance of civil engineering structures (NAVIER): with Sanef-Abertis
- Sciences for rail transportation (NAVIER): with Getlink
- What regulations for the city of the future? (LHSV - LATTs): with RATP
- Territorial Mobility (CIRED): with Île-de-France Mobilités
- Environmental research lab (LVMT - Navier): with Vinci, AgroParisTech and Mines Paris-PSL

RISK, RESOURCE AND ENVIRONMENTAL MANAGEMENT

- Fluid mechanics applied to hydraulics and the environment (LHSV): with EDF R&D
- Hydrology for a resilient city (HM&Co): with Veolia-Veri
- Financial risk (CERMICS): with the Fondation du Risque and its founder Société Générale, École Polytechnique and Sorbonne Université

INDUSTRY OF THE FUTURE

- Artificial intelligence for aviation (CERMICS): with Air France
- Materials science for sustainable construction (NAVIER): with LafargeHolcim
- Sustainability of energy-related materials and structures (Mechanical Engineering and Materials Department): with EDF-DPN
- Supply chain of the future (CERMICS, Industrial Engineering Department): with Renault, Louis Vuitton, Casino (CDiscount) and Michelin

ECONOMICS, PRACTICES AND SOCIETY

- Prospective modeling for sustainable development (CIRED): with EDF, TotalEnergies, Schneider Electric, ADEME, GRTgaz, RTE and Mines Paris-PSL
- Development and financing of sustainable infrastructure projects (CIRED/Economics, Management and Financial Science Department): with Meridiam
- City, Industry and Ecological Transition (CIRED) with the CNRS
- Futures of quantitative finance (CERMICS): with BNP Paribas and Université Paris Cité

Library, scientific and technical information department*, heritage and archives service



Library

200

seats

6 project spaces, 4 carrels, individual workspaces including at La Source, the School's Learning Center

75,000

visites to La Source

10,000 documents issued each year, 100,068 articles downloaded each year

170,000

documents available for Bachelor's year 3, Master's and research, covering the School's research and teaching fields

15,000

e-journals

98,000

e-books

20,500

written papers

by students, including 3,832 digital documents

178,768

connections

to the document portal bibliotheque.enpc.fr; over 1,000 searches processed via the virtual information desk

2 seals of excellence

Associate branch of the French National Library for civil engineering and construction, CollEx (Excellence in Research Collections) on the theme of The City: architecture, civil engineering and urban planning

* Scientific and Technical Information

TARGETED SERVICES FOR RESEARCHERS

- scientific and technical information services portal <http://espacechercheurs.enpc.fr>
- **78%** of scientific publications are Open Access (2017-2021)
- **35,125** scientific publications deposited on the HAL-ENPC open archive, including **44%** full-text deposits
- access to the main scientific journal platforms and scientific, technical and economics databases (Web of Science, Scopus, Business Source Complete, Mathscinet, Science Direct, Springer, Wiley, ASCE, etc.)
- Opalia bibliometric platform

AN EXCEPTIONAL HERITAGE COLLECTION

- A collection of **110,000** documents and manuscripts, printed between the 18th and 20th centuries
- Digitized heritage collections: patrimoine.enpc.fr, bibliothequedesphares.fr, gallica.bnf.fr, archive.org, Héritage des Ponts (in partnership with the French National Library)
- **209,348** pages of digitized heritage documents viewed, **22,875** visitors
- A photo library containing **13,000** images (bridges, canals, railway stations, portraits of engineers, etc.)
- **17,400** archive folders, corresponding to **1.75** kilometers of historical and contemporary archives
- Museum collections recording the history of France's first engineering school

Staff and resources

504

members of staff employed

by the Institution and its subsidiaries on December 31, 2022 (excluding part-time and non-tenured staff and public employees in training)

€48.1 M

of resources

including a €27.3 M public service subsidy from the Ministry for Ecological Transition and Territorial Cohesion)

THE FONDATION DES PONTS, A VECTOR OF GENEROSITY IN THE SERVICE OF THE SCHOOL

Recognized as being of public utility since 1997, the Fondation des Ponts supports the development of the School and promotes excellence, equal opportunity and the diversity of its students through corporate sponsorship and donations collected from graduates and friends of the School.

RESOURCES IN 2022

- Individual donations or bequests: **€0.394 M** from **419** donors
- Chairs or partnerships: **€1.916 M** from **19** companies

In 2022, the Foundation supported:

- **9** teaching and research chairs
- **9** prizes to encourage excellence, promote research and foster the spirit of enterprise
- **97** students on mobility programs (incoming and outgoing)
- many student projects (KIRO, Ecole des Ponts student project competition, humanitarian project led by Dévelop'Ponts)
- ongoing installation of a laser tracker in the co-innovation lab for the NAVIER laboratory
- financing of study trips in the Masters program teaching departments
- student refugee program
- acquisition of documents for the school's heritage collection.

For more information on all the Foundation's actions, visit: www.fondationdesponts.fr

PONTS ALUMNI

The School's alumni association, founded in 1860, is a State-approved public interest entity. Its members are the **School's 20,400 graduates**: civil engineers, high-ranking state engineers, holders of master's degrees, PhDs and MBAs.

The Ponts Alumni network is present in **11 countries** and all the School's sectors of activity. There are 27 geographical groups, of which 15 are abroad, 16 professional groups, including 4 joint groups with other Grandes Écoles, 3 degree groups (MBA, Master's, UrbaPonts), 1 international sponsorship group, 7 social clubs and a number of "Millesimes" groups for friendly gatherings.

LES PRESSES DES PONTS

Les Presses des Ponts is the School's own publishing house founded 1977, which has a catalog of 230 scientific and technical publications and software products mainly covering civil engineering, construction and spatial planning. The 2022 catalog was enriched with 5 new publications and 1 reprint.



ÉCOLE DES PONTS PARISTECH

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Take a behind-the-scenes look at the school thanks to our 3D virtual tour. Take a stroll through the school to find out what makes its reputation. Discover interviews with members of the Ponts community, videos about our training offer and campus life.

