THE SCHOOL IN FIGURES 2018
BUILDING THE WORLDS OF TOMORROW
Present in the top international rankings, 3rd in France’s benchmark Etudiant Magazine ranking, École des Ponts ParisTech enjoys an undisputed national and international reputation.

The quality of its multidisciplinary education, based on innovative teaching methods, is rooted in the excellence of its research and its close links with the world of enterprise.

While the historical source of its prestige lies with civil engineering, environmental engineering and mechanical engineering, today École des Ponts ParisTech offers the highest quality training programs in varied domains, be it applied mathematics, economics, or industrial engineering.

École des Ponts ParisTech thus educates high-potential engineers and future top-level executives with a scientific and technical background, ready to take on the big societal challenges of today and tomorrow, especially in fields associated with the city and the environment and their engineering needs.

The School in Figures offers an overview of our institution in all its richness and diversity, focusing on its three primary missions: education, research, and the dissemination of knowledge.

Sophie Mougard
Director of École des Ponts ParisTech

**FACULTY**

- **345** teachers in charge of course modules
- **88** École nationale des ponts et chaussées professors, 8 assistant professors and 91 lecturers
- **1,324** part-time teachers

**RESEARCHERS**

- **448** research and teaching staff
- **486** PhD candidates
- **71** postdoctoral researchers

**STUDENTS**

- **1,778** students, ¼ of them women
- **14** enrolled in post-examination education as State Architects and Planners (AUE)
- **266** École des Ponts ParisTech PhD candidates
- **246** on the MBA program
- **317** enrolled in Mastère Spécialisé® (Advanced Masters) programs
- **126** enrolled in Masters programs, 61 for double degrees
- **864** engineering students
- **6** students in Masters of science
INTERNATIONAL RELATIONS

DEGREES AWARDED IN 2018

- 227 engineering degrees (class of 2017)
- 111 Masters degrees
- 78 PhDs
- 256 “mastère spécialisés®” programs
- 110 École des Ponts Business School MBAs

JOB OPPORTUNITIES

- 3% Public Sector
- 3% Innovation/Research
- 4% Transportation/Environment/Urban Services
- 4% Energy
- 7% Design and Consultancy
- 9% Industry
- 13% Banking/Insurance/Finance
- 14% Telecommunications/IT
- 25% Construction
- 15% Commerce/Media/Tourism

AVERAGE SALARY IN FIRST JOB

- €46,900
- €52,500 with bonuses

THE SCHOOL IN NATIONAL AND INTERNATIONAL RANKINGS

International QS Rankings 2020:
the School rises 13 places compared with 2019
It is placed 250 in the overall international ranking and 8th among French institutions. This ranking shows the world’s top 1000 schools in 85 countries.

2019 THE (Times Higher Education) international ranking:
the School has risen 50 places compared with 2018
The School moves into ranks 201-250. The School has progressed on the indicators for teaching, research, citations, and international outlook, making it the 2nd Grande Ecole in the ranking and France’s 5th ranked institution. In all, more than 1250 institutions are included in this ranking.

National Etudiant ranking 2019:
the School is 3rd in the general classification of French schools
It is recognized as one of the best engineering schools, notably on the criteria of academic excellence, international outlook, contacts with the business world, and openness to new student populations. This classification encompasses 174 French educational institutions.

80 students in engineering programs abroad
- 65 of them in their 3rd year
- 80 double-degree agreements with universities

653 foreign students in 2018
- 76 of them training for a double-degree in engineering

72 partner universities
- 36 countries
- 4 continents

43 double-degree agreements with universities
- 26 countries

Europe:
- 21 double-degree agreements
- 20 Erasmus+ exchange agreements

Asia:
- 7 double-degree agreements
- 1 bilateral exchange agreement

Africa and the Middle East:
- 5 double-degree agreements
- 5 bilateral exchange agreements

Americas:
- 13 partner institutions
- 10 double-degree agreements
- 3 bilateral exchange agreements

256 “mastère spécialisés®” programs
- 76 of them in their 3rd year
- 65 students in engineering programs abroad
- 43 double-degree agreements with universities
- 36 countries
- 4 continents
- 26 countries

Source: 2019 survey of 2018 graduates (excluding civil servants)
THE ENGINEERING DEGREE PROGRAM

FIRST YEAR
- Consolidation of scientific and general knowledge, projects (research and departmental)
- Work experience: the year ends with 4 weeks hands-on work in a company

THE MASTERS PROGRAM

2nd Year: choice of a Department:
- Civil and structural engineering
- City, environment, transport
- Mechanical engineering and materials science
- Industrial engineering
- Economics, Management, Finance
- Applied mathematics and computer science

Year 2 internship:
Between the 2nd and 3rd Year, some 80% of the year group undertake an optional long internship (1 year), more than 30% of them abroad. The other students undertake a short internship in a company or research facility (3 months), 20% of them abroad.

Year 3 Final Year Project (PFE):
For at least 4 months, students apply the skills acquired in their program to a scientific or technical problem, in a company or research facility, either individually or in a group (Multidisciplinary Engineering Project).

MASTERS

INTERNATIONAL MASTERS DEGREES:
- Renault Foundation Masters in Transport and Sustainable Development (TRADD)
- Masters in Water, Soil and Waste Management and Treatment (GTESD)
- Master Internacional en Empresa y Políticas Públicas (MIEPP) – institutional degree

MASTERS OF SCIENCE

Economic Decision and Cost Benefit Analysis (EDCBA)

4 IDEFI, EXCELLENCE IN INNOVATIVE EDUCATION INITIATIVES

- Paris-Est d.school at École des Ponts dedicated to learning by “design thinking”. Within multidisciplinary teams, it promotes the design of innovative products or services by matching user expectations, feasibility, and economic viability.
- IDEA seeks to provide a range of innovative courses to improve the quality of teaching and facilitate lifelong access to education and success.
- U-TOP is dedicated to constructing a multi-partner and interdisciplinary remote learning scheme.
- FORCAST enables students to use state-of-the-art digital tools to track and map scientific or technical controversies.

Energy option
2 tracks:
- Decommissioning and Waste Management (DWM)
- Energy Transition and Territories (TET), starting academic year 2019

Mechanical Engineering option
(co-accreditation with Sorbonne University)
3 tracks, including:
- Multiscale Analysis for Materials and Structures (AMMS)
- Durability of materials and structures (CMS), starting academic year 2019

Civil Engineering option
(co-accreditation with UPEM and UPEC)
3 tracks, including:
- Mechanics of Soils, Rocks, and Structures in their Environment (MSROE)

Materials Science and Engineering option
(co-accreditation with UPEM and UPEC)
2 tracks, including:
- Materials science for sustainable construction (SMCD)

Transportation, Mobility, Networks option
(co-accreditation with UPEM and UPEC)
1 track:
- Transportation, Mobility (TM)

Environmental, Energy, and Transportation Economics option
(co-accreditation with Université Paris Saclay, Université Paris Ouest Nanterre La Défense and EHESS)
3 tracks:
- Environmental Economics (EEET)
- Energy Economics (EEET)
- Forward Modelling (EEET)

Quantitative Economics option
2 tracks:
- Analysis and Political Economy (APE) - co-accreditation with ENS Paris, EHESS, ENSAE ParisTech and École Polytechnique
- Public Policies and Development (PPD) - co-accreditation with ENS Paris and EHESS

Applied Mathematics option
4 tracks:
- Probabilities and random models (PMA), starting academic year 2019
- Mathematics of finance and data (MFD)
- Mathematics, Vision, Learning (MVA)
- Modelling, Analysis, Simulation (MAS)
- Operational Research (RO)

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MASTÈRE SPÉCIALISÉ®
(ADVANCED MASTERS)

FULL-TIME
- Planning and Urban Commissioning
- Urban Engineering and Information Technology (Urban ICT) with EIVP
- European civil engineering
- Engineering of Large Energy Structures with CentraleSupélec
- Public Policy for Sustainable Development with AgroParisTech

PART-TIME
- Design by Data, Computational Design, Digital Manufacturing and Building Technologies
- Sustainable Real Estate and Building, energy transitions and digital technology (formerly IBE)
- BIM, Integrated Design and Life Cycles of Buildings and Infrastructures with ESTP Paris
- Smart Cities Engineering and Management with EIVP
- Decision Support and Geolocated Information Systems with ENSG - Geomatics
- Rail and urban transit systems with ENSIAME Université de Valenciennes and Hainaut Cambrésis, Université technologique de Compiègne, and ENTPE
- Smart Mobility - Digital transformation of mobility systems with Télécom ParisTech
- Supply Chain Design & Management with IML
- Infrastructure Project Finance
- Advanced Public Action Morocco with Mohammed VI Polytechnic University
- Management of Energy Projects: introduced September 2019

THE PHD PROGRAMS
The research labs at Ecole des Ponts ParisTech are a training ground for many PhD students.

486 PhD candidates:
- 47.7% of foreign origin,
- 38% women

78 École des Ponts ParisTech theses defended in 2018
10 major graduate schools (ED) affiliated to School laboratories
- 4 Université Paris-Est Graduate Schools: City, Transportation, and Territories; Sciences, Engineering, and Environment; Mathematics and ICT; Organizations, Markets, Institutions
- 6 Île-de-France Graduate Schools: Agriculture, Food, Biology, Environment and Health (AgroParisTech) / Advanced Social Science Studies / Île-de-France Environmental Sciences (UPMC) / Île-de-France Astronomy and Astrophysics (Paris-Saclay University) / Mechanical, Energy, Materials Sciences and Geosciences (Paris-Saclay University) / Economics Panthéon-Sorbonne (EHESS)

ECOLE DES PONTS BUSINESS SCHOOL
The business school, accredited by the MBAs Association, is 32 years old. It delivers programs that are innovative both in their philosophy and in their teaching approach:
- Executive Doctorate of Business Administration (Paris)
- Global Executive MBA (Paris and Casablanca)
- TEE Executive MBA (Beijing, Franco-Chinese degree)

LIFELONG LEARNING
Ponts Formation Conseil is the leading lifelong learning body for engineering schools

ALMOST
- 400 training sessions provided in France and abroad
- 143 specific training operations at the request of companies or public authorities, both in France and abroad
- 5,900 participants (engineers and managers)
- 1,410 speakers (experts and professionals)
- 4 study days
- 10 certificates (École des Ponts ParisTech qualifications)

IHEDATE (Institute of Advanced Development and Planning Studies in Europe)
IHEDATE’s annual training program is supported by the state (General Commission for Regional Equality, Ministries), Banque des Territoires-Caisse des dépôts, regional groupings (AdCF, France urbaine, Régions de France), the City of Paris, private and public companies (Auchan-Ceetrus, Colas, ENEDIS, EDF, Groupe La Poste, SNCF Réseau, Bouygues, RTE, SMAUTB), and by professional organizations (ASFA, FNTP, USIF, UIMM).
THE LABORATORIES

12 research laboratories, including 6 mixed research units (UMR – individual labs or partnerships with academic entities, public bodies, and companies)

4 FLAGSHIP DISCIPLINES
Mathematics and computer science
- CERMICS: applied mathematics, scientific calculus, modelling, optimization
- LIGM: 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 to geotechnics, to civil engineering, to geophysics, and to oil development
- LHSV: fluid mechanics applied to hydraulics and the environment (riverine, coastal, and harbor zones)

Environmental sciences and engineering
- CEREA: air quality, pollutant dispersion and transportation, atmospheric modelling at urban and regional scale, data assimilation

PROGRAMS THAT STRUCTURE THE SCIENTIFIC COMMUNITIES

Bézout (LabEx): Deterministic and stochastic models, discrete mathematics and algorithms, large dimension phenomena, imaging and geometry

Urban Futures (LabEx): Environment, transportation, planning, architecture for urban worlds

L-IPSL (LabEx): Climate change and consequences at the relevant spatial and time scales for political and economic decisions

MMCD (LabEx): Multiscale modelling and testing 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 behaviors

SITES (LabEx): Science and technology, society, research and innovation processes and policies

Efficacity (ITE): Institute for Energy Transition in the City - founding member

Cap Digital (Competition Hub): European hub for digital and ecological transition

THE INDUSTRIAL CHAIRS

Innovative Solutions for a Sustainable and Responsible Habitat in partnership with Saint-Gobain

Transportation Infrastructure Management: with Abertis and IFSTTAR

Sciences for rail transportation (NAVIER): with Getlink

Smart Cities and Value Creation: with KPMG

CIRED: developmental and environmental economics, issues relating to energy/waste/transportation/water/food, global environmental issues, precautionary principle, modelling

HM&Co: multiscale observation and analysis, system-based modelling, managing water as risk and resource, hydrology for a resilient city

LEESU: the urban milieu and its environment, analysis of urban and periurban territories in their sociotechnical and environmental behavior

LMD: atmospheric dynamics, study of climate and its year-to-year fluctuations, continental and global scales

Economics & social sciences
- LATTIS: social sciences, spatial planning, history, dialogue between social sciences, technology, and engineering, both in companies and government bodies
- LVMT: analysis and modelling of the interactions between transportation and spatial planning
- PJSE: theoretical economics, in public economics and in labor market economics

4 socio-economic priorities for ecological transition
Research activities contribute to tackling the challenges of 4 socio-economic priorities for sustainable development:

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

MANAGEMENT OF RISKS, RESOURCES AND MILIEUS

- Fluid mechanics applied to hydraulics and the environment (LHSV): with EDF R&D
- Hydrology for a resilient city (HM&Co): with Veolia
- Financial risks (CERMICS): with the Risk Foundation and its founder Société Générale, École polytechnique, and Sorbonne University

INDUSTRY OF THE FUTURE

- Operational Research and Learning (CERMICS): with Air France
- Materials Science for Sustainable Construction (NAVIER, CERMICS): with LafargeHolcim
- Sustainability of Energy-Related Materials and Structures (NAVIER): with the European Foundation for Tomorrow’s Energies, EDF, ENGIE, GRT Gaz, and MINES ParisTech
- Eco-design of buildings and infrastructures (LVMT): with Vinci, AgroParisTech, and MINES ParisTech
- Supply Chain of the Future (CERMICS): with Renault, Louis Vuitton, Casino and Michelin

ECONOMICS, PRACTICES AND SOCIETY

- Forward Modelling for Sustainable Development (CIRED): with EDF, Total, Schneider Electric, ADEME, and MINES ParisTech
- Socio-Economics and Modelling of Public Urban Passenger Transit (LVMT): with Île-de-France Mobilités
- New economic approach to territorial mobilities (LVMT): with SNCF, IFSTTAR and UPEM
- Development and Financing of Sustainable Infrastructure Projects (CIRED): with Meridiam
PERSONNEL AND RESOURCES

491
staff employed by the School and its subsidiaries as of December 31, 2018 (excluding part-time lecturers and student civil servants):

INCLUDING:
191
researchers

PRE-TAX REVENUES OF SUBSIDIARIES IN 2018

€7 million
Ponts Formation Conseil

€2.23 million
MIB Développement

DOCUMENTATION, ARCHIVES, LEGACY

LA SOURCE, THE SCHOOL’S LEARNING CENTRE

- 200 seats, 6 project-spaces, 4 carrels, individual workspaces
- 122,000 visits a year, 8,000 registered users, 10,500 documents supplied each year
- 61 opening hours per week from October to June inclusive
- 212,000 Bachelors, Masters and research level documents, covering the School’s fields of teaching and research
- 14,500 e-books, 15,000 electronic journal titles
- 102,000 visits to the library portal: bibliotheque.enpc.fr; almost 1000 searches handled through the virtual counters, 270,000 pages accessed on the digital library platforms
- two excellence labels: Associate branch of the French National Library for civil and structural engineering, CollEx (excellence in research collections) on the theme of the City: architecture, civil engineering, urbanism

TARGETED SERVICES FOR RESEARCHERS

- An open archive - hal-enpc.archives-ouvertes.fr - containing more than 25,000 scientific publications, 65% of scientific articles in Open Access
- Access to the main scientific journal platforms and scientific, technical, and economic databases (Web of Science, Scopus, Business Source Complete, Mathacinet, Science Direct, Springer, Wiley, ASCE...)
- Opalia bibliometric platform

AN EXCEPTIONAL LEGACY

- A collection of 80,000 documents, manuscripts, and prints from the 18th to the 20th centuries
- Digitized library collections: patrimoine.enpc.fr, bibliothequesdesphares.fr, gallica.bnf.fr, archive.org
- 18,000 digitized documents, i.e. 957,000 pages/plates
- A photo collection of 13,000 images (bridges, canals, stations, portraits of engineers…)
- 15,000 archive files, i.e. 1,514 linear meters of historical and contemporary archives
- Museum collections, a record of the history of France’s first engineering school

PUBLIC SERVICE SUBSIDY FROM MTES (MINISTRY OF ECOLOGICAL AND COMMUNITY TRANSITION)

- €3.2 million
Various

- €27.4 million
Public service subsidy

- €9 million
Research contract:
(including sponsorship:
€1.2 million)

- €6.9 million
Teaching:
(tuition fees, partnerships)
Officially recognized as a public interest entity, the Foundation collects contributions from companies, graduates, and friends of the School who, through their donations, help the School to be ever more open to the world of today, more innovative and effective, and thereby to maintain its image of excellence in the midst of ever-growing international competition.

In the last 10 years, more than 700 graduates from year groups 1929 to 2017 and more than 70 companies or organizations, both private and public, have given their support to the development of education, research, innovation, and entrepreneurship, and have helped the best students gain access to the School’s course programs.

Resources collected in 2018 (net of management costs)
- Donations or legacies from individuals: €0.25 million
- Chairs or partnerships: €1.7 million

Use of donations:
- 82%: Research, teaching and innovation (chairs and partnerships)
- 18%: Prizes for excellence, scholarships, and loans for international travel, incentives for entrepreneurship, social diversity

Ponts Alliance changed its name in 2018, to become Ponts Alumni ParisTech. A public interest entity established in 1860, this organization encompasses the School’s 21,210 graduates: civil engineers, state engineers, holders of Masters degrees, PhDs, or MBAs.

The alumni network, run by Ponts Alumni ParisTech, is present in 11 countries and in all the School’s sectors of activity. It notably encompasses 22 geographical groups, 17 professional groups – four of them jointly with other grandes écoles – and 6 social clubs.

Established in 1977, Les Presses des Ponts has a catalog of 220 books and scientific and technical software applications primarily in the fields of civil and structural engineering, and spatial planning.