

INVENTING THE TRANSPORTS OF TOMORROW



**TRANSPORT AND MOBILITY
ENGINEERING SCHOOL**



EXPANDING HORIZONS OF MOBILITY

Groupe Isae 

ESTACA, A TRANSPORT ENGINEERING SCHOOL IN FRANCE

ESTACA IN BRIEF, A TRANSPORT AND MOBILITY ENGINEERING SCHOOL

As a specialized post-baccalaureate engineering school, ESTACA is a major European player in the field of transport and mobility. It trains students in **aeronautics, automotive, space, and railway & guided transports**. With innovative teaching that goes to the heart of current transport issues (eco-design, on-board systems, propulsion systems and on-board energy, etc.) and a fully developed research centre.

ESTACA trains passionate students on technologies and with an expertise that is recognised in the industry. Created in 1925, **ESTACA is accredited** by the "Commission des Titres d'Ingénieurs" (**CTI**) and a member of the "Conférence des Grandes Ecoles" (**CGE**). It's located on two sites: in the Paris region in Saint-Quentin-en-Yvelines and in the Mayenne region in Laval.

The school is actively involved in **academic, industrial and scientific collaborations regionally** (competition clusters, Institutes of Excellence, etc.), **nationally** (ISAE group, CGE, etc.) and **internationally** (Campus France).

ESTACA IN FIGURES

2

sites: Paris-Saclay Campus
in Saint-Quentin-en-Yvelines
and **West Campus** in Laval

2000

students

280

graduates per year

8000

alumni

30

student
associations

2

research
teams

70%

of teachers are **active**
engineers

12

months mandatory
internship in company

34

partner universities
abroad

39000€

average starting salary for 2016
graduates

94%

of students hired within
3 months after graduation

ESTACA NETWORK

- **ISAE**: group of aeronautics and space schools (ISAE –Sup'Aéro-ENSMA, Ecole de l'Air)
- **CGE**
- **Campus France**
- **France Alumni**
- **n+i** (recruitment of international students)
- **Competitive clusters**: Astech, Mov'eo, IDforCar, EMC2, System@tic
- **Institute of Excellence VeDeCoM** (Low-carbon smart vehicle)
- **COMUE ULB** (Université Bretagne Loire)
- **COMUE UPS** (Université Paris Saclay)
- **Elles bougent** (to stimulate career interest in transport engineering in young women)
- **PEPITE PON** (entrepreneurship cluster)

THE ESTACA ENGINEER, AN EXPERT ADAPTED TO THE NEEDS OF INDUSTRIALS

ESTACA trains engineering experts in transports. The graduates are especially appreciated for their specific skills:

TECHNOLOGICAL

through 4 years of specialization, ESTACA engineers are “product-focused” and have true expertise.

OPERATIONAL

because of a project-based teaching, they are used to working in teams, reply to issues which combine cross-disciplinary skills, meet deadlines, adapt to a changing environment and innovate.

HUMAN

enthusiastic about their speciality, ESTACA engineers are deeply involved in their missions, highly motivated and thus effective within the company.

5 KEY VALUES

PASSION

89% of students say they are passionate

INNOVATION

thanks to the close synergy between research and training

SOLIDARITY

Graduates continue to invest in their school: intergenerational ties

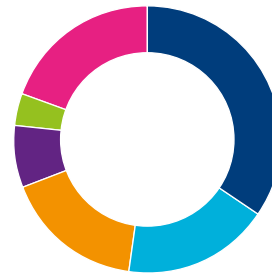
PRAGMATISM

thanks to training in direct contact with the reality of the company

COMMITMENT

80% of students engaged in extracurricular activities (humanitarian, SD, societal, etc.)

ESTACA GRADUATE POSITION



- Research & Development **35 %**
- Audit, Inspection, Technical support **18 %**
- Production, Operation, Quality **17 %**
- Marketing, Sales, Purchase and Commercial **8 %**
- General Management, Innovation & Finance **4 %**
- Other positions **19 %**

GRADUATES IN FIGURES

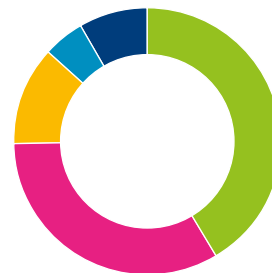
80 %
of students hired
before graduation

40 %
find jobs following their
final year internship

65 %
of 1st jobs find through
the school (internships,
alumni, careers service,
etc.)

25 %
of young graduates
are hired abroad

ESTACA GRADUATE SECTORS



- Aeronautics **41 %**
- Automotive **33 %**
- Guided Transports **13 %**
- Space **5 %**
- Other sectors **8 %**

(Results of the 2015 CGE survey)

THE MASTER LEVEL CURRICULUM

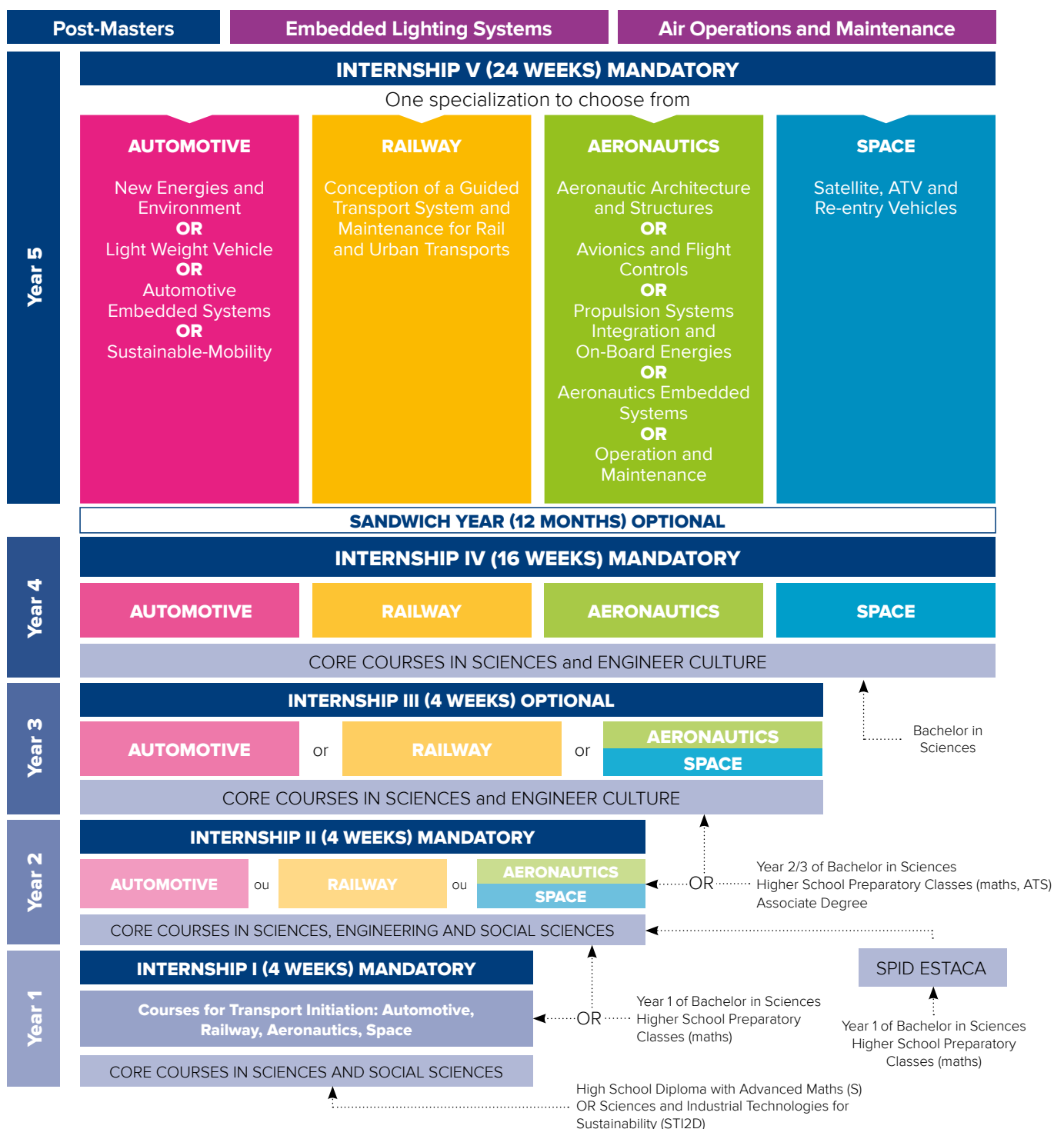
PREPARING THE MOBILITY SPECIALISTS OF TOMORROW

Engineers that are operational and can adapt to the technological changes of tomorrow's industrial world.

Our curriculum will enable students to:

- choose their path by specializing from their 2nd year
- acquire multidisciplinary skills in the engineering sciences and in transport engineering
- be able to apply and transfer the knowledge acquired
- deal with industrial practices both in terms of reasoning and methods of organisation
- learn about innovation by means of Research-Training synergies
- develop personality and open up to the world

CURRICULUM



POST-MASTERS' DEGREES



POST-MASTER AIR OPERATIONS AND MAINTENANCE

An innovative program closely aligned with industrial requirements

The modern air transport industry needs engineers who have more than the traditional technical skills. The airlines need to ensure global security at an affordable cost. Their engineers need a global view of the legal and economic environment as well as an in-depth understanding of operation and maintenance processes in order to cope with growing international competition and a complex regulatory framework.

ESTACA offers a post-master program in Air Operations and Maintenance that applies to airline, MRO operators, airport operators, aeronautical logistic and air manufacturing companies. The aim of this one-year program is to offer students the means to understand the organization and the economy of the air transport industry. They will be in close contact with our partners (Aircraft manufacturers, Airlines, MRO operators, Airport operators, so they will be able to apply their theoretical knowledge directly to real cases. The Air Rules are the cornerstone of this course and are studied with different approaches.

One-year program fully in English on the Paris-Saclay Campus:

- 400 hours of academic coursework (October to February)
- 6 months internship (February to July)
- Doctoral dissertation

Industrial partners: Air France, Airbus Group, ADP (Aéroports de Paris), Zodiac Aerospace

POST-MASTER PROGRAM EMBEDDED LIGHTING SYSTEMS

A high-level international training curriculum for those wishing to specialize in the field of vehicle lighting systems

The vehicle lighting sector is currently undergoing major change with the development of new technologies like LED lights, as well as new and complex lighting systems functionalities. This changing landscape provides an opportunity to explore new avenues for innovation based on lasers, smart lighting solutions and new lighting functionalities.

Therefore, three major schools in Transportation Engineering (ESTACA), Optical Sciences (Institut d'Optique Graduate School) and Design (STRATE – Ecole de design) are joining their experience to develop a high-level international post-master program designed for training cross-skilled engineers for the field of vehicle embedded lighting systems. The training structures are strongly connected to research and actively supported by industrial players.

One-year program fully in English in Paris /on the Paris-Saclay Campus

- 400 hours of academic coursework (September to February)
- 6 months internship (February to July)
- Professional dissertation

Industrial partners: Renault, PSA Peugeot Citroën, Valeo and Automotive Lighting Rear Lamps



INDUSTRIALS, A KEY ROLE AT THE HEART OF SCHOOL LIFE



Close ties between ESTACA and companies guarantee training and research that goes to the heart of industrial issues.

Associated in all the important decisions of school life through their involvement in the management, companies participate actively in student development, by teaching, managing projects, speaking at conferences, welcoming interns, etc. Applied research is also conducted closely with industries, especially for collaborative projects managed within the competition clusters. There are numerous opportunities for company collaboration at all levels of school life:

ENGINEERING COURSES

Teaching, Study projects, Site visits

GOVERNANCE OBSERVATORY

Career development, participation in ESTACA corporate governance

VOCATIONAL TRAINING

1 to 11 days sessions, diploma courses

INTERNSHIPS AND JOBS

Worker internships, engineer internships, jobs

FUNDING

French training tax, sponsoring of associations, Association "Junior Entreprise", Fundraising ESTACA for mobility

RESEARCH

Research partnership, Thesis, Chair

COMMUNICATION

Reputation, Access to the ESTACA network

PROFESSIONAL INTEGRATION

Career fair, occupation conferences, HR workshops

SOME OF OUR PARTNERS



INTERNSHIPS, SANDWICH YEAR AND JOBS

INTERNSHIPS AND SANDWICH YEAR

Each student spends at least 12 months in a company during their ESTACA curriculum. There are 4 mandatory internships and an optional sandwich year is possible at the end of the 4th year. Any internship or sandwich year is subject to a work placement agreement or temporary employment contract. For 5th year students, permanent contracts or volunteer projects are also possible.

ESTACA INTERNSHIP CALENDAR

	J	F	M	A	M	J	J	A	S	O	N	D
1st year - mandatory Entry-level internship Aim: Uncover the business environment							end of June - end of August 4 weeks minimum					
2nd year - mandatory Entry-level internship or Discovery of a company or personal initiative abroad Aim: Uncover the business environment or/and a new culture							end of June - end of August 4 weeks minimum					
3rd year - optional Work experience internship Aim: Personal discovery							mid-June - end of August 4 weeks minimum					
4th year - mandatory Work experience internship Aim: Work in a team to complete a engineering project							May - end of September 16 weeks minimum					
4th year - SANDWICH YEAR (optional) Professional Immersion Internship Aim: Work in a team to complete a engineering long-term study project							May - end of September the following year / 44 weeks minimum					
5th year - mandatory Final year internship Aim: Completion of a project which directly provides preparation for employment							mid-February - end of October 24 weeks minimum					

JOBS

ESTACA graduates are operational, have strong technological expertise and perfect knowledge of the company. As such, they quickly and easily find a job. The office of Corporate Relations and Professional Integration (CRPI) guides students throughout their curriculum to support them in building their professional project. Once graduated, the CRPI office provides career advice and support at any stage of the Alumni's career path.

ONLINE OFFERS

Offers of internships, sandwich year, volunteer projects, jobs can be published online at: <http://www.estaca.fr/deposez-une-offre.html>

CAREER FAIR

Every year in November, the Career Day enables companies to meet students and young graduates via conferences and individual meetings.

HR WORKSHOPS

Companies participate in preparing 5th-year students in recruitment procedures.

ESTACA'LAB: RESEARCH FOR TOMORROW'S TRANSPORT INNOVATIONS

ESTACA research center conducts activities on innovative technologies for transports and mobility, in order to respond to the environmental and social challenges.

It works to the emergence of new technologies for green, sustainable, smart and adapted transports for new mobilities focusing on four priorities:

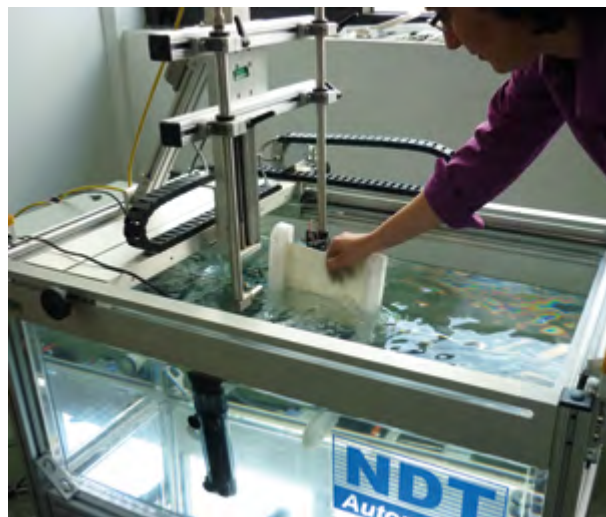
- Analyse and reduce polluting emissions (greenhouse gases, particles, oil, etc.) particularly by the development of capture techniques;
- Accelerate the advent of materials of the future: intelligent, bio and eco composite materials for sustainable weight reduction;
- Contribute to the development of means of transport that are more efficient, safer, more intelligent and communicate more, with delegation of driving;
- Work towards new forms of mobility: use of innovative transport, acceptability, inter-modality and new services provided to users.

The main specific characteristic of ESATACA'Lab is to carry out applied work or work that is applicable to the air and land transport industrial sector. Its know-how is based on strong linkage between theoretical, digital and experimental knowledge.

DYNAMIC RESEARCH INTEGRATED IN FIVE COMPETITION CLUSTERS

ESTACA's researchers collaborate with associated industrial sectors and contribute to developing their competitiveness and expertise. In a strongly collaborative mode, they provide their know-how and skills to respond, with academic and industrial partners, to technological breakthroughs in transport sectors that are currently undergoing profound transformation. Their actions are based on strong territorial roots, whether these are in the Paris region or in the Pays de la Loire (North West of France).

This organisation aims for a differentiating position within scientific communities, institutes and centres of excellence such as ITE VEDECOM (energy transition institute on the communicating non-carbon vehicle and its mobility) and IRT SystemX (technological research institute dedicated to the digital engineering of future systems) in the Paris region, as well as with regional partners in the Pays de la Loire. The involvement within competition clusters follows the same logic, with Mov'eo, Astech and Systematic in the Paris region and EMC2 and iD4Car in the Pays de la Loire.



All research work is based on the skills of two divisions:

- The Environment and Mechanics of Composite Materials division (2MCE)
- The On-board Systems and Energy for Transport division (S2ET)

INDUSTRIAL PARTNERS



STUDENTS' ASSOCIATIONS: COMMITMENT AND COMPANY SPIRIT

Learning to be an engineer at ESTACA is not just about acquiring knowledge, it also means pursuing passions, opening up to the world and believing in and defending one's convictions.

Associations give students the opportunity to realize enriching missions to help others. It is also an opportunity, via concrete projects, to learn about managing people and resources, achieving goals within deadlines, managing communication, etc. These are all essential experiences in their future life as an engineer.

- **PV3e and its energy vehicles:** 2 700 km on one liter of petrol! An association that designs and builds low-energy vehicles (petrol and fuel cell) to participate in the Shell marathons. The goal is to cover as many kilometres as possible with the minimum energy.
- **Rocket club:** ESO (Estaca Space Odyssée) designs, builds and launches experimental rockets, mini-rockets and stratospheric balloons with the methodological and logistical support of Planète Sciences. Launches take place during C'Space campaigns organized by the CNES (Centre National d'Etudes Spatiales).
- **Cercle Aéronautique and Flying West build historic aircraft** (the Paul Cornu, 1st ever helicopter, the Flyer 1 of the Wright brothers or the Favre, 1st seaplane) or flight simulators, innovative aircraft (solar airship), etc. They also organize inaugural flights (plane, helicopter, aerobatics), plane trips, conferences, company visits, flying lessons, etc.
- **Pégase initiates primary school children to technology and sciences.** The students conduct missions in schools in the Paris region, in Laval and Senegal.
- **Estacaide develops international solidarity projects** and is working for a fairer and more inclusive society. The association develops humanitarian projects such as enhancing hygiene conditions in Vietnam.
- **ESTACA MOTOTECH designs and builds two-wheeled prototypes.**
- **The Bureau des Arts includes theatre, music, drawing, photo** and circus activities and also publishes the school's newsletter.

AND ALSO

The Student Office, Sports Office, Estatrain, Estacatrelle, Estacom, Estaca Modelisme and Model Ouest, ESTACA Sailing, the ski club, ICAE, Emos Karting, RACE, Air Addict, etc.

JUNIOR ESTACA

Since 1983, the association has been offering companies technical studies conducted by ESTACA students. Baptised "Junior Enterprise", a guarantee of the seriousness and stability of the association, it is specialized in technology and R&D consulting applied to **the four transport sectors: automotive, aeronautics, guided transports and space**. It develops studies in IT & Automation, Electricity & Waves, Mechanical engineering, etc.



PEGASE



THE BUREAU DES ARTS



PV3e

A SCHOOL OPEN TO THE WORLD

INTERNATIONAL ENGINEERS OPEN TO THE WORLD

Understanding different technologies and cultures on a global scale is essential for future engineers. International experience is therefore mandatory for our engineers. It can take three forms:

INTERNSHIPS

All internships can be taken abroad. They enable students to discover different professional practices and develop a strong network of contacts abroad. Target destinations are countries where the transport industry is strong or emerging: The United States, Russia, Canada, Brazil, China, India, Germany, United Kingdom, etc.

SEMESTERS AND DOUBLE DEGREES ABROAD

The school has signed agreements with universities throughout the world. Students can spend a semester of study or follow courses to graduate abroad (double degree). These partnerships are part of the European and international networks of which ESTACA is a member, including: Erasmus +mobility program, BCI (Cooperation Bureau for Universities in Quebec), Campus France, etc.

RESEARCH PROJECTS

ESTACA also enables its students to conduct applied research projects with foreign universities. In reply to specifications proposed by industries, 4th year students for example, spend a semester with students from the space propulsion department of the University of Alabama in Huntsville (UAH). As well as the multicultural dimension, those partnerships allow students to learn about remote work, managing internationally, working with major international institutions and associated methods.

WELCOMING INTERNATIONAL STUDENTS

As part of agreements with its partner universities, ESTACA welcomes international students to its engineering courses. Some students follow the last two years of the programme and graduate with the ESTACA diploma.

The school also offers a program of 32ECTS in English entitled "Automotive and Aeronautics Design" (AAD), open to international students during the spring semester (January to May).

ESTACA also open its courses in French for one semester or one year for international students.

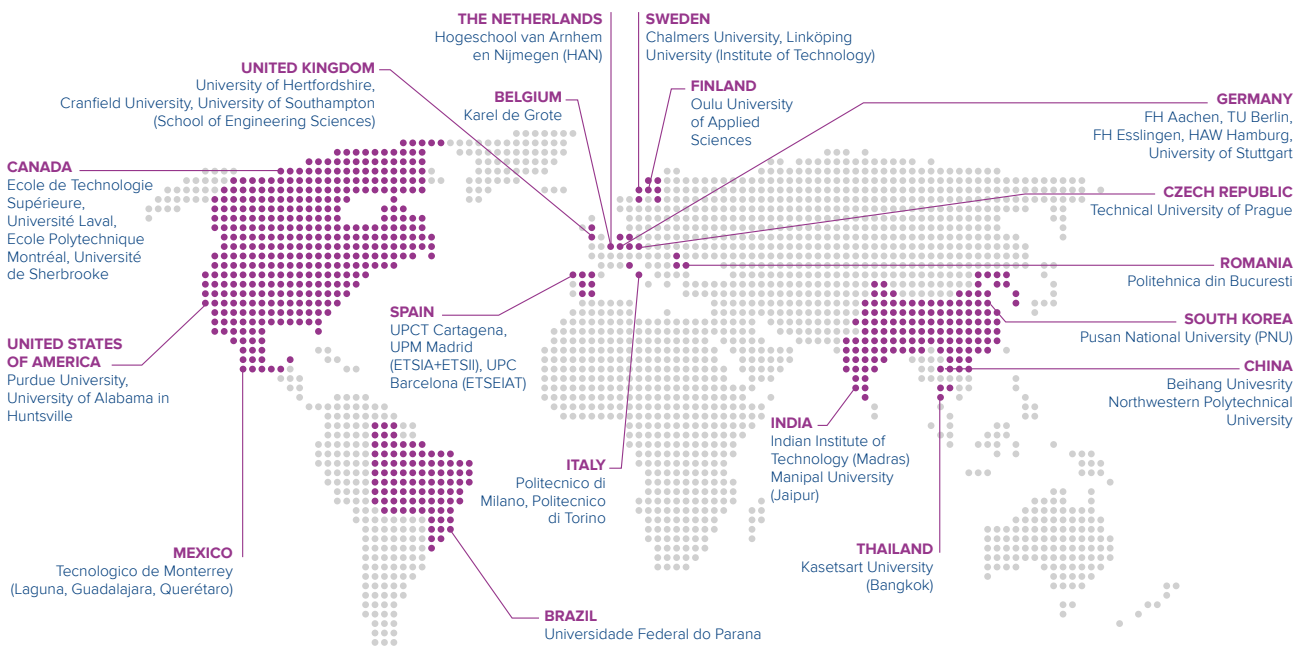
INTERNATIONAL IN FIGURES

34
university partnerships
in 18 different countries

25%
hired internationally

10%
of students graduated
with a **double diploma**

117
students did their
internship abroad in
2015-16



HOW TO APPLY?



ADMISSION FOR EXCHANGE AND VISITING STUDENTS (EXCEPT POST-MASTERS)

EXCHANGE STUDENTS

Students from our partner universities are welcome to apply for our French and English programs. ESTACA has signed partnerships with universities in the world, and receives foreign students from them.

NON-EXCHANGE STUDENTS (VISITING STUDENTS)

If you are a student from a non-partner university, you can also apply for our French and English program. We can insure you of the highest quality of our courses.

If you come from a non-partner university, you will have to pay school fees for your studies at ESTACA. The fee amount may vary depending on the program.

Courses opportunities (courses taught in French and in English) only for a semester or a year:

Only students who have a B2 level in French (or equivalent) may apply for our standard engineering courses.

To get information about the curriculum of 3rd, 4th, 5th, Post Masters and AAD Program please download the courses' catalogue on our website: www.estaca.fr/en.

Here are the steps required to apply:

1. Download and fill in the application form for visiting students (from non-partner universities) or exchange students : <http://www.estaca.fr/en/admission>
2. Send your application and the required documents to international@estaca.fr
3. Receive your acceptance letter.
4. Apply for your French visa (if you are a non-European citizen).

The application deadlines are:

- For the Autumn Semester: May 1st
- For the Spring Semester: October 15th

ESTACA - ADMISSIONS PROCEDURES FOR THE POST-MASTERS IN ENGLISH

POST-MASTER IN AIR OPERATIONS AND MAINTENANCE

Eligibility:

This program is open to all foreign and French students holding a Master's Degree (preferably in scientific fields, business master may also apply) or having completed five years of studies in an Engineering degree. Applicants should have English language proficiency (TOEFL iBT: 91 or TOEIC: 850 or IELTS: 6.5)

Admission Process:

- Application period: application is to be sent before the meeting dates of the selection committee: March 30th, May 30th and June 30th.
- Admission upon application, possibly with an interview.
- Application Form available on the website: <http://www.admissions-estaca.fr>

POST-MASTER IN EMBEDDED LIGHTING SYSTEMS

Eligibility:

- This program is open to all foreign and French students holding a Master of Science (preferably in scientific fields). Applicants must prove an engineering degree recognized by the Commission des Titres d'Ingénieurs (Commission for Engineering Degrees), or a master degree or equivalent, or a foreign degree equivalent to one of those.
- Applicants should have English language proficiency at the B2 level (minimum paper based TOEFL: 575 or TOEIC: 785).
- A limited number of applications, not fulfilling the degree criteria but with outstanding credentials.

Admission Process:

- Admission upon application followed by an interview.
- Application period: From February 15th to July 15th
- Application form available on the website : <http://embedded-lighting.com/admissions/>

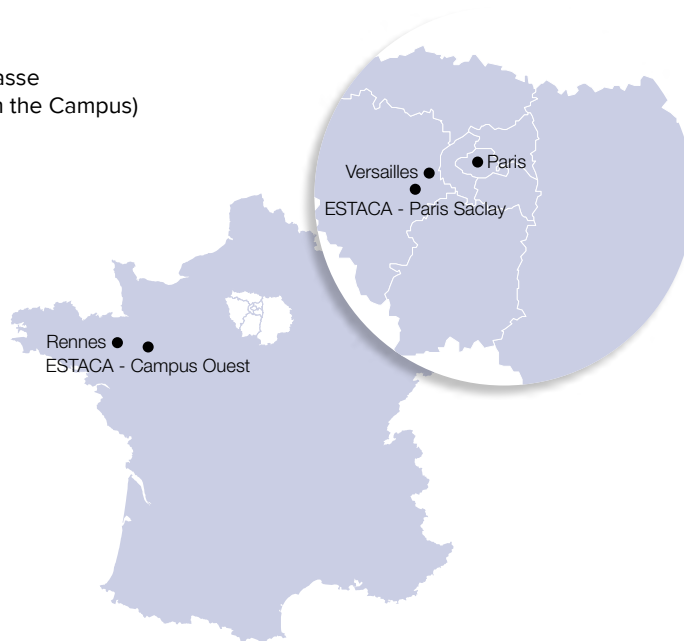


ESTACA - Paris Saclay - Access

- SNCF (RER C, line N or U): Gare Saint-Quentin-en-Yvelines

ESTACA - Campus Ouest - Access

- SNCF: TGV, 1½ hrs from Paris Montparnasse
(from Laval train station 15 min walk from the Campus)
- Car: motorway A81 (300 km from Paris)
- Bus: lines 13 and Lano



#ingénieurESTACA

#changerlemonde



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