

# INSA

INSTITUT NATIONAL  
DES SCIENCES  
APPLIQUÉES  
ROUEN NORMANDIE



HUMAN SCALE  
GLOBAL SCOPE



*“ A human potential  
in engineering, research  
and education ”*

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## Editorial

*Studying at INSA Rouen Normandie means making the choice of excellence. It means choosing to study Engineering in one of the best publicly funded engineering schools in France. It means focusing on sciences, innovation and entrepreneurship and, more broadly, shaping your mind. INSA Rouen Normandie has a unique philosophy. That of training engineers, but not only: engineers who are open to the world, responsible citizens and future players in a constantly changing world. Studying at INSA Rouen Normandie means learning about cross-disciplinary, human, artistic and sporting themes.*

*Studying at INSA Rouen Normandie means taking advantage of the skills of widely recognized teachers and lecturers, and benefiting from state-of-the-art technical facilities. It also means forging links with the school's many partner companies and developing close to major economic centers, close to Paris.*

*Joining INSA Rouen Normandie is definitely the choice of humanism and success.*

*Bienvenue en France !*

**Mourad BOUKHALFA**  
**Director of INSA Rouen Normandie**



# Normandy, one of the most popular regions in the world



France is the most visited country in the world with a record-breaking 89 million visitors in 2019!

Normandy is only an hour and a half from Paris and is famous for its idyllic villages and iconic landmarks:

**Mont-Saint-Michel** and its bay are on UNESCO's list of World Heritage Sites. The tidal island and its bay are visited by more than 3 million people every year. Over 60 buildings within the village are protected as French historical monuments.



**Étretat Chalk Complex** is best known for its chalk cliffs including three natural arches and a pointed formation called L'Aiguille, that has inspired many artists such as Impressionist Claude Monet.

**D-Day Landing Beaches:** on 6 June 1944, D-Day was nothing less than the largest and most complex combined airborne and amphibious military operation of all time. Today these landing beaches and museums attract millions of visitors every year to remember what was achieved – and why.



*INSA Rouen Normandie is divided into 2 campuses: one on Le Madrillet Campus in Saint-Étienne-du-Rouvray/Rouen and one in Le Havre.*

## + Rouen

Rouen is located on the banks of the River Seine, 45 minutes from the sea and 1h30 minutes from Paris. This historical city is endowed with a medieval architectural heritage and is famous for its Gothic cathedral, the highest in the world.

## + Le Havre

Le Havre is a human-scale city, well-known for its port which is the second largest in France with a strong economic activity. Largely destroyed after WWII, it was rebuilt according to the plans of French architect August Perret. To commend this reconstruction, UNESCO inscribed the city center of Le Havre as a World Heritage Site in 2005.



# The strength of INSA Group

## + France's leading group of publicly funded graduate engineering schools

INSA Rouen Normandie belongs to France's leading network of publicly funded engineering schools. INSA schools are located in major French cities (Centre Val de Loire, Lyon, Rennes, Rouen, Strasbourg, Toulouse and Valenciennes) but also in Fez, Morocco. The 7 national INSAs, the first international INSA and their six associated schools embody a model that has been recognized throughout the world for more than half a century.

The dynamism and reputation of INSA Group are based on the quality of multidisciplinary teaching combined with the richness of its interactions with research and the industry. This link nurtures the innovations of tomorrow's technologies, deepens and disseminates knowledge, and contributes to the progress of science and culture.

INSA Group schools train more than 10% of French engineers every year. They offer more than 80 engineering specializations and have 60 high-level laboratories.



## INSA Rouen Normandie in figures

### + Training

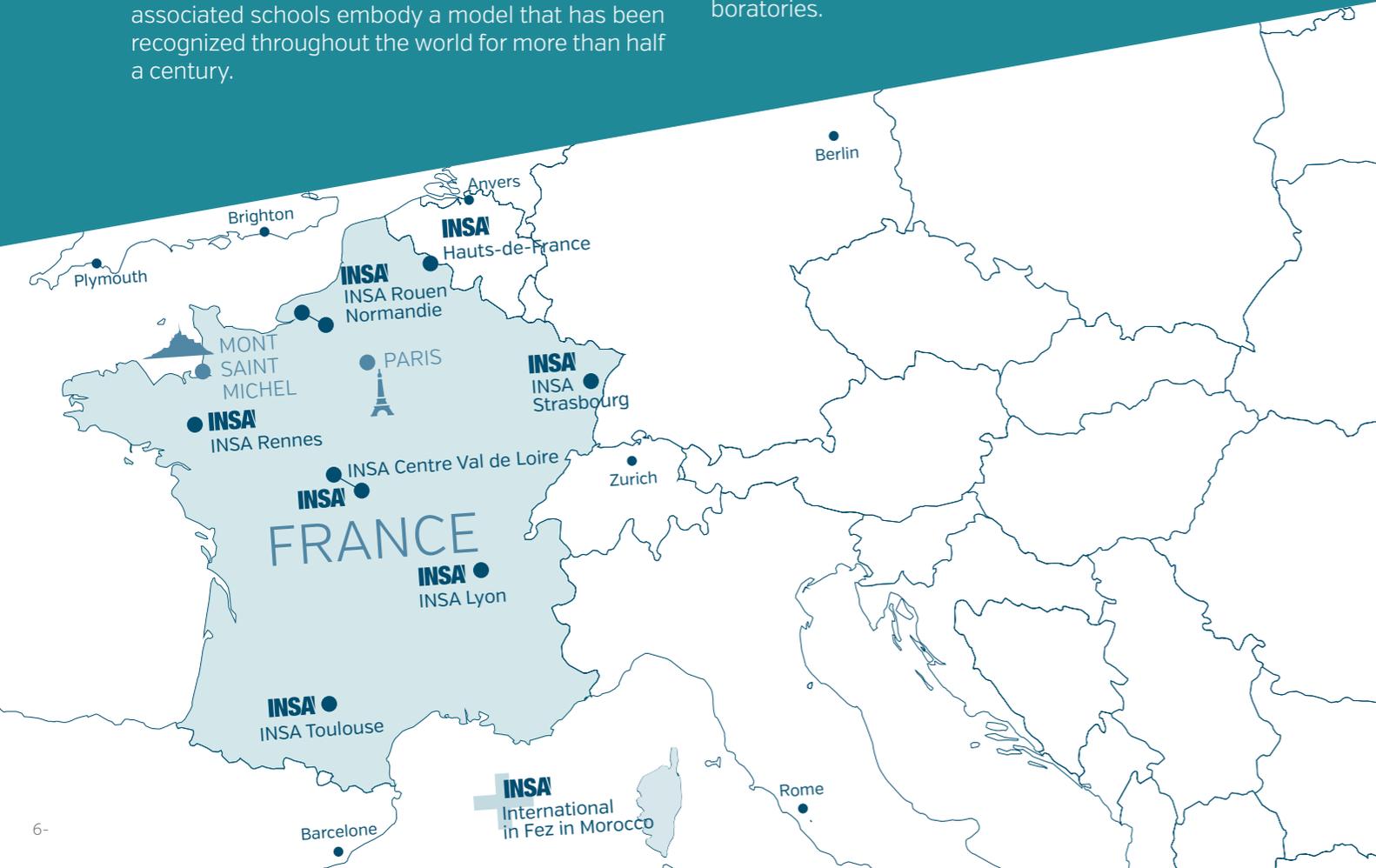
- 2,000 students
- 400 engineering graduates every year
- 11 engineering specializations, including 4 under apprenticeship contracts
- 1 specialized Master's Degree
- 7 research Master's Degrees
- 3 doctoral schools
  - Normandy doctoral school of Chemistry // Mathematics, Information and Systems Engineering doctoral school // Physics, Engineering Sciences, Materials, Energy doctoral school*
- 147 doctoral and post-doctoral students
- 30 theses defended every year
- 1 teaching chair

### + Research activities

- 8 research laboratories
- 2 LABEXes - 2 EQUIPEXes - 2 CARNOTS
- 7 common laboratories with companies
- 2 research chairs
- 5 interregional research federations

### + Human resources

- 156 teachers and teacher-researchers
- 215 administrative and technical staff
- €40M budget
- 50% training - 50% research



# 4 poles of expertise in engineering

INSA Rouen Normandie [National Institute of Applied Sciences] holds a very strong position within the French higher education system of engineering schools. Our missions [teaching, research and the dissemination of scientific culture] revolve around four poles of expertise associated with an interdisciplinary theme: risk management.



## CHEMISTRY - HEALTH - PROCESS ENGINEERING - INDUSTRIAL ECOLOGY

This division benefits from more than 100 years of experience in engineering studies and research dedicated to Organic Synthesis, Polymer Materials and Process Engineering. Its mission is to design controlled and secure industrial systems that respect and protect the environment, to develop medicinal molecules, to develop more efficient polymers...



## INFORMATION SYSTEMS - MATHEMATICAL MODELLING AND SIMULATION - DIGITAL

The marriage of Computer Science and Mathematics is an area of economic activity which represents a pole of competence in many areas such as Information Systems (from sensor to user), Finance or Multimedia Systems.



## CIVIL ENGINEERING - SUSTAINABLE CONSTRUCTION - URBAN PLANNING

The objective of this pole is to systematically take into account all the environmental issues related to buildings and structures, while also integrating the constraints linked to land use, planning and urban planning.



## ENERGIES - PROPULSION - MECHANICS - MATERIALS

This division is dedicated to Mechanics, Energy and Energy Efficiency as well as Energy and Industrial Performance. It develops studies and research in the field of Energy Sciences and associated materials as well as their impacts (new systems applied to Propulsion, Depollution, Combustion / new materials for Energy, Nuclear, Bio-Polymers, Eco-Materials, Clean Energy...).



## Research and development for the future

With eight laboratories, including four joint CNRS research units, and in close collaboration with the universities of Rouen, Le Havre and the Community of Universities of Normandy, INSA Rouen Normandie actively contributes to the influence of scientific culture in Normandy, in France and throughout the world.

INSA Rouen Normandie has a real desire to have an interdisciplinary approach in all sectors of activities such as Aeronautics and Space, Pharmacology, the Environment, Automotive engineering, Computer Science, etc. Studying these themes through a synergy between courses, research laboratories and the CERTI (Center for technological and Industrial Studies

and Research] allows us to provide an open answer to contemporary and future technological challenges.

INSA Rouen Normandie has also been recognized by international juries for future investments.

Thus, the school is proving its ambition in terms of research and support for economic development in the fields of Health (inventing new drug molecules) and Energy (developing materials for Energy and Clean Combustion).

Thanks to these investments for the future, INSA Rouen Normandie has been awarded several prizes, along with its partners.

*INSA Rouen Normandie focuses its research activities on different fields in line with the training it offers:*

### LABORATORIES: COBRA, PBS, LSPC

This field has 100 years of experience in engineering education and research dedicated to Organic Synthesis, Polymer Materials and Process Engineering. Its mission is to design controlled and secure industrial systems in the respect and protection of the environment, to develop drug molecules, to develop more efficient polymers...

*Laboratories: Chemistry, Health, Process Engineering, Industrial Risks*

### LABORATORIES: LITIS, LMI

This center of expertise focuses on many sectors such as Information System Control (from sensor to user), Medical and Geophysical Imaging, Artificial Intelligence, Data Science, Modeling and Control, Complex Systems or Mathematical Modeling and Numerical Simulation of Physical Phenomena..

*Laboratories: Information Systems, Mathematical Modeling and Simulation, Digital*

### LABORATORIES: CORIA, GPM, LMN

This field develops training and research in the field of Energy Sciences, associated materials and the study of their impacts (new systems applied to Propulsion, Depollution, Combustion, new materials for Energy, for Nuclear, Bio-Polymers, Eco-Materials, Clean Energies...)

*Laboratories: Energies, Propulsion, Mechanics, Materials*

## Recognized excellence

 INSA Rouen Normandie belongs to Normandie Université network and is a publicly funded institution recognized by the French Ministry of Higher Education and Research.

 Erasmus+ provides financial support for a wide range of actions and activities in the fields of education, training, youth and sports. The program aims to give everyone the opportunity to go abroad to enhance their skills and employability. It helps institutions to work with international partners and share innovative practices in the fields of education, training and youth.

 EURAXESS is an initiative from the European Commission, aimed at informing and supporting PhD students and researchers, within the framework of their mobility and career development. Thanks to the involvement of universities and institutions of Normandie Université network, foreign doctoral students and researchers who come to be part of the international influence of research in Normandy, can benefit from an individualized follow-up of their career paths.

 The quality welcome of international students is a fundamental issue for the internationalization and attractiveness of French higher education. 'Bienvenue en France' label is awarded to institutions wishing to highlight the quality of all the actions undertaken for international students. It is awarded for 4 years by Campus France and validated by an independent commission.

 EURACE label (European Accredited Engineer), awarded by ENAEE, is the guarantee of a perfect match with European academic standards.

 The European Human Resources Strategy for Research (HRS4R), awarded by the European Commission, rewards INSA Rouen Normandie's assertive approach to improve its recruitment, as well as the reception and career management practices of researchers.

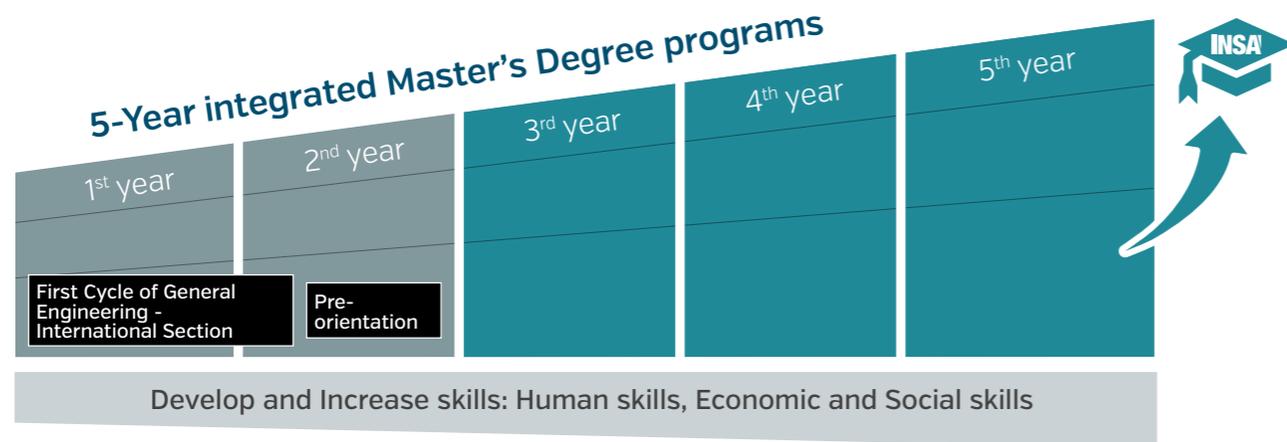
 CTI, an independent body responsible for assessing the quality of French engineering schools, recognizes the quality of engineering diplomas. It aims at ensuring French engineering programs meet both students' and companies' new needs while taking into account the internationalization of higher education.

# Programs

Students can join INSA for 5 or 3 years and choose among one of these specializations:

-  **Computer Science and Information Technology**
-  **Mechanical Engineering**
-  **Civil and Urban Engineering**
-  **Chemistry and Chemical Engineering**
-  **Mathematical and Software Engineering**
-  **Energy Engineering**
-  **Industrial Risks and Process Engineering**

INSA Rouen Normandie cultivates a diversity of profiles and relies on the personality of its future professionals. INSA engineers have high-level scientific and technological skills combined with intellectual virtues such as the ability to analyze and synthesize, react and advise. Their ability to manage and develop optimal working methods, their capacity for adaptation and anticipation are combined with a sense of openness to complementary fields such as innovation, entrepreneurship or culture. The five years of studies offer a progressive and thoughtful orientation, allowing for awareness in project management and interculturality from the first year onward.



# Masters' Degrees

## + Research Masters' Degrees

- Chemicals
- Energy
- Civil Engineering
- Design Engineering
- Engineering of Complex Systems
- Mathematics and Applications
- Science and Data Engineering

## + Specialized Master's Degrees®

- Expert in Data Science



Specialized Master's Degree® (Mastère Spécialisé®) label belongs to 'Conférence des Grandes Écoles' (CGE), a French national institution providing representation, research and accreditation.

This label was created in response to the needs of the French industry, in order to recruit professionals with in-depth knowledge and skills in specific sectors. This training serves as a springboard for graduates to find a future job.

# Humanist, Ethical and Creative Professionals for the Future

*INSA model aims at training future professionals who will thrive in the world of work thanks to their emotional intelligence. Indeed, it is essential for future managers and executives to develop a sense of ethics, humanity and creativity, that will enable them to seize the challenges of society and the environment and to come up with innovations to adapt to future changes.*



## + Humanities and Social Sciences

Humanities and Social Sciences represent 20% of the curriculum at INSA Rouen Normandie. They include Business Training (Management & Economics, Entrepreneurship, Communication & Interpersonal Skills), Foreign Languages & Culture, and Physical Education. Among elective courses, students can follow artistic classes (Drama, Choir and Music) taught by professionals.

## + Art and sports programs

Various programs are available for athletes, dancers and musicians, allowing them to continue to practice their extracurricular activities at a high level and blossom as well-balanced individuals.

# Courses in English

## + The International Bilingual Section

International students have the opportunity to prepare for INSA's engineering degree by joining the International Bilingual Section (SIB) for 2 years (Years 1 & 2) either after their baccalaureate or high school diploma, after one year in higher education, or after a national or specialized Master's Degree (M1).

Since 1999, International Bilingual studies have been preparing future professionals for the requirements of mobility and working in international teams by providing teaching similar to the traditional section (the scientific program and educational methods are identical to the classical section) but with a specific implementation, since half of the classes are in English.

## + Engineering Cycle (Years 3, 4 & 5)

This cycle can be joined at levels 3 and 4, to prepare for INSA's engineering degree or as part of an exchange program for 1 or 2 semesters of study.

In each of our 7 specialization departments, about 30% of courses are available in English (subject to change every year), which represents a total of 30 ECTSes per period (Fall or Spring) in specialization departments.

INSA Rouen Normandie also offers scientific summer schools entirely in English. A Summer School on Artificial Intelligence for example.





# Apprenticeship

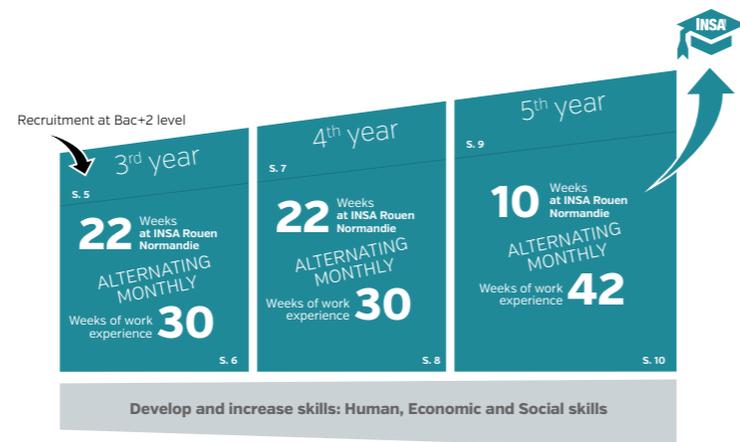
Students are offered the opportunity to be employed by a company while following a continuing education program at INSA Rouen Normandie in years 3, 4 and 5. It offers them the opportunity to enter the world of work and thus get further professional experience as well as a salary while continuing their studies.

Four programs are available :

-  **Energetic Performance**
-  **Innovation and Industrial Performance**
-  **Process Engineering Performance**
-  **Industrial IT**

They follow a rhythm based on the following pattern: one month at INSA / one month in the company.

It should be noted that these programs are not offered to exchange students.



# Experiential Learning

*The Greater your Experience, the Greater your Responsibilities*

INSA Rouen Normandie has decided to fuse the advanced level of theoretical concepts with practice in small workshop sessions. Our curriculum, based on scientific excellence and teamwork is geared to the needs of the industry.

We have made it possible to establish close and long-lasting collaborations with regional, national and international companies, major groups and SMEs in both education and research. Private companies are not the only natural prospect for our students, but they are also educational partners that accompany them from the time they join our school to the day they graduate.

Companies are involved in our courses as part of one-off interventions (seminars, conferences, visits, etc.)

to propose industrial or R&D projects, to contribute to opening up new sectors or to contribute to the evolution of courses offered at INSA.

During their five years of studies, our engineering students must complete at least three in-company internships. Every year, more than 900 INSA Rouen Normandie trainees work in French and international companies.

Our graduates start their careers in all types of companies, and find their first job in less than a month on average. Some graduates choose to continue their university studies by preparing a thesis.



# Life on Campus

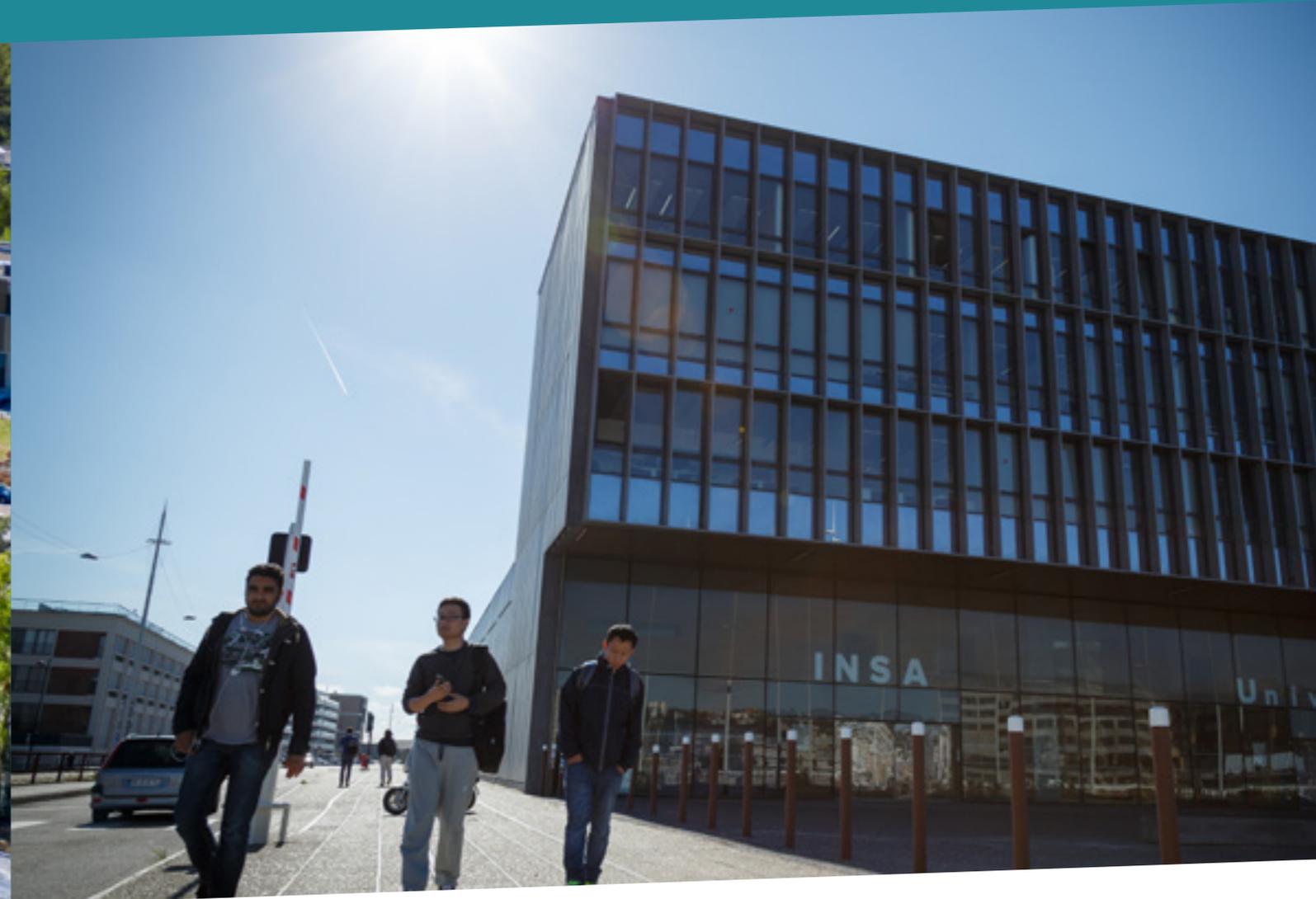
## + Rouen

The main campus of Saint-Étienne-du-Rouvray is composed of 40,000 m<sup>2</sup> of modern and prestigious buildings in the heart of a bigger engineering campus and a green environment.



## + Le Havre

The Civil Engineering department is located in the quiet environment of the docks in Le Havre, close to the sea.





## + Residences

On the main campus of Le Madrillet, INSA Rouen Normandie manages its own student residences. Our five sites are close to the school and host 760 students.

Rooms in residences are primarily dedicated to students in the first cycle, students with a scholarship, and international students.



## + Sporting facilities

The school has a gymnasium where students can enjoy sports activities as part of their courses or during their free time.



## + Library

Located in the heart of INSA, the library offers excellent documentation in Engineering Sciences and Techniques for classes and research, and is also developing collections in Economics and Sociology, as well as general culture collections: novels, mangas, comics and DVDs. Many books are available in English. The library has 200 seats and 12 computers.



## + Clubs

Upon student enrollment, educational trainers encourage students' awareness of the human dimension of their future career. Their commitment is naturally strengthened through cultural, artistic, sports, scientific or humanitarian associations, in conjunction with frequent support by the Student Council. No less than 27 clubs and associations are available on campus!





## Global Experience

Each year, INSA Rouen Normandie hosts more than 450 international students with up to 45 different nationalities.

All of our students have to study/work abroad for a minimum of 3 months, which provides them with a global experience. This discovery of different cultures and ways of thinking broadens their minds and enables them to have a better understanding of their future collaborators. It also makes it possible for them to meet potential future engineers from all around the world who may then be part of their global professional network.

We offer our students the opportunity to go on an academic exchange in one of our 135 partner universities, some of them being renowned international universities. We also offer the possibility for students to graduate with a double degree through 26 different programs around the world.

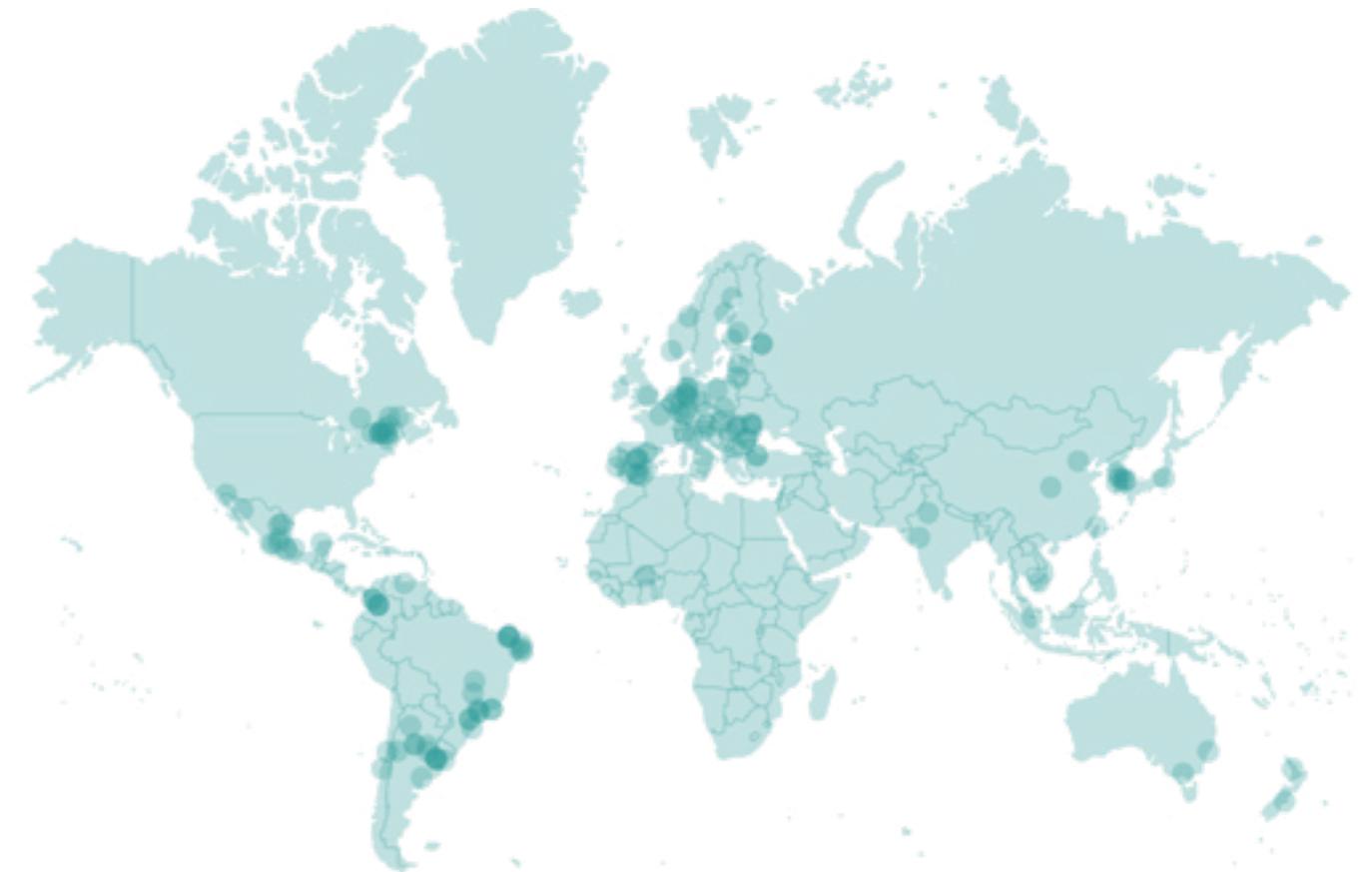
Today, around 7,000 alumni students are working as engineers abroad. This experience is an extraordinary asset in their curriculum and an undeniable way to stand out on the labor market.

As part of the internationalization process and as a member of INSA Group, INSA Rouen Normandie is a member of the European University named ECIU University. ECIU University is an EU-funded European University that will create a completely new educational model on a European scale.

INSA Rouen Normandie is also involved in the management of cooperation projects in support of the development of international cooperation projects with the aim of supporting the development of higher education in developing countries.

For instance, INSA Rouen Normandie is part of the Franco-Senegalese Campus project with Master Big data 4 DEV, in cooperation with the Virtual University of Senegal [UVS].

As part of CALIOPE program, set up with the Dominican Republic, the school has been welcoming around fifteen Master's students every year for the past six years. Many of them go on to pursue their studies at doctoral level



# Welcoming International Students

## + 'Bienvenue en France' label

In 2019, INSA Rouen Normandie was awarded the 'Bienvenue en France' label. It highlights the quality and accessibility of information and welcome programs, the accessibility and follow-up of the aca-

ademic offer, the quality of housing and campus life and the quality of post-graduate follow-up for international students.

## + Welcome program

A 3-week 'Welcome program' offers international students a better integration. During this program, students settle in their residences, get the necessary help with legal and academic procedures, discover landmark places in Normandy and follow French and scientific courses to meet the prerequisites before joining their programs.



## + Welcom'INSA

Student association Welcom'INSA regularly gives information about studies at INSA, housing, life in Rouen and Le Havre etc. They help international students get fully immersed in our institution by proposing cultural activities in the first semester.

Follow them on Instagram or Facebook or contact them by email at: [welcominsa@gmail.com](mailto:welcominsa@gmail.com)

Thanks to BuddySystem platform, you can also join our mentoring program. International students will be matched with a French mentor who will accompany them in the discovery of the school and French culture.



# “ HUMAN SCALE GLOBAL SCOPE ”

## **INSA Rouen Normandie**

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