Cti

CONTACTS

NATIONAL ENGINEERING SCHOOL OF TARBES
47 avenue d'Azereix - BP 1629
65016 Tarbes cedex - FRANCE

MORE INFORMATION
+33 (0)5 62 44 27 00
accueil@enit.fr

GENERAL DIRECTION
secretariat.direction@enit.fr

TRAINING MANAGEMENT
AND STUDENT LIFE
Admissions / Training: admissions@enit.fr
Continuing education: formation-continue@enit.fr

INTERNATIONAL RELATIONS DEPARTMENT
relinter@enit.fr

INDUSTRIAL AFFAIRS DEPARTMENT
dai@enit.fr

RESEARCH DIRECTION
lgp@enit.fr

LIBRARY
bibliotheque@enit.fr

www.enit.fr

mars 2019

INP TOULOUSE ENIT

NATIONAL ENGINEERING SCHOOL OF TARBES

Design the future

INSTITUT NATIONAL POLYTECHNIQUE DE TOULOUSE

DESIGN THE FUTURE !

THE ENIT IN FIGURES

- More than **50** years of existence (founded in 1963)
- A network of **7,000** engineers
- **1,200** students enrolled
- **200** to **250** new graduates per year
- **600** internships per year in companies
- **160** teachers
- **115** apprentices in training
- More than **3,000** partner companies
- A research laboratory of more than **130** people
- **3** million euros of budget per year for Research
- **95%** of graduates find a job in less than 6 months
- Partnerships with **161** universities in **37** countries

A NETWORK OF SUCCESSFULL GRADUATES

The mission of the ENIT Graduates Association is to maintain cohesion within the entire population of ENIT graduates. In addition to maintaining the network, the association promotes the diploma, supports students towards their integration into professional life and participates in the educational and educational bodies of ENIT and higher education in order to defend the best interests of engineers.

www.anienit.org

A WORD FROM THE DIRECTOR

We hope that this brochure will give you a window on Enit, a school which perpetually seeks pedagogical and technological innovation. We are proud to have trained thousands of engineers in our 55 year history. So come and take a look inside.
You will see an innovative campus at the foot of the Pyrenees, in which everyone strives for excellence in their projects. It provides a unique environement where training, research and innovation are combined. You will discover our integrated educational path and our technical platforms. You will find testimonials from our student engineers, teacher-researchers and industrial partners. You will travel around the world to discover our many academic partners.
Finally, we will show you how to open the door and join the ENIT community and its alumni network, and the different paths to diploma acquisition.
Together, let's design your future.

Jean-Yves Fourquet, Directeur

The INP-ENIT provides quality training that allows you to acquire key skills for industry.
The organization of the curriculum provides numerous opportunities for internships and projects and teaching which has practical application, effectively transforming knowledge into professional and personal experience.
A student graduating from ENIT has a lot to offer a prospective employer and that is why I frequently recommend the school to others. It is an accessible public school, focused on the success of its students and offering several parallel programmes. Because the school is 'small' we have excellent communication with teachers, reserachers and the administration. This makes for a dynamic student life and makes our years here, in a small yet urban setting very pleasant and relaxed. »

Thomas Batigne, 5th year student entrepreneur, founder of Lynxter (3D printing)

A WELL-INTEGRATED CAMPUS

Tarbes is a city in Occitanie which offers to its 5,700 students an exceptional and affordable quality of life on a **human-scaled campus.**
The surrounding environment, at the foot of the Pyrenées and at the heart of an diverse industrial area promotes well-being and offers a range of rich and varied activities. It is:
• 25 minutes from Pau
• 1h30 from Toulouse
• close to Spain
• 1h from the ski slopes
• 1h30 from the beaches of the Basque and Landes coasts at the heart of a diversified industrial fabric

LOCAL INVOLVEMENT

ENIT **supports and promotes community involvement** by its students, which trains them in human interactions and prepares them for the world of work.
• Financing of student projects: food drives, stream cleanups, rallies to help humanitarian projects
• Involvement of ENIT in local civic projects: disability awareness day, key partner of the association «Les Bouchons d'Amour».
• Support in awareness-raising actions, education for sustainable development: association Engineers without Borders Tarbes.

COHESION AS AN ASSET

At ENIT, the Student Office plays an important role in the **integration of new students and the cohesion between the different year groups.**
The students are truly involved in the associative life of their school, and they coordinate each year many student clubs and organize each year dozens of events (sports, music) that allow them to meet each other, get to know each other better and develop a spirit of solidarity and mutual support.

INNOVATIVE EDUCATIONAL EQUIPMENTS

• Library: the library is a resource centre specialising in engineering sciences. His collection is completed with collections of general culture.
116,000 books, 600 DVDs, 60 audio books, 60 newspapers and magazines, 26,000 electronic books and 8,000 online magazines.
• Active Pedagogy Room
• 6 project rooms
• Students' House
• 3D printing room

DEVELOPING THE TALENTS OF TOMORROW

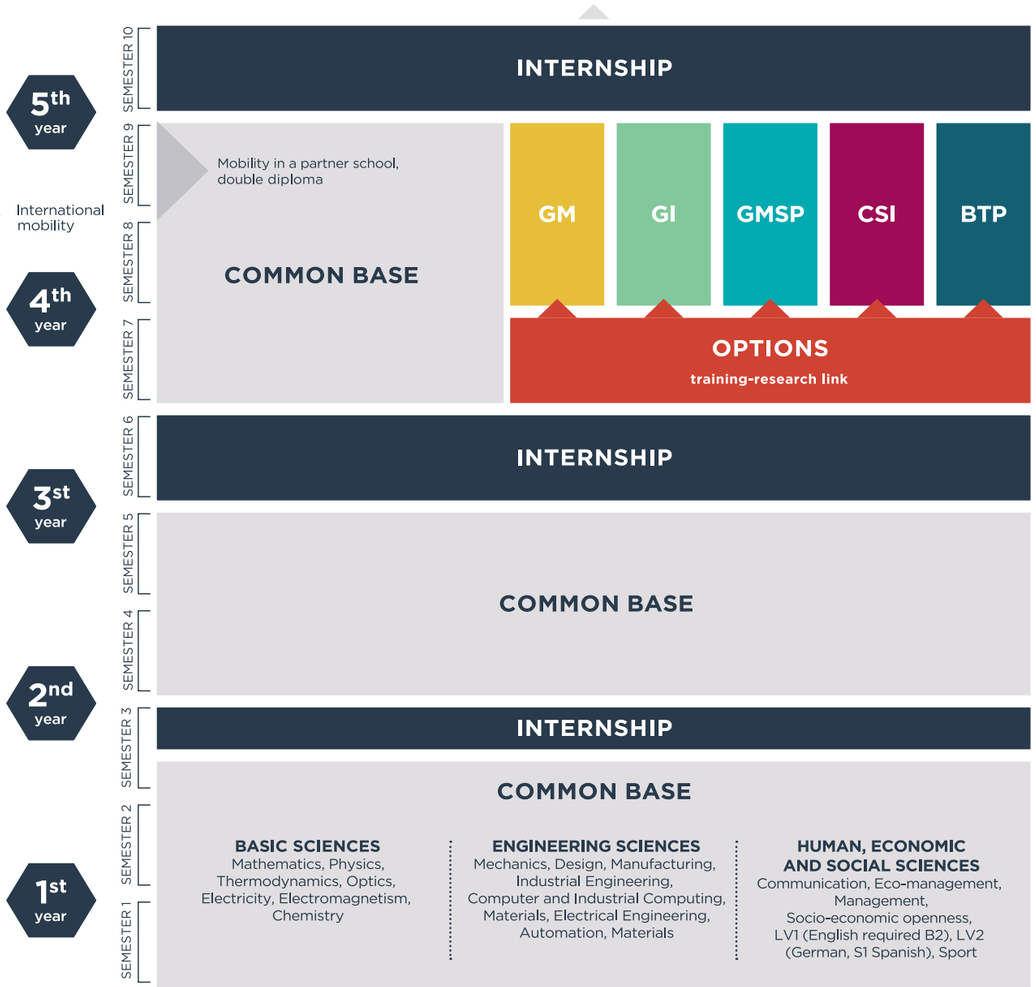
A MULTI-SKILLED ENGINEERING SCHOOL

The school trains general engineers though it is oriented towards Mechanical Engineering and Industrial Engineering. Graduates are able to design, implement and operate industrial systems and production equipment with respect for the environment, standards and safety.
The multidisciplinary nature of the courses allows students to develop innovative skills,
openness and adaptability, essential in an increasingly demanding industrial environment.

ENIT provides quality training that responds to the needs of companies.

ENIT provides a five-year training course in accordance with European standards: semestrialization of the curriculum, evaluation by ECTS, diploma supplement, awarding of the ENIT engineering diploma which grants a MASTERs degree.

EMPLOYMENT, thesis, VIE/VAE, other courses



▶ FROM SEMESTER 7, FIVE OPTIONS BELOW:

INTEGRATED SYSTEMS DESIGN
Design of systems architectures, on-board energy management, robotics and autonomous systems algorithm

MECHANICAL ENGINEERING
Design, manufacturing, dimensioning, modelling and numerical simulation of mechanical systems

BUILDINGS AND PUBLIC WORKS
Structural design and calculation, geotechnics, earthworks, housing and energy, building equipment

ENGINEERING OF MATERIALS AND STRUCTURES AND PROCESSES
Materials and design, commissioning of materials metallurgy, durability, metals and composites

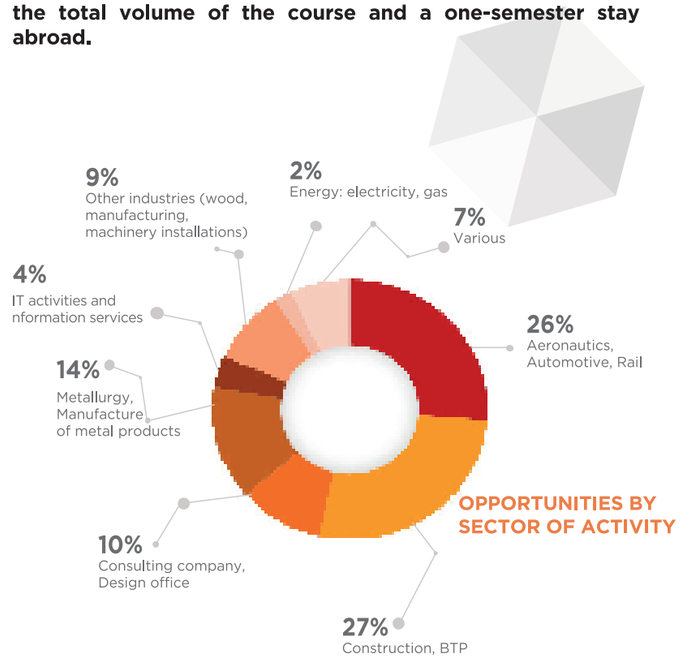
INDUSTRIAL ENGINEERING
Organisation, logistics, production, management, risk management, performance evaluation, lean manufacturing

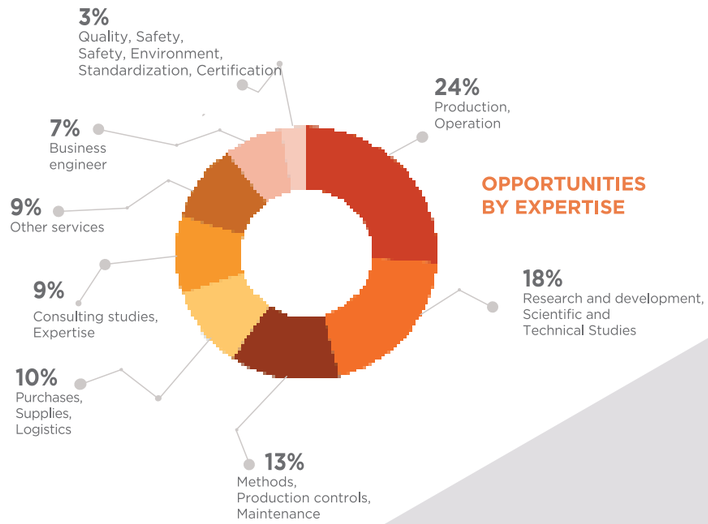
STRONG LINKS BETWEEN TRAINING AND RESEARCH

• 50 teacher-researchers are involved in teaching using **excellent equipment** and resources which are shared between teaching, research and innovation
• External speakers from the world of industry, are frequently invited to participate in teaching courses, giving lectures and supporting projects
• Our students receive an education that focuses real-life problems in companies and gives them **real insights into their future working life**
The training cycle includes 3 industrial placements (2 internships and 1 End of Study Project) which constitute **30% of the total volume of the course and a one-semester stay abroad.**

The options offered to students are linked to the laboratory's current research projects. The profile of engineers trained at ENIT is thus enriched by this contact with research. The laboratory regularly accepts ENIT students on internships or IEPTs.
Four masters courses are offered the ENIT engineering diploma:
• Master 2 Sciences for the Mechanics of Materials and Structures (SMMS)
• Master 2 Elaboration, Characterization and Surface Treatments (MECTS)
• Master 2: Product Lifecycle Management (PLM)
• Master's degree in Eco-Engineering, speciality in Sustainable Development Engineering (MSEI)

Some students stay on to do their thesis at our laboratory and go on to work in R&D in industry or to teach in higher education in France and abroad.





RECRUITMENT STANDARDS AND PATHS TO OBTAIN AN ENIT ENGINEERING DEGREE

• **Initial training:** Student status: BAC, BAC+2, BAC+3 Apprentice status: BAC+2 and employment contract
• **Continuing education:** BAC+2 or equivalent + 1 preparatory cycle
• **VAE:** BAC+2 and professional experience
• **Professionalization contract in 5th year (employment contract)**

BECOMING AN ENGINEER THROUGH APPRENTICESHIP
Mechanical Engineering and Building Engineering options Public Works are proposed according to the student's initial career path and the host company.

MORE INFORMATION
Admissions service
admissions@enit.fr
+33 (0)5 62 44 27 04 / +33 (0)5 62 44 27 05

ENIT AT THE HEART OF RESEARCH AND INNOVATION

ENIT puts its scientific and technological skills and resources benefit the socio-economic fabric.

THE PRODUCTION ENGINEERING LABORATORY

In **combination with training, technology transfer and industrial development**, ENIT conducts multidisciplinary **research in the field of systems engineering sciences** within the Production Engineering Laboratory (LGP).
Created in 1989, the LGP has more than 130 employees (teacher-researchers, doctoral students, engineers) involved in the disciplines of materials, mechanics, electrical engineering, computer science, robotics and production science and technology.

A STRONG DYNAMIC PARTNERSHIP

Most often, research is carried out as part of collaborative projects involving academia and industry. The LGP has built a **network of partnerships** in different fields: rail, aeronautics, health, construction, services, environment.
This research has led to numerous national and international collaborations.

- 55 teacher-researchers and 62 doctoral students
+ than 300 PHDs trained
+ than 20 professors qualified to lead research
- Partnerships within projects for an annual budget of 3 M€

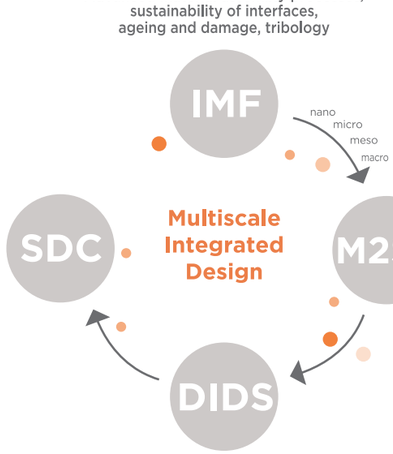
4 RESEARCH TEAMS

Interfaces and Functional Materials

Advanced material assembly processes, sustainability of interfaces, ageing and damage, tribology

Decision-making and Cognitive Systems

Knowledge engineering (computing, management of intangible assets): artificial intelligence, post mortem documentation, data sharing, risk assessment, Prognostics and Health Management (PHM), decision support



Material, Structure and Process Mechanics

Experimental mechanics (fatigue, contact-free measuring of fields) modelling and digital simulation, manufacturing process optimization (machining, ALM metals)

Decision and Interoperability for System Dynamics

Systems engineering: production, planning, supervision, pilot control, virtual reality, vision, HW/SW co-design, robotics, human-machine interaction, power electronics

« Aware that additive manufacturing will become an essential brick of the industry, the school has mobilized to invest in this new field. On the training side, modules and practical work related to polymer and metal additive manufacturing have been opened to give future engineers the opportunity to specialise in design, topological optimization, manufacturing simulation and to stimulate them to explore these trades of the future. On the Research and Laboratory side, a platform dedicated to additive manufacturing called CEF3D was created in 2018. Equipped with 2 3D metal printing machines, this platform specializes in additive manufacturing by laser fusion on a powder bed metal, and brings together a consortium of manufacturers covering the entire value chain (powder manufacturers, machine manufacturers, simulation software manufacturers, 3D printers, machine manufacturers, end users). My experience in the machine tool world, first as a teacher-researcher and then as an entrepreneur encouraged me to create a real co-piloting of this platform with industry. Today, as scientific manager of CEF3D, I work with the lecturers and researchers of the LGP and my young team of 2 engineers and 2 doctoral students, SMEs and large groups to help them master additive manufacturing, which is a real revolution. »

Lionel Arnaud, Associate Professor-Researcher

MORE INFORMATION
Secretary's office
lgp@enit.fr
+33 (0)5 62 44 27 16

TECHNOLOGICAL CENTRES THAT DRIVE INNOVATION AND INDUSTRIAL PARTNERSHIPS

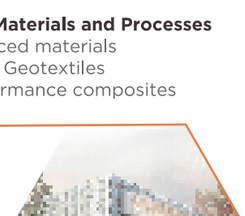
ENIT brings together routstanding experimental and testing resources which are available to researchers, students and industrial partners:
- 2 Resource and Competence Centres within the establishment: CIMMES and IDCE
- 2 centres located outside the university campus: PRIMES and METALLICADOUR
- 2 centres on campus: CRTCI and CEF3D

Advanced technological platforms developed in partnership with companies and for companies

Innovative Materials and Processes

Innovative Materials and Processes
- Agro-sourced materials
- Innovative Geotextiles
- High performance composites

Study Centre for 3D Manufacturing
- Additive manufacturing
- Topological optimization
- Modeling and numerical simulation
- Mechanical and metallurgical characterization



Mechanical, Materials and Surfaces Engineering Center
- Mechanical expertise
- Assemblages
- Durability
- Thin films and coatings
- Metallurgical expertise

Platform of Research and of Innovation in Mechatronics, Energy and Systems
- Design and multiphysics simulation
- Prototype manufacturing in clean rooms
- Electrical testing of systems of high power
- Non-destructive testing
- Characterizations of functionality, reliability under different constraints

Information, Decision and Communication in Companies
- Software design and development
- Virtual reality, vision and robotics
- Performance evaluation
- Simulation and flow management
- Command Control

Resources Centre and technology transfer
- High performance machining
- Welding FSW, TIG and MIG CMT
- Robotization of machining and assembly operations
- Programming of optimal trajectories

A LONG-TERM STRATEGY OF PARTNERSHIPS WITH COMPANIES FOCUSED ON THE INDUSTRY OF THE FUTURE

In 1963, the leitmotif at the foundation of ENIT was to meet the need for engineers in industry.
In line with this founding principle, the school still places companies at the heart a strategy, based on both human beings and technology. ENIT strives constantly to improve the quality of its training and research in order to position itself as an essential player in the industry of the future.
Companies are more than partners and in fact, become real stakeholders in the direction ENIT is taking through their active participation in governing bodies.
ENIT/company relations are based on a win-win paradigm: the school continutes to develop positively as it responds to business challenges.

3 key areas: Skills development / Talent sourcing / Support for innovation

COMPANIES AT THE HEART OF ENIT'S STRATEGY

TRAIN

- Continuing education leading to a diploma
- EAV
- Continuing training leading to a qualification custom-made

INNOVE

- Research contracts
- Expertises
- Technological platforms

THE COMPANY

RECRUIT

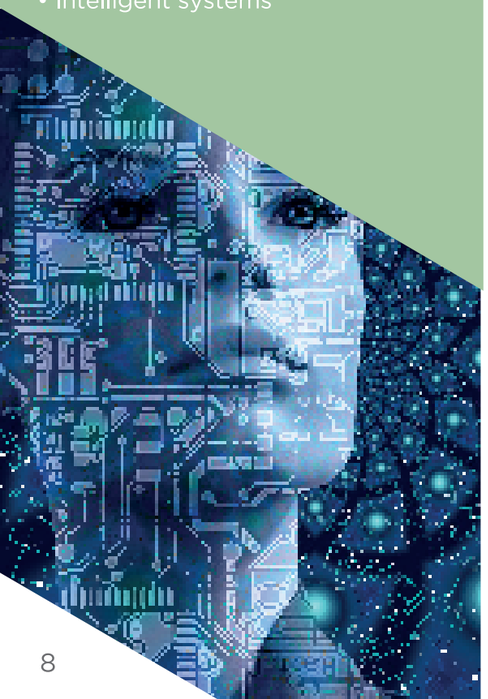
- Internships and IEPTs
- Apprentices
- Professionalization contracts
- Business Forum
- Professional Days
- Industrial Conferences

PARTICIPATE

- Apprenticeship tax
- Sponsorship
- Training
- Governance

OUR AREAS OF EXPERTISES

- Mechanics
- Materials (metallic, polymers, agrosourced)
- Processes (Additive manufacturing / Machining)
- Robotics
- Power Mechatronics
- Digital
- Virtual Reality, Augmented Reality
- Artificial Intelligence
- Intelligent systems



« Airbus is proof, if necessary, of the diversity and richness of career opportunities that the general and technical training from ENIT provides.
In fact, more than 180 ENIT engineers have established themselves in the company's very varied fields, ranging from research and technology to customer services, including design office, methods, purchasing, planning, logistics, production, general resources, management control, sustainable development and information systems. A high level of professional success has been acheived in management, project management, strategy and expertise.
In addition to technical know-how, Airbus is looking for engineers with increasingly high levels of behavioural skills, interpersonal skills, agility, collaboration, creativity and initiative to support the ongoing digital revolution in an international environment. These elements are being integrated more and more into Enit's training and apprenticeship curriculum. »

Jean-Claude Viguier, Senior Vice President AIRBUS

MORE INFORMATION
dai@enit.fr
+33 (0)5 62 44 27 15

INTERNATIONAL WITHIN THE SCHOOL

Aware of the global challenges that every engineer now faces, ENIT offers rich intercultural experiences, which are essential for engineers who are open to the world and able to adapt to multicultural environments.
The school offers the opportunity for international mobility to its students and teacher-researchers. Its foreign cooperation policy is based on the signing of cooperation agreements and European projects.
It has established partnerships **with 161 universities in 37 countries.**

INTERNATIONAL STUDENT MOBILITY

ENIT has introduced international mobility for a minimum duration of 16 weeks, as part of an internship and/or semester of study. This is certainly an added value for the future professional careers of our students.
The school has its own financial support system for international mobility.

THE STUDY SEMESTER

Courses taken at a partner institution abroad are validated as an integral part of the ENIT students' curriculum.
In parallel, the school welcomes many foreign students each year for one semester of courses, particularly within the framework of the cooperation programmes with Latin America (FITEC programmes).

« EUROPEAN PROJECT SEMESTER »

This unique programme, aimed at engineering students, brings together 19 universities and schools in 12 countries across Europe. For one semester, students follow courses and work in groups on industrial projects, exclusively in English. **ENIT is the only school in France to offer EPS**, and each year welcomes up to 30 students and sends more than 40 students to the network's institutions.

INTERNSHIPS AND GRADUATION PROJECTS

ENIT allows its students to carry out both their 2nd and 3rd year internships and their final year project. Students go to Europe (Spain, Germany, England, Netherlands) and outside Europe (Argentina, Canada, South Africa, USA).

THE DOUBLE DIPLOMA

In order to give their career path an international dimension, ENIT students can have the opportunity of obtaining a double degree by completing part of their course at one of the **13 partner institutions abroad.** ENIT has also established a **complementary agreement with a Canadian institution** allowing French students to obtain a master's degree in Canadian professional engineering.

RESEARCH WITH AN INTERNATIONAL DIMENSION

The professor-researchers of the Production Engineering Laboratory carry out teaching or research missions in partner institutions abroad and collaborate on international research programs.
The school also welcomes many foreign researchers who come to train at the LGP, share their work and contribute to the training of our students.

* Inter-University Cooperation Office

- Semester of studies
- Internship and European Project Semester
- Double diploma
- Teacher-researcher mobility
- European Project Semester

Thanks to Enit I was able to complete an EPS semester in Valencia in Spain and a double degree at the U CM in Argentina. These two expériences were highly complementary. The EPS semester helped me to improve my English and to develop project management skills. My year in Argentina for the double degree, allowed me to live totally immersed in another country. I followed courses oriented toward industrial engineering and did an internship in a large vineyard where I learned about new working methods. Today thanks to these experiences I speak three languages fluently and hope to become a business engineer. International experiences are a real opportunity for students and a plus for their future ! »

Nicolas, 23 ans, semestre 9

MORE INFORMATION
relinter@enit.fr
+33 (0)5 62 44 27 50