

The "Ingénieur"

ISAE-SUPAERO
(MSc) Degree

Excellence
with passion

isae 
Institut Supérieur de l'Aéronautique et de l'Espace
SUPAERO

Aeronautics and space: share our passion

A SPIRIT OF CONQUEST FROM THE VERY BEGINNING

Created by ambitious, passionate scientists, SUPAERO was the very first aeronautical engineering school in the world, founded more than 100 years ago. Today, our passion and our vision remain intact. They are our driving forces and they carry us forward in our quest for academic and scientific excellence. Over time, our graduates have contributed greatly to the development of the aerospace sector, and ISAE-SUPAERO has benefited from a sustained international reputation thanks to its engineers and the quality of its academic programs and researchers. Wide range of programs and the many partnerships forged with the academic and industrial worlds have made ISAE-SUPAERO a point of reference and a model to follow.

« *INGÉNIEUR* » ISAE-SUPAERO (MSc): EXCELLENCE IS OUR TARGET

In an environment of state-of-the-art technologies where there are heavy stakes for participating in sustainable development activity and maintaining a constant innovative capacity, more than ever, our engineers must combine a solid scientific culture with a mastery of technical know-how and socioeconomic and human skills. We are training this generation of engineers to be capable of designing complex systems architectures, producing and implementing solutions in a wide range of fields and, first and foremost, working in an international environment. We encourage and instill this necessary intelligence so that our engineers can innovate and conquer new fields of research and applications, notably in the aeronautics and space sector, all in spirit of innovation.

FOR >
100 YEARS



« Tomorrow is
our purpose »



We are at the heart of the **European capital** of aeronautics and space

The leading region in France and Europe for aeronautics and space education and research
Toulouse 4th city and university of France: one of the most desirable places to live

OUR ALUMNIS' SUCCESES

- **Inventors:** from the designer of the first jet airplane to the inventor of the black box
- **Leading industries:** Airbus, Dassault, Safran, Thales, many directors of major companies and groups in France, Europe and around the world in diverse sectors: ATOS, AXA, IBM,...
- **Heads of major programs:** Caravelle, Concorde, Airbus A320, Airbus A380
- **Astronauts:** 3 out of the 6 astronauts of the ESA selection in 2009

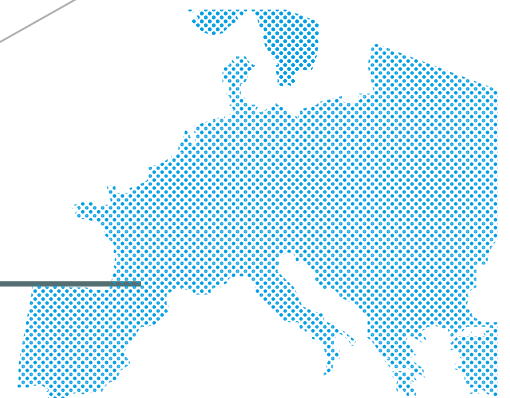
More than
1700 STUDENTS:
1500 MASTERS AND **200** PhDs
30% FOREIGN STUDENTS
AN ACTIVE INTERNATIONAL
ALUMNI NETWORK

ISAE-SUPAERO a public institution of higher education and research

A wide range of degree programs
in aerospace engineering:

3 MASTERS PROGRAMS
15 ADVANCED MASTERS
6 DOCTORAL PROGRAMS (PhD)
16 CERTIFICATES

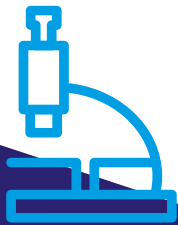
Toulouse,
France



Nearly 90,000 jobs directly related
to aeronautics and space

*« A worldwide reference
in aerospace engineering »*

Opening the doors of research



WORLD CLASS RESEARCH FACILITIES

- Autonomous system platform for micro-drones and robots
- Critical embedded systems platform
- Flight simulators and neuroergonomics platform
- Wind tunnels, aeroacoustic wind tunnel
- Turbofan Test Bed
- Drop tower, gas guns
- Fleet of 9 aircraft: TB 20, Robin DR 400, Vulcanair P68 Observer
- Software defined radio room
- Clean rooms for satellite integration
- Ground station for satellite tracking and operation
- Satellite command and control center

A FRUITFUL UNION OF TEACHING AND RESEARCH

For us, it is essential for research professors and students to be able to take advantage of state-of-the-art tools and facilities to work under the best possible conditions.


At the heart of aeronautics and space issues, we work in cooperation with many institutional, industrial, academic and research institutes worldwide to carry out scientific work in the following fields: aerodynamics and propulsion, behavior of materials and structures, image sensors, signal processing, space instrumentation for exploration, embedded systems engineering, communication networks, design and operation of aerospace vehicles, neuroergonomics and human factors for flight safety.

We stand by your side to provide you with the resources you need every day so that you can immerse yourself in science and technology. Throughout your studies, you will be in direct contact with the teaching and research departments and with the research professors working at the various research units. The exploration of new channels – the source of innovation – is at the heart of our training and research strategies. Designing new aircraft that are ever cleaner, ever quieter, ever safer, and that consume less fuel means we must work on new concepts in aerodynamics, acoustics, engines, avionics and safety.

INNOVATION ENCODED IN OUR DNA

InnovSpace, dedicated to innovation and entrepreneurship, provides a prototyping space inspired by FabLabs. It includes a showroom reserved for innovative research programs, a pre-incubator for start-ups, an area dedicated to immersive technologies and a “concurrent” engineering center open to everyone on the campus.

Drones with inflatable structures, solutions for improving data transmissions or turnkey space systems – large-scale projects benefiting from support from the Institute and its Foundation.

The image is a composite. The top right portion shows a satellite or space station module orbiting Earth, with the planet's clouds visible below. The bottom left portion shows a male scientist in a white lab coat, wearing a hairnet, safety goggles, and blue gloves. He is working with a large glass flask on a laboratory bench. In the background, there is a computer monitor displaying data, a rack of test tubes, and other lab equipment. A yellow triangular graphic element points from the text towards the scientist.

***At the center of
aerospace engineering's
development since 1909,
we give you the keys to
invent the world
of tomorrow***

Join the «Ingénieur» ISAE-SUPAERO (MSc) program

If your university does not have a partnership with ISAE-SUPAERO



RECRUITMENT:

Based on the excellence of scientific and technical background

2 WAYS:



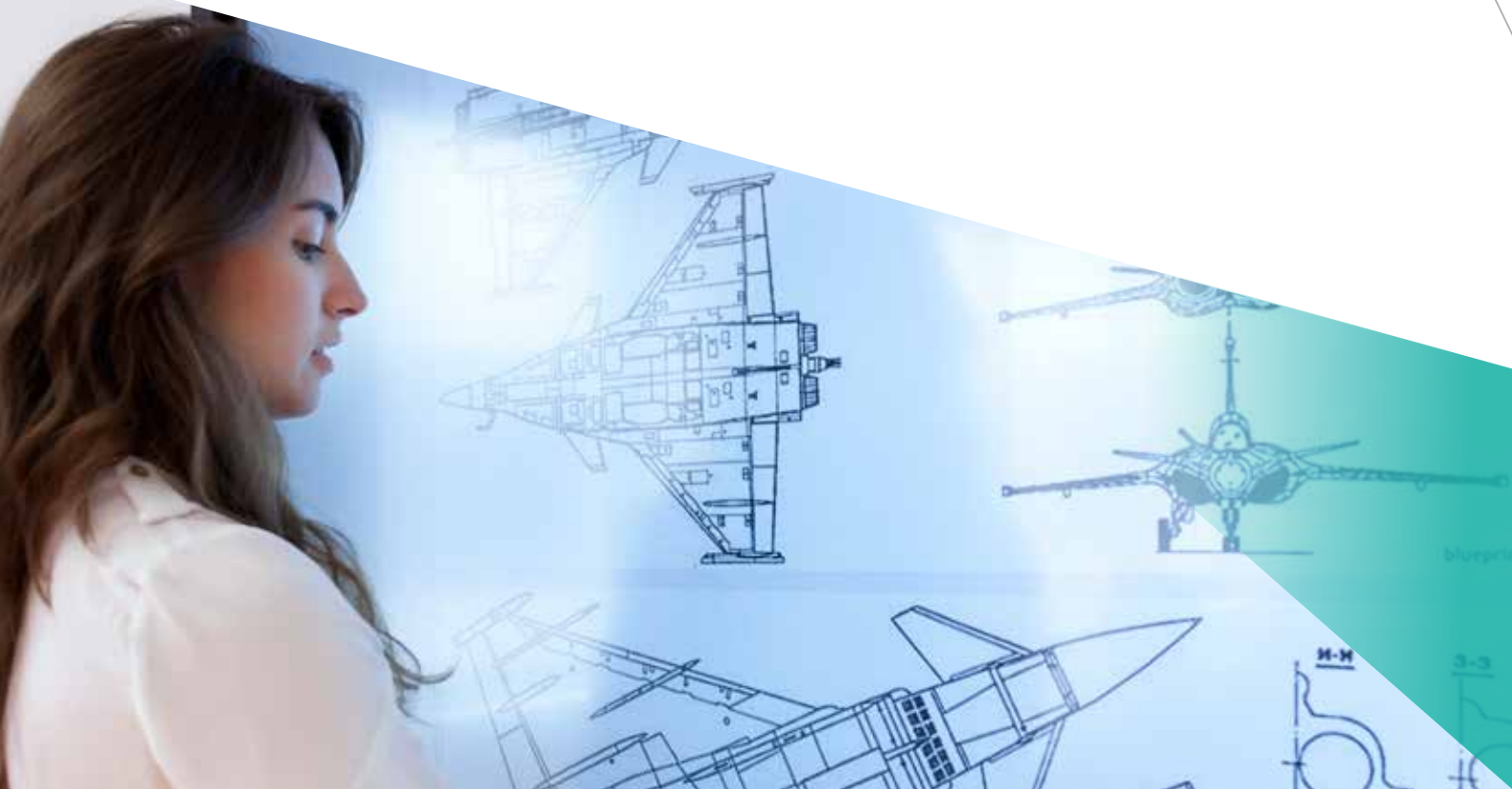
**Competitive exam common to
l'Ecole Polytechnique**

<https://www.polytechnique.edu/admission-cycle-ingenieur/en/entrance-exam-filière-universitaire-internationale-fui>



Online application to ISAE-SUPAERO

www.isae-supaero.fr/en/academics/ingenieur-isae-supaero-msc/admissions/



If your university is a partner of ISAE-SUPAERO



RECRUITMENT:
Based on academic records and qualifications

3 POSSIBILITIES



Semesters Exchange 1 or 2 semesters

- / 1 or 2 semesters in French in the Ingénieur ISAE-SUPAERO program
- / Spring Semester in Aeronautical Engineering (in English)
- / Semester Research project - internship in ISAE-SUPAERO laboratories

Double Degree Program

Admission for 2 years in the 2nd year of the ingénieur program (after completion of a 60 ECTS at master level)
Courses in french

Short programs

- / GEA Aeronautical Summer Program (in partnership)
- / Space Summer Program (in partnership with the ISAE Group)
- / Summer School in Management of Aerospace Programs (MAP-SS)



FINANCING:

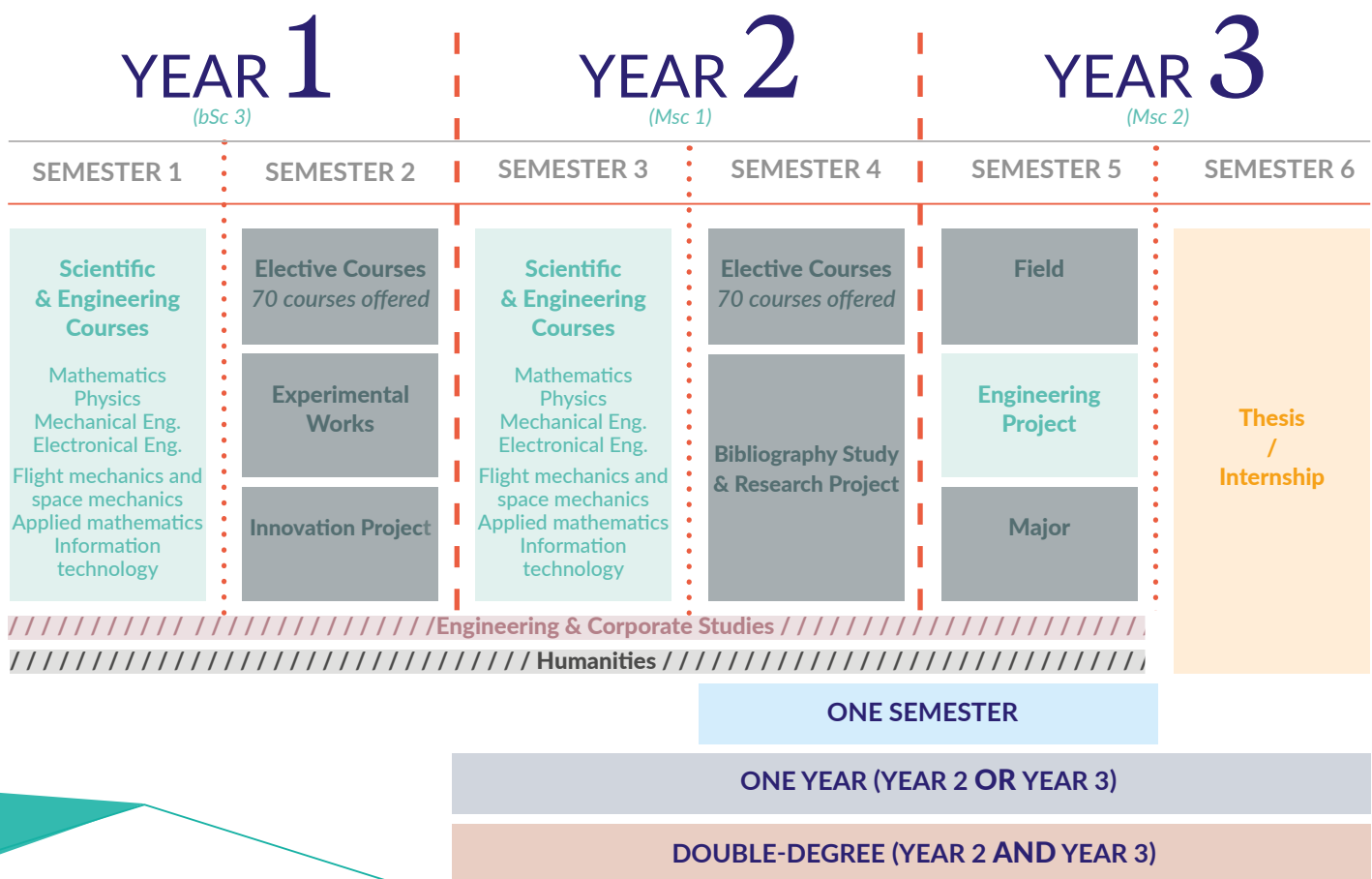
merit scholarships, industrial partnerships, scholarships from French public institutions and Erasmus +

For more information on the admissions procedure, please visit:
www.isae-supaero.fr/en/admissions-en/ingenieur-isae-supaero-msc-admissions/

For more information, please visit:
<https://www.isae-supaero.fr/en/academics/semesters-and-short-programs/semester-and-short-programs/>

Information on French diplomas, the BMD/LMD system and equivalencies:
<https://www.diplomatie.gouv.fr/en/coming-to-france/studying-in-france/>

Focus on the Engineering program



« An innovative multi-disciplinary curriculum tailored to yours needs »

INTERNSHIPS

In cooperation with the Career Center and the network of industrial players, internship possibilities are offered in MSc1 and MSc2.

IN MSC 2, IN-COMPANY WORK-STUDY TRAINING IS POSSIBLE

With a professionalization contract signed between the student and the company, the 3rd year alternates between a period of on-campus studies and work in the company for a real professional experience. The company covers the tuition fees and remunerates the student.

FRENCH COURSES FOR INTERNATIONAL STUDENTS (FLE – FRENCH AS A FOREIGN LANGUAGE)

These general French courses (levels A1 to B2) will enable you to work on the different linguistic and cultural skills you need for everyday communication and acquiring the linguistic tools needed to follow the engineering training program. 3rd year students can prepare the Level C1 Science DALF (Diploma in Advanced French Language) in a 20-hour program.

More information:

<https://www.isae-supaero.fr/en/admissions-en/french-courses-for-international-students-fle/>

INTERCULTURAL WORKSHOP: LEARNING TO WORK IN AN INTERNATIONAL TEAM

Students in various training programs come together for a unique intercultural learning experience. The principle is simple: in teams, you are confronted with roleplay situations that help you to develop your communication skills in intercultural contexts.

FLIGHT MECHANICS LIVE! EXPERIENCE IT CLOSE UP

To illustrate the flight mechanics course, we have set up an interactive amphitheater in which an instructor has a radio link with the pilot of one of the Institute's airplanes and asks him/her to perform maneuvers during class. The flight parameters, transmitted to the amphitheater by remote measurement, are displayed in the form of curves or reproductions of flight instruments. The students concentrate on analyzing the parameters while enjoying the "direct" feel.

PROJECTS AS LANDMARKS DURING THE PROGRAM

Projects are essential, encouraging the scientific, intellectual and human openness that students need. They also help you to develop learning through real-life situations, applications and achieving concrete products. The research project is done in MSc1 and the company engineering project in MSc2.



Choosing openness and expertise

In MSc2,
choose your program of study and
your field of application

You get to choose between six programs of study and many pathways depending on your experiences and your projects! The goal is clear: developing your own scientific approach in a state-of-the-art discipline and acquiring real expertise for technical professional aims or for a research goal.

In order to encourage a cross-curricular view and to enrich systems architect approaches, we offer 6 fields of application and various pathway options. Which one is for you?

///// CHOOSE YOUR SECTOR OF EXPERTISE /////

FLUID DYNAMICS

- External aerodynamics
- Turbomachines and combustions

STRUCTURES AND MATERIALS

- Digital mechanics
- Aeronautical and space materials
- Aeronautical and space structures

OBSERVATION OF THE EARTH AND UNIVERSE SCIENCES

- Universe Sciences
- Earth Sciences

INFORMATION TECHNOLOGY, TELECOMMUNICATIONS AND NETWORKS

- Embedded computer systems
- Telecommunications and networks

DECISION SCIENCES

- Industrial engineering
- Financial engineering
- Data and decision sciences

SIGNALS AND SYSTEMS

- Electronics
- Signal and image processing
- Automation

///// CHOOSE YOUR FIELD OF APPLICATION /////

DESIGN AND OPERATION OF AIRCRAFT

- Airplane architecture
- Helicopter architecture
- Increasingly electrical aircraft
- Aeronautical propulsion
- Neuroergonomics

AUTONOMOUS SYSTEMS

- Robotics
- Drones
- Missiles

ENERGY, TRANSPORTATION AND THE ENVIRONMENT

- Energy and networks
- Transportation and intermodality

MODELING OF COMPLEX SYSTEMS AND SIMULATIONS

- Engineering mathematics
- Physics

NEURO AI

- Neuroergonomics
- Experimentation, measurements and brain-machine interfaces
- AI methods and tools for neuroergonomics
- R&D Project

DESIGN AND OPERATION OF SPACE SYSTEMS

- Space transport systems
- Orbital systems

Choose to go further!

Widening your range of choices and satisfying your curiosity and your thirst for knowledge – you can do so alongside your MSc2 year by opting for additional training programs. Here, you can choose to have a choice.



CERTIFICATES AND MASTERS DEGREES

CERTIFICATES

1- to 2-month training programs at the end of MSc2

Certificate in systems engineering (INCOSE)
Certificate in business engineering (DESIA)
Environmental Engineering Certificate (AIRBUS)
Certificate in Entrepreneurship

CO-AUTHORIZED MASTERS DEGREES

Programs given alongside the MSc2

Universe sciences and Space technologies
Energetics, thermodynamics
Mathematics and applications
Mechanics
Networks and telecommunications

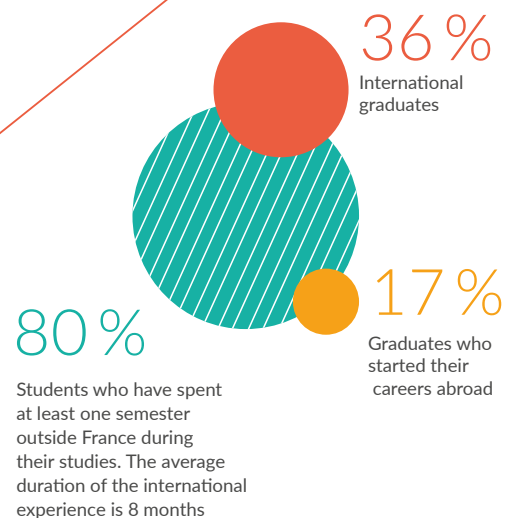
71%

of 2018 graduates obtained a double diploma, a certificate or a MSc



International studies for new horizons


Studying means listening, having a passion and wanting to understand... it means studying and making progress with your eyes wide open on the world. Listening to this world in perpetual movement where everything is changing, transforming and being reinvented – ISAE-SUPAERO encourages students to have experiences abroad throughout their courses and welcomes international students who share in this openness to the world. Everyone is welcome!



**14% INTERNATIONAL STUDENTS
IN THE ENGINEERING PROGRAM**


*«Knowledge knows
no borders »*

//////// EUROPE //////////

 **Germany:** RWTH Aachen University, TU Berlin, TU Braunschweig, TU München, Universität Stuttgart, TU Dresden

 **Belgium:** Université Libre de Bruxelles, Université de Mons, Université de Liège, Université Catholique de Louvain, KU Leuven, Vrije Universiteit Brussel

 **Spain:** Universidad Politécnica de Madrid, Universitat Politècnica de Catalunya, ETSI Bilbao, ETSI Sevilla, UPV-ETSID, Universitat Autònoma de Barcelona

 **Great - Britain:** Bristol University, Imperial College, University of Southampton, University of Glasgow, Cranfield University...

 **Italy:** Politecnico di Milano, Politecnico di Torino, Università di Napoli Federico II, Sapienza - Università di Roma

 **Lebanon:** USJ Beyrouth

 **Norway:** NTNU Trondheim

 **The Netherlands :** TU Delft

 **Poland :** Warsaw UT, Lublin UT

 **Portugal :** Técnico Lisboa

 **The Czech Republic :** CTU Prague

 **Romania :** UP Bucharest

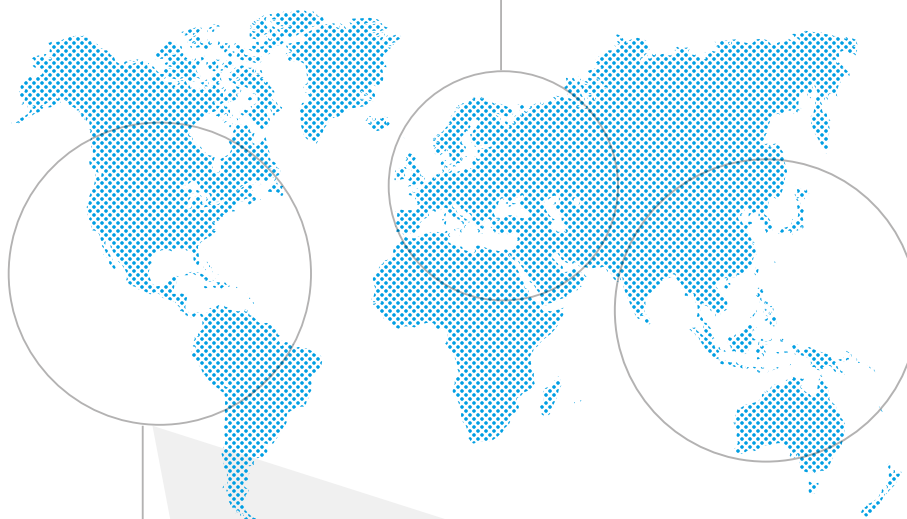
 **Russie :** Moscow Aviation Institute, BMSTU, Samara University

 **Sweden:** KTH, LTH

 **Switzerland:** EPFL




66 NATIONALITIES
ARE PRESENT
ON CAMPUS




//////// OCEANIA //////////

 **Australia:** QUT Brisbane

//////// ASIA //////////

 **China:** BUAA, NUAA, CAUC, Tsinghua University


 **India:** IIT Bombay, IIT Madras, IISc Bangalore

 **Japan:** University of Tokyo, Tohoku University, Kyutech

 **Singapore:** NUS

//////// NORTH AMERICA //////////

 **Canada:** Polytechnique Montréal, Université d'Ottawa, Concordia University, University of Toronto

 **The United States:** chaque année des élèves sont admis à Stanford University, UC Berkeley, GeorgiaTech, California Institute of Technology Caltech, University of Michigan - Ann Arbor, University of Illinois at Urbana- Champaign UIUC

//////// SOUTH AMERICA //////////

 **Argentina:** UN Cordoba, UN La Plata, UN Rio Cuarto, IUA Cordoba, FRH-UTN

 **Brazil:** ITA, UNIFEI, UFU

 **Colombia:** UNAL

Our partnerships with renowned international universities

94
FOREIGN
PARTNER
UNIVERSITIES

102
COOPERATION
AGREEMENTS

32
DOUBLE
DIPLOMAS

28
COUNTRIES



*« Making the future
possible »*

« I was a Space Engineering student at Politecnico di Milano,

and I enrolled on a Double Degree program at ISAE-SUPAERO. During the 3rd year, I chose the fields "Operation and design of space systems" and "Signal & Systems". ISAE-SUPAERO helped me to fill the gap between the very theoretical approach that we have in Italy and the real professional world of engineering, thanks to many projects and a lot of team work held in an international environment and of course the final year internship. Here, I had also the chance to fulfill my childhood dream of getting a Private Pilot License. Moreover I have tried many sports, such as surfing, diving and so on.»

ANTHEA,
Double-Degree Politecnico di Milano, Italia – ISAE-SUPAERO Research (Post-graduate)

«I chose ISAE-SUPAERO because of its prestige;

I joined the engineering program in the 2nd year as part of a double degree with UPM-ETSIAE in Madrid. I got to have an internship at the CNES, earned a certificate in the field of Big Data, and had an end-of-studies internship at Airbus Defense and Space. There is a friendly, international atmosphere on campus, and I was particularly interested in joining the aeronautical sports associations such as parachuting, gliding, ultralight aviation and private pilot licenses at affordable prices for students.»

IÑIGO,
UPM-ETSIAE Madrid, student preparing a double degree

« I was coming from the telecommunications-engineering field,

so studying at ISAE-SUPAERO opened the doors to a new world of aeronautics and space. The Double-Degree program produces great professionals that speak over 2-3 languages fluently and have knowledge in several fields of expertise. Besides the double-degree option, I was offered another great opportunity: combining a part-time job in the engineering industry while increasing my educational background at the school during the last year (3A). Being called "contrat de professionalisation", it allows you to hold a double status of student-employee. By doing this, you finish your academic education with almost 2 years of professional experience (contrat pro + previous internships), allowing you to enter the job market not as a debutant but as a full-fledged engineer. ISAE-SUPAERO is a welcoming institution that offers plenty of fun and entertainment options and activities to its students. Personally, I used to play indoor football every week, among other activities such as being a member of the ski club.»

LUIS,
UPC Barcelona student - ETSETB - Double-Degree and in-company work-study training ISAE-SUPAERO

A solid network for ever more openings and opportunities



Corporate support

250
COMPANIES
support our
development

MORE THAN 30
PARTNERSHIPS
signed with small
and medium-sized
companies
and major players

AIRBUS • DASSAULT • SAFRAN • THALES • AIRFRANCE
MBDA • ALTRAN • CNES • LIEBHERR • ATR • SOPRA
STERIA • AKKA • ALTEN • WAVESTONE • DAHER
IAC • RENAULT • ROLLSROYCE • THEANO ADVISORS
AIR LIQUIDE • ARIANE GROUP • ACCENTURE
ATOS • AVENCORE • CAPGEMINI • CYLAD • EY
MECANO ID • PWC • PRAMANA • STELIA...

/ WHAT PROFESSIONS? /

Duc Duy – China

- Class of 2017

Zodiac Water & Waste
Aero Systems - USA
Systems Engineer

Ali - Lebanon -

Class of 2017

Barclays Investment
Bank - UK
Quantitative
Analysis Assistant
Vice President

Sara – Italia –

Class of 2018

CNES - France
Ground segment
engineer

Adrian – Spain –

Class of 2017

Rolls-Royce plc - UK
Civil Aerospace
Graduate Program

*«A network
for spreading
your wings!» »*

Thomas Pesquet,
a 2001 ISAE-SUPAERO
graduate, astronaut at the
European Space Agency
(ESA). Extravehicular
activity on January 13th
2017, Proxima mission

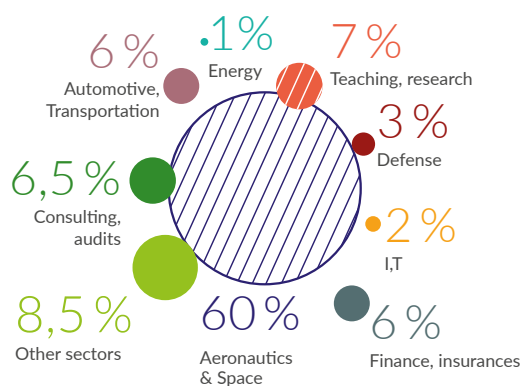
*After ISAE-SUPAERO
comes the time of
endless possibilities!*

*« Wishing you a
happy take-off into
professional life! »*

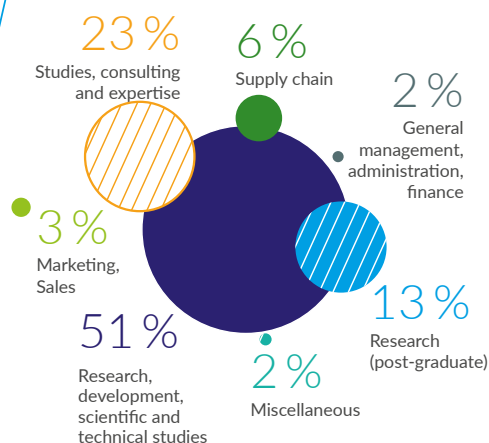
Sponsor of the ISAE-SUPAERO Class of 2018, Thomas Pesquet encourages the young generation of engineers: "Start your professional life with confidence, work hard to solve the problems of our times and those that affect you personally – you have responsibilities to do things that are useful to society and to others. Get fully committed to your future!"

A diploma that will take you to a wide range of professions in many sectors

*Survey on 1st jobs, graduating class 2018



FIELDS OF ACTIVITY*



ACTIVITIES*



74% Hired before
obtaining the degree



Main recruiters
AIRBUS, SAFRAN, ACCENTURE,
DASSAULT, MBDA



Average salary
41 300 €



17% Graduates
started their
career abroad

To flourish you have to build

Not far from the heart of Toulouse, the campus is connected to the city and to its remarkable cultural and popular life. "City of the South", sunny and festive, it jealously holds on to its unique art de vivre, an amazing mix of mellowness and communicative energy.

Toulouse is also unquestionably a metropolis that is great for studying, working together, making discoveries and growing



Campus insiders

*« The ISAE-SUPAERO years,
the time of your life »*

THERE IS LIFE ON THIS CAMPUS

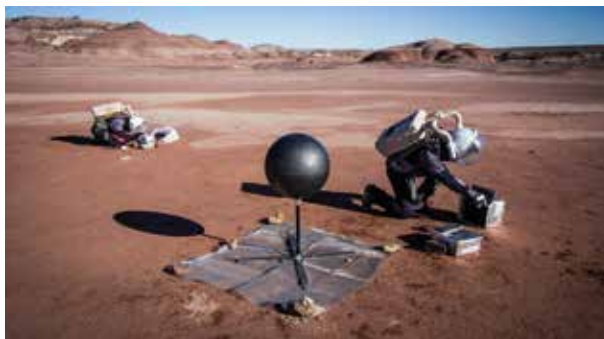
The 22-hectare campus along the Canal du Midi focuses on the well-being of everyone who lives and works there, with areas for learning, living and sports. There are 6 dormitories to welcome you. Work rooms, communal kitchens, self-serve restaurants and cafeterias are all there for you! For relaxation, the Maison des Élèves (Students' House) has a spacious foyer and areas dedicated to clubs. There is everything for hardcore and amateur athletes – a swimming pool, gymnasium, climbing walls, weight room, soccer and rugby fields, tennis courts and squash courts.

OUR ASSOCIATIONS, WHERE YOUR PASSIONS CAN LET LOOSE

The student union, sports office and art office – these three account for over 80 different clubs. There is something for all tastes and all activities are available. Get involved with culture, commit to social and humanitarian actions or join a technical club (micro-drones, space club, aeromodelling, robotics, etc.) or an aeronautics club (skydiving, gliding, paragliding, etc.) – everything is possible.

Everyone can take part, in whatever way they want, in animating campus life and organizing events.

WELCOME TO MARS (THE CLUB)!



At the “Mars Desert Research Station”, in Utah, USA, they can experience with a stay on the planet and meet its challenges. Life in a confined environment, limited resources... Each student must play a predefined role and take on a very real part in the experiment's success. A fun, intense event as well as being essential, with the goal of creating the tools for the “Marsonauts” of tomorrow.

Live the experience



Space aficionados and all lovers of the Red Planet come together at the Mars Club. Every year, students take part in a life-size exercise focusing on this hostile, poorly understood planet.



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