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

MASTER OF SCIENCE
IN AEROSPACE ENGINEERING

2021

Excellence with passion

ISAE-SUPAERO

A world leader in aerospace engineering higher education.

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.

A wide range of degree programs in aerospace engineering:

33 *programs*

33% *international students*

1700 *students*

1500 *Masters and* **247** *PhDs*

56 *nationalities are present on campus*

An extensive, ***active international alumni*** *network and well recognized graduates :*

- *Inventors: from the designer of the first jet aircraft to the inventor of the black box*
- *CEOs and high level executives at Airbus, Dassault, Safran, Thales, ATOS, AXA, IBM, and countless other industry leaders in France, Europe and all over the world*
- *Directors of major programs such as Caravelle, Concorde, Airbus A320, Airbus A380 and Airbus 350*
- *Astronauts*

An exceptional environment in the heart of Toulouse

Europe's leading hub of aerospace industries, laboratories and universities

A Public Institution of higher education and research

The ecological transition: a challenge in the medium term of the aviation sector

In one century, aeronautical engineers have taken up extraordinary challenges: they made air transport very safe, then accessible to all and air transport has made equally impressive progress in energy efficiency.

But that is not enough if we want aviation to continue its development: The aviation sector now has to decarbonize it. This is a new challenge, one requiring as much ambition as previous challenges. New aircraft will have to be invented, working with all aspects of technology and our engineers' creativity.

Technological opportunities have been identified: ever lighter materials and structures, refined aerodynamics, new aeropropulsive integration, electrification of systems and actuators, with a particular challenge in the area of engines and the replacement of fossil jet fuel with other energy carriers. A considerable amount of work remains to be done to bring all these technologies to maturity and to ensure the level of reliability and safety required for use in air transport. This is the job for a new generation of engineers!

In this spirit, ISAE-SUPAERO is adopting a renewed strategy in the area of sustainable development. The specific skills found at the Institute in terms of training, research and innovation mean that it can grasp the problem of air transport's impact on global warming and significantly contribute to finding solutions.

Our students are those who will meet the challenges of decarbonized aviation, which is why our programs are evolving to prepare them for the task. We have always educated creative, rigorous, committed engineers who are capable of mastering complex systems. The flexibility of our curriculum is also a key factor of success for each of our students, by allowing them to customize their program in order to take into account their talents and their dreams.

By also providing training in the challenges of sustainable development and the energy transition, we are preparing our graduates to build a sustainable society and to invent the decarbonized air transport of tomorrow.

For years our research has been directed at future generations of aircraft and mobility for tomorrow. We are working on questions of propulsion, aerodynamics, materials and eco-design for all systems, but also on intelligent man-machine collaboration. Our students are in immediate contact with our laboratories and many of them contribute directly to R&D projects.

The ecological transition in air transport is an exciting challenge for a new generation of engineers, and ISAE-SUPAERO is mobilized to give them the keys to take up this challenge successfully!

The Master of Science in Aerospace Engineering

The Master of Science is a two-year program undertaken after undergraduate studies, including Bachelor's degree or an equivalent degree. It provides higher qualification for employment or further doctoral studies.
The ISAE-SUPAERO Master of Science degree program is internationally renowned and highly regarded as an innovative program in science and technologies. Fully taught in English, this program is designed to prepare engineering students to find and develop solutions to today's and tomorrow's challenges facing the world and the aerospace industry.
The Master is accredited by the French Ministry of Higher Education and Research in line with the European higher education system.

OBJECTIVES

The Master of Science in Aerospace Engineering is intended to educate graduate students in subjects relevant to these demanding challenges and needs of the industry.

Giving students competences in engineering science, technology and design related to aeronautics and space, the MSc AE is designed to be multidisciplinary preparing future engineers to easily and efficiently work on aeronautical systems, space systems and their applications, with emphasis on the complete life cycle of the system. With a large spectrum of knowledge the MSc AE allows students to tackle various aspects from design to operations of products and systems either in a research organism or in an aerospace company in a multinational environment.

LEARNING APPROACH

The ISAE-SUPAERO Master's program is designed with a combination of lectures, tutorials, study cases and projects to be performed in industrial environment or in ISAE-SUPAERO's laboratories. It is taught in English.

The MSc AE program includes three-semester academic session, in ISAE-SUPAERO's premises, provided by permanent professors and experts from aerospace industry bringing current knowledge and experience.

The last semester consists in a master thesis to be performed in a company or a laboratory in the aerospace sector. After the thesis, students having obtained 120 credits under examination will be awarded the Master of Science in Aerospace Engineering from ISAE-SUPAERO.

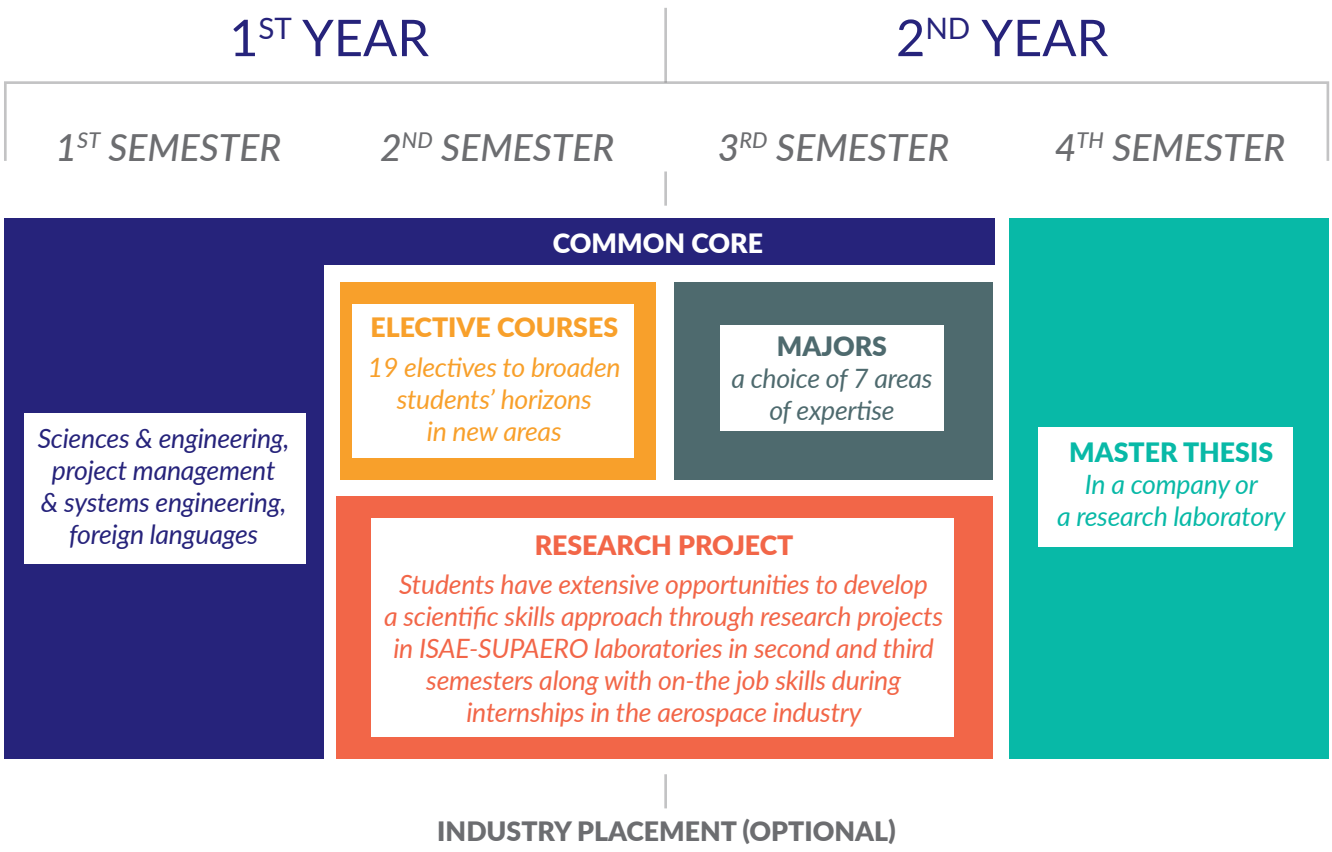
A multidisciplinary curriculum

FULLY TAUGHT IN ENGLISH
4 SEMESTERS OF 30 ECTS EACH

The first semester *of the Master of Science Aerospace Engineering program focuses on the common core curriculum, while the second semester offers a wide choice of electives.*

In ***the third semester****, student choose from among seven concentrations spanning the main aereas of aeronautical and space systems design.*

Student complete a master's thesis in ***the fourth semester****.*



Common core

The core curriculum is multidisciplinary with a strong grounding in science and engineering, along with courses in project management and foreign languages

Sciences & engineering

Objective: to master solid technical and scientific skills in the major disciplines related to aerospace engineering

- *Aircraft systems*
- *Space systems*
- *Human factors*
- *Aviation safety airworthiness*
- *Sustainable aviation*
- *Control*
- *Aerodynamics & propulsion*
- *Flight dynamics*
- *Aeronautical structures*
- *Applied mathematics*
- *Algorithm and computing*
- *Signal processing*
- *Embedded systems*

Project management & systems engineering

Objective: to develop a global, interdisciplinary approach to the design and development of a product or a system

- *Project management*
- *Systems engineering*
- *Air and space law*

Foreign Languages and Soft Skills

Objective: to prepare students to communicate and to work in evolving multicultural, team-oriented environments. French classes mandatory for beginners during the two years program.

- *Languages: french as a Foreign Language, German, Arab, Chinese, Spanish, Italian, Japanese, Portuguese, Russian*
- *Aviation law / Space law*
- *Intercultural Workshop*
- *Soft Skills : self discovery, team work, negociation, professional techniques...*

Electives

Students select four electives among a choice of nineteen

- *Aeroengines Architecture & Performance - Acoustics - Experimental Approach in fluid dynamics - Software for CFD*
- *Mechanics of materials & structures - Aircraft structures - Computational solid mechanics - Structure design project*
- *Object-Oriented Software Development - Simulation for systems engineering - Deterministic Signal processing and Digital Electronics Basics - Space Instrumentation*
- *Control of dynamic systems & implementation - Cloud and computer networking - Adaptive control - Real time control of an aerospace system*
- *MDO - Instrumentation & flight data analysis - Aircraft design methods*

Research Project

Projects are a key component of the program and are designed to broaden students' scientific, intellectual and social horizons.

- *This research project features an experience of research at graduate level over 2 semesters with a focus on acquiring in-depth knowledge, expanding autonomy, and fostering innovativeness and the ability to think critically.*

Majors

Students focus on one of seven areas of expertise including:

Advanced Aerodynamics & Propulsion

- *Applied Aerodynamics*
- *Aeroelasticity & Flexible Aircraft - Aeroelasticity part*
- *Aeroelasticity & Flexible Aircraft - Flexible Aircraft part*
- *Advanced Aerodynamics of Turbomachinery*
- *Numerical Fluid Mechanics*
- *Aeroacoustics*
- *Physics and Modelling Turbulence*
- *Multiphase Flow and Combustion*

Aerospace Systems and Control

- *Multiple-Input, Multiple-Output systems*
- *Control of flexible structures*
- *Robust and optimal control*
- *Systems identification and estimation*
- *Non-linear control*
- *Hybrid control*
- *AI methods and tools for Automatic Control*
- *Aircraft Power Architecture*
- *Aircraft & Space Actuation Systems - Preliminary Design*
- *Model & Sizing of Aircraft Air-conditioning Systems*

Aerospace Structures

- *Aeroelasticity & Flexible Aircraft - Aeroelasticity part*
- *Aeroelasticity & Flexible Aircraft - Flexible Aircraft part*
- *Aerospace Structures - Advanced Structural Dynamics Part*
- *Aerospace Structures - Composite Structures in Services Part*
- *Computational Solid Mechanics*
- *Manufacturing*
- *Mechanics of materials*
- *Space Structures: satellites & launchers*

Embedded Systems

- *Architecture and Programming of Software Systems*
- *Real-Time Systems*
- *Model-Based System Engineering*
- *Real-Time Networks*
- *AI and Autonomous Systems*
- *Architecture, Design and Synthesis of hardware systems*
- *System Dependability*
- *Certification*

Pathway Aircraft Design and Operation:

Student attending majors Aerospace structure and Aerospace system and control can follow the pathway Aircraft Design and Operation. In this case they attend two dedicated modules, in semester 2, and they perform their research project in this field.

Space Systems

- *Space environment and effects*
- *Mission analysis and orbital mechanics*
- *Space communications systems*
- *Space project: tools for simulation*
- *Space systems architecture: ground segments, satellites & sub-orbital planes*
- *Launchers architecture*
- *Satellite propulsion: chemical & electrical*
- *Satellite AOCS*
- *Launchers guidance and control*
- *Satellite electrical systems*
- *On board data handling sub-systems: functions and architectures*
- *Satellite thermal control systems*
- *Estimation and filtering*

Space Imaging, Navigation and Communication

Random signal processing and estimation
Electromagnetism applied to avionics
Satellite-based navigation
Wireless systems, microelectronics, microwave, and optronics
Satellites and orbits
Digital communication basics
Remote sensing and sensors
Satellite broadcasting
Broadband satellite communication systems

Systems Engineering

Requirements Engineering
Systems Engineering Data Technical Management
Systems Modelling and Analysis
Systems Dependability
Systems Design and Architecture
Introduction to Verification & Validation
AIRBUS study case: Systems Engineering & Certification of the A350

Master thesis

- *The master thesis is performed either in industry or in a laboratory. It enables the student to develop deeper knowledge, understanding, capabilities and attitudes. The overall goal of the thesis is for the student to demonstrate the knowledge and capability required to address successfully scientific or industrial challenges.*

Acquiring research experience

PhD Track:

Every year, several Master Graduates pursue PHD studies in our laboratories. Msc and PhD programs can be connected in the frame of a PhD Track, supported by Toulouse School of Aerospace Engineering (TSAE).

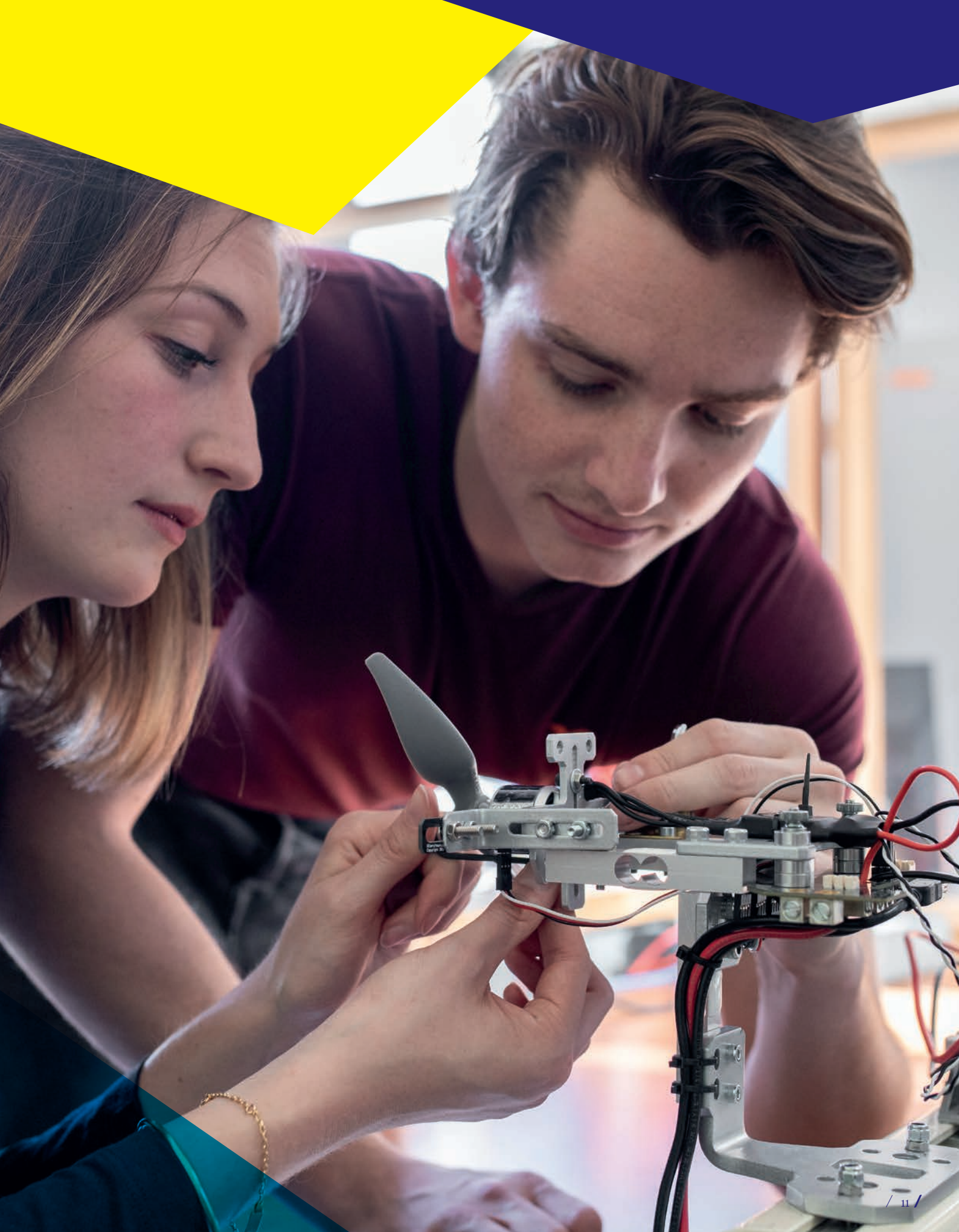
Research laboratories host students to complete their research projects

360
researchers on campus

6 **doctoral schools**

An international center to host and train doctoral students

We are deeply committed to offering our students full access to our research capabilities as well as academic and industrial partnerships, covering the entire field of aerospace engineering. From a research policy point of view, the dual objective is to foster the development of new knowledge as well as to answer the needs of the aerospace industry. Our main research partners are ONERA (the French Aerospace Lab.), LAAS-CNRS and OMP (Astronomical Observatory Midi-Pyrénées), the largest French laboratories in the engineering science and space fields. We have numerous long-term research and development agreements with the main European aerospace companies: Airbus, SAFRAN, Thales Alenia Space, Rockwell-Collins, MBDA and Liebherr-Aerospace. Reflecting our longstanding commitment to aerospace higher education and research, we are a member of the management board of the Aerospace Valley cluster (550 aerospace companies and higher education and research institutions from the Nouvelle-Aquitaine and Occitanie Regions).



World class research facilities

- *Autonomous system platform for micro-drones and robots*
- *Critical embedded systems platform*
- *Flight simulators and neuroergonomics platform*
- *Wind tunnels, aeroacoustics 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 multidisciplinary scientific policy:

5 teaching and research departments

The Department of Aerospace Vehicles Design and Control (DCAS)

supports activities related to design and control during development of aeronautics and space vehicles.
In particular, the DCAS manages a fleet of nine aircraft
The DCAS conducts its own research and is involved in national, European and international research projects.
DCAS researchers work in three research groups:

- *Aerospace vehicle design,*
- *Decision and Control,*
- *Neuro-ergonomics and human factors.*

The 3 research groups collaborate in the following areas:

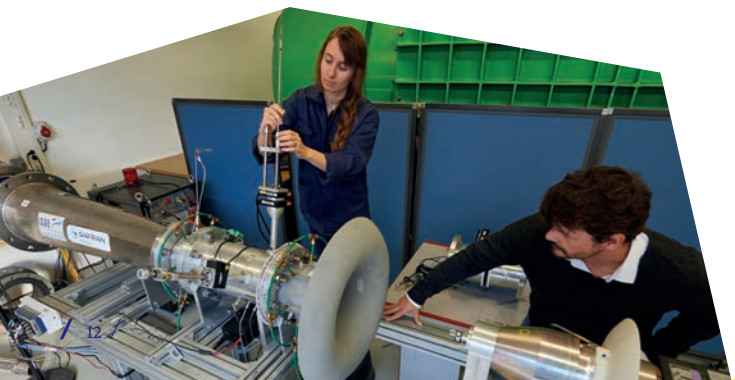
- *Safer navigation and control of aerospace systems,*
- *Integrated multi-disciplinary aircraft design and*
- *Advanced space concepts.*

The Aerodynamics, Energetics and Propulsion Department (DAEP)

is organized on the basis of three core research groups:

- *Fundamental fluid dynamics*
- *External aerodynamics*
- *Turbomachines and Propulsion*

The department works closely with the scientific community on the Toulouse site as well as common research projects with French and international academic partners both on formal bases and relying on researcher to researcher connections. The department also has research agreements and contracts with major aeronautics firms, equipment suppliers and sub-contractors.



The Department of Mechanics, Structures and Materials (DMSM)

organizes and supervises all the teaching activities associated with mechanics of deformable solids for ISAE SUPAERO programs, in synergy with the fundamental and applied research on aeronautics materials and structures. It is based on teams of Professors, and engineers, technicians and administrative staff who anchor work within the Institut Clément Ader (ICA). Researchers also lead and develop crossdisciplinary research areas as part of ISAE-RECHERCHE, thus globally contributing to the emergence of new research lines and new developments.

Three research topics have anchored the activities of the DMSM:

- *Durability & damage tolerance of composite and metallic materials*
- *Modelling & qualification of aerospace structures under static or dynamics loadings*
- *Multiphysics Requirements-Driven Simulation and Design.*

The Department of Electronics, Optronics and Signal Processing (DEOS)

develops skills in signal processing, information processing, and data analysis.

In both teaching and research, the DEOS focuses on the entire information processing chain. This includes sensor and instrument design, signal implementation and transmission, data analysis and using data in advanced aeronautics and space application frameworks.

Department is organized on the basis of four core research groups:

- *Space Systems for Planetology & Applications*
- *Signals, Communications, Antennas, Navigation*
- *MIcroélectroniques Image Sensors*

The Complex Systems Engineering Department (DISC)

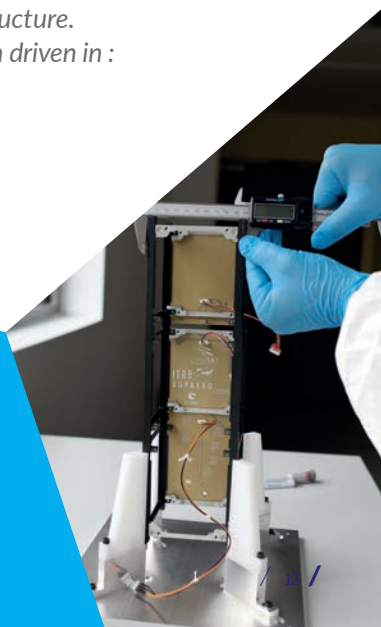
of ISAE-SUPAERO develops knowledge in mathematics and computer science for the aerospace industry.

In education as in research, it is interested in models, methods and tools to control the behavior and the performances of complex systems. This complexity may come from the multiphysics or multiscale nature of the systems, their dynamic behavior or their connected and distributed structure.

The department concentrates research driven in :

- *Applied math*
- *Communication networks*
- *Decision making systems*
- *Engineering for critical systems.*

All 5 departments support a micro-aerial vehicle development program at an international level, on the basis of student projects, research and innovation projects, and international competitions.



Student Projects

THE AIAA SCITECH FORUM 2020, ORLANDO, FLORIDA, USA

Two students of the Msc Aerospace Engineering worked on their project in order to participate to the American Institute of Aeronautics and Astronautics, Scitech Conference in Orlando, (U.S.A.) from the 6th to the 10th of January, 2020.

Charlie Gunawan (Indonesia) and Guido Magnani (Italy) two second year's students of the Master of Science Aerospace Engineering worked on a project that was selected for a presentation in the well-known Forum of the Scitech Conference in Florida on January 2020 and that was financed by the ISAE SUPAERO FOUNDATION.

The AIAA SciTech Forum has been delivering aerospace research and technology that has driven innovative developments for more than 50 years. The 2020 SciTech Forum program will cover the science, technology and research shaping the outlook of aerospace focusing particularly on a sustainable future. The event is the largest in the world for aerospace research, development and technology and will bring together over 1000 undergraduate or graduate students and aerospace professionals from nearly 1000 corporates, academics and government institutions in 42 countries.

The paper that Charlie (Space System major), and Guido (Aircraft Systems and Control major) have written is called: Full 3D Model for Asteroids Dynamics Estimation in a Monocular Vision-Based System, and it is based on their research project: Rotational Dynamics Estimation of an Asteroid. It will be presented in the Space Exploration: EVA Tech; Advanced Robotics; Autonomous Systems and Avionics; Light Weight Structures and Materials sections of the conference.

The paper explains that in early-phase deep space exploration missions, an onboard monocular vision-based navigation system capable of characterizing an asteroid's shape and dynamics, allows an increase in both autonomy and redundancy resulting in more efficient operations in terms of time and cost. This project introduces a solely monocular, vision-based method that can robustly estimate the full 3D dynamics of an asteroid. This research compares different methods in terms of robustness, accuracy, and time complexity. Advancing from previous works, a reconstruction of a full 3D model is shown to be possible benefiting only from one monocular vision-based system.

The ultimate goal of this project is to make spacecrafts work more autonomously from the ground station, even in case of one camera failure.

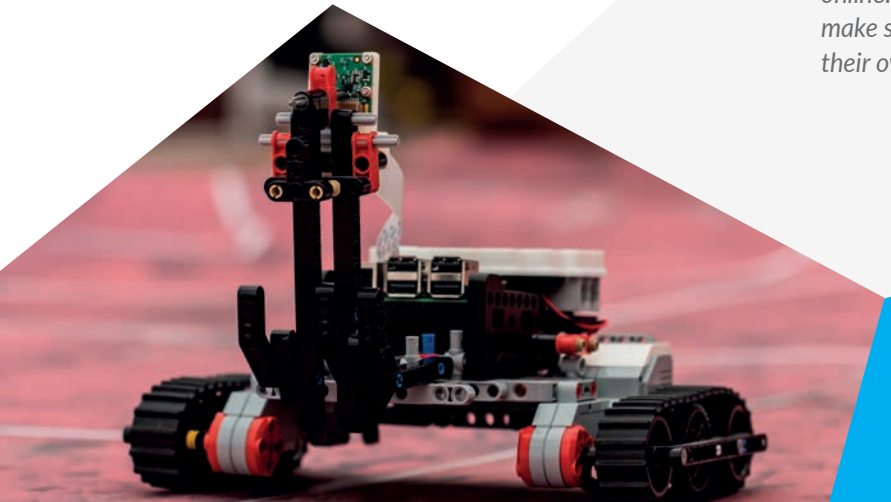
According to Charlie, participating to this Forum was the occasion for them to join courses and workshops about the most in vogue topics in the aerospace domain. In particular, their interest was toward Missile Guidance Course and Electric Aircraft Course. This two workshops represented a great opportunity to get closer to the subjects studied at ISAE SUPAERO during the ongoing semester and will help them in driving their interests in the aerospace domains for their future careers.

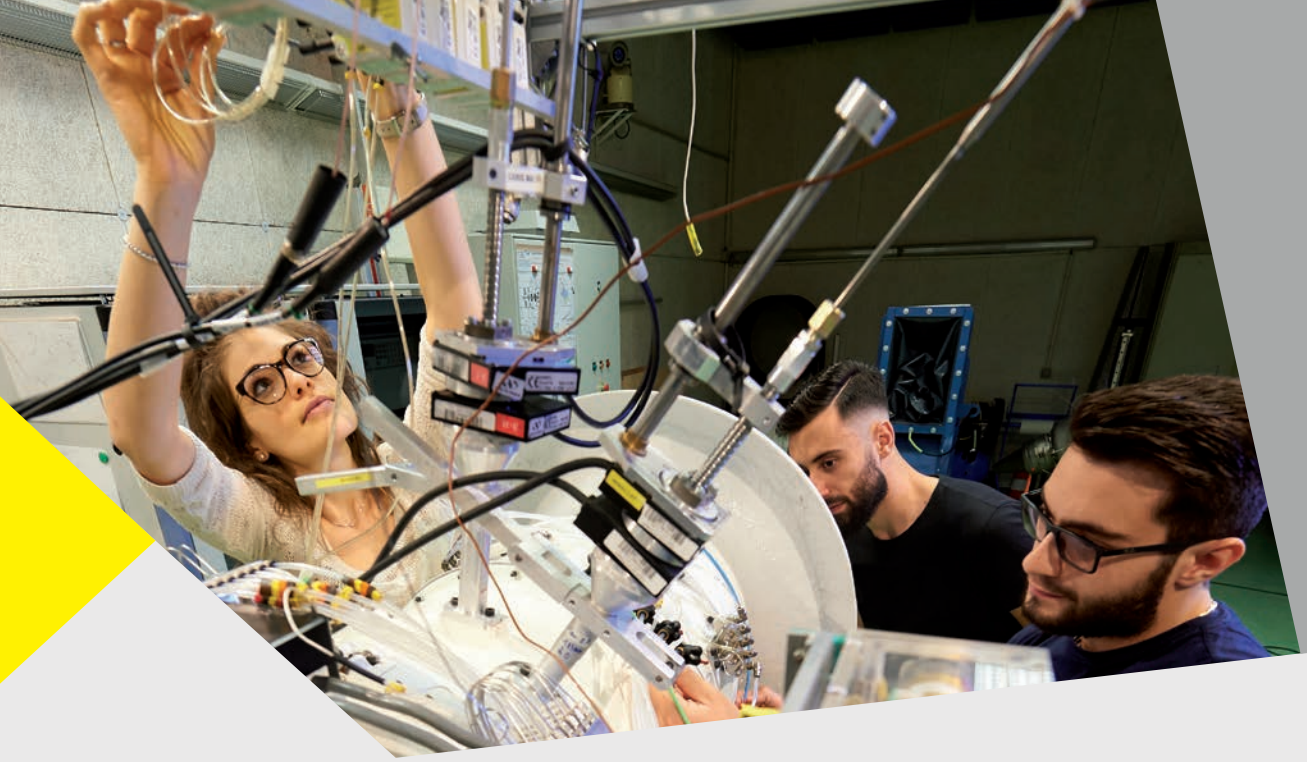
Guido added that, learning from different kind of experts and various state-of-the-arts technologies around the world will greatly broaden their insights and knowledge toward the international aerospace academics and industry.

Through this conference, they had the opportunity to publish their research to journal publication.

THE RESEARCH PROJECT TELEOP

The first year Master student, Tom Lawson from Australia, majoring Space System, has shared his experience of his research based on the piloting of a robot on the lunar surface by an operator in a lockdown situation.
The research project is called TELEOP. Each year, the Russian Space Agency (Roscosmos) and NASA participate in a joint-analog mission where they put astronauts in confinement for a year and make them perform various experiments to see how their performance evolves throughout the mission. ISAE-SUPAERO runs one of the experiments in this campaign which involves the simulated operation of a robot on the lunar surface.
This research project focuses on preparing the mission that was due to commence later in 2020. The main reason he chose this project was because he wanted to take of advantage of being at ISAE-SUPAERO as it was something that he would not have had the chance to work on in Australia; there is very little human spaceflight research happening back home.
Due to the COVID-19 situation the Russia-based research that he was meant to be working on, has been postponed indefinitely. However, when he heard the news about the mandatory confinement in France due to COVID-19, he thought that this could be a great opportunity to study the effects of confinement on ordinary people.
His research supervisors thought it would be a great idea, so he set up a study that participants can complete online from their own computers to allow them to collect data about their psychological state. The participants are either people like student from ISAE-SUPAERO who are confined on campus in student rooms, or people located throughout France that are in confinement in their own homes.
He was running the TELEOP experience for his research project; so far it is going well and has attracted quite a bit of attention. The feedback from the participants is that it gives them something to do while in confinement and overall they find it worthwhile participating. For the team, it will be interesting to compare the results of the random subjects in the study, with the results from the cosmonauts in the analog mission.
The system consists of regular psychological questionnaires that are released every 5 days on a centralised website that he has set up. Its objectives are to gauge the effect of isolation on psychological parameters such as stress, anxiety and emotional state. It also includes computer based reaction 'games' that are intended to measure reaction time, visual search ability and active memory. They expect to measure a decrease in these parameters as well as an increase in their measures of stress and anxiety. The project is entirely carried out online. Due to social distancing restrictions, he had to make sure that everyone could complete the survey with their own computer, in their own home.





ISAE-SUPAERO MSc's GRADUATES

We have already trained more than 23 300 engineers who are contributing to the development of the aeronautics and space sector in France and around the world. Our engineers' vocation is to become future leaders in the aerospace industry and the world of tomorrow. That is why we have developed an integrated approach with training, research and innovation in partnerships with academic players, many industrial stakeholders and a network of the best international universities.

ROSA ANGELICA CARDENAS SIERRA
MEXICO
Major Aerospace structures

The reason why I chose the MSc in Aerospace Engineering in ISAE-SUPERO is because it is a 2 years international program which involves you in the research and/or professional environments with the possibility to adapt the academic plan according to your personal interests.
In my case, I selected the Structures Major and performed an internship about Topology Optimization in Airbus.
Afterwards, I was hired in this company as a Structure Analysis Engineer and since then, I have been collaborating in Research & Technology projects as well as In Service activities.
Additionally, I am a temporary-professor in ISAE-SUPERO and in my free time I perform non-profit voluntary activities to underscore the importance of education.

OLIVIA DRAYSON
UNITED KINGDOM
Major Space systems

I graduated from the MSc in Aerospace Engineering in 2019.
I chose ISAE Supaero because of its reputation as a leading institution in aerospace engineering and its location in the aerospace hub of Europe. I also relished the opportunity to learn French and immerse myself in the French culture.
I chose the Space Systems major as I knew I was more passionate about space systems than aeronautical systems and I liked the breadth of study that the Space Systems major provided.
I performed my 2nd-year internship with Space Applications Services, a Belgian company that, amongst other projects, developed the ICE Cubes platform onboard the ISS. My internship was primarily a continuation of my ICE Cubes Project as part of ESA Education's first Orbit Your Thesis programme. The cube that we developed is a test-bench for studying blood flow within a stented coronary artery on the ISS. Now I am pursuing a doctoral degree at the University of California Irvine (USA), studying the impact of space radiation on the brain.

AKSHAY GUPTA
INDIA
Major Aerospace structures

ISAE-SUPAERO, is one of the best aerospace schools in Europe, and Toulouse is the home of Airbus. The amount of expertise ISAE-SUPAERO possesses in R&D, and the relations with the aerospace industry is the key factor, which makes ISAE-SUPAERO a unique institution.
Also, I like to learn languages, and here I could learn French. I studied Aerospace Structures major and performed a research project on Multi-disciplinary Optimization of Flying Wing configuration aircraft.
For my internship, I worked at an innovation space of Airbus known as ProtoSpace. I worked with MIT (USA) on structural morphing for a demonstrator aircraft of Airbus. At the same time, I also managed the innovation portfolio of ProtoSpace with my manager. After my internship, I continued to work at ProtoSpace as an Aerospace Innovation Engineer.

MIROLJUB MILADINOVIC
SERBIA
Major Advanced aerodynamics and propulsion

I chose ISAE - SUPAERO for school's reputation, structure of the M.Sc. program and SUPAERO's location. I opted for major in Advanced Aerodynamics and Acoustics.
During studies, I did the research project "Numerical study of an aircraft trailing vortex". Both the major and the project gave me a chance to make strong foundations and acquire knowledge needed for research and industrial work.
I did the final year internship in the research department of PSA Group and S2A wind tunnels complex. Topic of the internship was car wheels aerodynamics, where theoretical, numerical and experimental studies were done in order to reduce vehicle drag caused by wheels.
By now, I am working in Air France Industries as Structures Engineer on Boeing 777 fleet.

Close collaboration
with companies & industry

250
companies support our development

1800
engineers, and/or researchers from leading companies are visiting lecturers. They deliver courses based on the latest industry developments and practices.

CAPGEMINI
IAC ARIANE GROUP
SIEMENS ATR ACCENTURE
DASSAULT ALTRAN
AVENCORE CNES RENAULT
AIRBUS SAFRAN
AKKA THALES NAVAL GROUP PWC
STELIA MBDA WAVESTONE ALTEN
AIR LIQUIDE AIRFRANCE
CYLAD LIEBHERR MECANO ID
COLLINS AEROSPACE DAHER
ATOS SOPRA STERIA
CONTINENTAL EY

The ISAE-SUPAERO Career Center provides support for students entering the workforce
Every year companies receive more than

800
ISAE-SUPAERO students for internships and master thesis. Conferences, industrial visits, internships in companies, forums, recruitment workshops

An alumni network of over

23 300
graduates

More than **30**
partnerships signed with small and medium-sized companies and major industrial players

12
company chairs for teaching and research in innovative programs in safety with Axa, transport aircraft innovative concepts and space with Airbus Group and Ariane Group, in technological innovation with Daher, Embedded systems engineering and architecture with Thales...

For your future a wide range of exciting career perspectives

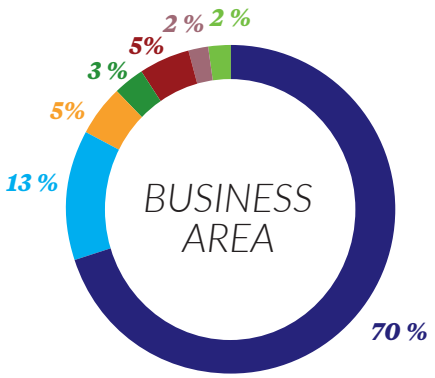
LARGE JOB OPPORTUNITIES

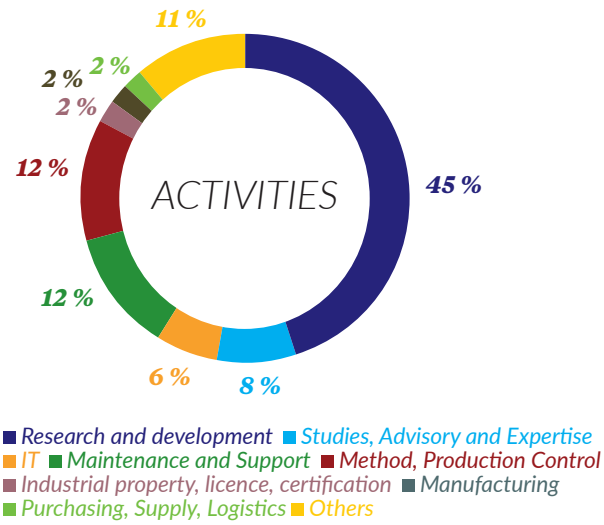
Our graduates will work as technical experts, researchers and managers in the fast-expanding aerospace sector and key sectors of the economy, in Europe and all over the world.

CLOSE-UP ON THE CLASS OF 2019

96 % hired less than two months after obtaining the degree. 75% hired before finishing the Msc

77 % Started their career in France More than 68% work in Toulouse area





MAIN RECRUITERS

AIRBUS, ATR, THALES, ALTRAN, AKKA, ALTEN, EXPLEO, SOPRA-STERIA, ATOS, BCG...

Campus life in the heart of Toulouse

Located at the heart of the scientific and university complex, our campus includes 22 hectares along the UNESCO classified, lovely Canal du Midi. Teaching, living and sports facilities – we have it all!

A complete range of athletic facilities

You will enjoy the pool, gym, climbing walls, fitness center, football and rugby fields, tennis and squash courts.

***More than 80 clubs** for a dynamic associative life: culture, sports, technical clubs (micro-drones, space club, aeromodelling, robotics, etc.), social and humanitarian actions, event organization, etc.*

Practicing aeronautical sports

***Ten minutes from campus**, we have a fleet of **9 planes** (TB 20, Robin DR 400, P68 Observer...). Students have the opportunity to earn a wide choice of flight licenses under very preferential conditions: powered aircraft gliding, parachuting, and paragliding. Every year 35 students obtain a pilot's license.*

Student residences and the Student Center

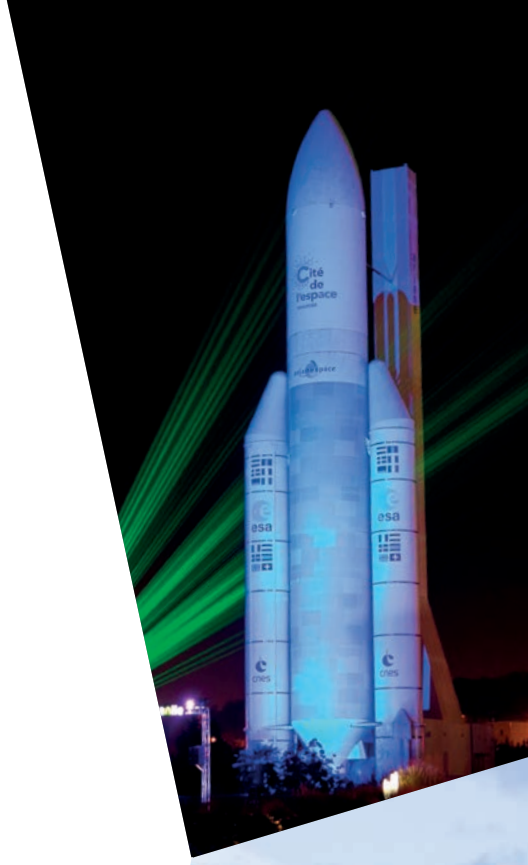
*The **6** entirely new residences offer **1000** housing units, from **14m²** to **46m²**.*
Residences include common areas such as study rooms, kitchens, and laundry rooms.
The Student Center includes a large main room with a snack bar area, a living room, TV rooms, and rooms for student clubs and activities.

TOUL BOX

The ISAE-SUPAERO Toul'box: a student welcome kit to make life easier right from day one: formalities, setting up a bank account, housing, language courses, cultural activities-find out all you need to know and get started right away!

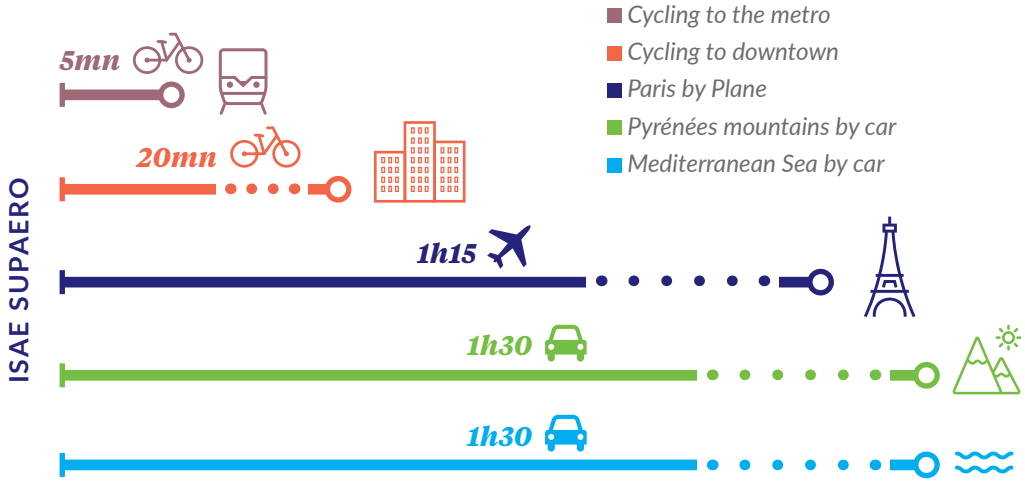
Toulouse,
European Capital of aeronautics and space

*Nearly **90 000** direct jobs in aeronautics and space*
The leading French region for research and aeronautics education.



1th attractive city to study in France

Known as «la ville rose», in reference to the color of the city's many historical brick buildings
Repeatedly voted by the French as one of the most desirable places to live in France: exceptional quality of life, a great place to live as a student !



The «Bienvenue en France» accreditation

The "Bienvenue en France" label accredited by Campus France, distinguishes French higher education institutions, which have developed reception measures made available to international students by French higher education institutions, and represents a promotional and outreach tool for the institution.
ISAE-SUPAERO is one of the few institutions undertaking the '3 stars' certification. The certification demonstrates the quality of the reception of our school.

Funding

Our Master of Science students can benefit from financial support during the two year of the Master of Science program, from ISAE-SUPAERO Foundation and partners.

Fondation ISAE-SUPAERO
Reconnue d'utilité publique

ISAE-SUPAERO Foundation scholarship

This grant covers tuition fees and allows students to loan to €12000 without interest. This amount must be refunded within 2 years after graduation according to a schedule agreed upon with the ISAE-SUPAERO Foundation.

TSAE

Toulouse School of Aerospace Engineering

Toulouse School of Aerospace Engineering (TSAE), a joint program between ISAE-SUPAERO, ONERA and ENAC aims at promoting graduate and PhD programs in the aerospace engineering domain. Towards this end, it offers scholarships to undergraduate students who wish to enter the MSc in Aerospace Engineering of ISAE-SUPAERO and to pursue in a PhD program.

AIRBUS

CEDAR Excellence scholarship

The scholarship of the Chair for Eco-Design of Aircraft (CEDAR) by Airbus covers tuition fees and part of living expenses.
(Major related to Aircraft)

GIFAS

GIFAS Program of Excellence

This scholarship covers tuition fees and part of living expenses.

Scholarships application: From October to December.

THALES

THALES India Program of Excellence sponsored by the French Institute in India.

This scholarship covers tuition fees and a part of living expenses.

MBDA
MISSILE SYSTEMS

MBDA Program of Excellence for Indonesia at ISAE-SUPAERO

This scholarship covers tuition fees and part of living expenses.

MBDA
MISSILE SYSTEMS

MBDA Program of Excellence for India at ISAE-SUPAERO - Sponsored by the French Embassy in India.

This scholarship covers tuition fees and part of living expenses.

For more information on financial aid for foreign students in France, visit the Campus France website: http://www.campusfrance.org.

Many government scholarships are available as well (CONACYT (Mexico), BECAS CHILE (Chile), COLFUTURO (Colombia), CIENCIA SEM FRONTIRAS (Brazil), BEC-AR (Argentina)...

Join the MSC
in aerospace engineering program

Eligibility

Fully taught in English, the program is particularly suitable for students with:

- ***A bachelor's degree in aerospace or aeronautical engineering, mechanical engineering and mechatronics***
  All majors are open to these students: Advanced aerodynamics and propulsion, Aerospace structures, Space systems, Aerospace systems and control, Embedded system, Systems engineering, Space Imaging Navigation and Communication.

- ***A bachelor's degree in electrical engineering, electronics, telecommunications***
  Five majors are open to these students: Space systems, Aerospace systems and control, Embedded systems, Systems engineering, Space Imaging Navigation and Communication.

- ***Others profiles in Engineering or Science***
  Industrial engineering, civil engineering or physics, mathematics, computer sciences (ISAE-SUPAERO admissions officers will provide them with information on the major open to them).

On line application documents

Applications starting from October

- *Resume,*
- *Cover letter,*
- *Copy of highest diploma or certificate of enrollment,*
- *Transcripts for the 3 last years,*
- *2 letters of recommendation*
- *TOEFL (IBT): 85 points (Inst. code: 9820), or TOEIC: 785 points, or IELTS: 6.5 points, or CAE/ FCE : 170 points,*
- *GRE test results if available (not mandatory)*

For more information on the admissions procedure, please visit:
https://www.isae-supaero.fr/en/academics/MSc/admission/admissions/

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ISAE
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SUPAERO

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Université Fédérale
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YouTube

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