**Graduate school and
research center at the heart of digital society**

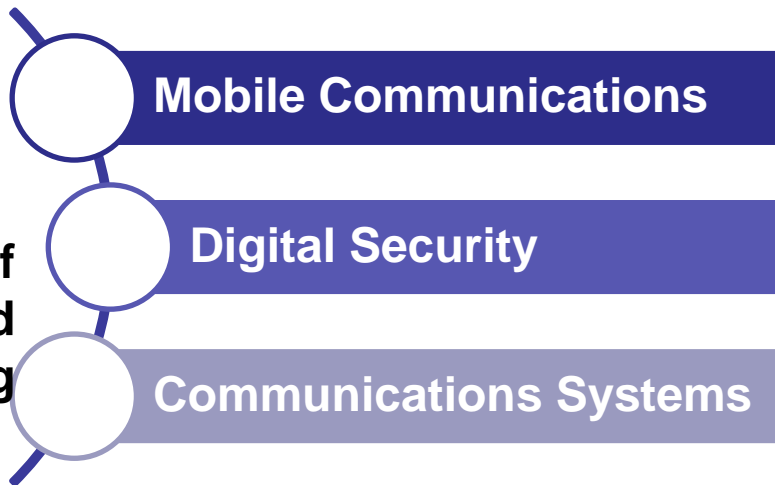# EURECOM
Sophia Antipolis

Post Master's degree
in Communications
for Intelligent Transport Systems
(Connected Vehicles)

KEY FACTS ABOUT EURECOM

3

Main fields of research and teaching

- Mobile Communications
- Digital Security
- Communications Systems

A Human-size school

- **250** Master students
- **70** Phd students
- **23** Professors

An International School

100% Teaching in English

2/3 International professors and students

An innovative school

IEEE

First school outside the USA which was granted the

"IEEE Major Educational Innovation Award"

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AN UNPARALLELED SETTING

- ## French Riviera – Cote d'Azur
  - **30 min from Nice airport (1h from Munich!)**
  - **300 days of sun per year!**

Nice

Antibes

Monaco

Cannes

**Close
Ski slopes and beach**

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EUROPE LARGEST TECHNO PARK

- **EURECOM is located in the heart of SOPHIA ANTIPOLIS, largest Science Park in Europe dedicated to IT and chemicals.**

- **1,452 companies,**
- **31,000 jobs**
- **4,500 researchers**
- **More than 5,000 students**
- **70 nationalities**

Some of Sophia Antipolis' leading companies

SIEMENS   THALES   hp   HUAWEI

CISCO   symantec.   IBM

intel   AMADEUS   MAGNETI MARELLI

NVIDIA   SAP   Alcatel·Lucent

A HUGE POOL OF INTERNSHIP AND EMPLOYMENT OPPORTUNITIES FOR EURECOM' STUDENTS

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WHY A POST MASTER's DEGREE?

INTERNATIONAL

Only school in France where the curriculum is 100% taught in English

2/3 foreign professors and students in a truly multilingual and multicultiral environment

LOCATION

Combine high quality study and leisure on the French Riviera and Sophia Antipolis

AVAILIBILITY

EURECOM' s human size ensures individual monitoring from staff and professors.

RELEVANCE

A very hands-on and flexible curriculum for maximum relevance

QUALITY

Classes are fulled by EURECOM's cutting-edge research and tight links with industry

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POST MASTER's DEGREE

ACCREDITATION:

EURECOM's Post Master's degrees ("diplôme d'ingénieur spécialisé") are **State-recognized** and accredited by the **CTI** (official French accreditation body of engineering studies).
This accreditation guarantees a high academic quality and relevance to market needs.

➡ More information about the CTI: LINK

DURATION:

Three semesters (two academic semesters and one paid 6 month professional internship), starting in September.

LANGUAGE:

The program is totally taught in English. French is not required but can be taught during the academic semesters.

OBJECTIVES :

The Post Master's degree is a professionally oriented program corresponding to growing sectors and professions such as C-ITS.
Candidates acquire, after their initial Master's degree, strong expertise in a previously explored or new field to get a competitive edge on the job market.

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LINKS WITH INDUSTRY

EURECOM collaborate tighly with companies. These industrial partnerships allow for a very hands-on approach to teaching to the benefit of students.

1. EURECOM industrial members part of the consortium

Involved in the teaching of EURECOM's curricula

2. INTERNSHIPS

EURECOM keeps an updated database of internship opportunities offered by companies allowing students to directly apply through it.

Each semester, the database proposes an average of **200 offers from more than 70 companies** for less than 100 targeted students.

3. RESEARCH CONTRACTS WITH COMPANIES

EURECOM is actively involved in research projects with top companies to bring its expertise in key fields.

CAREER PREPARATION

THEMATIC WORKSHOPS:

EURECOM organises workshops animated by industrial partners and specialised agencies to help students in their future job search:

- **How to write a CV**

- **How to write a motivation letter**

- **Rules of a professional interview**

- **How to use social networks in an efficient way**

INTERNSHIPS / JOB FAIRS:

EURECOM organises internship fairs with local companies which enable students to directly meet with company HR managers.

Students may also be also invited to take part in job fairs held in other cities such as Paris.

THE PROSPECTS OF C-ITS

With the increase of traffic congestion and concern over road safety, the need of experts and systems in **connected vehicles** systems and experts is rising.
Consumers are willing to integrate their own content from their smart devices to their vehicles.
Development of C-ITS is a **national priority in many countries and supported by international institutions.**

Recent studies and articles point out the numerous prospects to be expected from this field:

"The hottest US market is in connected vehicles, with 34.8% year-over-year growth anticipated in 2015"

"Gartner predicts a quarter billion connected vehicles by 2020"

"Connected Vehicles' Seen As Growth Area For Telecoms"

EURECOM's EXPERTISE in C-ITS

MAIN RESEARCH FOCUS in C-ITS:

EURECOM's Mobile Communication department has developped renowned expertise in the following fields:

Traffic Safety , Multi-modal Transportation; Traffic Efficiency and Low Carbon Footprint; Electro-Mobility and the Fully Electric Vehicle; Evaluation Tools and Methodologies, Standardization Effort.

STRONG INDUSTRIAL PARTNERSHIPS

EURECOM has tight collaborations in the field of connected vehicles /C-ITS with international companies: **IABG, BMW Group, DLR, HITACHI, ORANGE, ETSI, ALCATEL, MAGNETI MARELLI, RENAULT…**

Every year EURECOM organizes a summer school with the Technical University of MUNICH and BMW Group Research and Technology on the topic of Smart Mobility.

Three professors of EURECOM are part of ETSI TC ITS *Specialist Task Force*.

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HIGH PROFILE COLLABORATIONS

Every year EURECOM co-organises with BMW and TUM a summer schools on connected vehicles.

BMW Summer school« Connected Vehicles driving on connected roads » July 2015

Summer school quoted as a successful example of collaboration in the recent cooperation agreement signed between the French Republic and Bavaria.
21/05/2015

©Chancellerie de l'État de Bavière

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COURSE SAMPLE

Objectives: to provide the necessary knowledge required by engineers and managers to design ITS applications and the related mechanisms to understand the innovations and unique opportunities of ITS.

a. BasicTools and Knowledge
- ☞ Mathematical Tools
- ☞ Performance Evaluation
- ☞ Simulation and Emulation Methodology

b. Mobility related courses
- ☞ Mobility Modeling
- ☞ Transport Planning
- ☞ Infrastructure Planning

c. Communication related courses
- ☞ Mobile Wireless Access Technologies
- ☞ Mobile Networking
- ☞ Standardization Activities
- ☞ Mobile application and services
- ☞ Mobile communication systems

SOFT SKILLS
- ☞ Team Leadership
- ☞ Management
- ☞ Innovation
- ☞ Business simulation
- ☞ Project management

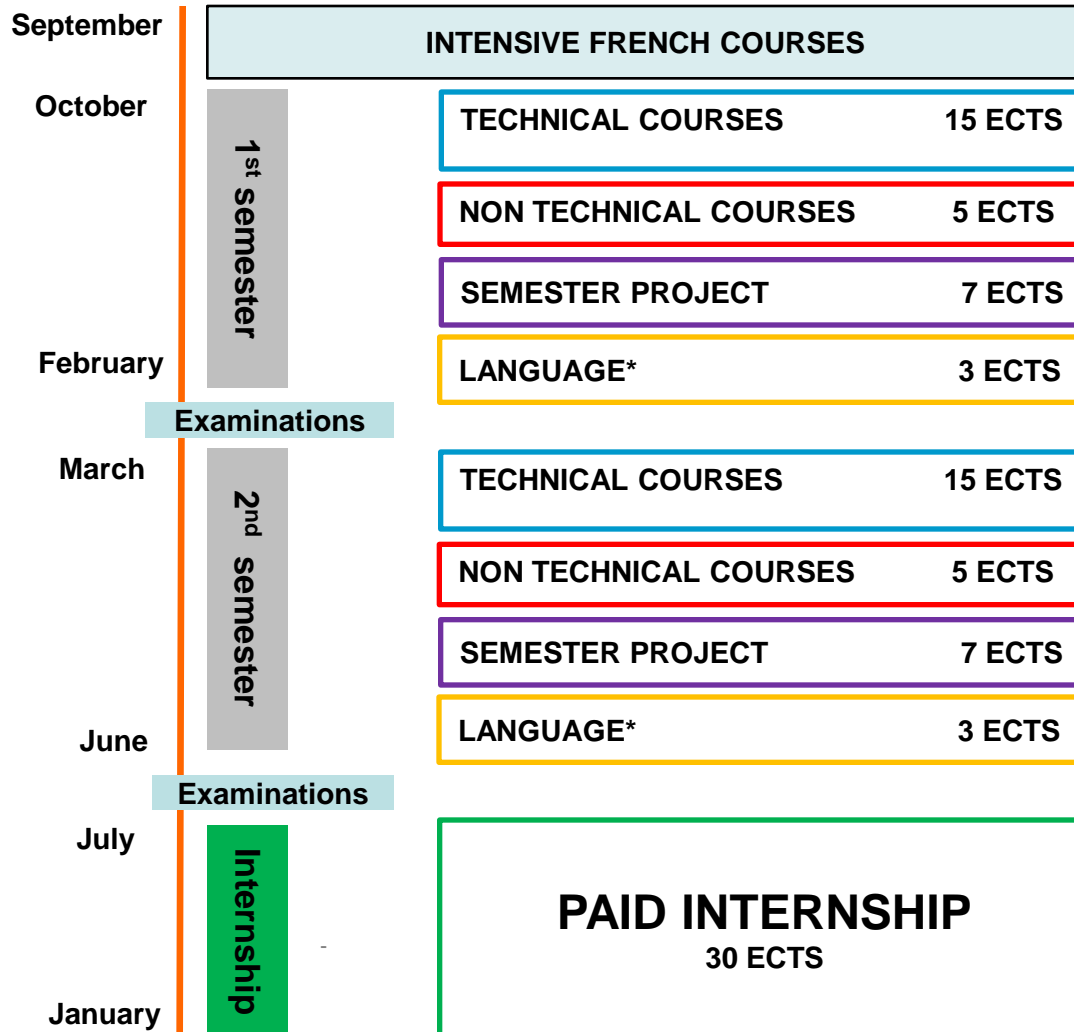EURECOM

TARGET SKILLS AND JOBS

TARGET SKILLS/COMPETENCES

- Design embedded communication systems in a vehicle
- Create software prototypes in the field of communications and ITS
- Designing networks of radio transmission systems
- Make an accurate performance evaluation of communications for ITS
- Conduct measurement campaigns for vehicular antenna systems
- Design of collaborative systems for traffic safety
- Implement simulation tools and modeling to optimize traffic
- Develop innovative approaches to ITS taking into account the constraints of market,
- Evaluate and quantify the environmental impact of ITS
- Participate in standardization bodies for ITS
- Manage the full cycle of an ITS project: planning, tasks, resource allocation…

TARGET JOBS

- Intelligent Transportation System Engineer / Project Manager
- Lead Project System Engineer
- Network engineer,
- System administrator,
- Software developer,
- Instructional designer,
- Research associate,
- Analyst,
- Consultant,
- Customer service representative

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ACADEMIC REGULATIONS

September	INTENSIVE FRENCH COURSES	

1st semester (October – February)

TECHNICAL COURSES	15 ECTS
NON TECHNICAL COURSES	5 ECTS
SEMESTER PROJECT	7 ECTS
LANGUAGE*	3 ECTS

Examinations

2nd semester (March – June)

TECHNICAL COURSES	15 ECTS
NON TECHNICAL COURSES	5 ECTS
SEMESTER PROJECT	7 ECTS
LANGUAGE*	3 ECTS

Examinations

Internship (July – January)

PAID INTERNSHIP
30 ECTS

90 ECTS **in total**

- 30 ECTS technical
- 10 ECTS non technical
- 14 ECTS semester's project
- 6 ECTS language
- 30 ECTS internship

The curriculum offers a perfect balance between theoretical courses and practical application to enable students to be quickly operational.
Business oriented courses ("non technical courses") harmoniously complete technical classes.

* Students with a B2 level in English automatically validate the language credit.

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SEMESTER's PROJECTS

During your studies at EURECOM, students have to pick up and work a project which is highly related to industrial partnerships. The aim is to put into practice the concepts learnt in class and gain a **valuable practical and/or research experience.**

RECENT SEMESTER'S PROJECTS

- **Characterization of Content Traffic Patterns for Opportunistic**
- **Cross Layer Distributed Congestion Control for Wireless Vehicular Communications**
- **Energy-efficient cellular networks: impact of densification and backhauling.**
- **Enhancing Configuration and Visualization Interfaces for Vehicular Mobility Simulations**
- **Evaluation of Multi-Channel Vehicular Communication for Traffic Safety Applications**
- **Experimental Measurement of Urban Vehicular Communication at 800Mhz**
- **Extension of the OpenAirInterface Mobility Generator for Future LTE-A Applications**
- **Modelization and Evaluation of the Impact of Motorcycles Mobility on Vehicular Traffic**
- **Modelization of Urban Pedestrian Mobility**
- **Performance measurements on a data traffic offloading platform.**
- **Scheduling in LTE/LTE-A with a learning engine**
- **Field Test Measurement and Comparison of Urban Vehicular Communication Conditions at 5GHz and 800Mhz**

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PROFESSIONAL INTERNSHIPS

- EURECOM' s Post Master degrees include a **paid 6-month internship** in a hi-tech company.

- Students are integrated as part of the staff.

- EURECOM has a huge database of internship opportunities both in France and abroad to help students find a suitable one.

- Internships provide a cutting-edge experience enhancing employability after graduation.

Recent examples of companies hosting EURECOM's interns

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ADMISSIONS

Post Master's applications are opened from October to early June.
Admission committees meet monthly to assess applications.

Entry requirements :

- a 5-year Master's degree (or equivalent) in a relevant field

- A min B2 level in English (upper intermediate)

Students fill an online application and send by post the following documents:
- CV
- Motivation letter
- Certified copy of transcripts (indicate ranking if available)
- Certified copy of degree certificate
- 2 recommandation letters (at least one from a professor)
- English test (French test if applicable) – *can be sent later*
- Any useful document deemed relevant by the students (certifications, bachelor/master's thesis)

Selection criteria:
- Academic performance, reputation of the home university, ranking
- Quality of the motivations, relevance of the future professionnal project

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USEFUL INFORMATION

- **Information about admission**

  Caroline HANRAS
  caroline.hanras@eurecom.fr

- **Coordinator Post Master Communications for Intelligent transport Systems**

  Jérôme HAERRI
  Jerome.haerri@eurecom.fr

- **Webpage of the Post Master**

  http://www.eurecom.fr/en/teaching/post-master-degree/intelligent-transport-systems

- **Online application form**

  https://www.eurecom.fr/en/postulant/new

Faculty Directory

Activity report Research and teaching highlights

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