



Introducing ETSIT-UPM



UNIVERSIDAD
POLITÉCNICA
DE MADRID

POLITÉCNICA

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ETSIT
UPM

ESCUELA TÉCNICA SUPERIOR DE INGENIEROS DE TELECOMUNICACIÓN



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SUPERIOR DE
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TELECOMUNICACIÓN

Welcome to MADRID



Madrid: International and Cultural City

Dynamic and always emerging

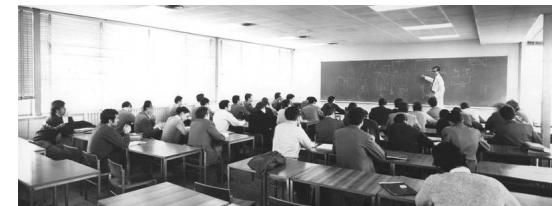
- **Spain** is a **bridge** between **Europe and Latin America**. Spanish culture is spread through latin-american philosophy and long friendship.
- **Madrid** is the **capital** of Spain with a population of over **three million**, with a **very special atmosphere** in between his streets and squares.
- With more than **220k students**, Madrid offers dynamic and always exciting activities in a **non-stop multicultural day & night life**.



Universidad Politécnica de Madrid

Engineering the future

- The UPM was founded in 1971 through **the integration of the Higher Technical Schools** (previously, centers were independent) which up until they were merged to form the UPM.
- Its oldest centers were founded in **18th and 19th centuries**.
- A large part of the **history of Spanish technology** has been written by the centers from UPM.
- **UPM Now:**
 - **18 centers** (Schools of Eng. & Architecture, Sports Science and Fashion Design)
 - **4 Campuses**
 - **>35 k Students** (Bachelor & Master studies)
 - **>200 Research groups**
 - **> 19M€** in public National Funding per year
 - **216 H2020 EU projects** (40 in 2019)





ETSI Telecomunicación - UPM

ETSIT-UPM



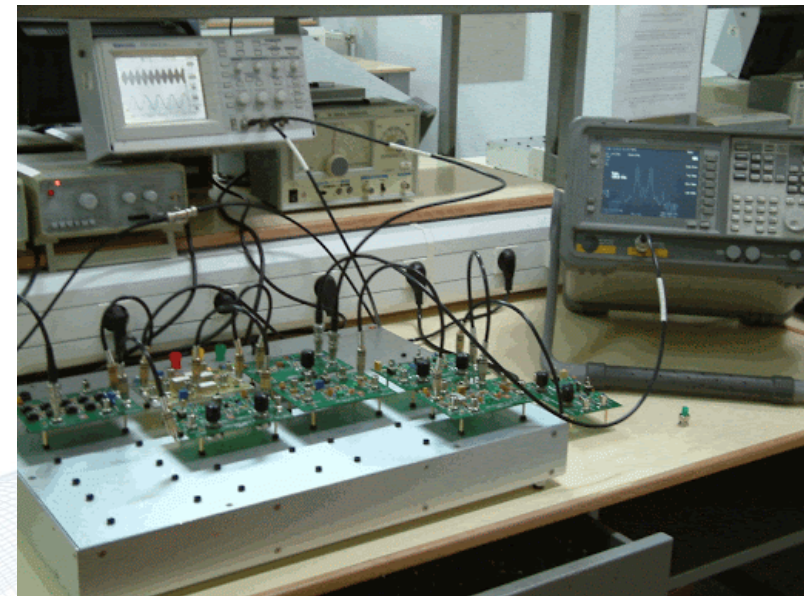
An Engineering School that educates professionals in a:
a combination of **Electrical & Electronic Engineering & Computer Science**
Biomedical Engineering and **Data Engineering**

With R&D that:

contributes to **technological knowledge generation & transfer**
through research and innovation with a sound knowledge of ICTs.

ETSIT in Figures

- More than **20,000** alumni during more than one century
- **2,500** enrolled students
- **250** faculty members
- More than **600** laboratory places
- **35** Research Groups
- **6** Research Centers/Institutes
- **14** Chairs from Industry Partners
- **20-25%** of total UPM funds in Research projects
- **30%** of total patents from UPM



ETSIT-UPM in a Nutshell



Academic Information

Bachelor Degrees (4 years)



Engineering in Telecommunication Technologies and Services (GITST)

- Audiovisual
- Telematics
- Electronics
- Telecom



Biomedical Engineering (BIO)

- Bioengineering
- Telemedicine
- Biomedical imaging
- Biomedical computing



- Data Engineering and Systems (GISD)



POLITÉCNICA

Master Degrees



Telecommunication Engineering (MUIT)

- Professional Qualifications (2 Years)



Master Technological Innovation in Health (MTiH)



PV Solar Energy



Electronic Systems Engineering



Signal Theory and Communications



Computational Statistics



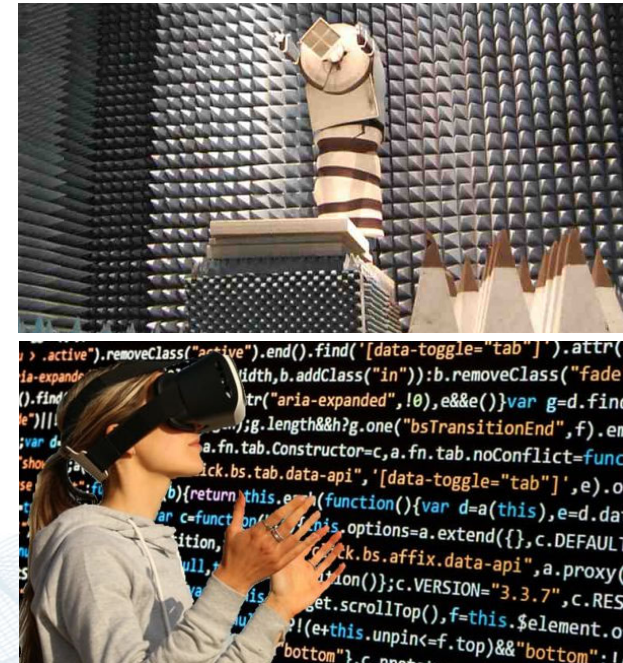
Telematics Services & Networks Engineering



Cibersecurity

PhD Programs

- 7 PhD Programs



Accreditation and International Recognition

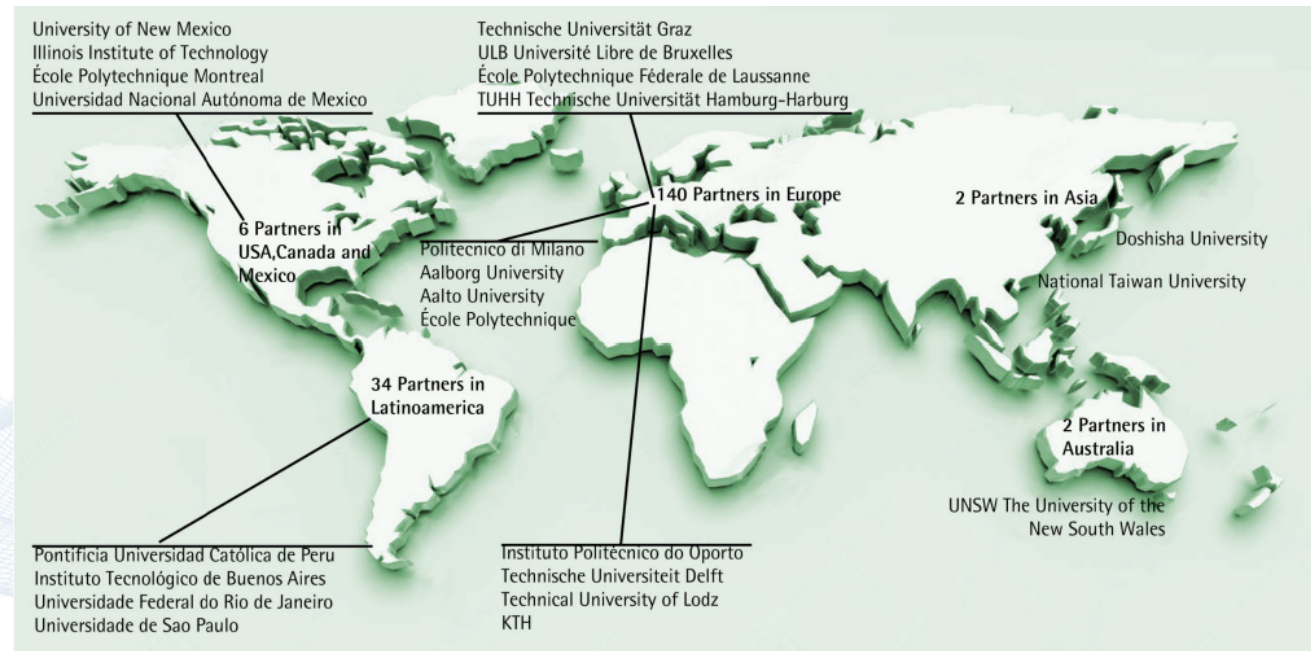
- The **Master in Telecommunication Engineering (MUIT)** and the **Bachelor of Engineering in Telecommunications Technologies and Services (GITST)** offered by the Universidad Politécnica de Madrid have been accredited by the Accreditation Board for Engineering Technology (**ABET**) and the European Network for Accreditation of Engineering Education (**EUR-ACE**).

PhD 3-4 years	PhD Research 3-4 years	PhD 3-4 years
Masters' Degree 2 years	M.S.-M. Eng Graduate Studies 2 years	Masters' Degree 1-2 years
Bachelor's Degree 3 years	B.S Undergraduate Studies 4 years	Bachelor's Degree 4 years
EUROPE	USA	ETSIT-UPM



International Academic Partners

- **ETSIT-UPM** participates in all **international mobility programs (>300 positions)**:
 - **Erasmus** agreements
 - **Magalhães** agreements
 - Other **bilateral agreements** signed with universities in the USA, Canada, Asia, Australia and Latin America



International Double Degree Agreements

Master in Telecommunication Engineering (MUIT)



EIT Health Master: Master Technological Innovation in Health (MTiH)

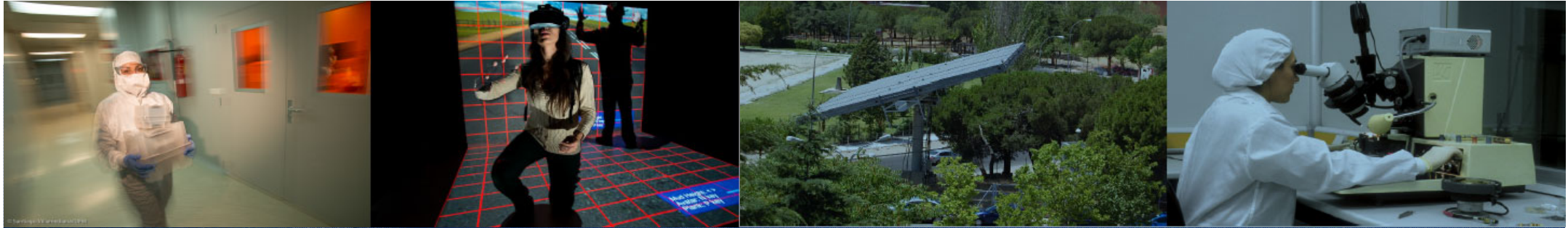


Internships program

In Companies / R& D Centers & / ETSIT-UPMR&D Labs

- Available for **all ETSIT-UPM Students** (including incoming ones)
- Elective (**not mandatory**) in ETSIT-UPM degrees
- **99% funded** and always compatible with their studies.
- Opportunity for MsThesis Development.



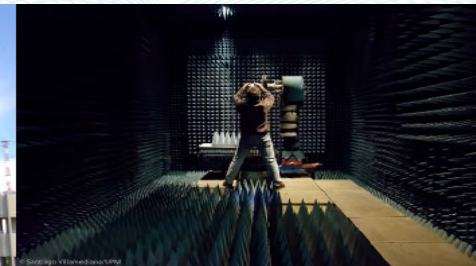
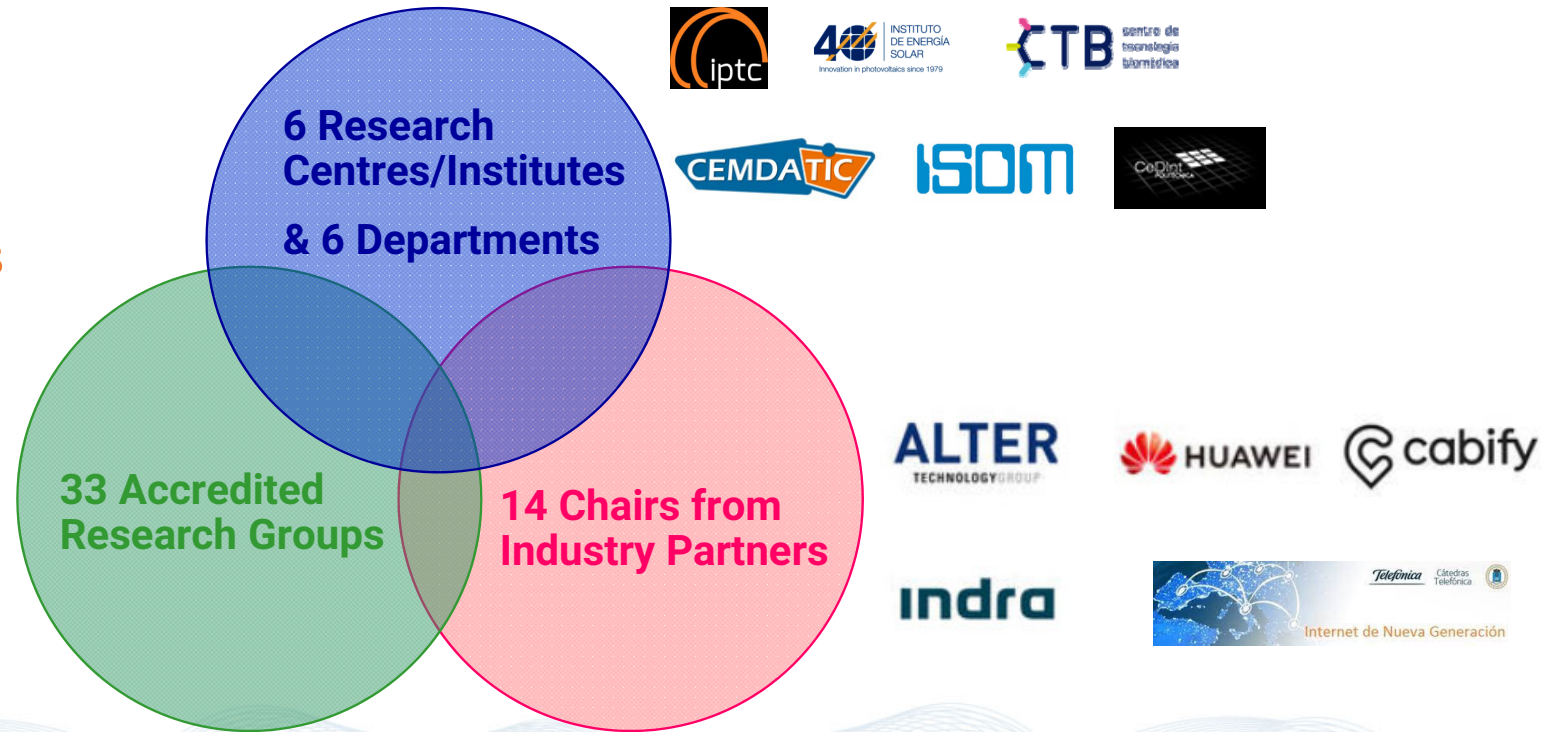


Research, Development and Innovation at ETSIT - UPM

www.etsit.upm.es/research

Research Units

520 researchers
250 faculty members

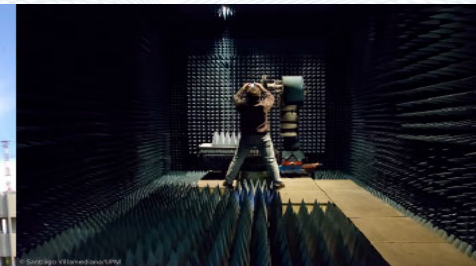


Some Figures

- 334 research projects, 451 JCR papers, 52 PhD thesis, 24 patents (average annual values from 2014-2018, last available data).

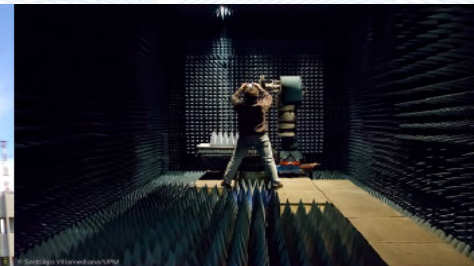
Source: Observatorio I+D+I UPM

- 520 researchers and 240 faculty members
- More than 500 active agreements with industry partners
- ~ 25% UPM funds in research projects€, 18.5 M€ come from ETSIT)



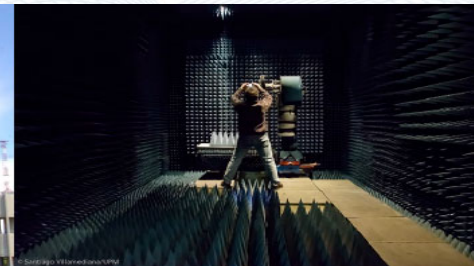
Main Research Areas

- Signal processing and communications
- Radiofrequency technologies
- Telematics, data science and data engineering
- Biomedical engineering
- Electronic and photonic technologies
- Solar energy and other sustainable energies
- Horizontal technologies



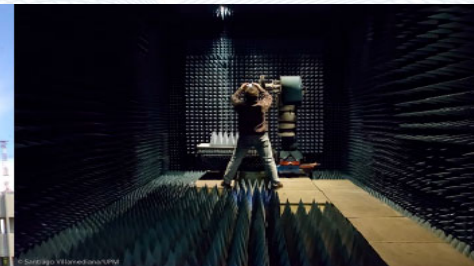
Main Research Areas

- Signal processing and communications
 - Analysis - Synthesis - Audio - Speech - Image - Video
 - Computer vision - Pattern recognition
 - Visual communications - User interfaces
 - Intelligent transport
 - Mobile communications - 5G
 - Satellite communications and navigation systems



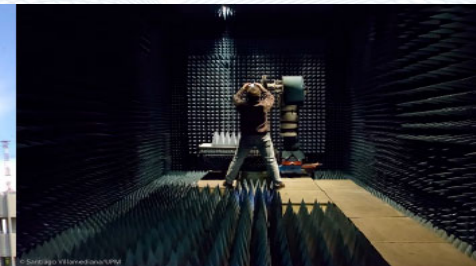
Main Research Areas

- Radiofrequency technologies
 - Design and characterization of circuits and antennas
 - Radar
 - Electronic warfare
 - Radiation - Propagation



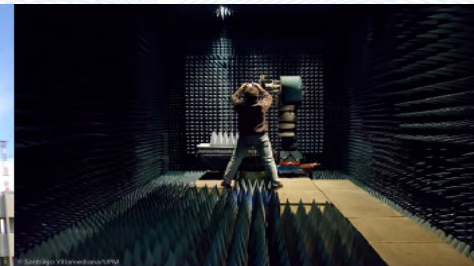
Main Research Areas

- Telematics, data science and data engineering
 - Network and software engineering - Real-time Systems
 - Cybersecurity
 - Cloud computing and big data analytics
 - Artificial Intelligence - Deep Learning



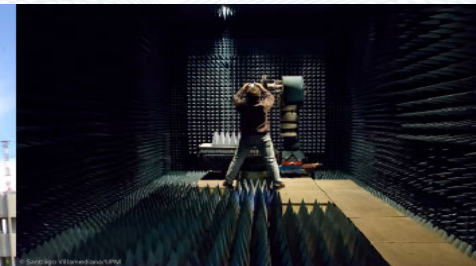
Main Research Areas

- Biomedical engineering
 - Active and healthy aging
 - Medical Imaging - Medical data analytics
 - Biomedical engineering for diabetes care
 - Life supporting technologies



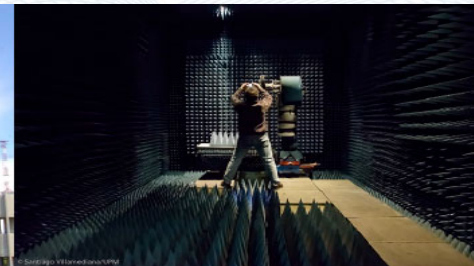
Main Research Areas

- Electronic and photonic technologies
 - Optoelectronics -THz photonics
 - Semiconductor materials
 - Nanoelectronics - Graphene
 - Sensors



Main Research Areas

- Solar energy and other sustainable energies
 - Novel materials and solar cell concepts
 - Off-grid PV and rural electrification
 - Distributed generation and smart grids
 - Energy storage
 - Electric vehicle



Main Research Areas

- Horizontal technologies
 - Applied physics - Electromagnetism
 - Computation and numerical simulation
 - Complex networks
 - Optimization
 - Dynamics and control
 - Nonlinear systems and chaos

