Introducing ETSIT-UPM

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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**.
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
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

Prestige & Recognition

Internacionalization

Industrial Partnership

Research
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)

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

Academic Information

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).

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<th>Program</th>
<th>Duration</th>
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<td><strong>PhD</strong></td>
<td>3-4 years</td>
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<td>Masters’ Degree</td>
<td>2 years</td>
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<td>Bachelor’s Degree</td>
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<td><strong>European</strong></td>
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<td>PhD Research</td>
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<td>M.S.-M. Eng Graduate</td>
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<tr>
<td>M.S. Graduate Studies</td>
<td>2 years</td>
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<tr>
<td>B.S. Undergraduate Studies</td>
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<td><strong>USA</strong></td>
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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)
Interships 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

6 Research Centres/Institutes & 6 Departments

33 Accredited Research Groups

14 Chairs from Industry Partners

520 researchers
250 faculty members
Some Figures

  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