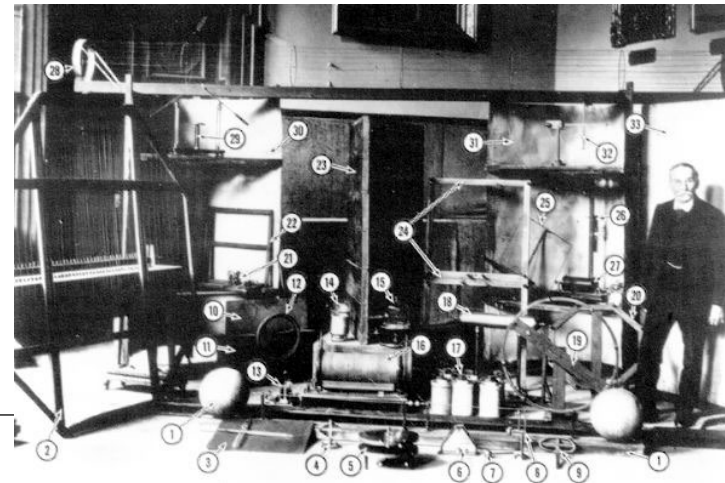


TELECOMMUNICATION
SYSTEMS
SPECIALIZATION

Vigo, September 2021

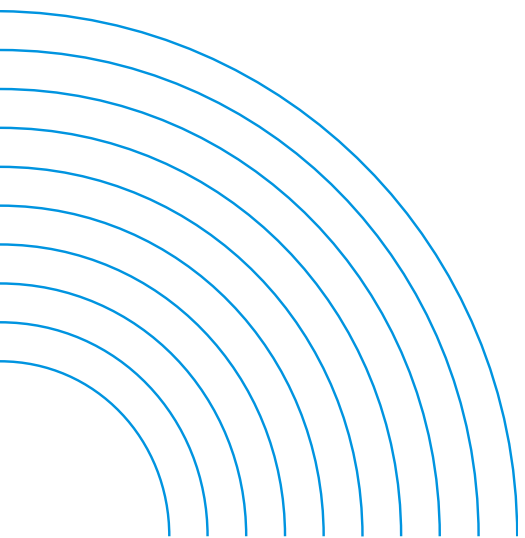
TELECOMMUNICATION SYSTEMS

- Original degree specialization :
Electrical Engineering (EE) → Electrical and Computer Engineering (ECE)
- In 1882 the Darmstadt University of Technology founds the first department of Electrical Engineering.
- In 1885 the Massachusetts Institute of Technology (MIT) and Cornell University offer the first Electrical Engineering degree.
- In 1888 Hertz demonstrates the propagation of transverse EMO in air. propagation in air.
- Diversity, multidisciplinary.



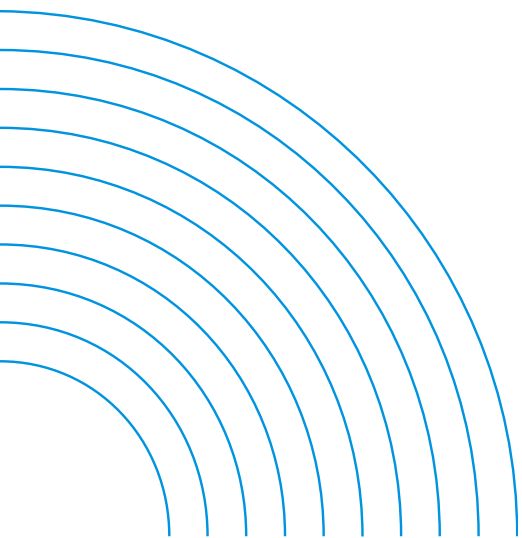
COMPETENCIES = FIELDS OF WORK (2)

- Where does a ST graduate work??
 - Antennas (design and measurement)
 - Radar (automotive, navigation, aerospace, polarimetric, military)
 - Satellite Technologies:
 - Radio, TV, Internet
 - Positioning: GPS, GLONASS, Galileo
 - Peak and nano satellites
 - Broadcasting (radio and television, public and private)
 - Radio navigation (commercial aeronautical, military, aerospace)
 - Radio localization (non-satellite)
 - Land and maritime radiocommunications (civil, military).
 - Public mobile wireless communication networks:
 - 2G (GSM, EDGE), 3G (UMTS), 4G (LTE-A), 5G and beyond
 - Mobile network security



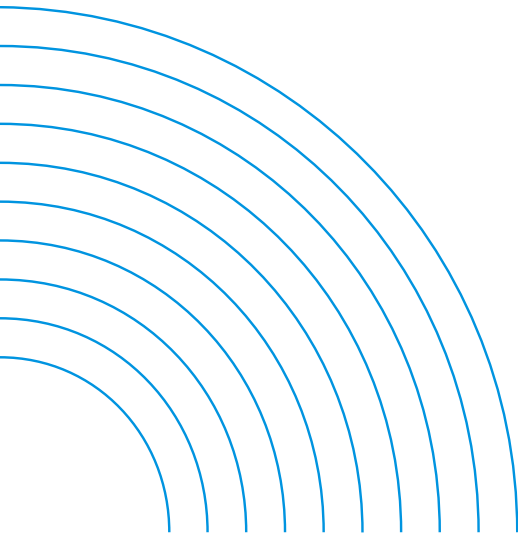
COMPETENCIES = FIELDS OF WORK (2)

- Where does a ST graduate work??
 - Wireless communication networks:
 - ISM, GPRS, WiFi, WiMax, HaLow, WiGig, LoRa, Sigfox, ZigBee ...
 - Wireless Sensor Networks
 - Body Area Networks
 - Internet of Things (IoT)
 - Cable networks (optical fiber and coaxial)
 - Digital signal processing :
 - Digital modulations (radio or cable), waveform generation.
 - Filtering
 - Coding, protocols.
 - Radio channel characterization and compensation.
 - Algorithm implementation in DSP, FPGA, μ C, μ P.
 - Image processing → augmented reality, watermarking



COMPETENCIES = FIELDS OF WORK (3)

- Where does a ST graduate work??
 - Radio spectrum management (administration, ITU, local).
 - Radio certification.
 - Radio network planning.
 - Electromagnetic compatibility (automotive, electronics, aerospace).
 - Instrumentation.
 - Analog and digital radiofrequency devices electronics:
 - Chip and module design and fabrication.
 - PCB design and integration of systems.
 - Optics and Quantum Technologies:
 - Encryption.
 - Communication (networks, devices, protocols). LiFi.
 - Quantum radar.
 - Remote sensing: satellite image processing.
 - Bioengineering.



Specialization COURSES– 3rd year

RADIO Profile:

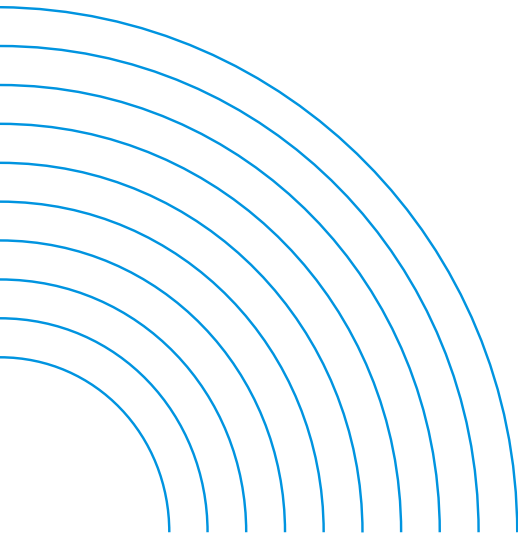
- Radio communication systems
- Wireless networks and systems
- Radio spectrum management
- Radio frequency circuits
- Microwave circuits

OPTICS Profile:

- Optical telecommunication infrastructures

Signal Processing Profile:

- Principles of digital communications
- Treatment of multimedia signals



Specialization COURSES – 4th year

RADIO Profile :

- Remote sensing
- Satellite navigation and communications systems

Signal Processing Profile:

- Digital communications
- Real-time digital processing

BIO Profile:

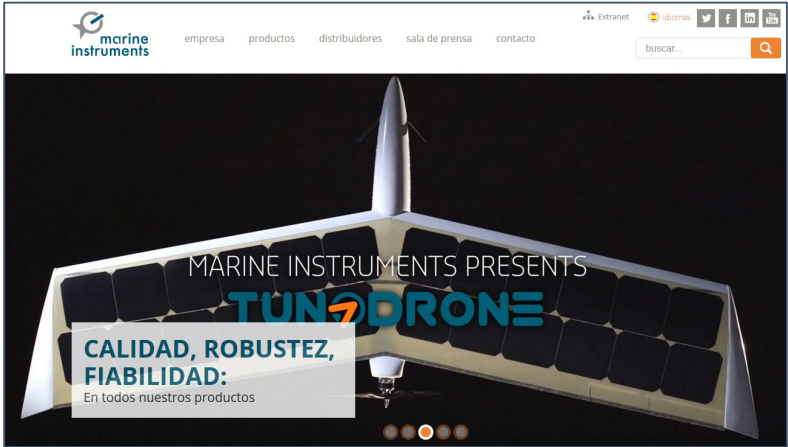
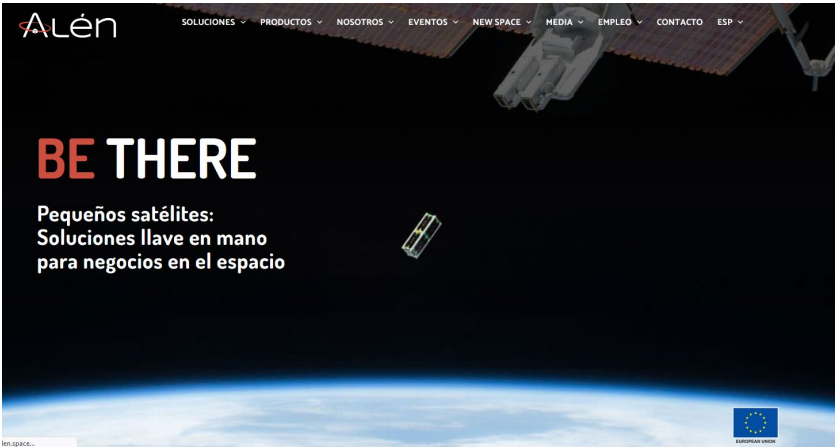
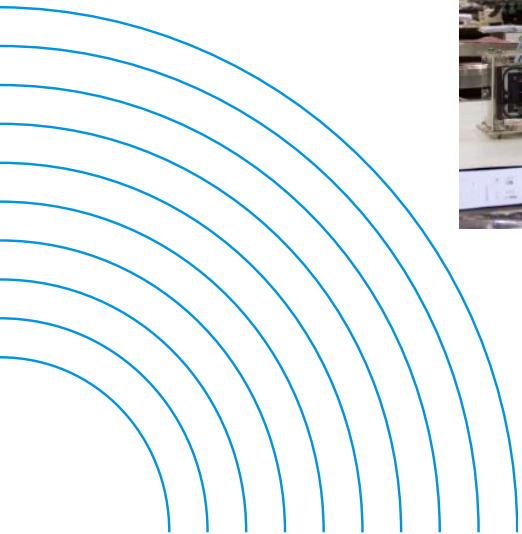
- Fundamentals of bioengineering

- Electives in English -

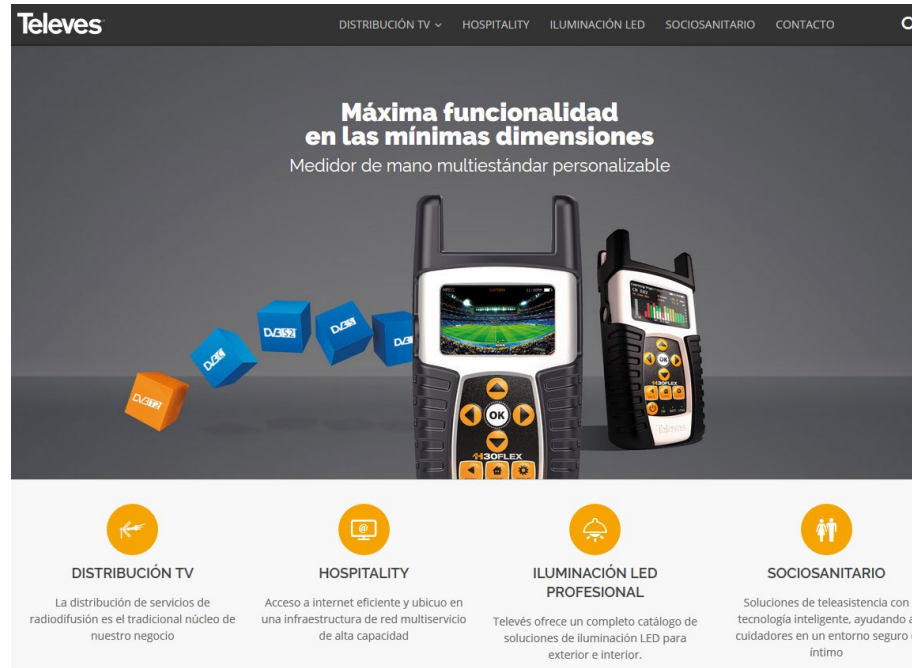
ST graduate PROFILE

- Professional profile in high demand, both in business and research.
- High job insertion of ST graduates.
- Increasing expansion of the mention to a growing number of non-traditional economic sectors:
 - Health care, medicine.
 - Automotive, aeronautics.
 - Administration.
 - Agriculture, livestock, aquaculture, fishing.
 - Tourism and leisure.
 - 5G
 - IoT
 - Artificial intelligence

Job market sectors - SATELLITE




Job market sectors - RADIO BROADCASTING



Televés

DISTRIBUCIÓN TV ▾ HOSPITALITY ILUMINACIÓN LED SOCIO SANITARIO CONTACTO

Máxima funcionalidad en las mínimas dimensiones
Medidor de mano multiestándar personalizable



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La distribución de servicios de radiodifusión es el tradicional núcleo de nuestro negocio

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Acceso a Internet eficiente y ubicuo en una infraestructura de red multiservicio de alta capacidad

ILUMINACIÓN LED PROFESIONAL
Televés ofrece un completo catálogo de soluciones de iluminación LED para exterior e interior.

SOCIO SANITARIO
Soluciones de teleasistencia con tecnología inteligente, ayudando a cuidadores en un entorno seguro e íntimo



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Job Market Sectors - RF ELECTRONICS

Growing job offers for engineers specialized in analog electronics for communications "RF engineers".



5G – Spectrum

From sub-GHz to millimeter waves!



RF engineers: designers of integrated circuits for communications transceivers (filters, power and low noise amplifiers...) in different semiconductor technologies (gallium arsenide, gallium nitride, silicon).

Related courses: Radio Frequency Circuits and Microwave Circuits.

INGENIERO DE DISEÑO DE CIRCUITOS DE RADIOFRECUENCIA
Telesys
Santiago de Compostela y alrededores, España

Job description
Telesys, selecciona para formar parte de su Depto. de Investigación y Desarrollo:
INGENIERO / A DE DISEÑO DE CIRCUITOS DE RADIOFRECUENCIA:
• Para prestar apoyo y colaboración al personal especializado en el desarrollo de circuitos integrados de microondas (MIMO) dentro del área de microelectrónica.
• Se requieren estudios recientes de Grado (o Ingeniería Técnica / Superior de Telecomunicación (especialidad sistemas de telecomunicación), buen expediente académico y nivel B2 del idioma inglés.
Se precisan conocimientos y experiencia mínima de un año en el diseño de circuitos de radiofrecuencia (tanto activos como pasivos), así como dominio de los programas de simulación de circuitos electrónicos ADS o AWR.
• Se valorará la experiencia en el diseño de MIMOs de 4G y en el manejo de equipos de laboratorio (analisadores de redes, analizadores de espectro, etc).
• Se seleccionan candidatos/as con ilusión, iniciativa e interés por formar parte de una organización dinámica e innovadora en pleno crecimiento, en la que poder aportar nuevas ideas y con oportunidades de desarrollo de carrera profesional dentro de la compañía.

Industry
Aircraft/Aviation, Banking, and Telecommunications

Employment type
Full-time

Experience
Entry level

Job function
Engineering, Information Technology, Research

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RF Power Amplifier Designer 5G
MACOM
Lincoln, Rhode Island More Lincoln jobs >
Experience with EM simulations (HFSS or other) as it relates to RF Power amplifier design. More than 7 years of experience in RF Power amplifier design and products. Be ...

RF Power Amplifier Design Engineer Intern
Qorvo, Inc.
Chandler, AZ, US More Chandler jobs >
Qorvo is looking for a student to work as a RF Power Amplifier Design Intern during July-Dec of 2018(6-months). The student in this position will be exposed to all aspects of ... qorvcorp.peoplefluent.com

Sr. RF Power Amplifier Design Engineer
Qorvo, Inc.
Chandler, AZ, US More Chandler jobs >
Required design experience: RF/Microwave power amplifier, power transistor, driver amplifier, Doherty amplifier, hybrid-based components, and multi-chip transmit/receive modules. qorvcorp.peoplefluent.com

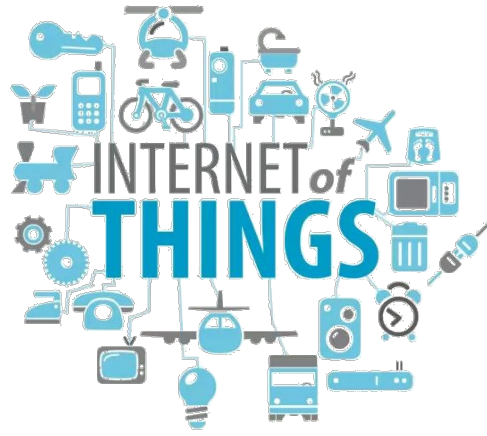
(Sr.) RF Application Engineer (Greencard or US Citizen ONLY)
RFHC US Coporation
Raleigh-Durham, North Carolina Area More Raleigh jobs >
We are looking for an experienced RF Application Engineer for the following tasks: GaAs or GaN power amplifier experience is strongly desired. RF power amplifier design in ...

Location
 Greensboro, North Carolina (9)
 El Segundo, California (8)
 Chandler, Arizona (7)
 Raleigh, North Carolina (7)
 Lansdale, Pennsylvania (3)
 Norwell, Massachusetts (2)
 Lincoln, Rhode Island (2)
 Irvine, California (2)
 Charlestown, Massachusetts (1)
 Melbourne, Florida (1)

Company
 Qorvo, Inc. (15)
 Infineon Technologies (12)
 Dsp Wireless Systems (10)
 West Coast Apply (8)
 Ransstad Technologies (3)
 Viasat Inc. (3)
 Wolfspeed (2)
 MACOM (2)
 Huawei Technologies (1)
 Millennium Space Systems (1)
+ Add

Date Posted

Job market sectors - EMERGING



Vehicle-to-Pedestrian (V2P)



e.g. pedestrian in walkway ahead

Vehicle-to-Network (V2N)



e.g. traffic queue five kilometers ahead

Vehicle-to-Vehicle (V2V)



e.g. emergency vehicle approaching

Vehicle-to-Infrastructure (V2I)



e.g. traffic signal ahead turning red

