

# DEPARTMENT

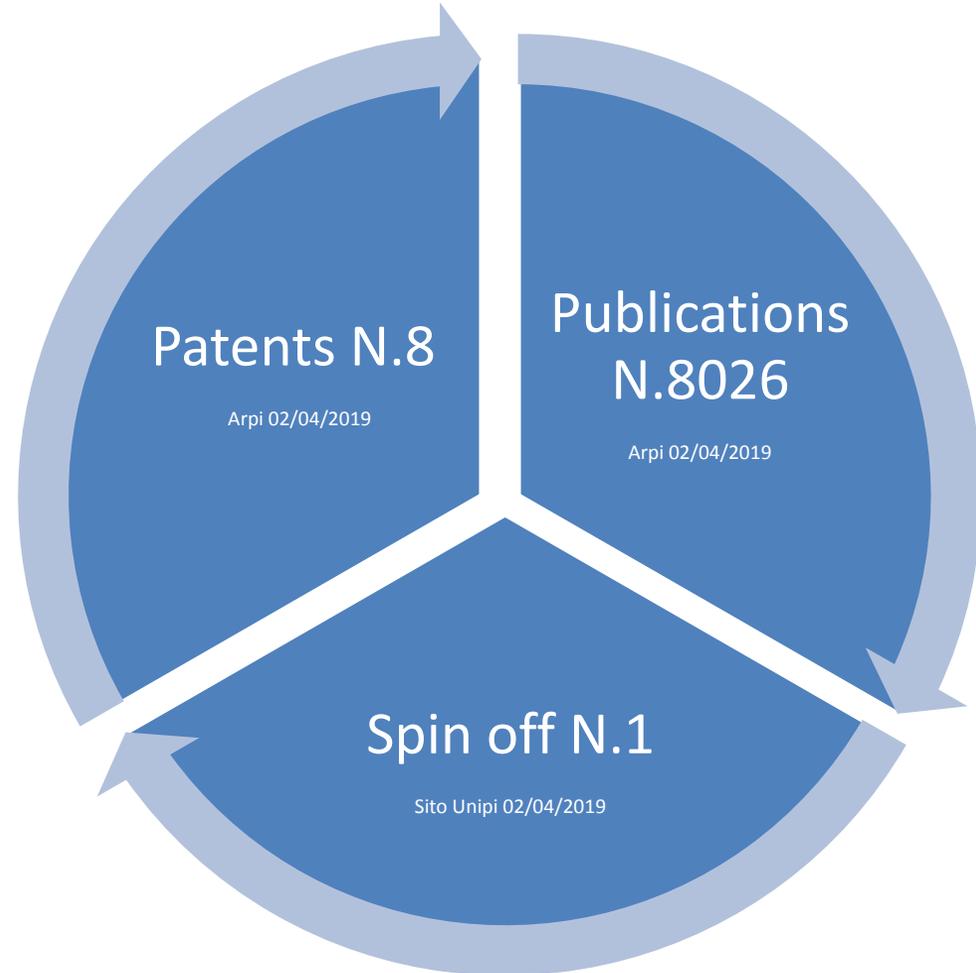
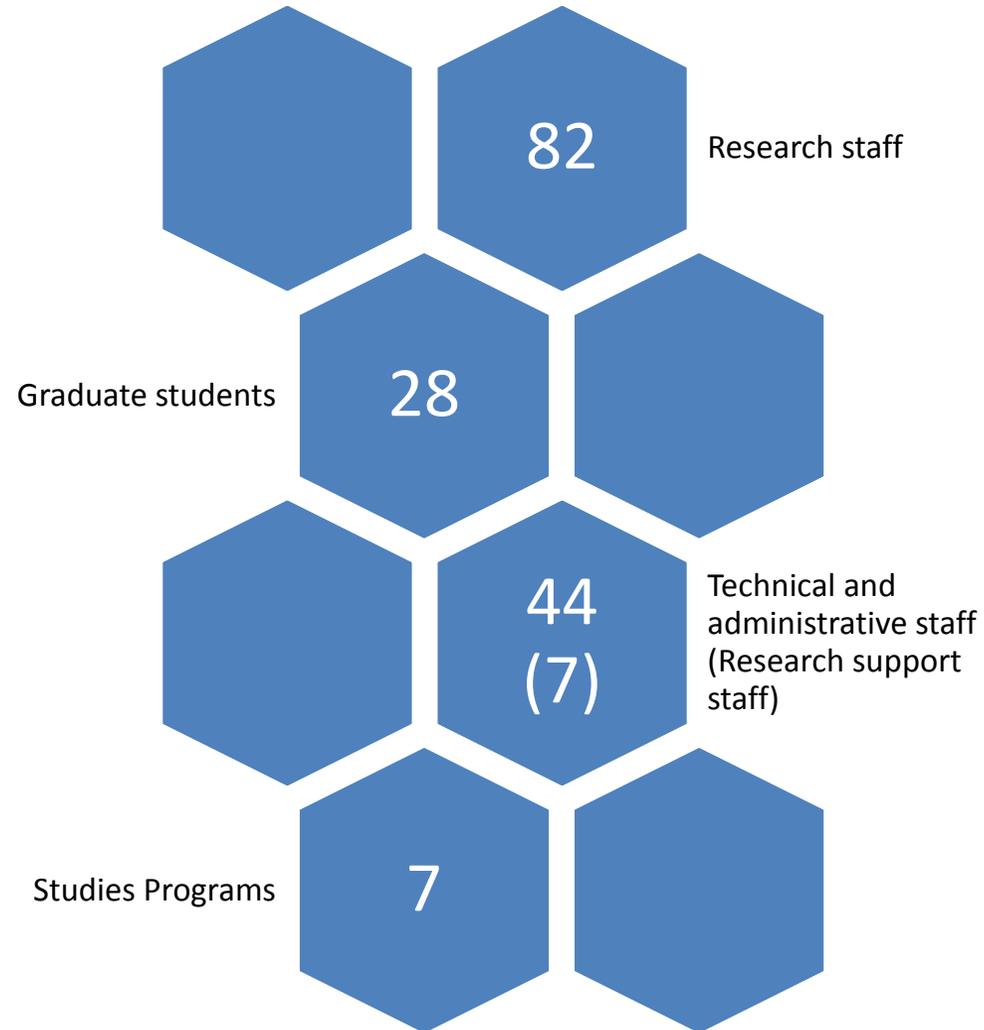
ENERGY, SYSTEMS, TERRITORY, AND CONSTRUCTION ENGINEERING



COMMITTED FOR THE  
FUTURE



# DEPARTMENT AT A GLANCE



ENERGY, SYSTEMS, TERRITORY, AND CONSTRUCTION ENGINEERING

# RESEARCH AREAS

Electrical engineering	applied electromagnetics, electromagnetic compatibility, electric measurements, Special electromagnetic devices, magnetic levitation, non-destructive testing techniques, development and testing of magnetic materials, innovative sensors and transducers.
Power systems	power plant and electric grid dynamics, smart grids technologies, power management modules, electric and hybrid mobility, electric power conversion, electric motors, innovative electric drives, small and large electric machines, power electronics.
Management engineering	ICT and information management, Industrial economics and innovation management, smart specialization, Logistics and operations management, e-procurement, ERP, Industry 4.0
Applied thermodynamics and heat transfer	boiling heat transfer, heat pipes, thermal control applications, boiling in microgravity, geothermal systems, thermal energy storage, building physics, acoustics and lighting technologies, HVAC systems.
Fluid machinery and energy systems	renewable energy systems, innovative power plant technologies, energy saving in industry, power to gas and power to heat technologies, energy storage, internal combustion engines, fluid dynamics of turbomachinery, volumetric expanders, LNG.
Civil Engineering and Architecture	maritime engineering and coastal erosion, hydraulic structures, water and wastewater treatment, innovative materials and structures, digital graphics for the valorization of the cultural heritage, urban and landscape architecture, housing design



# RESEARCH PROJECTS



**11** Regional funded projects  
TANC, SCY, MAG-IA, LOGICA, PROT-ONE,  
SIGS, STECH, SUMA, CONCIA, STIA, SY 4.0



**4** Inter-regional projects  
GRRinPORT, REPORT, TDI RETE-GNL,  
PROMO-GNL



## European Projects

- OSMOSE - Optimal System-Mix Of flexibilities Solutions for European electricity
- GLASUNTES – Innovative high temperature thermal energy storage concept for CSP plants exceeding 50% efficiency
- PROGETTO ETER - of the EU Commissione (DG EAC) in cooperation with EUROSTAT



**24** Industrial research projects



PRIN 2015 - Mitigating the impacts of natural hazards on cultural heritage sites, structures and artefacts (MICHe)  
PRIN 2018 – The energy flexibility of enhanced HEAT pumps for the next generation of sustainable buildings (FLEXHAET)  
PRIN 2018 – Advanced Network control of future smart grids

# RESEARCH IMPACT

D

E

International

- Worldwide cooperation for new energy systems

S

Local

- Technology transfer and higher education

Te

Cultural heritage

- Preserving the living environment

C

Environment

- Conserving the environment and the territory