



# İSTANBUL PROJECT ACADEMY



MARMARA ÜNİVERSİTESİ  
İNNOVASYON VE TEKNOLOJİ  
TRANSFER UYGULAMA VE  
ARAŞTIRMA MERKEZİ





Health Care  
Doctor  
Hospital  
Pharmacist  
Nurse  
Dentist  
First Aid  
Surgeon  
Emergency



MEDICAL



MEDICAL



MEDICAL

# Horizon Europe Cluster 1: Health Brokerage Event



**Project Idea / Field of Expertise :**

Technology  
–Human Machine interaction  
- Data management

**Organisation Name:**

École supérieure des technologies industrielles  
avancées (ESTIA)

**Addressed Topic(s) & Call(s):**

HORIZON-HLTH-2023-TOOL-05-03:  
HORIZON-HLTH-2023- TOOL-05-05



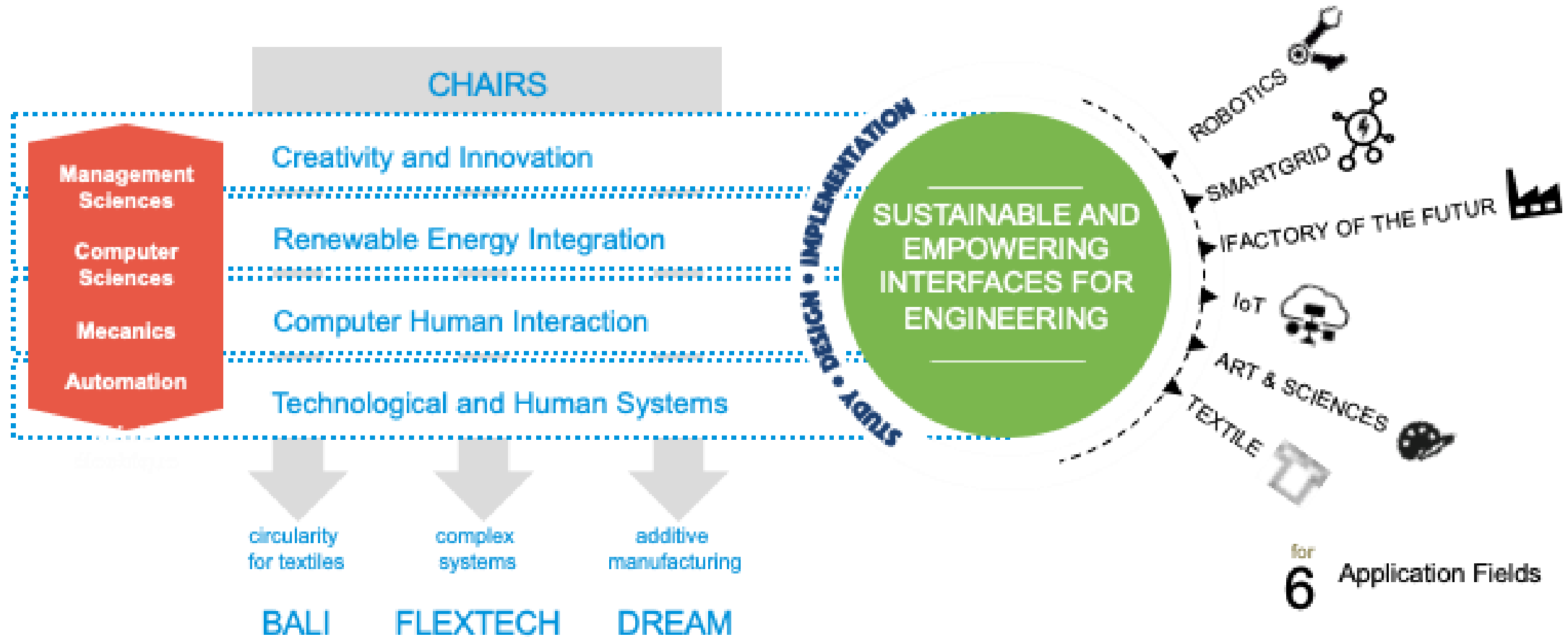
# Organisation name

- École supérieure des technologies industrielles avancées ([www.estia.fr](http://www.estia.fr))



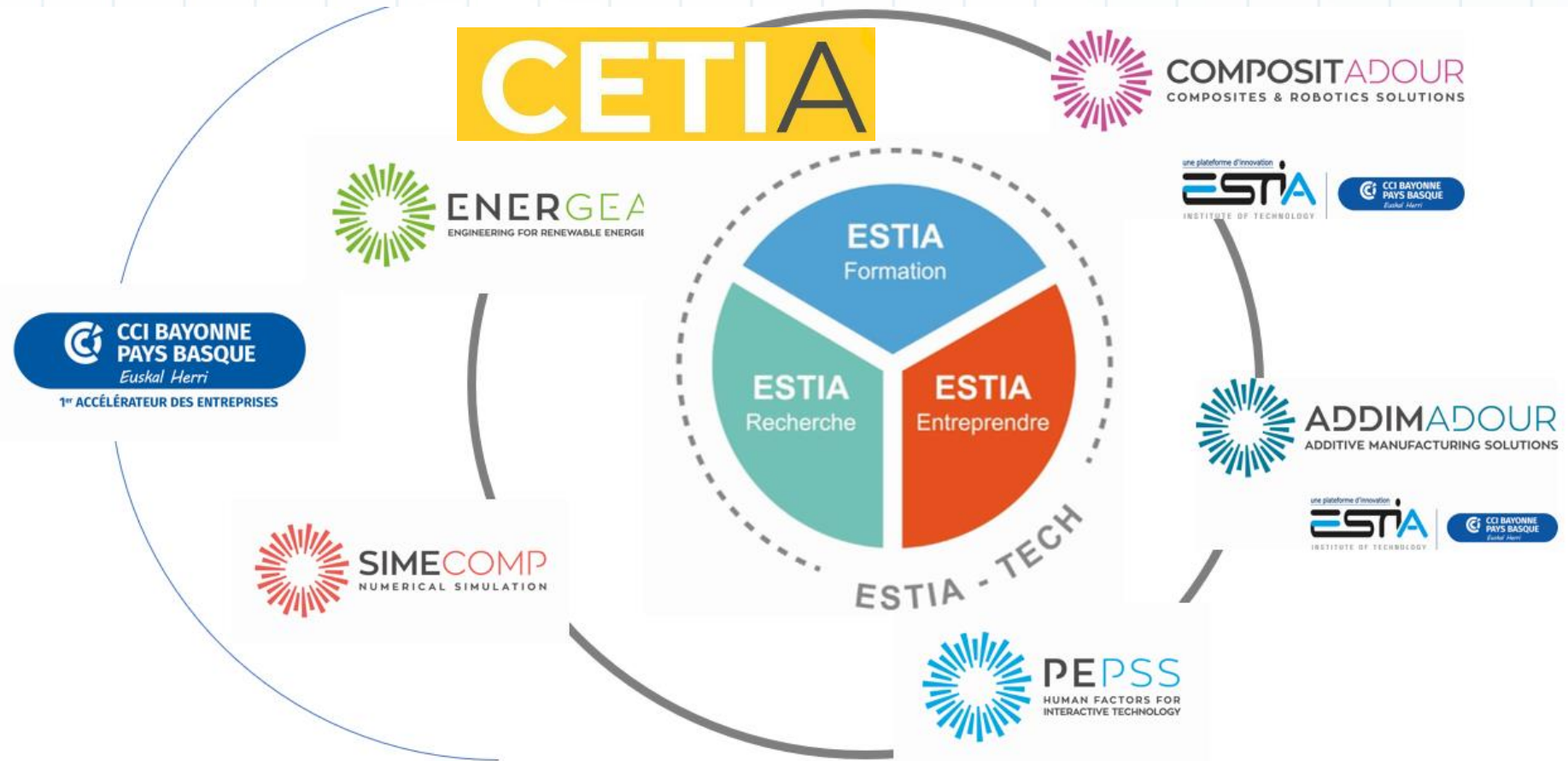
- Founded in 1996, the ESTIA INSTITUTE OF TECHNOLOGY is a general engineering French school training trilingual versatile engineers, to undertake positions such as product engineer, supply chain planner/manager, quality manager, production manager, and project manager.
- The ESTIA campus is an ecosystem which includes:
  - Engineering courses & masters degrees
  - Research teams in technology
  - Technical platforms
  - A company incubator

# Lab Experience and Key Projects



# ESTIA expertise

**ESTIATECH** is the entity in charge of value-added research and technology transfer, fosters relationships between ESTIA and businesses looking for technological solutions, skills and training for their innovative projects, and stimulates partner-oriented research.



# ESTIA Platforms

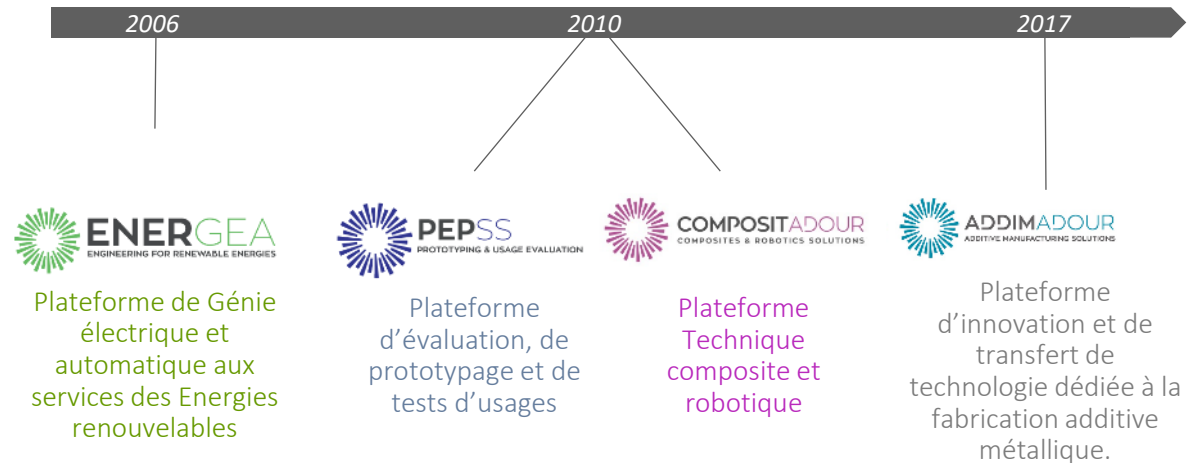


Support for research activity

Support for teaching

Support and guidance for companies

Since 2006



# Composites



## KEYWORDS

Thermoplastic / Thermoset composites

Dry fibre / AFP (Automated Fibre Placement)

ATL (Automatic Tape Lay-up) / RTM (Resin Transfer Moulding)

LRI (Liquid Resin Infusion) / Stamping / Compression moulding

## RESEARCH TOPICS

Automated composite parts lay-up:

- Development of lay-up equipment
- Programming of draping strategies
- In-situ consolidation of thermoplastic composites
- Alternative heat sources technologies

Non-Destructive Testing

Injection / Infusion of experimental matrixes

High rate manufacturing, stamping/forming and press consolidation



# Robotics



## RESEARCH TOPICS

Online robot control with external sensors feedback:

- Robot precision improvement
- Remote control, teleoperation

Control command of complex systems:

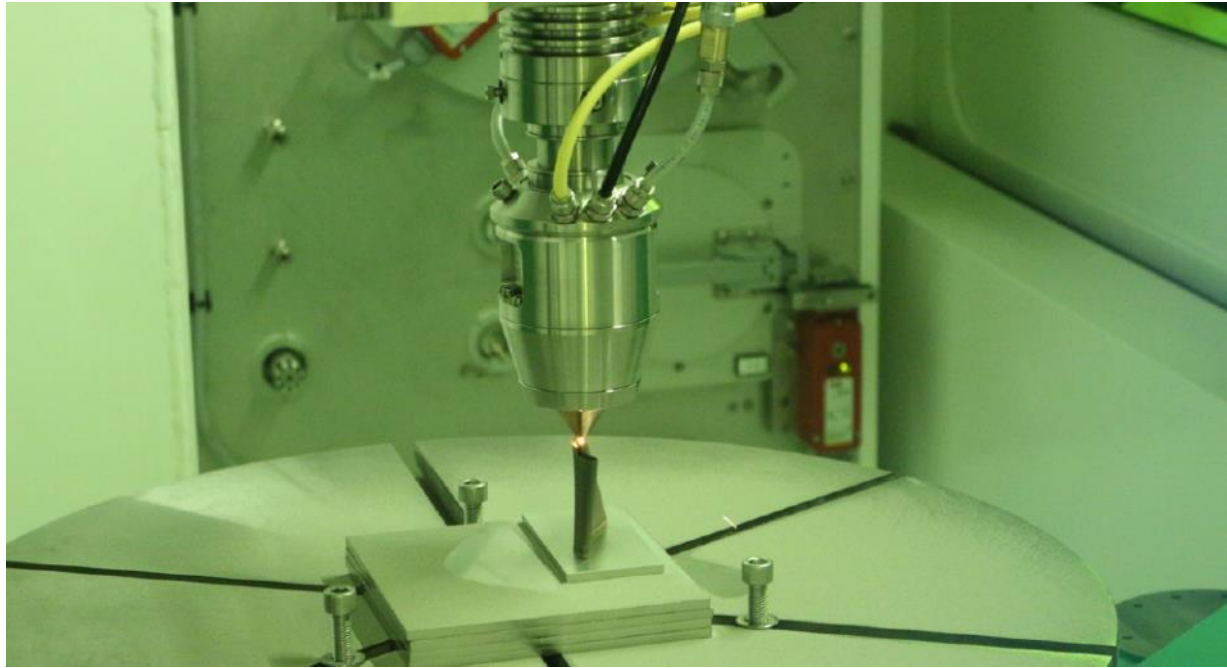
- Automatic trajectories generation
- Process control development

Online control, nondestructive testing

### KEYWORDS

Robotics simulation / Numerical twin / CAM  
Offline trajectories generation  
Software development / NDT / Ultrasound

# Additive Manufacturing



## KEYWORDS

Large parts Metal Additive Manufacturing  
Feature addition / Repair / Numerical process simulation  
Topology / Optimisation / Metallurgy / LMD-P / LMD-W  
WAAM / SLM / Coldspray

## RESEARCH TOPICS

Mechanical characteristics improvement of parts obtained by Additive Manufacturing:

- Determination of optimal Key Process Parameters to obtain material soundness
- Development of real-time instrumentation for monitoring and post-process control
- Development of deposition strategies tailored to Additive Manufacturing processes

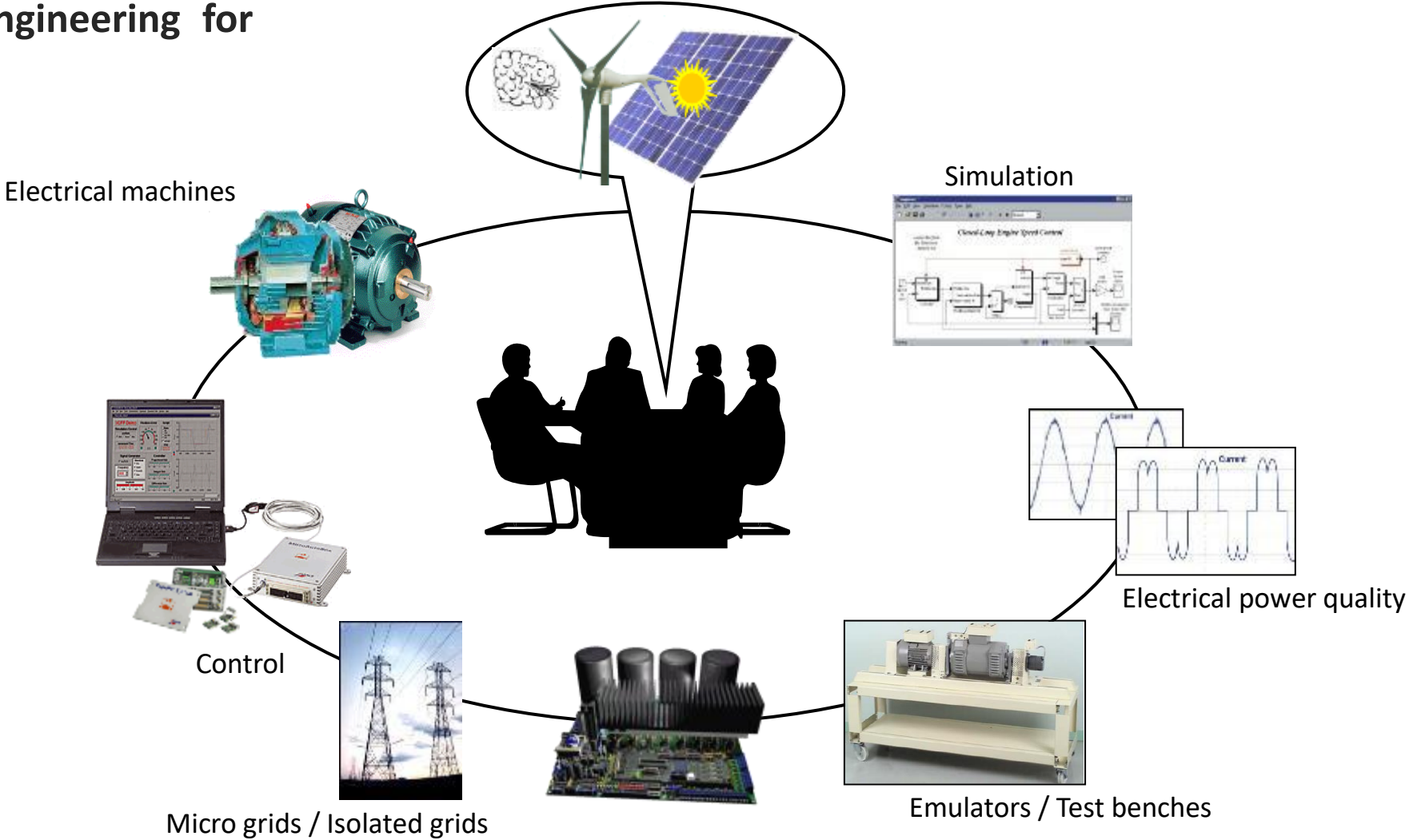
Multiphysics numerical simulation of Additive Manufacturing processes:

- Thermal, mechanical and metallurgical simulation for behaviour prediction (residual strains and deflection)
- Topology optimisation (Finite Element Method structural design for performance/weight ratio enhancement)

# ESTIA Platforms

## Electrical and Automatic Engineering for Renewable Energies

- Automatic
- Power Energy
- Control
- Energy storage
- Smart grid



# ESTIA Platforms

- User centred design
- Human Computer Interaction / Integration
- Behavioral and Morphological Modeling

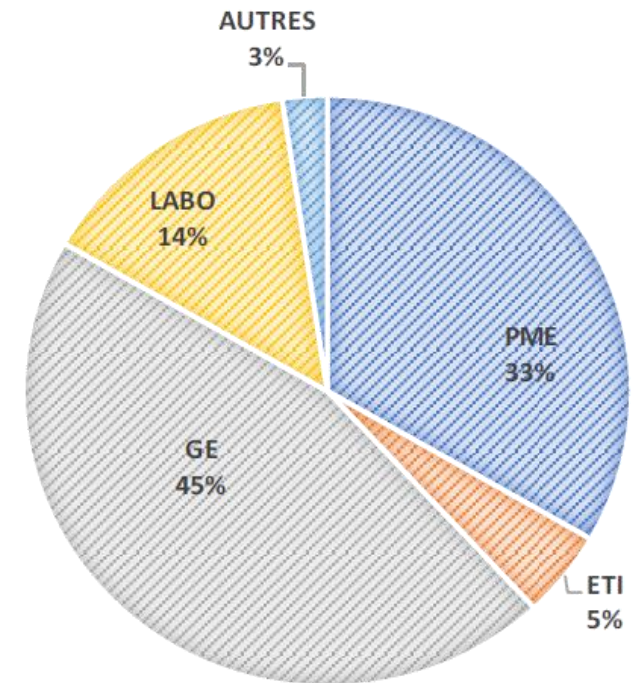
Platform for Prototyping,  
Evaluation and Usability  
Testing



- Prototyping innovative systems
- Facilitate the interaction between people and between a human and a system
- Model human behavior: use, appropriation and emotion

# Partnership research commitments

- ESTIA contracts with around fifty companies per year, mainly in the aeronautics and aerospace, energy and oil & gas sectors
- For 2019 : Global Turnover : 2.600.000€
- For 2020 : Global Turnover : 2.400.000€
- For 2019 : EU and National funding : 3.900.000€
- For 2020 : EU and National funding : 3.500.000€



# Ongoing collaborative projects |

20 EU projects



15 national projects



3 chairs



# Contact details



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THANK YOU...



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