PhD SCHOLARSHIP 2018 DATASHEET

Business Division Business Area	Industry and Transport
Technology Platform	Tecnalia Electric Aircraft
Scholarship location Province Building	Gipuzkoa Edificio M7, Miramón, Donostia

SCHOLARSHIP DESCRIPTION

Scholarship title: Advanced control for the aircrafts of the future

Brief description of scholarship:

Developing advanced control algorithm for the aircrafts of the future, which could be related to dynamics (sense and avoid, complex dynamic manoeuvres), cooperative control (swarming) or fleet control and secure communications.

Detailed description of scholarship:

At the TECNALIA TEA (Tecnalia Electric Aircraft) group our mission is to promote the well-being of society through more ecological and secure air transport. Within the huge trend of aeronautical electrification, at TEA we want to position ourselves as the reference in developing technology that allows creating sustainable, green, and secure air transport. This is why we are putting together a multi-disciplinary group in order to design the air transport of the future.

The PhD student shall be part of this group, actively interacting with the TEA researchers in a multicultural, dynamic, and enriching environment.

There is currently a boom in the development of different innovative aircraft architectures based on electric propulsion (transport of goods, people, services), that along with a change in Spanish legislation towards a greater ease to fly and validate prototypes, shows an unbeatable context to develop technologies that boost the development of the sustainable and secure air transport ecosystem of the future. Within this scholarship, scientific-technological development will focus on advanced control algorithms that allow to establish the foundations in one of the essential development topics (aircraft dynamics, cooperative control or fleet control, and secure

communications), so that at TEA we can progress in the development of solutions that provide a greater added value than currently used solutions.

This scholarship will consist of a scientific part and an experimental part, given that the implemented developments will be validated by experimenting at the unique TEA 'Flying Robots Lab', where advanced controls can securely be tested with scale aircrafts.

REQUIREMENTS:

The PhD candidate shall meet the following requirements:

- **Degree and specialisation**: Industrial Engineering, Control Engineering, Computer Engineering, Physics, Mathematics or similar
- **Languages:** Very advanced level of English.
- **IT skills**: Matlab/Simulink
- **The following will be a plus**: Having previous training in the thesis topics (Master's level or similar), and particularly knowledge of traditional or machine learning control strategies. High proactivity, capacity to critically analyse and work both independently and in a team are desirable. However, what we value most is a thirst for knowledge and the ability to tackle complex problems with enthusiasm and without fear.

Further information and applications: http://bit.ly/2IZlfNb