ELECTRIC AIRCRAFT POWERTRAIN AND HARDWARE ENGINEER

Company Description

At TECNALIA we want to strengthen our TEA (Tecnalia Electric Aircraft) team, whose mission is to promote the well-being of society through more ecological and safe air transport. For this, we are looking for a researcher oriented to the development of innovative products and R&D projects. The vacant position to be filled belongs to the Aeronautics and Space Business Area of Tecnalia's Industry and Transportation Division, which is actively working on the development of systems to contribute to the development of more electric aircraft architectures. The ideal person will help contribute to a ground-breaking aerospace project that pushes the boundaries of aviation technology.

Information

Deadline: 2021-04-10
Category: Business
Province: Gipuzkoa
Country: Basque Country
City: Donostia - San Sebastián

Company

Tecnalia Research and Innovation

Main functions, requisites & benefits

Main functions

As an Electric Aircraft Powertrain and Hardware Engineer, you will perform a variety of tasks including conceptual design, engineering analysis, detailed sub-system electrical and mechanical design, integration, test, manufacturing, and field support. A strong candidate will have a broad range of engineering skills and could perform as an individual contributor or as a team lead. Responsibilities include: • To contribute to powertrain concept development as part of an internal cross-functional design team, including prototyping and preliminary validation. • To perform detailed design of electrical and electronic assemblies. • To perform analysis, integration, and testing. • To prepare high-quality formal engineering documentation such as drawings, presentations, specifications, design presentations, test plans, and test reports.

Requisites

Bachelor's Degree in Electrical or Electro-Mechanical Engineering with 5 or more years' experience is preferred, or Master's Degree with 3 or more years of experience. It is interesting that the candidate has or is pursuing a doctorate in electromechanical engineering, previous involvement in research projects, projects of the European framework program, as well as advanced knowledge of electronics. Experience Design and/or integration experience with some, or all, of the topics below: Electric powertrain system modelling and component selection. Electric vehicle powertrains for ground, or aircraft systems. Experience with design for safe operation and maintenance of high and medium voltage (100-800VDC) power used in electric and hybrid vehicles or aeronautics. Medium/High Voltage Battery pack integration. Battery Management Systems. Knowledge of technical guidelines for batteries in automotive or aerospace (e.g. ECE-R100, DO 311). Brushless motor technologies, sizing & control algorithms. IGBT and MOSFET based motor controllers. Medium/High Voltage power distribution systems including contactors, precharge systems, and bus bars. Isolation and Monitoring techniques. Vehicle charging systems (e.g. SAE J1772). • Experience with electric vehicle design safety mitigations. • Proven track record of innovation and problem-solving in cross-functional teams. • Experience using Data Acquisition Devices to validate system performance and make recommendations for system upgrades. • Experience with electric powertrain modelling software tools and familiarity with simulation tools such as MATLAB/Simulink, LabVIEW, Model-based Systems Engineering, and Hardware-in-the-Loop simulation and test is required.

Benefits

You will have the opportunity to work in a team with great projection and a national leader in the subject, in a multicultural, dynamic, and enriching work environment. Opportunities for professional development, participate in reference projects through which to respond to the challenges of the future, be able to create a solid professional career. Collaborate with high-level regional, national, and international research groups, especially Europeans. You will have measures to reconcile your personal and professional life.