

PHD SCHOLARSHIP APPLICATION DATA

Business Division Business Area	Industry and Transport Advanced Manufacturing
Scholarship location Province/Building	Donostia-San Sebastián Gipuzkoa/M7

SCHOLARSHIP DESCRIPTION

Title: Instrumentation and Advanced Analytics applied to machining processes

Brief description of scholarship:

This scholarship intends to introduce Industry 4.0 concept into companies dedicated to the design, manufacture or use of machining centres, trying to address the current challenge of the manufacturing sector of implementing the digital industry advantages which accesses massive data in an extremely competitive environment.

Scholarship description:

This work aims to address new ways of maximising reliability and productivity of current machining processes, installing data acquisition systems of process machine data and applying analysis techniques to massive data which enable analysing matters such as: the correct design of a machine and the condition of its components for use application; productivity ratios and improvement thresholds of machine use; and finally, issues related to the cutting process such as the correct selection of cutting tools, machining strategy used and the quality prediction of the part to be obtained. The ultimate aim of this work is to generate a solution/tool to offer advice or support for designers and/or users of machining centres.

To achieve this, the PhD candidate shall:

1. define and validate instrumentation required by machining centres to study processes based on the analysis of massive data located in the cloud;
2. develop algorithms facilitating the analysis and optimisation of production issues and machine design; and

Scholarship Application Template

3. validate an improvement solution for machining processes which provides on-line support based on massive data analysis carried out in the cloud.

Requirements:

The PhD candidate shall meet the following requirements:

- Degree and Specialisation: Industrial Engineering. Telecommunications Engineering.
- Languages: Knowledge of English (written and spoken).
- IT skills: Interest and knowledge of programming techniques and languages; familiarity with the use of Matlab and/or Python or similar languages
- The following will be a plus: Knowledge of machining processes, CAM, CN or work experience in companies.

Further information and applications: <http://bit.ly/2J24v8j>