

PHD SCHOLARSHIP 2018 DATASHEET

Business Division Business Area	Industry and Transport Advanced Manufacturing
Technology Platform	Additive Manufacturing
<u>Scholarship location</u> Province Building	Donostia – San Sebastian Gipuzkoa / Mikeletegi 7

SCHOLARSHIP DESCRIPTION

Scholarship title: Development of additive manufacturing via WAAM technology in aeronautical metal alloys.

Brief description of scholarship:

This PhD scholarship focuses on additive manufacturing of high value-added metal components. This thesis involves working on the development of high-build additive technology, specifically WAAM (Wire Arc Additive Manufacturing) technology for different metal alloys relevant to the aeronautical sector. Technically, it will focus on the development and modelling of different metallic alloys via low thermal impact welding equipment, analysis of manufacturing strategies and correlation of mechanical properties with the manufacturing process.

Detailed description of scholarship:

Additive manufacturing is a new paradigm in the manufacturing world that affects the way design and manufacturing are carried out. Additive manufacturing has many benefits: product personalisation, decentralisation and stock reduction, among others worth mentioning.

This PhD scholarship is intended for the development and research of WAAM technologies, which consist in using arc welding technologies to manufacture 3D metallic components via deposition of metallic wire. The researcher of this thesis will work in an industrial setting based on anthropomorphic robot (6 or 8 axes) a GMAW (Gas Metal Arc Welding) technology welding source to develop the start-up, modelling and monitoring of an additive manufacturing process in different metallic alloys.

The scholarship shall be carried out in collaboration with industrial companies that are interested in these highly productive processes with a high impact in different sectors.

REQUIREMENTS:

The PhD candidate shall meet the following requirements:

- **Degree and specialisation:** Industrial or Mechanical Engineering.
- **Languages:** Spanish and English (minimum skill: B1).
- **IT skills:** Python, Catia, PowerMill
- **The following will be a plus:** Experience in manufacturing processes, data analysis and robot programming.

Further information and applications: <http://bit.ly/2J0fqPK>