

**Localisation :**

Campus Arts et Métiers  
8, Bd Louis XIV  
Lille  
France

**Position available from :**  
**01/06/2024**

**Duration :**  
**30 months**

**Potential salary:**  
**Up to 2700€ net/month**

**Candidature :**

CV and motivation letter at  
Stéphane CLENET  
[Stéphane.clenet@ensam.eu](mailto:Stéphane.clenet@ensam.eu)  
ET  
Adrien VAN GORP  
[Adrien.vangorp@ensam.eu](mailto:Adrien.vangorp@ensam.eu)

## **European project MAXIMA-Post-Doctoral/Engineer position M/F in design, manufacturing and life cycle management**

### **Context**

The École Nationale Supérieure d'Arts et Métiers is a scientific, cultural and professional public institution (EPSCP) under the sole supervision of the Ministry of Higher Education and Research. It is composed of eight campuses and three institutes spread throughout the country. Its missions are those of a public institution of higher education: initial and continuing education, research and development.

The European research project MAXIMA - Modular AXIal flux Motor for Automotive is coordinated by Arts et Métiers and starts on February 1, 2023 for a period of 4 years. It brings together 5 academic institutions and 6 companies. The ambition of MAXIMA is to design and develop a low-cost modular PM axial flux EM for the automotive core market, with improved performances, integrating CRM less strategies and with a low environmental impact. In this project, ENSAM will focus on the development of an innovative manufacturing process flow of an axial flux electric machine well-fitted for mass production, while considering the environmental impacts.

### **Position**

The post-doc will work at the campus Arts et Métiers located in Lille. He/She will join the research team in electrical engineering, L2EP but he/she will work in a multidisciplinary environment, in direct and close collaboration with the MSMP laboratory for design and manufacturing aspects and with the I2M laboratory for life cycle analysis.

### **Missions**

Within the MAXIMA project, the post-doc will be closely involved:

- in the definition of the technical specifications of the electrical machine and the associated manufacturing process in direct collaboration with the industrial partners of the project
- the investigation of innovative technical solutions to meet the specifications (design and manufacturing)
- in the analysis of the various options according to technical, economic and environmental criteria
- in the development of demonstrators of new product and process concepts and their optimization
- in the communication on the progress of the project with the project partners
- in the communication and dissemination of scientific and technical results (publications, patents...)

## Required skills

Product/process design, industrialization of manufacturing processes, electrical machinery (desired), product life cycle analysis (desired)

## Know-how

Strong technological background in:

- Mechanical systems and manufacturing processes.
- Design of mechanical systems taking into account multi-physical considerations (mechanical, thermal, magnetic, etc.)
- Industrialization of manufacturing processes

Project management

Life cycle analysis (desired)

A good proficiency in English is essential to ensure the exchanges with all the partners of MAXIMA project as well as the writing of the synthesis reports.

## Personal and interpersonal skills

Ability to analyze, summarize and report

Project management skills and ability to meet deadlines

Autonomy

Teamworking

## Profil

- Level of education: PhD in mechanics and production engineering or another degree with significant experience in these fields.
- You are organized, know how to work in a team but also autonomously. You want to discover the world of research in the framework of a European R&D program Skills required.