INDUSTRIAL PHD STUDENT POSITION, FOR NIBE ENERGY SYSTEMS

Would you like to work with one of Sweden's strongest brands and be involved in developing the next generation of NIBE products and smart heat pumps? NIBE AB is now recruiting a talented student with a master degree in science to work as an industrial PhD student on smart heat pumps.

We are now looking for an industrial PhD student, interested in technology and wants to work on developing sustainable climate solutions. The position will be shared in between Sweden and France. At NIBE's head office, you will work in an international environment with a world-class product portfolio that requires both intensive and high-quality product development.

Description of the subject and the position

Keeping our planet healthy and limiting the climate change is a major concern of the European Union that places climate change fight on top of its priority list. Moreover, the EU is working its way through EU energy and material independency in order to maintain EU economy strong and position ourselves as the world sustainability leader.

Limiting the human impact on climate change will require a significant reduction of CO2 emissions. A large amount of CO2 reduction can be tapped from space heating systems where burning fossil fuels is still common practice in many Member States. The way towards carbon neutrality passes through the electrification of the heating sector as well as a transformation of the electricity sector. The heat pump technology is the most promising candidate to achieve decarbonisation of the heating sector. However, to ensure the success of the massive electrification, it is an absolute necessity to minimise the electricity consumption of heat pumps, by improving their efficiency, and enabling communication with the electricity grid.

Increasing heat pump energy efficiency and upgrading the communication with the grid can be achieved by improving the control system of heat pumps. An advanced control system would allow for optimising the heat that is delivered and for adapting the heat demand to the availability of electricity, in particular in grids fed with an increasing share of renewable electricity from sun and wind.

To make this advanced control a reality a heat pump manufacturer, an electricity utility company and grid owner and a technical university specialised in energy

efficiency systems have joined forces to propose an industrial postgraduate student position. The PhD student will beneficiate from the knowledge and experience of these three partners and be given a unique chance to acquire strong and valuable expertise in control systems, thermodynamics, heat transfer, laboratory testing and modelling.

You will be part of the Product Development team, which is a high-tech advanced product development department with around 100 employees in the fields of mechanics, electricity/electronics, cooling technology, lab, control & regulation, audio optimization, etc.

Presentation of the three partners

NIBE AB

NIBE AB is a successful modern company located in Markaryd, Sweden, with a turnover of just over SEK 4.2 billion/year and almost 1,300 employees. NIBE is one of the market leaders in Europe with a sustainable product range consisting of one of the market's widest programs of heat pumps, water heaters, solar panels, biofuel products, ventilation products, district heating equipment, fireplaces, etc.

NIBE AB started manufacturing heat pumps in 1978 and which is now ranking as the largest heat pump manufacturer of the country.

NIBE AB is part of the publicly listed NIBE Industries, which has a turnover of approximately SEK 27 billion and approximately 18,000 employees in more than 30 countries. The NIBE group owns manufacturing facilities in many countries in Europe and North America.

Sustainability and high quality are the main drivers of the group strategy in developing products and services to its customers.

EDF R&D

EDF R&D is part of the EDF group, which is the main French electricity utility company that, in particular, owns the national electricity grid and a significant share of the French power production plants.

EDF R&D is located in the Paris suburb “les Renardières” and employs 800 persons, mainly engineers specialised in thermodynamics, heat transfer, mechanics, electronics and metrology. EDF R&D facilities are equipped with 5 testing laboratories and beneficiate from a long experience in leading PhD studies. EDF R&D aims at increasing the electricity supply while keeping the grid strong to offer the best service to their customers.

Mines Paris Tech
Mines Paris Tech is a renowned French university located in the city centre of Paris. This university trains engineers and hosts several research centres, one focussing on energy efficiency of systems. The high-level research centres of Mines Paris Tech attract highly qualified PhD and professors and will serve as the academic supervisor and ensure support at a high scientific level.

General features about the overall organisation

The PhD student will be employed by NIBE AB and administratively attached to Mines Paris Tech which will serve as the entity behind the academic examination. Most of the experimental and practical work will be done on the test benches at EDF R&D facilities near Paris. The PhD director will be a professor from Mines Paris Tech and the PhD student will beneficiate from the support of one supervisor from EDF R&D and one supervisor from NIBE AB.

The PhD study is planned for three years. Part of the work, between 50% and 70%, will be done in France, at EDF R&D premises at Les Renardières. The remaining time will be spent at NIBE AB premises in Markaryd. The exact time share in between the two locations is to be defined as well as its distribution over the 3 years.

Background of the candidate

We are looking for a responsible person with a master degree in science who is passionate about heat pump technology, electricity and compliance. You are creative, independent and not afraid of taking initiatives. You have relevant training, education and/or experience in this area. Good knowledge in English is a requirement and also French is meritorious.

Starting time

The PhD study is to be started in 2021.

Applying

We will be reviewing applications on an ongoing basis and would like to receive your application as soon as possible, but no later than 20 March 2021. Apply via our website www.nibe.eu under "vacancies". If you would like to know more, please contact one of the persons below.

Welcome!

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