


PhD position 7: Real-time monitoring of the remaining useful life of an electronic system based on the digital twin concepts	
	
Employers	
Dr. Bart Vandevelde from VZW Interuniversitair Micro-Electronica Centrum (IMEC) in Leuven, Belgium, Dr. Onur Atak and Dr. Gwendal Jouan from Siemens Industry Software NV in Leuven, Belgium are looking for a PhD candidate to join a three-year research training within the EU-funded MSCA industrial doctorate MIRELAI . You will be enrolled in the PhD programme of Katholieke Universiteit Leuven and supervised by Dr. Bart Vandevelde (IMEC) and Prof. David Moens (KU Leuven).	
Project description	
The aim of this PhD track is to develop a methodology to predict the RUL (remaining useful life) of electronic systems based on the digital twin concept. A numerical modelling approach, considering the relevant phenomena for ageing (thermal, mechanical) will be developed, and validation against experimental data will also be considered. The end objective is to have the digital twin model running in real time, embedded with the system, therefore particular attention will be paid to the computational cost of the model, reduced order modelling techniques will be considered.	
International mobility	
As a PhD candidate, you will be employed for 18 months each by Siemens and IMEC. During the placement at IMEC, you will also undertake a 1-month placement at University of Greenwich, supervised by Dr. Stoyan Stoyanov.	
Requirements	
Specific Eligibility Criteria on the Horizon Europe: Marie Skłodowska-Curie (MSCA) programme apply, including the mobility rule and PhD rules. Applicants of any nationality are welcome.	
Additional requirements	
<ul style="list-style-type: none"> · The candidate should have a strong background in modelling and numerical simulation with a master's degree in mechanical/electrical/mathematical engineering or related fields. · A good knowledge of the finite element method both theoretical and practical (experience using CAE software) is a must. · English proficiency. 	
The monthly support and benefits	
<ul style="list-style-type: none"> · The successful candidate will benefit from an innovation-driven industrial environment · Personalised career development plans will be established to support the needs of the PhD candidate · The Phd candidate will receive an attractive salary in accordance with the MSCA regulations. The financial package will include: 1) Living allowance yearly gross budget: 40.800€/year (country correction coefficient applies) (Includes salary, employers cost and different benefits), 2) Mobility allowance of €600, 3) Family allowance (€660), if applicable. The exact (net) salary will be confirmed upon appointment and is dependent on local tax, social and health insurance regulations and on the country correction factor and be subjected to deductions for employment costs. 	
Application	
Required documents:	Complete applications in English should include: <ul style="list-style-type: none"> · CV* · Letter of motivation · Letter of recommendation · English language proficiency certificate(s) (not for native speakers)
Selection process:	<ul style="list-style-type: none"> · Our selection procedure for PhD position is open, transparent, merit-based and in line with the principles set out in the European Charter for Researchers and Code of Conduct for the Recruitment of Researchers · The application dossier needs to be submitted as a single PDF file to nele.craeghs@siemens.com by 30-11-2022. Please indicate in the subject line: 'MIRELAI: PhD position 07 - your name' · Pre-selected candidates will be invited for interviews by 15-01-2023. Unsuccessful applicants will not receive any notification
Application deadline:	30-11-2022
Expected start date:	The individual PhD project is set to start between 01-02-2023 and 01-04-2023
Contact person for enquiries:	Onur Atak Email address: onur.atak@siemens.com Phone: +44 1223 371706

* The CV must be signed by the candidate and has to bear the following sentence concerning the management of candidate's personal data: *"The undersigned Name and Surname authorizes the management of his/her personal data contained in the application documents as foreseen by the European Regulation 2016/679 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data and declares to be aware of the rights of the data subject as listed in Chapter III of the aforementioned European Regulation"*.