

European Training network in collaboration with Ukraine for electrical Transport

A Marie-Sklodowska-Curie Innovative Training Network within the Horizon 2020 Programme of the European Commission.



This project has received funding from the European Union's EU Framework Programme for Research and Innovation Horizon 2020 under Grant Agreement No 955646.



Are you in your final year as master student or just graduated as master?

Societal objectives

Provide bigger career perspective for Ukrainian engineers via collaboration with top western universities. To train more electrical engineers, making them available for European society. Implementation of the newly developed and acquired knowledge by close collaboration with industry via secondments, training schools and case studies and thus actually contribute to the EU 2020 ambitions.

Doctoral training objectives

Develop a structural doctoral programme in PE and EMC by 3 leading research groups at renowned universities, in close collaboration with industry. Strengthen and structure the initial training of researchers at European level. Provide trained researchers with the necessary skills to work in industry. Improve career perspectives by broad skills development, and building a durable consortium in research and training.

Scientific objectives

Advanced models and simulation methods allowing for uncertainty for connected devices and systems. Novel modulation techniques for decreased and permissible interference. Full experimental evaluation and characterisation in time- and frequency-domain electromagnetics of transport installations.

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University of Nottingham (UN) in United Kingdom	University of Twente (UT) in Netherlands	Dnipro national university of railway transport named after academician V.Lazaryan (UD) in Ukraine
The power electronic lab is the largest in the UK and a key laboratory in Europe, and will be used for experiments for validation of. Fully instrumented and equipped experimental EMC laboratory. Access to HPC facility for validation of models and simulation	State of the art software tools and multi-channel digitisers and processing, test equipment (VNA, TDR). Power electronic laboratory for performing experiments. EMC equipment to perform experiments for validation of the models and simulation results	Ukrainian university for rail transport. State of the art software tools and test equipment to perform experiments for electrical transport. The recruited fellows will be able to use all facilities of the faculty available to other employees



The University of Nottingham

UNIVERSITY OF TWENTE.



You will become an Early Stage researched (ESR), meaning that you are within the first four years of your research career, enrolled in a doctoral (PhD) programme. You will enter within the ETUT project an inter and multi-disciplinary characteristic with the presence of the three universities from the three countries having top-class expertise in Telecommunication Systems (TS), Power Electronics (PE) and ElectroMagnetic Compatibility (EMC). You will make use and help to create a sustainable collaboration amongst the universities and the partner organisations to bridge the gap between the academia and industry. You will develop and integrate advanced methods to model, design, evaluate, measure and monitor economic measures for a safe, reliable, efficient and greener electrical transport and power system. You will be provided a Marie-Sklodowska-Curie Action (MSCA) adventure on personal development, academic experience; industrial experience and the scientific world.

You will be given an unique opportunity as the industrial partners will make their top facilities available, make scientific and practical materials available during specially organised Summer Schools and the secondments. You will be provided with a mentor from an industrial partners which helps you to adopt also a strong industrial and pragmatic thinking, provides you with care career possibilities outside the academia and suggestions on how to strengthen their professional profile.

Network Rail	MM Tech	Lambda Engineering	THALES	Transautomatic	Prydniprovskia Railway
NR has experience with EMC in the rail sector in both power delivery and signalling. Detailed data on electrical impedances of Network Rail equipment for EMC. In-house developed EMC analysis software. Focusing on complex railway stations.	MMT has a wealth of experience in the design, construction and operation of electric vehicles using the latest technology as well as design and construction techniques	Lambda Engineering is a small engineering company performing research, training and consultancy to large companies. It has dedicated equipment for power line interference measurements and investigations.	Multinational company in safety critical complex systems. 106 engineers, 15 EMC laboratories, and 5 of them are accredited. All key EMC facilities are available for the Early Stage Researcher (ESR) to use. THALES, as complex system integrator.	Transautomatics is a scientific and industrial company with the main objectives in designing and implementing signalling, micro-processor and relay interlocking systems, automatic crossing alarm systems.	One of the largest branches of Ukrainian railway which serves for biggest industrial cities. Includes more than 244 stations. Main objective: maintaining and implementing new railway automation devices.

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Personal development	Academic Experience	Industrial Experience	Scientific World
Apart from the obvious advantage of improving language skills, you are able to develop an understanding of different cultures and approaches towards life and communicate effectively. Making you a better person. Working in a project forces you to build time management skills and prepares you to respect strict deadlines. Although this can come with blood, sweat and tears, you are given the opportunity to learn from your colleagues how to handle it and enrich your own personal development .	Participating in MSCA projects gives the possibility to follow courses proposed and provided by the different universities as well as special planned Summer Schools organized by yourselves, universities and industrial partners. During the mandatory courses in the first year of your PhD, you will find out how to effectively manage your data, search for relevant scientific material, how to write and publish papers, how to develop presenting skills, and all the core principles of research integrity.	Industrial Secondments is an important part of the life of an Early Stage Researcher (ESR). Collaborating with industry gives a real-life experience as well as provides relevant for the research original and practical cases. You often visit and stay at your industrial partner for a longer period working closely with the industrial colleagues on immediate challenges. The secondments, industrial and academic, allow you to collaborate and exchange the experience, learn from the best and perform hands on work.	Writing papers to publish the new insights learned during the project and presenting them at various international conferences are one of the essential parts of the Early Stage Researcher (ESR) life. They give the possibility to say to the scientific world what are you doing and why it is necessary. A great opportunity to exchange your knowledge with leading experts. Another aspect of the conferences, together with the scientific component, is the opportunity to dive into various cultural experiences.

How the life of an Early Stage Researcher (ESR) looks like?

<p>Dasha Nemashkalo <i>Ukrainian</i> ESR or SCENT at UT</p> 	<p>Karol Niewiadomski <i>Polish</i> ESR of SCENT at UN</p> 	<p>Denis Pokotilov <i>Ukrainian</i> ESR of ETOPIA at UT</p> 	<p>Angel Pena Quintal <i>Mexican</i> ESR of ETOPIA at UN</p> 
<p>“The biggest thing that bothered me before I applied and during a fair share of time after I was accepted – that I am not ready. I expected to see a big unknown world where I can’t fit. But the word “Training” in the acronym is not by accident. You don’t have to be an Albert Einstein from day one (Although it’s cool if you are). Participating in the project enables to learn from the best in a field and complete almost all kinds of courses you can think of to gain a bit of a confidence and lots of the experience.”</p>	<p>“After announced a member in SCENT, I was extremely happy. The happiness quickly evaporated and exchanged for the opposite feeling of anxiety, especially about moving abroad and all the administrative stuff related to that. Lots of questions but people to assist. As it turned out, I was not the only one struggling and I was also not the only one that had to ask for help. People here were friendly and helpful, and I quickly realized that I can manage to live abroad and feel good about it!”</p>	<p>“When I received an invitation to interview in ETOPIA, I was overjoyed. The moments of preparation, as well as the announcement of the results of the interview, were very exciting. The full realization that I would be spending the next 4 years quickly changed from joy to alarm. Many questions arose in my head related to housing and other issues of life abroad. However, the friendly team and sympathetic colleagues helped me quickly adapt and start my research career. A huge number of possibilities opened up.</p>	<p>“After I got accepted, a different life started, with this many thoughts came to my mind telling me if I would be able to convey a good and meaningful research. Life is a made of moments, this applies to my current project. There will be moments for learning, moments for researching and moments for celebrating goals, the main aim is to never stop doing things and enjoy them. One of the benefits is the knowledge I can gain from well-known academics and companies all over Europe.”</p>

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Project Details

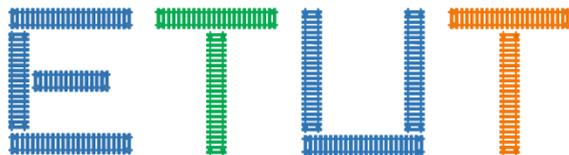
Project Website	http://www.etut-itn.org/
Details of the 12 PhD positions and recruitment process	https://www.utwente.nl/en/eemcs/pe/footer/20201104-phd-positions-in-msca-etn-etut-recruitment.pdf
European website with recruitment information	https://euraxess.ec.europa.eu/jobs/575816
More information regarding Pre-recruitment event	http://www.etut-itn.org/prerecruitmentevent

Information regarding the participating universities

University of Nottingham (UN) in United Kingdom	https://www.nottingham.ac.uk/
University of Twente (UT) in Netherlands	https://www.utwente.nl/en/
Dnipro national university of railway transport named after academician V.Lazaryan (UD) in Ukraine	http://diit.edu.ua/

Information Regarding European Commission

European Commission website of the project	https://cordis.europa.eu/project/id/955646
Marie-Sklódowska-Curie Action (MSCA)	https://www.ec.europa.eu/msca
ETUT strongly encourages the participation of female researchers in science	https://www.genderportal.eu/sites/default/files/resource_pool/mapping-the-maze-getting-more-women-to-the-top-in-research_en.pdf



A Marie-Sklódowska-Curie Action (MSCA) Innovative Training Network (ITN) European Joint Doctorates (EJD) within the Horizon 2020 Programme of the European Commission.

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