Establishing Smart Energy System Curriculum at Russian and Vietnamese Universities (ESSENCE) is

a curriculum development project initiated by universities from European Union, Russia and Vietnam funded by the Erasmus+ Programme of the European Union, Key Action 2, Capacity Building in Higher Education

ESSENCE consortium consists of 10 higher educational institutions from Latvia, France, Slovakia, Russia and Vietnam and an associated partner all having solid academic and research background, established connections with industry. strong motivation to share the best practices and adopt them.





Riga Technical University (RTU) Riga, Latvia



Grenoble Institute of Technology Grenoble (INPG), **Grenoble. France**





Technical University of Kosice (TUKE) Kosice, Slovakia







Irkutsk National Research Technical University (INRTU), Irkutsk, Russia





Ural Federal University (UrFU) Ekaterinburg, Russia















Geology (HUMG), Hanoi, Vietnam





OOO Siemens Moskva Associated partner, **SIEMENS** Ingenuity for life

Moscow, Russia

Main objective of ESSENCE project is to modernise and implement master level curriculum in smart energy systems at Russian and Vietnamese universities in a way to meet the requirements and expectations of main stakeholders of the programme, in accordance with Bologna requirements and European Qualification Framework and in close cooperation with industry. Programme graduates possessing extended knowledge and skills in the following fields will satisfy the needs of Russian and Vietnamese energy sectors in engineers of new format.

SMART







Technologies of Energy Conversion



Micro Grid. Smart Grid and Superarids





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ICT for Smart

Energy Systems



Analysis











Different concepts of the grids architecture used to solve



The application of information and communication technologies and computer engineering in Smart Energy Systems Provides students with advanced mathematic modeling of Smart



Energy Systems components and optimization approaches The application of artificial intelligence and machine learning

technologies in Smart Energy Systems



Consideration of economic processes of electricity markets and challenges in conditions of transition to a market economy



Provides students with knowledge on application of SCADA/EMS to monitor instability limits and state estimation



Power system analysis, operationmodes, including power flows, faults, static and dynamic stability Basic knowledge about Digital Technologies for protection and communication in up-to-date Smart Energy Systems



New technologies of energy production, storage, transmission, distribution and consumption in Smart Energy Systems



The application of academic skills to professional activities to gain practical experience

The project will benefit multiple target groups on different levels during the project life-time and beyond: current and prospective students, staff of participating universities, higher educational society and industry.

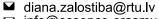
PROJECT COORDINATOR



Diana Zalostiba



+371 67 089 937



info@essence-erasmus org

PROJECT GOALS

- To boost internationalisation processes at Russian and Vietnamese universities through intensifying international and
- To create necessary similarities enabling academic mobility between participating universities and smooth recognition of
- To enhance professional competence of partner countries universities teachers and enhance networking amongst the
- To enhance collaboration with industrial enterprises as main stakeholders for their involvement into educational process
- To enhance the employability of university graduates

PROJECT RESULTS

- 🔯 Modernised degree programmes will be implemented at RU and VN universities, peer-reviewed teaching and learning materials including guide on industry involvement in 3 languages (EN, RU and VN) will be developed and uploaded to project web-site for
- Partner university teachers, representatives of RU and VN HEIs
- Partner university teachers will enhance their skills in curriculum
- Contacts with industrial enterprises in RU and VN will be established for their deeper involvement into educational process
- Agreements on academic mobility between CM will be signed.





Co-funded by the Erasmus+ Programme of the European Union



Stanislav Eroshenko - P6 project coordinator (Ural Federal University)

This project has been funded with support from the European Commission. This publication/communication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information

PROJECT TIMELINE

