

The KIOS Center of Excellence coordinates a new research project for empowering the Cyprus power system with new tools and technologies

The KIOS Research and Innovation Center of Excellence at the University of Cyprus coordinates a new innovative research project entitled “EMPOWER”, in collaboration with all the main electric energy stakeholders in Cyprus, as well as with important contributions from enterprises and organizations that are active in the energy field. The project aims at improving the stability and reliability of the Cyprus power system, using smart tools and technologies.

Currently, the electric power system of Cyprus faces specific challenges due to its islanded nature, without interconnections to neighboring systems. For example, there is a limit to the renewable energy penetration without risking system instability. During low demand periods, the number of synchronized generators is small, having as a result to have a low system inertia; this increases the rate of decline of the frequency in cases of generation loss. Thus, the possibility of having system instability is increased.

To overcome these challenges, the “EMPOWER” research project will equip the Cyprus power system with state-of-the-art tools and cutting edge technologies, such as Phasor Measurement Units (PMUs) and a platform based on advanced and secure Information and Communications Technology. These innovative tools are expected to improve the stability and reliability of the system, even under large penetration of renewable energy sources.

The project’s results are expected to bring multiple socio-economic benefits for Cyprus. The deployment of cutting-edge solutions will evolve the Cyprus power system and enhance its stability, quality, reliability and integrity. Through the study of optimal storage technologies and system management, the project will contribute decisively in achieving the goals of Cyprus for increasing the penetration of Renewable Energy Sources. Consequently, it will be possible to achieve a reduction in the emission of gases and improve the quality of life of the citizens. Additionally, through the pilot demonstrations that will be implemented during “EMPOWER” all the developed software tools and innovative technologies will be tested in actual operating conditions.

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In addition to the KIOS Research and Innovation Center of Excellence at the University of Cyprus, the following entities are actively participating in this project: the Electricity Authority of Cyprus, the Transmission System Operator-Cyprus, the Cyprus Energy Regulatory Authority, the Ministry of Energy, Commerce and Industry, Deloitte, the Cyprus Energy Agency, the Cyprus Employers and Industrialists Federation, T.P. Aeolian Dynamics, and Phoebe Research and Innovation.

Website: <http://www.kios.ucy.ac.cy/empower/>

