

EDDIE PROJECT PARTICIPATED AT 2nd INTERNATIONAL WORKSHOP ON
"OPEN-SOURCE MODELLING AND SIMULATION OF ENERGY SYSTEMS" (OSMSSES 2023).

1st June 2023, EDDIE Consortium

EDDIE representatives have been present at the 2nd International workshop on "Open-Source Modelling and Simulation of Energy Systems" (OSMSSES 2023) which took place in Aachen from the 27th to 29th of March 2023. In cooperation with the [ERIGrid 2.0 Project](#) and the [IEEE PES Task Force on Innovative Teaching Methods for Modern Power and Energy Systems](#), National Technical University of Athens – [NTUA partner](#) co-organised the tutorial: "Emerging skill needs and training tools for professionals and researchers in the field of smart energy systems" and Mr. Panos Kotsampopoulos presented the EDDIE's results related to this topic.



The main **objective** of the workshop was to foster discussion on simulation methods as a tool to manage the complexity of modern energy systems and to define effective solutions for planning, designing and operating these systems, among experts from academia, industry and utilities.

Considering that the energy systems are expected to include electricity, gas, and heat networks, different simulation procedures are required in order to maximize the use of all available forms of energy and to include in the grid storage capacities. Furthermore, the distributed nature of new resources (both generation and storage) and the participation of loads in energy management require fast, reactive control and protection. In this context, it can be predicted that the monitoring and control of modern energy systems will be characterized by the distribution of functions. At the same time, a large use of communication media is envisioned. The interactions between continuous dynamics and discrete events are becoming more relevant due to the increasing number of controllable devices (e.g., power electronic converters in power grids) and the use of networked control systems. In addition, power systems are increasingly driven by market competition, and the impact on system operation should also be considered.

Taking in account the previous information, several research groups have developed modelling and simulation solutions to address these challenges, and they have disseminated their software using an open-source approach.

The **leading topics** on which the workshop provided a qualified forum for contributions to the advancement of knowledge include subjects such as electromagnetic transient simulation, dynamic phasor simulation, electromechanical transient simulation, load flow – energy systems analysis, real-time simulation, equation-based modelling, building simulation, gas grids simulation, open models and metamodeling, visualization.

The **agenda** of the 2nd International workshop on OSMSSES 2023, included interesting tutorials on other topics like: "An Introduction To Sizing And Operations of Energy Systems with GBOML", "Modelling Heat Pumps using oemof.solph and TESPpy", "Multi-Domain Co-simulation Using HELICS", "Distributed Co-Simulation of Multimodal Energy Systems using eASIMOV", but also a panel session on "Open-source models for research and training in smart energy systems" and a series of technical sections.



EDDIE Project was represented by Mr. Panos Kotsampopoulos – NTUA, which highlighted the key results of the project related to skill needs and training tools.

Considering that EDDIE project is funded with the clear requirement of establishing a Blueprint according to other Sectors Skills Alliances projects, the consortium is working to create a self-functioning strategy on the long-term and sharing the work done so far is one way of ensuring the project's sustainability.