

Event:

ENERGY in BUILDINGS 2025

Date:

Saturday, November 15, 2025

Place:

Athens, Greece



#	Elissaios Sarmas	
Title:	Senior Research Associate, National Technical University of Athens (NTUA), Athens, Greece	
email:	esarmas@epu.ntua.gr	•
Presentation title:	Digital Twins as Enablers of a Smarter & Energy Efficient Building Sector	
Nowadays, buildings account for almost 40% of the overall energy consumption. Thus, it is essential to involve a broad range of stakeholders throughout the building lifecycle, with the development of innovative, cross-cutting energy services, which exploit the ever-increasing volume of available data. In this presentation we present a novel library of AI-based data-driven services for the built environment with the aim of addressing decarbonization challenges and of facilitating data-driven decision making. The issue of handling energy-related data in an efficient way is tackled, incorporating them into user-friendly, micro-services oriented technological components. The architecture of this AI-based library is thoroughly presented covering learning, optimization and simulation tasks. showcase our approach to energy resource management.		
Short CV:		
Elissaios Sarmas is currently a research associate in the School of Electrical & Computer Engineering (ECE) of the National Technical University of Athens (NTUA). He has a degree with honors (9.1/10) in Electrical & Computer Engineering (ECE, NTUA, 2020). His scientific interests include artificial intelligence, decision support systems, operational research and financial engineering. He co-authored the English Book "Multicriteria Portfolio Construction with Python" and he is a member of the Decision Support Systems Laboratory (DSS Lab), where he has participated in the development and the implementation of many projects.		
CV:		
Dr. Elissaios Sarmas is a research associate at the School of Electrical & Computer Engineering (ECE) of the National Technical University of Athens (NTUA). He graduated with honors (9.1/10) in ECE (NTUA, 2020) and is completing his PhD on artificial intelligence models and optimization algorithms for energy systems. His expertise includes AI, data science, and optimization, with a focus on energy flexibility and efficiency in microgrids. Dr. Sarmas has co-authored the book Multicriteria Portfolio Construction with Python and has published over 20 papers on machine learning and AI applications in energy and decision support systems. He has contributed to more than 10 EU-wide projects, providing technical solutions to organizations including DSOs, TSOs, and energy providers among others.		