

# MODERN SYSTEMS 2025

## Forward

The International Conference of Modern Systems Engineering Solutions (MODERN SYSTEMS 2025) continues a series of events focusing on systems development considering the variety of combination between requirements, technologies, and the application domains. The conference was held on October 26-30, 2025 in Barcelona, Spain.

We are witnessing a paradigm shift in systems engineering approaches caused by several facets of society and technology evolution. On one side, the mobility, the increase in processing power and the large storage capacity created the capacity needed to deliver services to everybody, everywhere, anytime. On the other side, new computation approaches, data gathering, and storage combined with advances in intelligence-based learning and decision-making, allowed a new perspective for systems engineering.

The advanced pace of technological achievements is supported by Cloud/Edge/Fog-based computing, High Performance Computing (HPC), Internet of Things (IoT), Big Data, Deep Learning, Machine Learning, along with 5G/6G communications (integration of terrestrial/special systems) and mobility. As such, deployment, operation and technologies, integration, maintenance became a cornerstone for developing systems complying with functional and non-functional requirements.

We take this opportunity to thank all the members of the MODERN SYSTEMS 2025 Technical Program Committee as well as the numerous reviewers. The creation of such a broad and high-quality conference program would not have been possible without their involvement. We also kindly thank all the authors who dedicated much of their time and efforts to contribute to the MODERN SYSTEMS 2025. We truly believe that, thanks to all these efforts, the final conference program consists of top quality contributions.

This event could also not have been a reality without the support of many individuals, organizations, and sponsors. We are grateful to the members of the MODERN SYSTEMS 2025 organizing committee for their help in handling the logistics and for their work to make this professional meeting a success.

We hope the MODERN SYSTEMS 2025 was a successful international forum for the exchange of ideas and results between academia and industry and to promote further progress with respect to modern systems. We also hope that Barcelona provided a pleasant environment during the conference and everyone saved some time for exploring this beautiful city

### MODERN SYSTEMS 2025 Chairs

#### MODERN SYSTEMS Steering Committee

Alan Martin Redmond, Freelancer, France

Mo Mansouri, Stevens Institute of Technology, USA / University of South-Eastern Norway, Norway

Evangelos Manthos, Aristotle University of Thessaloniki, Greece

Hany Moustapha, École de Technologie Supérieure, Canada

Sylvain Cadic, AXONE – Paris, France

Adriana Alexandru, National Institute for Research & Development in Informatics - ICI Bucharest,

Romania

Oliver Michler, Technische Universität Dresden, Germany

**MODERN SYSTEMS 2025 Liaison for Certification on Systems**

Paul Martin, SE – Scholar, USA

**MODERN SYSTEMS 2025 Publicity Chair**

Lorena Parra Boronat, Universidad Politecnica de Madrid, Spain

Sandra Viciano Tudela, Universitat Politecnica de Valencia, Spain