

# **2025 20th Annual System of Systems Engineering Conference (SoSE 2025)**

**Tirana, Albania  
8-11 June 2025**



**IEEE Catalog Number: CFP25SOS-POD  
ISBN: 979-8-3315-1536-2**

**Copyright © 2025 by the Institute of Electrical and Electronics Engineers, Inc.  
All Rights Reserved**

*Copyright and Reprint Permissions:* Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

***\*\*\* This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

|                         |                   |
|-------------------------|-------------------|
| IEEE Catalog Number:    | CFP25SOS-POD      |
| ISBN (Print-On-Demand): | 979-8-3315-1536-2 |
| ISBN (Online):          | 979-8-3315-1535-5 |
| ISSN:                   | 2835-3307         |

**Additional Copies of This Publication Are Available From:**

Curran Associates, Inc  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: (845) 758-0400  
Fax: (845) 758-2633  
E-mail: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

CURRAN ASSOCIATES INC.  
**proceedings**  
.com

## TABLE OF CONTENTS

|                                                                                                                                              |    |
|----------------------------------------------------------------------------------------------------------------------------------------------|----|
| Systems-Of-Systems for Environmental Sustainability: A Systematic Mapping Study .....                                                        | 1  |
| <i>Ana Clara Araújo Gomes Da Silva, Gilmar Teixeira, Livia Mancine C. De Campos, Renato F. Bulcão-Neto, Valdemar Vicente Graciano Neto</i>   |    |
| Measurements and Evaluation of FM Transmitter Stations in Albanian Territory .....                                                           | 7  |
| <i>Adrian Shehu, Bruna Biçaku, Bexhet Kamo</i>                                                                                               |    |
| Land Cover Assessment for Hydrological Analyses of Shkumbini River Basin, in Albania.....                                                    | 12 |
| <i>Liljana Lata, Miranda Deda</i>                                                                                                            |    |
| Climate Variability and Its Impact on Flood Risk in the Vjosa River Basin: An Analysis of<br>Precipitation Trends and Vulnerability .....    | 19 |
| <i>Miranda Deda, Miriam Ndini, Liljana Lata</i>                                                                                              |    |
| Assessing Wildfire Risk at National Level Using a Pan-European Approach Under a Changing<br>Climate .....                                    | 27 |
| <i>Giorgio Meschi, Farzad Ghasemiasma, Bushra Sanira Asif, Nicolò Perello, Andrea Trucchia, Paolo Fiorucci</i>                               |    |
| Forest Fire Risk Mapping Beyond Borders in Türkiye and Western Balkans: Guidelines from the<br>IPA FF Programme .....                        | 33 |
| <i>Andrea Trucchia, Nicolò Perello, Giorgio Meschi, Mirko D'Andrea, Umberto Pernice, Paolo Fiorucci</i>                                      |    |
| Towards Repositories of Emergent Behaviors: An Initial Repository and a Supporting Tool.....                                                 | 39 |
| <i>Kanan Castro Silva, Arlindo Rodrigues Galvão Filho, Aparna Kumari, Flávio Horita, Valdemar Vicente Graciano Neto</i>                      |    |
| Integrating Model-Based and Data-Driven Approaches for DfX-Oriented Systems Engineering .....                                                | 45 |
| <i>Alfredo Garro, Alessandro Sorrenti</i>                                                                                                    |    |
| Dynamical Systems Behavior Prediction: Machine Learning and Koopman Operator.....                                                            | 51 |
| <i>Enrico Zero, Luca Oneto, Roberto Sacile, Davide Anguita</i>                                                                               |    |
| Integrating Machine Learning Models as Functional Components Within a Systems Engineering<br>Design Using SysML for System Simulations ..... | 57 |
| <i>Syed Waqas Ahmed, Timothy James Bailey, Abbas K. Zaidi</i>                                                                                |    |
| Adaptive Relaxation Approach for End-To-End Latency Constraints in Complex Communication<br>Networks .....                                   | 63 |
| <i>Christina Alhachem, Mounir Kellil, Abdelmadjid Bouabdallah</i>                                                                            |    |
| Towards Automated Skill and Competency Management in it Companies.....                                                                       | 69 |
| <i>Giampiero Granatella, Maura Cerioli, Giovanni Lagorio, Angelo Lupo</i>                                                                    |    |
| Mapping Causes and Consequences of Decision-Making Challenges with Systems Engineering<br>Experts.....                                       | 75 |
| <i>Jan A. Lenssen, Kostas Nizamis, G. Maarten Bonnema</i>                                                                                    |    |
| The Importance of Information Sharing in Multi-Agent Systems: Addressing Reinforcement<br>Learning Challenges .....                          | 81 |
| <i>Arash Vesaghi, Mo Mansouri</i>                                                                                                            |    |

|                                                                                                                                                             |     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Effects of Organizational Complexity on High-Tech Systems Design Decisions: Insights from a Dutch Equipment Manufacturer .....                              | 87  |
| <i>Sherly A R Denis, Marcus V. Pereira Pessoa, G Maarten Bonnema</i>                                                                                        |     |
| A Multi-View Analysis of 6G System of Systems - A SE Perspective .....                                                                                      | 93  |
| <i>Jakup Ratkoceri, Saber Darmoul, Maarten Bonnema</i>                                                                                                      |     |
| Towards Sustainable Computing: Exploring Energy Consumption Efficiency of Alternative Configurations and Workloads in an Open Source Messaging System ..... | 99  |
| <i>Maria Voreakou, George Kousiouris, Mara Nikolaidou</i>                                                                                                   |     |
| Towards Federated, Autonomous and Cognitive Digital Twins with DARLING .....                                                                                | 106 |
| <i>Diego Souza, Thais Webber, Elizabeth Wanner</i>                                                                                                          |     |
| Coordinating and Reusing RESTful Web APIs: SLA-Driven Response Standardization Using JSON API and JAQL .....                                                | 112 |
| <i>Kujtim Mustafa, Dhuratë Hyseni, Ragmi Mustafa, Isak Shabani</i>                                                                                          |     |
| The Power of Data: Leveraging Past Mission Data Through Knowledge Discovery in Databases (KDD) for Smart Design of Space Systems .....                      | 119 |
| <i>Asad Saghari, David McKeown</i>                                                                                                                          |     |
| Causal Failures in Network Systems .....                                                                                                                    | 125 |
| <i>Zuyuan Zhang, Sridhar Radhakrishnan, Yangjun Li, Kash Barker</i>                                                                                         |     |
| Keeping CRISP-DM in the (Human) Loop: Insights for Complex Manufacturing Systems .....                                                                      | 131 |
| <i>David Hoffmann, Arndt Lueder</i>                                                                                                                         |     |
| Adding the Balance of Disruption Impact to System Interdiction Models .....                                                                                 | 137 |
| <i>Claudio M. Rocco, Kash Barker</i>                                                                                                                        |     |
| Optimal Operation of a Smart Greenhouse-Integrated Microgrid for Strawberry Growth in Atlantic Climate .....                                                | 143 |
| <i>Said Zahmoun, Abdellatif Soussi, Federico Sacile</i>                                                                                                     |     |
| Modeling and Control of a Sustainable Aquaponic System: Case Study in Saudi Arabia.....                                                                     | 149 |
| <i>Federico Sacile, Abdellatif Soussi, Mauro Gallo</i>                                                                                                      |     |
| Integrating Digital Twin Technology for Sustainable Smart Greenhouse Management: A Case Study for Liguria Region in Italy.....                              | 156 |
| <i>Abdellatif Soussi, Enrico Zero, Said Zahmoun, Christian Di Chiara Herrera, Alessandro Bozzi, Roberto Sacile</i>                                          |     |
| Tri Generation System from Local Energy Resources: Feedstock Resource .....                                                                                 | 162 |
| <i>Abdulhakim A Agll, Haroun M Aldhabaa, Abdalbasit Ashure Galy, Abdulhakim A Agll</i>                                                                      |     |
| Hamming Distance-Based Heuristic for Flexible Job-Shop Scheduling Problems .....                                                                            | 168 |
| <i>Alessandro Bozzi, Massimo D'Incà, Enrico Zero</i>                                                                                                        |     |
| Formal Modeling and Strategy Synthesis for Resource Optimization in System of Systems .....                                                                 | 174 |
| <i>Nazakat Ali, Muhammad Naeem, Julieth Patricia Castellanos-Ardila, Sasikumar Punnekkat</i>                                                                |     |
| Experimental Dynamic Performance of the Extended Kalman Filter for Induction Motors .....                                                                   | 180 |
| <i>Denis Panxhi, Donald Selmanaj, Nuri Rusta</i>                                                                                                            |     |

|                                                                                                                                     |     |
|-------------------------------------------------------------------------------------------------------------------------------------|-----|
| Enhanced 3D Scene Reconstruction with Semantic Understanding Using Synthetic Data and Deep Learning .....                           | 186 |
| <i>Anduel Kuqi, Ambra Korra, Indrit Enesi</i>                                                                                       |     |
| Federated Learning Based State of Health Estimation for Lithium-Ion Batteries .....                                                 | 191 |
| <i>Enes Sevim, Metin Yilmaz, Eyüp Çinar, Ahmet Yazici</i>                                                                           |     |
| Enhancing System of Systems Orchestration with Artificial Intelligence .....                                                        | 197 |
| <i>Terese Besker, Jakob Axelsson, Edgar Ramos, Valentin Tudor, Tomas Nordström</i>                                                  |     |
| A Machine Learning Strategy to Predict Peatland Revegetation Following Re-Wetting .....                                             | 205 |
| <i>Alan O Flanagan, Enda Fallon, Peter Vargovcik</i>                                                                                |     |
| Strategic Placement of Access Points for Maximizing Wi-Fi Quality .....                                                             | 211 |
| <i>Erison Ballasheni, Ilir Shinko, Dritan Nace, Alban Zyle, Vladi Kolicic</i>                                                       |     |
| SAFE 2025 National Sustainability Assessment .....                                                                                  | 217 |
| <i>Vassilis Kouikoglou, Yannis Phillis</i>                                                                                          |     |
| Optimizing InceptionV3 Hyperparameters Using Multi-Objective Genetic Algorithm for Video Frame Classification .....                 | 223 |
| <i>Ambra Korra, Anduel Kuqi, Indrit Enesi</i>                                                                                       |     |
| Lower Bounds for the Cumulative Scheduling Problem Based on Energetic Reasoning.....                                                | 229 |
| <i>Kristina Kumbria, Jacques Carlier, Antoine Jouglet, Abderrahim Sahli</i>                                                         |     |
| ReMoVES: A Telerehabilitation System Integrating Data Analytics and Interactive Therapy.....                                        | 235 |
| <i>Camilla Baffigo, Silvana Dellepiane</i>                                                                                          |     |
| Architecture for Enterprise System of Systems – Healthcare EA Reference Model .....                                                 | 241 |
| <i>Nima Javanbakht, Eng Seng Chia</i>                                                                                               |     |
| Process Mining a Healthcare Delivery System for Hetero-Functional Graph Analysis .....                                              | 249 |
| <i>Inas S. Khayal, Aidan C. Campbell, Lui Kamoshita-Langan, Amro M. Farid</i>                                                       |     |
| Advancing Sustainable Healthcare Delivery Through Systems of Systems Governance and Sustainability Governance Theories .....        | 255 |
| <i>Mohamed Mogahed, Mo Mansouri</i>                                                                                                 |     |
| A Meta-Clustering Framework for Enhancing Conversational AI in the Healthcare Sector .....                                          | 261 |
| <i>Joshit Mohanty, Sandeep Kumar Nayak, Vaishali, Sujatha Alla, Mahak Shah, Akaash Vishal Hazarika</i>                              |     |
| Leveraging Modularity to Advance UN Sustainable Development Goals: A Case Study of Modular Edge AI, Robotics and Digital Twin ..... | 267 |
| <i>Nick Pickering, Mike Duke, Chi Kit Au</i>                                                                                        |     |
| Indoor Localization Using Low-Cost Sensors: Application to a ROS-Based Minicar .....                                                | 274 |
| <i>Ilir Shinko, Jona Ismailaj, Elinda Kajo Meçe, Alessandro Bozzi</i>                                                               |     |
| A Novel Real-Time Mission Scheduler for Energy Neutral Autonomous Mobile Robots .....                                               | 280 |
| <i>Maryline Chetto, Mohamed Irfanulla Mohamed Abdulla</i>                                                                           |     |
| Spectrum and Path Optimization in Urban Aerial Mobility Communication System: A Multi-Tier Systems Approach .....                   | 286 |
| <i>Ishan Aryendu, Mo Mansouri, Ying Wang</i>                                                                                        |     |

|                                                                                                                                                                            |     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Integration of Generatable Digital Twins into Model-Driven Engineering Processes.....                                                                                      | 292 |
| <i>Moritz Herzog, Šandor Dalecke, Johannes Koch, Christoph Grimm</i>                                                                                                       |     |
| From Systems to Systems of Systems, Planning Capabilities for Capability Configurations .....                                                                              | 298 |
| <i>Joyce Martin, Johan Cederbladh, Jakob Axelsson</i>                                                                                                                      |     |
| Pattern-Based System of Systems Engineering for Resilient and Sustainable Production<br>Networks – a Simulation Approach and Framework Proposal for Impact Assessment..... | 304 |
| <i>Jan Felix Niemeyer, Robin Maier, Allan N Zhang, Mark Mennenga, Zhiquan Yeo, Christoph Herrmann</i>                                                                      |     |
| Extending Architecture Frameworks for Automated Operations Research Analysis in System of<br>Systems.....                                                                  | 312 |
| <i>Wentian Chen, Lefei Li</i>                                                                                                                                              |     |
| Predictive Ramp Metering Control Based on Physics-Informed LSTM with Queue Length<br>Constraints on Entering Ramps .....                                                   | 318 |
| <i>K. Binjaku, E. K. Meçe, C. Pasquale, S. Siri, S. Sacone</i>                                                                                                             |     |
| Optimizing Train Discharge in Port Terminals: A Flexible Flow-Shop Scheduling Approach.....                                                                                | 324 |
| <i>Rexhina Hoxha, Alessandro Bozzi, Stefano Cangelosi, Simona Sacone, Enrico Zero</i>                                                                                      |     |
| Optimizing Automated Warehouse Operations: A Novel Approach to the Correlated Storage<br>Location Assignment Problem (CSLAP).....                                          | 330 |
| <i>Ermal Belul, Marwane Bouznif, Dritan Nace, Antoine Jouglet</i>                                                                                                          |     |
| Multi-Model Machine Learning Approaches for Fault and Anomaly Detection in Petroleum<br>Product Distribution: A Comparison .....                                           | 336 |
| <i>Elinda Kajo Meçe, Jedina Xure, Paola Caushi, Alessandro Bozzi, Ilir Shinko</i>                                                                                          |     |
| Digital Twin and IoT-Cloud System: Case Study on Durrës Port.....                                                                                                          | 342 |
| <i>Alba Merdani, Klajdi Bërdufi, Eduart Torba, Enida Sheme, Dorian Minarolli</i>                                                                                           |     |
| Integrated Optimization of Railway Timetables and Rolling Stock Scheduling .....                                                                                           | 349 |
| <i>Estia Maliqari, Dritan Nace, Antoine Jouglet, Giuliana Barbarino</i>                                                                                                    |     |
| Urban Air Mobility as a System of Systems: An LLM-Enhanced Holonic Approach .....                                                                                          | 355 |
| <i>Ahmed R. Sadik, Muhammad Ashfaq, Niko Mäkitalo, Tommi Mikkonen</i>                                                                                                      |     |
| Integration of FunKey Approach in SysML .....                                                                                                                              | 362 |
| <i>Yiran Zhao, G. Maarten Bonnema</i>                                                                                                                                      |     |
| Examining the Viable Systems Model (VSM) for Systems of Systems .....                                                                                                      | 368 |
| <i>Johan Cederbladh, Jakob Axelsson</i>                                                                                                                                    |     |
| A CDM Meta-Model for Cross-Disciplinary Data Management in Production Systems Engineering .....                                                                            | 374 |
| <i>Paula Hünecke, David Hoffmann, Matthias Rassel, Arndt Lüder</i>                                                                                                         |     |
| Simulation-Based Integration-Verification-Validation-Quality (IVVQ) for Effective Use in<br>Battlefield: A Necessity to Measure Engineering Effort .....                   | 382 |
| <i>Lorraine Brisacier-Porchon</i>                                                                                                                                          |     |
| A Systems of Systems View of Positive Energy Districts (PEDs).....                                                                                                         | 388 |
| <i>Sara Janhäll, Pontus Svenson, Birgitta Raaholt</i>                                                                                                                      |     |
| Provision of Upward Power Reserve Control for Frequency Regulation by PV Plants .....                                                                                      | 394 |
| <i>M. Cardenas, F. Conte, C. Gandolfi, S. Massucco, M. Rappizza, M. Saviozzi</i>                                                                                           |     |

|                                                                                                                                                |     |
|------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Leveraging the Asset Administration Shell for Cross-Domain Systems Engineering Between the Industrial and Energy Domain.....                   | 400 |
| <i>Mergim Millaku, Christoph Binder, Sarah Riedmann, Christian Neureiter</i>                                                                   |     |
| Collaborative Energy Transformation Measures for Industrial Decarbonization: A System of Systems Engineering Challenge .....                   | 406 |
| <i>Lukas Siemon, Kilian Dickel, Mark Mennenga</i>                                                                                              |     |
| Linking Strategic and Operational Decision-Making in System of Systems Using Game Theory - the Case of Circular Economy for Photovoltaics..... | 412 |
| <i>Zahra Ghazanfarpour, Christopher Dormeier, Luisa Mennecke, Jürgen Pannek, Mark Mennenga</i>                                                 |     |
| A Case Study on Effectiveness of a Feeder-Connected Battery Storage and Demand Side Management Using Fuzzy Logic.....                          | 420 |
| <i>W. C. Maduranga, K. A. K. S. Rathnasiri, Reshan H. Perera, W. H. Eranga, K. T. M. U. Hemapala</i>                                           |     |
| Modeling Defense Systems of Systems : Lessons Learned.....                                                                                     | 426 |
| <i>Hugues Paumard, Omar Hammami</i>                                                                                                            |     |
| Modeling and Analysis of System Models with Constraints in SysMLv2 .....                                                                       | 431 |
| <i>Axel Ratzke, Johannes Koch, Christoph Grimm</i>                                                                                             |     |
| Evaluation of Electrical Performance in Hoist Systems with Vector-Controlled Induction Motor Drives .....                                      | 437 |
| <i>Kadrije Simnica, Sabrije Osmanaj, Qamil Kabashi, Milaim Zabeli</i>                                                                          |     |
| Enabling Simulation of Systems of Systems by Leveraging the FMI and SSP Standards .....                                                        | 443 |
| <i>Johan Cederblad</i>                                                                                                                         |     |
| Dead-Time Interval Controlled and Its Impact in THD Parameter.....                                                                             | 449 |
| <i>Ramadan Plakolli, Qamil Kabashi, Sabrije Osmanaj, Milaim Zabeli</i>                                                                         |     |
| Optimizing Multicast Traffic with IGMP: A Simulated Environment for Media Distribution Efficiency .....                                        | 455 |
| <i>Adrian Shehu, Lea Likaj, Bexhet Kamo, Vladi Koliqi</i>                                                                                      |     |
| Food as a Service: An AI-Powered 3D Food Printing SoS.....                                                                                     | 458 |
| <i>Michael Korenfeld, Adi Yehieli, Michael Winokur</i>                                                                                         |     |
| Assessing Event Fabrication Methods for Missing Events in Complex Event-Driven IoT Systems: A Smart Farming Case Study .....                   | 463 |
| <i>Dimitris Gkoulis, Anargyros Tsadimas, Cleopatra Bardaki, George Kousiouris, Mara Nikolaidou</i>                                             |     |
| A Trust Management Architecture for Energy Efficient Mobile IoT .....                                                                          | 471 |
| <i>Ghada Jaber, Calliste Vergnol, Abdelmadjid Bouabdallah</i>                                                                                  |     |
| Automated Life Cycle Assessment Using the Systems Modeling Language V2 and OpenLCA .....                                                       | 476 |
| <i>Hamza Bassam, Axel Scheithauer</i>                                                                                                          |     |
| Activity Based Modelling Framework .....                                                                                                       | 482 |
| <i>Mikhail Belov, Valentin Tikhonenko</i>                                                                                                      |     |

|                                                                                                                                                             |     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Bridging Theory and Practice: Assessing Systems Thinking in Engineering Design Using the DSRP Framework.....                                                | 488 |
| <i>Tugba Karabiyik, Ying Ying Seah, Christine Yeru Kaylor</i>                                                                                               |     |
| Evaluating Sustainability Trade-Offs in Engineering Design as System of Systems Using LLMs .....                                                            | 496 |
| <i>Tugba Karabiyik, Akif Ozer, Umit Karabiyik</i>                                                                                                           |     |
| System of Systems Design Analysis and Exploration Using a Unified Mission Ontology .....                                                                    | 503 |
| <i>Zelalem Mihret Belay, Jakob Axelsson</i>                                                                                                                 |     |
| Energy-Efficient Cooperative Decision-Making for CAVs: A Traffic Flow Optimization Approach .....                                                           | 509 |
| <i>Shan He, Lounis Adouane</i>                                                                                                                              |     |
| Integrating Digital Twins and Machine Learning for Enhanced Predictive Maintenance, Real-Time Analytics, and Cost Savings: A Review .....                   | 515 |
| <i>Eduart Torba, Alba Merdani, Enida Sheme</i>                                                                                                              |     |
| A GA-Based Multi-Objective Optimization for Gateway Distribution in a Smart City Bus Network.....                                                           | 520 |
| <i>Evjola Spaho, Ronild Hako</i>                                                                                                                            |     |
| Graph Optimization for Failure Propagation in Intermittent Systems-Of-Systems: Railway Use Case .....                                                       | 526 |
| <i>Bournane Abbache, Siham Bouchelaghem, Mawloud Omar</i>                                                                                                   |     |
| Robust Control Architecture for Fleet Formation Based on LMI and Artificial Potential Fields .....                                                          | 532 |
| <i>Alessandra Elisa Sindi Morando, Alessandro Bozzi, Enrico Zero, Roberto Sacile, Pedro Castillo</i>                                                        |     |
| Architecting Systems-Of-Systems in SosADL for Cooperative Driving Automation with C-V2X .....                                                               | 538 |
| <i>Flavio Oquendo</i>                                                                                                                                       |     |
| Driving Control in Autonomous Vehicles: An AI-Empowered Safety-Centric Approach .....                                                                       | 544 |
| <i>Tinhinane Chenache, Kahina Zizi, Siham Bouchelaghem, Sofiane Aissani, Mawloud Omar</i>                                                                   |     |
| Towards Analyzing Doctoral Studies in Sweden from a System of Systems Perspective.....                                                                      | 550 |
| <i>Johan Cederblad</i>                                                                                                                                      |     |
| Navigating System of Systems Engineering Education: A Global Overview Preceding the European Master in Sustainable Systems Engineering (EMSSE) Journey..... | 556 |
| <i>Raul Benitez, Elinda Kajo Mece, Dritan Nace, Roberto Sacile, Simona Sacone, Ilir Shinko, Enrico Zero</i>                                                 |     |
| Training Support System for the Use of One ICT System of Systems in Risk and Emergency Management in the Transport of Dangerous Goods .....                 | 562 |
| <i>Angela Maria Tomasoni, Anita Trotta, Massimo D'Inca</i>                                                                                                  |     |
| Exploring the Impact of Gamification Strategies on Student Engagement and Learning Outcomes in Education.....                                               | 568 |
| <i>Greta Ahma, Arbana Kadriu</i>                                                                                                                            |     |
| Conceptualizing a Capability-Mapping Method for Systems Engineering Readiness in SMEs .....                                                                 | 574 |
| <i>Usama Ahmed, M. V. Pereira Pessoa, G. M. Bonnema</i>                                                                                                     |     |
| A Model-Oriented Framework for UAV Requirements Definition and Mission Simulation .....                                                                     | 580 |
| <i>Ekpemirolu Kelechi, Mikhail Belov</i>                                                                                                                    |     |

|                                                                                                                |     |
|----------------------------------------------------------------------------------------------------------------|-----|
| Enterprise Decision-Making in System-of-Systems Considering Different Levels of Centralized Management .....   | 586 |
| <i>Jasamin Akbari, Giuseppa Donelli, Ludvig Knöös Franzén, Luca Boggero, Björn Nagel, Christopher Jouannet</i> |     |
| On the Structuration and Composition of Decision Problems: A Systemic Approach to Rollbacks .....              | 591 |
| <i>Lorraine Brisacier-Porchon, Omar Hammami, Alexis Poindron</i>                                               |     |
| Application of ADMM in a Quadruple Tank System with Varying Agent Configurations .....                         | 599 |
| <i>Matteo Aicardi, Roberto Sacile, Kristjan Toplana</i>                                                        |     |
| A System-Of-Systems Approach to Flexible Job-Shop Scheduling Using Column Generation .....                     | 605 |
| <i>Alessandro Bozzi, Alban Zyle, Dritan Nace, Enrico Zero</i>                                                  |     |
| A Review of the Information Exchange System in the Aeronautical Network, the Case of Albania .....             | 611 |
| <i>Adrian Shehu, Arjola Gjika, Bexhet Kamo</i>                                                                 |     |
| Minimization of Renewable Energy Curtailment in Radial and Weakly Meshed Distribution Networks .....           | 617 |
| <i>Andrea Bonfiglio, Sergio Bruno, Maria Martino, Rossano Musca, Angelo Velini, Gaetano Zizzo</i>              |     |

## **Author Index**